

ཨ་རི་མ་གླིང་གི་ལ་དྭགས་སློབ་སློང་ཚོགས་པ།
انٹرنیشنل ایسوسی ایشن برائے لداخ اسٹڈیز

INTERNATIONAL ASSOCIATION FOR LADAKH STUDIES

LADAKH STUDIES

28

June 2012

ISSN 1356-3491

THE INTERNATIONAL ASSOCIATION FOR LADAKH STUDIES

Patron: Tashi Rabgias

President: John Bray, 2001, 5-2-15 Oe, Kumamoto-shi, 862-0971, Japan
jnbray1957@yahoo.co.uk

EXECUTIVE COMMITTEE

Secretary:

Sonam Wangchok Kharzong

Himalayan Cultural Heritage Foundation, P.O.Box 105, Leh, Ladakh 194101, J&K, India.
Tel: (+91) 941 92 180 13
secretaryials@gmail.com

Editor:

Kim Gutschow

Hollander Hall
85 Mission Park Drive
Williams College
Williamstown, MA 01267 USA
Kim.Gutschow@williams.edu

&

Center for Modern Indian Studies
Goettingen University
Waldweg 26
D-37073 Germany

Treasurer and Membership Secretary:

Gareth Wall, 5 Hillside View, New Mills, High Peak, SK22 3DF treasurer@ladakhstudies.org,
UK Mobile/Cell: 00447855506661 (Jan-May) Indian Mobile/Cell 00918981318210 (May-Dec)

ADVISORY COMMITTEE:

Monisha Ahmed
Mona Bhan
Sophie Day
Mohammed Deen Darokhan
Kaneez Fathima

Blaise Humbert-Droz
Gulzar Hussein Munshi
Tashi Ldawa
Tashi Morup
Thupstan Norboo
Bettina Zeisler

LADAKH Subcommittee (LSC) Chair:

Ladakh Liaison Officer & Treasurer (Ladakh): **Mohammed Raza Abbasi**
112-Abbassi Enclave Changchik Kargil (Ladakh) Jammu and Kashmir State PC:194103.
Email:skamaraza@gmail.com Mobile/Cell: 91 9419176599

For the last four decades, Ladakh (made up of Leh and Kargil districts) has been readily accessible for academic study. It has become the focus of scholarship in many disciplines including the fields of anthropology, sociology, art history, Buddhist studies, history, geography, environmental studies, ecology, medicine, agricultural studies, development studies, and so forth. After the first international colloquium was organised at Konstanz in 1981, there have been biannual colloquia in many European countries and in Ladakh. In 1987 the International Association for Ladakh Studies (IALS) was formed to establish contact and disseminate information and research findings among those interested in the study of Ladakh. Membership is open to all, by writing to the membership secretary or using Paypal through the IALS website.

Please go to: <http://www.ladakhstudies.org/membership.html>

Ladakh Studies is printed and distributed by Stawa Publications (info@stawa.org)

NOTES FOR CONTRIBUTORS

***Ladakh Studies* is the official journal of the IALS**

We publish information relevant to researchers with an interest in the Ladakh region, including both Leh and Kargil districts. We invite our readers to submit essays, book reviews, fieldnotes or research news, and other items relating to current events, media, and knowledge about Ladakh broadly conceived.

Submission Guidelines

Ladakh Studies encourages submissions of short essays—**under 4000 words**—about contemporary events or ongoing research in Ladakh. Essays may cover historical social, cultural, political, ecological, or scientific topics of interest to IALS members. Book Reviews or “Notes From the Field” should be **under 2000 words**. All material should be submitted in digital form as email attachments, in MS Word. We also accept digital files sent by CD but formatting may be altered. All illustrations should be submitted digitally as JPG files, under 2 MB.

Essays should be submitted single spaced, with left hand margins, with no indentations but line breaks between paragraphs. They should use social science citation guidelines (Author, Date: page #) in both the text and footnotes, and include a bibliography. Please use 12 point Arial or Times font, format to US letter size paper, and consult previous issues of *Ladakh Studies*. All essays will be peer reviewed before publication.

Please address editorial submissions and correspondence to:

Prof. Kim Gutschow, Honorary Editor, Ladakh Studies
Hollander Hall
85 Mission Park Drive
Williams College
Williamstown, MA 01267
Kim.Gutschow@williams.edu

Deadline for the next issue is 30 September, 2012

Ladakh Studies (ISSN 1356-3491) is published by the IALS and is sent to all current members of the IALS. Bi-annual membership fees are: £28, €40, or \$60 for those residing outside South Asia. Residents of South Asia may pay IRS 800 and full time students pay half the rates above. To join IALS and pay by Paypal, see our website: www.ladakhstudies.org

All correspondence pertaining to subscriptions or membership should be directed to:
Gareth Wall, 5 Hillside View, New Mills, High Peak SK22 3 DF, United Kingdom
treasurer@ladakhstudies.org

INTERNATIONAL ASSOCIATION FOR LADAKH STUDIES

LADAKH STUDIES

NR. 28 June 2012

CONTENTS

| | |
|---|---|
| From the Editor. <i>Kim Gutschow</i> | 2 |
| From the Secretary. <i>Sonam Wangchok</i> | 3 |
| From the 2013 Conference Organizer. <i>Juliane Dame</i> | 3 |

ESSAYS

| | |
|--|----|
| A Historical Overview of Education and Social Change in Spiti valley, India <i>Tashi Tsering and Gaku Ishimura</i> | 4 |
| Legends from Dha-Hanu: Oral Histories of the Buddhist Dards in Ladakh <i>Stephan Kloos</i> | 17 |
| Nutrients (N, P, and K) recycling in traditional soil fertility practices in Leh district: A case study at small farm level <i>Vladimiro Pellicciardi</i> | 27 |
| The Tak House Maitreya and some corrections of the later history of Ladakh <i>Neil Howard</i> | 36 |

IALS NOTES & NEWS

| | |
|--|----|
| Serendipity: Today's Cartography Meets Archival Images <i>Abram Pointet</i> | 39 |
| Skardu Kargil road: Tear down the Berlin Wall of Asia <i>Engineer Manzoor Hussain Parwana</i> | 41 |
| John Crook (1930-2011) and Ladakh: the early days <i>James Crowden</i> | 43 |
| Andre Alexander (1965-2012) <i>John Bray</i> | 49 |
| Rinchen Wangchuk (1969-2011) <i>Snow Leopard Conservancy India Trust</i> | 51 |

BOOK REVIEWS & OTHER

| | |
|--|----|
| <i>Reflections on Ladakh, Tibet and Central Asia.</i> by Abdul Ghani Sheikh <i>Sunetro Ghosal</i> | 52 |
| <i>Beyond Bokhara: The Life of William Moorcroft Asian Explorer and Pioneer Veterinary Surgeon 1767–1825.</i> By Garry Alder <i>Janet Rizvi</i> | 53 |
| <i>Ladakh: Crossroads of High Asia 3rd edition,</i> by Janet Rizvi. Announcement | 55 |
| Ladakh Bibliography Supplement No. 22 <i>John Bray</i> | 56 |

From the Editor

It brings me great pleasure to present an issue replete with fascinating original research essays, even as it is a source of great sadness that this issue contains three obituaries for well-loved individuals whose work and influence in Ladakh will long be remembered, namely John Crook (1930-2011), Andre Alexander (1965-2012), and Rinchen Wangchuk (1969-2011). John Bray's and James Crowden's personal recollections remind us of Alexander's and Crook's multi-disciplinary and eclectic approach, which in Crook's case included "academic, army officer, ethnologist, psychologist, Buddhist teacher, anthropologist, gestalt therapist, the list is endless..." as Crowden so aptly notes. Crowden describes how he and John Crook first got to know each other whilst examining the few decent maps that existed for Zangskar. I was reminded how I first met James through a lengthy correspondence in which I asked for copies of his unpublished expedition reports and obscure facts about Zangskar, while my fondest memories of Henry Osmaston were a few days spent at his cottage in Cumbria during which he shared some lovely satellite images that proved critical to my researches on irrigation and settlement in Zangskar. I suspect that most of us studying Ladakh are deeply indebted to earlier individuals, without whose generosity our work would never have flourished in quite the same way.

Tashi Tsering and Gaku Ishimura's essay on education in Spiti valley contextualizes the growing literacy of women and lower castes with broader social changes in Spiti in recent decades and centuries past. We learn, for instance, that while the number of government schools are growing at a rapid rate, the number of students in these schools (in some cases as few as 4 or 5 per school) is declining and that these constructions are as much political favors to local elites as actual efforts to increase literacy and social welfare in the region. Stephan Kloos' essay offers a fascinating history of Buddhist Dards in Ladakh. He traces the similar but distinct origin myths of the people of Dha and Hanu, alongside other legends and oral narratives that trace nearly 2 millennium of history of Dardic settlement and civilization in Ladakh. Vladimir Pellicardi's essay on soil quality builds on important research by Osmaston, Mankelov, and Dame in attempting to quantify the amount of nutrients that are gained or lost in cultivation and application of organic versus artificial fertilizer in Ladakh. Neil Howard's essay on the dating of King Grags pa 'bum Ide as "one of the most important tasks facing historians studying the 15th century in Ladakh" offers interesting food for thought in terms of revising Francke's and Petech's dating of this important king. The essay offers reflections on the dating of Tisurus stupa as well as the construction of the Leh palace and the little understood rammed earth fortifications around Leh town that Howard has researched elsewhere. Finally, we have Pointet's notes on cartography in Ladakh, book reviews by Sunetro Ghosal on Abdul Ghani Sheikh's reflections on Ladakh and by Janet Rizvi on Gary Alder's account of Williams Moorcroft, and John Bray's bibliographic supplement.

On a personal note, I apologize for the lengthy delay in publication due to a variety of professional and personal circumstances including my new job in Germany and my recent divorce. I am very grateful to my co-editors for this volume, Gareth Wall and Sunetro Ghosal, without whom this issue would have been delayed even longer.

***Kim Gutschow,
Goettingen, Germany June 2012***

From the Secretary

I had to organize the 15th colloquium of IALS in Leh last year, also in a short span of time with financial constraints. This conference was organized on a more modest scale than previous ones for various reasons. The main reason was the sudden decision to hold the event in Leh rather than in Aberdeen, Scotland, as originally planned. However, kind participation, advice, encouragement and appreciation from the members awarded me to think that it was a success. I also take this opportunity to thank all international members, and Ladakhi members for believing in my ability to be the successor of Janet Rizvi as new secretary of IALS. It was encouraging to see many young Ladakhi researchers attended the conference and many of them becoming member of IALS.

I always encourage participation of youths but the concern at past conferences has been the standard of papers presented. That's why I am particularly interested in Ladakh-based smaller workshops events initiated by IALS, scheduled between the existing biennial conferences. Our workshop on Research Methods and the Presentation of Results of Research at Lonpo House organized by Dr Janet Rizvi in 2010 was the first of these efforts. Many young Ladakhi researchers attended the workshop and found it extremely beneficial. They now keep coming back, asking me to organize similar workshops. We encourage IALS members to help us plan smaller academic events to share research findings, methodologies and approaches. Inexperienced researchers in *Ladakh Studies* may find these sessions particularly beneficial. This may also improve the standard of papers to some extent.

We have scheduled the **next IALS Conference in Heidelberg, Germany from April 17-20, 2013** thanks to the responsibility taken by Juliane Dame as the conference convener. We have not decided on the central theme of the conference nor announced how participants should submit abstracts, etc. We will keep members updated regarding the forthcoming conference on our IALS website that has been managed so ably by Seb Mankelow. I urge you all to keep close eye on the website for announcement, news, study resources and even you can contribute to the website.

I am looking forward to the forthcoming conference in Heidelberg and hope for a good turnout of international members, and many Ladakhi members to have a fruitful and pleasant conference.

Sonam Wangchok

From the Conference Convener, Juliane Dame. 16th IALS Conference, Heidelberg, Germany, 17.-20. April 2013

We are pleased to invite you to the 16th Conference of the International Association for Ladakh Studies which will be held at the South Asia Institute, University of Heidelberg, from 17 to 20 April 2013. We wish to keep it an interdisciplinary and fruitful event with scholars, scientists and experts from different fields. We look forward to welcoming as many participants as possible in Heidelberg next spring. The call for papers and further information on fees, grants and organizational details will be put on the IALS webpage in the following weeks, so please visit the site for updates.

With best wishes from Heidelberg,

Juliane Dame

A Historical Overview of Education and Social Change in Spiti valley, India
—*Tashi Tsering* (University of British Columbia) and *Gaku Ishimura* (Hokkaido University)

In a review of literature on primary education in India, Kumar et al (2001) identified “apathy towards history and a studied blindness towards the linkages between education and social change [as its] two prominent characteristics” (p. 560). Such an analysis, they argue, furthers the benign image of education and discourages critical study of primary education policies and impact. The investigated the linkages between education and social change, by probing the history and impact of the World Bank-funded District Primary Education Programme (DPEP) in India. This marked a sudden policy change by the Government of India towards World Bank funding, also portraying the program as a ‘home grown idea’. Kumar et al also highlight the program’s impact, including a decline in growth rate in primary stage enrolment and decline in education standards as students move from lower to higher classes.

This paper uses this framework, linking education and social change, to look at the history and impact of education development efforts in Spiti valley, Himachal Pradesh, India. The education systems are often analyzed in a compartmentalized manner, focusing either on modern secular education systems or traditional/religious ones but rarely both. This paper presents an analysis of the impact of both systems concurrently. This analysis provides a comparison and also an understanding of historical and social trends with relation to education in its broad sense.

We investigate social change linked to education in this paper, through an analysis of its impact on local caste, class and gender relations; by focusing on the status of underprivileged groups in the society. Thus, it looks beyond the benign image of education systems and the community. Historically, the Indian government has used the term ‘community’ to include different qualities at different times to fulfill diverse program objectives: ranging from ‘community development’ in the 1950s to ‘community’ as upholder of common good in the literature on DPEP, overlooking its role as upholder of discriminatory and patriarchal practices (Kumar et al 2001).

Similarly, in the development literature, there is a tendency to label certain societies as ‘traditional’ or ‘indigenous,’ such as Tibetan Buddhist societies in the Himalayas, and assume that they live harmoniously with themselves and with nature (see for example Norberg-Hodge 1991). As an extension of this assumption, socio-economic change in these societies is generally viewed as being imposed from the outside, i.e. by development policies of modern states and/or the forces of economic globalization (ibid; Shiva 1991). Such essentialist assumptions can be criticized for not analyzing ‘community’ in its local contexts of unequal power relations and conflicts, and how these relations negotiate with markets and the state (Agrawal and Sivaramakrishnan 2000). In this paper, we argue that ‘traditional’ and ‘indigenous’ may also have been introduced by powerful or external forces such as kings or migration.

The term ‘education’ is used to include traditional¹ and modern education. Traditional system of education refers mainly to monastic education, although education of Amchi (*aem rje* or *am chi*, also called *sman pa*) and Jowa (*jo ba*) are also included, whilst modern education refers to formal government schooling systems.

¹ By traditional, we mean customary practices that are passed down from generation to generation.

Source Materials

There is little scholarly writing on education in Spiti, although Besch's (2006) description of the education of local doctors and Coberly's (2004) study of the nuns in Spiti are two exceptions. There are, however, discussions of secular education at the regional level (Sharma 1997; Meriam 2001; Sood 2003) and on education among 'tribals' in India (Sharma 1997; Sujatha 2002; Rath 2006). Rath (2006) which frames the contemporary debate on tribal development in India around three responses: 1) Achievements of development processes and predictions of their future development; 2) Critiques of development processes as exploitative, which advocate their abandonment; and 3) Ones that are critical with possible responses or remedies. This paper belongs to the third category.

Sources of information for this paper include participant observation, unstructured interviews with farmers, teachers, students, government officials, religious and secular leaders, monks and retired workers as well as 2010 school enrolment data from the office of the local Additional Deputy Commissioner. The bulk of the ethnographic evidence was collected as the first author's doctoral fieldwork between 2007 and 2011. The paper also uses relevant published and unpublished works in English, Hindi and Tibetan.

Spiti, the valley of gods: a background

Spiti is a sparsely populated (11,852² people in a 7,100 sq. km.³ area) arid valley in the western Himalayas in Himachal Pradesh, India near the Tibetan-Chinese border. The inhabitants are Tibetan Buddhists and speak a western Tibetan dialect, which they call Bhoti—a generic Hindi term for Tibetan—which for locals means Tibetan language and script. The main source of livelihood is agro-pastoralism (Mishra 2000).

Although income from cash crops, tourism and government-subsidized development projects has brought significant economic development to the region, the people of Spiti continue to live a relatively traditional and isolated lifestyle. This is largely due to its geographical location—a high altitude desert valley surrounded by 6,000 meter mountains and its geopolitical imperatives as it remained closed to tourists from 1962-1993 due to its proximity to the border, poor transport infrastructure, with the main road remaining shut for six months of the year due to snow—and so the area continues to be governed by traditional resource customs and institutions.

Social Hierarchy, Gender and Education

The hierarchical social structure consists of two broad groups: the caste households at the bottom and the majority Chechang (*che cang*) households on the top. Caste in Spiti is different from the Hindu caste system. In Spiti, it refers to two groups of households (musicians and blacksmiths), while in Hinduism caste stratifies the whole society into caste types⁴. According to the 2001 census, "scheduled caste" constitutes about 6% of the population.⁵ These families traditionally performed the role of blacksmiths (*Bzo pa*) and musicians (*Beda*). The latter hold the lowest position in the society, even lower than blacksmiths (Mishra et al 2003; Jahoda 2009).

² This population estimate comes from a local official who coordinated the 2010 census.

³ Census of India, 2001. Series 3: Himachal Pradesh, Primary Census Abstract. p. 25

⁴ Hindu caste types are Brahmins (priests), Kshatriyas (rulers and warriors), Vaishyas (traders and merchants) and Shudras (unskilled workers).

⁵ Actual percentage is 5.61%. In Spiti, scheduled caste number 600 and total population is 10,679 (Census of India, 2001. Series 3: Himachal Pradesh, Primary Census Abstract. p.25).

The Chechang group consists of all the remaining households, about 94% of the population. Broadly speaking, there are two types of Chechang: the Khangchen (*khang chen*) and Dhutul (*dud 'thul / dud khral*)⁶. There are other households such as Khangchung and Yangchung households, which, for the purposes of this paper, can be understood as being part of or directly related to Khangchen households (Jahoda, 2008). The Dhutul are traditionally landless farmers but today have their own land through government land redistribution schemes (*Nautor*). Dhutul households hold the lowest social strata among the Chechang but higher than the caste households. Khangchen households are traditional owners of land and irrigation water. The word Khangchen literally means 'large household' in Tibetan. In Hindi, they are called *Zamindars* or land owners. There are several types of Khangchen households, organized in a hierarchal order. These are, starting from lower to higher strata: the regular Khangchens; then there are local doctors (Amchi) and ritual practitioners (*Jo wa* or *Jowa*); then there are three smaller Nono households, which have linkages with aristocratic and ruling families; and finally, at the top, is the Nono of Kyuling, who is the traditional ruler or king of Spiti. The following table shows the traditional hierarchal society, although under the Indian Constitution, everyone has the same rights and powers.

Table 1: Traditional hierarchal society in Spiti.

| | | |
|---------------------|-----------|----------|
| Nono of Kyuling | Khangchen | Chechang |
| Demul/Pin/Mane Nono | Khangchen | Chechang |
| Amchi and Jowa | Khangchen | Chechang |
| Khangchen | Khangchen | Chechang |
| Dhutul | | Chechang |
| Bzo pa | | Caste |
| Beda | | Caste |

The status and rights of women are less than those of men within this hierarchal social structure of household types.⁷ Women in Spiti do most of the agricultural and domestic work and are often very assertive and authoritative at home. The lower status of women is primarily due to the patrilineal structure of society and the system of primogeniture or inheritance of family property by the eldest son or the husband of the eldest daughter, if there is no son in the family. As we discuss below, education is one area where women were traditionally discriminated.

According to local elders, only the sons of Khangchen households were traditionally allowed to become monks. Since monasteries were the main centers of public education, this meant that three groups of people—caste, Dhutul and women—were denied access to formal education. Men/boys from caste and landless Dhutul households were denied admission to monasteries till recently. Women could not access formal education in Spiti as there were no nunneries in the past. According to the census of 1891, only 1.4% of females were literate.⁸ Since independence, the education system and access to it has changed greatly. By 2010, there were around a hundred schools in Spiti. Both boys and girls, including those from caste households, are receiving traditional Buddhist education in monasteries and nunneries started by Tibetan exiles in different parts of India.

⁶ Local informants provided two meanings of the word Dhutul: *dud 'thul* as in (once landless) households that merely make smoke from their hearth ("*dud pa 'thul yag ma gtogs yod ma red*") and *dud khral* as in 'smoke-tax' or paying tax for having a hearth.

⁷ Women also follow the same social structure. For example, Khangchen women have higher status and rights than those of Dhutul and caste households.

⁸ See 1897 *Gazetteer of the Kangra District - Parts II to IV: Kulu, Lahaul and Spiti*, p.97.

This paper attempts to answer three questions related to these changes:

- 1) What is the status of education for men, women and various castes in Spiti today?
- 2) What are the main features and important changes taking place in both traditional and modern education systems?
- 3) How has education transformed society and how will these trends impact Spiti in the future?

In section I, we discuss the historical context of the traditional education system and some of its noteworthy, and changing, characteristics. Section II discusses the historical development and impact of modern education system in Spiti.

I. Education under the traditional system

Tibetan Buddhism and its monastic education system came to Spiti more than a thousand years ago as part of an important development in the history of Tibetan Buddhism known as *bstan pa phyi dar* (Later Diffusion of Buddhism) (Tucci 1933; Klimburg-Salter 1997). Before the advent of Tibetan Buddhism in the region, the inhabitants of Spiti and nearby regions were said to be 'Mon' or Monpa (*mon pa*), according to Indian (Handa 2001), Tibetan (rGyal po 2006) and local (Tobdan 1984) historians. Although locals in Spiti today, use the word 'Mon' for Indians, Tobdan states that Mons were a mixed Indo-Tibetan race, who lived between the Indian plains and the Tibetan Plateau. Today, there are 'Mon' or 'Monpa' in Bhutan (Chand 2009) and eastern India (Baker, 2004). Klimburg-Salter (1997) argues that those people were ethnically and linguistically a part of the ancient kingdom of Zhang zhung, which covered present day western and northwestern Tibet.

Despite the lack of research on the inhabitants of this region (Dollfus 2007), petroglyphs and cave paintings throughout Spiti provide evidence of the practice of Bon religion in the region before the advent of Buddhism. A prominent symbol in the petroglyphs and paintings is the counter-clockwise swastika symbol of the 'Eternal Bon' (*g.yung drung bon.*), e.g., at Tabo, and inside Chichem *srin mo kha gdang* cave. These Eternal Bon signs and other images on rocks and caves appear to be remnants of the older *Zhang zhung* kingdom (Petech 1997).

There are no useful historical records of Spiti for the period before the 10th Century (Lahuli, 2002).⁹ In the 10th century, a powerful kingdom was formed in western Tibet known as Guge, covering Guge, Purang, Ladakh, Zangskar and Spiti (Petech 1997). Guge's Buddhist kings sponsored the propagation of Buddhism by constructing temples and monasteries and sponsoring scholarly activities. Tabo Monastery in Spiti, regarded as the oldest continuously operating Buddhist monastery in India and the Himalayas (Klimburg-Salter 1997), was built during this time. As a result, 'indigenous' Bon practitioners were converted to Tibetan Buddhism (ibid). Those who were not assimilated into the Tibetan society moved out of Spiti to nearby regions such as Kinnaur and Lahaul. Today, the local population is largely Buddhist.

Whilst the Bon culture declined to extinction in Spiti, scholarship in Buddhist studies were supported by the Buddhist rulers of Guge (from the 10th century to 1630), Ladakh (1630-1683/84; 1705/17-1734 and; 1758-1842) and Tibet (1683/84-1687).¹⁰ Some of the notable scholars and spiritual adepts produced during these periods

⁹ Harcourt (1871), Hutchison and Vogel (1933) and Handa (2001) claim that Spiti was 'probably' under the rule of Hindu kings during the 7th century. They allude to the Nirmand Copper Plate of 630 AD as evidence.

