

**LOCATING THE 'NEOLITHIC': A CRITICAL STUDY OF
SITES IN NORTH CACHAR, BRAHMAPUTRA VALLEY AND
WEST GARO HILLS**

Dissertation submitted to Jawaharlal Nehru University

In partial fulfilment of the requirements

For the award of the degree of

MASTER OF PHILOSOPHY

RITIKA SAHU



CENTRE FOR HISTORICAL STUDIES

SCHOOL OF SOCIAL SCIENCES

JAWAHARLAL NEHRU UNIVERSITY

NEW DELHI 110067

INDIA

2011



Date: 21.07.2011

DECLARATION

I declare that the dissertation entitled “Locating the ‘Neolithic’: A Critical study of sites in North Cachar, Brahmaputra Valley and West Garo hills” submitted by me in partial fulfillment of the requirements for the award of the degree of **Master of Philosophy** of Jawaharlal Nehru University is my own work. The dissertation has not been submitted for any other degree of this University or any other University.

RITIKA SAHU

CERTIFICATE

We recommend that this dissertation be placed before the examiners for evaluation.

Prof. Kunal Chakrabarti

(Chairperson, CHS)
CHAIRPERSON



Centre for Historical Studies
School of Social Sciences
Jawaharlal Nehru University
New Delhi-110 067, INDIA

Dr. Supriya Varma

(Supervisor)



Centre for Historical Studies
School of Social Sciences
Jawaharlal Nehru University
New Delhi-110 067, INDIA

ACKNOWLEDGEMENT

This dissertation could not have been written without the constant motivation and support of my supervisor and guide Dr. Supriya Varma. Starting from selecting the topic to the last minute correction she has guided me thoroughly. To her I offer my sincere thanks. I would also like to acknowledge and thank Dr. Jaya Menon. Both of them being field-archaeologist have given me the opportunity to go for field excavations and surveys and helped me to understand the discipline in a better way.

I would also like to thank Dr. Nitul Gogoi of Dibrugarh University for giving me the permission to photograph and study their collection in their museum. I am also grateful to the staff members of D.S.A and Central library of J.N.U, Indian Council of Historical Research library, Delhi, Deccan College library, Pune, K.K. Handique library of Guwahati University, Dibrugarh University library, library of Centre of Archaeological Studies and Training in Eastern India, Kolkata, and the library of Asiatic Society of Bengal, Kolkata for helping me out to find the relevant materials.

Vaisali and Debu da also deserves grateful thanks for assisting and helping me in my field work. My heartiest thanks also go to Prafulla Sarmah and Tripti Sarmah and also to my aunt and uncle for a comfortable stay in Guwahati during my field work.

My friends have been constant support and motivation throughout the period of writing the dissertation. I would like to thank Preetee for her moral and academic support throughout, Wangjin, Vinayak, Shailbala, Biswajeet, Meghali, Prerana and Sreeanjana for helping me out in one way or the other. My seniors, Deepak for helping me out with the drawings, Digijay for providing me with essential readings and references time to time, Jayanti for helping me out with the proof-reading. My sister Dipika and my friends Rinki and Poonam di and my room-mate Pallavi ba for their constant support and encouragement, fun and ~~fr~~ ~~ol~~ ~~i~~ ~~c~~ ~~i~~ shared with them which have helped me to take

off my stress during the hectic days. I would also like to thank all my well-wishers for their good wishes. Above all I thank my parents for their constant support and encouragement in all the spheres of my life.

Any error in the dissertation is solely mine.

RITIKA SAHU

J.N.U. NEW DELHI

21.07.2011

CONTENTS

	PAGE NO
CHAPTER 1: INTRODUCTION	1-18
DEFINING THE 'NEOLITHIC'	
'NEOLITHIC' IN THE SUB-CONTINENT	
AREA AND PLAN OF MY STUDY	
CHAPTERISATION	
CHAPTER 2: THE 'NEOLITHIC' IN NORTH-EAST:	19-37
PROBLEMS AND PROSPECTS	
INTRODUCTION	
STONE AGE STUDIES IN NORTH-EAST	
THE PROBLEM OF CHRONOLOGY	
LITHIC STUDIES AND ASSOCIATED PROBLEMS	
CERAMIC STUDIES	
SETTLEMENT PATTERN STUDIES DONE SO FAR	
ISSUE OF ORIGIN OF AGRICULTURE	
THE PERSISTENCE OF THE CULTURAL-	
HISTORICAL FRAMEWORK	
THE PROBLEM OF 'AFFINITIES' WITH	
EAST ASIA AND SOUTH-EAST ASIA	
CONCLUSION	

CHAPTER 3: LITHICS- A COMPARATIVE STUDY

38-80

INTRODUCTION

SECTION A- NORTH-EASTERN

SECTION B- EASTERN INDIA

SECTION C- A COMPARISION OF STONE TOOLS
FROM NORTH- EASTERN AND EASTERN INDIA

SECTION D-STONES AS PERCEIVED BY SOME
DIFFERENT COMMUNITIES

CONCLUDING REMARKS

CHAPTER 4- A COMPARATIVE ANALYSIS

81-120

OF POTTERY

SECTION A – NORTH EAST INDIA

SECTION B- SOUTH-EAST ASIA

SECTION C- A COMPARTIVE ANALYSIS OF
CERAMICS FROM NORTHEAST INDIA

AND SOUTH-EAST ASIA.

CONCLUDING REMARKS

CHAPTER 5- CONCLUSION

121-128

SUMMARY FINDINGS

FUTURE RESEARCH

BIBLIOGRAPHY

129-138

LIST OF FIGURES AND TABLES

	PAGE NO.
FIGURE 1: Map showing the district North Cachar and the site of Daojali-Hading.	39
FIGURE 2: Stone tools from North Cachar.	41
FIGURE 3: Stone tools from North Cachar.	42
FIGURE 4: Stone tools from North Cachar.	43
FIGURE 5: Stone tools from Daojali-Hading.	44
FIGURE 6: Google images showing the site of Sarutaru, Kamrup, Assam.	45
FIGURE 7: Google image showing a closer view of the site.	46
FIGURE 8: Stone tools from Sarutaru, Kamrup district, Assam.	47
FIGURE 9: Map of Meghalaya.	48
FIGURE 10: Stone tools from Garo hills.	49
FIGURE 11: Stone tools from Garo hills.	50
FIGURE 12: Stone tools from Garo hills.	51
FIGURE 13: Shouldered celts.	56
FIGURE 14: Polished short axe.	56
FIGURE 15: Short axes.	57
FIGURE 16: Partially ground axe.	58

FIGURE17: Probably utilised flakes from the Neolithic context from Gawak Abri.	58
FIGURE 18: Flakes like concave edges.	60
FIGURE 19: Blade like flakes.	60
FIGURE 20: Blade flakes and amorphous flakes from Didami.	61
FIGURE 21: Map showing distribution of Neolithic sites in the Bonaigarh sub-division, district Sundargarh, Orissa.	65
FIGURE 22: Chisels from Sulabhdhihi.	68
FIGURE 23: Chisels from nearby locality of Sulabhdhihi.	69
FIGURE 24: Districts of West Bengal from where Neolithic sites have been reported.	70
FIGURE 25: Google map showing the districts of Bihar where Neolithic sites are located.	73
FIGURE 26: Google image showing the location of Rongdre and Goiragree.	77
FIGURE 27: Pottery from Daojali-Hading.	83
FIGURE 28: Potsherds from Sarutaru.	85
FIGURE 29: Potsherds from Sarutuaru.	86
FIGURE 30: Google map showing the site of Selbalgiri.	87
FIGURE 31: Google image showing the location of Khok Phonam Di, Ban kao and Non Nok Tha.	89

FIGURE 32: Map of Thailand.	90
FIGURE 33: Bowls.	93
FIGURE 34: Inverted jar.	94
FIGURE 35: Burial jars	95
FIGURE 36: CP3- infant burial vessels.	96
FIGURE 37: CP4- coarse wares.	97
FIGURE 38: Footed bowl (smooth above inflection) (ceramic period CP4-coarse wares).	98
FIGURE 39: Adult burial.	101
FIGURE 40: Infant burial.	102
FIGURE 41: Different pottery forms from Ban Kao.	103
FIGURE 42: Rim and base forms from Non Nok Tha the Early, Middle and Late period.	107
FIGURE 43: Common rim forms found in Early period from Non Nok Tha.	107
FIGURE 44: Moderately large globular vessel from Phase 1 of the Early Period.	114
FIGURE 45: Footed vessel from Phase 3 of the Early period.	115
FIGURE 46: A pot with conical ringfoot (mostly missing).	115
FIGURE 47: Globular vessel with high collar rim.	116
FIGURE 48: Globular vessel with tall, slightly everted rim and a short conical ringfoot.	116
FIGURE 49: A globular vessel with short applied ringfoot.	117

FIGURE 50: A roulette vessel with a short everted rim.	117
FIGURE 51: A cup like vessel with a conical plain ring foot.	117

TABLES

TABLE 1: Typological distribution of Neolithics around Darpankhas.	64
TABLE 2: Pottery from Daojali-Hading.	85
TABLE 3: Phase wise distribution of different pottery types from the Early Period levels of Non Nok Tha, 1968 excavation (non burial: body sherds).	105
TABLE 4: Phase wise distribution of different pottery types from the Early period levels of Non Nok Tha, 1968 excavation (non-burial: shouldered sherd).	106
TABLE 5: Phase wise distribution of rim types in the Early period levels from Non Nok Tha (1968 excavation- non-burial sherds).	108
TABLE 6: Phase wise distribution of base types in the Early Period levels from Non Nok Tha (1968 excavation: non-burial sherds).	109
TABLE 7: Distribution of complete vessel types of Early period from Non Nok Tha.	109-111

ABBREVIATIONS

AD	Anno Domini
BC	Before Christ
CP	Ceramic Period
EP	Early Period
LP	Late Period
MP	Middle Period
MSL	Mean Sea Level
IAR	Indian Archaeology- A Review
TIFR	Tata Institute of Fundamental Research

CHAPTER 1

INTRODUCTION

'Neolithic' studies have been one of the perplexing issues in Archaeology. Its changing nature has also resulted in a change of its understanding. This work is an outcome of the quest to understand 'Neolithic' as a dynamic term. The study mainly focuses on the region of North-Eastern India with a special focus on the sites of Assam and Meghalaya. The evidence in this region is mostly in the form of lithics and ceramics. So, these two set of evidence is used in the form of a comparative analysis to study in order the data to evaluate the problems and issues of the 'Neolithic' in this region.

DEFINING THE 'NEOLITHIC'

The term 'Neolithic' is not a static one. Many alterations have come in the use and understanding of the term. Traditionally the onset of the Neolithic is characterised by a number of significant events. These include the change from a shifting hunter-gathering economy to an economy based on sedentary agriculture; the appearance of pottery and the wide spread use of polished stone tools and the construction of substantial stone, timber or earth monuments.

Childe (1936, 1942) interpreted it as a period when people settled for the first time and began the process of agriculture and domestication of animal. He coined the term 'Neolithic Revolution'. He viewed the 'Neolithic' as a phase of food-production thus giving rise to a new level of population density, introduction of pottery, permanent settlement and above all potential for surplus (Childe 1936: 74-117). He accepted the fact that this was a long process but he preferred to see it as a event as he argued that archaeology only recognise the result and the several steps leading to it are beyond the level of direct observation (*ibid*: 118). This view of Chile has been highly critiqued by scholars on the basis that the coming of the agriculture should be seen in the light of 'process', rather than a rapid expansion.

