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ETHNOARCHAEOLOGICAL OBSERVATIONS OF PASTORALISM IN THE MOUNTAINS OF THE WEST INDIAN HIMALAYAS, RESULTS FROM TRAVELS DURING YEAR 1999

ABSTRACT: During two trips to the Indian part of the Himalayas in the state of Himachal Pradesh in 1999, I had the opportunity to observe various archaeological manifestations of pastoral activities. In the area of the Indrahhar Pass above the town of Dharamsala, the first observations were made. Short-term shelters along the road through the pass, which is used to move herds over the mountains, are complemented by stable stone buildings used by transhumant herders, as well as stable villages. On the way, in addition to the objects that provide the necessities of life (springs), we also find a shrine. The second site is the Chikka valley, near the village of Jagatsukh, near Manali. Here it has been possible to document whole groups of short-term shelters of different ages. Several short-term shelters are also associated with pastoral activities, and shrines can be found in one valley. Grazing activity could also be observed from vegetation symptoms. Field observations at both sites show a surprisingly large variability in traces of pastoral activity, some of which are archaeologically very inconspicuous and easily disappear in the long-term time horizon.

KEY WORDS: Himalayas - Shepherds - Transhumance - Buildings - Anthropology

1. INTRODUCTION

In 1999 I had the opportunity to travel with a botanical group to several places in the Indian Himalayas. Two of the routes led into the territory of the state of Himachal Pradesh, where it was possible to observe in detail

various manifestations of pastoralism. The area is known for an extensive system of transhumance pastoralism (Chakravarty-Kaul 1998), which takes advantage of the local variability of natural conditions and results in herders moving their herds up to 300 km to summer pastures in the Himalayan alpine range. Summer

pastures are typically found in the alpine meadows of the main Himalayan ridge at altitudes between 3400 and 4000 metres (Chakravarty-Kaul 1998). The average summer temperature here is 7 degrees Celsius, and winters are well below zero with heavy snow cover. As a result, mountain pastures cannot be used for wintering, and due to the prevailing west-east orientation of the main ridges, the more northerly pastures and adjacent valleys are cut off from winter by impassable mountain passes. Shepherds with their herds would not find enough fodder in the mountain valleys in winter, so they move their herds over the main ridge to the south to spring and autumn pastures in the forests of the Siwalik Mountains in the foothills of the Himalayas (up to 1000m above sea level). They can then spend the winter either in the foothills or in the adjacent plains of Punjab state, where they use the fields irrigated by the summer monsoon for grazing after the harvest (Figure 1).

The first observations were made in the area of the Indrahhar Jot pass above the town of Dharamsala, at the

main crossing point of the migration route heading north into the Chamba valley. Short-term shelters for shepherds on the way through the pass were supplemented by stable stone buildings for the residence of passing herdsmen and stable villages. Along the way, there were shrines as well as objects that provided the necessities of life (springs). Significant changes can also be observed in the road itself, which has been modified in many places by the use of stone staircases. Unfortunately, observations made in 1999 revealed that the system was in decline. The dwellings used by the herders documented at that time are now part of the tourist infrastructure and are no longer used by the herders.

The second site we were able to observe in more detail was the Chikka valley, near the village of Jagatsukh, near Manali. Here it was possible to document whole groups of short-term pastoral habitats of different ages. Several individual short-term shelters and sacred sites are also associated with pastoral activities. Grazing activities could also be observed

