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A Landscape Dissolved
Households, Fields, and Irrigation in Rinam, Northwest India

Introduction

This essay examines the interwoven processes of settlement and sacralisation in one far-flung corner of the Himalayas, through a macro-lens focused on a single village. It dissolves the village into its emergent parts – fields, water, houses, and individuals – in order to reveal the historically specific and contingent relationships between those parts. Human agency and temporality stand out in the foreground when one imagines a village less as a set of static structures and more as a confluence of interrelated historical and ritual processes. The village appears as a fluid yet bounded space woven from material, social, and ritual activities including not just habitation but also irrigation, cultivation as much as circumambulation. The water which links patches of grain and fodder also binds households to one another within a relatively closed community that only admits outsiders with great difficulty.

The essay begins with the environmental and socio-economic parameters which constrain settlement in Zanskar before considering the households and irrigation networks within one village more closely. A brief review of the geographic, climactic, social, and historical constraints on settlement sets the stage for a close description of households and their associated fields in the next section. It appears that need rather than greed has tempered growth and the common management of resources. Without the dubious benefit of chemical inputs or industrial irrigation, farmers maintain extraordinarily high yields on land that has been under continuous cultivation for centuries. A micro-history of one Zangskari village indicates how change emerges from continuity, yet not without a certain dynamic genius, while the houses, fields, and channels of Rinam village show an extraordinary stability, but not stagnancy. The moments of change are unique openings which deserve critical analysis. Even elements which seem relatively impervious to change, such as the allocation of water, can shift due to a critical mass of discontent. However, changes proceed through processes of community negotiation in which traditions are reasserted rather than erased. In the final section, we examine the mythical and ongoing processes of sacralisation which sanctify and purify the wider space and more local cultivated areas so as to preserve the vitality of one Himalayan community.

Resource Management in an Extreme Geography

Imagine a landscape of stunning beauty and amazing breadth, yet nearly depopulated. The contorted folds and twists of rock as well as the burning and barren desert slopes of scree and sand suggest a radical geological past as well as present day climatic extremes. Jagged escarpments of granite, snow, and glacial ice only rarely give way to meandering river valleys where rare green oases of terraced fields signal human habitation. Blinking, from an airplane, one might miss them entirely. Settling at an altitude between three and seven thousand meters must have been daunting for even the seasoned Central Asian nomads who arrived in the first millennium B. C. Harsh winter
1 This piece is dedicated to M. Aris, who provided crucial encouragement at an early stage of this work. F. Barth, J. Crook, H. Kreutzmann, H. Osmaston, N. Yalman, and others provided helpful comments. Research between 1991 and 1995 was conducted with the support of the Jacob Javits Foundation, Mellon Foundation, Harvard Department of Anthropology, and the Deutsche Forschungsgemeinschaft.

The entire population lives clustered on the tiny fraction of the overall territory where irrigation and cultivation are possible. Indeed, only one fourth of a percent of Zangskar is actually inhabited, leaving over 99.5% empty of habitation. Although Zangskar’s territory of 7,000 square kilometers is roughly the size of Sikkim, its population of 12,000 people makes it one of the most sparsely inhabited sub-districts in India. Its population density of less than 2 persons/sq km pales next to the Indian average of 273 persons/sq km. While remote villages are separated from each other by several hours walk through inhospitable terrain, villages in the broad and glaciated central valley lie contiguously along the same watershed.

Sunk deep in the folds of the Indian Himalayas, Zangskar’s territory is a natural fortress. Two major rivers, the Stod and Lungnag, join to form a third, the Zangskar, which flows some 180 km to the northeast where it merges with the mighty Indus River in Ladakh. Irrigation is a strict necessity in this arid region, tucked within the rainshadow of the greater and lesser Himalayan ranges. There are no mechanical devices to pump water up from the riverbeds or steep gorges. Thus, most settlements are irrigated by tributary streams flowing down from the glaciers and permanent snow fields which line the valleys like sentinels. Those villages lying along the meandering flood plains of the major rivers never lack a surplus of water but face a different hazard instead - floods, waterlogging, and salinisation. Settlement in Zangskar is only possible through an elaborate technology of leats and canals which route water to far-flung terraces of barley, wheat, and peas. The water supply in most Zangskari villages is limited by topography, winter snowfall, channel seepage, and supplementary sources of water such as springs. Actual flow in the streamed varies dramatically by season, month, day, and even hour due to the variable rate of melting snow fields. In March and April the water is limited as nights and days are still too cold for much snow melt. In May to June the supply of melt water peaks, by July it begins to decline, and some streams run dry by October.

A Zangskari settlement typically consists of a cluster of anywhere between two houses and one hundred built upon barren ground near a tributary stream. The houses are surrounded by a contiguous patchwork of fields which stretch as far as the water can reach. Most fields belong to the houses of the immediate village and migration between villages was rare even in this century unlike the neighbouring region of Hunza for instance. Traditionally the houses were clustered together, although more recently they are built scattered amongst the fields. The houses are built of stone with sun-dried mud mortar, while mud bricks may be substituted for stone in the upper stories. The oldest settlements at Karsha, Tungri, Stongde, and Zangla were constructed on cliff tops and surrounded by defensive walls and watchtowers built of dry laid stone or rammed earth. Such fortified villages were abandoned in the early 18th and the 19th centuries, when Zangskar came under the suzerainty and supposed protection of the Tibetan, Mughal, and Dogra empires.

Water is a critical resource of livelihood in this desert and the lynchpin in the settlement process. In Zangskar, water rights cannot be bought or sold except by rare communal consent. Rights are apportioned by age-old distribution schemes, adapted to village topography and demography, channel gradients and seepage, as well as distance from the streambed. Furthermore, the allocation of water is modulated during the season by water-user groups who share the water along a given channel or leat. Each group of water users regulates the internal rotational schemes of its members at the same time that it is articulated with the other groups in the village. Irrigation depends on the smooth coordination of a group of water users who adjust and share the water available in the village stream during the watering season.

Although each village irrigation system in Zangskar is unique, all share two interrelated features: (1) a water allocation scheme (chutsho) which distributes units of water time and (2) a number of water-user groups which consist of households who share water during the given unit of time. The allocation scheme distributes water by house, field, or leat for certain amount of time. These units of water time may be a day or a portion thereof: dawn to mid-morning meal, mid-morning to early afternoon lunch, early afternoon to dusk. The village-wide allocation schemes only apply to major leats and channels, while smaller subsidiary channels flowing to individual fields are regulated informally by the users who share a unit of water time. Zangskari villages are organised so that existing members have full water rights but new members are admitted only rarely. A household’s water rights are inalienable and cannot be moved at will, just...
As fields cannot be switched from one water channel to another. The permission to route water to a newly created field must be granted by the entire community. Unlike water rights in America’s Wild West, where those who arrived first settled upstream and sold water to those who came later, Zangskari water rights reflect a remarkable degree of communalism. The webs of water etched into the landscape reveal centuries of organisation and development. While the common interest in water and prosperity has led to a type of hydraulic solidarity, decentralised settlements along separate streambeds have prevented the emergence of an overarching hydraulic bureaucracy. The success of one farmer cannot be isolated from others who share water along a leat, channel, or subchannel. Water use emerges as a zero-sum game, in which cheating by a few threatens the prosperity of all.

Breaches in the water allocation schemes are punished swiftly, in accordance with customary fines. Conflicts over water are negotiated and resolved through democratic adjudication, with the assistance of village elders and, occasionally, in the largest villages a local official known as the “lord of the water” or chupon. While the chupon in Leh were chosen annually by nomination or lottery under the king’s supervision until 1947, they are now chosen by rotation in the new Indian democracy. They receive compensation in cash or kind from every village household in exchange for supervising the opening and closing of the leats along the village stream at sunset and sunrise in order to ascertain when and where infractions have occurred.

Zangskar’s three most precious natural resources – water, fodder, and fuel – are considered common, not private, property. Rights to these resources are distributed by household residence following customary law. They cannot be bought, sold, or alienated from the household or village. Every village has proprietary rights to a number of hillsides, where village residents may cull a fixed amount of wild shrubs (burtse, kyice, tshe-mang, shugpa) or graze their livestock. The village headman sets annual limits on culling so that the natural resources are not depleted. Outsiders from other villages do not have rights to dung or fodder unless they have received the status of permanent residents in the village collective. For instance, after a long period of residence, a family may be asked to take its turn sponsoring the annual rituals and festivals which make up the village calendar and thereby gain rights to fodder and fuel.