Braidwood (1983) argued that agriculture developed in some natural habitat of their wild ancestors. He carried out his research in the Zagros

foothills (Iraqi-Kurdistan), and later in the Taurus foothills (in southeast Turkey). What Braidwood's research has shown is that the food production and domestication was an evolutionary process. The multi-disciplinary approach that characterised Braidwood's project on establishing a human and cultural context served as a model for future archaeologist. He placed the change not on subsistence and sedentarism but on the evolution of the process.

Recent works by different scholars have also questioned the concept of 'Neolithic Revolution'. Hodder (1992: 208-218) points out the 'Neolithic revolution' or the origins of agriculture have been studied in terms of a universal economic and practical reason. But, this view ignores evidence concerned with the symbolic aspect with the origins of agriculture because it appears irrational. For example, human skulls with the faces modelled in clay are found in houses in the Near East, bulls' heads are placed in or on houses in the Near East and in southeast Europe, the beaks of vultures are set into protuberances on house walls at Catal Huyuk in Turkey where models of women sitting on leopards are also found, and complex ovens and hearths surrounded by elaborately decorated pottery are found in houses in southeast Europe, as are boulders with human heads carved to look like fish. Hodder has tried to understand the social meanings given to the processes involved by which a different understanding of the origins of agriculture could be generated. His argument is based on the symbolism concerning the house and an opposition that was created between the idea of the house or home (*domus*) and the wild (*agrios*). He has tried to show how the house was used to create the domestic versus the wild. This bringing in and opposing was done both economically (by domesticating some plants and animals), and symbolically (for example, by placing representations of wild animals on house walls or by surrounding the cooking and presentation of food in elaborate decoration). The economic transformation was linked to a symbolic transformation. Domestication involved creating the wild as the 'other', and establishing the domestic, the house as the structured, the stable, and the long term. As wild plants and animals were brought in and domesticated, so symbols of the wild were created and tamed symbolically. In short, Hodder emphasised on the symbolic potential to distinguish between the wild and the tame.

Again, Thomas (1999: 222) has pointed out that the understanding of 'Neolithic revolution' was based upon an epochal change in subsistence practice. It has promoted the idea that all Neolithic communities should have practised a single economy. The idea basically comes from any piece of evidence relating to Neolithic agriculture and has been adopted as representative of the whole. This has generally involved the combination of sedentary, a stable domestic community co-resident in a permanently occupied structure, the cultivation of cereals in defined and continuously cropped fields, the keeping of a variety of domestic animals at individual farmsteads, and a proprietary or territorial relationship with land. Thomas has questioned this model on a number of grounds. His main focus is Britain though. He has argued that the 'Neolithic houses' in mainland Britain are scarce, and many of the structures identified as houses may not have been lived in; episodes of clearance, woodland regeneration and soil erosion were less intense than those experienced in later periods, and were not synchronous; samples of carbonised plant remains have generally been dominated by wild species, while faunal assemblages almost always relate to ceremonial activities rather than everyday diet. The places where the evidence of cultivation has been identified, it appears to have been periodic, rather than representing the establishment of long-lived agrarian landscapes. The changes in subsistence activities and residential patterns within the Neolithic are quite difficult to assess. Both the composition of lithic assemblages and their distribution in the landscape indicate shifting patterns of mobility and residence. Furthermore, faunal collections dating to the later Neolithic are less often dominated by cattle. On the whole, though, there seems to have been no single pattern of economic change through the British Neolithic, but a more general tendency toward diversification (*ibid*: 223).

Although the term 'Neolithic' has undergone considerable alteration and redefinition, until recently the role of economy was considered to be critical to the process of becoming Neolithic. The use of new forms of material culture was assumed to be allied to this economic change, with pottery and polished stone axes viewed as consequences of the process of sedentism and deforestation that arose from an economy based on agriculture. Monuments

too came up in this time. However, this view of economic primacy has increasingly been criticised.

Thomas (1991: 7-8) has argued for the inseparability of issues of economy with the social changes that constitute the Neolithic. He has described Neolithic as a historical phenomenon, more a process than an object grasped and reduced to a series of traits. It does not comprise the same element at different places and times, even if it maintains an identity by constituting a linked sequence of events and transformations. At a point in space and time it may have been an economic phenomenon, at another it constituted an ideology. He points out that Neolithic was an extremely heterogeneous phenomenon at least in economic terms. The 'Neolithic' in contemporary archaeology is seen as the adaptation of reliance upon agriculture. Thomas argues it as a 'mixed farming economy'. Thomas (1991: 12-13) has tried to substantiate this heterogeneity by considering the different ways in which Neolithic developed in Eurasia. In the Zagros foothills, there was heavy reliance upon the herded animals, with relatively small and architecturally simple settlements like Ali Kosh and Jarmo. In Levant, the instances of house-building, cultivated barley and legumes and symbolic paraphernalia involving the use of human skull all preceded domestication of animals. Again, in Europe, there are documented instances of domestication of animals, plants, or the use of pottery or polished tools, or of complex forms of burials being practised by local people who may or may not have been in contact with Neolithic people. Thomas (*ibid.*: 12-13) strongly points out that, owing a cow, an axe, living in a house, or burying one in a particular way does not create a Neolithic world. But it is the recognition of the symbolic potentials of these elements to express a fundamental division of the world into wild and the tame which create Neolithic world. In this work, Thomas (1999) has examined the Neolithic in England. He has tried to give a different narrative of the past. He has generated a series of parallel accounts of the Neolithic using different sets of evidence- economic and environmental data, monumental structures, cultural deposits and mortuary remains. The principal aim has been to demonstrate the extent to which the Neolithic cultural assemblage was deployed in quite different ways in different settings. What Thomas has

projected are the distinctive regional sequences that were present in the different places.

Jones (2002: 104) has suggested that the Neolithic should not be viewed as a social effect brought on by the adoption of agriculture, but as an effect of changing social relations and beliefs which made the idea of agriculture possible. This proposal has been substantiated by careful examination of the chronological sequence relating to the adoption of agriculture and the construction of the monuments. Jones has further argued that the monuments should not be viewed as a by-product of agriculture, but as a central process of becoming Neolithic. According to him monuments evoke an altered conception of time and place. Their construction involves a new kind of place in the landscape which by nature they endure. Jones (2002: 105) has also emphasised the role of material culture in the process of becoming Neolithic as this category is central to the construction and maintenance of social relations. Their examination should enable to understand how relations between people and their world are configured during this period. In this work, he has tried to study the relationship between scientific and archaeological studies on the Neolithic. He has examined the nature of relationship between people and that of an artifacts and thereby demonstrates that the artifacts change its meaning during the course of the time. His main focus was on the analysis of a pottery assemblage from the later Neolithic site of Barnhouse, Orkney, Scotland. He has investigated the grooved ware ceramics, and on the basis of his study he formulates that there were changes in the pattern of social identity. He pointed out that in the earlier phase of Neolithic this ware was used to construct differences among societies whereas in the later phase we see that all the all settlements used the same ware to define a holistic picture of the community (*ibid*: 165).

Kuijt (2002) has outlined the recent research on Neolithic in Near East. He has (*ibid*: 4) pointed out that most of the research on the Near Eastern Neolithic has traditionally focused on the origins of agriculture, descriptive accounts of material culture, and shifts in economic practices, and mostly the discussions of social organization are usually related to detailed material studies rather than directly addressed. Recently, there have been attempts to

explore the complexity, contradictions, within Neolithic communities in early agricultural and horticultural contexts, also to understand the multiple pathways toward social inequality and changing social organization in early agricultural contexts. A number of regional studies of the Neolithic of the Near East have illustrated that there are slight, yet important, differences within regions in different areas of the Near East that are only now becoming clear. Archaeologists are now beginning to explore variations in material and social adaptations within and between different geographical areas of the northern Levant and Anatolia (*ibid*: 5).

More recently, (Bailey, Whittle and Cummings: 2005) several archaeologists have tried to grapple with a new understanding of the Neolithic. The main idea behind these studies is to abandon the widespread generalisations that permeate this field of study. There is a suggestion that an unpatterned set of activities must have occurred over a period of time. These studies have tried to highlight some new aspects of Neolithic. They have basically questioned the existing notion and suggested a new understanding. In addition to unsettling sites, settlement, sedentism and mobility, these studies also questions the second fundamental component of traditional definitions of Neolithic i.e. the shift from food gathering to food production. Bailey and Whittle (2005: 4) have pointed out that archaeologists are now urging to abandon the still dominant Childean tradition that conceptualises differing ways of life directed by economic subsistence strategies. It is also being advocated that we should avoid thinking about foragers, hunter-gatherers and farmers in terms of essentialists, dichotomous, economic concepts. It has been pointed out that the knowledge about the earliest Neolithic groups is still very little. The argument throughout is that food producing strategies should not be privileged when we engage with the Neolithic. Further, it has been argued that it is no longer acceptable to speak of a single economic strategy such as domestication as a homogeneous, coherent phenomenon. Nor can we assume that the same attitudes to animals (domestic and wild) prevailed throughout the Neolithic. On the one hand, relationships between people and animals vary in different parts of the Neolithic. The emphasis on conceptualising the Neolithic in terms of a dynamic place of mutual exchange, where fluidity must have been prevalent and where identities and accompanying material culture

expressions were constantly reformulated. Instead of the usual picture of a Neolithic culture winning over the Mesolithic, this process might have happened in a fluid landscape with multiple frontiers and conflicting directions, in a constant process of creating hybrid identities. All of these arguments blur the traditional boundaries between the Mesolithic and Neolithic. To rewrite the Neolithic, we must move beyond essential concepts. To rethink the Neolithic we must not assume the homogeneity of human behaviour or archaeological phenomena; the value in particular. Thus a shift from the traditional understanding of Neolithic is definitely visible in the recent studies. What has been mainly focused on the emphasis on the complex nature of inter-play of different cultural dynamics of the social order. This quite rightly needs to be highlighted as the understanding of the cultural processes are quite complex and need not have a straight-forward and simple nature.

‘NEOLITHIC’ IN THE SUB-CONTINENT

In the context of the Indian subcontinent, there has been a conceptual confusion as far as the understanding of Neolithic goes. Bhattacharya (2005-06: 18) argues that the concept of Neolithic has not undergone much change from the time of Childe. The understanding of Neolithic in the Indian subcontinent does not take into account different aspects of study. Neolithic is mainly associated with the use of ground polished tools and pottery. Again, the different aspects of the material culture and their inter-relation with the human have not been a topic that has been well investigated. Bhattacharya (2005-06: 15) has questioned these kinds of studies. He points out that in Adamgarh and Bhimbetka the tools found belong to the same typology and the raw materials used are also same. But in Adamgarh the tools are more in number than that of Bhimbetka. But no adequate explanation has been given. He argues that neither diffusion nor evolution can help in understanding the relation of non-bi-faces to bifaces unless these assemblages are studied as the product of cumulative knowledge interacting with imperatives of adaptation. Summarising his arguments, he has pointed out that even if ideas and techniques migrated through gifts as the medium of social intercourse, a

reproduction of the same in different eco-zones may not always been possible. Thus, seeking an answer through the evolution or diffusion can be misleading.