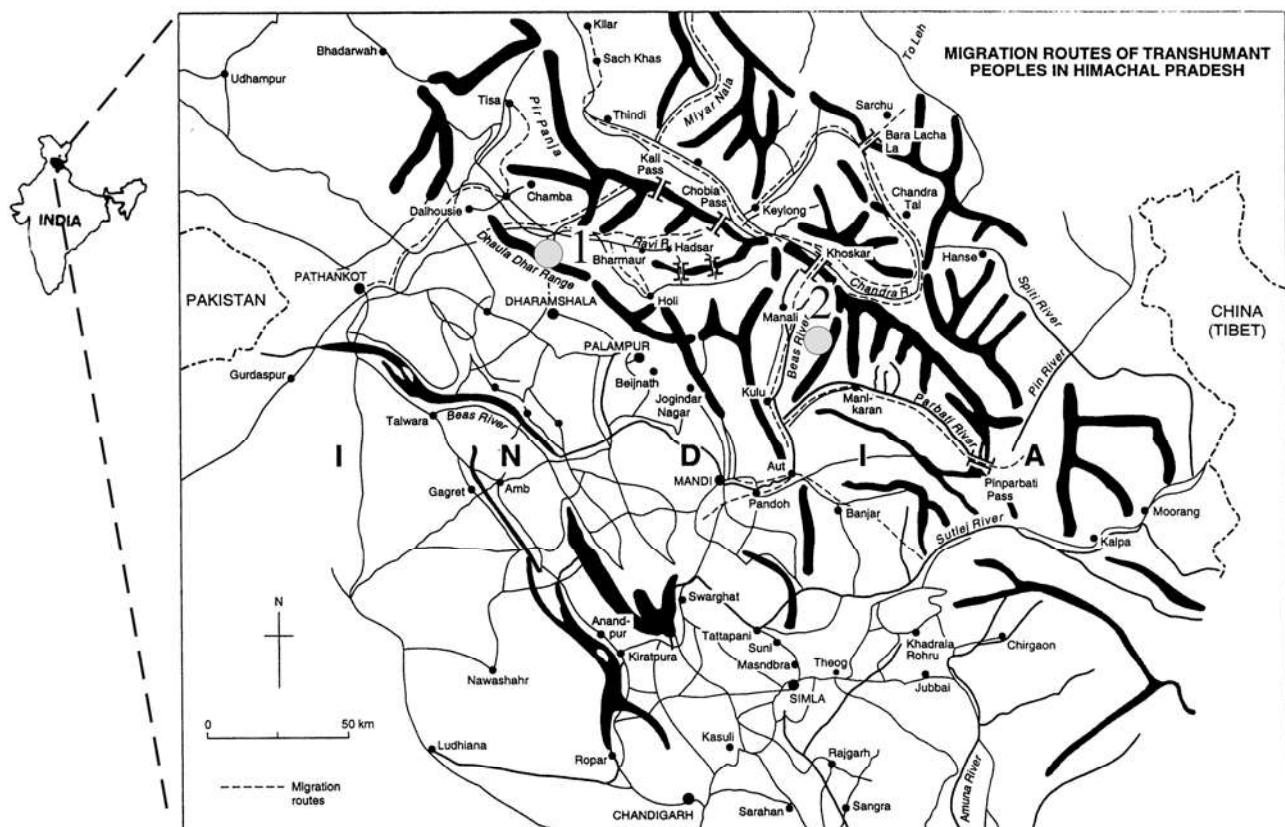


FIGURE 1: Map of migration routes of transhumant people of Indian state Himachal Pradesh (after Chakravarty-Kaul 1998) with location of studied sites. 1 - Indrahhar Jot pass, 2 - Jagatsukh environment.

through vegetation signs. Despite the fact that this valley is currently burdened by tourist traffic, but this does not seem to be so fatal. However, according to recent satellite imagery of the area, the area with the highest concentration of documented objects has been affected by significant landslides, and a significant portion of the objects seems to have disappeared.

2. METHODS

We searched for the objects using the usual methods of non-destructive surface archaeology, made easier because the objects were either still in use at the time of the survey or had only recently been abandoned. Their visibility in the field was therefore very good. Vegetation signs also helped, as the sites of pastoral camps are characterised by locally ruderalised vegetation (Saberwal 1996). Due to the remoteness of the area and the considerable weight of the personal equipment (tent, food, water) that we had to carry ourselves, the documentation tools were limited to the simplest and lightest possible way – a compass, measuring tools, a camera and a diary. GPS was not available at the time, and in the narrow valleys of that time, measurements would have been very inaccurate. The botanists carried out their own research, and a short training course was enough to distinguish ruderal vegetation and identify it during my own archaeological work.

3. ANTHROPOLOGICAL CONTEXT

Transhumant pastoralism in the Western Himalayas has been the subject of many anthropological studies (Saberwall 1996, Chakravarty-Kaul 1997, 1998, Mishra *et al.* 2003, Axelby 2016, Azevedo *et al.* 2021, Khanyari *et al.* 2022, Malhotra *et al.* 2022, Murali *et al.* 2022). With migratory routes of up to 300 km and considerable altitudes of up to 4,000 m that the herders have to overcome (Saberwall 1996, the Indrahhar Jot Pass reaches an altitude of 4,350 m, the Rohtang Pass on the main migration route from Manali is 3,978 m, the Hampta Pass is 4,270 m, the Kalicho Pass 4,803 m, the Chobia Pass 4,966 m and the Kugti Pass even 5,040 m). Transhumant pastoralism is practised by many groups throughout the western Himalayas (Saberwall 1996). In the west, these include the Bakrwals in the state of Jammu and Kashmir (Caisimir-Rao 1985), the Gaddis (Saberwall 1996, Tucker 1985) and Kinnaur (Khanyari *et al.* 2022) in the state of Himachal Pradesh, the Bhotias

in the state of Uttar Pradesh, and the Gujjars throughout the region (Saberwall 1996, Axelby 2016). In our study area of Himachal Pradesh, Gaddies are found as sheep herders and Gujjars as buffalo herders (Chakravarty-Kaul 1997).

Gaddie's people

The agropastoral Gaddi community numbered over 100,000 in the 90s. They moved their goats and sheep between the alpine pastures of the Himalayas in summer and the scrub forests and lowland plains in winter (Saberwall 1996). The Gaddi groups practise Hinduism.

The issue of the right of access to grazing land is a very complex one among the Gaddis. Some families have a formal right to certain parts of the rangeland, based on long-term use over generations (Saberwall 1996, Tucker 1985). Pastoralists who do not have such a tradition have used permits from the Forest Department or various development projects. In published descriptions we see time limits for staying near villages on the pass, for example Manali and Jagatsukh area for Rohtang pass 7 nights, Jagatsukh for Hampta pass 5 nights (Chakravarty-Kaul 1997). In recent years, the problem of over-exploitation of grazing land and administrative efforts to restrict grazing has increased. In some places, there is also conflict with the new and growing tourist traffic, which can lead to the disappearance or restriction of grazing.