Unlike much of rural South Asia, Zangskari villages displayed a remarkably even distribution of land even before land reforms were promulgated. While every household owns or tills some land, few own significantly more or less than the household average of 2.8 acres. When the “Large Landed Estates Abolition Act” was passed in 1950 and finally promulgated in the 1970s, it set an upper limit of 22.75 acres (182 kanal) for individual holdings. Due to the intervention of Bakula Rinpoche in Ladakh, monastic institutions were exempt from this upper limit and thus they continue to be the largest landholders even today. Surprisingly, the bill affected only 21 households in Zangskar and Ladakh, whose land holdings exceeded the upper limit set by law. At present, most Zangskari households have inalienable rights to land which provide a basic subsistence in grain. Since households have relatively equal land holdings, differences in status and wealth are determined by size of house, land holdings, livestock, and other moveable wealth (jewelry, art, and religious objects). While land and water were not bought or sold until recently, the growth of government offices and transient businesses have put land at a premium in Zangskar’s central town, Padum.

While the size of the average family estate declined from 3.2 acres in 1908 to 2.8 acres in 1981, Zangskar’s cultivated area and total population grew steadily. The rate of growth in cultivated acreage had jumped tremendously by the last quarter of the century. It took 63 years (1908 to 1971) for the total cultivated area to increase from 3,217 to 4,178 acres, yet only ten years later the figure had grown by 1000 acres to 5,124. The increase in cultivated land may be related to the population boom of recent decades. The population tripled in this century, from nearly 4,000 to 12,000 people while the number of households grew from 1,012 in 1908 to 1,833 in 1981. As with acreage, much of the increase took place in the last quarter of the century. The population in 1971 was only 6,886, yet that figure nearly doubled by 1996. By contrast, in the early part of the century a single avalanche or drought might register a permanent setback in the region. The increase in Zangskar’s settlements in the latter half of the century is partly due to the transition from a semi-feudal to a modern economy in this century. The rampant exploitation and extortion of peasants under the rule of both Dogra and later Kashmiri Maharajas gave way to benign neglect under the government of India after 1947. New jobs in the military, the Public Works Department, and other offices in the growing civil sector provided jobs which complemented but did not replace the agrarian livelihood.
who could not inherit their father’s estate would strike out for new lands where there was water and suitable terrain for cultivation. While tremendous labour is required to transform desert wasteland into arable soil, the payoff – a new estate – is considerable. While Zangskar had 51 hamlets in 1908, by the late 1990s there were over 100 separate hamlets. Examples of such newly created hamlets such as Philingthang, Bagartse, and Shyagar Yogma on the western bank of the Stod river are not listed in the Indian census.

As in Ladakh, the monasteries in Zangskar remain the largest landholders in the region up to this day. At present, Karsha monastery owns nearly 90 times the average peasant holding (2.8 acres). In 1977, Karsha, which was Zangskar’s largest monastery, owned 239 acres while the more modest Stagrimo monastery owned 64 acres. When Zangskar was surveyed in 1909, 9 % of all cultivated land (380 out of 3217 acres) was owned by monasteries. Only the smallest fraction (1.5 %) of land was leased by rich aristocratic landholders to peasant sharecroppers. Roughly 90 % of all land was held privately by freeholders (Tib. rang bedkhan). However, a third of all peasant households leased at least one field from the monastery, in addition to their substantial private estates. Roughly 373 households leased and tilled 380 acres of monastic land, with most households sharecropping only a few fields or a fraction of an acre. Very few households were full sharecroppers (chunpa) who tilled larger tracts of monastic land to which they had inalienable and inheritable rights. Although royal and aristocratic households still have more fields and larger surpluses of grain, wealth has flowed steadily to the monasteries for centuries.

Historically, both Zangskar and Ladakh had far more private ownership and less human bondage and absentee land ownership than Tibet had. In Ladakh, between one-sixth and one-third of all households owed some monastic tax. In one Tibetan principality before 1959, roughly 42 % of all land was held by the monasteries and another 21 % by the aristocracy, with only 37 % in the hands of freeholders who were known as government taxpayers (tralpa). While Tibetan society was characterised by small tenants (dächung), human lease (mibog), serfs (miser), and lifelong servants (trerog, tsherog, michag), such forms of servitude never prevailed in Zangskar.

The Permanent Settlement of Zangskar

Between 1906 and 1908, the Permanent Settlement of Zangskar was undertaken in order to record land tenure and establish a basis for taxation. By sanction of the Kashmir Darbar, local Settlement Offi-

15 In 1981, the “inhabited area” of the 25 agglomerated villages in Zangskar ranged between 83 and 341 hectares (ha). In comparison, 80 % of such agglomerated villages in Ladakh range between 100 and 1000 ha while Leh town has an “inhabited area” of 5000 ha. The 1981 census appears to contain many clerical errors.

16 These figures are reported in Singh (1977). Riaboff (1997) reports that by 1995, Karsha monastery owned 244 acres (97.65 ha or 1,953 kanal). At the present growth rate (.28 acre/yr), it would have taken Karsha monastery roughly 871 years to accumulate 244 acres.

17 These statistics are from Muhammad (1909), yet Riaboff (1997) reports that Zangskar contained 203 ha of monastic land in 1908 or 15.6 % of all cultivated land.

18 Ramsay (1890) estimates the monastic share of Ladakhi land at one-sixth while Kaplanian (1981) estimates it at one-third. Cunningham (1854) states that out of 24,000 households, only 4,000 were monastic sharecroppers and 2,000 were sharecroppers for royalty.

19 Carrasco 1959: 86.

The Rinam Cadastral Map was based on a survey conducted throughout Zangskar in Bikram Sambat 1964–65 (1907–8). This is a reduction of the original maps which were drawn in ink and gouache on cloth, in which one inch stood for 40 karam, or 220 feet. Roughly equivalent to a large stride, the karam was the standard measurement used to survey the fields on foot.

21 In Zangskar, the team of surveyors included the Assistant Settlement Officer (Sardar Thakar Singh), the Subdistrict Officer or Tahsildar (Pandit Ram), and the Assistant Subdistrict Officer or nā’ib tahsīldār (Pandit Gopal Sher). Muhammad (1908; 1909) describes the settlement process for Ladakh and Zangskar while Douie (1899) and Barkley (1875) provide detailed instructions to settlement officers in the Punjab.

22 These classifications are defined by Muhammad (1909: 2) as follows: “(I) mazhing, sacred field of each assami well manured and attended with religious rites; (II) barzhing, comparatively near the village site and well manured; (III) thazing, comparatively distant and insufficiently manured; (IV) chhas, vegetable plots near the village, the nature of the soil, and the crop planted at the time of measurement. The fields were identified in one of six classes according to the richness of soil or function of the plot.” A second register (U. khasra) listed every field by number, indicating its dimensions, the occupant, the nature of the soil, and the crop planted at the time of the measurement. The fields were identified in one of six classes according to the richness of soil or function of the plot. A second register (U. khasra) traced the owner and occupant of each holding through subsequent generations. These registers record all transfers in ownership and tenure rights in this century and are still in use today.

Unlike the more repressive settlements in Bengal and the Punjab which disenfranchised all but a small set of landlords (U. zamindārs), the peasant-based land reform in Ladakh and Zangskar instated farmers as owners and taxpayers. Following the Settlement guidelines for determining freeholders (U. aq-i-asāmī) and tenants (U. kaṣi mustaqīl), the tillers were instated as full owners, unless the land belonged to a monastery or nunnery. In order to help adjudicate the disputes and administer claims which inevitably arose during the Settlement process, a local administrator (U. zaildār) served as an unofficial advisor. The zaildār was responsible for enforcing the payment of taxes and obligatory porterage of revenue officials who toured Zangskar in the summertime. The Kaśmīri Mahārāja’s government maintained the heavy taxes initially imposed by the Dogra administration after its conquest in 1835. These tax burdens were imposed upon pre-existing rents which peasants paid to monasteries and royal houses. According to one missionary report (Heyde 1866), some peasants simply fled their estates in the summertime when revenue officials came to collect the rent. After Zangskar became a part of India in 1947, Zangskari villagers no longer paid an agrarian income tax although they continue to pay their monastic rents faithfully each year.

