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Author: Goodall, Sarah K.

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Sarah K. Goodall

Rural-to-urban Migration and Urbanization in Leh, Ladakh

A Case Study of Three Nomadic Pastoral Communities

The present article is based on a study of the rural-to-urban migration of nomadic pastoralists in the western Himalayan region of Ladakh. The particular case study is examined in relation to the rapid urbanization currently under way in Leh District. The evidence from 3 nomadic pastoral groups reveals some of the complexity within the process of urbanization. It is argued that policy to address urban growth in Ladakh must be informed by the empirical evidence of micro-level studies. The paper draws on secondary and aggregate sources of population data, in addition to quantitative and qualitative primary data collected among migrant and non-migrant households from 3 nomadic pastoral communities in Ladakh.

Keywords: *Migration; urbanization; nomadic pastoralism; standard of living; Ladakh.*

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Urbanization in mountain areas

Despite its ubiquitous nature, the process of urbanization is commonly thought of as a lowland phenomenon. The stereotype persists that mountain people are generally leaving mountain areas (Goldstein et al 1983; Skeldon 1985). Certainly some areas of the Himalaya such as Kumaon and Nepal are characterized by permanent outmigration (Shrestha 1989; Thapa and Bilsborrow 1995). However, Karan (1987) and Bätzing et al (1996) also draw attention to the high degree of variability that exists within high mountain areas. While some regions are experiencing depopulation, others are seeing a concentration of population around market towns (MacDonald 1996). What differentiates urbanization in the Himalayan region from that of more developed countries is the context of continued high population growth throughout this region (UNCSD 1995).

Current knowledge of the processes of urbanization has largely been developed from empirical analyses of lowland areas. A number of authors have convincingly argued, however, that characteristics particular to high mountain areas, such as inaccessibility, resource limitations and sensitivity to population change, result in a path of urbanization different from that implied by models developed in lowland areas or in a 'Western' setting (Conway and Shrestha 1980; Skeldon 1985; Khawas 2003). The present article makes a small contribution in this area, using a case study of rural-to-urban migration in the high altitude trans-Himalayan region of Ladakh. It is structured around the broad findings of the research and subsequent policy implications. A brief overview of the urbanization process in Ladakh precedes, and establishes the context for, this discussion.

Urbanization in Ladakh: evidence and trends

Ladakh is located in the temperate latitudes between the Karakoram and Himalaya Ranges (Leh 34.10°N, 77.35°E). It is a semi-autonomous region in the Indian State of Jammu and Kashmir that is characterized by high altitude, extreme aridity, and marked variation in diurnal and seasonal temperatures. Ladakh is comprised of 2 districts: the predominantly Muslim district of Kargil to the west and south, and the largely Buddhist district of Leh in the central and eastern parts of the region. Geographically situated on the western extension of the Tibetan plateau, Ladakh has cultural and linguistic affinities with Tibet (Rizvi 1996).

Owing to its strategic location, and to unresolved border disputes with Pakistan and China, the region has been host to a large and permanent military presence over the past 50 years. Prior to Indian Independence (1947), Leh town was an important market center along the trade routes connecting India to central Asia and Tibet (Rizvi 1999). Closure of the international borders due to hostilities has resulted in a significant shift in the local economy from subsistence agriculture and trade to a heavy reliance on goods imported and subsidized by the central government. This reliance on external economies, particularly through tourism, has exposed the local economy to fluctuations in regional and international markets. As in many mountain areas, Ladakh is now a typical example of an 'internal periphery' (Michaud 1996), whose destiny is largely controlled by a centralized, lowland political power (Skeldon 1985; Ives and Messerli 1989). For a more detailed discussion of change and development in Ladakh, see Goldstein (1981), Norberg-Hodge (1991), and Rizvi (1996; 1999).

The present discussion of urbanization is limited to Leh District and the administrative capital of Leh, where the process has been most pronounced. Urbanization is defined in terms of natural increase (excess births over deaths), net migration gain, and reclassification of rural areas to urban. Increasing levels of urbanization usually accompany the shift in a developing economy away from an agricultural basis (primary sector) to an industrial (secondary) and services (tertiary) basis (Jones 2004). At 23% in 2001, the level of urbanization in Leh District is similar to both the state (25%) and national (28%) averages (Census of India 2001).

