

DATA PAPER

Multi-Period Regional Survey Data from Vidarbha, Maharashtra, India

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Presented here are the data collected during regional surveys of Vidarbha, India, which were collected to reconstruct the societal and cultural changes that took place in this region during the mid-first millennium CE. Following an overview of the data and their research context, we describe the methods that were used to collect, process and analyse them. This is accompanied by a critical assessment of the factors that constrained the survey and our results. The dataset is then described in detail, with a thorough account of each data group and how they are arranged, presented and archived. Finally, we discuss how these data can be reused in the continued archaeological study of this region, and comparative studies of site distributions.

Keywords: Archaeology; early historic; early medieval; megalithic; settlement patterns; South Asia; survey; Vakatakas; Vidarbha

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(1) Overview

Context

The data presented here are the results of recent archaeological fieldwork carried out to investigate the societal and cultural developments that took place in South Asia during the mid-first millennium CE. These centuries are characterised as a Golden Age in India. During this time we see the appearance of many of the commonly perceived hallmarks of 'Indian' society, such as: the emergence of Hindu temple institutions [6, 58]; the spread and adoption of various new forms of government and administration across the subcontinent with Sanskrit as the courtly language [2, 14, 37]; and a flourishing of artistic and scientific endeavour evident in various media [15, 32, 51, 56]. These developments are usually associated with the growth of the Gupta Empire in North India during the fourth century CE [31, 57]. Our archaeological understanding of these developments is problematic for a number of reasons [17, 26]. The study of this and all subsequent phases of South Asia's past are dominated by text-based histories—a feature of scholarship that affects not only *what* is studied, but *how* those sources are studied. Research questions tend to be oriented towards historical concerns with the development of kingdoms and states [13, 25], the spread of religious institutions [3, 5] and socio-economic systems [42, 48]. Within this general thrust of enquiry, archaeology tends to contribute only in terms of

providing archaeological evidence for the corroboration or contradiction of those theories and ideas [17, 18]. Further complicating the situation is the fact that most archaeologists working in South Asia tend to focus on earlier periods, where there are fewer or no textual sources, and they are less constrained by historical paradigms [7]. As a result, most of the archaeological data that we have for the mid-first millennium come not from the investigation of that period, but are remains found by happenstance through the excavation of sites with earlier foundations.

Within this research context, one of the richest strands of historical enquiry rests on the study of a series of inscriptions carved on copper plates that are found throughout South Asia from the fourth century CE onwards. These inscriptions record royal grants of land to (usually) Hindu temple institutions [12, 33]. They are the largest textual corpus for the period, and have been used as evidence for: the nature of the relationships between kings and other political, administrative and religious institutions; changing power relations; charting the spread of new administrative practices, land rights and agricultural production. However, until recently these inscriptions were not considered as material entities, and none had been located on the ground [19]. In most cases, their readings and interpretations continue to be made with reference to wider theoretical models rather than the material, textual or visual evidence from the areas in which they were made, used and found.

It was in response to this that we carried out archaeological surveys in one region, Vidarbha, where these inscriptions have been found, and that is thought to have witnessed the societal developments the charters are perceived to embody (e.g. [47]). The reason that this particular region was selected as a case study was because it was one of the first to adopt this practice of land grants following their appearance in the neighbouring Ganges Valley to the north. It thus offered the potential to measure the spread and impact of the changes that are usually associated with this practice. Our choice of exactly where to survey within the region was informed by two previous phases of research. One, that investigated where inscriptions had been found in the landscape [19]; and the other, a compilation of a census of all known sites and remains in the region and assessment of the research potential of the existing data [20]. This last phase of research generated a considerable amount of data that is already openly available [22] and can be accessed and read in conjunction with the data being presented here.

Reconnaissance and site surveys were carried out in these targeted areas to locate and record archaeological sites with the twin aims of: (a) generating data that could be analysed to test existing perceptions of the impact of these grants, and answer wider research questions to do with the nature of the societal changes that took place in this region and elsewhere during this period; and (b) making a standardised record of what was found that could be made openly accessible and shared with the wider archaeological community working in this area and on this period. The datasets that are presented and described here are the results of those surveys. Given the paucity of

existing data for this area, they have significant potential for use in the future studies. As an openly accessible dataset, they will also have considerable impact as this model of sharing survey data such as these has not been used in scholarship on South Asia before.

Spatial coverage

Description: Surveys were carried out in the region of Vidarbha, in the modern Indian state of Maharashtra. This region is both geographically defined and historically determined. Geographically, it is an area covering 97,321.00 km² that is defined by its topography and hydrology. It is bounded to the north and east by the Satpura Mountains, to the southeast by the hills of Bastar, and to the west and southwest by hills of the Ajanta range. Most of the region belongs to the Wardha-Wainganga Rivers watershed of the Godavari Basin, while its western plains are drained by the Penganga River flowing into the Tapi Basin (**Figure 1**). The landscape is rich in fertile lands, rivers, minerals, and areas of forested hills. Historically, the region was the known core territory of the eastern Vakatakas—a dynasty contemporary to and neighbouring the Guptas, and who were one of the first to adopt the new practice of landgrants in the fifth century CE [4, 19]. Archaeological sites relating to this period include: find spots of these landgrant inscriptions [19]; a number of known settlements and temples, notably at Mandhal, Mansar, Nagardhan and Ramtek [28, 43]; as well as a number of earlier sites, such as Adam, Kaundinyapur, Mahurjhari and Pauni that enable us to place the data from the period into a broader chronological context [40].