The Land and Revenue officials (U. taksīlādār) and their assistants (U. paṭvārī) record any changes in land ownership or tenancy, as well as partitions and new fields. The paṭvārī and their assistants, the gudawārī, travel the length and breadth of their region every year, noting the crops sown annually on each field and recording any disputes which arise over ownership or boundaries. Such disputes can only be settled by the nā’ib tahsīlādār or some other superior officer such as the Subdivisional Magistrate. At present and throughout this century there have been two paṭvārī in Zangskar, each responsible for two of the four subdivisions of the region, Jang-ngö, Stod, Zhungkhor and Lungnag. These subdivisions hark back to petty kingdoms during the royal period in Zangskar between the 10th and 19th centuries. While the “southern” paṭvārī administers the latter two regions “northern” paṭvārī officer deals with the first two.

Village, Household, and Kinship

A typical Zangskari settlement (yul) can be defined by the following elements: a cluster of main and minor houses, their associated fields, a network of irrigation leats and channels linking the fields to a stream or river, a village temple (lhakhang) or monastery (gönpa), a stone cairn (lhatho) where the village deity (yul-lha) is worshipped, and one or more ritual structures where Buddhism or the local place deities are propitiated (i. e. chörten, lukhang, tsendo, manikhang, tshatsha-
The most significant corporate group in Zangskari society is the household.\textsuperscript{25} The household is an authority structure which socialises and nourishes the young and the aged in the absence of other social welfare institutions. The household obliges its members to perform collective duties largely determined by household residence. In a metonymic substitution, individuals come to represent their households at village functions and festivals. Since individuals do not share their parent’s name, they are commonly identified by house name rather than kinship or lineage.\textsuperscript{26} The household remains a pervasive marker of personal identity, although occupational labels as soldier, contractor, or government official have become secondary markers of status.\textsuperscript{27}

The Zangskari house appears to be eternal, for its members can no more recall its origins than imagine its demise. Land was passed down undivided for generations, as households did not sell or trade their fields but occasionally donated one or two to the monastery. Although sibling rivalries might come and go and household fortunes wax and wane, the household ideally continues as an unbroken unit through time. Most Zangskari households consists of a main house (khangchen, khanga) and one or more minor houses (khangchung), which serve as offshoot structures where members of the extended family live. The minor houses are inhabited by aged parents, unmarried siblings, and younger brothers along with their wives and children. Such houses are temporary units whose membership and properties (livestock and fields) are re-negotiated in each given generation for expediency and efficiency.

Most households are ranked by wealth and a patrilineal kinship idiom known “bone” (rus) which is passed down from a father to his children. The patriline is embodied in a clan (phaspun) which usually shares the same rus and worships a common clan deity (phalha), although there are exceptions to this rule. Due to the vagaries of matrilocal marriage, two households may share the same rus but not the same clan deity and clan or vice versa. In much of Ladakh, rus has been forgotten and phaspun refers to a group of households which make no pretense of sharing ancestry. Yet rus and phaspun suggest a common but distant ancestor in Zangskar. Out-marrying children can never change their rus although they usually adopt their spouse’s clan and abandon their natal clan after marriage. While patrilocal marriages are exogamous, matrilocal marriages are ideally endogamous, with an incoming husband who shares the clan of the bride.\textsuperscript{28} Exogamy is calculated bilaterally to a depth of five generations, and there are no preferential rules for marriage. Broadly speaking, all rus fall into one of four strata or families (rig): royal, noble, commoner, and outcaste. Blacksmiths (gara) and Beda are the only two outcaste groups in Zangskar, for whom commensality and sexual intercourse with members of the other three strata are forbidden.

Household continuity is the ideal around which residence, marriage, and inheritance are arranged. While a range of marital arrangements are possible - patrilocal and matrilocal monogamy, polyandry, or polygyny – virilocal monogamy is the preferred option.\textsuperscript{29} Zangskari villagers view polyandry as an uncomfortable but necessary measure to avoid the disharmony of two brothers and their separate wive living jointly in the same house. A high degree of spinsterhood among both sexes accounts for the low population growth rates and the extraordinary stability of land holding in Zangskar.\textsuperscript{30} Primogeniture is customary as the oldest son (or daughter if there are no sons) succeeds to his father’s house and fields when the latter retires. Younger brothers can join their eldest brother in a polyandrous marriage, go to a monastery, marry into a house with no sons, leave the village to build a new homestead, or take up a non-agricultural vocation. In recent times, these younger sons are claiming their rightful share of the land. Under the Hindu Succession Act of 1956 which also governs Buddhists in Zangskar, children of both sexes are entitled to equal shares of their father’s property. In practice, daughters still forfeit their shares upon marriage, while younger sons may or may not choose to claim their rightful shares. Some younger brothers who take a separate wife may arrange for usufruct rights to the family land, while growing numbers now opt to split the family estate.

The aged parents retire to the minor house after their oldest son and his wife have sufficient labor power and experience to run the household themselves. A public ceremony is held to mark the transition of head of household. The entire village is invited to view the public division of possession. A proclamation (phodeb) is read out in front of


An illegitimate child who shuttles between her mother’s and her father’s houses is referred to by both house names, depending on the context and speaker.

For instance, a soldier from Yogne house is called Yogne sipa [< H. sipai, soldier].


Out of 398 marriages I recorded in 1992, 6.5 % were polyandrous and 7.5 % were polygynous. A decade earlier, Crook and Osmaston (1994) found a polyandry rate of 40 %, the remote village of Shade and a polyandry rate of 18 % of all marriages recorded in Stongde.

When I surveyed Tashitongdze in 1993, one third of the households had at least one spinster above the age of 25 who had never been married. In Kumig village in 1980, 47 % of women above the age of 15 were unmarried and an additional 10 % widowed, according to Crook and Osmaston (1994).
the entire village, listing every household item which the parents have ceded to their son and his wife, thereby minimising future squabbles about ownership. From this point on, the aged parents cease to have an official voice representing the household at village functions, although the son may consult them informally. While some households farm jointly and share the harvest between the main and minor house, others choose to divide the fields and farm independently. Nevertheless, the main house and its minor house(s) are considered one juridical unit in village affairs. The main house bears the honour and obligation of full village membership as it takes its turn sponsoring collective village festivals. While the minor houses are rarely required to sponsor an entire festival, they are expected to contribute a lesser donation to most collective ritual or festival events.

Barley and Butter: Crops Versus Commodities

The major crops grown in Zangskar are barley, wheat, and peas, and mustardseed (at lower altitudes near Padum). Even without chemical fertiliser, crop yields on Zangskar’s labor-intensive farms surpass those for mechanised farms in North America, Africa, and India. Most plots are cropped each year and only left fallow due to rare crises such as pests or lack of labor resources. Lucerne and alfalfa (al) are grown in the spaces between fields containing the staple grains. Most houses also have a small willow or poplar plantation (cangra) and a garden (tsas) where they grow vegetables mainly for private consumption. Families usually own a small herd of livestock including sheep, goats, cows, yaks, and crossbreeds (dzos and dzomos). Livestock cultivation provides essential byproducts such as dung, wool, butter products, and meat. Every summer, the flocks are taken to high pastures (drogsa) directly behind their villages or near the passes leading out of Zangskar. Women and a few odd men milk the cows each day and churn the milk into butter; the whey is dried into cheese. A family will send one member with the livestock or else send its live-stock with another household’s flock. Those individuals who take care of the flock are allowed to keep any butter over and above the monthly “rent” they pay to rightful owner of the livestock. They also keep any cheese produced, while they may drink and eat their fill of milk and yogurt daily. At the end of the summer, the women who spend their time at high pasture return to their villages laden with dairy supplies which are staples in the winter diet.

Zangskar’s agriculture does not make use of chemical inputs and is non-mechanised, unlike neighbouring regions like Ladakh and Baltistan where tractors and mechanical threshers have become common-place. Since the landscape lies frozen under a thick layer of ice between December and March, most agricultural and outdoor work proceeds between April and November. Spring, summer, and fall are times for collecting dung, construction projects, spinning wool, weaving, washing, kneading, and dyeing the woolen homespun cloth (snambu) and repairing irrigation ditches, fields, and other structures. To hasten the melting of the snow in spring, earth is carried from inside the stables and spread on the fields where it absorbs sunlight. At a mean altitude of 3500 m, the staple crops must ripen in less than four months during which time fields are watered, ploughed, sown, weeded, and harvested. After the grain is harvested in October, it is carried to the threshing circles where it is threshed and winnowed, and then the grain and chaff are carried home. The yield is washed, dried, roasted, and ground at the local water mills before the stream-bed freezes for the winter. Most households only roast and grind the barley which will be consumed that winter, since unwashed and un-roasted grain keeps longer than roasted grain. If a household runs out of grain in the spring, it may borrow from neighbours or relatives. Before winter, the fields are ploughed one more time and manure is carried out to the fields. Often but not always, the manure is spread out in the spring so that it is not carried away by the wind over the long but quiet winter months.