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TABLE 1 Comparison of population growth rates and levels of urbanization between 1981 and 2001. (Source: Census of India 1981 and 2001)

	Total population (thousands)		Annual population growth rate (%) 1981–2001	Urbanization (%)	
	1981	2001		1981	2001
Leh District					
Rural	59.7	90.1	2.08	12.7	23.4
Urban	8.7	27.5	5.92		
Total	68.4	117.6	2.75		
Kargil District					
Rural	62.5	105.3	2.64	5.3	8.6
Urban	3.5	9.9	5.34		
Total	66.0	115.2	2.82		
State of Jammu and Kashmir					
Rural	4730	7565	2.38	21.0	24.9
Urban	1260	2505	3.50		
Total	5990	10,070	2.63		
India					
Rural	523,870	741,660	1.75	23.3	27.8
Urban	159,460	285,355	2.95		
Total	683,330	1,027,015	2.06		

Despite the immense size of its urban population, India's level of urbanization is relatively low, and the nation remains predominantly rural in character (Mathur 1994; Pathak and Mehta 1995).

Ladakh may have only a moderate level of urbanization, yet the *pace* of this transformation has major implications for this mountain area. Leh District (and indeed Ladakh as a region) has a population growth rate well above the national average (Table 1). Due to 'disturbed conditions' the 1991 Census of India was not conducted in the State of Jammu and Kashmir. Population growth rates must therefore be calculated over a 20-year period to enable comparison with national figures. Between 1981 and 2001, India's urban population grew at an average annual rate of 2.95%. During the same period, the urban population in Leh grew at an average rate of 5.92% each year.

The annual population growth rate in Kargil District is slightly higher than in Leh District, due to a higher rate of growth among the rural population. Considering the percentage of urban to total population, however, it was found that Leh has a substantially higher level of urbanization (23%) than Kargil (9%). In the last 2 decades, the population of Leh town has more than tripled in size.

Urban populations are often significantly underenumerated and this is undoubtedly the case in Leh, where a sizeable 'floating' population exists, comprised of circular migrants, tourists and defense-related personnel. Furthermore, the relative contribution of rural-to-urban migration to urban growth in Leh is, as yet, unclear. Even at a national scale, there is no consensus amongst scholars on the exact contribution of rural-to-urban migration in India. However, there is general agreement that rural-to-urban migration is of secondary—and declining—importance to the role of natural increase in explaining urban growth (Mathur 1994; Pathak and Mehta 1995). In Ladakh, a more extensive examination of the urbanization process is required. This would include the complex task of establishing the relative contribution of each of the components of urban growth in the absence of a complete census record. Nonetheless, migration from Ladakh's rural villages to the capital of Leh has been a highly conspicuous factor in the town's rapid expansion. In absolute terms, the contribution of migrants from the nomadic pastoral communities to the growth of Leh is small. However, given the economic, demographic, and social implications for both sending and receiving regions, this form of migration is of tremendous importance (Bose 1980).

Rural-to-urban migration of Ladakh's nomadic pastoralists

Rupshu-Kharnak is home to 3 nomadic pastoral communities. This region lies in the elevated south-east corner of Ladakh (Figure 1). The combined effects of low precipitation, extreme temperature fluctuations, low nutrient and poor soil conditions limit the natural vegetation of Rupshu-Kharnak to various species of grasses and small woody shrubs, and make the area unsuitable for agriculture or permanent settlements. The broad, undulating, high altitude plains are, however, well suit-