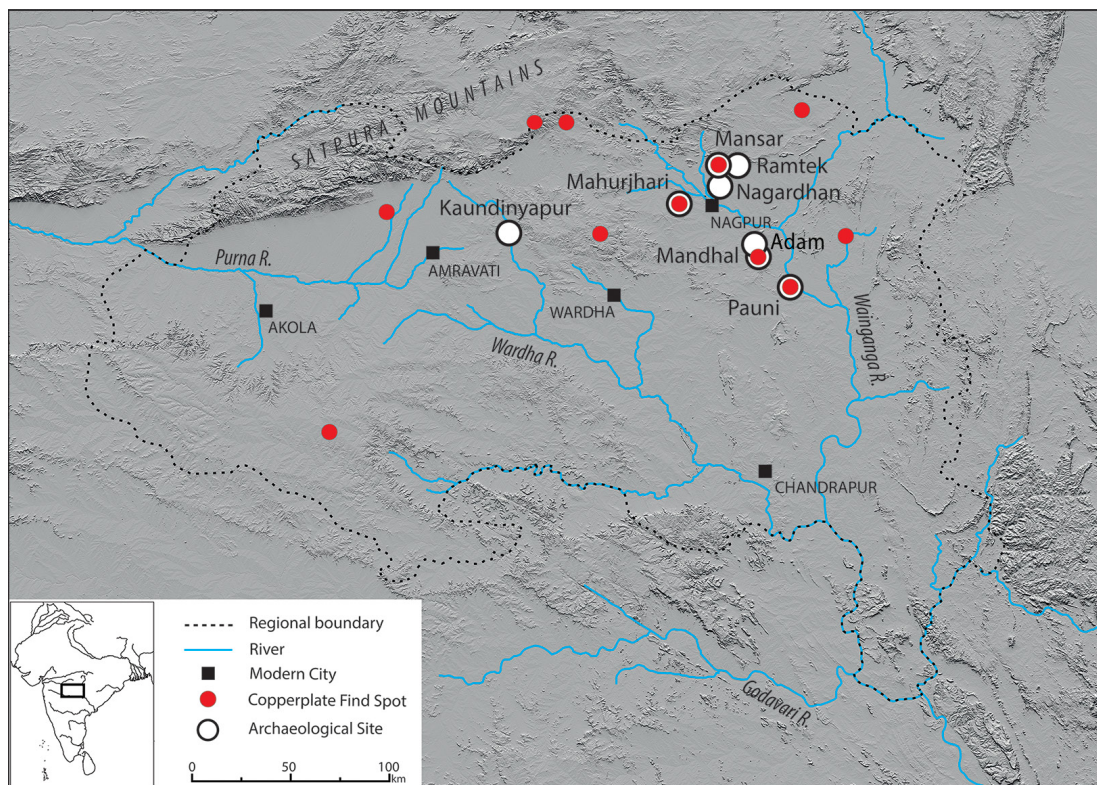


Figure 1: Map illustrating the geographical extent of the Vidarbha region, and the locations of copperplate inscription find spots and the main archaeological sites known before the survey.

The spatial extent of the region is defined as follows:

Northern boundary: $\pm 21.735785^\circ$ North
 Southern boundary: $\pm 18.756600^\circ$ North
 Eastern boundary: $\pm 80.950312^\circ$ East
 Western boundary: $\pm 75.295495^\circ$ East

Our survey frames within the region consisted of three radial blocks centred on the find spots of copper plate charters that had already been identified as relating to the locations of their original use [19]. These were the sites at: Chammak (21.209690° North, 77.472173° East), Mandhal (20.954957° North, 79.461809° East) and Pauni (20.792828° North, 79.637060° East) (**Figure 2**). Based on what had already been postulated about the history of the region, each of these survey frames also provided the potential to yield data that were representative of different developmental trajectories within the wider region. We know that the area around Pauni, itself a vast fortified urban centre, had already witnessed considerable social and economic developments long before our period of interest [11, 35]. The site at Mandhal, on the other hand, appears to have become a centre of religion and politics during the period in question [39, 43]; while the area around Chammak [21], like all areas that were seemingly peripheral to the centre, is generally perceived to have been settled for the first time during this period [8, 27].

In each instance, the radial blocks themselves measured 26 km in diameter; having a radius of 13 km measured from the find spot of the copper plate charter at its centre. Their size was defined on the basis of previous landscape surveys in South Asia (e.g. [16, 17, 28,

45]. These have established that the minimum size of radial survey blocks needed to ensure the recovery of enough data for meaningful spatial analyses is 10 km. Survey frames that are smaller than this run the risk of not encompassing enough sites to identify significant spatial relationships and patterns in their distribution. While the maximum size of survey frames tends to be defined by the constraints of timescales and available resources.

Temporal coverage

Our survey data comprises details of all archaeological sites and remains encountered within these survey frames. These range in date from the early- to mid-first millennium BCE to the mid-second millennium CE. In the archaeology of South Asia, this temporal range encompasses various periods, including: the Megalithic or early Iron Age; as well as the early historic, early medieval and late medieval periods. The periodisation of South Asia's past is notoriously complex and hard to define. In part, this is due to its size, and the fact that many of the cultural and societal developments that might normally be used as the bases for labelling distinct periods of time did not take place in the same way and at the same time as each other across it. Equally, different periods have come to be defined on the basis of widely different and often non-synchronistic factors. These include both cultural developments and technological innovations, as well as the rule of political dynasties. Nevertheless, these are the temporal designators that have become the standard nomenclature in scholarship on this area (for further discussion [8, 40]). The developments and time span they correspond to are presented in **Table 1**.

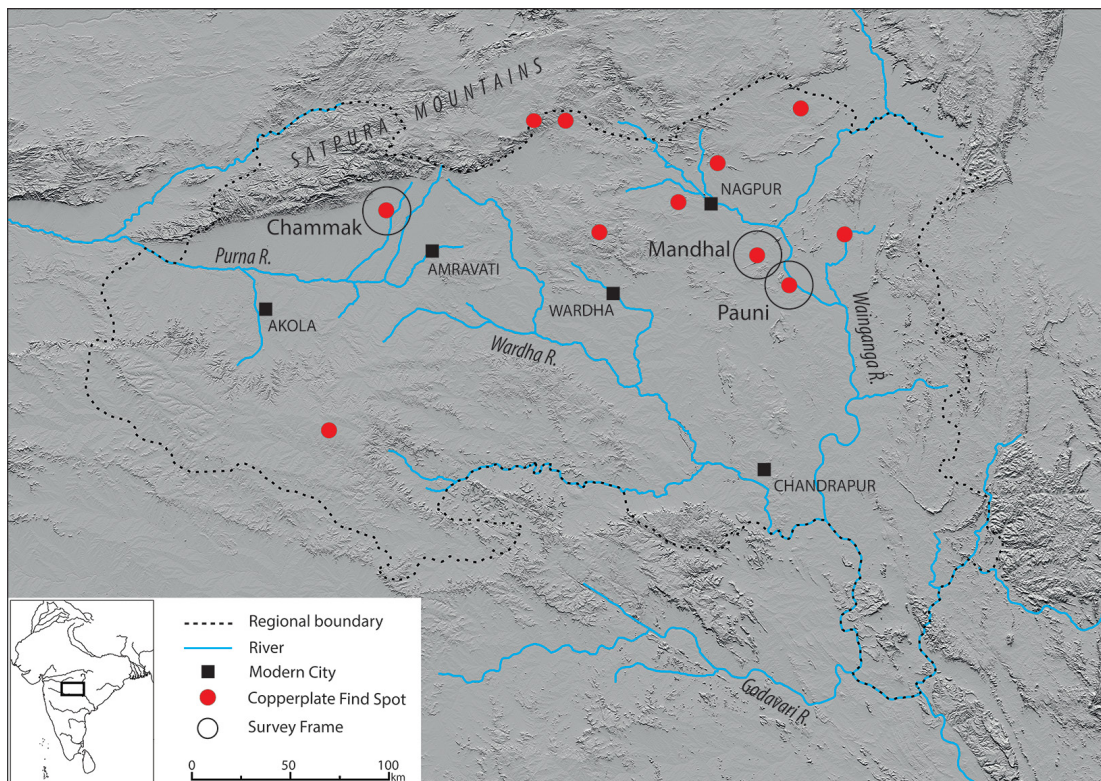


Figure 2: Map illustrating the location of survey frames within the Vidarbha region.