While Zangskari livelihood remains based heavily on homegrown staples of grain, butter, and meat, the new cash economy and government rations have eroded the appearance of self-sufficiency. The completion of a jeep track from the neighbouring district capital, Kargil, in 1980 constitutes the most dramatic shift in Zangskar’s economy in this century. Essential food purchases – cooking oil, spices, tea, salt, and lentils and rationed flour, rice, salt, and sugar – and a wide range of consumer items such as clothes, furniture, kitchen utensils, tools, appliances are easily accessible and have become a growing part of the village economy.

31 Villages in the uppermost regions of the Stod, Lungnag, Shun, Shade, and Relakung valleys have better pasture land and larger flocks due to proximity to snow fields and glaciers. Since the gain in livestock is offset by smaller grain harvests, butter and dairy products are traded for grain from households at lower altitudes.

32 Osmaston (1990) notes that Zangskar’s barley and wheat yields (2–5 tons/ha) are higher than the average skar’s barley and wheat yields (2–5 tons/ha). Crook and Osmaston’s (1994) chapter on animal husbandry delineates livestock management and breeding in Zangskar.

33 Per month, a family may expect three kilos of butter per hybrid (dzomo) and two kilos of butter per cow (balang). Crook and Osmaston’s (1994) chapter on animal husbandry delineates livestock management and breeding in Zangskar.

34 The agricultural cycle in Zangskar is described by Crook and Osmaston (1994), Friedl (1983), Gutschow (1998), and Osmaston (1985).

35 Rinam, Pipcha, and Rantagsha are described as the first Zangskari villages in a local history of Zangskar known as the Boyig, or “document of measures”, translated by Francke (1926).

The Five Households of Rinam

Zangskar’s most renowned historian, Karsha Lonpo Sonam Anzechug, explains that Rinam (Tib. Ri gram, literally “foot of the mountain”) is one of the three oldest settlements in Zangskar. The original settlement lay against the cliff as the village name suggests, before being moved to its present location on the riverbank. Villagers speculate that the village was moved to the riverbank when the tributary streambed began to dry up and it became too tedious to carry water
across the plateau to the base of the cliff. By 1996, Rinam’s 48 inhabitants (22 men, 26 women) lived in three households whose ancestors are believed to have originally settled the village, while the other two were newcomers who arrived in this century. The three original houses are named Hilma (“central”), Gongma (“upper”), and Yogma (“lower”). Hilma and Yogma houses are known in Zangskari idiom as Khangpa Goyog. This term suggests that the two houses may have split off from one another in the distant past. While Hilma has two minor houses attached to its main house, Gongma and Yogma each have only a single minor house.

While Hilma’s lineage (Taglungpa rus) is not aristocratic, its better known clan members include the astrologers (onpo) in Pipiting, Tzazar, and Sallapi. In 1996, the 14 members of Hilma household lived under three roofs: a main house under Rigidzin Dorje, the minor house under Dorje’s uncle, Nyima, and a new minor house (khangchung soma) under Dorje’s younger brother, Sonam Tashi. The main house contained Dorje and his wife, their son, daughter, daughter-in-law, and son-in-law, and finally two grandsons. Tashi and his wife were childless and alone, while Nyima lived with his niece and two granddaughters. While a total of five men and three women stayed in the main house, four women and two men lived in the minor house. This pattern of women being shunted off to minor houses is common in Zangskar, as Crook and Osmaston (1994) and Gutschow (1998) have noted.

Hilma’s main house exudes decaying splendour. Formerly a rich and prosperous farm, Hilma has succumbed to illness and a certain stagnancy. The head of house and his wife are invalids: Dorje is too weak to work and his wife is nearly blind. The couple have remained with their children, Gara and Thuje, rather than moving to a minor house where nobody would care for them. They sponsored their son’s marriage while he was quite young, hoping he would raise a family to run the farm. However, Gara’s youthful wife has produced only one son and spends much of her time with her natal family. Their daughter was a nun at Karsha nunnery until four years ago. When her parents became invalids, she returned to live in her parents’ gloomy home as a caretaker. Although she wore her robes for the next two years, she then became pregnant and has since married the father of her son, a former Karsha monk. Although her husband could claim his own inheritance from his parents, the couple have decided to live in Rinam. While the older generation yearns to relinquish their authority, their heirs have not yet produced a generation of children to work the sizeable Hilma estate.

Hilma’s two minor houses are headed by two dynamic patriarchs who changed their local landscape in a profound manner. Nyima and his brother, Tsering Norbu, were jointly married to one wife for nearly thirty years, after Tsering’s first wife died suddenly in her youth. With a joint progeny of three sons and eight daughters, married in some of the strongest houses in Zangskar, they represented an enviable polyandrous team. After the death of his older brother some 25 years ago, Nyima continued to run the household for ten years, before passing it on to his ailing nephew, Dorje, under whose authority the household fortunes declined rapidly. When Nyima went to live in the minor house, his niece, also a nun at Karsha, and two grandchildren came to care for him. Nyima’s most impressive legacy was to build a brand new leat from the communal streambed, which routed water to his own newly sown lucerne fields and other fields built by a newcomer, Ngodrup. Sonam Tashi, Dorje’s younger brother, left home early to go to Lahaul, where he made his fortune as a stone mason. After he acquired substantial capital and construction skills, he returned to Rinam to build himself a handsome new house where he settled with
his wife. His arrival coincided with the auspicious occasion of the 14th Dalai Lama’s first visit to Zangskar. It was the first time in four centuries that a member of this reincarnate lineage had deigned to visit Zangskar. When a new palace was commissioned for the living incarnation of the Boddhisattva of Compassion, Tashi was chosen to oversee the construction. Tashi’s skills are in demand all over Zangskar, where he builds houses and sun rooms, the latest craze among Zangskar’s newly affluent generation.

Like Hilma, Gongma has substantial land holdings yet its main house lacks the telltale sign of new affluence, a wage earner. In 1996, 10 people lived under two roofs in Gongma’s extended household. The main house was occupied by Angchug, his wife, and their four children (one son and three daughters). Angchug’s father Namgyal lived with his two wives and one niece in the minor house. Gongma’s prominent lineage (Tamopa) is represented in only two other Zangskari villages – Karsha and Ichar. While not a noble lineage, its members have raised their status through affinal ties. A clan member in Karsha married their daughter to Karsha’s only aristocrat, Lonpo Sonam Wangchug. One generation ago, Gongma contracted an alliance with Padum’s royal house by bringing in a bride from Phye, who was the daughter of the late king’s first wife. When Namgyal, a commoner, married the half-sister of the present King of Padum, his status in the village rose considerably. However the alliance provided symbolic more than material capital, as the Padum royal family has been in steady decline since their palace was sacked in the 19th century. The ex-patriarch of Gongma, Namgyal, was an intellectual who practised the arts of traditional Tibetan medicine and served as a primary school teacher. Although his first marriage produced two sons, Namgyal decided to bring in a second wife from Stonde to help out on the farm. Such a polygynous arrangement was a customary mark of status, allowing the reigning patriarch to flaunt his power and virility. Although Namgyal seemed quite satisfied with this relationship, it is not apparent whether his co-wives shared his perspective. The first wife, who was haughty and did most of the talking, seemed to dominate the younger wife, who was sullen until I spoke to her alone. Namgyal’s soft-spoken son, Angchug, has kept up his father’s tradition of two wives. Although first married to a woman from Zangla as his father had arranged, he soon began an affair with his brother’s wife. Since the brother was off in Ladakh much of the year due to military service and rarely came home for more than a few days, Angchug and his brother’s wife became quite close. Eventually, Angchug divorced his own wife and settled down with his brother’s wife. When the older brother discovered the lengthy affair and learned that his own wife preferred his younger brother, he angrily left for Ladakh. He has married there and has never returned to Zangskar. As Angchug’s children are too young to be of consequence, Gongma’s future prosperity remains uncertain.