Another point that Bhattacharya (*ibid*: 16) raises is the issue of the different functions of a tool. He gives the example of burins or gravers which was used for engraving designs on ivory and antlers in Europe. But, the use of the same tool type in India during 20,000-2000 BC may have different use as no antler-working was known in this period. He argues that here it would have been used to open fresh water shells or make holes on wood. Thus, his hypothesis points out that the same kind of artifacts can have different function in a different context. This kind of work can help in understanding the function of a tool in a different and distinct way suitable for the area concerned. As regard the farming issue, Bhattacharya (*ibid*: 19) points out that scant attention has been paid to the fact that clearing of a forest was not necessary in either root-crop or wild-seed collecting. Seed agriculture on the other hand being labour intensive required a great deal of social investment. The latter kinds of economies result in sites which were spread over a larger area. Thus, one needs to view the emergence of farming as a whole process of internal ordering rather than the mere occurrence of celts and ceramics. He (*ibid*: 20) further points out that the Neolithic site excavated so far do not show a kind of population structure comparable to Çatal Hüyük in Turkey or Jerico/ Jarmo in Jordan. In those sites there is a need of a sturdy axe to clear the bush and numerous grinding stones to process the seeds. The activity schedule in smaller community clustered around lakes and rivers as those found in East India are quite different from them. And even if seed cultivation was found in the later occurring sites, their small size tend to indicate no labour intensive farming activity. He illustrates his point by giving example of Chirand where very few stone tools are found and more of hunting tools. On the basis of his observation he points out that cereals did not occupy the central concern of the people and hunting and fishing was the primary occupation. Most of the cereals found here could be obtained by trading with more favourable agricultural sites further upstream. Neolithic transformation in India shows that neither does this event occur at a uniform time nor does it occur with the same characteristics everywhere. So, the issue of homogeneity in Neolithic

subsistence pattern then becomes a problem. In general, Indian archaeology tends to club together all shades and varieties of adaptation under a single category (*ibid*: 20-21).

While in West Asia, the beginning of the 'Neolithic' is dated to 9000 BC, in South Asia the earliest 'Neolithic' settlement is dated to around 7000 BC in Mehrgarh, (Baluchistan, a province in Pakistan). Lahuradewa, (Tiwari 2001-02: 37-68) is another site excavated in Uttar Pradesh which is assumed to have revealed the earliest evidence of rice. But scholars like Fuller (2005-06) have questioned the existence of such an early evidence of domesticated rice. He (*ibid*: 187) points out that the current state of biogeographic and genetic research on the wild ancestors of rice, strongly supports independent rice domestication somewhere in northern and eastern India. But what is still to be identified archeologically is the transition process from foragers gathering wild rice to early cultivation of rice domestication to the subsequent morphological changes in rice which are called domesticated. The evidence available from Lahuradewa is still insufficient; and the detailed quantification of assemblages from other sites such as Senuwar, Mahagara, and Narhan, have to be further studied if the evidence from Lahuradewa has to be understood in terms of a longer term trajectory of change (*ibid*: 191).

'Neolithic' sites have been reported from different parts of the sub-continent and include the Northwestern, Northern, Eastern, Southern and North-Eastern region.

(i) 'Neolithic' sites in the Northwestern region

These include the sites of Mehrgarh and Kili Gul Muhammad in Baluchistan, Gufkhal and Burzahom in Kashmir Valley, Sarai Khola in the Potwar plateau and Ghaligai, Loebanr and Kalakoderay in Swat valley (Singh 2002: 132). Mehrgarh is located on the Bolan river in the Kachi plain about 150 km south-east of Quetta. The excavations have brought out remains of a pre-ceramic Neolithic with a suggested date of 8000-5000 BC. The pre-historic settlement covers an area of more than 200 ha making it one of the largest Neolithic settlements between the Indus and the Mediterranean. Of this about 700 sq m area was excavated in six field seasons. The 9 metres thick

cultural deposit divisible into seven periods ranges from aceramic Neolithic down to third millennium BC. In the Baluch region we see the earliest evidence of farming of six-row barley einkorn and durum wheat.

In Kashmir valley, Neolithic settlements have been located on three dozen sites on the elevated part of the Karewas of which Burzahom and Gufkral have been excavated. Of these, Burzahom is better known for its unique pit-dwelling and a developed bone industry (*ibid*: 133). Burzahom is located about 2 kms from the Dal lake and 16 km north-east of Srinagar. It is situated on the ancient lake bed locally known as Karewa. This is surrounded by hills covered with forest and with lakes and swampy areas. It provides an ideal place for fishing and hunting. A number of pit dwellings have been reported from this place. The existence of these dwellings has been reviewed recently by Conningham and Sutherland (1997:29-34), who believe that these pits were used as grain stores which suggests that it was a semi-sedentary phase instead of a fully sedentary one in which case these pits could have been used for habitation throughout the year, including the very cold winters. Here around 45 excavated pit chambers are located in the centre of the site.

(ii) The Northern region comprising the Belan valley

Here the archaeological evidence from Chopani-Mando, Koldihwa, Pachoh, Indari and Mahagara are important. There are around 40 Neolithic sites identified in the surface explorations in the valleys of Belan, Adwa, Son, Rihand, Ganga, Lapari and Paisuni rivers (Singh 2002: 135). Excavations at the former sites of Koldihwa and Mahagara have revealed a threefold culture sequence covering Neolithic, Chalcolithic and the Iron Age. Mahagara excavation has yielded as many as 20 huts represented by floors and post-holes exposed at this site. The wild rice (*Oryza nivera*) from Koldihwa, Mahagara and Indari and bone fragments of deer, antelope, bear and bird suggest that hunting and collecting of wild food was also a kind of subsistence.

(iii) The Eastern region comprising of Bengal, Bihar and Orissa

The Neolithic in Bihar come mostly from three geographical zones- the riverine plains to the north of the Ganga (mainly Chirand and Chechar-

Kutubpur), the foothills of the northern flanks of the Kaimur ranges (Senuwar, Sasaram, Taradih and Gaya districts) and the hilly regions of south Bihar. Chirand is a small village on the left bank of the Ganga in north Bihar. It is an important site. Many bone tools have been found from this region. Other sites reported from Bihar are- Manjhi, Chechar, Sonpur and Barudih (*ibid*: 137).

There have been a number of sites reported from Dungrabusti and Sindibong, also Bagridibhi in Midnapore district in the area of Susunia hill (Bankura district) and in Purulia. Some sites are also reported from numerous sites in Ajay, Kunoor and other river valleys of Burdwan and Birbhum districts and in the deltaic regions of Ajay and Bhagirathi (*ibid*: 140).

In Orissa, the only excavated site is Kuchai, situated about 8 km to the north of Baripada along the national highway to Keonjhar (*ibid*.). The cultivation of root-crops and the collection of wild rice along with fishing, hunting and honey collection characterised the eastern region.

(iv) Southern region covering peninsular India

The Neolithic of South India is best understood among the other Neolithic sites of India. It is primarily a product of human adaptation to the semi-arid environment, marked by low (600–1200 mm) rainfall. 'Neolithic' sites have been reported in northern Karnataka and western Andhra Pradesh, although a few sites also occur in southern Karnataka, coastal Andhra Pradesh and northern Tamil Nadu. Many of them occur on the flat tops, slopes and foot of granitic hills but some are also found on the alluvial banks of rivers like the Godavari, Krishna, Penneru, Tungabhadra and Cauvery. Of them Sangankallu and Tekkalakota in Bellary district, Brahmagiri in Chitradurg district, Maski, Piklihal and Watgal in Raichur district, Hallur in Dharwad district, T. Narasipur and Hemmige in Mysore district, all in Karnataka; Nagarjunakonda in Guntur district, Ramapuram and Veerapuram in Kurnool district, all in Andhra Pradesh; and Paiyampalli in North Arcot district, Tamil Nadu have been excavated (Agrawal and Kharakwal 2002: 206-207; Korisettar, Venkatasubbaiah and Fuller 2002: 151-237). Adapting sturdy millets like ragi and hulgi and intensifying livestock-keeping show progressive specialisation over the rocky plains along the river Krishna and its southern tributaries.

One of the recent and important study was done by Paddayya at Budihal in Shorapur taluka, Gulbarga district. Here Paddayya (2002) has tried to reconstruct activity and life-ways at the Budihal ashmound. Budihal excavations have revealed various functionally specific activities within the site, such as cattle penning and cowdung disposal areas, human settlement area with burials and an animal butchering floor, chert workshop, and polishing grooves (*ibid*: 83). Paddaya (*ibid*: 107-108) points out that the ashmounds of lower Deccan in north Karnataka, offer limited scope for agriculture but contain vast reserves of pasture suited for pastoral activities. He (*ibid*: 107) supports Allchin's cattle-pen hypothesis, but rejects the division of the 'Neolithic' sites into habitation and cattle penning sites. On the basis of his research, he (*ibid*: 108) argues that the ash-mounds are full-fledged pastoral settlements. Further, he suggests that the site of Budihal must have served as a local/regional centre where cattle fairs must have been held and also the chert workshop found at Budihal must have been exported to other settlements. He also assumes that the evidence of cattle-pen and ash deposits should be expected at other Neolithic-Chalcolithic sites characterised by agro pastoral economy.

Several other important recently excavated site include Sanganakallu and Kupgal, which refer to a cluster of granite hills that are surrounded by the villages of Sanganakallu and Kupgal in the Bellary District of Karnataka. Investigations by the Sanganakallu-Kupgal Project led to the discovery of various lithic production-related localities, including an axe-manufacturing area on a medium-sized plateau in the southeast part of the large and topographically complex hill. The lithic analysis component of the Sanganakallu-Kupgal Project (Brumm, Boivin, Korisettar, Koshy and Whittaker 2007: 87) focused on recording the stone artifact reduction sequences employed at Hiregudda. In the context of lithic analyses, the models were aimed at reconstructing the technological modifications that a stone underwent between the times of raw material procurement and the final discard of the artifact into the archaeological record. The focus is on the methods employed to reduce stones rather than on the tool types, providing insight into the technological behavior of knappers. About 296,730 dolerite

artifacts from 21 stratigraphic contexts across Feature 1 and Trench 1 in Area A were roughly sorted and catalogued. A sample of artifacts from each of these contexts comprising 83,858 artifacts in total were sorted into discrete technological categories and analyzed.

The reduction sequence analysis indicates there were at least three separate methods employed for making axes.

Method 1 (“block-based”) involved the reduction of large unmodified blocks of dolerite into bifacially flaked axe blanks.

Method 2 (“slab-based”) involved the reduction of relatively thin flat slabs and tabular pieces of dolerite into bifacially flaked axe blanks. Method 3 (“flake-based”) involved the reduction of amorphous flakes and non-flake debitage into both unifacially and bifacially retouched axe blanks.

Method 1 block-based axe reduction would have required access to large blocks of dolerite, some of which measured over 300–400 mm in maximum dimensions. By contrast, Method 2 slab-based axe reduction involved the reduction of relatively thin and flat slabs or tabular pieces of dolerite, items readily available in the local lithic terrane. Finally, Method 3 flake-based axe reduction involved the reduction of amorphous pieces of dolerite flake or non-flake debitage produced during unstructured dolerite core reduction methods. The varying technical requirements of their manufacture, as well as the differences in their final forms, points to the fact that it seems possible that axes produced according to the three separate reduction methods operated in quite different functional and socio-economic contexts during the Neolithic period. The complex block-based bifacial axes produced by Method 1 knappers were intended primarily as prestige items for stone exchange networks. As noted, the manufacture of these large flaked symmetrical axes required a complex sequence of bifacial reduction. Moreover, they are impressive, aesthetically appealing stone tools, and the high level of technological standardization and the complexity of production processes seem to hint at specialist contexts of its use and distribution. The axes manufactured by Method 2 and Method 3 axes, on the other hand, which by comparison would have taken much less time, effort, and skill to produce, may have been used for local use. They must have functioned as the more domestic

types of axes produced not so much as prestige items and/or for exchange but as the everyday work axes of the communities (*ibid*: 76). Thus, in this way this study moves beyond the stereo-typical typo-technological studies of the tools and has tried to give an insight of the socio-economic perspectives.