When moving through the countryside, pastoralists use networks of foreign lands bound by tradition or contract, the hinterland of their own villages (Saberwal 1996) along the route, and reciprocal services when animals from the villages on route pass through with their herds.

Their economy is based on the production of milk for their own consumption and wool for sale. This, together with the occasional departure of individuals for government service, was the main source of income for the herding groups. The slaughter of male sheep and goats, the increase in the herds of local farmers and the institution of tenant herdsmen known as puhals (Malhotra *et al.* 2022) also affected the economy of the groups.

4. INDRAHAR JOT PASS IN DHAULADHAR RANGE TERRAIN OBSERVATIONS

The road to the pass begins in the upper part of the town of McLeod Ganj (part of the town of Dharamshala), known as the residence of His Holiness

the Dalai Lama in exile. The road climbs up the steep slopes of the Himalayan Dhaula Dhar range from the local part of Dharamkot at an altitude of 1900 m. (N32.244348, E76.326764) and the first shelter is on the spur of the ridge at 2400 m (now the Magic View Cafe, N32.255190, E76.343275). The snow lies here for about ¼ of the year and reaches 1 to 2 metres. There were two groups of stone buildings on the site, the lower one, documented by my work, was purely for shepherds (*Figures 2-3*), the upper one was already modified for tourism (sale of refreshments) at the time of the visit. From the lower group of buildings, a path led along the contour to the water source, which is a local stream (it takes 7 minutes to walk to the water). On the first day there were two flocks of sheep with two groups of shepherds and two campfires. The next day they both

went out to graze and returned to the site in the evening. The site consisted of two two-storey stone buildings, rectangular in shape, with entrances on the longer side and several platforms surrounded by walls. The buildings were constructed of large blocks of local stone and clay, with some greasing. The roofs were supported by wooden beams and covered with stone slabs. The ground floor was used as a stable for the cows, which sometimes moved with the herds, and the first floor as a place for the shepherds to sleep. No inscriptions have been found on the site. Two dung heaps were also used as dumping areas, and two outdoor fireplaces can be seen in the area next to the houses. On the north side of the occupied area is a small shrine to the god Shiva, built in the same technique as the houses. Around the fireplaces, the daily necessities were laid out for the

