

EXPLORING INNER ASIA'S HIGH ALPINE FRONTIER

High Alpine Transhumant Pastoralism, Vertical Cultivation and Environmental Archaeology in the Lower Vakhsh-Panj Confluence and Gorno-Badakhshan Regions, Southern Tajikistan

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Models of interaction in Eurasian archaeology, particularly for the bronze and iron ages, have centered on large-scale movements of peoples explained by principally economic or climatic drivers, for example in the exchange of exotic goods, or of the expanding steppe zone due to increased aridity. These models have relied on a simplistic 'steppe nomad' *versus* 'settled farmer' dichotomy, with mixed agro-pastoral systems consistently overlooked. Tribal exogamy and gender and age-based activities also contribute to the complexity of interaction in prehistoric Eurasia. This paper considers social dimensions of interaction and in particular discusses the importance of highland and high alpine landscapes, not as strictly wild space but also as an emerging cultural space, especially as mining metal ores and precious stones increased. This highland and alpine space became an integral region of interaction in Central Asia, with remnants of ancient lifeways still found among rural Pamiri peoples today.

The archaeology of southern Tajikistan is poorly understood at present, [figure 1] and that of the Pamirs is virtually unknown. New investigation¹ of prehistoric sites within Tajikistan with an environmentally based research design is beginning to greatly enhance our understanding of the cultural interaction between prehistoric peoples within Central Eurasia.

As part of a project jointly conducted under the auspices of the Tajik Academy of Sciences, the National Museum of Antiquities of Tajikistan, Harvard University's Department of Anthropology and the Peabody Museum, we have begun a series of archaeological and ethnographic field reconnaissance studies in order to produce valuable data on land use within both highland (below timberline) and high alpine (above timberline) landscapes in southern Tajikistan. This paper is a brief discussion of some initial findings.

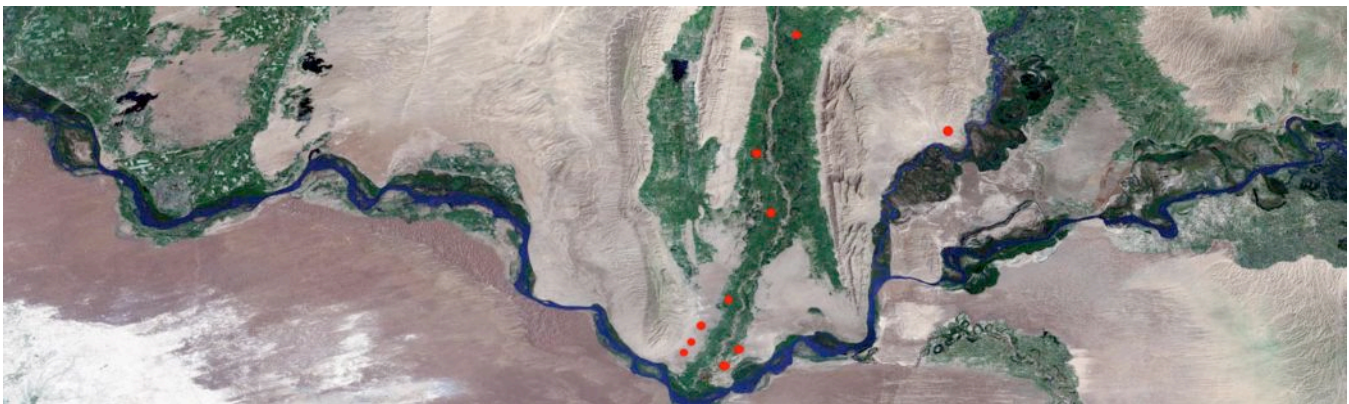


Figure 1. Map of southern Tajikistan with distribution of known bronze period sites. There are also numerous sites to the east in the Gorno-Badakhshan dating to the second millennium BC; including petroglyphs, evidence for mining, cave shelters, and burials with parallels to those in the Tarim Basin. (I. Good).

