West of the Indus: the Chronology of Settlement in the Protohistoric Culture Phases, with Special Reference to the Bannu Region

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Introduction

A major objective of the work of the Bannu Archaeological Project has been that it should complement the work undertaken by scholars in regions adjacent to the Bannu area, such as the Gomal plain. In particular, the very important excavations by Professor Farzand Ali Durrani at Rahman Dheri (Durrani 1982, 1988) have provided a stimulus for our own investigations in the Bannu region. We are therefore proud and privileged to present this paper in honour of Professor Durrani.

Sites and Chronology of the Protohistoric Periods in Bannu

The archaeological sites of all periods in Bannu were reviewed by Khan (1986) and subsequent discoveries of protohistoric sites, and of excavations at some of them, have been discussed by Khan *et alii* (1987, 1988, 1989, 1991a). To date, all the known later protohistoric (Neolithic to Bronze Age) sites in the Bannu basin are located in the northwest of the region. Interestingly, there are no sites of the Harappan phase known in Bannu, although sites of this period are known in the adjacent Gomal region.

The protohistoric cultural phases represented in Bannu, and the sites of those phases, are shown in Table 1, along with a chronology based on calibrated radiocarbon dates. Calibrations of unpublished dates for Tarakai Qila are included here, the previous dates for this site (Thomas and Allchin 1986) having been discarded because of an error in the radiocarbon determinations made at the British Museum laboratory (Tite et al. 1987). Establishing a radiocarbon chronology for the Bannu sites has not been straightforward. Gregory Possehl (1999, 516) notes that the "chronological placement" of the sites in the Bannu basin and the neighbouring Gomal plain is probably not "final", and this includes (in his view) the dating of Sheri Khan Tarakai and also of Rahman Dheri Period I. Radiocarbon determinations can, of course, give erroneous results because of stratigraphic problems, undetected contaminants, sampling and counting errors and other uncertainties. This is an inevitable fact of life and it is essential to keep an open mind about the so-called 'absolute dates', using them with caution (and always in combination with relative dating evidence) and being prepared, where necessary, to discard clearly erroneous determinations. As a result of recent work both in Bannu and the Gomal Plain, the relative chronology of the various phases noted in Table 1 can be confirmed. Work at Ter Kala Dheri (Thomas et al. 1997) showed that the Sheri Khan Tarakai phase is earlier than the Rahman Dheri I phase (which has recently been termed the 'Tochi-Gomal phase' by Khan et al. 2000a). The site of Jhandi Babar in the Gomal shows conclusively that the Sheri Khan Tarakai phase of occupation is stratigraphically earlier than the Tochi-Gomal phase of occupation there (Khan et al. 2000b, 2000c). The radiocarbon chronology for the Bannu protohistoric culture sequence suggested in Table 1 is, therefore, reasonably secure, but not yet final in its details. A particular point of interest about the absolute chronology that is apparent from Table 1 is the apparently rapid 'cultural turnover' in the Bannu area between the three main cultural phases, with no significant chronological gaps between them. On the basis of the material culture evidence found at Ter Kala Dheri, Thomas *et al* (1997) proposed that there was a direct cultural (and social) transition from the Sheri Khan Tarakai phase to the Tochi-Gomal phase. The evolutionary relationship (if any) between the Tochi-Gomal and Kot Dijian

phases has yet to be determined. In a recent speculative review, Khan et al. (2001) consider the potential significance of the Bannu and Gomal culture sequences in relation to cultural change in the Greater Indus Valley, and the cultural stimuli that might arise in so-called 'peripheral' or 'marginal' zones.

The Sheri Khan Tarakai culture phase

The site of Sheri Khan Tarakai has been a major focus of the work of the Bannu Archaeological Project since it was discovered in 1985 (Khan et alii 1986, 1990, 1991a, 1991b, 1992). It shows clearly the range of complex networks of social and, possibly, economic interactions which existed across a huge area of central and northern South Asia in the fourth millennium BC. Although the inhabitants of Sheri Khan Tarakai appear to have been settled there for most, if not all, of each year, there is evidence for contact with other sites in the local region as well as inter-regional contacts with populations in northern Baluchistan (to the south) and through to southern Turkmenistan to the north-west (Khan et al. 1992).

Other sites of this phase in the Bannu region include:

(a) Barrai Khuarra I, which consists of a superficial scatter of artefacts on a river terrace;

(b) Girdai, a small shallowly stratified site located on the boulder conglomerate fan system;

(c) Ter Kala Dheri, a site which has been virtually destroyed by recent land use but which yielded an interesting array of pottery and terracotta figurines of Sheri Khan Tarakai types alongside evidence of a transition between these and Tochi-Gomal types of pottery and figurines (Thomas et al. 1997).

(d) Lewan, where pottery characteristic of this phase was recently found sealed in a pit (Morris and Thomas 2002), from which a charcoal-based radiocarbon date was also obtained (Table 1).

Jhandi Babar A, another site of this cultural phase and the first one to be reported outside the Bannu area, was recently discovered in Dera Ismail Khan Division (Rehman 1997, Khan 1998, Swati and Ali 1998, Khan *et al* 2000b, Ali and Khan 2001). The chronology of this site is discussed below (see Table 2).