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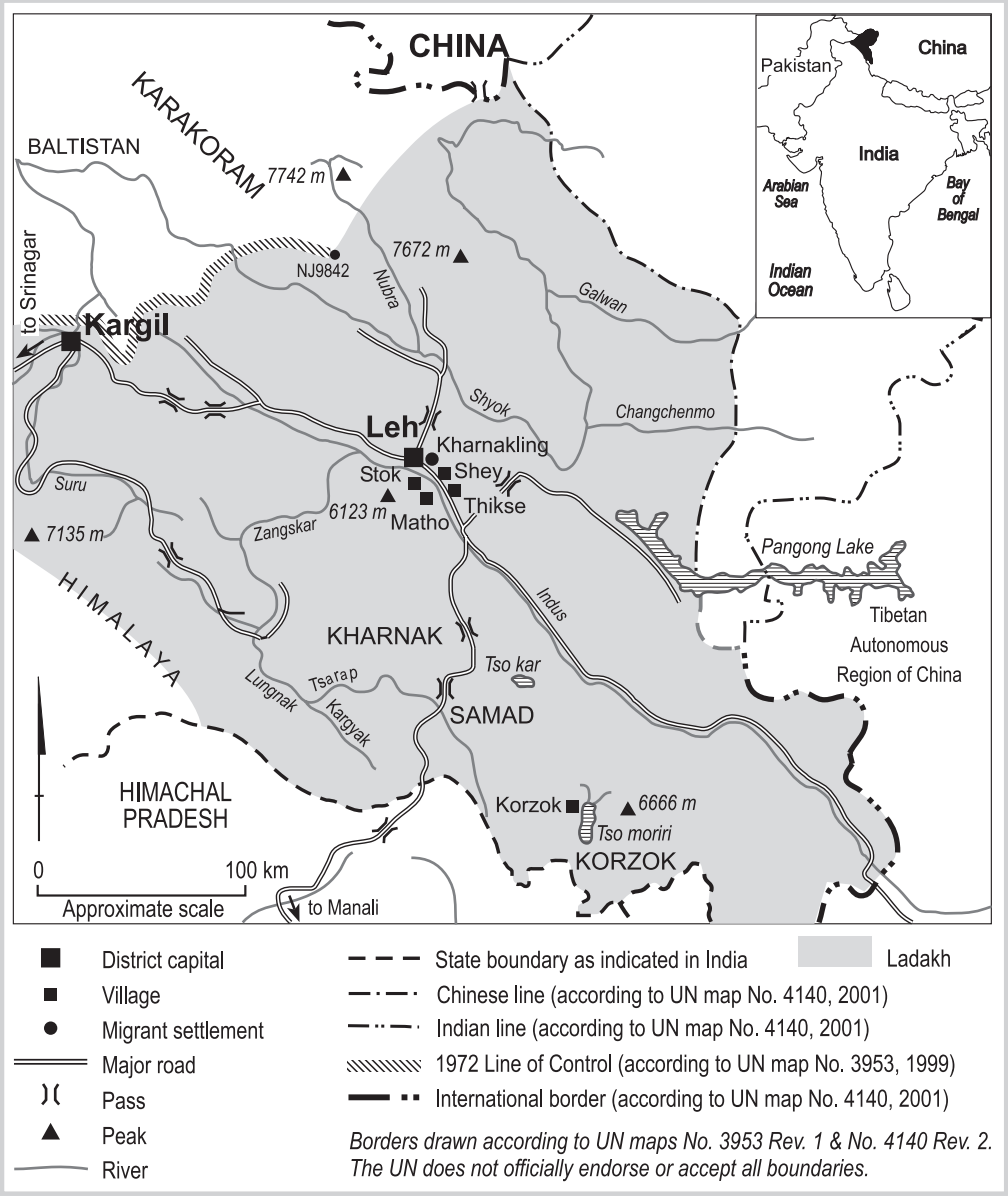


FIGURE 1 Map of Ladakh, showing the origin and destination villages of migrants from the nomadic pastoral communities of Rupshu-Kharnak. Note: The borders on this map are not officially recognized. (Map by Christine Crothers)

ed to mobile pastoralism and have been managed as such by the nomadic Changpa for many thousands of years.

The nomadic pastoral population of Rupshu-Kharnak is comprised of 3 independent groups located at Kharnak, Samad and Korzok. The household (as represented by the main and subsidiary tent) is the basic unit of social and economic organization. Each community follows a year-round migration cycle, living in tents and grazing their herds of sheep, goats and yak on pastures that are communally regulated.

Based on information gathered from the origin communities and figures from a range of secondary sources, the total nomadic population of Rupshu-Kharnak, prior to significant levels of outmigration (pre-1960), is estimated at approximately 1200 individuals. Historical evidence suggests that, as throughout the region, the population of Rupshu-Kharnak remained relatively stable over many years (Rizvi 1996; Ahmed 1996). Given recent changes in the nomadic areas such as improved food security, improved access to health care, and a decline in the prevalence of polyandry, it would not be unreasonable to expect a consequent increase in population due to reduced mortality and increased fertility. However, information from the origin communities concerning past and present community size, coupled with data from the household survey, does not reveal any evidence of significant population

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growth during recent decades. Based on current evidence, albeit limited, rapid population growth in the origin communities does not appear to provide a satisfactory explanation for the recent high level of outmigration from Rupshu-Kharnak.

Despite their relative isolation, the nomadic pastoral communities of Rupshu-Kharnak have experienced significant changes as a result of the broader economic and political changes during the past 40 years. The increasing rate of outmigration and settlement has accompanied these broader changes. One of the more significant events was the closure of the border with Tibet following the Sino-Indian conflict of 1962 and the subsequent loss of important pastures. In addition to a reduction in the total area available for grazing, the Changpa communities have also had to accommodate a large number of Tibetan refugees and their herds. The introduction of subsidized food rations and improved road access have reduced the need for arduous long-distance trade journeys. However this has occurred at the expense of traditional inter-village trade networks and has increased the need for cash in the local economy. With the increased availability of education and health care to the settled population in and around Leh, there is also a growing sense of relative deprivation among many of the nomadic pastoralists. More recently, issues surrounding access to the rangelands from the competing interests of tourism and wildlife conservation have added to the challenges facing pastoralists in Rupshu-Kharnak (Fox et al 1994; Gujja et al 2003).