Yogma is the most depressed of the three main houses. In 1996, there were 12 people in the Yogma extended household, living under two roofs. The decaying main house was occupied by Stobdan and his wife, from Pidmo, along with their four small children. Stobdan was a notorious alcoholic, although his father had been a man of repute. Prone to fighting while drunk, Stobdan was in dispute with both Hilma and Gongma households. Stobdan’s father, who had worked as an agricultural officer, lives in the minor house with his wife, their two unmarried daughters, and two unmarried sons. One of the sons studied and lived mostly in Karsha. The other son left Karsha monastery but did not disrobe while he started his own tea stall shrewdly situated on the trekking path from Karsha to Pishu which skirted Rinam’s cultivated area. With its spacious glass room, airy kitchen,
and neatly whitewashed exterior, Yogma’s minor house seemed to be in better shape than the brooding main house, whose kitchen is covered in years of smut and grime. Yogma must have been prominent centuries ago, for its ancestors had built one of the largest chörten in the village, just in front of the house itself. When the Pakistani soldiers invaded the village in 1947, all of Yogma’s sacred statues and texts were placed in the chörten, before the entire village fled up the stream to the summer pasture huts (drogsa). Although Yogma’s current situation seems grim, perhaps the next generation will redeem what the present generation has squandered. Yogma’s alliances reveal a fundamental division in the community. While Hilma, Gongma, and one newcomer, Ngodrup, celebrate the rotational mid-winter New Year feasts (losar dron) together, Yogma celebrates with Lobsang. The households in the first group have ascending luck, while the fortunes of those in the second group appear to be declining.

Tinles, now deceased, first came to Rinam some fifty years ago from Pishu village. As the youngest of four sons born in Pishu’s Khar household, Tinles had little chance of inheriting enough fields on which to raise a family nor even a house in which to live. Although the name Khar means castle, the family is far from wealthy and has no fields to call its own. They take their name from the fact that when the king passed through he was entertained in their house at his expense. As sharecroppers, they lease their fields from the King of Zangla. Tinles’ oldest brother inherited sharecropping rights to the king’s estate. His next brother had married a woman from a house with no sons and the next was a monk. Tinles thus decided to come to Rinam, where he married Namgyal’s sister. While he and his wife lived in Gongma’s decaying minor house, they had no claim to Gongma’s fields, but were compelled to till the land which had been sharecropped by the Khar household for several generations.

There are nine fields in Rinam which the Pishu Khar household had leased from a household in Karsha village since the 19th century. When a younger son of Karsha’s Bragkul Yogma house named Kunga was sent off as a groom to Pishu Khar in the middle of the 19th century, he took the right to till these nine fields with him as dowry. Although ownership remained in the hands of the Bragkul house, then headed by Kunga’s older brother, Choskyab, the Khar family received inheritable rights to lease these fields. Subsequent generations in the Khar family continued to till and harvest these fields in Rinam, in exchange for an annual rent of 260 kg grain. Such tenancy arrangements were supposed to have been abolished during the Permanent Settlement. However, the Zaildar, who was from Karsha Bragkul house, may have registered these fields under his own house rather than pass them on to the deserving tillers in Pishu. After Kunga died, his two daughters continued to till these nine fields. They lived as spinsters in an abandoned minor house belonging to Hilma which has since been converted into a sheep shed. Some fifty years ago, their nephew Tinles came to Rinam in their footsteps, although he managed to do a bit better by marrying into the powerful Gongma household.

With Namgyal of Gongma as his brother-in-law and supporter in the village-wide assemblies, Tinles received permission to build over a dozen new fields at the lowermost edge of the cultivated space. While these fields did not take any water away from existing fields, their position at the furthest end of the leat and channel system put them at a significant remove from the streambed whose water flow was erratic in the best of seasons. After Tinles died, his son Lobsang had to abandon five of these fields, although he continues to till eight of the fields in an area called “long dust”. Lobsang also tills the nine fields owned by Karsha Bragkul, paying the rent faithfully each year.
Much less ambitious than his father, Lobsang has never asked that his household be accepted as a main house; thus, it remains a minor house in status. Lobsang shares a wife with his brother who is as a soldier in Leh, and supports three children as well as his youngest, unmarried sister. While his house has ample labor and a nice income from the military, his estate is rather meagre compared with the permanent houses in Rinam.

Ngodrup, also from Pishu, was more successful than Tinles in establishing a new estate in Rinam. Born in the Iron Snake year (1941), Ngodrup’s horoscope suggests an unusually gifted individual destined for great things. His financial shrewdness, based on generosity rather than greed, was to prove highly successful in the communal context of a Zangskari village. As an enterprising member of the high ranked Jopa lineage in the village of Pishu, he left home in his early teens to seek his fortune in Lahaul. After working a dozen years on road construction projects, he returned to Zangskar with sufficient cash to build a dream and the humility and patience to see it through. As the fourth of six sons, he could expect little inheritance from his own family in Pishu. In his absence, his oldest brother had taken over the main house and his next two brothers had joined the army and the radio station in Leh. The last two brothers had each married and established two minor houses in Pishu, sharing the family farm with their oldest brother. While the family estate was already divided up between three brothers, there was not much hope of building new fields in Pishu, renowned as one of the driest and most drought-prone villages in Zangskar.

At the age of 29 and with a wife who was expecting their third child, Ngodrup struck out for the neighbouring village of Rinam. Following the earlier example of Tinles, the young couple settled into Gongma’s abandoned minor house in 1970. For several years, the young couple laboured on other people’s farms. They were greeted with respect due to Ngodrup’s high lineage, although their economic situation placed them at the mercy of the other villagers’ kindness. Since they had no fields of their own, Ngodrup and his wife frugally hoarded the cash and grain they earned, while scouring the village for a suitable building site. After two years, they received the necessary approval from the village elders in Hilma, Gongma, and Yogma who were impressed by the young and industrious couple. They were allowed to build at the downstream end of the village, just above the cremation ground. As soon as one room was complete, Ngodrup and his family moved into their new quarters and started to build the next rooms. The couple had six children: two daughters who died in infancy, one daughter who lives in Karsha, one daughter who lives with them in Rinam, and
two sons who joined the army in Ladakh. Ngodrup’s first wife died tragically in childbirth, but he has since remarried a woman from Karsha. Ngodrup’s household is home to several nieces from Pishu who help out with the farm work in the summer.

Over the next two decades, Ngodrup accomplished what few of his peers dare dream of and even fewer actually accomplish. He not only helped to build a brand new leat (yura yogma) but also managed to build ten new fields out of desert soil. While the labour required to transform “uncultivated waste” into fertile fields is considerable, the work and the acumen in creating a new leat and thereby a new source of irrigation water with which to extend the village’s cultivated lands is even more awesome. When Ngodrup moved to Rinam, Nyima had been working on the construction of a new leat for five years. With only 20 meters of leat to show for their efforts, the elderly Nyima was stymied but not defeated. The ensuing collaboration between aged patriarch and youthful engineer outstripped the expectations of either. Over the next five years, Nyima and Ngodrup rapidly completed the 400 metre leat cutting through silt walls up to two meters in height. Afterwards they each built the feeder channels which take water to their respective fields. Nyima’s channels provide water to a large expanse of lucerne sown straight into the desert soil as well as his pre-existing fields (thaog) which lie at the top end of a channel that belongs to Nyima’s minor house. Ngodrup was able to bring water to ten new fields laboriously constructed after completing the new leat. That he managed to build both the feeder channels and new fields simultaneously are testimony to his dynamic energy. When the leat was complete, Nyima and Ngodrup made an arrangement that they would share the water equally, each making full use of the leat on alternate days.

The fields and the “private” leat which Ngodrup shares with Nyima are his lasting legacy to the village community and to the next generation. His sons may inherit an estate on desert soil as well as the gift of water. In 1992, twenty years after they started to work on the channel, Ngodrup paid Nyima Rs. 3000 ($ 100). While Ngodrup thought that this sum was sufficient, considering that he had put five years of hard labor into the bargain, Nyima felt otherwise. With Nyima’s prodding, Ngodrup eventually paid another installment of Rs. 1500 in 1995. In the end, Ngodrup received an eternal gift of water for slightly less than his son earns during one month in the Indian Army. Having earned his water rights through hard labor, Ngodrup made a bid for full status in the community. He asked that his status be shifted from minor to main house, and accepted full responsibility for the ritual and seasonal obligations which would ensue. After he hosted the other three main households in Rinam with beer and bread, they agreed to admit him to their “club”. This party was a symbolic gesture for Ngodrup’s hard work over the last two decades already spoke for his character more than words ever could.

Land Tenure Stability In A Century of Turmoil

Land ownership in Rinam has been stable but not static over the past century. In the colonial period, Rinam lay not under the British but under a distant Maharaja who barely attended to Zangskar’s people as he extorted exorbitant taxes. After Partition, the village was invaded by Pakistani troops before being incorporated into the newly created nation state of India. Surprisingly, the maps of land ownership and tenure in this village bear little trace of the violence or radical reforms of Gandhi’s and Nehru’s era. While these historical moments and figures have had a tremendous bearing on agrarian life in north India, they have had little impact on local land tenure arrangements in Zangskar.