Another interesting find that has come up in the excavation at Hiregudda are the engraved stone artifacts. Contextual and microscopic investigation of a number of engraved artifacts discovered in a large assemblage of dolerite artifacts excavated from a Neolithic hilltop habitation and stone-tool production site in South India suggests that an alternative interpretation of the engraved stone artifacts. The scholars (Brumm, Boivin and Korisettar 2006: 15) associated with this work have suggested that the engravings may have been a response to a perceived 'life-force' within the dolerite.

North-Eastern region

This consists of the eight states of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Tripura and Sikkim. Most of the sites in this area are explored. Very few of them have been excavated. But a systematic understanding is lacking. There are a number of problems that have persisted in the study of the 'Neolithic' in this region. A special emphasis on the kinds of problem and prospects of the 'Neolithic' in this region is discussed in the second chapter. Thus we can see that the studies on the 'Neolithic' in the sub-continent remain somewhat simplistic, with few attempts to undertake a more integrated analysis. Themes like economy, polity, religion, kinship as well as cognitive aspects have so far not been addressed, although in the recent past, few attempts in this direction have been made.

AREA OF MY STUDY

The area of my study includes the North Cachar hills (the only excavated site in this district includes Daojali Hading), Sarutaru in Kamrup district of Assam and also the sites of Garo hills in Meghalaya. The reasons why I have chosen these sites are because excavations have been carried out at Daojali Hading and Sarutaru, whereas some kind of trial cuttings have been undertaken at the sites of Garo hills. Secondly, these sites have been in focus of the scholars as far as the study of pre-history in the North-East is concerned.

For this work, I have referred to the published reports by different scholars. I also undertook a field trip to the sites of Meghalaya as a part of the fieldwork. I have also made an attempt to observe the collections in the museums of Tura, Guwahati and Dibrugarh.

The most important site in the North Cachar hills is Daojali Hading. It means the hill of the bird in the local Dimasa dialect. It is situated in the Langting and the Mopa forest. This site was excavated in 1961 and 1963 (Choudhary 1985: 43). Rao (1976: 195) carried out excavations at the two sites of Sarutaru and Marakdola in this region in 1973. Sarutaru is a hamlet dotted with low hillocks relieved by alluvial patches in between. The site is located on a hillock about 125 m high. Geologically, this area is a part of the Shillong Plateau or, rather, it is situated on the periphery, where the plateau merges with the plains of the Brahmaputra Valley on the north. To its north is the river Digaru, a tributary of the Brahmaputra. The surface of the hillock is formed by the brown soil with morrum which is derived from the decomposition of the rock due to prolonged precipitation and the consequent growth of dense tropical rain forest (*ibid*: 195).

The state of Meghalaya (the abode of clouds) is geographically known as the "Meghalaya Plateau" or the "Shillong Plateau". The area is made of the oldest rock formations. Meghalaya consists of the Garo, Khasi and Jaintia hills along with their outliers formed by the Assam ranges. It is the detached north-eastern extension of the Peninsular India. Part of it lies buried under the alluvium deposited by the Ganga-Brahmaputra system of rivers. This gap is known as Malda gap (between Raj Mahal hills/Chhota Nagpur and the Shillong Plateau). West Garo Hills district is located at the westernmost part of Meghalaya. The district is bound by East Garo Hills district on the east, by South Garo Hills district on the south-east, Goalpara district of Assam state on the north and north-west and Bangladesh on the south. It is bounded by Goalpara district of Assam, on the East by Khasis and Jaintia hills and west and north by Bangladesh. Many sites have been discovered in this area, but a systematic study is still lacking. Most of the sites have been found in the Rongram valley with high alluvial deposits. There are a number of first and second order streams and among them are- Selbal chiring, Michima Chiring, Mokbol Chring and the Ida Chring. *Chring* in Garo language means stream.

The Ganol is the main river in this region (Sharma 2007: 15). There are a cluster of sites in the Ganol and Rongram valley which lie near to each other.

The main sites in West Garo hills include Gawak Abri which is located 8 kilometres downstream of Rongram river; Didami which is located at a distance of seven kilometres towards north from the source of Ganol river; another important site is Rongram IB which is located four kilometres upstream from its confluence with the Ganol river; Ida Bichik gets its name from Ida Chiring which forms the northern, western and southern boundaries of the site; Bibragiri is located on the eastern bank of the Ganol river; eleven kilometres downstream; the site of Missimagiri is located thirteen kilometres downstream of Ganol on its eastern bank; the site of Selbal Bichik is located on the eastern bank of the Selbalgiri stream and is at a distance of two kms towards south of the Tura and Williamnagar road; Mokbol Bichik II is located north of the Missimagiri site; another site Citra Abri is located at the left bank of river Rongram, at a distance of two kilometres on the southwest of Rengsangiri village; Mokbol Bichik I gets its name from Mokbol Chiring and is near Mokbol Bichik II (Sharma 2007: 29-34). Another important site is Selbalgiri, which is situated on the north bank of Rongram in Garo hills (Ghosh 1989:59). Ganol Abri is situated near the shifting cultivation fields of Selbalgiri. Muksak Abri is located two kilometres towards the site of Ganol Abri. Rongru Abri is located three kilometres towards the west of Muksak Abri. Almost all the sites are near the streams or river terraces.

PLAN OF MY STUDY

My dissertation will be divided into five chapters. In the first chapter, I have discussed the changing definitions and approaches in the study of the 'Neolithic'. I have also presented a brief historiographical review of the studies on the 'Neolithic' in the sub-continent.

The second chapter attempts to provide a historiographical foray in the studies related to the North-East. The chapter is thematically divided into different sections. The study shows that regarding 'Neolithic' in this region there are several problems which include chronology as well as the lack of comprehensive, systematic approach. I will also look at some of the theoretical approaches to the 'Neolithic' and see if they can be used in the North-East,

where the work so far has been largely empirical. These include mere cataloguing of stone tools and pottery.

In the third chapter, I have made an attempt to undertake a comparative study of the tool types found in Orissa, West Bengal and Bihar with that found from Garo hills, North Cachar and Sarutaru, Assam. There have been claims by scholars that there is 'diffusion' of lithic tools along different lines. But no systematic comparative study has been made to critically analyse the available data. The presence of some common tool types has been taken as influences from one region to another. This clearly reflects the 'cultural-historical' paradigm in which it has been studied. What is mostly found in the previous works of the authors is that they have only tried to associate a tool type with other region. But this exercise is mostly speculative than expounding in nature. Here, the problem of cultural-historical approach is dealt with. Another issue that is highlighted in this chapter is the belief of stone as an active entity perceived by different people. There are certain beliefs and ideas attached to them. The study of scholars like Lubbock, Austen, Mills, Hutton, Walker was mostly ethnographic in nature where they tried to perceive upon such ideas as how these tools were professed by the local people of that time. Most of their collection comprised from the households who preserved them as having magico-medicinal properties (Sharma 2003:12). The idea of stone as a passive entity has been included in this section in order to highlight the importance that some communities associate with the stones and also how it is still in vogue among few of them. Another aim is to bring to light the fact that most of the stone tools that are in different museums and collected by different scholars like Hutton and Mills were from the villagers who possessed them as auspicious objects.

In the fourth chapter, I have made an attempt to do a comparative analysis of the pottery types from 'Neolithic' sites in Northeast India with those of Southeast Asia. Most of the scholars have predominantly referred to them as having affinities to that of South-East Asian and East Asian types. But the premises of this argument are not based on a sound comparative analysis. What is more surprising is that the affinities so ascribed are based on the scanty pottery recovered from the excavated area, primarily that of Daojali-Hading in North Cachar, hills. The main objective of this chapter is to bring

out a comparative study of the pottery types with that of Thailand. The sites of Daojali Hading, Sarutaru, Selbalgiri and Gawak Abri are taken as examples as 'Neolithic' sites from Northeast India. On the other hand three sites i.e. Khok Phanom Di, Ban Kao and Non Nok Tha from Thailand. are taken as examples for South-East Asia.

In the concluding chapter, I will present the summary of findings of my work. The main theme that needs to be emphasised in this regard is the thorough re-appraisal in the study of the 'Neolithic' in the region of my study.

CHAPTER 2

THE 'NEOLITHIC' IN NORTH-EAST: PROBLEMS AND PROSPECTS

INTRODUCTION

The study of 'Neolithic' in North-East India is entangled with many problematic issues and has complicated the scenario in its understanding. A foray into the work of different scholars involved in this field shows that there are some loopholes in the way things have been studied and the interpretations thereby made. A holistic picture is still lacking on account of simplistic approaches. In this chapter, an analytical, critical and comprehensive examination of the studies on the 'Neolithic' in the North-East is being attempted.

The issues involved are thematically divided into -

- 1) Studies on the Stone Age in this region
- 2) The issue of chronology
- 3) The focus on classification of tool assemblages and pottery
- 4) The study of settlement patterns
- 5) The issue of origin of agriculture
- 6) The problem of 'cultural-historical' paradigm
- 7) The problem of 'affinities' with East Asia and South-East Asia

STONE AGE STUDIES IN THE NORTH-EAST

In the South Asian context, the study of stone tools began in the form of an antiquarian interest. In the colonial period the antiquities were acquired from the villagers who used to collect them. The story in the case of the North-Eastern region of India is also very similar. Here, the first jadeite tool was collected by Sir Lubbock (Sharma 2003: 13) in 1867 and thereafter many stone tools were reported from other parts of North-East. The study in this area also began as a result of amateur or antiquarian interest of the scholars in the 19th century. The study of scholars such as Lubbock, Austen, Mills, Hutton, Walker was limited to the description of the stone tools that were found. At present they are preserved in different museums especially Pitt Rivers

Museum at Oxford. Often these tools comprised of the collections from the households who preserved them as having magico medicinal properties (Rao 1973: 1). These scholars have written extensively on the different communities of this area. They have also tried to give an idea as to how the stone tools were perceived by the 'natives'.

Hutton (1924: 20-22, 1926: 71-82, 1965: 16-43) in his work has documented the types of stone tools found from different areas. His studies mostly focussed on the description of the stone tools. His work was mainly ethnographic in nature and the tools were collected as part of antiquarian interest. Thus we can see that the study of stone tools in this region also begins with an antiquarian interest. These tools were later studied by Dani and Sharma as part of their doctoral research.

After independence, the work on the Stone Age in this region has been carried out extensively by the Anthropology Departments of Guwahati and Dibrugarh Universities (Sharma 2003: 14). Recently studies on pre-history have also been carried out by the universities in Nagaland and Manipur.

Innumerable sites have been discovered in the North-East, but most of them comprise surface scatters. Very few excavations have been undertaken so far. What stands out from the above discussion is that the study of prehistory was mostly limited to finding stone tools from different areas of the region and not based on a systematic study of the 'sites' and the context in which they were found. When the initial studies on the stone tools were undertaken, the North-East was known as the 'Assam region'. Thus, in many of the writings of the scholars we see that they have used the term 'Assam region' or 'Assam' for the entire North-East. But in the present day context, Assam forms only a part of the North-East. At present the region of Northeast comprises of 8 states which include Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Sikkim and Tripura.