¹⁰ These dates are given by Jahoda (2009). For Tibetan language sources on Spiti, see, Gergan, 1997; Jhampa, 2008; Rigzin & Lodo, ?; Shastri, 2007, Tsering, 2000; Tsetan, 1997.

include a Throne Holder of Gaden Monastery: Dhangkar Palden Gyaltzen, Rangrik Rechen Kunga Gyatso, Lopon Yeshi Tseten, Khenpo Gyatso and many others who earned the title of Kachen and Geshe, which is considered to be equivalent to a Doctorate in Buddhist Philosophy (Tsering 2000).

In 1846, the British extended their control over Spiti (Lahuli 2002; Jahoda 2009). Their efforts to provide modern education in Spiti were largely a failure (discussed in the next section), and they neither supported nor discouraged the monastic education system. By the mid 20th century, the quality of education in the monasteries had become extremely poor.¹¹ They began to improve only after the Dalai Lama and a large number of Tibetan refugees came into exile in India. Several senior lamas¹² came to Spiti and spent extended periods of time to revive its declining religious culture. These lamas not only revived Spiti's religious culture but also brought many reforms like abolishing rituals of animal sacrifice. The Dalai Lama visited Spiti and gave three Kalachakra initiations (1983, 1996 and 2000), which, according to local leaders, provided tremendous boost to the religious life of Spiti.

Spiti and Tibetan monastic education

Traditional education in Spiti revolves around the local monasteries as institutions of higher learning. There are five monasteries¹³ in Spiti: Tabo, Dhangkar, Kee, Tengyud and Gungri. Currently, the first three monasteries—Tabo (Klimburg-Salter 1997), Kee (Tsering 2000) and Dhangkar—belong to the Gelug school of Tibetan Buddhism. Tengyud Monastery (Bhoti 2010) belongs to the Sakya school and Gungri Monastery (Rigzin and Lodoe, Unpublished) belongs to the Nyingma school.

Although the monasteries in Spiti are relatively small¹⁴, local monks were able to achieve the highest levels of educational training as they were a part of the larger Tibetan monastic system (Tsering 2000). It was customary for scholarly monks from Spiti to attend larger monasteries in Tibet like the great Tashi Lhunpo Monastery near Shigatse (Tsetan 1987).¹⁵ Similarly, the three big monasteries of Tibet—Sera, Gaden and Drepung—accommodated monks from Spiti in their respective residential homes for natives of Ngari region, of which Spiti was a part (ibid).

With Chinese occupation of Tibet and the subsequent exile of the Dalai Lama, monks from Spiti joined monasteries established by Tibetan exiles in different parts of India. In recent years, the number of monks and nuns from Spiti joining Tibetan monasteries and nunneries in India has been increasing. For example, in 2000, there were 50 monks from Kee Monastery studying in South India (Tsering 2000). By 2010, a monk from Kee Monastery studying in South India reported that 201 monks from the monastery were studying in South India: 51 at Drepung Loseling and 150 at Gaden Monastery in Karnataka, south India. Similarly, monks from Gungri Monastery are studying in monasteries in different parts of India (*nam grol gling* in Karnataka; *smin grol gling* in Uttarkhand; *rdzong gsar bshad gra* in Himachal Pradesh) and in Kathmandu, Nepal (*bshad sgrub 'dod 'jo gling*). A host of factors and conditions have led to this trend, including better accessibility and active recruitment by monasteries.

¹¹ Snellgrove (1995) reports that in 1953, monks in Spiti could barely spell their names.

¹² Trijang Rinpoche, Ngor Khangsar Khenchen Rinpoche and Serkong Rinpoche

¹³ Tabo (*rta po theg chen chos gling*), Dhangkar (*brag mkhar bkra shis chos gling*), Kee (*dkyil dgon nor bu dge 'phel*), Tengyud (*steng rgyud dgon chos 'khor gling*) and Gungri (*sprin dgon gsang sngags chos gling*).

¹⁴ For example, in 2000, Kee monastery—the largest in Spiti—had 200 monks (Tsering 2000).

¹⁵ Tashi Lhunpo Monastery accommodated monks from Upper Spiti (i.e. villages from Losar to Rangrik) in its Takmo House and monks from the rest of Spiti to Kinnaur in its Guge House.

Access and discrimination against caste, women and landless farmers

Three groups of people were traditionally denied monastic education: members of caste and Dhutul households, and women. In contrast, the educated class (*dge 'dun pa*, *sman pa* and *jo ba*) commanded a high status in society. Since becoming a part of independent India, the opportunities for formal religious education have opened for everyone, although caste households still face several challenges in accessing it.

Earlier only tax-paying Khangchen households were allowed to join the monasteries as monks, according to local elders. This is plausible as the change in policy, as claimed by some (elder) informants, was made during their lifetime, with one of them belonging to the first batch of Dhutul household boys who joined the monastery. However, none of them were able to mention the exact year. Today, admission to local monasteries is open to all male members, except caste households.

The discriminatory practice of not allowing boys from caste families to become monks has begun to change in recent years. According to a local *bzo pa* man, who led a campaign to admit their children to monasteries, in December 2006 a group of sixteen *bzo pa* boys were admitted to the Gaden Shartse Monastery, south India. In response a public meeting was held in Spiti in February 2007, which decided that the boys must return to Spiti (Amar Ujala 2007a). In order to punish the families of these boys, the people imposed the social ostracism rule called *me lam chu lam* (literally, no sharing of hearth fire and water). For two years, they remained ostracized. During this time, leaders of *bzo pa* families informed the media and sent appeal letters to the Dalai Lama (Divya Himachal 2007), the Prime Minister (Amar Ujala 2007b), the President of India (Amar Ujala 2007c), and the head lama of the local monastery. In 2009, with letters of support from the head lama of the local monastery and after a public announcement by the Dalai Lama supporting the caste members, the *bzo pa* boys were allowed to remain monks—but only in monasteries outside Spiti—and the *me lam chu lam* punishment was lifted. So far, only boys from blacksmith households have joined monasteries in south India and none from *Beda* households.

The role of women has traditionally been centered on the home and farming. Most of their time was spent caring for the family, performing doing work around the house and weaving clothes. As there were no nunneries in Spiti till recently, the few nuns (*jo mo*) that existed in the past stayed home and helped with domestic chores. Today, an increasing number of girls join nunneries in Spiti and other parts of India. Nunneries in Spiti include Dechen Choeling in Pin valley, Yangchen Choling in Pangmo Village and Sherab Choling in Morang Village and a residential nunnery at Tabo Monastery. At least one more nunnery is scheduled to be built by Tengyud Monastery. Many young girls from Spiti have also joined nunneries like Dolmaling in Dharamsala, set up by Tibetan exiles in India. Nunneries now provide an opportunity for young girls to pursue a life of religious education and self-fulfillment, and escape worldly pressures to labour in the farm or being forced into marriage (Coberly 2004).

Other systems of formal education in traditional society

Other than the monks and nuns, there are also traditional doctors known as Amchi (*am chi*) and tantric ritual practitioners known as Jowa (*jo ba*, also known as *sngags pa*), who are highly respected individuals in the upper strata of the community (Besch 2006; Aziz 1978). Amchis trace their practice to Tibetan medicine (*gso ba rig pa*) and are responsible for treating the sick in their village. Jowas perform rituals to ward off evil spirits or bring favorable conditions for the well-being of people. Amchis and Jowas also help determine auspicious days for activities related to agriculture, special events like marriages and commencing public construction works.

There are two accounts on how the Tibetan medical system came to Spiti. The commonly accepted oral history is that it was brought to Spiti by Rinchen Zangpo (Besch 2006; Gyaltsen 2006). A local Amchi gave another account: An Amchi from Nyarong region of Tibet did not get along with the Tibetan government in Lhasa and eventually moved to Spiti. This Amchi lived for a year in each of Spiti's villages to teach medicine. As a result, the local Amchi argued, the medical practice in Spiti is a bit different; since it belongs to the Nyarong lineage (*rgyud pa*) of Tibetan medicine and uses the 'Yuthok medical texts'. As a result of this unique training and practice, Spitian Amchis are said to be highly specialized in moxibustion and bloodletting.

The Jowa, according to the Lahuli scholar Tsering Dorje, were originally Bon priests whose practices were successfully incorporated into Buddhism, who are broadly known as Nyingmapa's (*nying ma pa*). Since esoteric tantric rituals were integral aspects of the pre-Buddhist local religious culture, it was necessary to include many local deities, institutions and practices as Buddhist. According to Dorje, the king of Guge, Lha Lama Yeshe 'Od (947-1024) gave strict directions to incorporate Bon priests into the new Tibetan Buddhist society, including how they could continue their ritual practices for the villages, but not join the monasteries.

The education of Amchis (Besch 2006: 57-104) and Jowas are not open to everyone. It is believed that certain spiritual qualities of Amchis and Jowas are transmitted by descent (*gdung rgyud*) or family lineage (*rgyud pa*). Usually the eldest son is given the educational training to assume the father's responsibilities. When a son of an Amchi or Jowa family refuses or fails to fulfill his obligations, the transmission of spiritual qualities can continue to the next generation provided he gets locally acceptable training or achieves such qualities. In recent decades, with the establishment of Tibetan medical schools in India, an increasing number of individuals from non-descent, including Dhutul households, are acquiring the necessary training and qualifications to become Amchis. In 2010, there were 31 Amchis, many from non-descent families, and only six Jowas in Spiti (including Pin).

II. Modern Secular Education in Spiti valley

The first effort to introduce modern secular education dates back to 1867, when the officials of British India introduced Urdu, the official language of the administration, to Spiti (Harcourt 1871:). The Commissioner of Jalandhar, Mr. Forsyth, ordered that two boys from each of the five divisions (*kothees*) of Spiti be sent to Keylong for education every year (ibid). The scholarships were "not very eagerly taken advantage of, owing to the dislike of the Spiti people for any climate but their own" (Kangra District Gazetteer 1897: 91). By 1917, only 'two or three men' in Spiti understood Urdu and three or four boys had enrolled in a school in Naggar (Kangra District Gazetteer 1917). In 1932, the first school in Spiti was set up in Kaza Village (Bajpai 1987) through a teacher deputed from Lahul (Mamgain 1975).

The modern education system began to have an impact in Spiti only after India's independence. Spiti was initially incorporated into Punjab and then in 1966 became a part of Himachal Pradesh (Lahuli 2002). After independence, the medium of instruction in schools became Hindi but in those early years the locals remained reluctant to send their children to schools. Government schools were perceived as part of an alien culture and people did not trust it. At that time there was also little interest in government jobs. Today, however, things are very different: everybody wants modern education for their children and government jobs are highly coveted.

According to one of the first local Junior Basic Training (JBT) teachers, people's views of modern schools started to change after 1955, when the first batch of high school students graduated from a school in Rangrik Village.¹⁶ They were also the first graduates who studied Hindi. Prior to that, Urdu was the medium of instruction and students did not continue their education beyond middle school. The four students were provided teacher training for two years in Kulu and posted in Spiti as JBT teachers in 1958. As more graduates got government jobs and with government providing incentives—such introducing Tibetan language classes, mid-day meals and cash payment for school enrollment—more parents started to send children to school.

While in 1947, there were only two schools in Spiti, today every village has a government school. From being a monolingual society (with local variations in dialect), most people now speak Hindi and English besides their mother tongue. Modern education has also significantly improved literacy and social status of underprivileged groups, especially women and caste members.

Hierarchy and influence on gender

While the centuries-old traditional education system was part of a larger social system that maintained the strict hierarchy of caste, class and gender, modern education leveled the playing field by making education accessible and allowing underprivileged groups to rise above their traditional roles. As mentioned earlier, the literacy rate for women, which was 1.4% in 1891 (Gazetteer 1897) has increased to 49.6% in the 2001 Census, and male literacy rate increased from 10.1% to 75.1%. Female literacy is expected to increase even more dramatically as girls constituted 53% of students in primary schools and 59% in middle schools in 2010. The authors could not get gender data for higher classes but field observations indicate the number of girls attending senior classes is even greater. Though data on caste children is not available, we can assume that their number has increased significantly too, as they did not have access to formal educational till these schools were built.

Although the number of girls and caste children receiving education is increasing, the progress may be limited as social mores, such boys getting favorable access to opportunities or discrimination against caste groups, still persists. According to a local teacher, the best and the brightest students in Spiti valley join the Navodaya School¹⁷ (Reddy 2006). The others join the new private schools, whilst only children from poorer families, mainly caste members and girls from poorer families, go to government schools. This trend is also observed in other tribal areas such as the Bhotias of Chamoli District in Uttarakhand (Sahal et al 2006). Many families send their boys to private, fee-paying schools and daughters to free government schools.

High on quantity but low on quality

Described as a “schooling revolution” by the Public Report on Basic Education in India, Himachal Pradesh is regarded as an exemplary case of high achievement in education in India (Sood 2003). The state achieved an astounding growth in the literacy rate from 31.3% in 1971 to 77.1% in 2006. These achievements are reflected in the number of schools built in Spiti. According to data from the local office of the

¹⁶ The first four local teachers were Tsering Wangchup (late) from Mane, Dhondup Dorje (late) from Khurig, and Tamding Tsering and Padma Dorje from Kyuling.

¹⁷ Jawahar Navodaya Vidyalaya is a national school system started during the Prime Ministership of Rajiv Gandhi to foster talented children in rural India. The school in Kaza has classes from 6 to 10 grade. It admits students on a competitive basis every year.

Additional District Commissioner, there are 69 government primary schools (with classes up to 5th grade), 13 middle schools (to 8th grade), five high schools (to 10th grade) and eight higher secondary schools (to 12th grade). In addition, there are five private schools and one central government school (Jawahar Navodaya School).

Out of the 69 primary government schools in Spiti in 2010, 17 have only five students or less¹⁸, including three¹⁹ schools with just one student each. While the government can be commended for running low enrollment schools, the rationale behind establishing two primary schools in certain villages²⁰ is questionable. Chichem, a village with about 350 people, for example, has three schools—two primary schools and one middle school. One of the primary schools has seven students and the other has four. Similarly, the village of Langza has two primary schools, one with eight students and the other with four. Locals state that politicians, seeking votes, built the duplicate schools and were accepted by people as they provide well-paying jobs.

While the government has built a large number of schools, it has not hired the required number of teachers for senior classes. Most teachers hired by the government are JBTs and there is a shortage of teachers particularly for science and mathematics. The new JBT teachers are not getting jobs in Spiti as all the positions (150) are already occupied and there is only one senior secondary school with all three streams of specialization: Arts, Science and Commerce. The Parent-Teacher Association has hired 103 additional teachers to address the shortage but these teachers are dissatisfied with their significantly lower salary²¹. Low salary and lack of job security under this contract fails to attract well-qualified teachers.

Medium of instruction and language education

Earlier, medium of instruction was a key problem as the teachers were from outside and did not speak the local language. Today, this is no longer a problem as most teachers are locals. However, the problem is now with language classes. Even when Bhoti classes were introduced after independence, it was merely an incentive for people to send children to school. The government still does not provide program support for Bhoti classes in Spiti.

Local leaders have taken many initiatives to introduce Bhoti education in schools and to the public. According to a senior Bhoti teacher, the first Bhoti textbooks were introduced in Spiti schools, when it was part of Punjab. The textbook were hand-written by a local monk of Kee Monastery. The printed textbooks used now are the result of support by the local chapter of the Himalayan Buddhist Association (HBA). Since 2008, HBA has also arranged free Tibetan language and Tibetan computer classes for the general public at the Tengyud Monastery in Kaza. Another important initiative is that during the data collection in September 2010 for the 2011 Census, people in Spiti organized themselves by registering “Bhoti” as their language, instead of “Spiti” as they had done in past censuses. They hope that if Ladakhis, Bhotias and others in India who use the Bhoti script register their language as “Bhoti”, the numbers could be large enough to warrant policy recognition. The local leaders involved in this initiative said that they could then lobby with the government for full recognition of Tibetan language education in schools.

¹⁸ These schools are in Kholaksa, Chichem, Gete, Tashi Gang, Kwang, Langza, Kyuling, Lara, Kaley, Siluk, Mikkim, Phukchung, Kaa, Siling, Pomrang, Nadang and Lingti.

¹⁹ These are Gete, Kaley and Ka.

²⁰ Lossar, Chichem, Langza, Kaza and Sagnam.

²¹ For example, a Trained Graduate Teacher hired by Parents Teachers Association gets INR 4,100 per month, where as a government hired TGT gets INR 13,900 per month.

In the late 1990s, two private schools—Munseling School in Rangrik (founded in 1996) and Serkong School in Tabo (founded in 1999)—introduced Tibetan language alongside English medium education. These schools also introduced a boarding facility, which is a big advantage for students from distant villages. As result, private schools are very popular, with a decline in enrollment in government schools.²² The number of students in government schools in Spiti has decreased from 2,264 in 2002 to 1,646 in 2010, a decline of 27.3% despite increase in local population and number of schools.²³ The negative impact of private school education in Spiti is that a generation of children is growing up in boarding schools, removed from traditional practices related to farming, pastoralism and traditional ecological knowledge.

Conclusion

The history of education in Spiti dates back to the 10th century (CE) when the rulers of Guge Kingdom led an intensive missionary project in the region. Celebrated in the history of Tibetan Buddhism as the Later Diffusion of Buddhism, it was defined by the construction of temples, stupas and monasteries and the translation of Buddhist texts from Sanskrit to Tibetan. Spiti was one of the important sites of this development. According to Klimburg-Salter (1997), this period, as indicated in the foundation inscription of Tabo Monastery (built in 996 CE), marked the beginning of the process of Tibetanisation of Spiti and nearby regions.

The establishment of religious sites in Spiti²⁴, along with the migration of a significant number of Tibetans²⁵, eventually led to the disappearance of the Zhang Zhung culture and language from the valley²⁶ (Tobdan 1984; Klimburg-Salter 1997). Today, Tibetan Buddhism dominates local culture, with people speaking a dialect of western Tibetan. The traditional education system of Spiti consists mainly of Tibetan Buddhist monasteries and the institutions of Amchis and Jowas. These institutions produced and maintained a social hierarchy, providing privileged access to certain groups (male Chechang members) and denying admission to others (women, Dhutul and caste members). In recent decades, even though circumstances are still difficult for caste members, underprivileged groups have begun to obtain religious education from monasteries and nunneries established by Tibetan exiles in India and Nepal. Although its history dates back to the time of British rule, modern education made an impact in Spiti only after Indian independence. The establishment of Hindi medium primary schools in every village improved literacy considerably, especially among underprivileged groups. In recent years, however, the government's investments made for education through building new schools has reached a point of diminishing returns. There is an urgent need to shift these investments away from establishing new schools, to improving the quality of education. In particular, there is a pressing need for qualified instructors in disciplines like science, mathematics and Bhoti.

²² The drop in enrollment in government schools due to the popularity of private schools has also been observed at the state or national levels (Sood 2003)

²³ Data on the number of students in government schools are from the local administrative office of the Additional District Commissioner. Local population was 10,679 according to 2001 Census, and the number has increased to 11,852 during the last count for 2010 Census.

²⁴ Tabo and Lhalung would be two examples. The dating of Tabo Monastery is widely accepted as 996 CE. The dating of Lhalung temple is unclear. Tropper (2008) provides the most detailed study of *The Founding Inscription in the gSer Khang of Lalung*, with a tentative dating of the inscription "somewhere between 1025 and 1250 CE".

²⁵ The process of Tibetan settlement in the region may have started in the 7th century or even earlier. It can be argued that many important aspects of local religious practices and language have their origins in Bon religion and *zang zung gi skad*, as described by Denwood (1995).

²⁶ Many aspects of local religious practices and language come from pre-Buddhist sources, including the cult of mountain deities, ritual sacrifices, and spoken words like 'rti' for water.

It is too early to postulate the consequences of modern education on local culture and language. However, modern secular education has changed Spiti in important ways. Members of traditionally underprivileged groups are receiving education and assuming professional employed positions. The new private boarding schools have led to a generation of children growing up removed from their ancestral way of life.

Bibliography: English, Tibetan, Hindi Sources

- Agrawal, A., and K. Sivaramakrishnan, Eds: 2000. *Agrarian Environments: Resources, Representation and Rule in India*. Durham, NC: Duke Press.
- Anon. 1994. *Gazetteer of the Kangra District: 1897 Gazetteer of the Kangra District - Parts II to IV: Kulu, Lahaul and Spiti*. Indus Publishing Co.
- Aziz, B. M: 1978. *Tibetan Frontier Families: Reflections on Three Generations of D'ing-ri*. Vikas Publishing House.
- Bajpai, S. C.: 1987. *Lahaul-Spiti: A Forbidden Land in the Himalayas*. Indus Publishing Co.
- Baker, I.: 2004. *The Heart of the World: A Journey to Tibet's Lost Paradise*. Penguin
- Besch, F.: 2006. *Tibetan Medicine Off the Roads: Modernizing the Work of the Amchi in Spiti*. Ph.D. Dissertation, Humboldt University.
- Chand, R.: 2009. Monpas of Bhutan: A Study of Tribal Survival and Development Responses. *Bulletin of the Hiroshima University Museum*, 1: 25-37.
- Coberley, M.: 2004. Crisis as Opportunity: Nuns and Cultural Change in the Spiti Valley. In Tsomo, K. L. (Ed.) *Buddhist Women and Social Justice: Ideals, Challenges, and Achievements*. State University of New York Press: Albany.
- De, A., J. Drèze and PROBE team: 1999. *Public report on basic education in India (PROBE)*. Oxford University Press: New Delhi.
- Denwood, P.: 1995. The Tibetanisation of Ladakh: the Linguistic Evidence. In H. Osmantan & P. Denwood (Eds) *Recent Research on Ladakh 4&5: Proceedings of the Fourth and Fifth International Colloquia on Ladakh* (pp. 281-289). London: SOAS.
- Dollfus, P.: 2007. Peopling and migrations: some remarks based on research in Ladakh (India's western Himalayas). *Colloque "Migrations"*. Langues et civilisations a tradition orale. Accessed online, September 5, 2011: <http://lacito.vjf.cnrs.fr/colloque/diaporamas/Dollfus.pdf>
- Handa, O. C.: 2001. *Buddhist Western Himalaya: A Politico-Religious History*. Indus Publishing Company: New Delhi.
- Harcourt, A.F.P.: 1871. *The Himalayan Districts of Kooloo, Lahoul, and Spiti*. Wm. H. Allen & Co.: London.
- Hutchison, J. and J. Pr Vogel: 1933. *History of the Punjab Hill States*. Reprinted by Asian Educational Services: New Delhi.
- Jahoda, C.: 2007. Socio-economic organization of village communities and monasteries in Spiti, H.P., India: the case of a religious administrative unit (*chos gzhis*). *Discoveries in Western Tibet and the Western Himalayas*. Brill: Leiden, Boston.
- Jahoda, C.: 2008. Political Space and Socio-Economic Organization in the Lower Spiti Valley (Early Nineteenth to Late Twentieth Century). *Journal of the International Association of Tibetan Studies*, 4: 1-34.