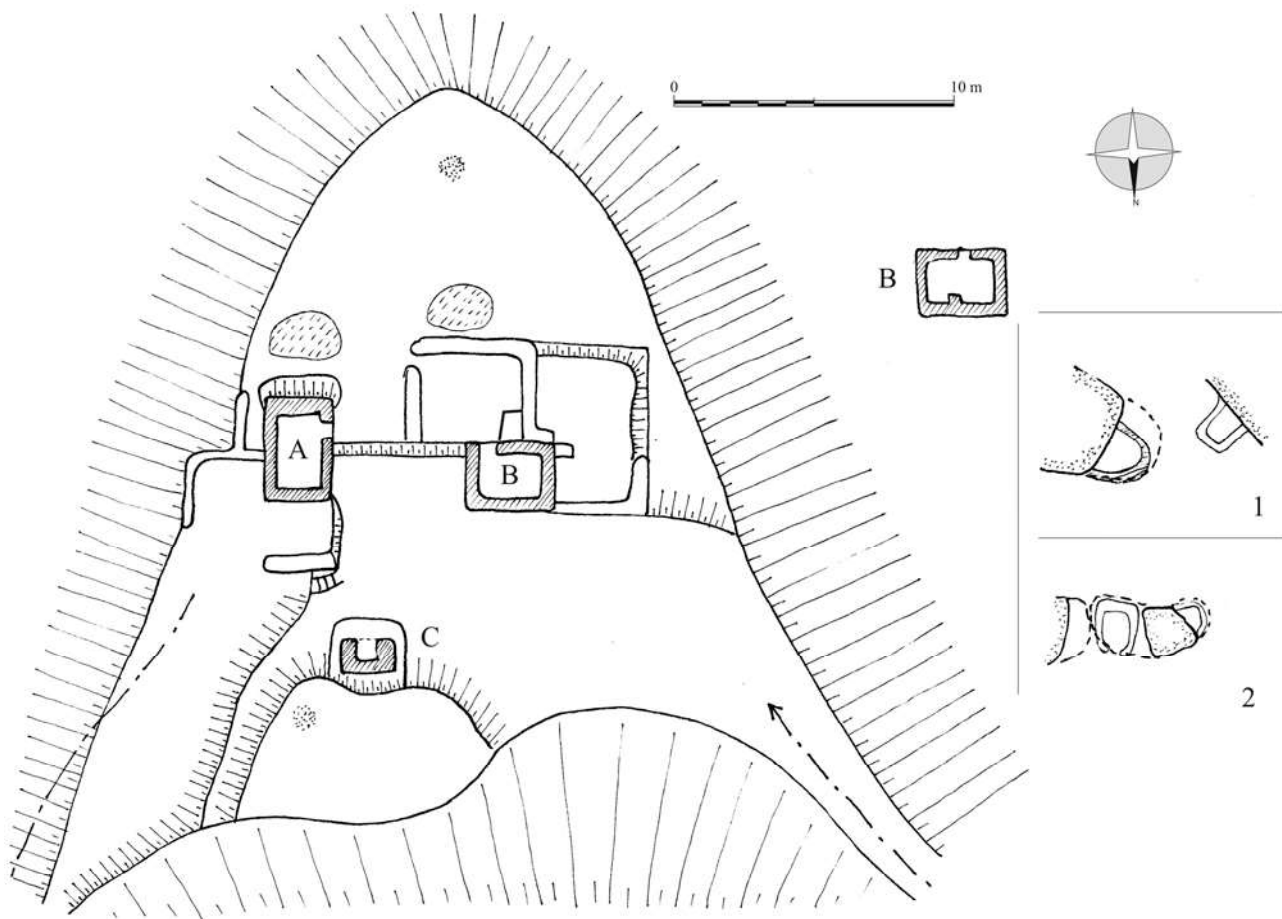


FIGURE 2: Documented occasional buildings on the way over Indrahar Jot pass. Main plan site below Triund saddle with two sleeping houses (A and B) and Shiva's temple (C). Dotted - external fireplaces, striped - dung hills. 1 - small occasionally living place under stone abri with small storage building near Triund. 2 - similar feature on the northern side of Indrahar Jot pass.



FIGURE 3: Occasional living site near Triund saddle. 1 - overall view facing south. 2 - overall view facing north, 3 - view in direction to the Triund saddle, 4 - southern outside workspace with equipment of shepherds, facing south to the Siwalik hills on the horizon, 5 - house A, 6 - house B.



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FIGURE 4: Way to Indrahara Jot pass (4350 m n.m.). 1 - final way through rock wall of Dhala Dhar ridge, with point marked Lahesh cave, the uppermost place to stay over night, elevation on picture ranges about 1 km, 2 - Shiva's holy place on the top of Indrahara Jot pass, 3 - stone stairway built up between Triund and Laka Goth saddle, on the left side Shiva's holy place, 4 - watercourse near the final rock wall ascent with remains of unused occasional shelters, 5-6 - shepherds near Triund and Laka Goth saddle.

shepherds who would return in the evening, which were covered with tarpaulins.

The path continues to the tourist hut at the Triund saddle (2800 m, N32.261989, E76.354711) and then along the side ridge on its own side of the main ridge to the Laka Goth saddle at about 3200 m (N32.284253, E76.361742). Short-term shelters were built around the road, either under rock overhangs (*Figure 2: 1*) or in open terrain. Near the hut, at the time of our visit, there was one functioning shepherd's house and the ruins of three others, a rock-cut water tank and a Shiva shrine. During our visit, many herds with their shepherds were moving along the road (*Figure 4: 5-6*). Just before the Laka Goth saddle there was an inhabited shepherd village (now Himalayan Quest Camp, 3120 m a.s.l., N32.274359, E76.362269; *Figure 5: 1-3*) consisting of several groups of houses built on boulders. A large number of cows and sheep grazed around the site. At the time of our visit, it was inhabited and inaccessible for documentation; the houses were built in a similar way to the first site, only simpler, using different, less suitable stone for building walls. No two-storey houses appear on the site. While this area is the highest accessible for cows, sheep can continue through the pass further north. On the way there, at the time of our visit, was the Snow Line Café, a shelter with refreshments for the first tourists, modified from one of the shepherds' temporary shelters made of dry-laid stones. In several places the path crosses sharp cliffs, which had to be negotiated using artificial stairs. At one of these we found a small shrine to the god Shiva (*Figure 4: 3*).

A group of side ridges meet here on the flanks of the main ridge, creating an extensive flat field of pasture and rubble. In this area there are a large number of oval low walls with occasional dwellings and enclosures (*Figures 4: 4, 5: 4-5*). Numerous caves in the rubble are also used by the buildings. Most were abandoned at the time, with only a few in active use.

From the hillside, the road climbs to the Indrahar Jot Pass (*Figure 4: 1-2*) below Moon Peak (4650 m a.s.l.) at an altitude of 4350 m. About a third of the way up (3450 m a.s.l., N32.287909, E76.369855) on the slope is a large debris cave, Lahesh Cave (*Figure 5: 6*), which is adapted for human habitation (the openings between the boulders are lined with dry stone walls, and in front of the cave a square hole of 40 × 40 cm is cut in the rock to collect water). Several platforms have been built around it, but overall there is very little space for herds to stay in this area, and it is the last place to sleep on the way to the pass. This is the only place with

inscriptions, but the use of modern oil paint shows the link with tourism.