Over the past 4 decades, approximately one-quarter of the original population of Rupshu-Kharnak has settled in and around Leh. A loss of productivity from the pastoral areas associated with significant outmigration will have important implications for Ladakh's economy. This relates to the supply of animal products to the urban population, but more importantly, to the valuable export commodity of *pashmina*, which is the raw fiber for cashmere produced by the goats in Rupshu-Kharnak.

Methods

The data presented in this paper were collected as part of an investigation into the rural-to-urban migration of nomadic pastoralists in Ladakh, carried out between February 2000 and November 2001. A census-type survey of the migrant population was necessitated by the absence of relevant secondary sources of population data. In addition to providing temporal and spatial information on the migration process, the survey generated demographic information about the migrant population, which was used to examine the causes and consequences of outmigration. The survey data were supplemented with detailed case studies of migrants in the destination areas, and in-depth interviews with nonmigrants and return, or 'failed', migrants in each of the origin communities.

A 'household reconstruction' methodology made it possible to include absent or deceased members of the household who were present at the time of migration. Demographic information was collected for each member of the household. Basic details of non-resident, immediate family members were also gathered. Information was sought regarding each person's place of origin, date of migration, and employment and educational status. The survey also included open-ended questions concerning the reasons for migration, the maintenance of economic and social ties with the origin community, and attitudes regarding the decision to settle down.

Migrant households were located using a number of techniques: door-to-door surveying in the Kharnakling migrant settlement; tracing relatives and friends of migrants; and using information gathered in the origin communities. Information from the origin communities was particularly important in identifying the destinations of past migrants. Cases of migration to areas not encompassed by the household survey were identified, including migration to Zangskar, the Markha Valley, and Nyoma. This form of intrarural migration of individuals for marriage or monastic training was not investigated, as the focus of the study was large-scale labor migration.

Results and discussion

Migrants were located in subdivisions of Leh town, in the Housing Colony adjacent to Leh, in the Kharnakling settlement, and in the villages of Shey, Thikse, Matho, and Stok. A total of 103 migrant households were surveyed, which included a population of 306 first generation migrants. All attempts were made to include the maximum number of cases, although the survey cannot be said to be exhaustive. It does, however, represent an accurate depiction of the outmigration process since the 1960s, as well as provide a demographic 'snapshot' of the migrant population in Leh District in 2000.

The results of the household survey reveal that urban migration from Rupshu-Kharnak is highly variable in terms of both the level of outmigration and types of mobility, with distinct variations between each community. The following sections provide a summary of the main characteristics of outmigration from each nomadic community in Rupshu-Kharnak.

Kharnak

The recent high levels of outmigration from Rupshu-Kharnak were traced to just 1 of the 3 mobile commu-

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nities, Kharnak (Figure 2). Over the past 2 decades outmigration has reduced the size of the nomadic community in Kharnak by 50%, from 80 to just 40 households. Migrants from Kharnak have established a permanent settlement—10 km from Leh—known as Kharnakling. The spatial clustering of migrants at the destination has facilitated additional migration, termed 'chain migration,' by reducing the associated costs and risks for subsequent migrants (Hugo 1981). This self-perpetuating characteristic of migration is an important explanation for the high levels of outmigration from Kharnak.

It is widely accepted in macro-level interpretations of migration that rural-to-urban migration in Oceania, South Asia, and Africa favors young adults, particularly males (Oberai and Singh 1983; Skeldon 1990; Pathak and Mehta 1995). Demographic analysis of the migrant population in Leh shows, however, that a representative cross section of the community has settled (Figure 3). In the absence of demographic data for the origin communities, secondary population data for Samad were used to enable comparison of population age and sex structure between origin and destination (Chaudhuri 1999). In direct contrast to the broad regional trends, it was found that there is a slight over-representation of females and an under-representation of young people in the migrant population. This is because young adolescents are active contributors to the household work force and by this age (10 to 19 years) most are considered too old to begin schooling. Despite this, the