- Jahoda, C.: 2009. Spiti and Ladakh in the 17th-19th Centuries: views from the periphery. in J. Bray & E.R. Filbeck (Ed's) *Mountains, Monasteries and Mosques. Recent Research on Ladakh and the Western Himalaya*. Supplement to Rivista degli Studi Orientali, 80(2): 45-59.
- Klimburg-Salter, D. E.: 1997. *Tabo: A Lamp for the Kingdom*. Skira: Milan.
- Kumar, K., M. Priyam, and S. Saxena,: 2001. Looking beyond the Smokescreen: DPEP and Primary Education in India. *Economic and Political Weekly*, 36(7): 560-568.
- Mamgain, M. D. (Ed.): 1975. *Himachal District Gazetteer: Lahaul and Spiti*. Greater Punjab Press: Chandigarh.
- Meriam, B. M.: 2001. Culture Matters: Developing Ladakhi Education on the Margins of India. *Edinburgh Papers in South Asian Studies*, 17:
- Mishra, C.: 2000. Socioeconomic Transition and Wildlife Conservation in the Indian Trans-Himalaya. *Journal of Bombay Natural History Society*, 97(1): 25-32.
- Mishra, C., H. H. T., Prins, and W. E. V. Van Wieren,: 2003. Diversity, Risk Mediation, and Change in a Trans-Himalayan Agropastoral System. *Human Ecology* 31(4): 595-609.
- Norberg-Hodge, H.: 1991. *Ancient futures: Learning from Ladakh*. San Francisco: Sierra Club.
- Petech, L.: 1997. Western Tibet: Historical Introduction. In, Klimburg-Salter, D. E. *Tabo: A Lamp for the Kingdom*. Skira: Milan.
- Rath, G. C.: 2006. *Tribal Development in India: The Contemporary Debate*. Sage Publications: New Delhi.
- Reddy, K. R.: 2006. Jawahar Navodaya Vidyalaya: Chayan Pariksha Vivarnika. *Ladarcha Mela (Samarika) – 2006*.
- Sahal, I., P. Kunwar, and S. Srivastava: 2006. 'The Tolchha Bhotias: Development and Transhumance', in: Rath, G. C. (Ed.) *Tribal Development in India: The Contemporary Debate* (pp. 239-257). Sage Publications: New Delhi.
- Sharma, D. D.: 1997. Problems of Language and Education in Western Himalaya. In Jina, P. S. (Ed.), *Recent Researches on the Himalaya* (pp. 141-153). Indus Publishing Company: New Delhi.
- Shiva, V.: 1991. *Ecology and the Politics of Survival: Conflicts Over Natural Resources in India*, Sage Publications, Thousand Oaks, California.
- Snellgrove, D: 1995. *Buddhist Himalaya: Travels and Studies in Quest of the Origins and Nature of Tibetan Religion*, 2nd Ed. Himalayan Book Sellers: Kathmandu.
- Sood, A.: 2003. Critical Issues in Primary Education. *Economic and Political Weekly*. 38(25): 2469-2470.
- Sujatha, K.: 2002. Education Among Scheduled Tribes. In R. Govinda (ed.), *India Education Report: 87-94*. New Delhi: Oxford University Press.
- Tobdan: 1984. *History and Religions of Lahul*. Oriental Publishers: New Delhi.
- Tropper, K.: 2008. *Inscription un the gSer khang of Lalung (Spiti, Himachal Pradesh)*. Library of Tibetan Works and Archives.
- Tucci, G.: 1933. *Indo-Tibetica II, Rin-chen-bzan-po and the renaissance of Buddhism in Tibet around the year 1000*. Reale Accademia d'Italia, English translation, Delhi 1988.

Tibetan Sources

Bhoti: 2010. *Spi ti dkar mdzes dpal sa skya dgon pa'i ngo sprod rags bsdus*. The Bhoti for Himalayans. Accessed online on August 25, 2011. http://bhoti.blogspot.com/2010/12/blog-post_9814.html

Gergen, Y.: 1976. *Bla dvags rgyal rabs 'chi med gter*, New Delhi.

Gyalpo.: 2005. Gu ge tshe ring rgyal po. *Guge tse ring rgyal po'i ched rtsom phyogs bsgrigs*. *Krung go'i bod rig pa dpe skrun khang*.

Jhampa, N.: 2008-2010. Hi ma la ya'i rigs brgyud spi ti'i phyogs kyi lo rgyus. Published as a series of short articles in *Bod kyi bang chen* newspaper, under the section *Bod kyi rgyal rabs lo rgyus*, between 2008-2010.

Rigzin, T. and D. Lodeo.: (unpublished manuscript). *Spin dgon gsang sngags chos gling gi lo rgyus dri med shel gyi me long zhes bya bzhugs so*.

Shastri, L.: 2007. Ri bo gangs can pa'i rtsom rig nang spi ti dang ta po'i skor. *Gtam tshogs*, 27(2): 33-72.

Tsering, T.: 2000. *Spyi ti dkyil dgon nor bu dge 'phel gyi byung ba brjod pa'i rab byed 'phags nor bdun idan zhes bya ba bzhugs so*. *A Short Guide to Key Gonpa*. A Key Monastery Publication.

Tsetan, D.: 1987. *Spyi ti yul dgon gyi sngon byung gi lo rgyus rags bsdus*. *Gtam tshogs*, 2: 34-42.

Hindi Sources

Amar Ujala: 2007a. *Lahaul ke 16 dalit baccho ne bhedbhao par math chora*. 10 March 2007.

Amar Ujala: 2007b. *Vivad: Karnatak mein Lahaul ked alit Boddho ke math chorne ka mamla. P.M.O. ne Pradesh sarkar se manga jawab*. 24 September 2007.

Amar Ujala: 2007c. *Rashtrapati Kalam aur Dalai Lama ko patra likha*. 21MAR 2007.

Divya Himachal: 2007. *Har ek bodh bun sakta he lama*. 27 August 2007, p. 4.

Gyaltsen, N.: 2006. *Spiti me Bhot chikitsa padhdhati "sowa rigpa" – sanshipt parichay. Ladarcha Mela (Samarika) – 2006 (27-28)*.

Lahuli, K. A.: 2002. *Spiti ki etihask prishbhumi*. In, S. Vishishtha, *Lahul-Spiti*. Himachal Academy of Arts Culture & Languages. SN Printers: New Delhi.

Legends from Dha-Hanu: Oral Histories of the Buddhist Dards in Ladakh¹

—Stephan Kloos, *Institute for Social Anthropology, Austrian Academy of Sciences*

According to the elders in Dha, their Dardic ancestors originally came from Europe and settled in the Pur valley, east of Gilgit. Then Duthamelo Sanaleph, the grandson of Angutheno, moved to Gilgit, and had three sons there: Galo, Melo, and Dulo. As they grew up, one brother became a good hunter, one a good trader, and one a good shepherd, and by joining their skills they became rich. They had a good friend who was a musician. Unlike today in Ladakh, at that time musicians in Gilgit were of equal social status like the rest of the population. The hunter-brother used to provide him with meat, the trader-brother used to give him money, and the shepherd-brother provided him with butter and curd.

Galo, Melo and Dulo frequently went hunting together. Once, as they were hunting and exploring the mountains near today's village of Dha, they came to a place that is now known as *Nirdah*. As it was already late in the day, they decided to spend a night there, and when they took off their shoes to sleep, some grains from the barley used for insulation fell on the ground.

As the years passed, people in Gilgit became jealous of this family's success and made a plot to kill them at a party. The brothers' musician friend who was playing on that party, however, knew of the plot and warned his friends with a special tune or rhythm. The brothers understood: one of them gestured while dancing, "Oh, today we will die," another signalled, "Today our life is finished," and the third said, "We escape." Thus, during a dance called *nimaskor brasal* they made space around them by dancing wildly, and escaped. They fled Gilgit and passed through some villages before they came to Ganoks valley, where they stayed for some time. There each brother had one son: Galo's son was Gapomaro, Melo's was Thapomaro, and Dulo's was Gil Singhe.

They went hunting again and came to Nirdah a second time, where they found barley growing as a result of the few grains that had fallen out of their shoes years earlier. The place where they found the barley growing in Nirdah is called *Malmakutu*. When they saw the barley, they liked the place.

They also went to the nearby Hanu valley for hunting, where two of the brothers had a competition. One said, "I can kill an ibex by using another live ibex for supporting my bow." The other brother said, "I can eat 18 feet of *shibris*."² After that, in one night I will plough a field 18 feet square all alone." The third brother did not participate in the competition. On the same day, the first brother killed the ibex just as he had announced, and out of its meat they made the *shibris*. Then, the second brother ate 18 feet of it. Night came, and while the other two slept, he ploughed the field. He had brought some barley grains from Nirdah, and when he had finished, he planted these seeds in the field, because they also liked this place. The next morning they left again for Ganoks.

When their sons were older, Galo, Melo and Dulo took them on their hunting trips, and came again to Nirdah and Hanu where they now found a lot of barley growing.

¹ This article is a modified version of a section of the book *Tibetan Medicine among the Buddhist Dards of Ladakh* (Kloos 2004: 36-45). The author is grateful for the publisher's permission to reprint this section.

² *Shibris* is a kind of sausage: meat stuffed into guts.

There was also a clear spring at Malmakutu in Nirdah. They named the field in the Hanu valley “*Hangdangsmín*,” which remains the uppermost hamlet in the Hanu valley and today is also the site of a large army camp. As they grew increasingly fond of these places, one brother said half jokingly, “I will settle in Hangdangsmín.” Another brother said, “I will settle in Nirdah,” and the third one said, “I will stay in Ganoks.” Then they laughed and all three of them agreed that they would stay together. Thus, they and their families divided time between Ganoks, Nirdah, and Hangdangsmín in Hanu.

It was not long, however, before Galo settled permanently in Hangdangsmín, which was his favourite place. Melo settled in Nirdah, and Dulo stayed in Ganoks where he liked it best. Their sons had different tastes, though, and thus Melo’s son Thapomaro stayed with Dulo in Ganoks, and Dulo’s son Gil Singhe with Melo in Nirdah. Then they decided to have a yearly festival rotating between Ganoks, Nirdah, and Hangdangsmín. In each place they had a *dühiya* (a place for *lha*; Ladakhi: deity, spirit) where they killed an ibex or goats for the festival. This was the origin of the Bononah festival, which is still celebrated every three years in Dha at the full moon of October.

Years passed. When Gil Singhe was 40 or 50-years-old, he decided that he wanted an orchard, and since he was a lucky man who always got what he wanted, he said, “I will shoot my arrow (*dah*), and wherever my arrow lands, this will be my orchard and I will call this place *Dah*.” He shot and went to check where the arrow went, and at that place (*Dhaphangsa*) he dug an irrigation channel and planted apricot trees. Today, there is still a hole at this place, which is forbidden for women and covered in special grasses and juniper by the men of Dha.

The Dha-Hanu region

Beginning with the core of Buddhist Dard oral history that deals with the Dards’ migration to the Dha-Hanu area, this article constitutes the first attempt to assemble a local history of Hanu valley. It is believed that the Dards constitute some of the earliest permanent inhabitants of what we know today as Ladakh (Francke 1999: 19ff; Petech 1977; Vohra 1989a&b; Kaul 1992: 38; Phuntsog 1999: 379), but during Tibetan influx from the east, they intermarried, were assimilated or pushed back to less accessible regions. Today, they form only a small ethnic, linguistic and cultural minority in Ladakh, comprised of between 1500 and 2000 Buddhist Dards in the villages of Dha, Hanu, Byema, Garkun and Darchik along the Indus valley.³ Hanu, lying on the eastern fringe of the Buddhist Dard region, is comprised of three villages—Hanu Thang, Hanu Yogma, and Hanu Gongma—in a side valley to the north of the Indus river. Together, these villages have an approximate population of 900, most of whom are ethnic Dards.⁴ Apart from a few references (Phuntsog 1999, 2000; Vohra 1989a&b; Bhasin and Nag 2002), the history of the Buddhist Dards in Ladakh has so far not been studied in any rigorous manner. There are several reasons for this. One is an almost total absence

³ Besides Vohra’s work, see Prem Singh Jina (2002) for a basic introduction to the Dards in Ladakh. The 2001 census of India does not distinguish between language and ethnic groups in Ladakh. The 1991 census puts the number of Buddhist Dards in Ladakh at 1,920 (cf. Bhasin and Nag 2002; Bhasin 2004, 2005), while Zeisler (2004: 606) puts their number at 1,419. The larger part of the Dardic population of Ladakh—over 7,000 people living in the area of Drass—have converted to Islam, as have Dardic communities in Pakistan and Afghanistan.

⁴ Only a handful of families in Hanu Gongma and Hanu Yogma are of non-Dardic origin (see Kloos 2004).

of written sources by the Dards themselves. Another is the tendency of Ladakhi historians past and present to deal with outlying regions such as the Dha-Hanu area only when they gain temporary importance through, say, a war. War and Hanu's close location to the India-Pakistan Line of Control have furthermore limited outsiders' access to this valley severely, especially since 1999. Finally, due to a loss of the original language, a dialect of Shina today called "Brog-skad," local oral histories are less well preserved than in neighboring Dha or Garkun, where that language and its oral traditions are still alive. Life in the villages of Hanu must have been rather uneventful for most of the time, so that what is remembered today by the locals are only the most outstanding and unusual events that have shaped the life of the Hanu-pa until today.

The present attempt at assembling a local history of Hanu makes use of three sources. The first source consists in the oral history concerning the Dardic migration to Dha and Hanu as remembered by the elders of Dha. In addition, I also combine whatever written sources exist on the Buddhist Dards with local oral histories of Hanu. Most of the data was collected during five months of ethnographic fieldwork in 2001, and in discussions with local historian Sonam Phuntsog (see also Phuntsog 2000). No doubt, the account offered here is both superficial and incomplete, both due to reasons of space and available material. Still, it may be of use for further work in and on the Hanu region, especially given its on-going inaccessibility.

Early Migrations and the Settlement of Ladakh

It is generally agreed today that the first settled inhabitants of Ladakh were Indo-Aryan peoples, and that the Dards, moving in from Gilgit, soon gained the upper hand over other groups coming from Kashmir (Francke 1999: 19). From about 200 BCE onward, they settled Ladakh, which was until occupied primarily by nomads from the Tibetan plateau (Francke 1999: 19ff; Petech 1977; Vohra 1989a&b; Kaul 1992: 38; Phuntsog 1999: 379). Old rock inscriptions and ruins of Dard castles dating from pre-Tibetan-influence times can still be seen today in various places of Ladakh. Rohit Vohra (1989a: 6ff) deals in some detail with classical Greek and Sanskrit sources such as Herodotus, the Puranas or the Mahabharata, where the "Daradas" were already mentioned as a warlike people inhabiting the areas of Baltistan and Ladakh (cf. Mock 2012). Some mentions have also been made by the early Chinese traveller Hwei-ch'ao and in various later Islamic sources.

Vohra (1989a: 18, 22) emphasizes that this early migration was only the first of many over the centuries, and Mock (2012) cautions that the Dards did not actually constitute a single ethnic group. According to Vohra, the last migratory wave took place as late as the 15th or 16th century. The Dards living now in Dha-Hanu have probably migrated 1,000 to 800 years ago, and legends like the one about Galo, Melo, and Dulo relate to that time. At that time the people called Minaro already lived (Vohra 1989b: 14) in the Dha-Hanu area, who were probably Dards from an earlier migration. While at first there seemed to have occurred some fighting between the two groups, later they intermarried (Vohra 1989a: 32).

Over most of the first millennium CE, Dard settlements spread in Ladakh and organized themselves in small chieftainships relatively untouched by influences from Tibet. This changed, however, sometime between 935 and 945 CE (Petech 1997: 232), when the Tibetan king Nyima-gon conquered Ladakh. After that, the Dards were gradually assimilated to Tibetan culture through intermarriage or pushed back westwards (see also Francke 1999: 50ff). The area of Dha-Hanu, however, appeared not to be directly affected by this.

While it is not sure when exactly Dha-Hanu became part of the Ladakhi kingdom,⁵ at the latest by the time of the Ladakhi king Tsewang Namgyal (1532-1555) the area belonged to Ladakh. This king conquered Shigar and Kharko in Baltistan, and had a road built up the Hanu valley over the Chorbat La to Baltistan (Francke 1999: 86; Kaul 1992: 48). This is the first time specific reference is made to Hanu due to its strategic location on the main route from Ladakh to Baltistan.

The Settlement of Hanu

There exists an alternative account in Hanu about the migration and settlement of the Dha-Hanu area to the one recounted above. The two accounts overlap to a considerable degree, so that here I will focus only on the differences.

The Hanu-pa trace their ancestors to the royal lineage of Gilgit. According to this legend the king of Gilgit had seven sons, three of whom—their names are unclear—came to Hanu on a hunting trip. They called the first place they came to in Hanu “Hangdangmin,” which means “empty of crops” (*hangdang*: nothing; *smin*: crops). Much in the same way as brothers in the Dha-pa’s story, they left barley grains there, which later sprouted. A few years later, the brothers came back and eventually settled there because they liked the place. At first, they lived in cave shelters rather than houses, and there is still a place—now called “Rigu-chos-pe-phongs” (*rigu*: baby goat, *chos*: to do/make, *phongs*: rock)—where they conducted sacrifices and prayers. In the beginning, the brothers took ibex there, offered the blood to their gods and afterwards ate the meat on the same spot. Even now, some Hanu-pa sacrifice baby goats at that spot before plowing and sowing.

One day, one brother went down the valley to hunt for ibex. He came upon people living in what is today Hanu Yogma, and who were originally from a place called “Kharmang” near Shigar, a valley along the Indus in what is today Pakistan. Although they were Balti, they appeared similar to the newcomers. The brother married one of their women and brought her up to Hangdangmin. After some time the other two brothers also took wives from these people and slowly all of them moved down the valley. It is due to this intermarriage that the Hanu-pa today trace their male ancestors to the royal lineage of Gilgit, and their female ancestors to Shigar. The Dardic Gilgit lineage was considered superior not only because of their royal origins, but also because they did not eat beef, chicken, eggs, or milk products from cows. The Hanu-pa speculate that there may have been a violent conflict at some point, because today no descendant of the original inhabitants of Hanu are left. As the Dardic population grew, they spread through the entire Hanu valley, and later also to Dha and Garkun.

Other informants in Hanu were of the opinion that the three brothers Galo, Melo, and Dulo each settled somewhere else: Galo in Hanu, and Melo and Dulo in Dha and Ganoks. There is still a *phaspun* in Hanu Gongma called Galo-pa. All Hanu-pa insisted, though, that Hanu was the first of all Dardic villages in Ladakh, and that the first settlement in Hanu was Hangdangmin. As a sign of Hanu’s superiority over the other villages, the Hanu-pa are also fond of telling about how Galo and his descendants (i.e. the Hanu-pa) would always get the best part of the meat during

⁵ The local Dards seemed to retain their independence for some time by siding either with Baltistan or Ladakh, whichever was opportune (Vohra 1989a: 34).

festivals or gatherings. According to the Hanu-pa, this was because Galo was the eldest brother, the best hunter, and because Hanu was the best place.

The Story of Gangrinchen

Besides the above account of Hanu's settlement, the oldest story in Hanu—dating to some time before the 16th century⁶—concerns a field called “Gangrinchen” still owned by the Ganglundup-pa family (see more on this family below). There was a Ganglundup-pa man called Rinchen who at that time lived alone in a place called “Satkhar” (*sat*: to kill; *khar*: fortress, place), on a steep slope high above the valley floor. Today, one can still discern the ruined foundation of a building there. One day, Rinchen saw an army coming up the valley, and shot a stone at them with his sling. Miraculously—considering the distance—he hit the leader of the army on the head, killing him instantly. As the other soldiers did not know what happened, they thought this was a punishment of god and a bad omen. They turned around on the spot and headed back instead of passing through Hanu and looting its villagers, as the locals had feared. Thus, Rinchen Ganglundup-pa became a hero and was given the land where the army headman had died. This is the “Gangrinchen” field, and another piece of land where they celebrated this turn of events is called “Isunkhar” (*isun*: party; *khar*: place).

The story of Tho Shali

Once a Ladakhi king—most likely Tsewang Namgyal (1532-1555)—demanded forced labour (Ladakhi: *thal*) from the Hanu-pa.⁷ However, there was one man, Apo Tho Shali, who refused this demand in the name of all Hanu-pa. He proclaimed that “*Like a dog does not wear a saddle, a Dard does not do forced labour*” (Ladakhi: *Khi'a rgal met, Brog-pa thal met*), which to this day remains a well-known proverb in the Dha-Hanu area. The king, of course, was not amused by such insubordination. He arrested Tho Shali and had him immured in the foundation of a bridge over the Indus, the ruins of which can still be seen a little upstream from the confluence of the Indus and the Hanu river. As he was being immured, Tho Shali was asked repeatedly if he would give labour, and again and again he refused until only a finger was sticking out of the walls, which still waved “No!”.

On a rock near the old bridge's foundations there remains an inscription saying: “*Tho-shali was killed because of his resistance.*” (Phuntsog 1999: 380) Because of the martyrdom of Tho Shali, the Hanu-pa were exempted from all taxes and forced labour until 1842, when Ladakh lost its independence. Even today, the Hanu-pa celebrate a yearly festival to express their combined joy and sorrow over the exemption from taxes and the death of this local hero.

Language change in Hanu

⁶ The Hanu-pa connect the following story to Zorawar Singh's passage through Hanu. However, this does not make sense for several reasons. Firstly, we know that Zorawar's army passed through Hanu and did not turn back as this story suggests. Secondly, after the Tho Shali incident (see below), no Ladakhi or Dogra army was likely to risk losing the Hanu-pa's loyalty by raiding their villages. The story must therefore refer to a time before Hanu came under control of the Ladakhi kings.

⁷ Both Francke (1999: 86f) and Kaul (1992: 48) note that Tsewang Namgyal demanded forced labour and tributes, and Vohra (1989a: 2) notes that the story of Tho Shali must have happened in the 16th or 17th century, which overlaps the time when Tsewang Namgyal ruled (1532-1555). This also led Sonam Phuntsog to assume that the king in question was Tsewang Namgyal.

About two years after the Tho Shali incident (Sonam Phuntsog, pers. comm. 2001), King Tsewang Namgyal issued a rule that forbade the Hanu-pa from speaking their own language and forced them to speak Ladakhi instead.⁸ In return, they were granted the distinction of being officially “Ladakhi” rather than “Brok-pa” of inferior status. According to Sonam Phuntsog, the king was worried that after the Tho Shali incident, the Hanu-pa might support Baltistan out of grudge. This concern was coupled with the more general idea to ensure the support of a population known to be on good terms with the enemy (cf. Francke, 1999: 86)⁹ and living strategically along the main route between the two kingdoms. The fact that the Hanu-pa spoke a language the Ladakhis could not understand made such considerations all the more urgent. Thus, in addition to freeing them from tax duties, right after Tho Shali’s death, the language change “agreement” was aimed at removing language barriers and securing the Hanu-pa’s loyalty by giving them full and equal status as Ladakhi subjects.

Not surprisingly, this had far reaching consequences for the Hanu-pa, and constitutes the single most important event in the history of Hanu. As a consequence, the Hanu-pa not only lost many Dardic oral traditions, but over time developed an identity located uncomfortably between the Shina-speaking “Brok-pa” of Dha and the Buddhist Ladakhis. Today, they speak Ladakhi as their mother tongue and deem it an insult to be called “Brok-pa.” Another consequence was the influx of *amchi* medicine in the Hanu valley during the 19th century that resulted in several local *amchi* lineages (Kloos, 2004)—a unique phenomenon for an Indo-Aryan community.

The Gangludup-pa family

There is a cluster of oral histories in Hanu Gongma concerning one of the biggest land-owning families in the village, the Gangludup-pa. They refer to the time shortly after Tho Shali and the language change (i.e. the mid-16th century), and are exemplary for the way status and wealth are legitimized by history and the reference to old royal decrees.

According to the family legend, one day the Leh *rGyalpo* (Ladakhi: king, ruler) came to Hanu with 18 men.¹⁰ At that time the Gangludup-pa were the richest family of Hanu Gongma, and volunteered to provide the king and his men with food for one whole day. The second day all other families together served him food. As a reward for the Gangludup-pa’s generosity, the king gave the family all the land of a ravine above the hamlet of Khaskhas (a part of Hanu Gongma) called Khaskhas *lungpa* (Ladakhi: valley), which is still owned by them. At that time, the land of the Gangludup-pa was even bigger than all of nearby Sanjak village today. Because they were so rich, they received special respect from the villagers, which manifested in the tradition of the *Ihangargu*. This involved a special rhythm that was played in their house at the Ladakhi new year before the musicians would move on to the other

⁸ Francke (1999: 30) suggests that this incident happened much later, under “the last Tibetan kings,” and that it was not an agreement (as Sonam Phuntsog calls it) but a rule forced upon the Hanu-pa. While the second point makes sense for several reasons, his time reference is unlikely. It is clear that the language change happened after Tho Shali, because Tho Shali still referred to the Hanu-pa as “Brok-pa” in his famous saying, but from all local accounts it is equally clear that this happened more than seven generations ago (i.e. before the “last Tibetan kings”).

⁹ Francke (1999: 86) remarked that Tsewang Namgyal “*wished to keep the goodwill of the people.*”

¹⁰ It is interesting to note here that Pascale Dollfus (1996: 10) mentions that reference is made to 18 archers in connection with special status also in Hemis-Shukpachen, and it is likely that both references have the same source.

houses. In return, the Gangludup-pa provided food and *chang* (Ladakhi: local barley beer) to all the musicians who played for them.