The ascent follows a rib of rock and, in the upper part, a regular rock face with a slope of 45 to 60 degrees, where many parts had to be adapted for the transition by the construction of terraces and stairs. At the pass, the path culminates in a small sanctuary dedicated to Shiva. The northern slope of the ridge is not as steep as the southern slope (elevation in the south is about 3000 m, in the north about half that) from which the road comes, and the road enters a wide fan-shaped valley, which gradually narrows and deepens into a single deep gorge leading north-east to the Chamba valley, which begins at 3100 m (N32.322570, E76.404797). The road continues in this direction. We found a large number of sheep pens on the pass, it is clear that many herds have passed in front of us not long ago. There were other signs of human movement, such as a lost iron axe. In mid-June there is still snow at this altitude, so it is not possible to graze here. The herds therefore moved on to the lower parts of the valley. Other temporary shepherd's dwellings, each consisting of a room for the shepherds and walls that form a screen for the sheep, can be found at the bottom of the valley at the beginning of the gorge (*Figure 2: 2*), and other smaller ones can also be found under boulders in the gorge along the path. The path continues through the canyon-like valley and for about half of its length a permanent snow bridge was used to cross to the other side of the valley. However, it melted in 1999 and could not be used. The new route to the other side of the river further upstream had not yet been established, and as it was about 500 metres across a cracked firn field above a flowing river, and we only had enough supplies for a single day's walk, we decided to turn back from this point. The road led to the town of Lamu on the Ravi River at an altitude of 1800m.

5. JAGATSUKH VILLAGE TERRAIN OBSERVATIONS

The trail begins in the village of Jagatsukh at an altitude of 1900 m, from where it climbs through the river valley into the mountains. The first few kilometres of the trail are steep and pass through the forest. About a third of the way through, there is a modified overnight shelter for the herds (two platforms). At the time of our trip, a flock of sheep spent the night here and then climbed the mountains with us. Not far from here is another shelter, a platform flattened out under a large rock overhang. At this point the valley turns into a gorge



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FIGURE 5: Shepherd's shelters on the way to Indrahara Jot pass. 1-3 - shepherds site (today Himalayan quest camp), 4-5 - shelters near the final rock wall ascent, 6 - Lahesh cave.

with a slope of about 30 degrees. At an altitude of 3000 m, the slope of the valley breaks and continues with a much gentler slope and widens considerably. We pass the first ruin of a stone shelter and approach the place called Chikka on the maps (3100 m above sea level, N32.200222, E77.268832). Here we find another shelter in a crevice under the rock. Next to it is the stone base of the tent and two "vaults" - lockable stone chambers. The ruderal vegetation in the area is evidence of the frequent presence of herds. Chikka is a group of two stone houses and several temporary shelters. The site has a bridge over the river, a sacred place (sacred stone) and a revered spring. A herd of cattle grazed on the site. Flocks of sheep continue up the valley to higher pastures. The path up the valley is lined with occasional bases for separate tents (4 sites in total). Some are occupied, others recently abandoned (the only shelter marked X was documented (*Figure 6: X, 8: 6*), it was occupied on the way up, but not on the way back). In other places, the vegetation is heavily ruderalised in places where herds stay, but we did not find any shelter bases there. They can also be found in smaller braided valleys. After about 3 km, the valley branches off at the site of a 1 km long glacial lake, almost filled by sediments. Just below the lake, there are two large groups of shepherds' tent bases, which we were able to document in detail (*Figures 6-8*). The local name of this site is Seri (N32.185478, E77.327375) and the altitude reaches 3900 m above sea level. At the time of our visit, there were two groups of herders at the site - a group of shepherders occupied the upper group of shelters. At the bottom of the lake there were 3 tents of horse herders grazing their herds on the surface of the former lake. Nearby was the ruin of a two-room stone house (now restored and used for tourist purposes). Above the lake, there is a high cliff over which the river cascades and above which the valley continues at an altitude of about 4200 metres. Here, too, the foundations of shepherd's huts can be found in two places. There is another shelter under a rock overhang in the step. The total length of the valley is around 12 km.

Description of features

Shelter halfway between Chikka and Seri, marked X, N32.194322, E77.292404

A square floor plan defined by dry-laid stones laid in a low wall (max. 30 cm) measuring 2.5×2.5 m (*Figures 6: X, 8: 6*). The roof sheet was supported by a stretched rope on two wooden poles, about 1.5 m high,

placed in the middle of two opposite sides (one of the poles was placed in the wall, the other in front of it). A fireplace was placed near the pole in the wall, the wooden pole was protected by an elongated flat stone placed vertically. The structure of the fireplace is completed by two more stones arranged in a triangle, so that it is possible to cook on the fire. In the opposite corner, a space of about 1×1 m is separated from the stones, which probably served as a place to store equipment and supplies.

Group A

Group A consists of a building with a horseshoe-shaped floor plan of 4×2.8 m, divided by a partition into a rectangular and a semicircular room, oriented along the longer axis from south-west to north-east. Approximately 7 m to the north, there is a U-shaped wall measuring 1.6×2.4 m. The foundation of the horseshoe shaped building (dwelling) is made of dry stone up to a height of 30 cm, only the north-eastern wall is doubled and the outer part reaches a height of 80 cm. The entrance is from the north in a square space, in the middle of which we find two stones, the remains of a hearth. The shelter has not been used recently. The smaller building is also made of dry-stone and is walled up to a height of 80 cm. It was probably used to store equipment and supplies.