In October 1995, we had the rare chance to study the field and water patterns of Rinam village at close hand. Clutching a precious copy of the cadastral map from 1909 in hand, we paced through each and every field in Rinam, marking down its present boundaries as well as the subsidiary watering channels by which it was connected to one of the major leats in Rinam’s irrigation system. The results of our survey are summarised in the accompanying maps which relate field owner-
Rinam: field names

Field Name (transliterated):
- sna ma ring mo
- bang nga chen (spang nga chen)
- khang rgyab grva bu
- mgo zhing
- mchod rten bzhi pa
- dgun phyé
- rdo dkar mo
- rdo nag
- dgun phyé grva bu
- rdo dkar mo grva bu
- gsum zur
- 'ol bcag
- phyag zhing (bcag zhing)
- phyé ma ring mo
- dbyar log

Etymology in Tibetan:
- long jasmine
- great grain store (great meadow)
- little corner behind the house
- head field
- four stūpa
- winter flour
- white stone lady
- black stone
- little corner [of] winter flour
- little corner [of] white stone lady
- triangle [three corners]
- cut fodder
- salutation field (broken field)
- long dust
- summer plow [fallow field]
The pattern of field ownership for Rinam’s households exhibits no clear pattern. Most households own fields scattered throughout the cultivated area, although the portions farmed by main and minor houses are somewhat clustered together. The 33 fields owned by Hilma household are scattered along all five main channels (a, b, c, d, e). However, the holdings of the main house are clustered in the lower section of channel a as well as the middle sections of c and d, while Nyima’s minor house holds fields along channels b, c and d, and Tashi’s house along the lower sections of a and b. One might speculate that Hilma was one of the earliest houses in the village, since it owns a large percentage of the fields at the top of channel d. Since this channel lies the shortest distance from the streambed it may have been the earliest irrigation channel. Gongma household holds similar fields along the tops of channels a, b, and c. Gongma may have been instrumental in building these channels. Yogsma appears to have been slightly disadvantaged for it owns an overwhelming share of the fields in the lower part of the valley floor (lungyog). Interestingly, however, it also owns a large number of fields closest to the present settlement, along channel d. These fields may have been passed on from Hilma to Yogsma when the latter split off from former. Alternatively, they may represent later additions further away from the original settlement long before the settlement moved to its present location. Unfortunately, oral history and maps tells us little about the original construction of the four main channels. The only land tenure records available at present date from the Permanent Settlement, and were drawn up long after most of the channels and fields were constructed.

### Channel: A

<table>
<thead>
<tr>
<th>Term</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>zing logs</td>
<td>aside the reservoir</td>
</tr>
<tr>
<td>mchod rten so ma</td>
<td>new votive stūpa</td>
</tr>
<tr>
<td>gru bzhi</td>
<td>square [four corners]</td>
</tr>
<tr>
<td>mgo zhing</td>
<td>head field</td>
</tr>
<tr>
<td>mgo zhing grva bu</td>
<td>little corner [of] head field</td>
</tr>
<tr>
<td>wa nang</td>
<td>inside a trough</td>
</tr>
<tr>
<td>gral ris (gral rin)</td>
<td>eight great stūpa (Skt. asamahastūpa)</td>
</tr>
<tr>
<td>bde bshad brycad</td>
<td>shepherd’s pasture</td>
</tr>
<tr>
<td>brog pa’i thang</td>
<td>own arrow division</td>
</tr>
<tr>
<td>mda’ rang mo</td>
<td>great saddle</td>
</tr>
<tr>
<td>rta sga chen</td>
<td>five-door stūpa</td>
</tr>
<tr>
<td>mcho rten sgo lega</td>
<td>upper water hole</td>
</tr>
<tr>
<td>chu khung gong ma</td>
<td>little corner of the meadow</td>
</tr>
<tr>
<td>sp ang ka grva bu</td>
<td></td>
</tr>
</tbody>
</table>

### Channel: B

<table>
<thead>
<tr>
<th>Term</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>mtha’og</td>
<td>below the edge</td>
</tr>
<tr>
<td>mtha’og grva bu</td>
<td>little corner below the edge</td>
</tr>
<tr>
<td>da r phyed</td>
<td>past its youth (middle aged)</td>
</tr>
<tr>
<td>tshas</td>
<td>garden</td>
</tr>
<tr>
<td>lings pa</td>
<td>hunter</td>
</tr>
<tr>
<td>spang bcag</td>
<td>tilled meadow</td>
</tr>
<tr>
<td>chos byor</td>
<td>religious deed</td>
</tr>
<tr>
<td>nang ske</td>
<td>neck-like space</td>
</tr>
<tr>
<td>thang zh ing</td>
<td>field [on the] pasture</td>
</tr>
<tr>
<td>dur dug</td>
<td>poison grass</td>
</tr>
<tr>
<td>gru bzhi ma</td>
<td>feminine square</td>
</tr>
<tr>
<td>zhal zas grva bu</td>
<td>little corner [of] offering cake</td>
</tr>
<tr>
<td>rgyub dre chen</td>
<td>great demon from behind</td>
</tr>
</tbody>
</table>

### Channel: C

<table>
<thead>
<tr>
<th>Term</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>gzhung yar</td>
<td>central channel</td>
</tr>
<tr>
<td>mtha’og ’ol</td>
<td>the lucerne below the edge</td>
</tr>
<tr>
<td>snying po che</td>
<td>great heart, great essence</td>
</tr>
<tr>
<td>ben te grva bu’</td>
<td>little corner [of] archery spot</td>
</tr>
<tr>
<td>mtsho sgo dkyil dkyil</td>
<td>central door amidst the lake</td>
</tr>
<tr>
<td>mtsho sgo</td>
<td>door [of the] lake</td>
</tr>
<tr>
<td>ras dmar</td>
<td>red cloth</td>
</tr>
<tr>
<td>zhing dgos che (zing rmo che)</td>
<td>great property (great plough)</td>
</tr>
<tr>
<td>zhing dgos che grv a bu</td>
<td>little corner [of] great property</td>
</tr>
<tr>
<td>gyl’thag grva bu</td>
<td>little corner [of] threshing circleº</td>
</tr>
<tr>
<td>chu khung yog ma</td>
<td>lower water hole</td>
</tr>
<tr>
<td>skya sing sing</td>
<td>smooth crop</td>
</tr>
<tr>
<td>lam gyi g rva bu</td>
<td>little corner [of] path</td>
</tr>
<tr>
<td>khyi phy</td>
<td>flour [fit for a] dog</td>
</tr>
<tr>
<td>chu khung grva bu</td>
<td>little corner [of] water hole</td>
</tr>
<tr>
<td>shar ri dga’ ldan</td>
<td>heavenly eastern mountain</td>
</tr>
</tbody>
</table>

### The Irrigation System in Rinam

A cursory examination of the water distribution system in Rinam reveals the underlying principles of channel structure and water allocation. As with the households and fields, so too with water, one may `as two with one might apply a piece of material, etc.
come to understand which aspects of the system are more enduring and which more ephemeral. A cursory examination of how changes are initiated and brought to fruition may reveal the logic of development in past centuries. The irrigation system in Rinam is presently structured by major leats and channels which route water to a web of sub-channels that feed individual fields. Four major leats take water directly from the streambed and distribute water via six main channels throughout the cultivated area. We begin with the leats, or arteries of the system, before describing the channels, or veins, which route water to the furthest extremities of the cultivated area.