Not long after, the king again visited Hanu with seven men, and this time they went straight to the Gangludup-pa house. The seven men cooked nine goats' heads in a pot, but while cooking, they broke the *skea* (Ladakhi: wooden stick used for cooking). When the king saw this, he ordered them to throw all the food down the toilet. However, one of the seven men held a bowl under the toilet and caught the food, which they secretly ate somewhere else. The king told the Gangludup-pa not to eat this meat, for they, too, were *rus-chen* (Ladakhi: of noble lineage). His order meant that any time a wooden stick used in making or eating food broke, all the food in that pot or bowl had to be thrown away. From that time on, the Gangludup-pa were called *Geshingpa* (Ladakhi: *gal tches*: to break, *shing* = wood), i.e. "the broken wood people," and had the status of *rus-chen*, of noble lineage. At that time, also the Sakyipa *phaspun* (Ladakhi: group of families, believed to have common ancestors) was *rus-chen*. In time, the Gangludup-pa family grew and split, so that today the resulting *phaspun* is called Geshingpa, and also the two other families of Gangludup-pa origin, the Malikpa and Nagdapa, are considered of noble lineage and have the rule of the broken wood. This rule is still followed today, even though one suspects that there are not many occasions to actually apply it. The family still possesses documents written by that king in a sealed tea-making tube. As for the king, he had a small fortress built above Hanu Gongma where he stayed whenever he came to Hanu. The ruins of this fortress still exist, and are called "Khargok" (*khar*: fort, place; *gok*: old, broken)

The introduction of Tibetan Buddhism to Hanu

At the time of the first Dardic migrations during the Indian Gupta period, Buddhism had already spread to the north-western regions including Kashmir and Gilgit. This means that already the earliest Dards must have been exposed to Buddhist ideas. However, whatever Buddhist influences there may have existed among the old Dards, they disappeared over the centuries. Therefore, when Tibetan Buddhism made its way to Hanu and its animistic beliefs and practices, it was an entirely new religion for the Hanu-pa. It should be noted that even today animistic beliefs play a large role in Hanu society, where despite the presence of Buddhism, animal sacrifices were still carried out in 2001 to appease the *yul-lha* (village deity). Sonam Phuntsog (1999: 381) describes the introduction of Tibetan Buddhism to Hanu in some detail, mostly based on oral history. In short, three monks from Spiti came to Hanu in 1779 and converted a few Hanu-pa. The majority of Hanu's population, however, only converted to Buddhism (outwardly, at least) after the visit of Konchok Wangpo from Skyrubuchan. This hermit built a monastery in Hanu in 1825. Except for a short interruption of seven years, early in the 20th century, the Hanu-pa have been associated with the Digungpa monasteries at Phyang and Lamayuru until today.

The Passage of Zorawar Singh

After the completion of the road by Tsewang Namgyal and the language change, we can assume that Hanu was continuously subjected to outside influence, as it lay on the most important route to Baltistan. At the same time, the more enterprising Ladakhi kings seemed interested in the loyalty of the Dards (including the non-"Brog-pa" in Hanu). Thus, Singhe Namgyal on one occasion helped the Dha-pa rebuild their fortress (Vohra 1989a: 32).

The next time we hear of Hanu in the literature is at the occasion of Wazir Zorawar Singh's military expedition to Baltistan in February 1839 (Kaul, 1992: 75) or 1841 (Francke 1999: 154).¹¹ On his way to Baltistan, Zorawar Singh divided his troops, sending the Ladakhis half up the Hanu valley over Chorbat La, while he and his Dogra troops took the route along the Indus where the Garkunpa helped them secure a victory over the Balti forces by building a bridge for them. The passage of Zorawar Singh's Ladakhi soldiers is still remembered by the Hanu-pa today, who recount that a Garba-pa man called Phele shouted "gyenpa-gyal!" (*gyenpa*: upper world; *gyal*: to win) as they passed. After they won their battle, Zorawar's soldiers returned through Hanu and gave the Garbapa family the land of today's village of Kanyungtse in the Indus valley as a reward.

Dogra rule until independence: socio-economic developments

While there are many historical accounts about Ladakh from 1841 until today, I did not have access to written sources concerning Hanu after Zorawar Singh's conquest of Baltistan. According to Sonam Phuntsog (pers. comm. 2001), there exist some written reports by a Dogra official responsible for Hanu, who apparently complained about the bad character of the Hanu-pa.

However, we know that the tax exemption of the Hanu-pa (the result of Tho Shali's martyrdom) lasted until Ladakh lost its independence and became part of the Dogra Empire following Zorawar Singh's conquests. Later, shortly after India won independence, taxes were again abolished—this time for all Ladakhis—due to the efforts of Bakula Rinpoche (Kaul 1992: 207ff). In the little more than 100 years in between, the Hanu-pa had to pay tax both in form of barley and labour. Oral histories in Hanu concerning this time provide a glimpse of the socio-economic situation then.

Thus, under Dogra rule, 21 families of Hanu Gongma as well as 42 families of Hanu Yogma had to go to Lamayuru each year after Losar to pay taxes in barley and provide labor for 30 days. It seems that there was a representative of the Maharaja called *Khazar* who collected the taxes and oversaw the work. There is still a valley near Lamayuru called Hanu-pa *lungpa* where they used to keep their animals. Work was divided between the families from Hanu Gongma and Hanu Yogma in the following way: batches of seven families from Hanu Gongma and 14 families from Hanu Yogma worked for ten days, then the second batch would come, and after another ten days the third batch took over. In that way the Hanu-pa ensured that the villages were never completely empty.

At that time, the wealth of a family depended on the land they owned: the more land, the better. Those who had too little land to supply them with enough food for winter were forced to borrow at high interest rates (25% p.a.) from the rich families who had a surplus of barley. If a family was unable to pay back the grain the next year, they had to give labour instead, and if the debt became too high, the lending family threatened to take part of the borrowing family's land. This system created a static situation of dependency, and there was little chance for a poor family to become rich. There also existed a few "middle class" families who had enough land to sustain themselves, without borrowing but did not have enough to lend. The rich families were the IDanpa, Ganglunduppa, Garbapa, Gangchungpa, and Kulikapa. The poor families, among them the Manupa, Pheyapa, and Doangpa, however, were the majority.

¹¹ Zorawar Singh was the military commander of the Maharaja of Jammu and responsible for the Dogra empire's expansion to Ladakh. A full account of Zorawar Singh's conquest of Ladakh and Baltistan can be found in Kaul (1992: 64-88).

Since under the Dogra rule the animosities between Ladakh and Baltistan ceased, a lively trade between the two regions developed, most of which went through Hanu. The Hanu-pa took advantage of this situation and actively participated in this trade. Thus, it was popular practice to exchange their surplus barley in Sakti for salt from the nomads of Changthang and Rupshu. Then they took the salt to Baltistan to exchange it for dried apricots, which in turn they brought to Leh to sell for money or goods. Generally, at that time the Hanu-pa had closer relations with Baltistan than with Leh, and Ladakh proper. While Baltistan was only one day's journey away, it took six days to travel from Hanu to Leh. Thus, the old Hanu-pa had many friends in Baltistan and the Balti often came to work on the fields in Hanu, for which they were paid in barley. It was around this time that the English first explored this area. Old people still remember the English survey expeditions that came three times a year and required locals to work as porters.

The Kargil conflict

While Hanu was affected by the two wars between India and Pakistan in 1965 and 1971, the most recent "Kargil conflict" from April to July 1999 engendered the biggest changes. The direct impact of this brief war that also took place in the Hanu valley was minimal: the Hanu-pa had to camp a few days in a side valley to avoid Pakistani shelling, but ultimately no civilian died or was hurt, nor was any building damaged during the conflict. One local soldier, Angchuk Dorje Manupa was killed in battle, and the big prayer wheel at the side of the road as one enters Hanu Gongma was erected in his memory.

Of much greater consequence was the Indian Army's completion of the road from the Indus valley to Hanu Gongma and Chopodok or Hangdangmin in 2000. There had been ongoing road-construction by the government for over ten years that showed little progress. With Hanu's strategic location back in the spotlight, however, the Indian Army completed the job in less than one year, winning considerable applause from the local villagers. With the road, transport of people as well as goods has become easy, making life much easier for the Hanu-pa. Gas cylinders, kerosene, threshing machines, food rations, and building materials now easily find their way up to Hanu Gongma, and Leh with its business opportunities, educational and medical facilities can be reached within a day.

While it is not readily visible in Hanu itself, also the bank accounts of the Hanu-pa have been in good shape since the war. Following a similar strategy like King Tsewang Namgyal in the 16th century, the Indian Army tried to secure the loyalty of locals in strategic border areas by offering them extremely high wages, heavily subsidized consumer goods, and free apples and chocolates for the children. Thus, at the time of the war when local porters and cooperation were needed most, the Hanu-pa received higher salaries than even army officers could dream of. After the conflict, the demand as well as the wages have gone down but still remain sufficiently high to provide lucrative income for the Hanu-pa.

Bibliography

- Bhasin, Veena: 2004. 'Tribals of Ladakh: Ecology and Health', In *Tribal Health and Medicines*. A.K. Kalla and P.C. Joshi, eds.: 131-153. New Delhi: Concept Publishing.
- Bhasin, Veena: 2005. 'Ecology and Health: A Study Among Tribals of Ladakh'. Stud. Tribes *Tribals* 3(1):1-13.
- Bhasin, Veena, and Shampa Nag: 2002. 'Population Dynamics, Problems and Prospects of High Altitude Area: Ladakh', *The Anthropologist*, Special Issue 1:43-72

- Francke, A.H.: 1999 [1907]. *A History of Western Tibet*, Delhi: Pilgrims Book House.
- Kaul, Sridhar, and H.N. Kaul: 1992. *Ladakh Through the Ages: Towards a New Identity*. New Delhi: Indus
- Kloos, Stephan: 2004. *Tibetan Medicine Among The Buddhist Dards of Ladakh. Volume Heft 57*. Wien: Wiener Studien zur Tibetologie und Buddhismuskunde.
- Mock, John: 2012 *Dards, Dardistan, and Dardic: an Ethnographic, Geographic, and Linguistic Conundrum*, <http://www.mockandoneil.com/dard.htm>, accessed on 17 January 2012
- Petech, Luciano: 1977. *The Kingdom of Ladakh: C. 950-1842 A.D.* Rome: Istituto Italiano per il Medio ed Estremo Oriente.
- Phuntsog, Sonam: 1999. 'Hanu Village: A Symbol of Resistance', in *Ladakh: Culture, History, and Development between Himalaya and Karakoram*. Recent Research on Ladakh 8. M.v. Beek, K.B. Bertelsen, and P. Pedersen, eds. Pp. 379-382. New Delhi: Sterling Publishers.
- Phuntsog, Sonam: 2000. *Ladakh Annals*. Delhi: Jayyed Press.
- Vohra, Rohit: 1989a. An Ethnography: The Buddhist Dards of Ladakh. "Mythic lore - Household - Alliance System – Kinship". Ettelbruck: Skydie Brown International.
- Vohra, Rohit: 1989b. *The Religion of the Dards in Ladakh. Investigations into their pre-Buddhist 'Brog-pa Traditions*. Ettelbruck: Skydie Brown International.
- Zeisler, Bettina: 2004. *Relative Tense and Aspectual Values in Tibetan Languages*, The Hague & Berlin: Mouton de Gruyter

Nutrients (N, P, and K) recycling in traditional soil fertility practices in Leh district: A case study at small farm level

—Vladimiro Pellicciardi

In the last 60 years, India has attained self-sufficiency in food grain production to feed over 1.2 billion people. In 1951/52, the grain production, mostly in the Gangetic plains, was around 52 million tons under a fertilizer consumption of 70 thousand tons, at an average of 1.3 kg fertilizer per ton of grain; in 2001/02, the production increased four-fold to 212 million tons, but the fertiliser consumption rose up almost 14-fold to 18 million tons, at an average of 85 kg fertilizer per ton of grain (Narwal et al 2005). In Jammu and Kashmir state (J&K), of which Ladakh is a part, the use of chemical/inorganic fertilizers was introduced during the first Five-Year Plan (1951-56). Since then their use has steadily increased. To give a recent comparison, on average 43 kg/ha of Nitrogen was used in J&K State, 143 kg/ha in Punjab (Ludhiana district), and 76 kg/ha in all India (J&K DR 2003).

The indiscriminate use of synthetic fertilizers to increase cereals production, together with intensive cropping and extra nutrients uptake by crop yields, has caused immense damage, accelerating the exhaustion of an important component for productive soil: the organic matter, which is almost never restored. As a result, the deficiencies of organic matter and plant nutrients (macro and micro) have assumed an alarming importance. The related imbalance has not only adversely affected the growth of crops production but also the chemical and physical conditions of agricultural soils (Narwal et al 2005). Moreover, there has been no commensurate increase in crop yields as a response to fertilization (Kang 2010): yields have diminished steadily while in 2008/09 the subsidized bill for fertilizer reached an “unmanageable” figure of INR 1,197.72 billion (around EUR 20 billion). Thus, Kang claims the existing policy of the Department of Fertilizer (Ministry of Chemical and Fertilizers) and industry lobbying, is unsustainable for both farmers and government.

In the upper north-west Himalayas of India, where local resources are both temporally and spatially scarce, one of the most important techniques of soil fertility management was the extensive internal recycling of energy and matter to create and maintain profitable topsoil for agriculture (Verma 1998). In Ladakh, livelihoods based on a subsistence agrarian economy were able to produce enough staple crops, mostly barley and wheat, in balance with the size of the population, which was eating the local food-grain all year long and, during the cold season, was feeding the animals, confined in sheds, with straw, residues from the crops harvested, or fodder (*alfalfa*). F. A. O. (2008) classifies Ladakhi agriculture among the “*Globally Important Agricultural Heritage Systems (GIAHS)*”, defined as “*remarkable land use systems and landscapes which are rich in globally significant biological diversity evolving from the co-adaptation of a community with its environment and its needs and aspirations for sustainable development*”. (p.4)

Over the last few decades the Leh district has not been self-sufficient in food-grain production and a certain amount must be annually imported to fill the gap (Dame & Nüsser 2011). The demand-supply imbalance is one of the major concerns for the local administration which dreams of regained self-sufficiency: “*Ladakh is getting excessively reliant on the outside world for critical needs such as food*” (LAHDC-L 2005: 9). To increase the grain production, central and local government have initiated extensive land reclamations and irrigation projects alongside provided farmers with agricultural implements and chemical fertilizers (Urea and D.A.P.¹), at

¹ Diammonium phosphate, a type of fertilizer with a high phosphorus content.

subsidized prices. During 2008/09, a total of 3,767 quintals of inorganic fertilizers, 2,354 q of Nitrogen and 1,413 q of Phosphorus, were distributed in the Leh district, giving an average quantity of 0.47 q/ha in relation to the total cultivated area of 8,092 ha in the same year (SHB 2009).

According to Dame and Mankelov (2010), many farmers (in Zangskar) prefer the easier application of the granular chemical fertilizers in bags rather than digging out, transporting and spreading night-soil and stable manure, and because keeping animals is labour intensive and time consuming. Other farmers have gone back to using the traditional organic fertilizers method after a few years of applying chemicals, because the use of chemicals reduced organic matter, which is only contained in manure, and has induced hardness in the soil, and the initially increased productivity only lasted for a short period. Moreover, several farmers have observed that barley grains harvested in inorganic fertilized fields, are poorer in quality, and with inferior taste in "tsampa" (ground roasted barley), or "chang" (barley beer) (Mankelov 1999). Therefore, it is possible to presume that the local farmers community has adopted a cautious approach to the use of chemicals, at least in rural areas, while in the vicinity of Leh town, a higher use of inorganic fertilizers has been reported (Mr. Gohlam Moammad Bardi, Chief Agriculture Officer, Leh, personal communication, May 2010).

The quality of soil in Leh district, much of which was originally sandy with low fertility and lacking the natural capacity to absorb and hold sufficient moisture and nutrients (Sagwal 1991), has changed and ameliorated over centuries, under the farmers' careful soil fertility management. Soil functions (physical, biogeochemical and mechanical properties) were therefore systematically restored by manuring fields with a mixture of composted human and animal excreta, and rotating crops, thus establishing an internal recycling of energy and nutrients in the agricultural productions. These practices compensate for the loss of organic matter resulting from natural erosion and the uptake of mineral nutrients by plants.

The aim of this paper is to compute the macronutrients mining by crops (output of nitrogen N, phosphorus P, and potassium K) and the addition through organic manure (input of N, P, K), in the barley (*Hordeum vulgare* L.) and wheat (*Triticum aestivum* L.) cultivation in a small, family managed farm, located in Hemis Shupkachan village, central Leh district. Moreover, a static balance is computed by measuring the difference between macronutrients contained in the manure spread on the fields, and in the crops harvested, without quantifying soil nutrient stock or the contributions from the rotation of crops. The evaluation is done at small farm level, < 1 hectare, which is representative of a majority (62%) of the district's farmers (SHB 2009). However, results could lead to wider considerations regarding the importance of the traditional soil fertility practices in Ladakh.

Traditional soil fertility practices

The Ladakhi traditional farming system can be viewed as an ordered series of cyclical sequential operations: manuring, ploughing, sowing, levelling, channelling, irrigating, weeding, harvesting, and threshing. In order to improve the quality of the soil and the crop yields, farmers manure the fields with a composted mixture of human and animal excreta, selecting the most suitable seeds for a very short growing season, and rotating crops, with nitrogenous fixing plants such as pea, among others. These practices provide plants with key nutrients like nitrogen, phosphorus and potassium, and soil with organic matter in order to maintain its functions and properties. The members of the family of the case study farm used for this research, eat the food they produce (subsistence agriculture), and household

livestock eat the crop residues, integrated by fodder (*alfalfa*), thus receiving energy to support their activities and life; after the food and beverage are digested and metabolized, they are transformed in excreta (faeces and urine). Traditional Ladakhi houses have an indoor dry latrine pit on the upper floor. A certain amount of soil is piled up in one corner of the toilet where a spade or shovel is also kept; excreta fall down, mixed with sandy soil, through a drop hole that leads to a small ground-floor room that can only be reached from the outside. A cowshed is located in the ground floor where the animals can be placed and fed during the long six winter months. The total quantity of excreta produced depends on the number and diet of family members, and on the number, size and gender of the cattle. Excreta is decomposed under relatively high temperature conditions, and then are collected, placed into sacks or pannier, carried to the fields using donkey, dumped in heaps for further decomposition, distributed on the ground through the use of a spade at the beginning of springtime and finally mixed with the topsoil through ploughing.

In general, crop yield varies from one field to another due to factors like altitude, geology, geomorphology, orientation, soil, sowing rates and manure quantity. During the growing season, crops yield is controlled by the availability of sufficient plant nutrients, and in the long term, given the same conditions (irrigation, seeds quality, farming practices and more), by the balance between supply (via manure) and removal (via crop uptake) of essential macronutrients (N, P, K), where yields tend to stabilize at a level where supply equals removal. There is general disagreement about Ladakhi agriculture; some visitors and government officials from outside the area regard it as backward and unproductive with very low yield potentialities (Osmaston 1994). Two J&K government reports² show very low average yields for local wheat and barley cultivar in Leh district, respectively 9 q/ha and 14.8 q/ha. The Leh Agriculture Department³ reports the average yield in the district as 21.3 q/ha for barley and 17.5 q/ha for wheat. Independent studies mark it even higher, ranging from 26 q/ha to over 52 q/ha (Osmaston 1994; Mankelov 2003; Demenge 2007).

Data collection

Data and background information were collected during surveys carried out in Leh district in May-June of 2009 and 2010. Data from literature, especially of the Indian western Himalayas, together with direct measures from the fields, interviews of farmers and Agriculture Department Officials in Leh, provide a verisimilar representation of local traditional soil fertility practices and staple crop production. The farmer who cultivates the fields under study is said to be a good agriculturalist and sometimes invited for local radio broadcasts on agricultural issues. Therefore the information collected from him can be regarded as “best judgement”, in the absence of measured data.

The cultivated fields, taken as a micro-level case study, are two barley fields (750 + 950 = 1700 m²) and one wheat field (1750 m²) located in Hemis Shupkachen village (3600m a.s.l.) about 60 km from Leh town. The fields are irrigated by a stream of meltwater that originates from the glaciers in the south face of Shaili Kangri (height 5700m a.s.l.), under a water diversion scheme managed according to the traditional Ladakhi communal system. Such systems have been described as a “fine tuned mechanisms for distributing water equitably and efficiently” (Gutschow 1997 p. 105).

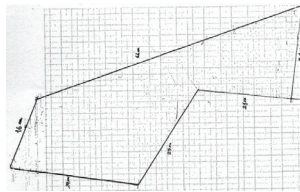
²J&K Crop Production Statistics for the Year 1999-00 to 2006-07, and Krishi Vigyan Kendra, 6th Scientific Advisory Committee Meeting Report, Leh 2006, “Area, Production and Productivity of major crops cultivated in the District”, pg. 11, unpublished.

³Blockwise basic data for the District, Agriculture Department Leh, 2007/08, unpublished photocopies.

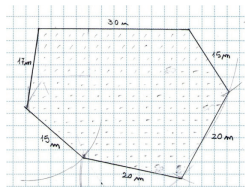
All the fields under study are fertilized exclusively through the use of the manure produced in the farm, from the house dry toilet and the household stable. The total quantity of barley and wheat produced in 2010 in the three fields has been computed in volume, because this is the local traditional measure of grain, and is equal to 106.5 “khal”, a trapezoidal wooden bowl (farmer communication by email, October 2010). This khal contains 10 of farmer’s “bo”, a cup filled by grain, which is around ≈ 1 litre. For an overview on weights and measures used in Ladakh see Osmaston and Rabygas (1994). Thus, assuming an average of ≈ 0.8 kg/litre as grain density, the total mass quantity harvested can be calculated 852 kg of grain (barley and wheat). On this farm, barley and wheat stumps are been pulled out by hand along with the complete root (farmer, pers. comm.), and the straw quantity produced, calculated using a harvest index of 0.47 (Osmaston 1994), is 961 kg.

Fields description⁴

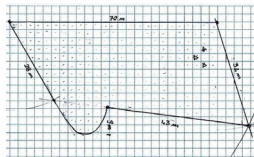
Barley field, named Changti, (meaning “holes”, caused by heavy rain in the very soft soil), area $A \approx 750 \text{ m}^2 = 0.075 \text{ ha}$, manure heaps = 39, one heap every 19.2 m^2 .



Second barley field, Dak Dong, that means “Uneven cliff”; area $A \approx 950 \text{ m}^2 = 0.095 \text{ ha}$; manure heaps = 54, one heap every 17.6 m^2 .



Wheat field, Skang Ka, that means “Ditch”, area $A \approx 1750 \text{ m}^2 = 0.175 \text{ ha}$, manure heaps = 85, one heap every 20.6 m^2 .



⁴ Geometrical dimensions of the fields has been measured using a 20 m rope and areas calculated with an error of $\pm 50 \text{ m}^2$.

Methodology

An extensive literature review was carried out to evaluate the quantities of macronutrients contained in the manure and crop uptake. In general, chemical analysis is recommended but in this study, conservative values have been assumed, making it possible to consider the results as the lower limits rather than use an error margin for macro-nutrients quantities and balance (table 2). The quantity of excreta (faeces + urine) produced by dzo, cow, calf and donkey faeces (dry matter, DM), and expressed in kg/per capita per day, is taken from Rodhe et al (2007); Paudel (1992) for sheep and goat faeces and urine (DM); Verma (1998) for dzo, cow, calf and donkey urine (DM) and human excreta (DM). According to Joshi (1992), only half of animal urine produced must be computed due to the leakage in stable ground soil and volatilization. The quantity of macronutrients introduced in the topsoil by manure (composted excreta) is computed by adding the contributions from humans and animals. The first is calculated by multiplying the number of family members by the annual quantity produced per person in India; found in Jönsson et al (2004) as 2.7 kg for N, 0.4 kg for P, and 1.5 kg for K. The second is computed by multiplying the quantities of excreta produced during the 180 days in winter stables, expressed as kg of DM, by the correspondent values of percentage contents for each producer. This is found in Verma (1998): 0.50% N, 0.20% P, and 0.50% K for cattle, and 3.00 % N, 1.00% P, 2.00% K for sheep and goats. In our study, for donkeys, the values for cattle reduced by the animal weight are assumed. Quantities available for crop uptake are calculated according to Rosen and Bierman (2005) reduction percentage, being equal to 70% for N, 80% for P, and 90% for K, of the nutrients content. Macronutrients removed from the soil (outputs, the plants up-take) are computed on the basis of percentages of nutrients content in the harvested quantity of barley and wheat (grain) and crop residues (straw). According to Joshi (1992) the percentages are 1.57% N, 0.87% P, 0.50% K for barley and wheat grains, and 0.46% N, 0.14% P, 1.26% K for barley and wheat straw. Macronutrients static balance is assessed by difference of quantity available for uptake, coming from manure, minus the quantity removed by plants. For a complete dynamic balance of macronutrients in the soil Roy et al (2003) suggests a complex scheme with five inflows and five outflows (see Appendix).