THE PROBLEM OF CHRONOLOGY

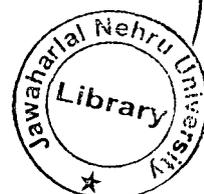
There has been great controversy regarding this issue T.C. Sharma (as cited in Sharma 2003: 23) proposed a chronology starting from the Early

Neolithic and Late Neolithic. Sankalia (1974: 298) also supported this hypothesis. Sankalia (as cited in Sharma 2003: 24) proposes the following sequence for Neolithic of Meghalaya- Neolithic A- 5000-2000 BC and Neolithic B- 2000-1000 BC. Sharma (2003: 24) provided a sequence which starts from the Palaeolithic times to the Neolithic. He has divided the Neolithic into two phases - Early and Late - and has proposed the date ranging from 5000 B.C. to 3000 B.C. for the Early and from 2000 B.C. to 1000 B.C. for the Late phase.

It is seen that, time and again, scholars have tried to use the term 'Hoabinhian'. It has to be pointed out here that, the term is used mostly to draw affinities with that of South-East Asia and 'Hoabinhian' is a term borrowed from South-East Asia. There is great variation among the different sites and moreover, this is a much debated term even in the South East Asian context (Bellwood 1985: 155-200, Higham and Thosarat: 1998).

Sukanya Sharma (2007: 15) has questioned this chronology based on artifact typology alone and without collaboration with the soil context. Most of the 'sites' are surface scatters and the data obtained overlook the limitations of such 'sites'. So, she has attempted to study the geo-stratigraphic content of the lithic assemblages to understand the chronology of this region. Based on her study, she has dated the lithic assemblages to mid Holocene period (*ibid*: 27). Thus, we can see that though she has used a different approach in order to understand the problem of chronology, yet she has proposed a date similar to that suggested earlier by T.C.Sharma and Sankalia.

The site of Daojali Hading was the first site to be excavated in this region. It was excavated by Goswami assisted by T.C. Sharma and later on it was excavated by T.C. Sharma. Here he (as cited in H.C. Sharma 2003:16) referred to a presence of a single cultural deposit. This was later questioned by H.C. Sharma (2003: 16) on the basis of his own study. He proposed a three layer deposit segregated on the basis of colour of the soil, contents and geo-archaeological characters. It is to be pointed out that, this site has not been dated.



Another site is Sarutaru which was excavated by Rao in 1973. This site has yielded many ground and polished stone tools and cord-impressed pottery. At a distance of 1 km from Sarutaru there is a small mound called Marakdola. It revealed a single cultural deposit where a shouldered celt and terracotta object and wheel-made kaolin pottery were found. This was explained by Rao as “a result of symbiosis between a relatively isolated suburb of Neolithic culture with a comparative advanced area of attraction and thus contemporaneous though culturally different” (as cited in Singh and Sengupta 1991: xvi). Here when he talked of an ‘advanced area of attraction’ he had in mind the site of Ambari. He has dated this site to the first century A.D. It should be pointed out that Ambari was dated to seventh century A.D. at that point of time. It is only with the recent excavation in 2008-09 at this site that the date of the first century A.D. was established (see Dutta 2006).

Rao (1977: 200-202) has presented a completely different perspectives from the above mentioned one. “Preliminary excavation at Ambari , at a distance of 30 km NE of Marakdola, has yielded a ceramic ware with typical forms and decorations, closely resembling the pottery of Marakdola. Ambari Ware, as it is called, is assigned to Period I of Ambari. A time bracket of seventh to twelfth century A.D. has been ascribed to Stratum 3 on the basis of a C-14 date of 1030 ± 150 A.D. and on the basis of stylistic features of sculpture recovered from the same Period 1. The excavators further observe that since the deposit of Period I with similar cultural material continues deeper into the subsoil water structure for 3 m, the beginnings of this period can be stretched back to the early centuries of the Christian era. On the basis of this well-considered hypothesis of early antiquity, we can reasonably adopt the same time bracket for Marakdola. From the two sites of Sarutaru and Marakdola, carbon samples have been collected for C-14 determination. A C-14 determination has been received for one sample of charcoal recovered from Trench III and Layer 3 of the post-Neolithic site at Marakdola. The radiocarbon dating was processed at the Birbal Sahni Institute of Palaeobotany, Lucknow, India, B.S.J.P. No. B. 5-42; the date given is 658 ± 93 years B.P.; that is, 1292 A.D. with a half-life value of 5570 ± 30 years. Thus, the date of 1292 A.D. obtained by radiocarbon dating broadly agrees

with the upper limit of the time bracket (seventh to twelfth century A.D.) suggested by archaeological dating for the Marakdola site. It must be pointed out, however, that the date should not be construed as applicable to the whole study region, in view of the fact that the ceramic tradition found at Marakdola had differential distribution in time and in North eastern India.” Thus, from the above one thing is clear that the dating is only related to Marakdola and not to Sarutaru.

The proposed dates for the site of Sarutaru have been questioned by H.C. Sharma (2003: 16). He pointed out that on the ground of the radio-carbon dating as given by Tata Institute of Fundamental Research (TIFR) revealed that the site is modern. Further exploration of these sites was done by H.C. Sharma, who pointed out that except the late medieval pottery no other celts and cord-impressed pottery were found.

As regard the Neolithic of East India region is concerned, Verma (1988: 66) opined that it was much influenced by the South-East Asian Neolithic cultures whose dates range between 6000-2000 BC. Hence, the Neolithic culture of Eastern India may be placed in between 3000 and 2000 BC. But, the relative dating of the chronology has its own problems. One has to keep in mind that there is great differences as far as the geographical locations are concerned.

As far as the dating of chronology in the Northeast goes, one needs to keep in mind that most of the chronology that has been proposed is based on explored sites. Very few sites have been excavated and even these are not without problems. Thus, the chronology is a big problem as far as ‘Neolithic’ is concerned in this area. The main problem seems that there have been attempts to give only relative dating rather than focussing on dating a site properly.

LITHIC STUDIES AND ASSOCIATED PROBLEMS

Apart from the study of the chronology of ‘Neolithic’ period in this region, there have been attempts by scholars to classify the different assemblages. The artifacts that have been found are mostly stone tools and

potsherds. Dani (1960) has tried to trace the history of the pre-history in Eastern India. He has looked at the tool assemblages found in different areas of Bangladesh, Bengal, Bihar, Orissa and the North- Eastern states. His work is based on the collections of the amateur British scholars. As regards the study of 'Neolithic' in this area, he points out that it mostly centres on the study of stone tools. He has done a comparative study of the artifacts found in South-East Asia with that of the Eastern part. Based on the study of the tools, he concludes that it was similar with the South-Eastern Asian type, China and present day Myanmar. His contribution lies in the classification of the artifacts found in the different museums of India and abroad. He has classified the Neolithic finds into six distinct zones. They are-

- 1) Cachar hills
- 2) Sadiya Frontier
- 3) Naga hills
- 4) Khasi Hills
- 5) Garo Hills
- 6) Brahmaputra Valley (Dani 1960: 43).

Dani (1960: 43-54) has also classified the tools into different types. He argues that the Neolithic of Assam is dictated by geographical factors. So, it can be best studied on a regional basis. His classification of stone tool typology includes -faceted tool, round-buttet axe, and axe with broad cutting edge, splayed axe, shouldered tool, tanged axe and wedgeblade and grooved hammerstones. Using this typology he further documented the different tools that were recovered in the different zones (*ibid*: 56-75). On the analysis of his tool typology he suggested a late Neolithic possibility although he does not give any kind of chronology. It is to be noted that it is problematic to date any site on the basis of tool typology alone.

One aspect that stands out in his research is the focus of different geographic zones. In dividing them into zones he had hinted that there is difference in the kind of materials used for making tools in the different areas but at the same time he also talked of similarities with the different areas of China, Myanmar and South-East Asia. So, the issue of regional variation does not come out very prominently in his work.

On the basis of his study he suggests that the Eastern area is not a homogeneous area and can be broadly divided into two divisions- (i) river basin and (ii) hills and plateaus. Further he concludes that the study is mostly based on the ground stone tools whereas in the mainland South-East Asia pottery and other assemblages such as bone and shell implements and ornaments, beads, pendants, bracelets, earplugs, terracotta balls and discs, seals and seal-impressions, dabbers and bark-cloth beaters have been found.

He has divided the Eastern Neolithic complex into two categories- (1) Bihar, Bengal and Orissa and (2) the Assam region. On the basis of ceramic assemblages he has divided the tools found in Bengal- Bihar-Orissa into two groups consisting of Indian and 'foreign' type and for those of Assam also he classified into two groups- indigenous and 'foreign' types identical with that of Yunnan and Burma (*ibid*: 222-223). However the use of the terms like 'Indian' and 'foreign' cannot serve the purpose of the lithic studies. So, the division of lithic tools into these categories is not too relevant.

T.C. Sharma (as cited in A.K. Sharma 1996: 80) rejected the typology as proposed by Dani on the ground that these criteria are inconsistent and secondly, the tools showing some distinct character have been grouped together. He also pointed out that Dani did not give importance to the technological aspect of the tools. He has taken up the study of Garo hills. He divided the tools types into 19 types of which 7 were chipped and 12 were fully ground (as cited in S. Sharma 2007: 12). It is basically a typo-technological study.

A.K. Sharma (1996: 112) on the basis of his study has divided the tools found in North-East India into four large groups of stone tools.

Group A- Chipped stone implements

Group B- Edged ground stone implements

Group C- pecked and Edge-ground stone implements

Group D- Fully ground implements

All these are further divided into sub-types and varieties according to form and cross-section. Thus some 30 well-defined types are postulated besides a few unique types. He also points towards the regional variation that can be seen in the use of the raw materials. He further points out that the stone tools and handmade pottery show affinity with the neighbouring areas of Bengal, Bihar and Orissa. Some of them are even similar to that recovered from Nepal, Kangra valley and Jammu and Kashmir (*ibid*: 4). He also pointed out that in Sikkim no shouldered celts have been found and so this area was not influenced by the South-East Asian Neolithic. The few celts that were discovered by the different scholars in the North-East only points towards a cultural contact between Eastern India and South-East Asia. The discovery of predominant tool typology from different sites in the Eastern part shows the indigenous origins, close contact and homogeneity. On the basis of the tools found in Chota Nagpur, Darjeeling and Sikkim, he suggests that the influence from South India cannot be denied. And as far as the issue of the tools of Garo hills goes he points out that it was influenced by Peninsular and Central India in contrary to the views that were earlier put forward by scholars (*ibid*: 113). Thus he differs from the view of a South-East Asian affinity and presents a picture which reflects that the influence was mostly from the Indian sub-continent.

But here it should be pointed out that even his work is not based on an in-depth comparative study of the material remains. The point that I am trying to make here is that without a proper and systematic comparative analysis of all the material remains these kinds of conclusions are just mere statements and do not hold any ground which helps in providing a holistic picture of the past. In all these studies we can see that the tools were divided into different types to find the level of influence that was seen. The tool typology was mostly seen as being influenced by different areas. Though some scholars did point the importance of regional influence in determining the raw material used in making them, the idea of diffusionist theory is pre-dominant. The tools found in different areas have been categorised on the basis of their typo-technology. These facts are recorded but it still lacks adequate explanation. This kind of approach can be seen time and again in the works of many scholars.