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THE VERTICAL MOSAIC: AN INTERPLAY OF MICRO-ENVIRONMENTS

The Pamirs and deeply cut river valleys of Vakhsh and Kafirnigan are difficult and complex landscapes, yet have invited human occupation for well over 10 millennia. The eastern half of Tajikistan is the High Pamir, with both plateau (to the north and east) and deeply cut montane valley systems (to the south and west). The western half of Tajikistan is also geographically divided into two areas, the Zerevshan and Hissar Valleys to the north and the narrow river valleys of Kafirnigan, Vakhsh, Kyzylsu and tributaries Obikik and Yavansu to the south. From a broad scale view, Tajikistan is like Afghanistan: a crossroads between the Khorasan and Seistan regions to the south and west, the variegated steppe and forest-steppe lands to the north, the desert oasis regions of the Tarim Basin to the east, and the Indus Valley to the southeast.² Although the high mountain plateaus of the Pamirs and Hindu Kush have been widely assumed to be barriers to human movement and interaction, in fact there has been activity in prehistoric times in even the most remote parts of this whole area (see, for example, Sinor 1990; Stacul 1987; Jettmar 1959; Mason et. al 1939). There is evidence of single grave burials, ancient mines and petroglyphs deep in the Pamirs (see Masov et al. 2005; Ranov and Bubnova 1961) dating back to the third and second millennia BC.

The region of present-day Tajikistan has, in fact, played a *critical* role in the development of complex societies within Central Asia. From the widespread distribution of lapis lazuli across western Asia, found principally from the region of Badakhshan (Casanova 1999; 1989; Amiet 1986; Tosi 1974) but also from the Syludyanka River near Lake Baikal and from the Khorog region in the Pamirs (Good 2007); and from very early evidence for mining tin in the Zherevshan (Borrofka et. al 2002), we can assert that the particular characteristics of inter-montane landscape within Tajikistan have played a pivotal role in the interaction between peoples and in the development of culture histories in the Transoxiana.

There are specific ecological distinctions between two types of highland zone: a *midland-highland* regime as exemplified in the Qurghonteppa region of the Vakhsh Valley, [figure 2A and B] and a



Figure 2. Kulyab region in October. A. Hilly terrain with evidence for cattle grazing. B. View of Kara Birdeh settlement site. (Photos I. Good).

highland-high alpine regime, as exemplified by the western Pamirs and the Wakhan Corridor in Gorno-Badakhshan. Within these highland zones there are distinctive, geographically defined sub-regions in southern Tajikistan; from low, flat, narrow alluvial floodplains in braided rivers to steep escarpments, scrub and parkland slopes. In some areas semi-arid and poorly covered lithosols dominate; in other areas hills are lush with vegetation by constant moisture. Water is one of the two prime factors of this vegetational mosaic; the other is elevation. Within the Wakhan Corridor, an even more complex landscape emerges, including forested mountains, waterfalls, fast-moving streams flowing into high

2. Unlike Afghanistan, however, Tajik archaeology has not been severely disrupted by looting, the ravages of civil war or the Taliban.

velocity rivers, slopes of glacial till with terraced fields and footpaths surrounding small (still unmapped) hamlets. [figure 3A]



Figure 3. Terraced landscapes in Wakhan (view of the Afghan side- A) an apricot orchard on a hillside in Hissar (B), a household in the high mountain village of Vrang, Gorno-Badakhshan. (I. Good, photos).

THE VERTICAL ARCHIPELAGO MODEL

Traditional highland cultivation and animal husbandry practices within southern Tajikistan and Gorno-Badakhshan echo the vertical *archipelago* of the pre-Columbian Andes (Murra 1968; Quattrin 2001). A vertical economy is one in which a highland-lowland interface is fully integrated and interdependent. Vertical *transhumance* is one agent by which this economic interdependence forms. Within a vertical economy model, human adaptation to vegetational differentiation is based on altitude, and a relatively small area can carry a highly dense mosaic of ecozones. This model allows us to view these complex landscapes not as wilderness but as cultural space; and as space that is comprised of local nodes in a regional network which is in turn connected with other regions, either by contiguous populations or by individuals or groups moving through them. Testing this model requires high resolution in research design, aimed toward recovering seasonality data as well as anthropogenic effects on a highly varied landscape.