Results

Considering a production period of one year for the farm's family, composed of five members, and six months for livestock housed in the stable (2 dzos, 2 cows, 2 calves each assumed equal to 0.5 cow, 1 donkey, 16 sheep and goats), with 50% of urine contribution, the total amount of excreta produced in the farm is 2727 kg (Table 1).

Table 1: Livestock and human composted excreta quantity computed as manure

| | Weight | Faeces DM | Urine DM | Period | Faeces DM | UrineDM | n° | F.DM | U.DM |
|--------------|--------|------------|----------|--------|-----------|---------|----|-------------------|------|
| Livestock | Kg | kg/ pc day | | Day | kg/pc yr | | / | kg/yr | |
| Dzo | 250 | 2.5 | 0.39 | 180 | 450 | 70 | 2 | 900 | 70 |
| Cow | 200 | 2.0 | 0.31 | 180 | 360 | 56 | 2 | 720 | 56 |
| Calf | 100 | 1.0 | 0.16 | 180 | 180 | 28 | 2 | 360 | 28 |
| Donkey | 90 | 0.9 | 0.14 | 180 | 162 | 25 | 1 | 162 | 13 |
| Sheep + Goat | 15 | 0.08 | 0.02 | 180 | 14 | 3 | 16 | 222 | 27 |
| Human | 55 | 0.03 | 0.06 | 365 | 11 | 23 | 5 | 55 | 115 |
| | | | | | | | | Total 2727 | |

Table 2 reports the quantity of each macronutrient (N, P, K) for animals and human, the total introduced in the topsoil by manure, the quantity available for the uptake, and the quantity removed from the soil by crops. Macronutrients and balance results are expressed in kg, latter, if positive (+), indicating nutrient surplus/accumulation, or negative (-), indicating nutrient deficiency/depletion in soil.

Table 2: Macro-nutrients quantities and balance, in kg

| | Animal | Human | Total | Available | Removed | Balance |
|---|--------|-------|-------|-----------|---------|---------|
| N | 19.0 | 13.5 | 32.5 | 22.8 | 17.8 | +4.9 |
| P | 7.1 | 2.0 | 9.1 | 7.3 | 8.8 | -1.5 |
| K | 16.5 | 7.5 | 24.0 | 21.6 | 16.4 | +5.2 |

Discussion and Conclusion

Despite the fact that faecal-phobia is prevalent in India (Dawa et al 2006), in the Western-Himalayas human and animal excreta are composted and used as organic fertilizer, and they are an important resource for crops production. In Ladakh soil fertility has been first created and then maintained, during several centuries of land cultivation, thanks to a continuous cycling of mineral nutrient and organic matter supplied and efficiently recycled through the soil-plant-human-animal web system, and achieves a satisfactory crop yields.

In the case under study, relating the quantity of grain produced (852 kg) in the cultivated area of 3,450 m², to one hectare, the aggregate average yield in mass is around 24.7 q/ha. This value is a good result if compared with the yields for all India, as well as for Jammu & Kashmir state where chemical fertilizers are intensively used. During the period 2001/2005, the figures for India and J&K were 20.1 and 26.7q/ha for barley and 6.4 and 16.9 q/ha for wheat (DAC 2006). Since the humans and livestock of this farm feed largely on harvested grain and straw, part of the macronutrient in the crops (outputs), which are temporarily removed, are later returned through the manure (inputs). This study accounts an application of 2.73 tons of manure on the barley and wheat cultivated fields of 3,450 m² of area, which means about 7.9 tons/hectare. It is interesting to note that, according to Joshi (1992), manure application in west Himalaya is quite variable, ranging from 3.0 to 21.0 t/ha, in relation to different factors that govern the agricultural practices (e.g., cropping pattern, variety of crop grown, land type, distance of land from the manure source, size of land holding, number of animals, labour availability). The results show a relevant quota for phosphorus and potassium from livestock (78% for P, and 69% for K), and an important rate of nitrogen (41%) supplied through human excreta.

Furthermore, a positive macronutrients balance for nitrogen (N +4.9 kg) and potassium (K +5.2 kg), but slightly negative for phosphorus (P -1.5 kg) is accounted. A full positive balance would be achieved by using the value of 0.9 kg/pc yr for the quantity of phosphorus (P) in human excreta derived from the average values reported in four different literature sources (i.e., 1.3 kg/pc yr in Verma (1998), 0.4 in Jönsson *et al* (2004), 0.6 in Down to Earth (2009), and 1.4 in Karak and Bhattacharyya (2011)), instead of 0.4 kg/pc yr (the lowest value, in Jönsson *et al*. 2004) assumed in the computations made. Instead of the limitations embedded in the calculation procedure, the macronutrients balance model utilized can be a valuable tool for delineating the consequences of traditional soil fertility practices, allowing a rough estimation of nutrient accumulation/depletion in soil. The results confirm the importance of manure in recycling major nutrients in a system characterized by feedbacks. Thus, to paraphrase Narwal *et al* (2005), in the Ladakhi small farms the "agricultural soil is a renewable storehouse of plant nutrients".

Appendix

Normally a certain amount of organic and inorganic N, P and K is present in the agricultural soil in stable or labile plant-available forms at any one time, and, when measured one year later after harvesting, these amounts are not the same because various processes cause nutrients to flow in and out of the soil layers at root level. For a complete dynamic balance of macronutrients in the soil, Roy *et al* (2003) suggests a complete scheme with five inflows (IN1-IN5) and five outflows (OUT1-OUT5) (Table 3).

Table 3: Factors governing nutrient flows in the soil (adapted from Roy *et al* 2003)

| Input | | Output | |
|-------|-----------------------|--------|-------------------|
| IN1 | Chemical fertilizers | OUT1 | Harvested product |
| IN2 | Human + Animal Manure | OUT2 | Crop residues |
| IN3 | Deposition | OUT3 | Leaching |
| IN4 | Biological N fixation | OUT4 | Gaseous losses |
| IN5 | Sedimentation | OUT5 | Erosion |

Due to the uncertain nature of factors affecting soil fertility dynamics in the fields under study, the following considerations can be done regarding the quantities involved in the dynamic balance: The amount of macronutrients by chemical fertilizer (IN1), spread into the cultivated fields under study, is zero (farmer personal communication, and author's observation on field survey, May 2010); the quantity of macronutrients contained in manure (IN2) (organic fertilizer) and introduced in the fields (all coming from the human and animal composted excreta produced in the farm under study) has been calculated (see Table 2 and 3); the quantity of macronutrients uptake by grain in harvested product (OUT1) is calculated (see Table 3, taken from personal communication with the farmer, October 2010); the quantity in crop residues (straw) (OUT2) is calculated (see Table 3, data aggregate with grain); the quantity of macro-nutrients from deposition (IN3) which, depending on rainfall in millimetres per year (Roy *et al* 2003: 8), could be considered irrelevant because in Leh district the annual average of precipitations are less than 100 mm (Archer and Fowler 2004); the contribution coming from biological N fixation from the atmosphere (IN4), that is important only from leguminous species and wetland rice (Roy *et al* 2003: 8), is less relevant in this case where only barley/wheat crops are considered;- the macro-nutrients from sediment (IN5), contained in the irrigation meltwater from glaciers can be, in Ladakh, considered negligible (Osmaston *et al*.1994: 65); leaching (OUT3), in some cases, can be a significant loss mechanism only for N and K nutrients; it is positive correlated with annual average rainfall, soil fertility class, total application of fertilizer and manure, and negatively with total crops up-take; despite Roy states that "*research on leaching is confined mainly to point observations*", and further ahead, "*these few data are not enough to support a model that should have a spatial significance*", complex regression equations are suggested (Roy *et al* 2003: 10), thus, in the farm under study, this contribution will be difficult to assess due to lack of significant site specific data; denitrification and volatilization loss to the atmosphere (OUT4), that are greatest in wet climates, on highly fertilized, clayey, moist soils, and alkaline environments (Roy *et al*. 2003: 10), can be assumed negligible because those conditions are not predominant in Ladakh (Sagwal 1991: 19-23); loss of nutrient by erosion (OUT5), that is linear related to the soil erosion rate and soil fertility class (Roy *et al* 2003: 11), can be, in our case, considered minor loss, because in the geographical area where the farm under study lie, a low soil erosion rate, less than 0.5 tonnes ha⁻¹ yr⁻¹ (Dawa 2008: 55 and 62), and a low to medium organic content (Sagwal 1991: 22) are reported. It should also be noted that in Ladakh the fields are careful terraced with minimum slope (Labbal 2007: 140).

Bibliography

Archer DR and Fowler HJ: 2004. 'Spatial and temporal variations in precipitation in the Upper Indus basin, global teleconnections and hydrological implications', *Hydrology and Earth System Sciences*, 8(1):47-61

Bierman PM and Rosen CJ: 2005. *Nutrient Cycling & Maintaining Soil Fertility*, Department of Soil, Water, and Climate University of Minnesota.

DAC: 2006. *State-wise Normal Area, Production and Yield of Wheat, Average of 2001-02 to 2005-06*, Dept. of Agriculture & Cooperation, dacnet.nic.in/eands/APY_Normal_Estimates.htm, acc: 20mar10.

Dame J and Nüsser M: 2011. '*Food Security in High Mountain Regions: Agricultural Production and the Impact of Food Subsidies in Ladakh, Northern India*', *Food Security* 3(2): 179-194.

Dame J and Mankelov JS: 2010. 'Stongde Revisited: Land-use Change in Central Zangskar', *Erdkunde* 64(4): 355-370.

Dawa D: 2008. *Environmental Impact Assessment of Tourism Development in Ladakh, Indian Himalaya*, unpublished doctoral thesis, University of Trento

Dawa S, Kreutzer G, Panesar A: 2006. *Improved traditional Ladakhi composting toilet*. LEDEG, Data sheets for Ecosan projects, (GTZ).

Demenge J: 2007. 'Measuring Ecological Footprints of Subsistence Farmers in Ladakh', International Ecological Footprint Conference. Cardiff, The ESRC Centre for Business Relationships, Accountability, Sustainability and Society/Cardiff University.

District Statistical and Evaluation Agency, Directorate of Economics & Statistics: 2009. *Statistical Hand Book. 2008/09*. LAHDC, Leh

Dollfus P and Labbal V: 2009. 'Ladakhi landscape units': 85-106 in Smadja J. Ed. *Reading Himalayan Landscapes over Time. Environmental Perception, Knowledge and Practice in Nepal and Ladakh*, Collection Sciences Sociales 14, xiv, French Institute of Pondicherry, India

Down To Earth: 2009. 'The morning after', 1-15 June, pg.47; Magazine of Society for Environmental Communications, New Delhi.

F.A.O: 2008. *Conservation and Adaptive Management of Globally Important Agricultural Heritage Systems (GIAHS), Terminal Report*, www.fao.org/fileadmin/templates/giahs/PDF/GIAHS_B_terminalReport.pdf, acc: 11oct10

Gutschow K: 1997. '*Lords of the fort, lords of the water, and no lords at all: The Politics of Irrigation in Three Tibetan Societies*, in *Recent Research on Ladakh 6 'Proceedings of the 6th International Colloquium on Ladakh, Leh, 1993*, IALS, Motilal Banarsidass Publishers, Delhi.

J&K Development Report: 2003. 'Socio-Economic and Administrative Development', planningcommission.nic.in/plans/stateplan/sdr_jandk/sdr_jkch3a.pdf, acc: 20mar10

Jönsson H, Stintzing AR, Vinnerås B, Salomon E: 2004. *Guidelines on the Use of Urine and Faeces in Crop Production*, Report 2, EcoSanRes Programme, Stockholm Environment Institute, Stockholm, Sweden.

Joshi BR: 1992. 'The Role of Large Ruminants', in Abington, J.B. Ed. *Sustainable livestock production in the mountain agro-ecosystem of Nepal*, FAO Animal Production and Health Paper n° 105, Kathmandu, Nepal, www.fao.org/DOCREP/004/T0706E/T0706E04.htm#ch4, acc: 12nov10

Kang B: 2010. 'The allure of organic manure', *Teheka Magazine*, 13/03, v 7:10

- Karak T. and Bhattacharyya P: 2011. 'Human urine as a source of alternative natural fertilizer in agriculture: A flight of fancy or an achievable reality', *Resources, Conservation and Recycling*, 55: 400–408.
- Labbal V: 2007. 'Interpréter les « dysfonctionnements » des systèmes irrigués traditionnels. L'exemple d'une oasis du Ladakh central (Himalaya indien)', *Techniques & Culture*, 48-49:125-148.
- LAHDC-L (Ladakh Autonomous Hill Development Council of Leh): 2005. *Ladakh 2025 Vision Document*, leh.nic.in/VISION_DOCUMENT.PDF, acc: 10feb08.
- Mankelov JS: 1999. *The Introduction of Modern Chemical Fertilisers to the Zangskar Valley in Ladakh and its Effects on Agricultural Productivity, Soil Quality and Zangskari Society*, Oxford Brookes University, Oxford.
- Mankelov JS: 2003. *The Implementation of the Watershed Development Programme in Zangskar, Ladakh: Irrigation Development, Politics and Society*, **masters** Dissertation, School of Oriental and African Studies (University of London).
- Narwal RP, Antil RS, Singh B, Dahiya SS: 2005. 'Micronutrient Status in Different Agro-climatic Zones of Haryana, India', in Andersen et al. Eds. *Micronutrients in South and South East Asia*, Proceedings of an International Workshop September, 2004. ICIMOD, Kathmandu.
- Osmaston H: 1994. 'The Farming System': 139-198 in J. Crook and H. Osmaston. eds. *Himalayan Buddhist Villages*, Motilal Banarsidass Publishers, New Delhi.
- Osmaston H and Rabygas T: 1994. 'Weights and Measures used in Ladakh': 21-38, in: J. Crook and H. Osmaston. Eds. *Himalayan Buddhist Villages*, Motilal Banarsidass Publishers, New Delhi
- Osmaston H, Frazer J and Crook S: 1994. Human Adaptation to Environment in Zangskar: 37-110 In: J. Crook and H. Osmaston. Eds. *Himalayan Buddhist Villages*, Motilal Banarsidass Publishers. Delhi.
- Paudel KC: 1992. 'Implication of Forage and Livestock Production on Soil Fertility', in J.B. Abington. Ed. *Sustainable livestock production in the mountain agro-ecosystem of Nepal*, FAO Animal Production and Health Paper, 105. www.fao.org/DOCREP/004/T0706E/T0706E08.htm#ch8, acc: 20feb11
- Rhode D, Madsen DB, Brantingham PJ, Dargye T: 2007. 'Yaks, yak Dung, and prehistoric human habitation of the Tibetan Plateau': 205-224 in D.B. Madsen et al. Eds. *Late Quaternary Climate Change and Human Adaptation in Arid China*, Developments in Quaternary Sciences, vol. 9,
- Roy RN, Misra RV, Lesschen JP, Smaling EM: 2003. 'Assessment of soil nutrient balance. Approaches and methodologies', *Fertilizer and Plant Nutrition Bulletin* no. 14, FAO, Rome.
- Sagwal SS: 1991. *Ladakh, Ecology and Environment*, Ashish Publishing, New Delhi
- Verma LR:1998. 'Soil fertility management', in Negi A. and Sharma, P.N. Eds. *Indigenous technology knowledge for watershed management in upper north-west Himalayas of India*, Chapter 2, www.fao.org/docrep/x5672e/x5672e03.htm#soil%20fertility%20management, acc: 01feb09

The Tak House Maitreya and some corrections of the later history of Ladakh
—Neil Howard

Members will be pleased to learn that André Alexander and Sam van Schaik have recently published a paper in the *Journal of the Royal Asiatic Society* discussing their work of removal, restoration and conservation of the granite slab bearing a low relief image of Maitreya from the yard of a house belonging to the Tak family to the nearby Sankar Labrang in Old Leh town. This was an important piece of archaeological and cultural work and it is satisfying that by means of this paper it has been brought to the attention of the widest possible scholarly audience. By following the links from the IALS web site, to the web site of the Tibet Heritage Fund, it was already possible to read an account of their work but I hope that copies of the more deeply researched JRAS paper will also be placed in libraries in Leh.

Section-by-section, the authors describe the finding of the Maitreya, its conservation and repair and its move to the new site; then there is a discussion of its historical significance and of the cult of Maitreya early in the history of Ladakh and western Tibet. It was a disappointment to me that the authors were unable to provide a fuller translation of the inscription (p.429) since we have so little written information about this period in the history of Ladakh that almost every newly discovered word is of potential interest. Could the inscription not have been sent to either Philip Denwood (SOAS) or Kurt Tropper (Vienna) who must be the leading authorities on early inscriptions in Ladakh? But, despite this regret on my part, Alexander's and van Schaik's paper is a valuable addition to the historical literature. I would like to take this opportunity to comment on two points which do not affect the evidence or thrust of the paper's argument but which do perpetuate important misunderstandings within the wider history of Ladakh, in this case concerning events in the 15th and 17th centuries.

The authors mention in passing that the nearby White Maitreya Temple (*Byams khang dkar po*), "also known locally as Street Maitreya...dates back to the reign of King Drakpa Bumdé (*Grags pa 'bum lde*, r. c. 1410-1435) following the arrival of a mission sent to Ladakh by the Tibetan lama Tsongkhapa". In a footnote supporting this date the authors refer to L. Petech's *A Study on the Chronicles of Ladakh* (Delhi 1939 – reissued 1999), A.H.Francke *A History of Western Tibet* 1907 (there are various re-issues) and a statement that "This information has also been corroborated by the Gelukpa monks of Sabu monastery" (Alexander and van Schaik 2011:423). *Grags pa 'bum lde* ruled at a critical time in the history of Ladakh. He was an enthusiastic patron of the Gelugpa, his reign occurred shortly before the obscure circumstances of the beginnings of the Namgyal dynasty and he has one of the largest entries in *La dvags rgyal rabs*—a striking fact in itself. No Tibetan historical source gives us the dates of this king's reign and so an attempt to establish a correct estimate of his regal dates is one of the most important tasks facing historians studying of the 15th century in Ladakh.

As a result of historical research published during the last 100 years Francke's early date is no-longer tenable. It was, in any case, no more than a guess, based upon the assumption that the kings of the first dynasty recorded in *La dvags rgyal rabs*—from *Skyid lde ngi ma mgon* to *Blo gros mchog ldan*—formed a complete list. They do not; and therefore the dates he gave are all wrong.

Petech, in his magisterial study *The Kingdom of Ladakh*, demonstrated that many kings' names must be missing. He notes that King *Grags pa 'bum lde* "received an envoy from... *Tsong kha pa* and in order to commemorate the event he is said to have built the monastery of *dPe thub* (Spitok) for the *dGe lugs pa*". Because *Tsong kha pa* died in 1419 Petech offers a "tentative dating" of this King's reign as 1410-1435 (Petech1977:22).

Concerning the envoy from *Tsong kha pa*, we read in *La dvags rgyal rabs* that they—actually two ascetics—brought "a *Tshe dpag med*, about as long as a finger joint, made from the blood of his (*Tsong kha pa*'s) nose" and so the King was inspired to great religious works (Francke 1926:99-100). Twenty years after Petech's opinion was published, the Ladakhi scholar Lozang Jamspal questioned the truth of the statement in *La dvags rgyal rabs*, saying: "*Tsong kha pa* would not make such an image of Amitayus Buddha with his own nasal blood because traditionally no Tibetan Lama would openly represent himself as holy. Of course, having great faith in *Tsong kha pa* and in the Buddha, his disciples could make such a holy object and send it to a pious Buddhist". He then adds the hitherto un-noticed statement in the biography of *dGe 'dun grub* (subsequently recognised as the First Dalai Lama) that he sent two ascetics to Ladakh to raise funds for the construction of Tashilhunpo monastery and they were given a huge turquoise by King *Grags pa 'bum lde*. The date of their return to Tashilhunpo was 1461 (Lozang Jamspal 1997 p.141). Both Petech's and Francke's estimated dates must therefore be abandoned.

There is good circumstantial evidence to corroborate a date for this King's reign in the late-middle of the 15th century. We should note that the King's spiritual guide in the building of Spitok monastery was *Lha dbang blo gros* who was not himself a personal pupil of *Tsong kha pa*, but of *mKhas grub rj* (1385-1438) who had been. *Vaidurya Serpo* states that the next King of Ladakh, *Blo gros mchog ldan*, was also his patron.

More important still is the building of the giant stupa of Tiseru (*Tehu gser po*). It is by far the biggest stupa in Ladakh and the only parallel examples are to found in central Tibet: *Ri bo che* (built 1440-1456), *rGyang* (built early 1400s), *Jo nang* (early 1300s) and the *sKu 'bum bkra shis sgo mang* at Gyantse (built 1427-1440). *mKhas grub rj* worked at Gyantse until 1431 and as we have noted was the teacher of *Lha dbang blo gros*. The famous *siddha* and bridge-builder *Thang stong rgyal po* built *Ri bo che* stupa and claimed to be the reincarnation of the founder of *Jo nang*. He also visited Ladakh in 1459. Either of these two holy men: *Lha dbang blo gros* or *Thang stong rgyal po*, could have suggested to the king that he build a great stupa at Tiseru. In other words, all the King's religious building was done one or two generations after the death of *Tsong kha pa*. In two fuller discussions than this one (and fully referenced) I have estimated the reign of King *Grags pa 'bum lde* to have been during the period c.1455 to 1465 with a central date of 1461 and potential to have begun earlier and ended later (Howard 2002:102-105; Howard 2005:137-143). Since I wrote my papers, Erberto LoBue has produced independent evidence which supports my dating in his important paper on Phiyang Guru Lhakhang (LoBue 2007:175-195).

A final question: on page 425-6 Alexander and van Schaik state that *Seng ge mam rgyal's* palace was "begun under his father 'Jam dbyangs nam rgyal", and that *Seng ge mam rgyal* "also erected the massive rammed earth walls that marked the extension of Leh at that time". In support they cite Petech 1907b:90-101¹. The *rgyal rabs* tells us clearly that *Seng ge mam rgyal* "reared the *Sle chen dpal mkhar* (palace) of nine storeys, and completed it within about three years" (Francke 1926:109). I can find no mention of his father having any involvement (pp.106-112). In my study of royal architecture I offered what I considered convincing evidence that the masonry techniques used in Leh palace belonged to the 17th century only, and that "rammed earth" belonged to the latter half of the 16th century. At that time I was unaware of the surviving mud walls near the former Mani Khang Gate but they would be appropriate to the plan instituted by King Tashi Namgyal, c. 1555-1575 (Howard 1989: *passim*). Has a new source been discovered?

Bibliography

Alexander, A. and S. van Schaik: 2011. "The Stone Maitreya of Leh: the Rediscovery and Recovery of an Early Tibetan Monument" *Journal of the Royal Asiatic Society vol. 21 pt.4*, London, The Royal Asiatic Society.

Francke, A.H.: 1926. *Antiquities of Indian Tibet* (containing *La dvags rgyal rabs*), reprint New Delhi, S. Chand and Co. (Pvt.) Ltd. 1972.

Howard, N.F.: 1989. "The Development of the Fortresses of Ladakh c.950 to c. 1650 AD", *East and West vol. 39 – nos. 1-4*, Rome, Is.M.E.O.

Howard, N.F.: 2002. "The Political Geography of South-east Zanskar, and a Reconsideration of the Royal Chronologies of Zanskar and Ladakh in the 15th century", *South Asian Studies*, London, The Society for South Asian Studies (The British Academy)

Howard, N.F.: 2005 "Sultan Zain-ul Abidin's Raid into Ladakh", *Ladakhi Histories*, ed. John Bray, Leiden and Boston, Brill N.V.

Lozang Jampal: 1997. "The Five Royal Patrons and Three Maitreya Images in Basgo", *Recent Research on Ladakh 6*, eds. H. Osmaston, Nawang Tsering, University of Bristol, Bristol.

LoBue, E.: 2007. "The *Gu ru lha khang* at *Phyi dbang*: a mid-15th century Temple in central Ladakh", *Discoveries in Western Tibet and the Western Himalayas* (proceedings of I.A.T.S. Conference 2003), Leiden and Boston, Brill N.V.