S. Sharma (2007: 1) has studied the geological formation of rocks in this region and has shown how there was deposits in different periods of time. She also seems to be influenced by the idea of two kinds of cultural traits found in this region- South-East Asian and Indian. She considers the shouldered celts, short axes and cord marked pottery and the bi-faces to be Indian in nature. Here, we are referring to a period when there were no boundaries of a nation. So, it is problematic to assign it to any such categories of traits called Indian or South East Asian. At best it can be called a local development in order to cope up with the environment. As mentioned earlier, these kinds of generalisations do not help much in understanding these assemblages. Further, these categories are not homogeneous in character and neither had they existed in the past. She has also discussed the different lithic tools that have been found and has classified them into three categories on the basis of the types- (i) the celt assemblage, (ii) the core tool assemblage and (iii) the flake-blade assemblage. These are further sub-divided into different kinds –

1) The celt assemblage- (i) fully ground and polished celts, (ii) partially ground celts and (iii) chipped celts

2) The core tool assemblages-(i) pebble tools and (ii) the bifaces

3) The flake-blade tool assemblage-(i) blade like flake-based and (ii) tabular cores (*ibid*: 24).

She has given a detailed analysis of the different tools found in different areas. On the basis of her study, she points out that the celts were basically agricultural tools. Edge damage in many of them indicates that they were discarded after heavy use. On the basis of these discards she draws two inferences – first is that once the shape was made it was preserved for a long time and was discarded when it could not be reshaped again. Secondly, some of the tools must also have been made from the organic materials. She also mentions that the presence of potsherd at Gawak Abri indicates food processing and storage. From the typology of the lithic tools she suggests that there might be a group of people who practised agriculture in the hills. But, at the same time she also points out that the absence of data on dwelling structures and use of plant and animal creates a lacunae in the archaeological

record (*ibid*: 56). But it is to be noted that the evidence of celts and ceramics are only regarded as indirect evidence for agriculture.

CERAMIC STUDIES

As far as the study of the pottery is concerned there has been an attempt only to classify them into different categories. This has been collaborated with ethnographical studies and attempts were made by scholars to show the continuation of pottery tradition from the past to the present. But these kinds of studies in no way answers the problems related to the re-construction of the pre-history of this region.

During 1961-1963, T.C. Sharma (1967: 127) examined the site of Daojali-Hading. He categorised the pottery into – Cord-impressed, Incised, Stamped and Plain Fine Red Ware. He further gave a description of how ceramics must have been made. In doing this he has tried to directly draw from the present practices among potters. This kind of direct inference can be problematic because even today we can see that hand-made pottery is produced by different communities and the analysis of this kind of their work point to the fact that there is some kind of difference that can be seen as how they make them in different places.

The pre-dominant pottery in some of the important sites include plain coarse ware, cord impressed, coarse red ware, stamped coarse, brown/red ware, stamped (square grid), buffed ware grooved, coarse/fine buff ware, and plain brown ware in Kamla valley whereas in Phunan, plain ware, stamped ware, incised wares, cord-impressed wares, wares with circular spots and appliqué ware have been found (Hazarika 2006: 29). Thus, regional variation can be seen in the different ceramics. But this difference is not well acknowledged by the scholars.

D.K. Medhi (2003: 322-335) in his article, has discussed about the different kinds of pottery that have been found in the different regions of the North-Eastern states. He has mentioned the people who are still engaged in different kinds of pottery making. His main argument is that continuation can be seen in the pottery that has been found from the Neolithic to the present

day. He also highlights the importance of women in the process of pottery making today. He points that in many areas the pottery production is done by women.

Roy (1977) in his work has tried to draw analogies between past and present potters. His work focuses on the study of pottery from Naga hills, Garo hills, Dafflas of Arunachal Pradesh. The Hira and Kumar potters have also been studied. Selbalgiri and Daojali Hading do not show uniformity in any respect. They reflect regional differences. There is evidence of spatial differences. They both relate to South-East Asian tradition. But there is no elaboration as to why there is such a similarity.

On the basis of his study Roy (1977: 288-289) has tried to divide the pottery assemblage into three phases- Phase I- is Neolithic and is represented by the hills sites of Daojali Hading and Selbalgiri of Garo hills. The ceramics collected from Garo hills are simple and devoid of any designs, while the pottery of Daojali Hading has designs that are of South-East Asian origins. Further, the Garo hills ceramics can be compared to the South -East Asian pottery types which developed during the Neolithic period.

Phase II is characterised by a 'culture' distributed in the hilly area and is similar to that of South-East Asia ceramics. It may be taken as a continuum between the pre-historic and historical traditions.

Phase III has been termed as the historic period and is said to be heterogeneous in character both North and South East Asian elements can be seen. However, the phases suggested by him do not give an idea as to how the potting traditions are similar to that of South-East Asia. They mostly seem to be statements without any concrete evidence. In recent times there have been attempt to bring an ethno-archaeological approach to the study of the sites. Scholars mostly have tried to trace the thread of continuity from the pre-historic times without understanding the nature of historical dynamics of different period and without taking in consideration the kind of change that may have come about after such a big gap. So there has been a constant attempt by scholars to directly correlate it with pre-historic times. This has given rise to many problematic interpretations. Thus we can see that the

'ethno-archaeological' work that is been undertaken by these scholars is mostly 'ethnographic' in nature.

B. Medhi (1992) has undertaken a study of the Hira and Kumar community of potters. They are modern day potters. Thus, she has tried to do an 'ethno-archaeological' study to understand the pre-historic past. The earliest record of pottery is from Daojali Hading. So the pottery tradition in this area is dated to Neolithic and not beyond that. The main aim of this work was to establish the connection between pre-historic and present day cultures. Here the main trait is centred on pottery. The continuity and discontinuity in the pottery traditions of the past and present are explored and analysed (*ibid*: 73). According to her, the techniques of making pottery continued from Neolithic times till present. The existence of pottery has emerged during the Neolithic period. The designs executed on the pottery of the Neolithic period are of South-East Asian origin (*ibid*: 302). What is suggested throughout her work is that there is continuity in ceramic production over the centuries. On the basis of ethnographic works, she opines that the Daojali Hading may have been prepared by women (*ibid*: 297). What is missing in her work is a more rigorous study of pottery production in the Neolithic period at Daojali Hading.

SETTLEMENT PATTERN STUDIES

Some studies based on settlement pattern have also been carried out. Ray (1987) has studied the settlement patterns from Palaeolithic to Neolithic period in Eastern India. She has made an attempt to correlate the archaeological data with ethnographic data in order to re-construct the pre-historic settlement patterns. Based on the geographical divisions, she divides the Neolithic sites of Eastern India in three parts- the mountainous zone, plateau and alluvial tracts. She pointed out the variations that could be seen in the settlement patterns, technology, subsistence strategy and so forth. She also mentions the different subsistence strategies- pastoralism in mountainous zone, shifting cultivation in plateau and hilly areas and settled cultivation in the alluvial tracts. She has argued that there was migration of people from South-East Asia through Myanmar on linguistic grounds. She has also pointed

out the similarities in artifacts found in this region with Myanmar and South-East Asia. But, what is absent even in this work is an in-depth analysis.

A similar approach can be seen in Verma's (1988) study that focuses on the Neolithic in the state of Bihar, West-Bengal, Assam and Orissa in Eastern India. On the basis of geographical zones, he divides the regions into Middle Gangetic plains, the Bengal delta and Assam plateau. Here, when the Assam region is referred it means the entire North-East region except Sikkim. He acknowledges the different geographical factors and points out that the Neolithic in this area is best studied on a regional basis. He also mentions that the Neolithic of the Eastern region is connected to Yang Shan, Langshonoid of China and Hoabinhian of Thailand, thus pushing back the Neolithic in Eastern India to Early Holocene. The South-East Asian Neolithic indirectly suggests an early date for the Neolithic of Eastern India on the basis of similarity found in the tool types and cord-impressed pottery of Jomon culture of Japan which has been dated to 10,000 BC (*ibid*: 9). But these kinds of generalisations are not supported by any substantial evidence. Moreover the evidence is too fragmentary in nature to suggest such broad statements.

Sant (1991) has tried to co-relate the Neolithic of North Eastern and North India with the environment which was responsible for bringing about drastic changes in the life-style of the people. She has divided the region into – mountainous, plateau and alluvial tract. She has looked separately at the explored and excavated sites. She has tried to reconstruct the kind of dwelling of the people of North and North-East India and has classified it into 4 categories of houses. She talks of people living in mud houses in North-East India. But, it is to be pointed out that the evidence from this region does not reveal any such possibilities (*ibid*: 187). She also suggests a South-East Asian possibility.

Thus, in all these studies, scholars have largely concentrated on affinities with South-East Asia. But, one need to point out that there are geographical diversities even in the different regions of South- East Asia. Further, regional and temporal variations can be seen. So, it is problematic in these terms to draw an affinity based on such scanty evidence.

S. Sharma (2007) in her work has also focussed on the importance of the settlement pattern strategies. On the basis of her work she concludes that the subsistence pattern show a change from hunting gathering to shifting cultivation (*ibid*: 61). She has undertaken a systematic study of the Garos in the Ganol- Rongram valley and has tried to study their day to day activities. She also points out that the raw materials used in daily life are mostly bamboo, cane and clay. On the basis of her study she concludes that the site with ground and polished tools were the actual dwellings of the people, flake-blades that of factory sites that also may have been used as residence, and there was the use of the organic raw materials for making houses and household goods (*ibid*: 68). But how far the direct analogy helps in this case is also an important question to be considered.

ISSUE OF ORIGIN OF AGRICULTURE

Hazarika (2006) has tried to understand the origin of pottery and agriculture in North East India. He suggests that the origin of rice in North-East was more influenced by East Asia than South-East Asia. He has tried to study the use of ceramics by different communities today and suggests that the ethnographical study of these communities can help in understanding the behavioural aspect of the Neolithic people. He points out that the date of origin of rice cultivation in China is 10,000 B.P. and the earliest date in the Ganga basin is 8000 B.P. He argues that if it is presumed that the rice cultivation in Ganga valley was influenced from that of Yangtze basin then a date for rice cultivation can be predicted for the North-Eastern region. On the basis of linguistic evidence he has proposed that the Austro-Asiatic and the Tibeto-Burman were the first to introduce rice cultivation in North-East (*ibid*: 39). He has also pointed out that there has been very little archaeological work that has been done in this region. There is hardly any evidence that has been found of rice. But he argues that the mere absence of the evidence does not mean that there was no rice cultivation in this area.

There is no denying the fact that there was rice cultivation in this region. But one has to keep in mind that the study of archaeology depends on the nature of evidence, then only some assumptions related to certain issues can be

made and a strong hypothesis be suggested. Again, the ethnographic study of living day potters community can certainly help us better understand the archaeological evidence related to ceramics. What is hazardous is to transpose present day social practices directly into the past where the context may have been very different.