Group B

It consists of an oval building measuring 4×2.8 m and a two-roomed outbuilding with open fronts (the shape of two U's side by side; *Figure 7: 3-4*). The oval, two-room foundation of the shelter is attached to a larger stone and is made of dry-laid stones up to a height of 30 cm. The orientation of its longer axis is south-southwest-north-northeast. The entrance is in the south-west corner and leads into a roughly square room with a hearth against the south wall. The hearth is attached to the wall and surrounded by a square enclosure of stone slabs. The second, smaller room has a semicircular floor plan. A smaller outbuilding is located 4.5 m north-west of the house and measures 1.6×3.2 m. The walls are 1m high. This group has been in recent use.

Group C

It is almost identical to group B (*Figure 6: C, Figure 7: 3, 5*). The oval foundation of the shelter measures 5.5×3 m. It is again attached to a larger stone and is walled with dry-laid stones to a height of 30 cm. The shape, orientation and layout of the rooms and the

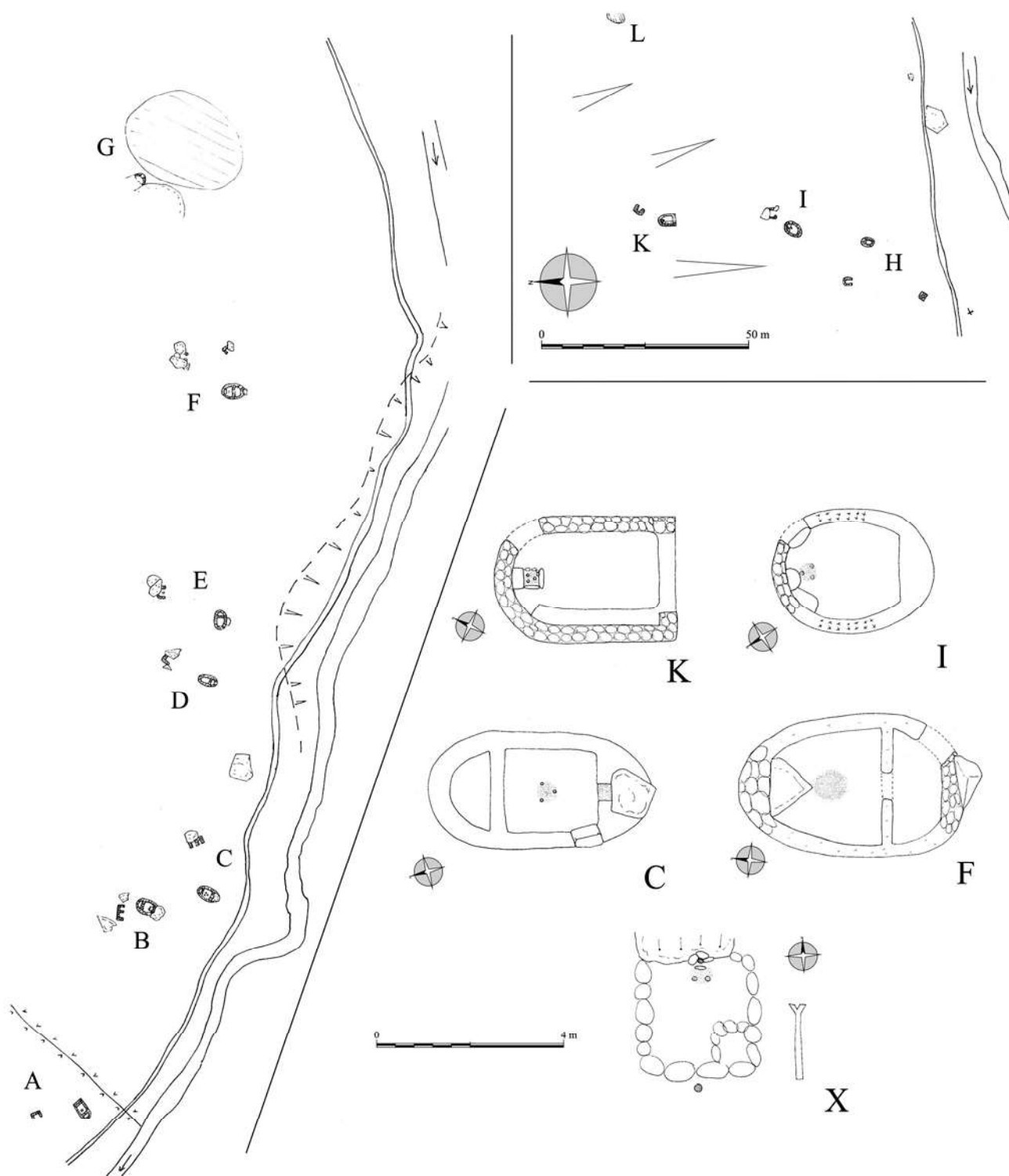


FIGURE 6: Seri shepherd shelters. Main plan - two groups of short term shelters (A to G and H to L). Distance of both groups is approximately 200 m. Minor plan - main shelter types according to its plan.

entrance are identical to those of Group B. They differ in the design of the fireplaces, two of which are visible in the building. The older one is placed in a square niche in the south wall, the younger one in the middle of the square area on 3 round stones. The outbuilding lies 9 m to the north-east and is identical in size and layout, differing only from Group B in that it is attached to a large stone. This group is also occasionally used.