Table 1: The chronological periods and criteria commonly used to define them in the Vidarbha region.

Period	Social and Cultural Developments	Technological Developments	Dynasty	Time Span
Megalithic, or early Iron Age	Megalithic monuments Early cities	Appearance of iron technology Craft production (shell)	N/A	c. 8 th to 3 rd century BCE
Early historic	Appearance of early kingdoms and states	Appearance of writing	Unclear	c. 3 rd to 1 st century BCE
	Coins Buddhist monuments	Craft production (stone beads)	Satavahanas	c. 1 st century BCE to 2 nd century CE
Gupta-Vakataka era	New forms of kingship Land grants		Vakatakas	c. 3 rd to 5 th century CE
	Stone and brick temples			
Early medieval	New kingdoms and states Proliferation of temple institutions		Various (notably Rashtrakutas, Yadavas)	c. 6 th to 12 th century CE
	Land grants			
Late medieval	New kingdoms and states		Gond rajas	c. 12 th to 17 th century CE
	Appearance of mosques		Mughals Marathis	

(2) Methods

Data were collected and generated using different methods of archaeological reconnaissance, survey and recording; as well as post-survey analyses. This involved multiple stages of activity. The first was a phase of reconnaissance to identify the locations of archaeological sites and remains. This was followed by the survey of those sites using more intensive methods of survey, coupled with methods of archaeological recording and, where appropriate, the collection of representative samples of surface remains for analyses. Following on-site activities, there followed a stage of data consolidation, prior to subsequent artefact and spatial analyses. Each of these steps are described below.

Steps

Step 1. Reconnaissance

The first step in the process of data collection was a phase of reconnaissance survey. This was carried out to locate archaeological sites. Here, sites were defined broadly as discrete assemblages of archaeological features or remains that were evident within or displaced from their original context. Our reconnaissance survey employed methods of informant-based enquiry and fieldwalking in and around every modern settlement within our survey areas. In doing so, it built on existing approaches to reconnaissance survey in South Asia, where 'village-to-village' survey is a wide spread and proven (if ill-defined) technique for the preliminary survey of large areas. It operates on the premise that in most parts of South Asia modern settlements (from small hamlets to large cities) have an even spatial distribution of one settlement every 1–3 km across the landscape. Thus, if we take their locations as the foci of archaeological survey, their distribution provides a convenient 'ready-made' sample of the landscape. Over the years, the

concept of village-to-village surveys has been questioned, with critics advocating a more systematic approach and application of new technologies to archaeological surveying [9, 46, 50, 52]. However, what these alternative approaches have called into question is not necessarily the concept of sampling the landscape or using the locations of modern villages as a sampling strategy. Rather, they tend to focus on the way surveys are implemented on the ground. Making enquiries with the people that live and interact with their own cultural heritage is, after all, not an inherently systematic approach to data collection, and brings with it potential for considerable bias that can affect results and impede comparison of data.

With these observations in mind, we made our approach to the reconnaissance of every village as systematic as possible without abandoning the potential value of local knowledge of its environs altogether. Upon entering a new and un-surveyed village, we initiated enquiries with a wide range of people in as many different locations as possible. Meetings were held with the heads of the village council and (if they were based in that village) local government units, as well as the men and women who work in the fields surrounding the villages. Further, every attempt was made to meet with groups of people in at least five different locations within and around each village.

In interviews, an explicit attempt was made to use non-leading and open questions. Interviews were fluid and situation-dependent, meaning that we did not use a prescribed list of pre-prepared questions. Before interviews commenced, we explained who we were and what we were doing in that village. We were consistent and open about that the fact that we were archaeologists interested in the history of this local area, and that we were carrying out a survey in an attempt to find old places to make a map of

what the area used to look like in the past. Interviews then commenced with our asking individuals and groups if they knew anything about the history of their settlement; and whether they could tell us about the land and environment surrounding the village (e.g. how it is watered, whether the soils are fertile and if there had been any changes to the environment over the last few decades) (**Figure 3**). We felt that these preliminary questions could not only yield interesting information about villages and their environments, but that they also enabled us to establish a sense of the meaning and value of these factors for the interviewees and whether they understood them. This sense then dictated our subsequent lines of enquiry.

If there was clearly neither knowledge nor interest in the environment and history of the modern settlement, we enquired if there were other individuals or groups who might know about these things; and whether, to their knowledge, anyone had ever found anything interesting or unusual while digging in or around the modern settlement. While for others, who were perhaps more immediately familiar with soils, environment, fields or building works, we were able to ask more detailed questions about whether or not anything was ever found during these activities. Here, we were careful to avoid using terms such as 'archaeological remains' or 'artefacts' in order to not lead the interviewee into telling us what he or she may have thought we wanted to hear. Instead, questions were qualified by being clear that we really did mean anything—not only 'old things', but also broken stones, pieces of rubbish, or even different coloured soils. Further, a third broad

category of informants were those who had themselves inherited objects that they perceived to be somehow 'old' or 'special'. In these instances, we asked if they could recollect any stories about their discovery as well as when and where the object was found.

In all instances, information gathered through enquiries enabled us to identify the locations of areas of potential archaeological activity. These were then visited to ascertain whether or not they were of interest. We adopted a purposefully broad definition of what these might constitute. This included, in general terms, any and all artefacts, structural remains and man-made features visible on the surface or exposed in sections, as well as traces of sub-soil remains such as pronounced habitation mounds that may have no surface remains visible.

This initial phase of informant-based reconnaissance was complemented by extensive surveys of sample areas surrounding each modern settlement. Wherever possible (access to land permitting), we fieldwalked 100 m wide transects on North-South and East-West axes from the centre of the settlement across the agricultural land immediately surrounding it. In no instances did this additional phase of fieldwalking result in the discovery of any additional sites.