Petech, L.: 1977. *The Kingdom of Ladakh c.950-1842 A.D.*, Rome, Is.M.E.O.

Author's note: Since writing this note I have learned with great sorrow of Andre Alexander's death. Although I never met him, I admired his work. I know how much historical research and conservation in the Tibetan and Ladakhi world will regret his absence over the coming years.

¹ This reference is impossible.

IALS NOTES & NEWS

Serendipity: Today's cartography meets archival images

—*Abram Pointet*

Having been personally involved in mapping the Ladakh and Zangskar regions for over 15 years, I have constantly acquired information from old and new sources or references. In this context I received a few years ago a numerical copy of a satellite image dating from the 1960s captured by the American military services. Having this material for some time now I recently started to use it to compare existing populated areas of the 60s to the current situation. Doing this for the Zhung area I found a strange defensive-looking structure on the left bank of the Indus in the Chushod area and opposite the Shey Castle (see map 1). Its serrated or star-like outline is unique in Ladakh and quite mysterious. Not being an expert in the history of Ladakh nor in its archeology I asked some of my contacts to get the name of this site which I first supposed, erroneously, to be well-known and to be a Dogra fortified site. I had to face the fact that this site was unknown to all and it rapidly got the name of 'mystery of Chushod' in our correspondence.

Image 1: 1960s satellite view of the site taken during one of the American Corona Missions

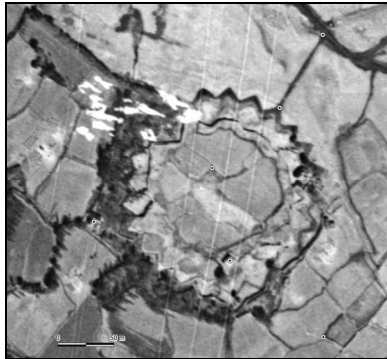
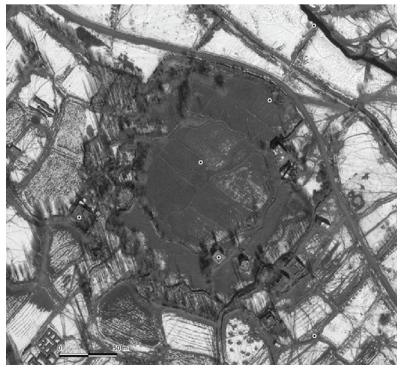
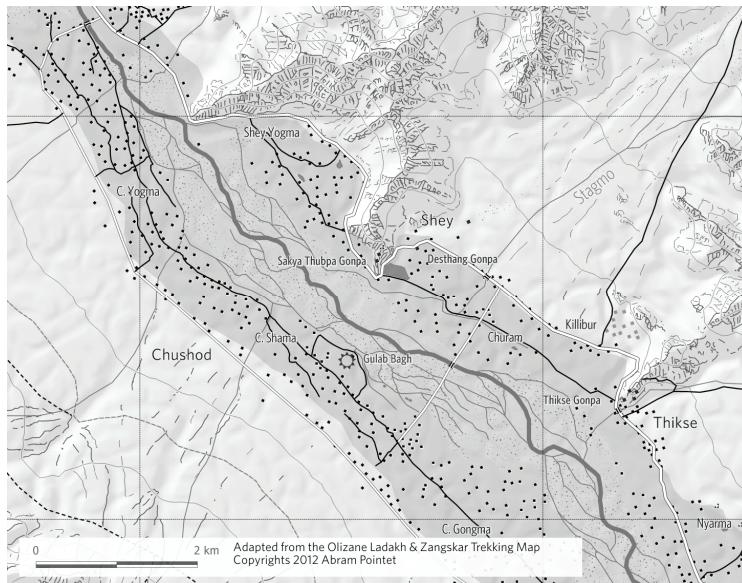


Image 2: 2010s satellite view of the site taken by the GeoEye-1 satellite.



The indented structure of the site clearly visible in the 1960's (see image 1) shows only few remains today (see image 2). The dots placed on both images are given for comparison purposes only. Its raised center is hemmed by a first wall, itself surrounded by several levels of embankment and finally encircled by an irrigation channel which drained the area to the Indus. Today only some embankments are visible as are parts of the encircling channel.

Very few references to the sites were found in the literature. The most detailed description is given in the travel memoir of Jane E. Duncan entitled *Summer ride through Western Tibet* (1906). On her way from Leh to Hemis she first stoped in the area of Shushot, mentioning a "walled garden". References to this place under the name of Gulab Bagh are not rare in texts and routes description contemporary with this travel memoir as in the Ince's *Kashmir Handbook and Guide to Visitors* by Joshua Duke, in the "Gazetteer of Kashmir and Ladakh" of E.W. Dun or on the Indian Atlas sheets by the Survey of India. The mention of the Gulab Bagh was afterwards reported on various maps and routes as on the American Military Services maps or on the Soviet Military Topographic maps.



All the interpretation of the nature and the use made of this site across the time is open to discussion and investigation; any new sources, or the comments and opinions of local people will be very welcome. The only objective truth are the images and their capture period by the satellites.

I express my best thanks to Neil Howard, Martin Vernier and their contacts John Bray, Quentin Devers, Tsewang Gombo, Lobsang Stamba, Christophe Mercier, Abdul Ghani Sheikh, and Gerald Kozicz for the help they brought in trying to solve without success the "mystery of Chushod".

Skardu Kargil road: Tear down the Berlin Wall of Asia

—*Engineer Manzoor Hussain Parwana* (Chairman, Gilgit-Baltistan United Movement): Skardu 28/03/2012

Hundreds of thousands of angry people have gathered in Skardu and Kharmang valleys where the slogans of a long march to Kargil are echoing in the air. The protesters are shouting against the regime and the military for failing to maintain law and order in Gilgit-Baltistan. They are demanding the arrest of the murderers of 18 Shias of Gilgit-Baltistan who were recently shot and killed in Kohistan. All the victims were part of the religious tour-group, returning from Iran, and were traveling in a bus on the Karakoram Highway (KKH), which connects Gilgit-Baltistan with Pakistan.

The Death Highway, as KKH is often dubbed, has consumed hundreds of lives since its construction in 1978. However, it is not reckless driving or bad road condition, which takes so many lives. In most cases, religion has become the main catalyst behind these deaths. The well-organized protests forced the army chief of Pakistan and the home minister to visit Gilgit Baltistan, which reflects on the reality that the slogans of 'long march to India' have finally persuaded the authorities to pay attention to the killings of Shias of Gilgit-Baltistan. The authorities assured the protesters of immediate action against the perpetrators; this does not change the fact that not a single assailant has been arrested and prosecuted in the last six decades. On the other hand, the protesters are asking the regime to immediately open the Line of Control (LoC) with India and resume travel along historical trade routes to Kargil, Drass, Khaltse and Nubra. These demands are old but have gained momentum since 2003 when Shia killings on KKH became a more common occurrence.

For the last six decades, the LoC has functioned like the Berlin Wall of Asia dividing the people of Gilgit-Baltistan and Ladakh, who are otherwise linked through common history, civilization, geography, culture, religion, language and economy. The people of both regions consider this division unnatural and demand resumption of trade and travel across the LoC. These trade routes which open towards Ladakh and Kashmir have sustained the livelihoods and culture of Gilgit-Baltistan for centuries. Until 1948, the Baltis and Astories used these routes to access markets as well as educational and health facilities in Srinagar, Shimla and New Delhi. The lives of the people of Baltistan and Astore depended on these routes. In 1948, when India and Pakistan engaged in a war over Jammu & Kashmir, the passage was closed, isolating Baltistan from the rest of the world. It was not until 1978, when jeepable dirt road connected Baltistan with Gilgit did the people of Baltistan start traveling by road again. In the 30 years from 1948 to 1978, commodities were flown into Baltistan by air. The closure of these routes destroyed the economy of Astore, Skardu and Gangche districts and deeply affected Kharmang, Gultari and Chorbat valleys. Also affected are tens of thousands of refugees who desire to meet their loved ones and wait for India and Pakistan to end their war over Kashmir and allow free travel across the LoC. These refugees belong to Skardu, Shigar, Nubra, Gultari, Kharmang, Turtuk, Tyakshi, Chulungkha, Chorbat, Chushot, Kargil, Leh, Drass and Zangskar.

The slogan to resume travel and trade on the Kargil-Skardu road was first raised in the early 1990s and Syed Haider Shah, the then leader of Baltistan Students Federation organized rallies to garner support. He announced a march to Kargil, for which he was charged for sedition, detained and tortured for months in Chilas prison. Such demands are seen by Pakistani rulers as mutinous and activists raising them are labeled as Indian agents, as part of a victimization and intimidation campaign by Pakistani secret service agents. They also spread rumors in Gilgit-Baltistan that India would easily occupy the disputed region if the traditional routes were opened, which thwarted the demand for free travel and trade for a while.

In 2005, the author traveled to India to attend a conference on Jammu & Kashmir and once again demanded resumption of travel and trade over Kargil-Skardu road. In 2007, Gilgit-Baltistan Democratic Alliance, the largest political alliance of Gilgit-Baltistan, incorporated this slogan as part of its manifesto. Nowadays these slogans have become very popular and even the federalist political parties rely on such slogans to gain attention and sympathy of the masses.

However, one must admit that both India and Pakistan have failed to implement on this particular aspect of Confidence Building Mechanisms (CBMs) and to the dismay of many, the issue of resuming travel over Kargil-Skardu road was also dropped from the agenda of July 2011 foreign ministerial meeting. The apathetic attitude of Pakistani government thereafter forced thousands of Ladakhi refugees to protest in front of the UNO office in Skardu on July 27th 2011. The next day, police arrested and detained the author in Gilgit jail for supporting the protest rally of Ladakhi refugees. The First Information Report (FIR) No. 211/11 filed against the author stated: "Manzoor Parwana provoked the masses by drawing attention towards a protest rally in Skardu on 27th of July during which resumption of travel on Kargil-Skardu road was demanded. The participants of the rally threatened to march towards the LoC and Parwana welcomed this gesture of the refugees. Therefore Parwana has been charged for treason under articles 123A, 124A and 153A."

The FIR proves that supporting a march towards Kargil or demanding resumption of travel across the LoC is considered treason by the authorities. This remains the policy till date despite the fact that travel and trade from Khokhrapar in Sindh, Lahore in Punjab and five other transit points in Jammu & Kashmir continue between India and Pakistan with the approval of authorities. If travel to India from Lahore, Muzaffarabad and Khokhrapar is not treason, then travel to Kargil and Leh from Gilgit-Baltistan should also be allowed. A ban on travel between Gilgit-Baltistan and Ladakh continues despite the fact that freedom of travel and commercial activities are granted to every human according to the human rights charter of the UNO and Pakistan is signatory to that charter. The FIR exposes anti-human and unjust policies of the Pakistani authorities. The fact that Pakistan continues to discriminate between the people of Gilgit-Baltistan and those living in Kashmir, Punjab and Sindh reminds one of the apartheid era. Free travel is the birth right of every resident of Gilgit-Baltistan and they will not stop from demanding it.

The march of thousands of people of Kharmang valley towards Kargil on 28th February, 2012 is approval of the viewpoint of the nationalists. Despite curfew restrictions and danger to life, honor and property, the protesters marched towards the LoC and even the military barricades could not stop their movement. The movement has intensified after the representatives of Shia and Sunni religious parties; Anjuman Imamia and Anjuman Ahlesunnat Wajamat, endorsed the demands by incorporating it in the charter of demands to the government of Pakistan. The message is loud and clear that the people of Gilgit-Baltistan and Ladakh cannot be kept separated much longer. In the midst of the slogans of 'long march to Kargil' rising in the air, it was informed that the nationalist hero, Babajan Hunzai, expresses solidarity with the protesters from the dungeons of Gilgit jail, where he has been kept for the last five months for demanding rights for the flood victims of Gilgit-Baltistan.

This is the victory of the nationalist ideology that people like Babajan and the author represent and many among us have sacrificed time, energy, physical and mental health and economic wellbeing to promote this cause. Despite social boycotts, detentions and torture, the nationalists will continue to spread the message of truth and humanity among the natives of Gilgit-Baltistan.

John Crook (1930-2011) and Ladakh: the early days

—James Crowden, Somerset, August 2011

I first met John Crook in Bristol University in January 1976. He was a Reader in Ethology at the Psychology Department in Berkeley Square. This was near the famous alleyway called 'There and Back Again Lane', which always amused John because it summed up psychology for him. At this time John was occupying the top of the psychology building and had various animal experiments on the go including two chimpanzees called Tanya and Stamati named after his children.



John had been in the army in the Royal Artillery doing his National Service in Hong Kong during the Korean War with radar and an anti-aircraft battery. This was also where he came into close contact not with Chinese MiG fighters but with Chan Buddhism, isolated monasteries on remote islands and his first Zen teacher. When John went back to Hong Kong many years later to see his teacher, who was then dying of cancer, John asked him a question about the links between Buddhism and Western therapy. The old wizened teacher raised himself up on one elbow on his hospital bed, stared John right in the eyes and said "Dr Crook...Zen is total therapy..."

But to return to Bristol, John was an elegant and dignified 45-year-old lecturer. I was only a 22-year-old civil engineering student with a penchant for mountaineering. I was also an army officer and had served in Cyprus in the Royal Engineers. We had come out of the same stable which is possibly why we got on so well. Cyprus was very convenient stepping stone for travelling in the Middle East. I only ended up in Bristol because I knew that it was an excellent place to learn rock climbing - the Avon Gorge was on the doorstep with its dramatic limestone cliffs and Suspension Bridge. Climbing concentrated the mind wonderfully and was itself a meditation on form and emptiness as well as impermanence, particularly if you let go, which I did once or twice. Mountains and Buddhism seem to go well together.

The Expeditions meeting took place in a small airless committee room in the Geography Department which was itself tucked behind what was once the University Refectory Building, built in a marvellous Victorian Venetian Gothic style known locally as Bristol Byzantine with slender columns and brick arches echoing St Marks Square in Venice. Appropriate for an eastern journey I thought as I grabbed a bite to eat before the meeting at 2pm. I had with me my notes and maps rolled up in an impressive cardboard tube. I was requesting financial backing from the Bristol University Expedition Fund for an expedition I had instigated to visit Ladakh that lay on the Tibetan border in a remote region of Kashmir.

In those days very few people in the mountaineering world had even heard of Ladakh preferring to climb the high peaks of Nepal or the Karakoram or even Kishtwar. Ladakh had only just been opened to western visitors and had been off limits since Partition in 1947. Even between the wars, visiting Ladakh had often required special permission, as it was perceived by the authorities, ie the Joint District Commissioners in Leh, as a back door to Western Tibet and Sinkiang. Sven Hedin, amongst others, had slipped through the net.

John Crook was a key member of the Expeditions Committee and had already done some excellent fieldwork looking at social behaviour of weaver birds, gelada baboons and macaque apes in Ethiopia, Senegal, Morocco and the Seychelles. In India, in the 1950s and 60s he had worked with the great ornithologist Salim Ali, who later investigated bar-headed geese and black-necked cranes in Rupchu.

John was immediately engaging and got down to business. He quizzed me extensively about my planned mountaineering reconnaissance and field trip to Zangskar. As I later learnt he could be stern and professorial one moment and then good natured and even scurrilous the next. At times it seemed more like a de-brief in an army dugout by one's company commander and he gave me many searching looks as he peered over the rim of his spectacles and the magnificent bushy eyebrows began to twitch. It was those eyebrows that gave him the appearance of a bird of prey. At one moment when he was in deep meditation he seemed aloof like an owl – and then when in debate or disseminating hard core Buddhist texts, like a keen eyed eagle. Perhaps he was that rarest of species: an eagle owl.

“Why was I going?” I explained that as far as I was concerned all travel began in Istanbul. For three years in succession I had travelled further east each year. Twice I had travelled extensively in Eastern Turkey up to the Russian border on several occasions and had even been held up by Communist Kurdish bandits on Mount Ararat. I had also circumnavigated Iran and had crossed the hot dry desert of the Dasht-e-Lut. Both good preparations for Afghanistan, which I visited in 1974. Although I did not realise it at the time, Afghanistan was, in many ways, the stepping stone to Ladakh, the hidden link. John was obviously intrigued.

First of all, John wanted to know what I had been doing in Afghanistan, so I simply said that it had been ‘A Long Walk in the Hindu Kush.’ —From Faizabad through Badakshan down past the Lapis Lazuli mines near Hazarat-i-Said then hopping over the main range of the Hindu Kush via Kotal Ramgul, at 16,500 ft into Nuristan and over four more very steep passes to the Pakistan border. I also mentioned that I was fascinated by the Buddhist remains in the Kabul museum and this seemed to go down well.

“What exactly was it that had fascinated me?” I mentioned that the Gandharan Buddhas, the Bactrian remains and Kushana relics which had been excavated at Begram and Ai Khanum which showed me that there was an ancient and very sophisticated culture at work. The Kushana Empire had stretched from there right across to the east of Ladakh and down to the Indus Valley and the Indian plains. It was Greco-Buddhist sculptures and images that fascinated me most of all. The merging of the two cultures. Obviously mentioning the word Buddhism went down well with John, though I wasn't to know that at the time.

“Who was I going to Ladakh with?” My accomplice was a modern languages student called Fiona Lumsden who also liked rock climbing and mountaineering. Her father Dr Kenneth Lumsden had been in South Eastern Tibet and Bhutan in 1936 as a doctor and butterfly collector with one of the famous Ludlow and Sherriff plant collecting expeditions. There is even small brown bird named after him. *Babax lanceolatu Lumsdeni.*, a babbler—an example of which is still held in the Tring branch of British Museum. With John's interest in ornithology—No doubt it was the bird that swung it. The name Lumsden is also still treated with great respect on the North West Frontier. Lumsden's Guides were the ultimate crack unit for fighting troublesome Afghan tribes and were the first army unit to start wearing khaki. They were also drawn from all castes and religions—even endemic bandits and cattle thieves.

“And what exactly was I was going to do in Ladakh and Zangskar?” John asked, raising his eyebrows yet again... and cocking his head to one side. I mentioned that I had been keen to get into the Wakhan Corridor in North East Afghanistan beyond Faizabad, but the Russian presence was getting a little too uncomfortable even though this was two years before they actually invaded. All the signs were that an invasion was likely and that the Daoud regime was becoming unstable and so on, a hunch I switched my attentions yet again, further east.

By chance, one of the mountaineers I had met in a flea-ridden hotel in Kunduz in northern Afghanistan called Harry Wilson had gone onto Kashmir and been there in autumn 1974, when Ladakh was unexpectedly opened. He was able to visit Leh in October 1974. He loved it and suggested that I visit Ladakh as soon as possible. He also mentioned that there was this other valley to the south, called Zangskar which was little known. And as I was interested in Buddhist art, this was the obvious choice. As I had been very ill and had contracted typhus and hepatitis whilst in Afghanistan, I had dropped year at university, so in 1975 was sent back to the army and managed some mountaineering in British Columbia, Canada and boning up on Arctic survival in the Yukon: Very useful for Zangskar. Another of the mountaineers, in Afghanistan Nick Pitts-Tucker was now a bank manager in Grindlay's in Amritsar and had worked in Kashmir. He also advised going to Ladakh. He had taught Ladakhi boys at the Tyndale Biscoe School in Srinagar and was impressed by them.

So it was that I went to see my great uncle, Professor K de B Codrington who had been keeper of the Indian section of the V&A and he told me about the ancient monastery at Alchi. He himself had tried to get to Ladakh in April 1942 by climbing up the Zoji La at night with flaming torches but the snow was too deep and the risk of avalanches too great so they turned back. As it happened K de B Codrington, who later became a professor of Indian archaeology in London, apparently suggested to Prof Snellgrove that Alchi would be well worth a visit and Snellgrove undertook his excellent survey with Tadeusz Skorupski in 1976/1977.

I also went to see Eric Shipton in the Royal Geographical Society and having got all their maps out on the table in the map room he looked at Zangskar and simply said “We had no idea it was there.” As he explained, their eyes in the 1940s were firmly fixed on the Karakoram and when Eric was in Leh and Kashgar there was no Pakistani border, because there was no Pakistan. Nun Kun was too low to attract them and anyway Kun had been climbed but Nun wasn't climbed till 1953. In the 1950s they were more concerned about Everest and left K2 and Nanga Parbat to others. In fact Heinrich Harrer and Peter Aufschnaiter were on Nanga Parbat when they were detained in 1939 and famously escaped to Tibet.

Apart from Eric Shipton, I also contacted Professor Kenneth Mason at Oxford who had been professor of Geography and had worked extensively for the Survey of India and in particular in Kashmir and the Shaksgam valley. He had written 'Abode of Snow' and also a route book about the Himalayas which was mighty handy when planning a mountaineering expedition as it had all the village names and stages and distances in Ladakh and Zangskar and the passes over the main Himalayan range. I also contacted Prince Peter of Greece and Denmark, Marco Pallis and many others including Major Peter Hailey who was bursar of St Anthony's College in Oxford. Major Hailey had not only been Trade Office in Gyantse in 1930s and had brought back some wonderful tangkas which still hang in the college today, but he had been the British Joint Commissioner in Ladakh in 1939 and had been in Shyok on his way to the Karakoram pass when war was announced and he had to turn back.

To cut a very long story short, John Crook was very keen to get his hands on my military maps that I had 'acquired' from the ministry of defence via an inside naval source—later to become First Sea Lord and Admiral of the Fleet, though what the Navy were doing with maps of Afghanistan and Ladakh I never found out. Good maps of the Himalayas and the Hindu Kush were then almost impossible to get hold of. The American Air maps had few, if any, villages marked on them and had rivers going over passes. The Royal Geographical Society had maps but would not let them be copied because of an understanding with the Indian Government in 1947.

Maps of border regions were very sensitive issue because of the Indo-Pakistani Wars of 1947/48, 1965 and 1971, which by 1976 had only just cooled down. In fact, in 1971, the great hill opposite Kargil was taken by Indian troops, after which the Pakistani artillery OP (Observation Post) shifted back down the valley, 10 km towards Skardu, so the Pakistani soldiers could no longer watch through binoculars what the Indian Brigadier was having for breakfast on his verandah. No doubt a masala omelette, chapatti and local apricot jam. Without that hill being taken, Ladakh would not have been opened. And then of course, there was the India-China war of 1961/62, which nobody in India mentions today but did affect Ladakh greatly.

Luckily I must have made a good impression on John Crook because I later received a grant for £200 from the University Expeditions Committee. I also received an invitation from John to visit him in Alma Road, Clifton for supper one evening to have a closer look at the maps and make some copies and of course to discuss Ladakh. I think my enthusiasm for Ladakh and the mountain region fired his imagination. As it happened John had been in Kashmir in 1959 and had seen the caravan route to Leh and had always wanted to go there. All my information and contacts I passed onto John Crook. It was a very fortuitous meeting and we remained in close touch since.

Having received a grant for £200, I went to Ladakh and Zangskar with Fiona Lumsden in summer 1976. We walked from Sanku, in the Suru valley, over the Pense La to Padum. We visited many monasteries and made the acquaintance of PUNCHOK DAWA, son of the rGyalpo Teshi Namgyal, who became an invaluable friend and informant. We also made the first ascent of the fine looking mountain behind Padum and at 18,600ft summit we were rewarded with outstanding views of K2 and the whole Karakoram to the north, Nun Kun to the west, Sickle Moon and other Kishtwar peaks to the south and the Zangskar range reaching into Garwhal and Tibet to the East. We then walked over the Shingo La to Darcha in Lahoul. The expedition report was written up, typed and printed by Fiona Lumsden while I planned the second part of the expedition: A solo venture to Zangskar, which would last nearly a year. I had several meetings with John Crook in Bristol on my return and I think this helped him enormously as he was by now planning his own expedition to Ladakh.

I returned to Zangskar in November 1976 for the winter and stayed there till August 1977 making all sorts of winter journeys including the Chaddar both ways. I was also studying the effect of the road entering Zangskar and photographing wall paintings, festivals etc. In the meantime John had put together a small team to enter Zangskar from the south over the Umasi La with Pelham Aldrich Blake as camera man and John Hardy as interpreter. They arrived two weeks after I left the valley but we all later met up in Bristol. The film won the first ever BBC Mick Burke Award. John Hardy, a fluent Tibetan speaker, was quite a character and I once found him in a run down house near Seven Dials in London. He had been in a polyandrous marriage to a Tibetan lady in Manali who expected him to provide fridges and cookers etc etc. Pelham then went on to make many wildlife films with David Attenborough.