Also, the recent excavations in Yangtse region revealed that rice cultivation dates back to 8000 years ago whereas several sites in India like Koldihwa, which was thought to be 8500 to 6500 years old now appear to have been 3500 years old (Smith 1998:123). Further, there are also doubts by scholars regarding the earliest evidence found from Lahuradewa. Fuller (2005-06: 187), points out that the current state of biogeographic and genetic research on the wild ancestors of rice strongly support independent rice domestication somewhere in northern and eastern India. But to identify archeologically the transition process from foragers gathering wild rice to early cultivation of rice domestication to the subsequent morphological changes in rice which are called domesticated is not easy. Documenting the transition from foraging to cultivation and domestication remains a methodological challenge. Claims for documenting the beginnings of domesticated rice are all theoretically flawed and potentially wrong and further work is needed. The small size of data available from Lahuradewa is still insufficient; and the detailed quantification of assemblages from other sites such as Senuwar, Mahagara, and Narhan, also has to be studied if we have to understand Lahuradewa in terms of a longer term trajectory of change (*ibid*: 191). There are three different aspects of rice domestication, which should not be conflated but should be considered in turn: seed dispersal, even ripening and grain size increase. The basis of food production is direct involvement of human in the management of the plant and animal species that is termed 'domesticated'. The management over the years leads to evolutionary changes in domestication. And the archaeological challenge is to identify the beginnings of cultivation amongst morphologically wild rice, and track the gradual biological changes it incurred (*ibid*: 194). In Southwest Asia, the pre domestication cultivation has been recognised through the statistical composition of wild seed assemblages. In India also, future research should take place along similar lines if we are to understand the

processes of agricultural emergence in the region of Ganga valley. More floatation, more seeds, and more quantification of their composition are needed, alongside increased attention to the quantitative patterns of morphology and size in the crops themselves (*ibid*: 194).

Further, it is to be noted that, in order to understand the issue of farming social involvement should be understood/taken into account rather than concentrating on the mere occurrence of celts and ceramics. Some scholars have brought out an altogether new approach of understanding the spread of agriculture in India. This is called linguistic archaeology. They have attempted to examine if the spread of agriculture of wheat and barley can be linked with the spread of Indo-Aryan speakers, and of rice with the Austro-Asiatic languages- speakers from South-East Asia entering Assam, while the Proto-Mundari groups bringing rice cultivation to the middle Ganga regions. Owing to the fact that sedentism precedes agriculture, this mobility can thus be questioned. Therefore the spread cannot be rapid or random. This is an important factor that goes against the argument of rapid spread. Further, eco-specific cereals do not normally adapt to diverse ecologies in a short time. It takes several generations of cropping with perseverance before a possible subspecies emerges as the newly adapted form. Consequently, linguistic archaeology needs to be taken within a very large time frame possibly extending well within the metal using first farming communities (Bhattacharya 2009: 8-9). Hence, in this scenario it is very problematic to come to a concretely convincing conclusion of the issue of origin of agriculture.

THE PERSISTENCE OF THE CULTURAL-HISTORICAL FRAMEWORK

An important issue concerns the question of correlating 'archaeological cultures' with ethnic groups. This is clearly a reflection of the cultural-historical approach. The problem of identity has been highly debated in archaeology, as under the frame-work of the 'cultural-historical' approach. There is now a growing consensus among archaeologists and anthropologists that there is no one to one relation between the archaeological cultures and the past ethnic groups in general.

Some of the scholars have tried to identify stone tools with particular ethnic groups. One such example is found in the work of Hutton (1924:22), where he has described two stone tools found from Naga hills. One of them was a shouldered type, with triangular butt which according to him may have been a link between Mon-Khmer implements of Malay Peninsula and Chota Nagpur not mostly found in Naga hills but a common type in Irrawaddy valley.

Another similar approach can be seen in Rao's (1973) work. In order to seek the answer of the bearers of the Sarutaru or of the North-East, he has pointed out that the hilly regions of North-East are mostly inhabited by Garos, Khasis, Nagas and the Mikirs. They practiced jhum cultivation for subsistence. Now, they use iron implements instead of stone. So he has presumed them to have inherited the cultural traits from their predecessors even if they are not the direct descendents (*ibid*: 1-9). The evidence from various contexts creates problems of matching the archaeological and ethnographic record, which does little to support the view of continuity in ethnic identities. Ethnicity should refer to self-conscious identification with a particular social group at least partly based on a specific locality or origin. So it appears that prehistoric archaeology is in a difficult position as far as investigating it is concerned, since it does not have access to people's self-conscious identifications. The position of documentary history is no better. The ethnic labels applied by early writers do not necessarily define self-conscious identity groups. The existence of documentary sources is taken to be conclusive in any argument, whereas such sources should simply be viewed as evidence (Shennan1994: 14). In investigating ethnicity in prehistory, the evaluation of the nature of culture change is especially important. For a long time, migrations were seen as a main mechanism for transmission of innovations, and an important factor in culture change. But this view is now mostly questioned (Dolukhanov1994: 269).

THE PROBLEM OF 'AFFINITIES' WITH EAST ASIA AND SOUTH-EAST ASIA

One of the recurring issues in archaeological studies on North-East India is the matter of seeking affinities with South-East Asia and East-Asia. We can see that many of the scholars have tried to associate both lithics and ceramics with South-East Asia. This issue will be dealt with in greater detail in the fourth chapter where an attempt will be made to do a comparative analysis of ceramic types of North-East India with that of South-East Asia.

In this regard, I want to point out that there is a dearth of systematic comparative studies that actually demonstrate such affinities. Again, the kind of arguments made for such affinities are unable to give us any definite idea or conclusive answer. Here, I have tried to give an idea of the kind of arguments made by Sharma (2007) regarding the affinities with South-East Asia.

“There is no scope of debate on the fact that cultural affinities exist between South-East Asia and North-eastern India.”

“Migration into the area continued till the 13th-14th century AD. The last recorded group is the Ahoms who are believed to have migrated from Thailand” (Sharma 2007: 74).

The above statement by Sharma is to draw upon the long tradition of migration from this area. But it is to be pointed out that the issue of Ahom migration from Thailand has been debated for long and scholars no longer hold it true. Rather it is a general agreement among the scholars that their migration took place from Yunnan province which is a part of China now.

“The similarities visible in the zoological and botanical life of the two regions have established that North-east India and South-east Asia belong to a common ecological zone. It is only land route that connects India with South-East Asia” (*ibid*: 77). However, there is a difference in the ecological zones as the vast land mass of South-East Asia consists of both mainland and island. And it is not only land route that connects India and Southeast Asia but sea routes are also important. Thus, we see that this theme runs through each and every field of study and is associated with this kind of generalisation, both in terms of pottery and lithics. It should be pointed out that in order to suggest

similarity between different areas, all the evidence from the places should be taken into account. But here in order to establish affinity, Sharma (2007) has only taken up the case of lithic tools whereas as far as the scanty evidence of pottery goes she considers it to be a local development (*ibid*: 78). But a systematic comparative analysis is missing. Apart from lithics, in the countries of South-East Asia, bone tools, ceramics and different subsistence patterns, burials is clearly visible. This kind of evidence has not been recovered in the region of Northeast as yet. Thus, to accept the affinities so ascribed due to scanty evidence seems a far cry and more research needs to be done in this regard.

CONCLUSION

The historiographical foray thus reveals the problems in the way 'Neolithic' has been studied in the North-east. A proper and systematic study of the issue is lacking. The studies are mostly dominated by the cultural-historical approach. Affinities with different areas have also been suggested. In this dissertation, special attention is given to this issue in order to bring out the problems in these kinds of study and critique them. Beginning with the chronology, the other issues that have been time and again studied by scholars lack a comprehensive, systematic and theoretical base. In most of the cases, the focus has been on the classification of assemblages found without making an attempt to understand the idea behind the use of such artifacts.

Apart from this, if we look into the issues of excavations or trial excavations done so far, we do not see any kind of methodology or questions that have been addressed. This is one of the important aspects of an excavation. There is also no record of any systematic survey done in this region. Further, the study of agriculture also takes into consideration the identification of wild crops only. But it does not help in understanding the issue of origin of agriculture as such. All these problems have really complicated the understanding of 'Neolithic' in this region. One has to get away with the easy generalisations made by the previous scholars and try to approach the issue with a new perspective that can help in drawing a holistic picture of the 'Neolithic' past in the North-East.

CHAPTER 3

LITHICS - A COMPARATIVE STUDY

INTRODUCTION

There have been claims by scholars that there is 'diffusion' of lithic tools along different lines. Though claims have been made but no systematic comparative study has been made to critically analyse the available data. The presence of some common tool types has been taken as influences from one region to another. But in doing so, some of the distinct tool types that could be identified in different regions have been neglected. This clearly reflects the 'cultural-historical' paradigm in which the tool types have been studied. What is mostly found in the previous works is that the archaeologists have tried generally to associate a particular tool type with one region and have thus tried to bring out the level of influence that must have existed. However, this exercise is largely speculative in nature. What the 'cultural-historical' approach does not take into account are the regional specificities that might be responsible for the prevalence of different tool-types in a region. In most of the areas, the study of tools is mostly based on the surface finds. Very few of them have been studied in the stratified context. In the studies of many of the previous scholars we can see that the main focus of the study was to find the level of influence that was seen as far as different tools were concerned. The tool typology was mostly seen as influenced by different areas. Although some scholars did point the importance of regional influence in determining the raw materials used to make them, the idea of diffusionist theory remains predominant. In the midst of this confusion, in this chapter an attempt has been made to undertake a comparative study of tool types prevalent in the Eastern Indian region of Orissa, West Bengal and Bihar with that found from Garo hills, Daojali Hading and Sarutaru of the North-Eastern region of India. The chapter is divided into four sections- SECTIONS A, B, C and D. In the first section, I will discuss the tool types of North-Eastern India, and in the second section, the tool types of eastern India. In the third section I will undertake a comparative analysis from these different regions. The last section of the

chapter focuses how some communities perceive stone tools as an active entity and regard them in high esteem.

SECTION A- NORTH-EAST INDIA

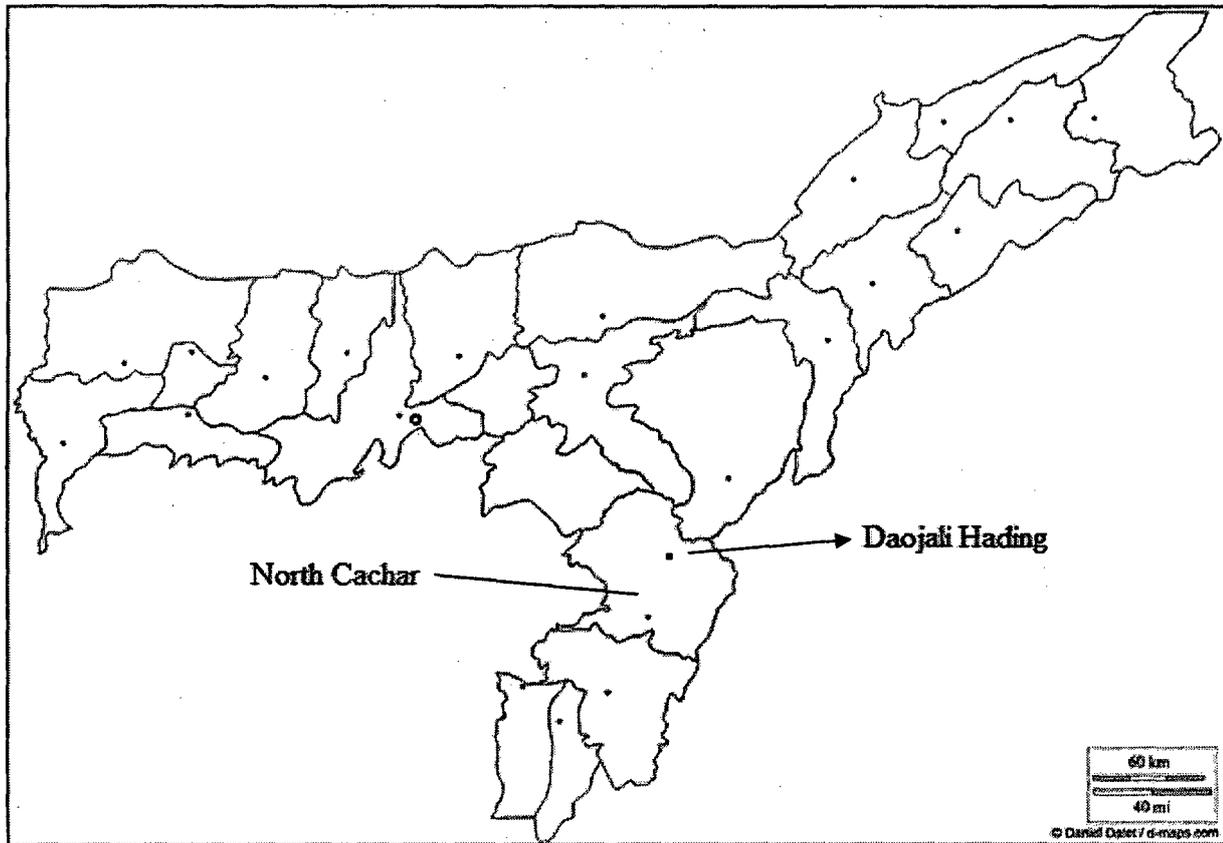


FIGURE 1: Map showing the district North Cachar and the site of Daojali-Hading.