The Tochi-Gomal culture phase

Rahman Dheri (period I) is the type-site of this cultural phase. It is located to the north of the city of Dera Ismail Khan and is a very large site that, for its latest (Kot Dijian) occupation phases, has been claimed to be 'urban' or 'proto-urban' (Durrani 1982, 1988). The nature of the Tochi-Gomal phase of occupation at Rahman Dheri is not yet clear, but as yet there is no reason to suppose that it had 'urban' characteristics. Sites in Bannu with material culture of Tochi-Gomal type are Islam Chowki, Lak Largai, Lewan, and Ter Kala Dheri (Table 1). These are mostly well-stratified sites (although the last one has been virtually destroyed in recent years) and appear to have been settled villages. In contrast to most sites of Sheri Khan Tarakai type, they are not located on conglomerate fans near to torrent systems, but rather on the plains near to rivers, or in the *doab* between rivers. Extensive superficial scatters of pottery on the river terrace near Lak Largai also suggest the existence of transitory encampments during this phase. The Tochi-Gomal cultural phenomenon (as its name implies) appears to have the same rather limited geographic extent as the antecedent Sheri Khan Tarakai phase, which is in marked contrast to the succeeding Kot Diji phase.

The Kot Diji culture phase

The type site of Kot Diji lies in Sindh Province, far to the south of Bannu, and sites with this type of cultural assemblage are known from all the provinces of modern Pakistan: Sindh,

Table 1

Cultural phases and chronology of sites of the (pre-Harappan) protohistoric periods in the Bannu region

Cultural phase	Type site	Bannu sites	Calibrated date ranges*
Pre-Harappan or Kot Dijian	Kot Diji (Sind)	Lewan	3020 - 2470 BC
		Islam Chowki	2900 - 2200 BC
		Tarakai Qila	2460 - 2040 BC
		Tarakai Ghundai	None available
		Seer Dheri	None available
Tochi-Gomal phase (see Khan *et alii* 2000)	Rehman Dheri (Phase I)	Lewan	3350 - 2700 BC
		Islam Chowki	3050 - 2550 BC
		Ter Kala Dheri	2920 - 2620 BC
		Lak Largai	2885 - 2625 BC
Early Chalcolithic/ Late Neolithic	Sheri Khan Tarakai	Sheri Khan Tarakai	4300 - 2760 BC
		Lewan	4040 - 3650 BC
		Girdai	3370 - 2920 BC
		Ter Kala Dheri	3110 - 2880 BC
		Barrai Khuarra I	None available

* The radiocarbon determinations have been calibrated to calendar dates BC using the INTCAL98 program (Stuiver et al., 1998). The calibrated date ranges given are summaries (oldest and youngest dates within the 95.4% confidence range) of radiocarbon determinations made on charred organic samples from various stratigraphic units on each site.

Baluchistan, Punjab and the Bannu and Dera Ismail Khan regions of the North West Frontier Province. The Kot Dijian cultural horizon therefore covers a huge geographic area and attests to a considerable degree of cultural homogeneity and, possibly, social and economic integration during this period. In Bannu, sites with Kot Diji types of material culture (defined mainly by pottery and terracotta figurines) include Islam Chowki, Lewan, Tarakai Qila, Tarakai Ghundai and Seer

Table 2

Jhandi Babar A: Calibrated radiocarbon dates for the Tochi-Gomal and Sheri Khan Tarakai culture horizons

Cultural Phase	Depth (cm)	Laboratory Number	Radiocarbon Date (BP)	Calibrated Date Range (BC)*
Tochi-Gomal	52 cm	NZA-13022	4504 + 60	3370 - 2930
Sheri Khan Tarakai	146 cm	NZA-13021	4351 + 60	3330 - 2870
Sheri Khan Tarakai	212 cm	NZA-13020	4521 + 60	3500 - 3020
Sheri Khan Tarakai	308 cm	NZA-13019	4641 + 60	3650 - 3100
Sheri Khan Tarakai	358 cm	NZA-13018	4810 + 65	3710 - 3370

* The radiocarbon determinations have been calibrated to calendar dates BC using the INTCAL98 program (Stuiver et al., 1998). The calibrated date ranges given are the oldest and youngest dates within the 95.4% confidence range.

Dheri (Table 1). The last site is small and, as suggested by the Pushto word seer (meaning red), its surface is covered in pottery, including huge numbers of over-fired potsherds and a considerable quantity of pottery slag. In contrast to the surface assemblages to be found on other settlement sites in the region, there are limited numbers other categories of artefacts (some struck stone, but little ground stone and few terracottas). It is thought that Seer Dheri might be a specialist pottery-producing site, although this has yet to be confirmed by excavation.