Group D

It consists of the badly damaged and abandoned foundation of a rectangular shelter with rounded corners, measuring 4×2.5 m. It is oriented north-south, with the entrance from the south leading to smaller, almost semicircular rooms. The walls reach a maximum height of 80 cm and continue into the building. No traces of the fireplace have been found. The extension is located 8 m to the north and is defined by a rectangular L-shaped wall attached to a large stone (dimensions 1.6×1.6 m). The height of the wall is 1 m. It has not been used for a long time.

Group E

It consists of the oval foundation of a 4×2.5 m shelter (*Figure 7: 6*) and a U-shaped extension attached to a large stone lying 10 m to the north. The base of the shelter, oriented east-west, is in turn divided into two parts, the smaller one to the east being semicircular in shape, the larger one to the west being accessible through the entrance in the south-west corner of the building. In the centre of this room, there is a recent fireplace. The dry-stone walls reach a height of 40 cm, only on the west side up to 0.8 m. The walls of the outbuilding 10 m to the north reach the same height. Its size is 2×2.5 m. This group was in occasional use at the time of documentation.

Group F

It consists of an oval shelter foundation (*Figure 6: F*) and two one-room outbuildings attached to two stones. The base of the shelter measures 5×3.5 m and is oriented north-south. It is also divided into two parts, the smaller, semicircular southern one being accessible through the entrance from the south-east. In the partition of this building, the entrance to the larger room is broken, in the middle of which there is a recent fireplace with a diameter of 70 cm. The walls are lower on the longer sides of the building, reaching a height of 120 cm at the ends. The structure has been used recently, as the walls have a new turf covering and the fireplace is clearly visible.

There are two outbuildings to the east (8 m) and north-east (12 m). Both are attached to the stones and their dimensions are 2×2 and 1.5×1.5 m. The maximum height of the walls reaches 140 cm and they also have a new turf covering.

Group G

It consists of a single shed built under a large abri. The wall, which is up to 140 cm high, has a semicircular shape on an area of 2.5×2 m. The shelter is accessible through the entrance from the south. Inside, on the eastern wall, there are several stone seats. In front of the overhang, there is a significant ruderal area of about 30×50 m, covered with sorrel and nettles. Traces of ruderal vegetation can be found everywhere, but this area is covered only by these two species. It seems to be a place where herds lived for a long time, perhaps locked up at night in an enclosure of which nothing remains.

Group H

It consists of two simple structures that show no signs of recent use. The foundation of the shelter is an oval one-room structure measuring 1.6×3 m. It is oriented north-south along its longer axis, with the entrance on the south side. The maximum height of the dry-stone walls is 50 cm in the northern part and 30 cm elsewhere. The extension is located 8 m to the west, has a horseshoe shape and a size of 2×1.5 m, only a single row of stones has been preserved. Approximately, 16 m south of the house there is a rectangular foundation of stones measuring 1.6×1.2 m, the purpose of which is unclear.

Group I

It consists of two buildings (*Figure 8: 2-3*), an oval one-room shelter foundation (*Figure 6: I*) and an approximately square outbuilding. The shelter, measuring 2.5×3.6 m, is oriented southwest-northeast along its longer axis, with the entrance from the east. The shorter northern wall next to the entrance is 1 m high, the rest is up to 30 cm high. The wall is made of dry-laid stone, with fresh turf on the longer sides. In the northern part, there are stone seats and a fireplace with three oval stones arranged in a triangle by the wall. The outbuilding is 2 m to the north-east. It is attached to two large stones and has the shape of a rectangle measuring 1.6×2 m. The maximum height of the walls is 140 cm. Between the base of the shelter and the outbuilding, there is an open fireplace, which we have documented here.



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FIGURE 7: Seri shepherd shelters. 1 - overall view from Seri site to the west to the Jagatsukh village on Baas river, 2 - filled lake above the Seri site, 3 - overall view on shelters B and C facing west, 4 - shelter B, 5 - shelter C, 6 - shelter E.



FIGURE 8: Seri shepherd shelters. 1 - overall view from upper Seri site (in the vicinity of shelter H) to the east, 2 - shelter I and K in the background, 3 - detail view on the fireplace of shelter I, 4 - shelter K, populated shelter L in the background, 5 - detail view on the fireplace of shelter K, 6 - shelter X.

Group K

It consists of two buildings, a horseshoe-shaped base of the shelter (*Figures 6: K, 8:4-5*) and a U-shaped outbuilding. The shelter measures 4×2.5 m and is oriented in a north-south direction. The entrance is to the north-east. It is built of dry-laid stone. The south wall reaches a height of 10 to 20 cm, as does the inner extension of the west side wall (probably the base of a bench). Both side walls are about 50 cm high and the northern wall is 1 m high. Near the north wall there is a complex hearth. It is bordered by a square enclosure made of stones set up high. Inside the enclosure there are three oval stones arranged in a triangle. The entrance to the shelter has no threshold and a recently dug drainage channel can be seen along the northern perimeter. The site has been recently used.

Approximately 3.5 m north-east of the shelter there is a U-shaped outbuilding measuring 1.2×1.6 m. The height of the dry-stone walls does not exceed 1 m, in the northern part they are completely sunken into the slope.

Group L

At the time of the visit inhabited and unexplored.