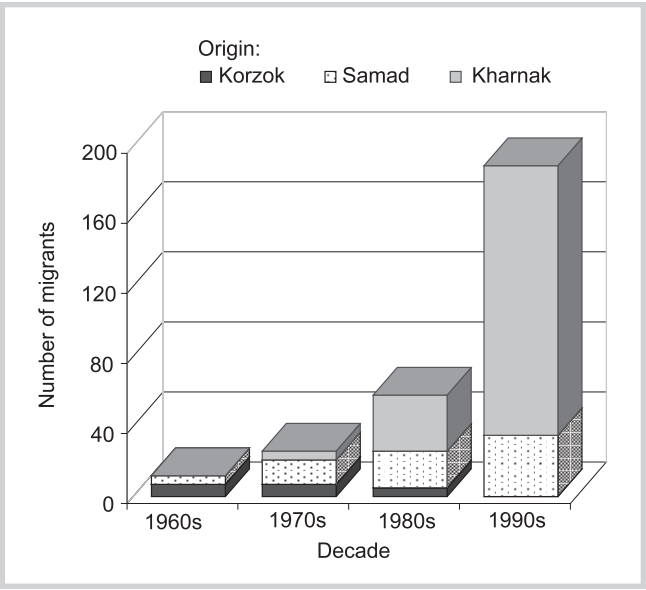


FIGURE 2 Outmigration from nomadic pastoral communities. (Source: Household survey of migrants, Leh, 2000–01)

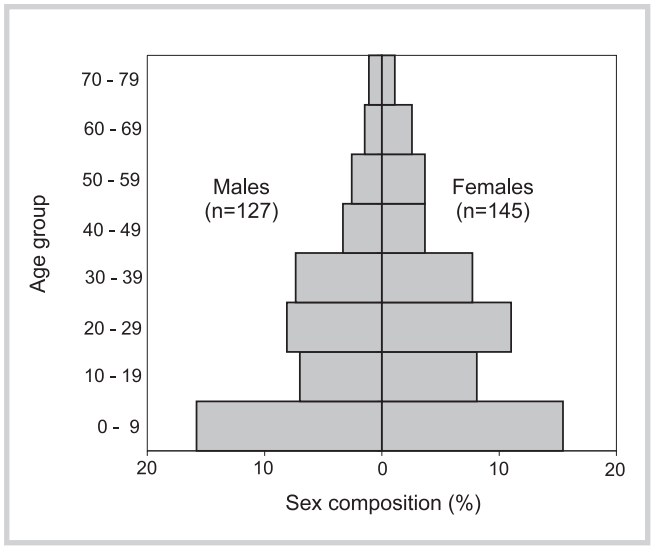


FIGURE 3 Profile of migrants leaving Rupshu-Kharnak, 1962–2001. (Source: Household survey of migrants, Leh, 2000–01)

settled population shows a relatively balanced age–sex profile for a migrant population. This reflects the fact that migration from the nomadic pastoral areas of Rupshu-Kharnak commonly involves relocation of the household as a unit. This finding is also in contrast to the common assumption that retirees and young people of school age dominate the migrant population (Dollfus 1999; Blaikie 2001).

Urban areas are often accessed on a circular or temporary basis by 'surplus' labor from agricultural areas. Sending one or more adults from a household to earn wages in the urban area is viewed as an effective maximization of labor resources (Hugo 1985). It provides the benefits of migration to the rural household without exposing it to the risks of permanent relocation. In relation to nomadic pastoralism, however, labor resources are critical to the wellbeing of the household, as the workload is constant rather than experiencing the peaks and troughs of agricultural production. The absence of 1 or 2 adult members depletes the household of vital human resources and—as illustrated by the Duru' of southeast Arabia—can ultimately lead to the collapse of the pastoral system (Birks 1985).

Unlike the oil-rich nations of the Middle East, however, the urban economy in Leh does not offer highly attractive employment opportunities. The wage differential between Leh and Rupshu-Kharnak is negligible, and in many instances negative. While it has been shown repeatedly that economic factors have limited explanatory power in relation to migration (Massey et al 1998), it is significant to note that many pastoralists

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from Rupshu-Kharnak are settling in Leh in the absence of an economic incentive. It is not the potential earnings that attract pastoralists to Leh. Laboring work merely provides the means for an unskilled migrant to survive in the urban area, whilst he or she invests in a longer-term goal, ie, for their children to complete an education and obtain well paid, secure employment. Among the migrant population in Leh, over 80% of children are attending, or have completed, a basic level of schooling. In many instances, families are living off the capital generated by the sale of their livestock and belongings in order to achieve this deferred goal.

Samad

Outmigration from Samad—although steadily on the increase since the 1960s—has followed a far less dramatic pace than from Kharnak. According to Samad Changpa, approximately 25 to 30 households have migrated to the urban area. This constitutes between one-quarter and one-third of the original population. As Ahmed (1996) notes, however, attempts to enumerate the population are complicated by individuals who divide their time between origin and destination. Because outmigration from Samad has been taking place over a longer period, migrants also tend to be less spatially concentrated than those from Kharnak. As a result, migrants from Samad are under-represented in the household survey by an estimated 10 households. The patterns of outmigration identified in the survey are, however, consistent with information from the origin community.