The 'missing' Harappan culture phase

As noted above, no sites with material culture affiliated to the Harappan period are known in Bannu, although sites of this period, such as Hisham Dheri (Table 3), Ghandi Umar Khan (south), Ghandi Umar Khan (north) and Maru II (Khan et al. 2000c), are known in the Gomal region. There is no reason to suppose that after millennia of apparently successful and probably continuous settlement, the Bannu area was abandoned completely during the Harappan period. Possibly Kot Dijian settlements continued to exist in this area during the Harappan, or possibly settlement became (for some as yet unknown reason) less sedentary (i.e. transhumant or nomadic) -- with concomitant low archaeological visibility. It is possible that an in-depth investigation of the chronology and subsistence of Kot Diji phase sites in Bannu might cast light on this intriguing situation.

Discussion

In chronological terms, a particularly interesting result of the work in Bannu has been to demonstrate the close chronological relationships between the successive culture phases (Table 1). This situation is also mirrored in the results from the Gomal area. At Jhandi Babar A (Table 2), the dates for the later Sheri Khan Tarakai phases are not statistically different from the date for the succeeding Tochi-Gomal phase. Possible explanations for such apparently rapid 'cultural turnover' could include socio-cultural replacement (by invasion, colonisation, allochthonous acculturation, etc.). Alternatively, there could have been some sort of in situ change (autochthonous acculturation), as has been suggested for the site of Ter Kala Dheri.

Logically, there is no reason to suppose that the mechanisms of cultural change need to polarised between two such alternatives: alien or local. In social terms there would always have been a potential for instability because of the location of the Bannu area across a number of important routes for trade or invasion, with people moving through the area between Afghanistan (and Central Asia) and the plains of the Greater Indus. This instability could, therefore, be reflected in the abrupt social and cultural changes that occurred in the area during the periods in question. There was also an evolutionary shift in the organisation of subsistence systems over this same period, although the essential components remained essentially constant throughout (Thomas 2003, in the press). There were no significant technological innovations in the agrarian system (such as irrigation), or introductions of new cultigens (such as millets, which might have added a summer-autumn dimension to the cropping system), in the Bannu area during the time frame considered here, and so agricultural production probably remained fairly risky (Thomas 1999, 319). By contrast, social and cultural systems changed significantly over the same period, suggesting that while people were both prepared and able to adopt new ideologies and material culture, there were few incentives or opportunities to risk making any significant changes to subsistence strategies.

It need not be assumed that all the impetus for social change necessarily came from outside the area. The very nature of the area as a marginal environment, with marked spatial and temporal uncertainties in rainfall, could have accelerated endogenous social and cultural change (Thomas 2003, in the press). Risk might have been managed or mitigated in various ways, but periodic shortages or even crop disasters must have been frequent occurrences, although, in an area characterised by high levels of spatial variation in factors such as rainfall, these need not have

Table 3

Calibrated radiocarbon dates for protohistoric period sites in the Gomal Plain

Site/Phase	Laboratory Number	Radiocarbon Date (BP)	Calibrated Date Range (BC)*
Rehman Dheri			
RHD/I	PRL-676	4520 ± 110	3550 - 2900
RHD/I	PRL-675	4400 ± 110	3500 - 2700
RHD/I	WIS-1697	4300 ± 70	3100 - 2600
RHD/I	WIS-1698	4190 ± 70	2920 - 2570
RHD/II	WIS-1699	4180 ± 70	2910 - 2570
RHD/II	WIS-1700	4070 ± 90	2900 - 2350
RHD/II	PRL-674	4000 ± 150	2900 - 2000
RHD/III	PRL-673	3900 ± 130	2900 - 1950
RHD/III	WIS-1701	3850 ± 70	2490 - 2040
RHD/III	WIS-1702	3620 ± 80	2200 - 1740
RHD/III	BM-2062R	3960 ± 110	2900 - 2100
RHD/III	BM-2063R	3810 ± 150	2900 - 1700
GUMLA			
GUMLA/V	P-1810	4340 ± 60	3350 - 2750
GUMLA/II	P-1882	4210 ± 150	3350 - 2350
GUMLA/II	P-1812	4080 ± 70	2880 - 2460
HISHAM DHERI			
HishD	WIS-1703	3720 ± 80	2400 ñ 1850

* The radiocarbon determinations have been calibrated to calendar dates BC using the INTCAL98 program (Stuiver et al., 1998). The calibrated date ranges given are the oldest and youngest dates within the 95.4% confidence range.

affected everybody. In bad years, some groups could still have produced a reasonable crop, possibly even a surplus to be exchanged with other groups less fortunate that year. Such exchange might have involved actual material exchange, or exchange of foodstuffs for labour or other services. The accumulation of debts in the form of obligations or deferred repayments might also have occurred. These forms of what has been termed 'social storage' (Halstead and O'Shea 1989), could have led to social inequalities and the development of social hierarchies, in which a high degree of control over the means of production and the distribution of products would become concentrated in the hands of a small section of the society. The beginnings of more complex social organisation, and associated cultural changes, in areas such as Bannu might, therefore, be linked to the development of social inequalities and indebtedness arising from environmental risks and uncertainties.

Khan et al. (2001) have argued that cultural innovations in areas to the (mainly western) margins of the Indus system might be a driving force for cultural change across the Indus region.

The model we advanced here is consistent with such a viewpoint and it is hoped that further work in the Bannu area will lead to a more holistic view of cultural, social and subsistence evolution.

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