Step 2. Site survey

Once identified, archaeological sites were surveyed. The choice of survey methods was dependent on the nature of the site encountered. Sites that were defined by the presence of remains visible on the ground surface were surveyed using standard methods of fieldwalking. Members



Figure 3: Interviewing various groups in different settings within modern village settlements.

of the survey team walked across the area in North-South transects at 2 m intervals in order to: (a) identify the extent of the surface scatter; (b) determine how the edge of the scatter was defined; and (c) identify traces of any other archaeological features that may exist (**Figure 4**). Sites identified on the basis of artefacts visible in exposures (i.e. sections caused by mechanical digging or river banks), extant structural remains or individual objects preserved 'in situ' were recorded (see Step 3 below) and the areas around them were fieldwalked to identify any additional associated remains. Here, we employed more extensive methods—fieldwalking the surrounding area at 20 m intervals in either North-South or East-West axes. If additional remains were identified, these areas were then surveyed using the same methods employed for surface scatters.

For sites defined by the existence of an artefact or group of artefacts displaced from their archaeological context (perhaps an artefact found in private possession), the "site" was not surveyed but recorded (see next step). However, as noted above, in these instances the identification of such artefacts initiated a further phase of enquiry in order to determine the context of the objects' discovery and, if possible, the location of their find spot(s). If those enquiries led to the identification of another site, then this was surveyed using methods described above.

All surveying was carried out in conjunction with site recording and surface collection, see Steps 3 and 4 below.

Step 3. Site recording

During site surveys, the archaeological remains and features that defined each site were recorded. All records were made by hand on pro-forma site-recording sheets, and recorded the following information:

- A. A unique alpha-numeric code for the site.
- B. Locational data, comprising: the names of the site and the village, administrative area it is in; written descriptions of where the site is in relation easily identifiable points of reference (such as main roads, permanent structures and so on); and the GPS coordinates of the site. With regards GPS points, coordinates were taken from the location of the archaeological entity that defined the site (if it was a single structure or artefact), or from the centre of a visible scatter (if it was defined as existing over a wider area).
- C. Observations about the environmental setting of the site, including: descriptions of the hydrology, topography and modern land use of the area.
- D. A written description of the site.
- E. A check list for the presence and absence of certain archaeological features that are common to sites in this area and were anticipated to occur frequently during survey (e.g. habitation mounds, structural features, surface scatters).
- F. An initial assessment of the type of site being surveyed. These were divided into four broad categories: settlements, religious sites, megaliths, and 'other sites'.

Settlements were defined by the presence of one or more of the following indicators: surface scatters of habitation remains (pottery, brick, bone, baked clay, and so on), the presence of habitation remains visible in exposures, habitation mounds and ramparts. Religious sites were defined by the existence of extant monumental remains that could be identified as the remains of a religious structure (which, in this area could be a Hindu or Jain temple or shrine, a Buddhist stupa, monastery or shrine, an Islamic



Figure 4: Fieldwalking at the site of Ranbori (RNB02).

mosque), or a cave associated with carved sculptural or epigraphic remains that enable it to be associated with one of those religions. Megaliths were defined as stone monuments that collectively are known, in this part of the world, as megaliths. These include: cairns, dolmen, menhirs, stone circles, as well as boulders with cup and ring marks. The final category of 'other sites', was defined by any type or group of archaeological remains that did not fit neatly into any of the categories described above. These included: the remains of single non-religious structures such as forts, or wells; earthworks such as dams; or isolated finds such as single artefacts found on their own and not associated with a wider assemblage of material, or objects that were displaced from their original (archaeological) context.

In the categorisation of these sites, we recognise that the terms used are somewhat uncomfortable, both in terms of their vagueness and subjectivity. There is, for instance, a chance that certain sites identified on the basis of surface scatters and defined as 'settlements' may be the traces of different activities such as a craft workshop or a small monastery. Mindful of this, care was taken to assess the nature of the archaeological remains at every site (whether these were surface scatters or some other remains) and question whether they did indicate the types of activities that were being implied by their categorisation as a particular site type, or whether they should perhaps be categorised differently.

Information specific to each of these different categories of sites were also recorded on separate recording sheets. For settlements, this information consisted primarily of the archaeological features that define the site. These included: the dimensions and extent of any habitation mound, exposed section and surface scatter, together with written descriptions of them; the density of any surface scatter (measured in terms of the number of artefacts per square metre) as observed at the centre of the visible scatter; as well as check lists of the types of finds that were visible on the surface. These details were then followed with a preliminary assessment of the date(s) of the remains, as well as any other observations or notes that were deemed relevant to record on site (i.e. Whether there had been a lot of recent surface disturbance through mechanical digging, which may impact surface visibility, and so on).

For religious sites, we measured and recorded the dimensions and extent of the central monument or defining feature(s), as well as a written description of it. We then assessed the type of religious site it was based on onsite identification of the structural remains or other foci of ritual activity (such as a cave, or burial ground). This allowed us to refine our categorisation of the site as a particular type of religious site (e.g. a temple, stupa or mosque). This assessment was followed by the identification of the religious association of the site—the religious group that build and used it—and the local name of the deity or deities to whom the site was dedicated. The tentative date and any other observations made on site were also recorded.

For megaliths and other sites, we recorded: the type of artefact or feature that defined the site, their measurements

and descriptions; and whether any other features or artefacts defined as separate sites were associated with them spatially. Tentative dates and any additional observations were also recorded. A list of all attributes recorded for each broad category of site type is provided in the readme file that accompanies the dataset.

In addition to written records, sketch plans were drawn to record the location and extent of archaeological sites and features described in the written records. If samples of artefacts were collected for analyses, the location of the collection spot was also recorded on the site plans. Photographic records were also taken of each site in order to record what the site looked like during survey. This was intended as not only an *aide-mémoire* to help future analyses and interpretation (which is particularly useful when dealing with sites defined on the basis of carved architectural remains or sculptures that cannot be collected), but also as an historical record of the condition of the site at this point in time. Here, we were mindful of the rapid rate at which archaeological sites are disappearing from the South Asian landscape due to modern building, gravel extraction, mining and intensive farming.

Step 4. Surface collection

At all sites where artefacts were visible on the surface or in exposures, a representative sample of them was collected for post-survey analyses. In areas where the site was defined by surface scatters in agricultural land, all surface remains within a 5x5 m square laid in the centre of the area of scatter were collected. Sometimes this was not possible. The scatter may not have been visible on the surface at all, but exposed in natural or man-made sections instead. In these instances, a sample of the visible remains was collected. In all cases, a record was made of the context from which collections were made, and their approximate depth (if collected from a section). Material was collected and bagged in zip-lock bags that were labelled on-site with the site code, date of collection and the initials of person collecting the material.