Of the four major leats, the uppermost is the “original” leat, built when the fields were first cultivated centuries ago, while the other three were built in this century. The uppermost leat, or “mother leat” (mayur) feeds into four channels which irrigate over 95% of the cultivated area. Each leat below the mother leat was built after a joint decision of the village elders. Because the lower three leats lie below the mother leat, they do not divert water directly from the mother leat, but only carry any excess water remaining in the streambed. The second leat was constructed by Gongma to supplement the mother leat some 40 years ago, but abandoned due to technical difficulties. The third leat was the result of Nyima and Ngodrup’s collaboration between 1965–75 and provides water for their private use only. The lowest leat in the system was built in the late 1970s by government workers for a collectively owned willow plantation. All of these leats may take water from the streambed every day of the agricultural season if there is sufficient water flow.
Rinam: An overview of the irrigation system
The four main leats (L1, L2, L3, L4) and six major channels (a, b, c, d, e, f) all flow from a single stream known as the Rinam Drogpo. Lying the furthest upstream, the Mother Leat (L1) is the oldest leat, while the remaining three leats (L2, L3, L4) were built in the latter half of this century. The second leat (L2) was abandoned shortly after being built some 40 years ago, the third leat (L3) was completed by Ngodrup and Nyima in 1975, and the fourth leat (L4) was dug by the forest service in the late 1970's to irrigate its willow plantation. The Mother Leat (L1) feeds the four oldest and communal irrigation channels (a, b, c, d) as well as one private channel (f) owned by Gongma house. The third leat (L3) feeds channel e, built by Ngodrup and Nyima to water their new fields and lucerne (‘ol).
The mother leat is the most important and original leat in the system for it irrigates most of the cultivated area. Only ten out of 189 fields are not fed by the mother leat, but take water from Nyima and Ngodrup’s leat. The mother leat flows some 500 m from the streambed, punctuated at various points by a juncture where one of the four main channels branches off. When the Cadastral Map was drawn in 1908, only four communal channels (a, b, c, d) brought irrigation water to the permanently cultivated area. In the last century, only two channels, both private, were built. Channel (f) was constructed by Gongma household to water a newly built willow plantation, while channel (e) was built by Nyima and Ngodrup to irrigate their fields and lucerne crops. Channel a is the longest and feeds more fields (64) than any other, as well as serving the entire lower portion (lungyog) of the cultivated area. Channel b feeds only 37 fields, all in the upper left-hand portion of the cultivated area. Channel c is the shortest channel and feeds only 33 fields. Channel d which feeds 45 fields may be the oldest of the four collective channels since it lies furthest upstream on the mother leat. Due to its most direct proximity to the streambed, this channel receives a stronger flow of water than the other channels. Each of the channels has several abandoned fields, usually due to the shortage of water.
A Landscape Dissolved

Rinam:

Left: the 60 fields irrigated by 'Lungyog Yurra' (channel a). 60 fields and one willow enclosure are fed by 'Lungyog Yurra' or 'Lower Fields Channel'. The fields along the uppermost portion of this channel are owned exclusively by Gongma, while the fields along the lowest portion are owned by Hilma and Yogma subsidiary house (Y2), as well as Lobsang. Three fields owned by Yogma which were abandoned between 10 and 20 years ago due to insufficient water are shown as well.

Right: the 40 fields irrigated by 'Zinglo Yurra' (channel b). 40 fields and three willow enclosures are fed by 'Zinglo Yurra', which means 'Under the Reservoir Channel'. The fields along this channel are owned by Hilma, Gongma, and Yogma households as well as Dragkul Yogma of Karsha village, with no single household dominating the channel. Two abandoned fields are shown as well.

Left: the 33 fields irrigated by 'Ta’o Yurra' (channel c). 33 fields are fed by 'Ta’o Yurra', or 'Below the Edge Channel'. While Gongma owns all of the fields along the upper portion of the channel, Hilma and Gongma both own fields along the lower portion of the channel.

Right: the 46 fields irrigated by 'Zhungi Yurra' (channel d). 46 fields and three willow enclosures are fed by 'Zhungi Yurra', or 'Central Channel'. The upper portion of the channel feeds new fields built by Hilma and Yogma in this century, the middle feeds fields owned by Gongma and Hilma, while the lowest portion of the channel irrigates fields owned by Yogma, Gongma, and Dragkul Yogma of Karsha village.
The water allocation scheme in Rinam distributes water by household, privileging the three permanent households at the expense of the two newcomers. Water is distributed according to a fixed rotational scheme which does not vary from year to year. In late April, after the fields have been ploughed, the watering season opens in Rinam with the first watering (drolcha). At this time water is so plentiful in the streambed and timing of watering so critical, that farmers may take water where and when they need it, without having to consult their neighbours. After the first watering is complete and every field has been inundated once, a rotational scheme goes into effect lasting from May to September. Significantly, the rotational scheme affects only a single leat, the mother leat, while the other three leats take any remaining water in the streambed not diverted into the mother leat and are not part of a rotational scheme.

The ten day rotational scheme distributes water along the mother leat and its four main channels as follows. The three main houses each receive a day of water by turn until all have received water twice for a total of six days. Each household’s minor house (or houses in the case of Hilma) receives one day of water for an additional three days. Finally, on the tenth day, Lobsang’s minor house receives water for a day.

Settlement and Sacralisation

In Zangskar, as in Tibet, myth is to history as ritual is to survival. Both myth and ritual promise a reality which supplements but does not replace historical or socio-economic reality. Just as a fragmented historical register leaves a reader with a vaguely unsettling set of unanswerable questions, so too the brute facts of subsistence leave the farmer with the harsh prospect of survival or failure. Myth may offer theodicy or seamless explanations of the incomprehensible, where history is silent. Similarly, ritual offers a redemptive hope that past rituals were improperly performed and that others may ensure prosperity. Rituals performed on both the collective and household level provide a symbolic guarantee that the process of subsistence may proceed in an orderly and unobstructed manner. In Zangskar, danger is usually perceived as an external threat which originates outside the inhabited space, rather than internal or endogenous evil. The uncivilised wilderness or empty space beyond habitation which constitutes 99% of Zangskar’s territory is perceived as the locus of disaster. The hostile forces which threaten prosperity and survival in this inhospitable climate evoke the actual difficulties of settlement and sacralisation which have been the subject of this essay. Both rituals and the imaginary landscape may be an auspicious source of blessing which keep chaos at bay and protect agrarian space.

The entire landscape of Zangskar is auspicious for its triangular, femi-
nine shape as for the historic triumph of Buddhism in this far-flung Tibetan region. According to local legend, far under the valley floor of central Zangskar a demoness lies pinned on her back, straining against the temples that hold her down. Three temples (Sani, Pipiting, and Tzazar) were built to nail down the head, heart, and foot of the demoness, after a prophecy of Guru Padmasambhava, when he visited the valley in the eighth century. The mythical demoness is an emblem of a wild landscape or even a chaotic and rebellious population.\(^4\) As in the early Tibetan context, the demoness may have stood for a range of chaotic elements: rebellious or revolting borderlands, disharmonious alliances between province and center, and other internal problems faced by a budding Buddhist principality.\(^4\) In Zangskar, as in Tibet, the demoness is unmistakably female and may signify the fertility of the landscape as well as the vitality of her inhabitants. Significantly, she is not killed but only nailed down, or stabilised, so that subsequent Buddhist culture and civilisation may flourish within a bounded space once symbolised by her unbounded nature. Unlike Celtic myths where demons are slain and their blood used to anoint the foundations of early Christian churches, the Tibetan demoness lives on in myth and folklore as the progenitress of the Tibetan race.\(^4\) While initial attempts to subdue the demoness may represent the earliest attempts at unified kingship in Western Tibet, her continued presence legitimates an ongoing Buddhist hegemony of ritual processes and structures which characterise much of Zangskari religion.

The natural features of the landscape surrounding Rinam contain a few clues to its natural auspiciousness and thus ripeness for Buddhist settlement. Rinam lies sandwiched between several hundred meters of upwardly thrusting rock and the deep current of the Zangskar river, swollen with glacial tributaries. The so-called lion cliff (Senge-drak) on the western end of Rinam’s slightly pitched alluvial fan is a palimpsest of sacrality. Only the truly devout can see all the “eight auspicious symbols” well-known in Buddhist rituals.\(^4\) Towering over the Rinam landscape, it serves as a permanent barrier that blesses the tiny village in its shadow and blocks out the unknown wilderness which lies behind its back. While the western geologist might find the synclines and anticlines, the Rinam villager sees a benevolent, protective beast representing kingship and power. The lion’s presence is proof that the deities favored this spot where their ancestors chose to settle so long ago.

Another natural formation which suggests a similar conjunction between landscape and auspiciousness is the table-topped mountain where Gesar’s wife once strung her weft. Legend has it that when the Central Asian epic hero, Gesar, came to Zangskar, he first encountered a set of nomadic clans each living on separate mountain tops. He taught this rude and belligerent folk to settle harmoniously in villages and showed them how to cultivate barley and wheat. After Gesar explained the domestication of the wild yak and sheep which roamed the mountainsides, his queen, Bruguma, taught them how to weave the wool which these animals provided. The flat-topped mountain above Rinam where she strung out her weft as villagers still do today

The Zangskari demoness is pinned down. The legendary demoness who lies under central Zangskar is pinned down by Buddhist temples located at three sites: Sani (head), Pipiting (heart), and Tzazar (foot). Rinam lies downriver from Karsha and across the river from Tzazar, at the northern edge of the central Zangskar valley.
Rinam:
The Great Lion Cliff.
A sketch and photo of the Great Lion Cliff which lies to the west of Rinam fields. The lion and other symbols naturally manifest (rang byon) in the cliff are believed to protect the village and its inhabitants. The auspicious symbols found in the cliff include a pair of fishes, a conch shell, an umbrella, and a jewel.