PRELIMINARY OBSERVATIONS

Sheep, goat and cattle are today the principal livestock in Tajikistan. Tajik and Pamiri pastoral lifeways have been witnessed in fall and spring, with close attention to both plant and animal use, in the hilly region between Qurghonteppa (in the Vakhsh Valley) and Kulyab in Khatlon, and also in the Wakhan. There are two kinds of vertical movement. The first type is seasonal transhumance (i.e. for the duration of the summer months). This type is typical in the Pamirs. Above timberline (ca. 2500 m) are dry steppe-like thin soils holding xerophytic ground-covering plants used for summer grazing. The Wakhan Corridor is host to the highest elevation cattle grazing in the world. Mixed sheep/goat herds are tended by shepherds and cattle are left alone to graze in summer on sometimes very steep slopes. At first glance the hillsides appear covered with wild waste vegetation, but in nearly *every* place where plants can take hold, there are cultigens or domesticates tended by local people (pomegranate, pistachio, apricot, birch). [figure 3, B and C] Shepherds supplement their summer livelihood by collecting rhubarb, wild mushrooms and other easily cultivated plants to sell or barter with people on the road. Brush and wood is collected by children on a daily basis for cooking, and fodder is collected for cattle. Langar, a small town at the mouth of the Wakhan Corridor, is poised at the crux between the western Pamir and the eastern High Pamir and Murghab Plateau. In Langar, grazing and herding practices consist of cattle, sheep and goat grazing in the high meadows, often on steep inclines of between 40-55°. Shepherds (men and older boys) bring their flocks and herds to high ground (up to 4000 m),³ [figure 4] while women,

3. Parkes (1984) has suggested that highland pastoralists all across Eurasia have a highly dichotomized worldview principally based on gender role differences; that women tend small farms in the valleys and men herd animals in the mountains. These gender-role differences are highly pronounced, to the point of antagonism. Within the male (high elevation) domain is purity, represented by the ibex or Markhor goat, solitude, the fragrant juniper plant, and the colour blue. These aspects are juxtaposed against the female (low elevation) domain, where impurity is symbolized by sheep, village life, the madder plant, and the colour red.

small children and older people stay in summer huts making yoghurt and tending fields. [figures 5, 6] In winter, they reside in hamlets down below in the deeply cut river valleys. People move an average of approximately 200 km. from winter to summer venues.⁴



Figure 4. June cattle herding in the uplands near Langar, Wakhan (ca. 4000 m elevation) (photo I. Good).

The second type of vertical movement is a diurnal, short-range shift. This type is typical in the highlands of Khatlon. In the hills east of the Qurghonteppa region, throughout the year cattle and flocks of sheep and goat are let out during the day to pasture in the hills and are looked after by men and boys, and they return at dusk each day. In the uplands east of Qurghonteppa (up to ca. 2000 m) mixed herds graze all year long unless there is snow cover. Fodder is collected for weak and sick animals as well as for winter when snow is on the ground. Here the vegetation varies from open grassland to patches of remnant oak-pistachio forest with xerophytic plants such as *Cedrus* spp. growing around intermittent water sources.



Figure 5. Summer huts for making yoghurt, Hissar Mountains south of Aini (photo I. Good).

It is hypothesized here that these agro-pastoral lifeways have a deep antiquity, and that their distinction leaves a discernable signature in anthropogenic soils. These preliminary studies are helping to frame

4. Personal communication, R. Nuroloev, my informant in 2005, a Wakhi from Ishkashim.

specific questions about land use, plant use and the impact of grazing practices. These studies will help in the interpretation of archaeological data of ephemeral sites, land use and seasonality, allowing us to consider these hitherto unexplored highland and high alpine landscapes as an integral developmental aspect of prehistoric Transoxiana.



Figure 6. Mazar (shrine) wall embedded with Argali sheep horns in Wakhan. The wild Argali is venerated in the Pamirs. Parkes (1987) noted in his observation of the Kalasha Kafirs in Chitral, worship of the Markhor goat and ibex. This worship is a part of an ancient pre-Islamic pastoral symbolism that is part of what Jettmar (1959) had originally termed the ‘Dardic Complex’ in the Hindu Kush, in which the wild ibex and Markhor goat are considered sacred, due to the high elevation of their habitat. On the Pamiri side, the veneration of Argali sheep (by Ishmaili muslims) can be seen as a parallel to this pastoral symbolism, and as remnant of pre-Islamic practice (photo I. Good).