Step 5. Post-survey data collation

Following survey, field data was collated, cleaned and systemised in order to facilitate future interrogation and analyses. While in the field, and on a daily basis, all of the information that had been recorded about each site were entered onto spreadsheets, with separate sheets designed for different site types, and the data for each site comprising one record in the relevant spreadsheet (**Figure 5**). The resulting tables were then checked for consistency of both spelling and terminology, ensuring that all values appearing more than once were entered identically. Photographic records were also transferred onto a computer and image files were renamed to correspond to the site codes entered in the site spreadsheets.

After leaving the field, hand drawn sketch plans were scanned and digitised with reference to corresponding satellite imagery and site coordinates that were integrated using GIS software (**Figure 6**). The resulting site plans were then exported as image files named using site codes entered in the site spreadsheets.

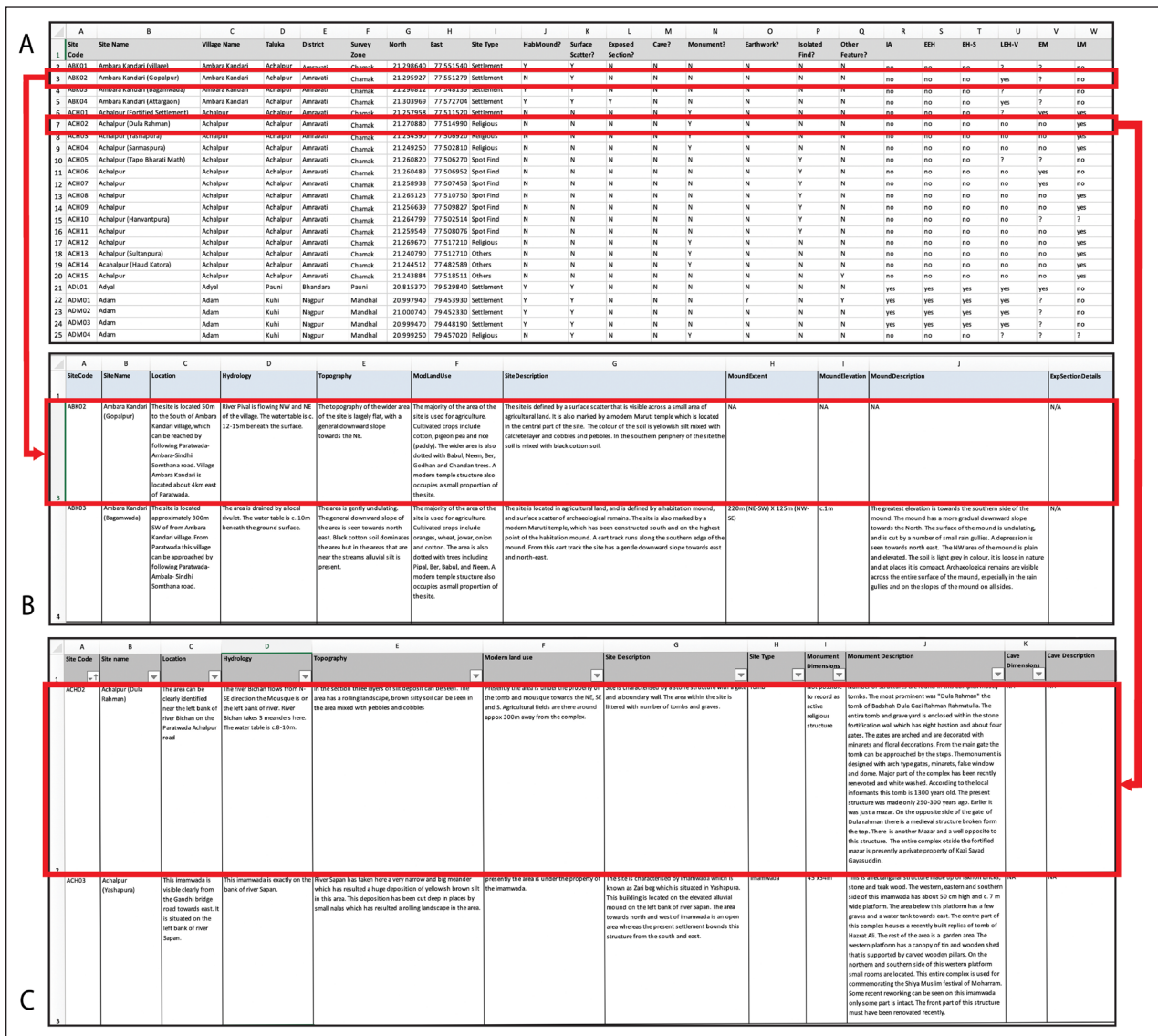


Figure 5: Example of the tables created to enter recorded site information, illustrating the way that records for individual sites (highlighted in red) were related to each other in multiple tables. Table A contains general information about each site, including a categorisation of site type. Table B contains information specific to settlement sites, and Table C contains information specific to religious sites. Note: All tables contain additional columns that are not represented here.

Step 6. Post-survey analyses

Following survey, the data from sites recorded in the field were analysed. Strictly speaking, this was not part of the survey and formed part of separate streams of research that generated other data that are not presented here [30]. As such, we are not going to discuss the methods or results of these analyses in any great detail. Yet, the initial phase of these analyses—the recording and identification of the data that had been collected—did result in the dating of archaeological material. These dates were then fed back into our site data. Working on the principal that the period of time during which the site was used is reflected by the archaeological remains that define it, we used the dates of remains to date the sites at which they were found.

Two main types of dating evidence were encountered: archaeological ceramics and carved remains. Ceramics were analysed using a *chaîne opératoire*-based approach to analyses that we have been developing in this region

[29], and dated with reference to parallels from dated excavated sequences in the region—in particular with those from the site at Mahurjhari [34]. Carved remains, including architectural and sculptural fragments, were dated stylistically with reference to a well-developed stylistic framework that already exists for the area. Other remains, such as ‘megaliths’, as well as other structures, were similarly dated with reference to existing relative dating framework [1, 24].