Rigsun Gönpo,
elevation and section.
Three chörten of identical shape but different colors (red, white, and blue/black) are placed on a common platform and encased by a protecting shed. This set faces to the west and is situated above the entrance of Yogma house. They are considered to guard the house against witches and strangers with malevolent intentions, who would fear to pass under the Three Protectors (Mañjuśrī, Avalokiteśvara, and Vajrapāṇi) signified by the three chörten.
is called “Bruguma’s weft”. The men and women who travel to Rinam’s collective pastures several hours hike up the streambed, may still tell Gesar’s stories as they huddle around their fires in the stone shelters across from Bruguma’s table-topped mountain. When Gesar left Zangskar, his noble steed left his hoof print on a boulder in Zangskar’s northern valley.45

Manmade structures which protect Rinam village from external threat, drought, or floods include the ubiquitous chörten, mani walls, “protectors of the three families” (rigsum gönpo), a Buddhist chapel (lhakhang), and a free-standing altar (lhatho) where the village deity is worshipped. For several chörten in Rinam, one finds legends to account for their construction, which have not yet been lost as the theme of mythical heroes leaving an imprint on the landscape is common across the Indo-Tibetan borderlands as Ramble (1984) and Mumford (1991) among others show.
more orthodox myth of generalised merit-making takes precedence. One chörten, now in ruins, on the path between Karsha and Rinam, was built by a group of villagers from Stongde whose houses were threatened by the noxious presence of a certain peak. The peak in question loomed over the shoulders of more proximate mountains, a position considered as inauspicious as an individual who spies over other people’s shoulders. Another chörten on the northwest side of the village, near the ancient village site, was built by the Hilma household in the late 18th century to celebrate a miracle. When the famous Zangskari painter, Zhepa Dorje (1747–1816) finished illustrating a Mani Kabum text for the Hilma household, the merit accumulated by his beautiful work was so great that the male goats spontaneously began to give milk. Finally, a rigsum gönpo is situated above the cultivated area near the head of the mother leat. It ensures a steady flow of irrigation water and protects the village from witches and strangers crossing over the pass behind Stongde village, opposite Rinam. Built long ago by an unknown household and more recently renovated by Gongma, it consists of three chörten each representing a different Buddhist protector (Avalokiteśvara, Mañjuśrī and Vajrapāni). The three main houses in Rinam each have one of these sets of chörten above or near their main entrances in order to ward off witches, strangers, and other misfortunes.

Ritual Circumambulation: Purification and Prosperity

Even as some Zangskari villagers now watch television programs announcing the hazards of pollution in Bombay and Calcutta, a more
immediate concern may be the ritual pollution that plagues their villages, households, and even bodies. Zangskari villagers are caught within a moral cyberspace composed of karmic residues binding all sentient being to one another. This space can be sanctified by seasonal and ad hoc rites of purification, such as a ritual cleansing of the body (trüus) to ward off sickness or misfortune, a ritual purification of the house using juniper fumigation (sang) after highly polluting events such as birth and death, the monthly purification rites (lhab-sang) performed at both village and household altars in honour of the guardian deities, and the annual circumambulation and purification of the fields (bumkor).

We shall examine a paradigmatic protection ritual which involves the circumambulation and purification of agrarian space. The annual circumambulation (bumkor) of the cultivated area serves as a “spring cleaning” to purify village space. The Rinam bumkor, like similar rituals held in most Zangskari villages, is based on the repetition of a ritual ablation (trüus). The ablation is performed by a fully ordained monk (gelong) who pours water from a consecrated vessel (bumpa) on to a mirror, while repeating a prayer to invite all beings from the six realms of existence to come and be cleansed. This purification ritual makes merit by cleansing individuals of their mental obscurations (drib) and cleansing fields of ritual pollution (drib) which accumulates during the darker winter months when ghosts roam more freely. Human beings incur ritual pollution through natural processes such as childbirth, death, sex, excretion, and urination, as well as inadvertent offenses such as digging, ploughing, or building without first having obtained permission from the spirits of the underworld (lu, sadag, zhidag) and taking cooked food from members of the lowest caste.

The environs of every settlement or human habitation are always already impure, or in the process of becoming defiled by human carelessness or transgression. When the deities are offended by human drib they withdraw their blessings of the village; however, the bumkor rite restores the sympathy and favors of these deities imploring them to return to protect the village space. Each year, several monks are invited to perform the bumkor ritual in Rinam. The monks arrive the night before the day long ritual to gather in the village temple. Through the night and the next morning, they prepare the ritual offering cakes and perform the obligatory generative meditations (dagkye) to invoke Jigjed (Skt. Yamāntaka) a powerful meditation deity (yidam) as well as guardian deity of Karsha monastery. The Rinam bumkor rite collapses several rites performed separately in larger villages like Karsha: a pacifying fire sacrifice (zhie wé jinsheg) for Jigjed as well as the “virtuous votive offering” (gyetsha) for the village ancestors. After the monks receive breakfast...
from the sponsoring household, they enact a symbolic circumambulation of village space. The monks are accompanied by at least one villager, Nyima, and occasionally others, who each carry a volume of the Prajñāpāramitā (bum) from the 16 volumes in Hilma’s library. The route does not trace the perimeter of the fields although it traces a rough circle which may represent the earlier limits of a smaller cultivated area. The route consists of nine spots, which may indicate cosmological significance: (1) inside the village temple, (2) outside the village temple, (3) at the “summer plough” fields, (4) near the four chörten which divide the upper and lower portions of the cultivated area, (5) near the head of channel b, (6) at the eight-chörten complex, a fire sacrifice is substituted for the ritual ablution, (7) at the “rock heap” field, (8) at the “great heart” field, and (9) at the spot where votive offerings (tshatsha) are made. This last rite involves the construction of small votive figures in the shape of chörten, made from clay mixed with the ground up bones of villagers who died in that or previous winters. The monks recites prayers and performs a ritual ablution of the bones (rus), which are a substitute for the deceased, in order to transfer merit to whatever rebirth they have taken. The combined aspects of circumambulation and purification symbolically banish the wintertime spectre of death and decay in order to make way for a fertile spring and prosperous harvest. When the circumambulation rite is complete the monks retire to the village temple where they are hosted with a brief meal before they hike back to Karsha monastery. The villagers then gather at the house of the sponsor where they will drink freely for two evenings. The Zangskari legends of sanctification and rituals of purification suggest a homology between body, house, and village. The construction of temples which subdue a demoness and the monastic discipline which subdue human desires both use the same term, dulwa. The body is the template for imagining the house, temple, or territory which is civilised by Buddhist ritual and structures. Indeed, the same ritual pollution (drib) which causes disease in human bodies causes disorder in habitations like houses, villages, and temples. The fickle deities who protect individual bodies, households, and villages are defiled by similar offenses and purified by similar rites – juniper fumigation (sang) and ritual ablution (trus). The generic defilements of the inhabited landscape which build up through countless human mistakes are purified by ritual processes which all use the idiom of purification: circumambulation, fire sacrifice, and virtuous offerings. While the body and the landscape become diseased by similar processes, they can be cured by similar rites of purification.

Conclusion

Having dissolved Rinam both analytically and spatially, we have tried to suggest the building blocks and relationships which constitute agrarian space in Zangskar. We defined the Zangskari village from a number of different angles, before describing Rinam itself. In purely geographic terms a village consist of a cluster of houses and fields linked to the streambed by an irrigation network. In local idiom, the village must have a number of critical elements: village altar and village deity, as well as a social system of households, clans, and lineages. In symbolic terms, an imaginary landscape and ritual processes are essential, for they bless and protect the inhabited space. In Rinam village, households, fields, and irrigation channels, each represent an analytic web which holds the village together. Rather than generalise about a faceless Himalayan village, we looked at the specific relationships between the old and the new, between fields, channels, and households, and between imaginary and lived realities. By exploring the depth and beauty of individual lives and their households, the complexity of ongoing settlement in the wider Himalayan realm begins to emerge.