Migrants were traced to the housing colony on the outskirts of Leh, where they were engaged in a broad range of skilled and unskilled jobs, including work with the army, government, or small business. A small number of migrants were also located in the villages of Shey, Thikse, Matho and Stok, where, usually as a result of marital migration, they had been absorbed into the local agricultural economy.

Unlike the Kharnak Changpa, families who choose to leave Samad are permitted to continue pastoralism in absentia, with family or friends taking care of their animals during the winter months. This is conditional upon the maintenance of their financial, social and cultural obligations to the community in Samad. Due to these arrangements, seasonal circular migration (utilized by only 12% of all migrants in Leh) is a strategy largely practiced among migrants from Samad. As a result of this system, many of the migrants from Samad were found to have maintained strong economic and cultural ties with their community of origin, even after many years in Leh. By contrast, it could be argued that a large part of the social, economic and even cultural activity of the Kharnakpa is now focused around the urban settlement of Kharnakling.

Korzok

The total number of outmigrants from Korzok's nomadic pastoral community is very low. During the early 1960s, a handful of individuals and households settled in villages near Leh, where employment opportunities were offered by the Indian army. The outmigration from Korzok is, in many ways, typical of the intrarural migration that has played such a significant role throughout Ladakh over many years. The patrilocal marriage customs characteristic of South Asian countries usually result in female-dominated intrarural migration. However, marriage is both virilocal and patrilocal throughout Ladakh, and the gender dimension of intrarural migration is therefore more balanced.

It has been argued that the absence of significant outmigration to Leh from the Korzok Changpa community is due to the presence of a permanent village, Korzok, adjacent to the pastoral lands (Bhasin 1999). Discussions with the Korzok Changpa and Korzok villagers during fieldwork did not reveal evidence to support this claim. The scope for migration to the small village of Korzok is extremely limited, due to the scarcity of land and limited economic opportunities. Similarly, although the Korzok Changpa maintain trade relations with communities to the south in Spiti and Lahaul, and are closer to Nyoma town than Leh, community members did not report significant levels of migration to these areas.

Reasons for the observed patterns of outmigration from the 3 communities are complex and a detailed explanation is beyond the scope of this paper (Blaikie 2001; Goodall 2001). However, qualitative assessment with pastoralists from each community did not identify factors such as resource limitations, population growth, or accessibility and exposure to the urban area as variables of primary explanatory importance. In fact, discussions with migrants and non-migrants showed that the response of households to 'external' pressures, and the decision to stay, leave or engage in part-time pastoralism, are mediated through diverse, community-specific factors such as institutional arrangements, normative forces, economic incentives, and psychosocial motivations.

This brief descriptive analysis of outmigration from 3 nomadic pastoral communities has highlighted the relative differences in the development of outmigration from the communities, despite a shared context of socioeconomic, macro-level change. In addition, the discussion has attempted to show that general interpretations of migration based on macro-level, aggregate data, are not necessarily applicable to the context of

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nomadic pastoralism in high mountain areas. It will now focus on some policy directions suggested by this micro-level study.

Policy implications

In India, efforts to address urbanization and rural-to-urban migration have been directed toward rural development programs in the belief that rural poverty is the underlying problem. In Ladakh, development efforts in Rupshu-Kharnak have been undertaken in a largely *ad hoc* fashion, often with little community consultation.

As a component of urban growth, rural-to-urban migration should not be viewed as a problem *per se*. This is not to deny the existence of very real problems for rural and urban areas in Ladakh as a result of rapid and unplanned growth (Bhasin 1999). It does, however, require an acceptance that urbanization and rural-to-urban migration are inevitable. Past evidence has shown that policies designed to restrict or reverse population mobility have universally failed. Similarly, efforts to restrict rural-to-urban migration by improving conditions in rural areas have often had the reverse effect through labor displacement and by raising skills and expectations beyond what can be satisfied in rural areas (Parnwell 1993).

Studies have confirmed that circulation—particularly seasonal migration—between urban and rural areas can benefit both origin and destination (Hugo 1975). The Samad Changpa have effectively utilized this strategy for a number of decades. The institutional arrangements and social networks that promote this adaptation should be studied further with the aim of determining, for example, whether a similar strategy can be facilitated among the Kharnak Changpa.