Quality Control

During the initial reconnaissance, explicit attempts were made to interview as many informants, representing as many different demographic groups from as many different locations within and around the modern village settlement as possible. For obvious reasons it was not possible to approach any given village with a pre-defined list of people that we would like to interview as every village has a different social and economic make up; and they

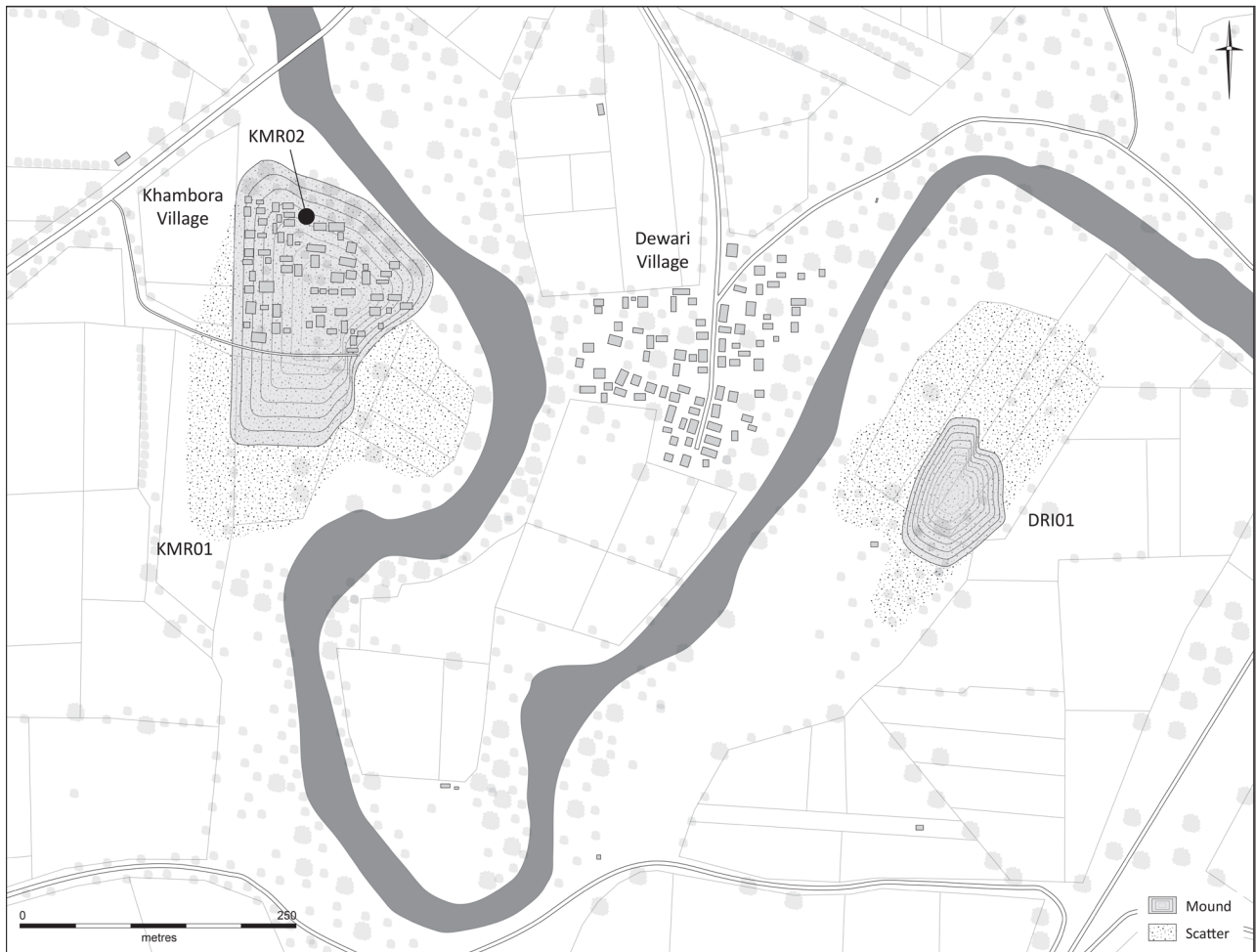


Figure 6: Example of a digitised site plan (of the sites at Dewari and Khambora), illustrating the way that archaeological sites were drawn and how their locations in relation to geographical features and the modern built environment are represented.

all varied in terms of population and size. Attention was also paid to the formulation of questions that were asked during the informant-based phase of reconnaissance. The bias inherent in that process was then mitigated by the subsequent phase of fieldwalking in transects across the areas surrounding each village to ensure that: (a) the information gained during enquiry was correct; and (b) supplement the informant-based information with results derived from a standard, systematic and repeatable phase of survey.

During site-surveys, consistency of data entry was ensured by using pro-forma recording sheets with predefined value fields. This reduced the risk of missing data while recording different sites at different times of day and in different weather conditions by different members of the survey team. Further in this regard, we made certain that the same basic protocols for recording (such as using the same unit systems and number of decimal places for measurements) were employed at different sites to avoid the risk of errors entering the data at a later date in the standardisation of digital records. We also introduced quality control into our data management process by performing a significant proportion of the collation, data entry and standardisation of the data in the field, with reference to a checklist of operations that had to be

performed for each record. Collating, entering and standardising data enabled us to identify errors in the dataset; but the importance of carrying out these tasks in the field was that we were still in a position to either: (a) clarify data queries with the individual or groups who had collected them, and (b) return to the site(s) concerned to rerecord data or record missing data where necessary.

We also took steps to ameliorate the potential bias in using modern villages as our samples and local informants as our primary source of information. Both of these may have meant that we were finding only a limited amount of archaeological information that was biased towards what our interviewees knew about, and likely only included the most obtrusive sites in the area. Addressing this, we carried out a second phase of landscape survey to test the integrity of our reconnaissance strategy. In two of our survey zones, we fieldwalked twenty randomly selected 5 km transects to see if this might result in the discovery of any additional archaeological sites or remains (see **Figure 7**). Transects were 200 m wide, with ten surveyors placed at 20 m intervals. This additional phase of survey did not result in the discovery of any archaeological remains. We realise that such methods may not have resulted in the discovery of all additional sites that might exist. Yet, given the level of coverage that was achieved (approximately