John Crook and I then did several joint lectures. One at the Royal Geographical Society in London to a packed house and another one at *Le Maison des Science de l'Homme* in Paris. John was always very good company and in 1978 he introduced me to Dr. Henry Osmaston. As my own attempts at research work had failed primarily due to lack of finance and time I willingly handed over my research work on agriculture to Henry who was much better qualified to undertake it than I was.

When asked about a suitable village for them to study in Zangskar, I mentioned Stongde as a possibility, as it was reasonably large, well defined field patterns and the village was set back from the likely course of the future road. It also had a good sized monastery, which appealed to John and attracted far less tourist interest than either Karsha or Padum. It also had a back route to Shun and Shade and trade connections to Chang Tang. In some ways, it was an ideal location for research. John chose well. The rest is history. The 1980 and 1981 expeditions to Zangskar and Stongde resulted in publication of *Himalayan Buddhist Villages*, as well as the foundation of the IALS. This was down to John's enthusiasm for interdisciplinary debate about Ladakh and Henry's incredible energy and organisational skills.

John Crook and I maintained a long friendship from those days and we often travelled together in Ladakh with various groups including John Cleese and Robin Skynner, his psychiatrist, and their respective girl friends. John Cleese actually fell over at high altitude doing a silly walk and was very proud of his crutch. Cleese also paraded in the forecourt of a very smart hotel in Chandigarh wearing nothing more than a skimpy towel all 6ft 6in of him and complained to the a major domo at the desk that his plumbing wasn't working, just as the bejewelled and turbaned guests for a very smart Sikh wedding were arriving. Cleese also very nearly got arrested at the airport for taking a photograph of the plane from his wheel chair. Such were the delights of escorting John Crook's Himalayan trekking and meditation groups.

When you share a tent or a room with someone for weeks on end you get to know them very well. And John was a wonderful companion, sometimes meditating late into the night if he couldn't sleep. He always had a great sense of humour and was not averse to a nip of Laphroaig or Jameson's at high altitude.

One memorable time in Leh during the riots of August 1989 we were all standing on the rooftop of the Umasi La Hotel with John and Henry Osmaston and my daughter Nell aged 3 watching the riots unfold in front of us. At first a phalanx of Buddhist women came down the road chanting and then about twenty or thirty masked Buddhist youths were charging up hill and the police and were firing just in front of us at them and you could see the bullets hitting the dust at their heels. I suspect they were firing wide of the mark, but it was only a day or two later that three Buddhists were shot in the main bazaar by the CRP.

I went on about four or five trips with John to Ladakh and Zangskar in the 1990s as well as to Sikkim, Bihar, West Bengal and Arunachal Pradesh. The last Ladakh trip I made with John was to Tso Moriri and Kargiakh in 2003 and this was after the 2003 IALS conference in Leh. I also went on many of his Buddhist retreats in Wales and these were extraordinary events. These were either Western Zen, Chan or Tibetan Buddhist retreats. John was a great teacher and a rare individual who bridged the great gap between western and eastern thought. He will be sorely missed, but those early days in Zangskar were unforgettable.

John was a wonderful man and a wonderful friend. I remember when he first gave instruction in meditation in his room in Alma Road in Bristol all those years ago: the smell of the incense, the tankas of the Buddha, and Guru Rinpoche, the quiet peace that filled the room. Also, the weeks and months working on a koan in Wales, the complete serenity, the moment of reaching out into the void, the sound of sheep at pasture, the call of the conch shell from a distant monastery, the sound of yaks moving gently at dusk, and the low dusky words of Tibetan nomads near the border, filtering their thoughts.

John was in many ways a remarkable man bridging so many disciplines, academic, army officer, ethologist, psychologist, Buddhist teacher, anthropologist, gestalt therapist...the list is endless.

I remember in his mother's house in Southampton there was a sampler tapestry above a bed saying "Don't worry—It may never happen."

Well it has just happened. Better get on with the rest of your life. Maybe the eagle-owl is watching you. Who knows where he will land. There and Back Again Lane?

André Alexander: 1965-2012

—John Bray



*André and John at the launch of the Central Asia Museum, Summer 2011
Photo by Anna Morgan*

André Alexander was an inspirational figure whose distinctive qualities included not only the skills of an architectural restorer but also a relaxed, yet deeply rooted concern for the people with whom he worked. In Ladakh he is best known for leading the Tibet Heritage Fund (THF) restoration project in the Old Town of Leh but his activities and personal network stretched to Lhasa, Kham, Amdo, Mongolia, Beijing and most recently to Bhutan and Sikkim. His death in January—apparently caused by a heart attack—was quite unexpected, and all the more poignant because of the range of his interests and the extent of his energies.

André was born in Berlin on 17 January 1965 and, alongside his travels, retained a close connection with his home city throughout his life. His connection with Tibet started when, as a young backpacker, he found himself in Lhasa in October 1987. According to Tibet scholar Robert Barnett, who was there at the same time, André “happened to be in the main square in Lhasa when the first major protest of the modern era broke out; he narrowly avoided being shot when police opened fire on the crowd, leaving ten protesters dead.”

Surviving this inauspicious beginning, he returned to Lhasa several times and built up a close knowledge of the streets and alley ways of the old city, which at that time was almost intact. However, in the early 1990s the Chinese authorities embarked on a series of urban development plans that rapidly encroached on the older buildings of the city. In 1993, André launched the Lhasa Archive Project, together with Andrew Brennan and Pimpim de Azevedo, to document Lhasa's vernacular architecture.

In 1996, André and Pimpim founded the THF and took on their first restoration project, the rehabilitation of an old building in the Barkor. In the course of the next four years, they developed the approach that subsequently became the hallmark of the THF's activities in Leh. This involved working with traditional craftsmen in Lhasa to restore and upgrade historic buildings and to train a new generation of artisans. Instead of simply preserving old houses as sterile monuments to the past, they encouraged their adaptation to contemporary use, showing how conservation projects could serve to rejuvenate urban communities. In the course of their work, as Pimpim records, they trained more than 300 people in masonry, carpentry, painting, mural conservation, metalwork, water and sanitation, design and planning, architecture survey and management.

In 2000 the Lhasa authorities suddenly denied the THF permission to conduct further work in Lhasa, replacing it with the Cultural Relics Bureau. André and his colleagues responded by developing new activities elsewhere in the wider Tibetan cultural world including in Kham, Amdo and in due course Ladakh.

The seeds of THF's work in Ladakh were sown in 1995, when André met IALS founder Henry Osmaston at a conference in Graz (Austria). Henry pointed to the need to record old Leh's historic buildings as soon as possible, as Leh was changing fast and old buildings were disappearing quickly. In 2003 and 2004, a small THF team conducted a survey of Old Leh, reviewing both the state of its buildings and the socio-economic conditions of the people who lived in them. In 2006, THF and the Hill Council signed a Memorandum of Understanding to work together to preserve historic Leh. In the same period, THF worked with local people to set up the Leh Old Town Initiative (LOTI), which is registered as an NGO under the India Society Act. Since then, André and his colleagues have worked on a series of restoration projects in Leh and Tsatsapuri (Alchi). In Ladakh, like Lhasa, THF has worked with traditional craftspeople, ensuring that a new generation learns their skills, while also drawing on the expertise and enthusiasm of an international network of experts and volunteers.

Alongside its conservation work, THF has been keen to develop a new architecture for the Tibetan regions that is sustainable and presents a contemporary development of the traditional architecture. Last summer, André presided over the launch of the Central Asian Museum in the Tsa Soma garden to the west of Leh palace. The museum is an enormously impressive new building constructed with traditional techniques and designed to celebrate Ladakh's historic links with Central Asia. Among André's many achievements in Ladakh, this was perhaps the crowning one.

André's academic contributions included: *The Temples of Lhasa: Tibetan Buddhist Architecture from the 7th to the 21st Centuries* (Chicago: Serindia, 2005); as well as contributions to *Manual of Traditional Mongolian Architecture* (Ulanbaataar, 2005), and *Jokhang: Tibet's Most Sacred Buddhist Temple* (London: Thames & Hudson 2010); and numerous journal articles and field reports. Together with Per Sørensen of Leipzig University, he had been working on a major study of Tibetan imperial architecture. His doctoral thesis on vernacular housing and architecture in Lhasa is due to be published this year.

Meanwhile, André and his THF colleagues have received widespread recognition for their work including three UNESCO Asia-Pacific Heritage Awards as well as the 2008 Travel & Leisure Global Vision Award. In 2011 André's work in Leh was featured in the BBC's aptly named series on *Heritage Heroes*.¹

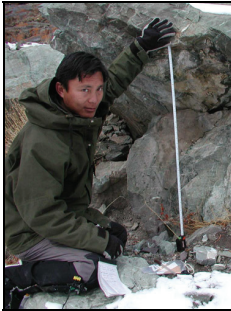
To conclude on a personal note, I shall remember André best for lunches on the terrace of Lhagrug House overlooking the Old Town of Leh, and for meetings at tea breaks ("the best time to catch me") during the construction of the Central Asian Museum. At times he could appear distracted – running several projects and conducting more than one conversation simultaneously – but never tense, and always with the same sense of humour. He treated everyone with the same relaxed respect and in turn was honoured by all.

The THF website (www.tibetheritagefund.org) includes information on how to support its activities. We owe it to André to ensure that his work continues.

¹ See: www.oneplanetpictures.co.uk/catalogue/heritage-heroes/heritage-heroes/ladakh-beijing-turkey

Rinchen Wangchuk: 1969-2011

—*Snow Leopard Conservancy India Trust*



Rinchen setting up camera traps to photograph wild snow leopards
Photo courtesy: Snow Leopard Conservancy

Rinchen Wangchuk was born on 11th August, 1969 in Dehradun. His father, Colonel Chewang Rinchen, worked with the Indian Army and due to his duties was based outside Ladakh. Since childhood, Rinchen travelled to several parts of the country, changing schools from Srinagar to Jammu to Dalhousie, Delhi, Chandigarh and finally back to Delhi for undergraduate studies.

After his graduation, he came back to his homeland, Ladakh. Later, in 1997 with his love and passion for nature and wildlife he started working with International Snow Leopard Trust in Ladakh, as a field associate. He conducted surveys and closely studied the community-snow leopard conflicts. His vision was to support impoverished local communities, who suffered heavily due to livestock losses to predators, especially snow leopards. With this dream, he co-founded the Snow Leopard Conservancy India Trust with Dr. Rodney Jackson in 2000.

Initially, the Snow Leopard Conservancy India Trust was involved in surveys and recording losses of livestock in the Hemis High Altitude National Park. His greatest achievement was perhaps his attitude towards adopting innovative community conservation initiatives to solve conflict issues. He initiated the Himalayan Homestay Program in Ladakh in 2002. With this program, he was able to convince local communities to curtail retaliatory killings, at the same time provide alternative income generating activities such as homestays. The UNESCO-funded program brought about pioneering conservation measures in Ladakh that has grown from strength to strength since its inception. Along with homestays, came many other microenterprises and an agreement across communities to end retaliatory killings. Rinchen Wangchuk was able to changed people's attitude towards snow leopards; from being a menace to being a tourism asset and part of a conservation effort.

For his work, Rinchen was commended for Endangered Species Conservation under Responsible Tourism Award category, UK in 2004. In 2005, he received the Global Vision Award for Community Outreach for his Himalayan Homestays from Travel + Leisure. In 2008, Rinchen was amongst the finalist at the Geo Tourism Change Summit Washington D.C sponsored by National Geographic and Ashoka Changemakers. In 2010, he was awarded the Helen Freeman Award for Snow Leopard Conservation.

BOOK REVIEWS

■ *Reflections on Ladakh, Tibet and Central Asia* by Abdul Ghani Sheikh (foreword by John Bray), 2010, Skyline Publications Private Limited: New Delhi, pp. 263, INR 450
—Sunetro Ghosal

Reflections on Ladakh, Tibet and Central Asia is a compilation of articles and research papers previously published in different fora by the Ladakhi scholar and historian Abdul Ghani Sheikh. The topics covered in the book range from historical analysis of records and issues of changes to ecology, architecture, folksongs and culture. However, as the title suggests the book is not confined to Ladakh alone, with several essays on its neighbours including Central Asia, Tibet, Kashmir and parts of the Indian subcontinent. The book includes 22 essays penned by Abdul Ghani Sheikh since 1991, which are thematically divided into four sections; Historical Perspectives, Islam in Ladakh and Tibet, Regional Perspectives; and Reflections on Culture and Change. The book and essays are illustrated with old and new photographs.

Reflections on Ladakh, Tibet and Central Asia is a fascinating volume for many reasons. For one, the author's diligence is evident in each essay included in the book. Throughout the book, he deconstructs records, books and essays on the history of Ladakh to point out their salient features and limitations. Through this set of essays, penned over a span of 20 years, the author covers a wide range of issues asking critical questions on their relevance to existing knowledge of the past and the present. For instance, in several essays the author has used records and books to highlight the communal tolerance that characterised Ladakhi society. This is a far cry from the present relationship of intolerance and politisation of religion, which the author traces beautifully through the changes in one specific village (*Transformation of Kuksho Village*).

The essays reflect the person of Abdul Ghani Sheikh, with his deep insight of the region, its history and his sharp awareness of current research knowledge. His vivid description takes the readers through a journey from the Stone Age to the Jet Age, dwelling on trade, economics, politics, conquest, society, culture, religion and ecology. Like an able guide, he constantly points out various gaps in our knowledge of the past, challenges facing Ladakhi society today, alongside discussing some extraordinary Ladakhi personalities along the way.

The essays are littered with scholarly insights, often mentioned with studied subtlety, each of which could form the basis of a doctoral thesis. For instance, in one of the essays (*Ladakh's Relations with Central Asia*), there is a passing, even if repeated, reference to the Central Asian influence on the Ladakh, especially its material culture. Ghani Sheikh specifically mentions culinary habits including dishes like mok-moks, noodles, samosas and pulao. A whole thesis could be written on the medium through which this influence exerted itself and why some dishes (like mok-moks and noodles) were integrated into Ladakhi cuisine, while others (like samosas and pulao) did not (and were re-introduced from the Indian plains more recently).

The essays are generously illustrated with relevant photos, which I found very useful, especially when discussing historical figures and places. For instance, in the essay on Tibetan Muslims, the discussion is accompanied by a photograph of two famous Tibetan Muslim musicians. I found the use of such photos added a personal touch to the narrative, providing the reader with a vivid window into a time past. More importantly, it gave specific faces to concepts and names.

That said, the book has a few minor shortcomings. Since it is a compilation of essays various quotations and points are often repeated verbatim. Their use may have made sense when the essays were independent pieces. However, when they are compiled in the form of a book, the repetition leaves the reader with a constant sense of déjà vu. It could possible have been edited, without affecting the overall narrative, by making cross references to the point in discussion. Furthermore, despite the author's diligence, a few minor errors have managed to creep into the book. For instance, in the essay on the Indus (*Singe Khababs—The River Indus*) the author mentions that the Indus enters Ladakh at Hanley, when it actually does so at Demchog (The Hanley river feeds into the Indus at Loma).

Also, though a whole chapter (*Transformation of Kuksho Village*) is dedicated to change in a specific village as a microcosm of changes in Ladakh, the essays primarily focus on the main towns of the region and its residents; Leh, Kargil and Skardu. The book tends to treat these regions as homogenous units, when they have their own internal dynamics. I personally would have liked to see a scholar of Ghani Sheikh's eminence dwell on the internal changes and dynamics of these regions.

Similarly in the essay on wildlife in Ladakh (*Wildlife of Ladakh*), he mentions Markhor (*Capra falconeri*) without specifying where they were known to occur, giving the impression that the Markhor was distributed throughout the Ladakh region. Also, in the same essay he makes references to a 'Stag'. It is only on speaking to him did I discover that he was referring to the Kashmir Red Deer or Hangul (*Cervus elaphus*).

Despite these minor shortcomings, the book is very concise and yet provides valuable insights into Ladakh's dynamic history and contemporary society. The most important contribution of the book is that it compiles and provides easy accessibility to several insightful essays on Ladakh by the author, which till now were widely scattered. Also it is written in a free-flowing style, making it immensely readable, even for individuals with no background to Ladakh and its history. The critical tone underlines the scholarly diligence that went into the research of each topic. All in all, this is a book recommended for anyone with even a passing interest in Ladakh.

■ ***Beyond Bokhara: The Life of William Moorcroft Asian Explorer and Pioneer Veterinary Surgeon 1767–1825.* By Garry Alder: 2nd edn. with new Introduction and Postscript, New Delhi, Low Price Publications 2012. INR 695.**

—Janet Rizvi

Historians of Ladakh will be delighted to know that—at last at last—*Beyond Bokhara*, Garry Alder's authoritative biography of William Moorcroft, has been republished. Although Moorcroft had travelled earlier in western Tibet, as far as Lake Manasarowar, Ladakh was only a part, originally intended to be no more than a minor incident, of his extraordinary life. Superintendent of the East India Company's Military Stud at Pusa in Bihar, he had finally got permission from his employers to travel to central Asia, specifically Bokhara, in search of horses with the necessary qualities as breeding stock for cavalry remounts. En route, he was keen to take in Yarkand where too he had heard that suitable horses were to be found. When you consider the rudimentary condition of communications at the time, and the enormous distances to be crossed, including the world's mightiest mountain ranges, it sounds crazy. But Moorcroft, a bit of a maverick, was dead serious. So serious that when he arrived in Ladakh in December 1820, from Kulu, and found to his chagrin that the permission to visit Yarkand he was hoping for hadn't arrived, he decided to stick around and wait for it. He waited for nearly two years, sending message after message over the Karakoram pleading with the Yarkandi authorities, till he finally realized it was a mug's game, and made his way out by the Zoji-la.

But whatever the frustration, Moorcroft wasn't one to sit around and twiddle his thumbs during this check to his plans. He had a mind like a sponge, interested in everyone and everything that came under his eye. His *Travels* bear testimony to the breadth of his observation. Consider a couple of the chapter-headings, which in 19th-century style flag all the subjects covered:

Description of Ladakh—Limits—Extent—Surface—Rivers—Indus—Sinh-ka-bab—Feeders of the Setlej [sic]—Soil—Climate—Agriculture—Grains—Wheat—Barley—Varieties of both—Grasses—Prangos—Vegetables—Fruits—Apricots—Willows—Poplars—Animals—Minerals.
Divisions—Lé, the Capital—Construction of Houses—Palace of the Raja—Population—Revenue—Domestic Institutions—Dress—Ornaments—Diet—Government—Raja—Chief Officers—Historical Notices—Religion—Lamas—Religious Assemblies—Figures of Chenresi—Chamba—Dramatic Representation—Masks—Amusements—Mohammedanism—Commerce—Wool trade—Shawl Wool—Sheep's Wool—Asli Tus—Tea—Tea of Bisahar—Miscellaneous Articles—General Character of the Trade—Whether to be in the possession of Britain or Russia.

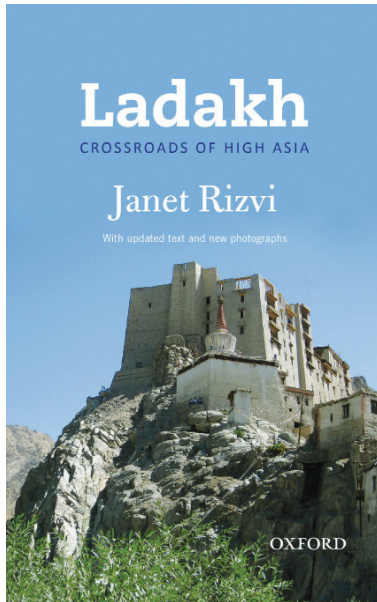
(And yes, he did have an agenda beyond horses, as the last item shows.) I read the *Travels* when I was first in Ladakh in 1976, and was amazed at how accurately he hit it off; in places he was describing what I could see with my own eyes. He also got about the region, travelling as far as Tang-tse in one direction and Panamik, where he took a bath in the hot spring, in another, and describing every last thing that he saw on the way. His encounters with the local people are particularly delightful. But the published *Travels* are badly edited, a pale reflection of the riches to be found in the original papers. These, to be sure, aren't easy to work from, if only because Moorcroft's mind worked faster than his pen, and in any given document, whether private journal or official report, the writing grows progressively more and more illegible as the pen struggles to keep pace with the racing thoughts. And he is easily distracted, so that a footnote to a report can easily become longer than the body of the document. Garry Alder is one of the few historians who have made an effort to come to grips with this chaotic mass of material. During his extensive and rigorous research, moreover, he retraced almost all of Moorcroft's journeys, correlating the material on the page with the setting in which it was written.

For those not fortunate enough to be able to spend time with Moorcroft's own papers in the British Library, or government archives in Delhi and Kolkata, Alder's biography not only fleshes out the man, but provides an invaluable background to his achievement. And it's written with such enthusiasm, and such affection for its subject, that it reads as easily as a novel. Now that it's available once again, and at an affordable price, it should be required reading for anyone with the faintest interest in Ladakh and its history, as well as the history of Himalayan exploration and travel. It has also, by the way, lots to offer to anyone interested in early 19th-century India, the Great Game, horse-breeding or the history of veterinary science.

References:

William Moorcroft and George Trebeck: *Travels in the Himalayan Provinces of Hindustan... &c.*, ed. Horace Hayman Wilson. London, John Murray 1841, repr. New Delhi, Sagar Publications, 1971, and Karachi, OUP, 1979.
The bulk of Moorcroft's papers are in Moorcroft Collection in the European Manuscripts (MSS Eur) section of the India Office Collection in the Asia, Pacific and Africa Collections (APAC) of the British Library. There is a detailed list of their contents in G. R. Kaye and E.H. Johnston, *Catalogue of MSS in European Languages in the India Office Library*, vol. II, pt. II, which is available on open access in the APAC reading room.

■ **Book Announcement:** LADAKH Crossroads of High Asia 3rd ed. Janet Rizvi
With updated text and new photographs Hardback, INR 795.



Fascinating...written with warmth, understanding and feeling for the land and the people.'

—*The Times of India*

'Recommended as a useful introduction to travellers unfamiliar with Ladakh or any other part of the Buddhist Himalayas ... will impress on visitors to Ladakh that they stand face to face with living remnants of one of the great historical civilizations of Asia ...'

—Christoph von Fürer-Haimendorf,
Times Literary Supplement.

'Janet Rizvi has performed her Ladakh darshan with feeling.'

—*The Book Review*

About the Book

Once perceived as a remote, romantic and mysterious Shangri-La, Ladakh has of recent years undergone profound changes—political, demographic, economic, socio-cultural and environmental. In print since 1983, this introduction to the region has proved its enduring popularity among readers of all hues including sociologists, social anthropologists and historians, as well as non-specialist visitors.

Retaining the basic information from the original, this revised and updated third edition documents the changes and transformations that Ladakh has witnessed since 1996. From the region's history to its importance as a confluence of various cultures and traditions to a detailed analysis of social, political and economic shifts before and after the Kargil war—it presents a deeply informed account of Ladakh and its people, permeated, moreover, by a radiant affection for them.

About the author

Janet Rizvi is the author of *Trans-Himalayan Caravans: Merchant Princes and Peasant Traders in Ladakh* (2001) and *Pashmina: The Kashmir Shawl and Beyond* (with Monisha Ahmed, 2009).

LADAKH BIBLIOGRAPHY SUPPLEMENT No 22

This supplement lists additions to updates in previous editions of *Ladakh Studies* and in my *Bibliography of Ladakh* (Warminster: Aris & Phillips, 1988). Please send new references and suggested annotations to John Bray: JNBray1957@yahoo.co.uk.

Alexander, André & van Schaik, Sam. 2011. "The Stone Maitreya of Leh: the Rediscovery and Recovery of an Early Tibetan Monument." *Journal of the Royal Asiatic Society* 21. No. 4: 421–439 ■ Reports on the rediscovery of a Maitreya image and accompanying inscription from the 11th century. Suggests a link to the Maitreya cult from the 7th century onwards in central Tibet.

Angchok, D. & Dubey, V.K. 2006. "Traditional Method of Rainfall Prediction Through Almanacs in Ladakh." *Indian Journal of Traditional Knowledge* 5, pp. 145-50. ■ Takes Ladakhi astrologers' use of Tibetan almanacs as a starting point, and tests their accuracy of predicting rainfall patterns in Varanasi. Argues that they compare well with predictions by modern government meteorologists.