PAST ENVIRONMENTS, PAST LIFEWAYS

The farming cultures of Vakhsh and Beshkent (ca. 1400-1100 BC) have been described as ‘interacting’ with the so-called steppe bronze pastoralists as evidenced by the occasional presence of bronze objects, particularly in Beshkent graves, that are similar to ones from to the north at Zaman Baba (Litvinsky and P’iankova 1994; P’iankova 1994, 1996b; Vinogradova 2004). These farming communities are thought to have developed out of the agricultural cultures of southeastern Uzbekistan, in particular the late phase of Sapalli culture. I would argue that the development of bronze cultures in southern Tajikistan are indigenous. Vakhsh and Beshkent people had interaction with cultures to the west (Sapalli, Molali) and also to the north (Sarazm, Zaman Baba) but are distinctive primarily because of an adaptation to highland landscape and also through connection with high alpine peoples further to the east. We are now beginning to see evidence for earlier antecedents of Vakhsh culture (see Vinogradova and Lombardo 2007), which may or may not have connection with the very archaic Hissar Neolithic. Highland, as well as high alpine zones, were utilized in southern Tajikistan in antiquity as they are today. I hypothesize that the early inhabitants of these highland zones participated in a mixed agro-pastoral economy based on vertical transhumance (see Khazanov 1984). This in turn developed increasingly specialized secondary product use from differentiated herd compositions, particularly regarding animal fiber production (see Good 2006). I hypothesize that this economy of agro-pastoral production *preceded* the specialized nomadic pastoralism of the steppes; and indeed that pastoral nomadism developed out of it.

Clear evidence of high alpine resource use comes from second millennium finds in the Tarim Basin in Xinjiang. Cashmere was found in cloth from lowland oasis sites along the southern rim of the Tarim Basin ca. the mid-second millennium BC (Debaine-Francfort 2002; Good 1998). Unlike other animal fibers, cashmere is not from a specific breed but rather from domestic goats specifically adapted to a high altitude regime. The peoples from Chärchän and Djamboulaq in the southwestern Tarim Basin had access to products from a high alpine environment, either as seasonal transhumants themselves or through a network of economic interaction with highlanders. This fact has prompted a closer

examination of highland and high alpine environments as areas of not only resource extraction but also of resource *production*.

In order to test these hypotheses, a comprehensive research program of ecology, ethnography and archaeology (including new series of radiocarbon dates) has begun in order to recover data on several fronts, natural and cultural, contemporary and diachronic, with a particular focus on verticality. Evidence for seasonality, for anthropogenic alteration of the flora, and for fine-tuned distinctions in grazing patterns between sheep, goat and cattle are currently being investigated by employing quantifiable environmental data from pollen, recovered from a variety of contexts with tailored sampling. Changes in land use can be evaluated through careful microstratigraphic study of pollen rain from both pristine and anthropogenically altered contexts, particularly regarding arboreal to non-arboreal plant ratios through time. This study will greatly increase our understanding of human interaction in Eurasian prehistory, as it addresses regions assumed to be barriers to movement.

SUMMARY

This research program is based in part on the premise that the isolated, fertile deep-cut mountain valleys of southern Tajikistan participated in a highly integrated vertical economy in prehistory; and that later trade links brought these communities into a larger sphere of interaction with the ancient civilized world, from China to the Mediterranean, in a web of complex exchange networks that became the template for the later historic *Silk Road*. This project aims to recover evidence for these human-environmental interactions in prehistory in this poorly understood region, particularly regarding seasonal vertical transhumance. It is hypothesized here that the highland peoples of the Wakhan and Vakhsh regions, contrary to conventional thought, have been by tradition connected to a wider web of human-ecological zones, in a vertically structured, ecozonally ordered interaction that not only predates the Silk Road but has played a significant role in shaping it. This participation in exchange with the wider world, particularly from the third millennium through the second, has been hitherto unrecognized in the archaeological record due to poorly documented chronologies and emphasis on the more westerly sites, and from illicitly excavated materials from Afghanistan. Now we are beginning to develop a more cohesive picture of the development of the Oxus civilization, and the hope here is to continue an integrated program of archaeological recovery with emphasis on environmental aspects, by examining landscapes to better understand the nature of integration between pastoralism and agriculture; the nature of highland agriculture and its antiquity, and the nature of the so-called ‘steppe bronze’ culture, its lifeways, and the extent of catchment areas for procuring food and craft resources. By using an environmental approach to the research design of both landscape survey and excavation, we hope to answer important questions concerning the early interaction of peoples and the prehistoric development of cultures in Central Asia.

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