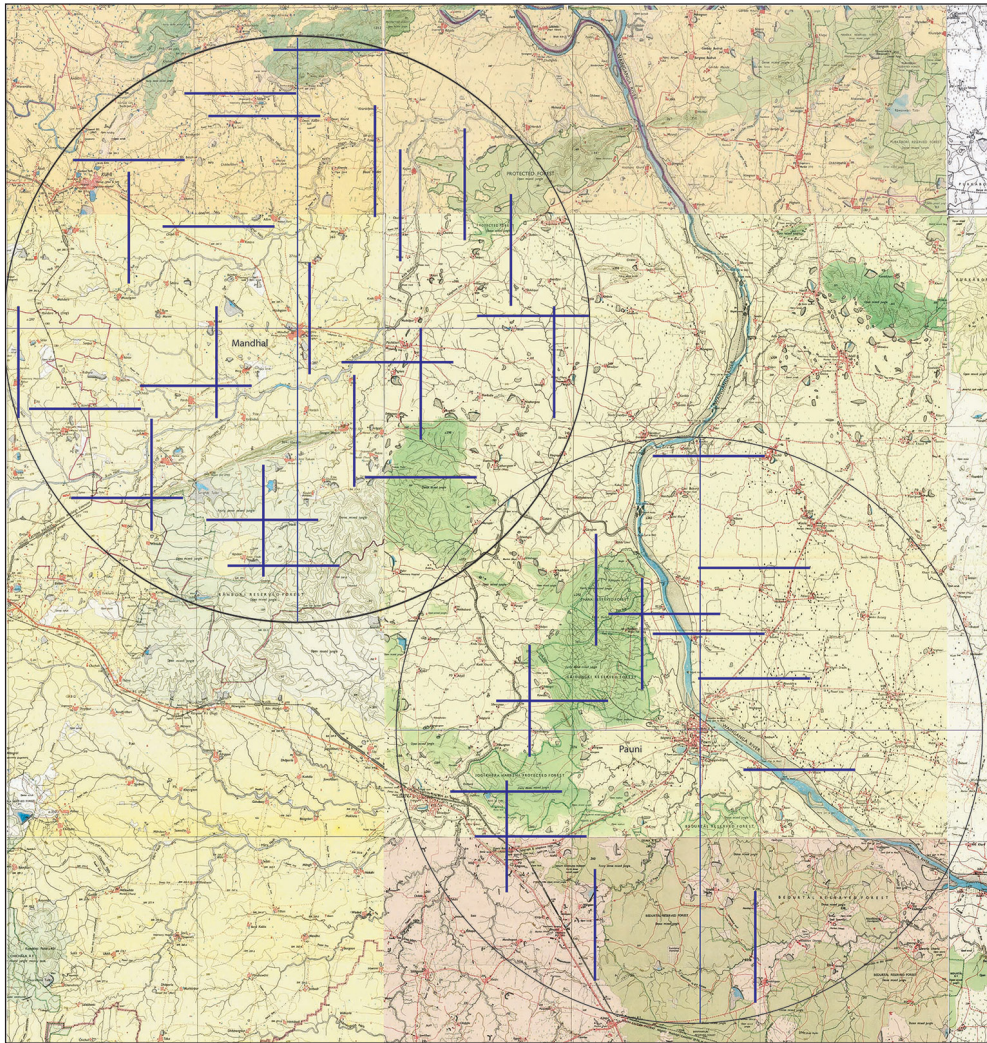


Figure 7: The sampling transects defined in the Mandhal and Pauni zones that were fieldwalked to test the initial reconnaissance strategy.

7.5% of the area of each survey frame) we anticipate that if there were significantly more visible archaeological sites in each area, then a proportion of them would have been encountered using these means. That said, we also recognise that there are a number of factors that limit the visibility of archaeological sites in this area. Primary among these are: the levels of alluvial deposits along river valleys that can bury archaeological sites making it difficult to see them using fieldwalking alone; and the intensity of modern farming methods and use of mechanical ploughing that can strip archaeological levels from sites within a short time. Nevertheless, we feel that this additional phase of survey proved the applicability of our reconnaissance strategy, the results of which may be deemed representative of the archaeological realities of each survey zone.

Constraints

Our data are mainly constrained by the quantity and quality of information that it is possible to collect through methods of surface survey alone, which in turn effect what we can do with those data—the interpretations, inferences and conclusions that we can make on the basis of the evidence available. Here, we are constrained by not only the fact that we can only base our interpretations on

surface remains we find, but also the fact that the nature and visibility of these remains is highly variable and subject to a range of external factors (e.g. site taphonomy, the impact of the modern built environment). It was beyond the scope of our surveys to fully account for and accommodate these factors in our analyses and interpretations. As a result, we have a variable understanding of our different categories of sites. Settlements can be categorised according to their size and what little can be discerned about the range of activities that took place within them based on the analyses of surface remains. This allows us to make reasonably well-informed inferences about whether they might have been small villages, towns or urban centres. Religious sites, on the other hand, can be identified far more precisely. It is often possible to identify the type of monument, religious affiliation and in some instances specific sect that used the site.

There is also variability in terms of how precisely we are able to date different categories of sites. Dates derived from the analyses of pot sherds offer only very broad date ranges that at times stretch up to two or three centuries; while dates derived from inscriptions and other carvings can often be dated to within a single century. This necessarily constrains our ability to compare data from different

categories of sites, and means that such analyses can only operate on the basis of the lowest common chronological denominator. This in turn means that for the time being we are only able to point to general trends over time.

On a wider level, we recognise that the data we have collected is not representative of the entire region. For all that these data allow us to compare different trends in different parts of the region, we would have liked to have been able to survey a number of additional areas. Here, there are a number of other find spots of copper plate charters that can be related to the locations of their original use, all of which would benefit from surveys similar to the those reviewed here. Equally, we hope that future work in this area will investigate areas that do not appear to have been associated with the donation and receipt of landgrant charters. Doing so would enable us to test whether the patterns identified in areas that did witness grants of land were different from those that may have taken place in areas that did not. As things currently stand, the data we have generated allow us to make considerable headway in the investigation of past societal transformations in this region. Though that is with the caveat that our ability to extrapolate our findings across the wider region is constrained.

(3) Dataset description

Our dataset comprises three main groups of data: written information about each site surveyed during fieldwork, and corresponding photographic records and site plans. The entire dataset, together with their associated readme file, is stored in an online repository (Zenodo) where it is openly accessible and free to access, download and reuse under a CC-BY license [23]. Each data group is described below.

Object name

The dataset is named 'The Archaeology of Vidarbha, Maharashtra: 2016 Regional Survey data'. It comprises four files: three parent compressed files containing folders and files for each data group, and a readme file. These files are named as follows:

- A. Vidarbha_2016Survey_SiteRecords.zip, contains all of the written records for each individual site. These are saved in five files, named: Vidarbha_2016Survey_AllSites.csv, Vidarbha_2016Survey_Megaliths.csv, Vidarbha_2016Survey_Others.csv, Vidarbha_2016Survey_Religious.csv and Vidarbha_2016Survey_Settlements.csv. These can all be linked together to create a database using the unique site codes that identify each record in each spreadsheet.
- B. Vidarbha_2016Survey_SitePhotos.zip, contains all of the site photographs taken during survey. There are a total of 1822 image files, organized into 200 folders, with each folder containing all photographs of one site. Folders and files are all named using the unique site code that was assigned to each site.
- C. Vidarbha_2016Survey_SitePlans.zip, contains the drawn plans of each archaeological site. There are 158 site plans. Each one is named using the unique site code that was assigned to each site.
- D. Vidarbha_2016Survey_readme.txt, is the readme file that accompanies the dataset, and describes them all in detail.