Angchok, D.; Dwivedi, S.K., & Ahmed, Z. 2009. "Traditional foods and beverages of Ladakh." *Indian Journal of Traditional Knowledge* 8: 441-558. ■ Discusses sources and preparation of dishes and beverages that made up traditional diet.

Bainton, David. 2007. *Suffering Development: Indigenous Knowledge and Western Education in Ladakh*. Unpublished Ph.D thesis. Bristol: University of Bristol. ■ Examines the effect of Western education on indigenous knowledge in Ladakh. Discusses how development and educational discourses have led to decreased participation in the transmission of indigenous knowledge.

Beszterda, Rafał. 2011. *Bracia morawscy a kultury himalajskie*. Prace Etnologiczne Tom 24. Wrocław-Warszawa: Polskie Towarzystwo Ludoznawcze/Instytut Archeologii I Etnologii Pan. Maps. Illus. 380 pp. ■ History of the Moravian missions in Ladakh, Lahul and Kinnaur and their contributions to local society and Western learning.

Bhattacharyya, A. 1989. "Vegetation and Climate during the last 30,000 Years in Ladakh." *Palaeogeography, Palaeoclimatology, Palaeoecology* 73, Nos. 1-2: 25-38. ■ Based on pollen analysis from the Tsokar lake 4.572m above sea-level. Traces periods of expansion of *Juniperus* communities.

Bainton, David & Crossley, Michael. 2010. "Lessons from Comparative and International Education." In *Education and Social Change: Connecting Local and Global Perspectives*, pp. 15-26. Edited by Geoffrey Elliott, Cahid Fournali & Sally Issler. London: Continuum. 336 pp. ■ Highlights the importance of local perspectives when considering the impact of globally inspired education agendas. Takes the experience and needs of the children of Tibetan nomads in Ladakh as an example.

van Beek, Martijn. 2012. "Enlightened Democracy. Normative Secularism and Spiritual Authority on the Margins of Indian Politics. In *Varieties of Secularism in Asia. Anthropological Explorations of Religion, Politics and the Spritual*, pp. 1-28. Edited by Nils Bubandt & Martijn van Beek. Abingdon: Routledge. ■ Discusses the role of incarnate lamas in the modern politics of Ladakh with particular reference to Kushok Bakula.

- Bredi, Daniela. 2009. "Scelte religiose e politica alle frontiere dell'Islam: Kargil e il regno di Purig." *Rivista degli Studi Orientali* 82: 9-34. ■ Political and historical analysis of the history of Kargil and the kingdom of Purig.
- Bredi, Daniela. 2011. "History Writing in Urdu: Hashmatu'l-Lah Khan, Kacho Sikandar Khan Sikandar, and the History of the Kargil District." *Annual of Urdu Studies* 26: 5-20. ■ Assesses the two historians' contribution with particular reference to the early history of Islam in the region.
- Bruneau, Laurianne. 2010. Le Ladakh (état de Jammu et Cachemire, Inde) de l'Âge du Bronze à l'introduction du Bouddhisme: une étude de l'art rupestre. 4 vols, Université de Paris I/Panthéon-Sorbonne. Unpublished Doctorat d'archéologie thesis. ■ Study of petroglyphs in the Indus valley, Zangskar, Nubra and Rupshu. Discusses techniques and subjects, highlighting their historic value.
- Bruneau, Laurianne. 2011. "Influence of the Indian Cultural Area in Ladakh in the 1st Millennium AD: the Rock Inscription Evidence." *Purātattva. Journal of the Indian Archaeological Society* 41: 31-33, 179-190. ■ New Delhi. Reviews *khari thī*, *brāhmī* and *sāradā* inscriptions, including new ones discovered by the author during fieldwork.
- Bruneau, Laurianne & Vernier, Martin. 2010. "Animal Style of the Steppes in Ladakh. A Presentation of Newly Discovered Petroglyphs." In *Pictures in Transformation: Rock Art Research between Central Asia and the Subcontinent*. 27-36. Edited by Luca Maria Olivieri in collaboration with Laurianne Bruneau and Marco Ferrandi. Oxford: Archaeopress. ■
- Bruneau, Laurianne; Devers, Quentin; Vernier, Martin. 2010-2011. "Rock Art Research in Murgi Tokpo, Nubra Valley in Ladakh." *Purakala. The Journal of the Rock Art Society of India* 20-21: 91-98. ■ Illustrated documentation of the Murgi Tokpo site in Nubra, pointing to links with rock art in Central Asia.
- Chandra, Yashaswini. 2007. "A Form of Tara Peculiar to Alchi." *Orientalions* 32, No. 10: 72-77. ■ Presents a proposed an identification of figures a wall painting on the ground floor of the Alchi Sumstkek.
- Dame, Juliane & Nüsser, Marcus. 2011. "Food Security in High Mountain Regions: Agricultural Production and the Impact of Food Subsidies in Ladakh, Northern India." *Food Security* 3, No. 2: 179-194. ■ Shows how political and socio-economic changes have affected food security strategies of Ladakki households. Focuses on the impact of food subsidies through the Indian Public Distribution System.
- Daultrey, Sally. & Gergan, Reuben. 2011. "Living with Change: Adaptation and Innovation in Ladakh." Published online on: www.ourplanet.com/climate-adaptation/Daultrey_Gergan.pdf. 11pp. ■ Discusses creative response to challenges imposed by climate change, including potential for renewable energy sources.
- Deboos, Salomé. 2010. *Être Musulman au Zangskar, Himalaya indien*. Saarbücken: Éditions Universitaires Européennes. 244 pp. ■ A discussion of Muslim social relations in contemporary Zangskar, based on extensive fieldwork in Padum.

Denwood, Philip. 2009. "The Tibetans in the West. Part 2." *Journal of Inner Asian Art and Archaeology* 3: 149-160. maps, illus. ■ Continuation of earlier article focusing on the period between the 7th and the 9th centuries.

De, Sourav. 2011. *Life near the Sky: Ladakh*. Gurgaon: Shubhi Publications. 125 pp. Mainly consists of coloured illustrations.

De Terra, Helmut & Hutchinson, G. E. 1934. "Evidence on Recent Climatic Changes Shown by Tibetan Highland Lakes." *Geographical Journal* 84: 311-320. ■ Discusses evidence of rises and falls of the water level in Panggong lake and other lakes in eastern Ladakh.

Devers, Quentin & Vernier, Martin. 2011. "An Archaeological Account of the Markha Valley, Ladakh." *Revue d'Études Tibétaines* 20: 61-113. ■ Analysis of key castles, monasteries and rock art in geographical order walking upstream.

Dollfus, Pascale. 1999. "Phu mkhar rdzong, un lieu de pèlerinage au Ladakh." *Bulletin de l'École française d'Extrême-Orient* 86: 33-64. ■ Describes the pilgrimage site of Phu mkhar rdzong, a sacred place 'opened' by Padmasambhava in Purig. Places current practices in the context of modern Buddhist identity politics.

Drouet, Francis. 1938. "Myxophyceae of the Yale North India Expedition Collected by G. E. Hutchinson." *Transactions of the American Microscopical Society* 57, No. 2: 127-131. ■ Discusses blue-green algae collected in high-altitude hot springs in Ladakh.

Ganjoo, R.K. & Ota, S.B., 2012. "Mountain Environment and Early Human Adaptation in NW Himalaya, India: A Case Study of Siwalik Range and Leh Valley." *Quaternary International* 30. ■ Succinct overview of archaeological discoveries along the Siwalik range and in Ladakh. Includes photographs and drawings of stone implements found in Alchi and photographs of an early human occupation site at Kairi.

Goldstein, M.C., 1981. "High-Altitude Tibetan Populations in the Remote Himalaya: Social Transformation and Its Demographic, Economic, and Ecological Consequences." *Mountain Research and Development* 1, No. 1: 5-18. ■ Argues that the traditional 'Tibetan' marriage and family system was a social adaptation to a harsh external environment. Discusses the consequences of contemporary social change, citing Ladakh and Limi (northwestern Nepal) as examples.

Goodall, Sarah K. 2007. *From Plateau Pastures to Urban Fringe: Sedentarisation of Nomadic Pastoralists in Ladakh, North-West India*. Ph.D. Thesis. Department of Geographical and Environmental Studies, University of Adelaide. 271 pp. ■ Draws on data from a survey of 103 migrant households and in-depth interviews with representatives of the Samad, Korzok and Kharnak communities.

Gupta, Radhika. 2011. *Piety, Politics and Patriotism in Kargil, India*. D.Phil thesis. University of Oxford. ■ Explores how politico-religious ideologies and cultural influences from Iran, Iraq, and Baltistan interact with nationalist ideologies to articulate a sense of self and national belonging in contemporary Kargil.

van Ham, Peter. 2010. *Heavenly Himalayas. The Murals of Mangyu and Other Discoveries in Ladakh*. Munich: Prestel Verlag. With contributions by Rob Linrothe, Gerald Kozics and Amy Heller. illus. 176 pp. ■ Analyses the murals of the Mangyu temple complex in their cultural and historical context.

Hawkes, Jacquetta; Hawkes, Christopher; & de Terra, Helmut. 1934. "Paleolithic Human Industries in the Northwest Punjab and Kashmir and Their Geological Significance." *Memoirs of the Connecticut Academy of Arts and Sciences* Vol. VIII. Yale North India Expedition, pp. 1-15. New Haven, Connecticut, 1934. ■ Discusses a stone implement found in Kargil.

Hutchinson, G. E. 1933. "Limnological Studies at High Altitudes in Ladakh." *Nature* 132: 136-138. ■ Preliminary report on biology of high-altitude lakes in Ladakh from 1932-1933 Yale Expedition.

Hutchinson, G. E. 1937. "Limnological Studies in Indian Tibet." *Internationale Revue der gesamten Hydrobiologie und Hydrographie* 35, Nos. 1-6: 134-177.

Hutchinson, G. E.; Wollack, Anna; & Setlow, Jane K. 1943. "The Chemistry of Lake Sediments from Indian Tibet." *American Journal of Science* 241: 533-542.

Jade, Sridevi; Yang, B; et al. 2004. "GPS Measurements from the Ladakh Himalaya, India: Preliminary Tests of Plate-like or Continuous Deformation in Tibet." *Geological Society of America Bulletin* 116, No.11-12:1385-1391.

Khan, Shuhab; Walker, Douglas et al. 2009. "Did the Kohistan-Ladakh Island Arc Collide First With India?" *Geological Society of America Bulletin* 121, No. 3-4: 366-384. ■ The Kohistan-Ladakh block represents an island arc constructed on the ocean floor during Jurassic and Cretaceous times. Argues that the arc's collision with India took place in early Paleocene times.

Klimeš, L., 2003. "Life-forms and Clonality of Vascular Plants along an Altitudinal Gradient in E Ladakh (NW Himalayas)." *Basic Applied Ecology* 4: 317-328. ■ Records 404 plant species on a gradient from 4,180m to 6,000m ASL.

Klimeš, Leoš & Dickoré, Bernhard. 2005. "A Contribution to the Vascular Plant Flora of Lower Ladakh (Jammu & Kashmir, India)." *Willdenowia* 35: 125-153. Berlin-Dahlem. ■ Provides a list of 355 vascular plants, including 324 indigenous, naturalized or escapee and 31 cultivated species for the Dha-Hanu area. Fieldwork covered an altitudinal segment between c. 2,750m and 4100 m along a section of the Indus valley from Khalatse to near the Line of Control.

Kozics, Gerald. 2010. "The Architectural Matrix of the Alchi Sumtsek." *Indo-Asiatische Zeitschrift* 10: 31-40. ■ Discusses the geometric principles in the design and construction of the Sumtsek, and traces a link with earlier buildings in Nyarma. Illustrated with photographs, diagrams and architectural drawings.

Linrothe, Rob. 2006. "Two Fieldnotes from Zangskar: A Kashmiri Sculpture in a Personal Shrine and the Etymology of 'Kankani Chorten.'" In *Long Life. Festschrift in honour of Roger Goepfer*: 167-180. Edited by Jeong-hee Lee-Kalisch, Antje Papist-Matsuo & Willibald Veit. Frankfurt: Peter Lang. ■ Describes a brass image near Karsha, and reports a local suggestion for the origin of the term 'kankani'.

Linrothe, Rob. 2007. "A Winter in the Field." *Orientations* 32, No. 10: 40-53. ■ Reports on the findings of an archaeological research journey to Zangskar with a particular focus on 11th century paintings in the Malakartse stupa near Zangla, and the 'Hidden Lhakhang' and 'Secret Room' in Lingshed monastery.

Luczanits, Christian. 2006. "Alchi and the Dringungpa School of Tibetan Buddhism: the Teacher Depiction in the Small Chörten at Alchi. In *Long Life. Festschrift in honour of Roger Goepfer*: 181-197. Edited by Jeong-hee Lee-Kalisch, Antje Papist-Matsuo & Willibald Veit. Frankfurt: Peter Lang. ■ Discusses the composition and iconography of paintings in the 'Small Chörten' in the context of the Dringungpa tradition.

Mani, B.R. 2000-2001. "Rock Art of Ladakh: Glimpses of Economic and Cultural Life." *Purakala. The Journal of the Rock Art Society of India* 11-12: 93-108.

Mani, B.R. 2010. "Authors of Petroglyphs in Ladakh and Baltistan." In *Pictures in Transformation: Rock Art Research between Central Asia and the Subcontinent*. 37-42. Edited by Luca Maria Olivieri in collaboration with Laurianne Bruneau and Marco Ferrandi. Oxford: Archaeopress. ■

Memoirs of the Connecticut Academy of Arts and Sciences Vol. X. Yale North India Expedition. New Haven, Connecticut, 1934. 359 pp. ■ Presents the biological and entomological findings of the expedition to Ladakh led by Helmut de Terra in 1932-1933. Individual articles include: Cresson, Ezra T, "Report on Diptera of the Family Ephydriidae," pp. 1-4; Hyman, Libbie. H., "Report on Triclad Turbellaria from Indian Tibet," pp. 5-15; Cameron, Malcolm, "Report on Coleoptera of the Family Staphylinidae," pp. 17- 21; Andrews, H.E., "Report on Coleoptera of the Family Carabidae," pp. 23-28; Bond, Richard M, "Report on Phyllopod Crustacea (Anostraca, Notostraca and Conchostraca) Including a Revision of the Anostraca of the Indian Empire," pp. 29-62; Ueno, Masuzo, "Report on Amphipod Crustacea of the Genus Gammarus," pp. 63-83; Lundblad, O, "Report on Hydracarina," pp. 85-118, Hutchinson, G. Evelyn, "Report on Terrestrial Families of Hemiptera-Heteroptera," pp. 119-151; Edmondson, W.T, & Hutchinson, G.E., "Report on Rotatoria," pp. 154-186.

Murti S.K. 2001. *Flora of Cold Deserts of Western Himalaya. Volume 1: Monocotyledons*. Calcutta: Botanical Survey of India. 452 pp. ■ Discusses physical features, vegetation, floristic diversity, agricultural practices, and earlier botanical work in the region. Then presents a scientific description of 347 species from 103 genera, under 16 families, of monocot group of Angiosperms.

Nawang Tsering Shakspo. 2010. *A Cultural History of Ladakh*. With Kyle Gardner. Sabu (Leh): Centre of Research on Ladakh. The Solitarian. 272 pp. ■ A collection of the author's research papers, including chapters on Kuksho and Sabu villages, Lama Tsultrim Nyima (1796-1872), Baltistan, folksongs, dance and sacred trees.

Niermann, Kristina. 2008. *Menschen und locale Gottheiten (lu) im buddhistischen Ladakh: Tabus, Krankheit und Heilung im Alltag*. Magisterarbeit. Humboldt Universität zu Berlin. Institut für Asien- und Afrikawissenschaften, Zentralasienstudien, Tibetologie. 142 pp. ■ A study of local beliefs and practices concerning *lu* (water spirits) based on field research in Hemis Shugpachen.

Ota, S.B. 1993. "Evidences of Transhumance from Ladakh Himalayas, Jammu and Kashmir, India." *Current Advances in Indian Archaeology* 1: 91-110. Nagpur:

Dattsons. ■ Reports excavations of prehistoric hearths near the Indus at Kairi and Gaik. The discovery of charred animal bones points to a pastoral economy supplemented with hunting and gathering.

Ota, S.B. 2009. "Archaeology of the Transhumance in Ladakh Himalayas." In A.R. Sankhyan (ed) *Asian Perspectives on Human Evolution*, 198-206. New Delhi: Serials Publications. ■ Further discussion of the Kairi and Gaik discoveries.

Owen, L.A.; Caffee, M.W.; Bovard, K.R.; Finkel, R.C., Sharma, M.C. 2006. "Terrestrial Cosmogenic Nuclide Surface Exposure Dating of the Oldest Glacial Succession in the Himalayan Orogen: Ladakh Range, Northern India." *Geological Society of America Bulletin* 118: 383-392.

Phuntsog Dorjay. 2010. "Penetration of Buddhist Ideology in Ladakh: A Study Through Early Rock Sculptures." In *Pictures in Transformation: Rock Art Research between Central Asia and the Subcontinent*: 43-58. Edited by Luca Maria Olivieri in collaboration with Laurianne Bruneau and Marco Ferrandi. Oxford: Archaeopress.

Pirie, Fernanda. 2007. "Order, Individualism and Responsibility: Contrasting Dynamics on the Tibetan Plateau." In *Order and Disorder: Anthropological Perspectives*: 54-73. Edited by Keebet von Benda-Beckmann & Fernanda Pirie. New York: Berghahn Books. ■ Contrasts social attitudes to conflict and violence in rural Ladakh and Amdo. In Ladakh violence is unequivocally condemned whereas in Amdo violence is in many circumstances 'compulsory'.

Pointet, Abram. 2008. *Ladakh & Zaskar – carte de trekking. Nord. Centre. Sud 1/150'000*. 2nd edition. Geneva: Éditions Olizane. ■ Detailed set of coloured trekking maps on water-resistant paper. Consists of three sheets (published separately): north (Brog-yul, Nubra and Shyok); centre (Indus and Zangskar valleys and Panggong); and south (upper Zangskar and Ruphsu).

Pointet, Abram. 2010. *Carte Ladakh-Zaskar – Générale. 1:300.000. Noubra, Ladakh, Zaskar*. With illustrations by Martin Vernier. Geneva: Éditions Olizane. ■ General map covering all the main regions of Ladakh and showing the main sites of cultural interest.

Poncar, Jaroslav & Keay, John. 2010. *Ladakh 1974-2008. A Photographic Homage*. Chicago: Serinidia. 304 pp. illus. ■ A high-quality photographic study.

Rösing, Ina. 2006. *Shamanic Trance and Amnesia. With the Shamans of the Changpa Nomads in Ladakh Changthang. Traditional Healing in Ladakh*. New Delhi: Concept Publishing Company. 327 pp. illus. ■ Discusses nomadic life and the world of the Changpa nomads in before turning to an analysis of the nature of shamanic rituals in both central Ladakh and Changthang.

Sharma, K.K.; Rajagopalan, G; & Choubey, V.M. 1989. "Radiocarbon Dating of Charcoal from Pre-Indus Civilization Fireplace, Upper Indus valley, Ladakh." *Current Science* 58, No. 6: 306-308. ■ Carbon dating shows that a charcoal sample from a prehistoric hearth in Gaik, 100 km east of Leh, was some 6,710 years old.

Sheikh, Abdul Ghani. 2010. *Reflections on Ladakh, Tibet and Central Asia*. With an introduction by John Bray. Leh: By the author. 263 pp. illus. ■ A collection of 22 English-language essays, arranged with sections on 'Historical Perspectives', 'Islam in Ladakh and Tibet', 'Regional Perspectives', and 'Reflections on Culture and Change'.

Sonam Joldan. 2012. *Ladakh's Traditional Ties with Buddhist Tibet*. Delhi: Kalpaz Publications. 264 pp. illus. map. ■ Historical review of monastic links as well as pilgrimage and trade relationships. Draws on records in the National Archives of India as well as research interviews in Ladakh.

Stewart, Ralph R. 1944. "The Ferns of Gilgit, Baltistan, and Ladakh." *Bulletin of the Torrey Botanical Club* 71, No. 6: 660-662. ■ Provides a list of ferns, with scientific names, including the places where they were seen in the region.

Tripathi, C.; Verma, B.C.; & Arora, R.K. "Lower and Middle Paleolithic Artefacts from the Quaternary Sediments of Upper Indus Valley, Ladakh Himalaya, J&K, India." *Bulletin of the Indian Geologists' Association* 21, No. 1: 81-88. ■ Reports on stone artefacts collected from near Nurla, Khalatse, Pashkyum and Kargil.

Wani, S.A. et al. 2004. "Population Dynamics and Production Traits of Changthangi Goats in Ladakh." *Indian Journal of Small Ruminants* 10, No.1: 80-83. Avikanagar, Rajasthan.

Wani, S.A., & Wani, M.H. 2007. "Economics of Pashmina Production under Pastoralist Nomadic System of Management in Cold Arid Region of Jammu and Kashmir." *World Journal of Agricultural Sciences* 3, No. 6: 788-795. ■ Based on a study of 250 households in 2004-2007. Suggests that profitability could be improved through selective breeding.

Walravens, Hartmut (Ed.). 2010. *The First Tibetan Serial: August Hermann Francke's La-dvags-kyi-ag-bâr (1904-1907)*; Facsimile of a Unique Set in the Archives of the Evangelische Brüderunität, Herrnhut. With a contribution on Tharchin's Yul-phyogs so-so'i gsar-'gyur me-long by Isrun Engelhardt. Staatsbibliothek zu Berlin. Neuerwerbungen der Ostasienabteilung. Sonderheft 22. Berlin. ■ The La dvags kyi ag bar was a monthly paper produced irregularly by the Moravian mission in Leh, and the first Ladakhi/Tibetan-language periodical. Contains a facsimile of the entire run of the paper, together with an article on the Tibet Mirror which was published in Kalimpong from 1925 to 1963.

Weiers, Stefan. 1995. *Zur Klimatologie des NW-Karakorum und angrenzender Gebiete*. Statistische Analysen unter Einbeziehung von Wettersatellitenbildern und eines Geographischen Informationssystems (GIS). Bonner Geografische Abhandlungen 92. Bonn: Ferd. Duemmlers Verlag. xiv, 169 pp., illus. ■ Climatology of Northwest Karakoram and neighbouring areas drawing on data from weather satellites.

Weinberg, Roberto F. & Reichardt, Henning. 2008. "Magma Migration, Folding, and Disaggregation of Migmatites in the Karakoram Shear Zone, Ladakh, NW India." *Geological Society of America Bulletin* 120, No. 7-8: 994-1009.

Weinberg, Roberto F; Mark, Geordie; & Reichardt, Henning. 2009. "Magma Ponding in the Karakoram Shear Zone, Ladakh, NW India." *Geological Society of America Bulletin* 121, No. 1-2: 278-285.

Zeisler, Bettina. 2007. "Case Patterns and Pattern Variation in Ladakhi: a Field Report." In *Linguistics of the Himalayas and Beyond*, pp. 399-425. Edited by Roland Bielmeier & Felix Haller. Trends in Linguistics: Studies and Monographs 196. Berlin, New York" Mouton de Gruyter.

Zeisler, Bettina. 2009. "Mainstream linguistics for minor(ity) languages? Or: What is it like to speak Ladakhi?" In *Multilingualism. Proceedings of the 23rd Scandinavian Conference of Linguistics Uppsala University 1 – 3 October 2008* pp. 305-319. Edited by Anju Saxena & Ake Viberg. Acta Universitatis Upsaliensis, Studia Linguistica Upsaliensia, 8. Uppsala: Uppsala Universitet. A practising researcher's view of the hazards of applying linguistic frameworks derived from the study of 'mainstream' or 'prestige' languages to less-studied languages such as Ladakhi.

Zeisler, Bettina. 2011. "Kenhat, the Dialects of Upper Ladakh and Zaskar." In *Himalayan Languages: Studies in Phonology, Semantics, Morphology and Syntax*: 233-302. Edited by Mark Turin and Bettina Zeisler. Leiden: Brill.

ཨ་རི་མ་གླིང་གི་ལ་དཀའ་སློབ་སློང་ཚོགས་པ།

انٹرنیشنل ایسوسی ایشن برائے لداخ اسٹڈیز

INTERNATIONAL ASSOCIATION FOR LADAKH STUDIES

www.ladakhstudies.org