Prospects for the future

Almost 20 years ago, Skeldon (1985) painted a bleak picture of the future for Ladakh. On the basis of a comparative review of population mobility and socioeconomic change in mountain areas, he predicted that Ladakh was destined to follow the path of so many other small, isolated communities: depopulation and wasted landscapes. These so-called 'regions of refuge' are characterized as 'remnant cultures' that occupy a precarious existence, subservient to and dependent on the modernizing 'core' regions located in the plains and lowland areas. The persistence of nomadic pastoralism in Ladakh could well be used as an example of a 'region of refuge.' However, the present examination of 3 communities has shown that responses to the pressures exerted by a developing 'core' (in this case, Leh) have varied remarkably between the 3 nomadic pastoral communities, indicating that the outcome is not predetermined.

There is a need to encourage and promote pastoralism in Rupshu-Kharnak. Not out of a sense of sentimentality for a 'remnant culture,' but because as a livelihood system, it has the potential to provide a higher standard of living than subsistence farming (Barfield 1993), or indeed, life in the informal sector of an urban area (Meir 1986). The Changpa nomadic pastoralists have a long and successful history of pastoral management in the rangelands of Rupshu-Kharnak. Rather than focusing on change as uni-directional and negative, this study has underlined the importance of adaptive strategies such as seasonal circulation and absentee pastoralism that enable the Changpa to meet their changing circumstances. It is toward such positive strategies that attention should be focused, as it is here that the 'future' of pastoralism in Ladakh lies.

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AUTHOR

Sarah K. Goodall
Department of Geographical and Environmental Studies, School of Social Sciences, University of Adelaide, Australia 5005.
sarah.goodall@adelaide.edu.au

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REFERENCES

Ahmed M. 1996. *We Are Warp and Weft. Nomadic Pastoralism and the Tradition of Weaving in Rupshu (Eastern Ladakh)* [PhD dissertation]. Oxford, UK: Oxford University.

Barfield TJ. 1993. *The Nomadic Alternative*. Englewood Cliffs, NJ: Prentice-Hall.

Bätzing W, Perlik M, Dekleva M. 1996. Urbanization and depopulation in the Alps (with 3 color maps). *Mountain Research and Development* 16:335–350.

Bhasin V. 1999. Leh—an endangered city? *Anthropologist* 1(1):1–17.

Birks JS. 1985. Traditional and modern patterns of circulation of pastoral nomads: The Duru' of south-east Arabia. *In:* Prothero RM, Chapman M, editors. *Circulation in Third World Countries.* London, UK: Routledge & Kegan Paul, pp 145–159.

Blaikie C. 2001. *Why Do the Nomads Settle? Livelihoods, Sustainability and Rural Urban Migration among the Kharnak Community of the Chang-pa of Ladakh* [MSc Dissertation]. London, UK: University of London.

Bose A. 1980. *India's Urbanisation, 1901–2000*. New Delhi, India: Tata McGraw-Hill.

Census of India. 1981. *Census of India. Series 8: Jammu and Kashmir.* New Delhi: Government of India Press.

Census of India. 2001. Provisional population totals. *Census of India 2001.* http://www.censusindia.net/results/2001census_data_index.html; accessed on 5 February 2004.

Chaudhuri A. 1999. *The Changpas of Rupshu-Kharnak: An Enquiry into the Survival Strategies of an Amazing People.* Unpublished report for ACTION-AID, New Delhi. Available from the author of this article.

Conway D, Shrestha N. 1980. Urban growth and urbanization in least-developed countries: The experience of Nepal, 1952–71. *Asian Profile* 8(5):477–494.

Dollfus P. 1999. Mountain deities among the nomadic communities of Kharnak (eastern Ladakh). *In:* Van Beek M, Brix Bertelsen K, Pedersen P, editors. *Ladakh: Culture, History and Development between Himalaya and Karakoram*. Aarhus, Denmark: Aarhus University Press, pp 92–118.

Fox JL, Nurbu C, Bhatt S, Chandola A. 1994. Wildlife conservation and land-use changes in the transhimalayan region of Ladakh, India. *Mountain Research and Development* 14(1):39–60.

Goldstein MC. 1981. High-altitude Tibetan populations in the remote Himalayas: Social transformation and its demographic, economic, and ecological consequences. *Mountain Research and Development* 1(1):5–18.

Goldstein MC, Ross JL, Schuler S. 1983. From a mountain-rural to a plains-urban society: Implications of the 1981 Nepal Census. *Mountain Research and Development* 3(1):61–64.

Goodall S. 2001. Sedentarization: Change and adaptation among the nomadic communities of Rupshu-Kharnak. Paper presented at the 10th Colloquium of the International Association for Ladakh Studies, Oxford, UK, 7–10 September 2001. Available from the author of this article.

Gujja B, Chatterjee A, Gautam P, Chandan P. 2003. Wetlands and lakes at the top of the world. *Mountain Research and Development* 23(3):219–221.