Data type

The spreadsheets that comprise the written records of each site contain both primary data (information about each site that was recorded on site) and processed data (the results of post-survey analyses that have been used to date sites found during survey). The site photographs contained within Vidarbha_2016Survey_SitePhotos.zip constitute primary data. The site plans contained within Vidarbha_2016Survey_SitePlans.zip constitute processed data.

Format names and versions

Spreadsheets containing written records of each site are saved in CSV format. Each of these files were created during the period of data collection, and all underwent several revisions during this data collection. All site photos are saved as JPEG files with an image resolution of 300 dpi. All site plans were originally illustrated using Adobe Illustrator and saved as TIFF files. These were then exported as PDF files for upload to the repository.

Creation dates

Primary data (including written records, site photographs, and hand-drawn site plans) were collected from 11/01/2016 to 27/05/2016. Site plans were illustrated from 03/04/2017 to 31/05/2017. Artefacts collected during surveys were analysed in three phases, from 01/09/2017 to 29/12/2017, from 03/09/2018 to 28/12/2018, and from 04/03/2019 to 31/07/2019. Results of analyses were integrated into written records from 01/08/2019 to 20/12/2019.

Dataset Creators

Primary data were collected by (in alphabetical order):

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Site plans were illustrated by:

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Data were analysed by:

Jason Hawkes, Project Curator, The British Museum
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 Miss Jasseera CM, PhD Student, Tamil University

Language

Data were collected, recorded and are presented in English.

License

This dataset was deposited and has been released under a Creative Commons Attribution 4.0 International license (CC-BY). For legal terms of the license see: <https://creativecommons.org/licenses/by/4.0/legalcode>.

Repository location

The dataset is stored within the Zenodo repository, and can be found at: <http://doi.org/10.5281/zenodo.3670055>.

It should be cited as: Hawkes, J., Abbas, R., Toraskar, S. (2020). The Archaeology of Vidarbha, Maharashtra: 2016 Regional Survey data. [Dataset]. <http://doi.org/10.5281/zenodo.3670055>.

Publication date

The dataset was published in Zenodo on 17/02/2020.

(4) Reuse potential

These data have considerable reuse potential. Most immediately, they can be cited and analysed by anybody working in this region. This includes: archaeologists, art historians and historians interested in using the data from either individual sites or regional patterns for the study of any part of the period that stretches from the early-first millennium BCE to the mid-second millennium CE. At the level of individual sites, this dataset presents an accurate record of the location of the site and the archaeological remains that define it. These can be used to inform future phases of survey and excavation. In being a record of what exists at every site, this dataset has further potential as an historical record of the preservation of cultural heritage at each site. On a wider regional scale, data from multiple sites can be compared, and spatial relationships analysed both within and between the survey zones presented here. Our own interests lie in the further analyses of data from individual sites to identify the activities that took place within them, and the spatial analyses of site distributions to reconstruct economic, political and social transformations in relation to the development and spread of land-grants. Others may have different questions they would like to address. These data can also be incorporated into other regional datasets. Here, there is potential for this dataset to be reused by both those working elsewhere in South Asia and those working in other parts of the world who may be interested in the comparative study of settlement patterns or wider societal dynamics evident in archaeological landscapes.

Beyond the immediate reuse potential of this dataset, it has value in being the first accessible archaeological dataset for this region, for which we have surprisingly little

data [20]. Despite the region having been studied for 190 years, little data exists for it. Only four excavation reports have been published [10, 11, 35, 36], and only a handful of earlier surveys have detailed their results (notably [28, 52, 53, 54, 55]). Together, this has meant that for the most part, previous research in this region has not been able to fully consider the results of earlier research, and has at times replicated it. That this dataset exists in a reusable format that can be read in conjunction with the existing data compiled for the wider region [22] is thus of great value to the continued study of the region and past human activities that took place within it.

What that continued study might mean in practice is entirely up to the user of these data. Yet, with data having been curated in such a way so as to facilitate first-hand examination of the archaeological sites of the region we anticipate that a proportion of this study will involve their continued documentation and investigation. Such study is not limited to academic research. Comprising, as they do, records of where sites are and what is there, these data also have significant potential for the conservation of the region's archaeological remains. This is a complex issue that extends far beyond the remit of this paper. Conservation of archaeological sites in India involves multiple agencies and organizations at various different levels of government (central, state and local), for whom there are many impediments to effective conservation policy and practice. At the level of central and state government these include: inadequate funding, a lack of capacity, cumbersome bureaucratic structures and systems. While at the local level, issues relating to land use and land rights (fundamental to the implementation of any conservation strategy) are decided by local government bodies and village councils for whom immediate subsistence needs and fiscal returns are often more important. What underpins all of these impediments, however, is a fundamental lack of awareness of what archaeological remains exist. There is no centrally maintained complete record of known archaeological sites. We are not so disingenuous as to suggest that presenting a list of archaeological sites in any given region provides an easy solution to any of these factors. Yet at the same time, the dataset presented here together with its regional comparator [22] can easily be used by both central and state governments to: (a) assess preservation needs of the archaeological sites that do exist; and (b) develop and put appropriate measures in place within existing planning and development processes. In a similar vein, these data can also be used by the people who live in the villages and towns where these sites exist to make more informed choices about which areas to cultivate and develop. The dataset itself also presents one example of how regional archaeological data can be collated, made openly accessible for, and thus disseminated to, all relevant stakeholders.

Equally, this dataset has additional value as one that is accompanied by an explicit and detailed account of the methods used to collect them. In the study of the archaeology of South Asia there is very little in the way of an established literature on archaeological survey methods (or, for that matter, excavation methods). Studies that

discuss the methods they have used in their investigations do, of course, exist (e.g. [9, 41, 44, 49]). But there is very little written that explicitly discusses the methods used and why [38]. Instead, reference is made to certain perceived 'rules' of surveying found in the wider archaeological literature—books and articles on other archaeological contexts that are themselves derived from decades of experimentation and conversations about how best to carry out surveys in other parts of the world (usually North America, northwestern Europe and the Mediterranean). Detailing the methods used to collect our data as we have done here enables others working in South Asia to assess the quality (and thus reusability) of this dataset for themselves. Our methods are presented as one example of how regional data such as these might be collected, which can be considered in any rethinking of how best to approach the investigation of this and other areas as part of what will hopefully become a useful conversation about survey methods in the South Asian context.

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Competing Interests

The authors have no competing interests to declare.

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