6. COMPARISON OF SHEPHERD ACTIVITIES IN BOTH AREAS

In both areas, there are temporary buildings used by the shepherds and stables associated with the cattle pasture. The most significant feature affecting the

TABLE 1: Seri. Overview of shepherd shelters.

building	orientation	shape	number of rooms	size (in m)	fireplace	entrance	additional buildings	rooms	recently used
A	SW-NE	horseshoe-shaped	2	4×2.8	yes	N corner	1	1	no
B	SSW-NNE	oval	2	4×2.8	yes	SW corner	1	2	yes
C	SSW-NNE	oval	2	5,5×3	yes, 2	SW corner	1	2	yes
D	S-N	oval	2	4×2.5	no	S wall	1	1	no
E	W-E	oval	2	4×2.5	yes	SW corner	1	1	yes
F	S-N	oval	2	5×3.5	yes	SE corner	2	1, 1	yes
G		oval under abri	1	2.5×2	no	S			no
H	S-N	oval	1	3×1.6	no	S side	1	1	no
I	SW-NE	oval	1	3.6×2.5	yes, 2	E side	1	1	yes
K	S-N	horseshoe-shaped		4×2.5	yes	NE corner	1	1	yes
L	-	-	-	-	yes	×	-	-	yes
X	S-N	square	2	2.5×2.5	yes	no	no	-	yes

location and form of the houses is the character of the terrain. In Indrahara Jot pass path goes on the steep slope and pass and stable houses and short-term building basements are placed on every suitable place which can be found (especially places in the area of passes, on the top of ridges and if in the slope, the area with lower degree. The path is well defined at the beginning and at the end, where the slope is the steepest. In between, many variants of the way exist, and buildings are set up everywhere along the way variants.

In the Jagatsukh area, the path is well defined at the bottom of a long valley and all the buildings are clearly connected to the main road. In both areas, we can see accumulations of both types of buildings. In the case of the stable buildings with roofs, we can assume that they are connected and function together, in the case of the short-term structures we can see an occasional use without connection to other buildings, and some of the structures show abandonment long before.

All the grassy areas along the roads are used as pastures, and the buildings are directly connected to them. Where possible, natural caves and abris are used and no effort is made to hide the settlement.

The fireplace is the central point of any settlement. In the case of stable buildings, we can see the location of the fire outside the building (the internal space is too small), in contrast to this, temporary buildings usually have an open fireplace inside the inhabited area. Very often the three stones used for placing the pan or the pot can be traced in the interior of hearth. We could only trace, the waste areas around the long-term houses and they were connected to the dung heaps.

There were no waste areas around the occasional house remains, only a few lost items (some pieces of fabric) were found. The complexity of the masonry is related to the length of stay for which the building was intended. Short-term buildings were usually constructed with dry masonry using fragments of rock or boulders. It is impossible to determine the use of blocks from older buildings. Long-term buildings are constructed with real masonry, using clay as a mortar, and sometimes clay plaster can be seen. For ritual purposes many different types of construction are used. Starting from natural objects (stone with a special structure – phallic-like appearance, stone at a special place – top of the pass, spring), using stone mounds or special small buildings built with real masonry of stone and clay with an open side and god's altar inside. Sacred places are usually associated with long-term houses and special places along the way (springs, steep places, top of the pass).

Both types of buildings were incorporated into the tourist use. The short-term buildings were used in the same way as the tent base, only the purpose was changed. They were used as tea shops and warehouses. Long-term houses are incorporated with major changes and rebuilding. The stone thatched roof is usually replaced with a metal roof and a new room is built for guests to sit in. At the time of our visit, this change of use was just beginning, but when we now follow the buildings on Google Maps, we can see that the change of use is complete and the buildings in the Indrahara Jot pass are no longer used by herders. In the Jagatsukh area, tourist use is also increasing. However, the state of conservation of the documented features can't be compared.

7. CONCLUSIONS

Pastoral activities generally leave a much smaller number of archaeological remains in the field than productive agriculture does. This is mainly due to the high mobility and nomadism of the herders. Transhumance herding, which I had the opportunity to observe during two trips to the Indian part of the Himalayas in the state of Himachal Pradesh in 1999, is an extreme case. The length of the migration is several hundred kilometres, and the herders and their herds cross several mountain ranges up to 5000 metres high. At the time of observation, there were already visible signs of imminent extinction, which has sadly occurred in one of the sites. The documentation of tracks in the field was therefore probably one of the last opportunities to record features associated with pastoralism before they perished. The first sightings were made in the area of the Indrahara Jot Pass above the town of Dharamsala. Short-term shelters along the path through the pass, used to transport herds over the mountains, were complemented by stable stone structures used as residences for passing herders, as well as permanent villages. On the way we found places of worship as well as features that provided the necessities of life (springs). The second site is the Chikka valley near the village of Jagatsukh, near Manali. Here it has been possible to document whole groups of short-term shelters of different ages. Various short-term shelters and refuges are also associated with pastoral activities. Grazing activities could also be observed through vegetation signs. Field observations at both sites show a surprisingly high variability in the traces of pastoral activity, some of which are archaeologically very inconspicuous and easily disappear in the long term.

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