Hugo GJ. 1975. *Population Mobility in West Java* [PhD Dissertation]. Canberra, Australia: Australian National University.

Hugo GJ. 1981. Village-community ties, village norms, and ethnic and social networks: A review of evidence from the third world. *In:* DeJong GF, Gardner RW, editors. *Migration Decision Making: Multidisciplinary Approaches to Microlevel Studies in Developed and Developing Countries*. New York: Pergamon, pp 186–224.

Hugo GJ. 1985. Circulation in West Java, Indonesia. *In:* Prothero MR, Chapman M, editors. *Circulation in Third World Countries*. London, UK: Routledge & Kegan Paul, pp 75–99.

Ives JD, Messerli B. 1989. *The Himalayan Dilemma. Reconciling Development and Conservation*. London, UK: Routledge.

Jones GW. 2004. Urbanization trends in Asia: The conceptual and definitional challenges. *In:* Champion T, Hugo GJ, editors. *New Forms of Urbanization: Beyond the Urban–Rural Dichotomy*. Aldershot, UK: Ashgate, pp 113–132.

Karan PP. 1987. Population characteristics of the Himalayan region. *Mountain Research and Development* 7(3):271–274.

Khawas V. 2003. *Trend and Pattern in the Levels of Urbanisation in the Northeastern Hill States of India and Associated Urban Planning Issues*. Centre for Development Alternatives, Ahmedabad, India. www.mtnforum.org/resources/library/khawv03f.htm; accessed on 10 February 2004.

MacDonald KI. 1996. Population change in the upper Braldu valley, Baltistan 1900–1990: All is not as it seems. *Mountain Research and Development* 16(4):351–366.

Massey DS, Arango J, Hugo G, Kouaouci A, Pellegrino A, Taylor JE. 1998. *Worlds in Motion. Understanding International Migration at the End of the Millennium.* Oxford, UK: Clarendon Press.

Mathur OP. 1994. Responding to the urban challenge: A research agenda for India and Nepal. *In:* Stren R, editor. *Urban Research in the Developing World. Volume 1: Asia.* Toronto, Canada: University of Toronto Press, pp 49–100.

Meir AV. 1986. Demographic transition theory: A neglected aspect of the nomadism–sedentarism continuum. *Transactions of the Institute of British Geographers (New Series)* 11:199–211.

Michaud J. 1996. A historical account of modern social change in Ladakh (Indian Kashmir) with special attention paid to tourism. *International Journal of Comparative Sociology* 37:286–301.

Norberg-Hodge H. 1991. *Ancient Futures: Learning from Ladakh*. San Francisco, CA: Sierra Club Books.

Oberai AS, Singh HKM. 1983. *Causes and Consequences of Internal Migration: A Study in the Indian Punjab.* New Delhi, India: Oxford University Press.

Parnwell M. 1993. *Population Movements and the Third World*. London, UK: Routledge.

Pathak P, Mehta D. 1995. Trends, patterns and implications of rural–urban migration in India. *In:* [UNESCAP] United Nations Economic and Social Commission for Asia and the Pacific. *Trends, Patterns and Implications of Rural–Urban Migration In India, Nepal and Thailand.* Asian Population Studies Series No. 138. New York: United Nations, pp 9–64.

Rizvi J. 1996. *Ladakh: Crossroads of High Asia*. 1st edition 1983. New Delhi, India: Oxford University Press.

Rizvi J. 1999. *Trans-Himalayan Caravans: Merchant Princes and Peasant Traders in Ladakh*. New Delhi, India: Oxford University Press.

Shrestha NR. 1989. Frontier settlement and landlessness among hill migrants in Nepal Tarai. *Annals of the Association of American Geographers* 79:370–389.

Skeldon R. 1985. Population pressure, mobility, and socioeconomic change in mountainous environments: Regions of refuge in comparative perspective. *Mountain Research and Development* 5:233–250.

Skeldon R. 1990. *Population Mobility in Developing Countries: A Reinterpretation*. London, UK: Belhaven Press.

Thapa KK, Bilsborrow RE. 1995. Frontier migration and environmental degradation in developing countries: Experiences from Nepal and Ecuador. *In:* Clarke JI, Tabah L, editors. *Population–Environment–Development Interactions.* Paris, France: CICRED [Committee for International Cooperation in National Research in Demography], pp 253–271.

UNCSD [United Nations Commission on Sustainable Development]. 1995. *Review of Sectoral Clusters, Second Phase: Land, Desertification, Forests, and Biodiversity.* Report of the Secretary-General, United Nations. www.mtnforum.org/resources/library/uncsd95e.htm#country; accessed on 7 February 2004.

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