(after d-maps.com)

INTRODUCTION: In this section, the tools types from North Cachar, Sarutaru and West Garo hills are taken up. The aim is to study the tools types from these three different regions and hence do a comparative analysis.

A) NORTH CACHAR- In the region of North Cachar, the first stone tools were reported by the British scholars. Dani (1960) has tried to catalogue the stone tools preserved in the Pitt Rivers Museum. While talking about the tool types in Cachar he points out that the collections were made by scholars such as Mills and Hutton and in their description they have mentioned that the tools they found were from the areas where there are 'megaliths' in the Cachar region. In their descriptions they have talked about the stone adze heads found in this area. But Dani (1960: 41) denies the possibility of any kind of association of these tools with that of the 'Megaliths'. This matter needs much more attention than just a passing thought. This is because in many of the burials excavated at different places stone tools have been found. One example is that of the excavation carried out in a burial site at Jotsoma, Nagaland where spear heads have been found (Jamir 2006: 449-463).

The predominant tool types found in this region are the ground stone tools and shouldered celts. In his classification Dani divides these into six categories. CLASS A- Faceted-which included curvilinear variety, bifacially ground median edged type, unifacially ground edged type. The total tool type is 6; CLASS B- rounded butted axe, Total -3; CLASS C- axe with broad cutting edge- large and small type , Total- 7; CLASS D- splayed axe, Total-1; CLASS E- shouldered axe – regular and broad type, regular and long type, regular with crescent shaped body, irregular and broad type. Total -13; besides these, he also mentioned one ring-stone (Dani 1960: 56-60). The raw material type used is pre-dominantly dolerite, arenaceous clay (here it should be pointed out that, when one talks of stone tools it is not made out of a clay but a stone, so the claim of Dani of stone tools made of arenaceous clay can be misleading) and jadeite. A fossilised wood shouldered celt is also found in this region. So, he has actually classified 21 types of stone tools, of which 17 are axes, 13 shouldered axes and 1 ring-stone.

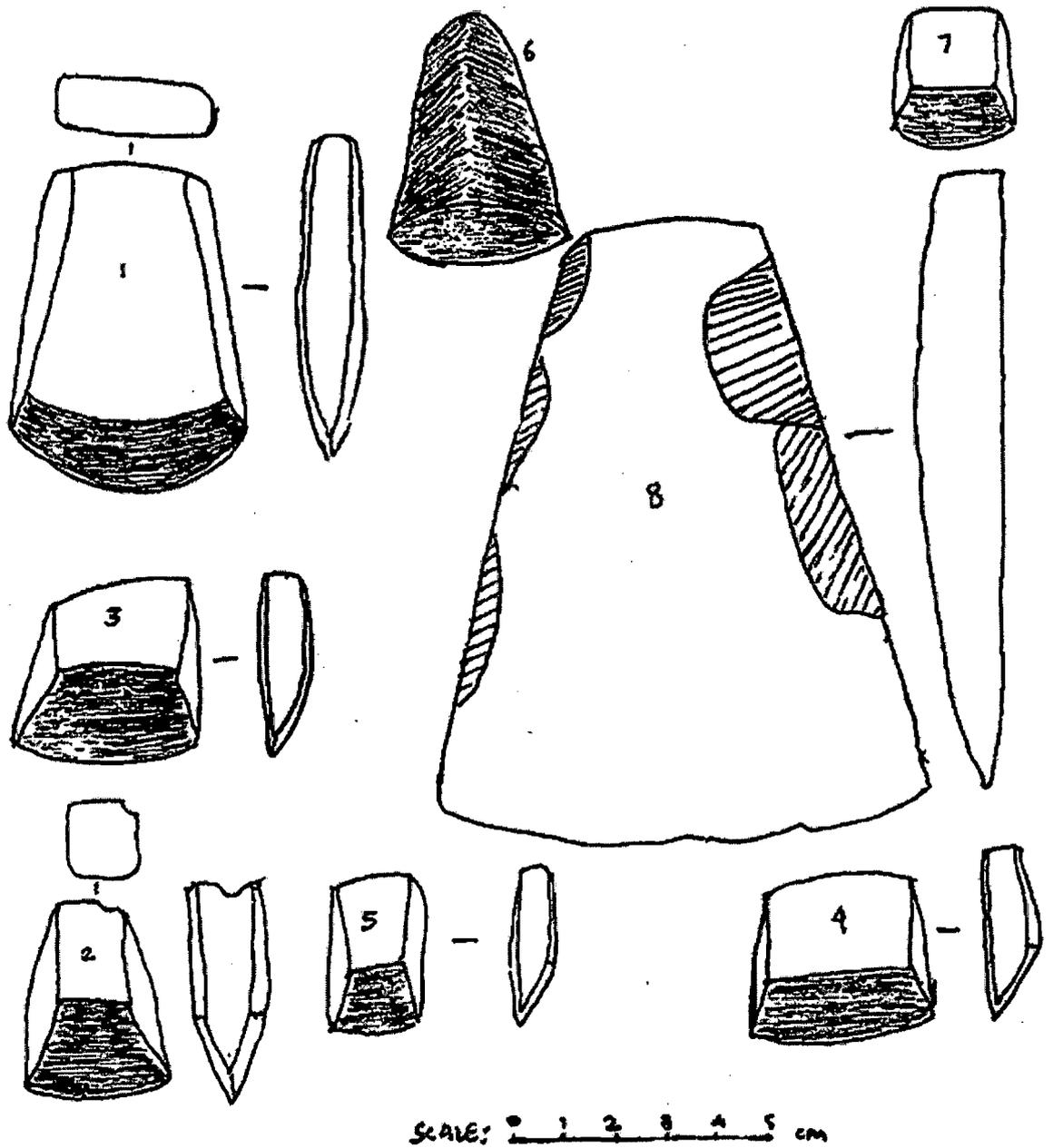


FIGURE 2: Stone tools from North Cachar.

(after Dani 1960: Plate 6)

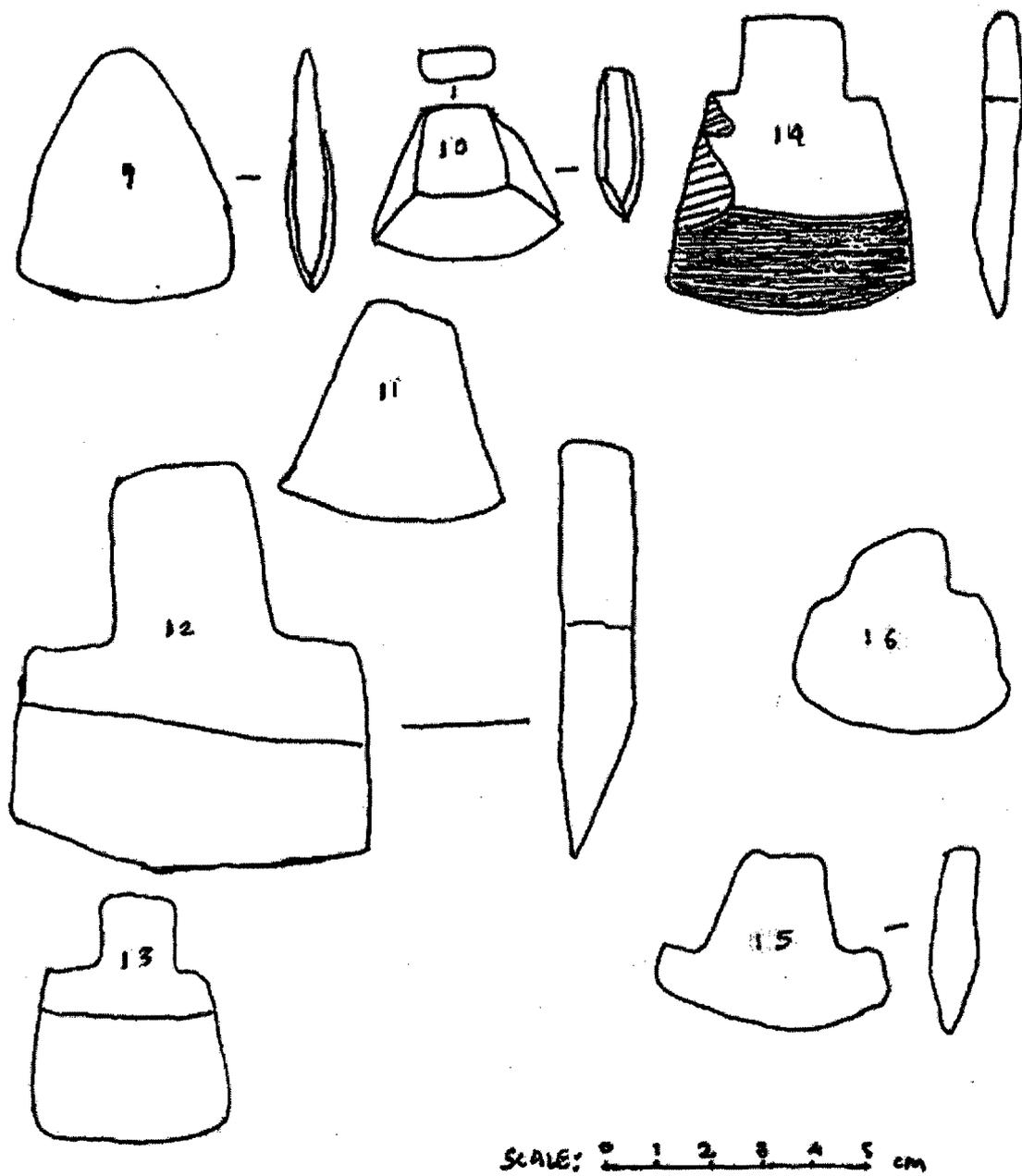


FIGURE 3: Stone tools from North Cachar.

(after Dani 1960: Plate 7)

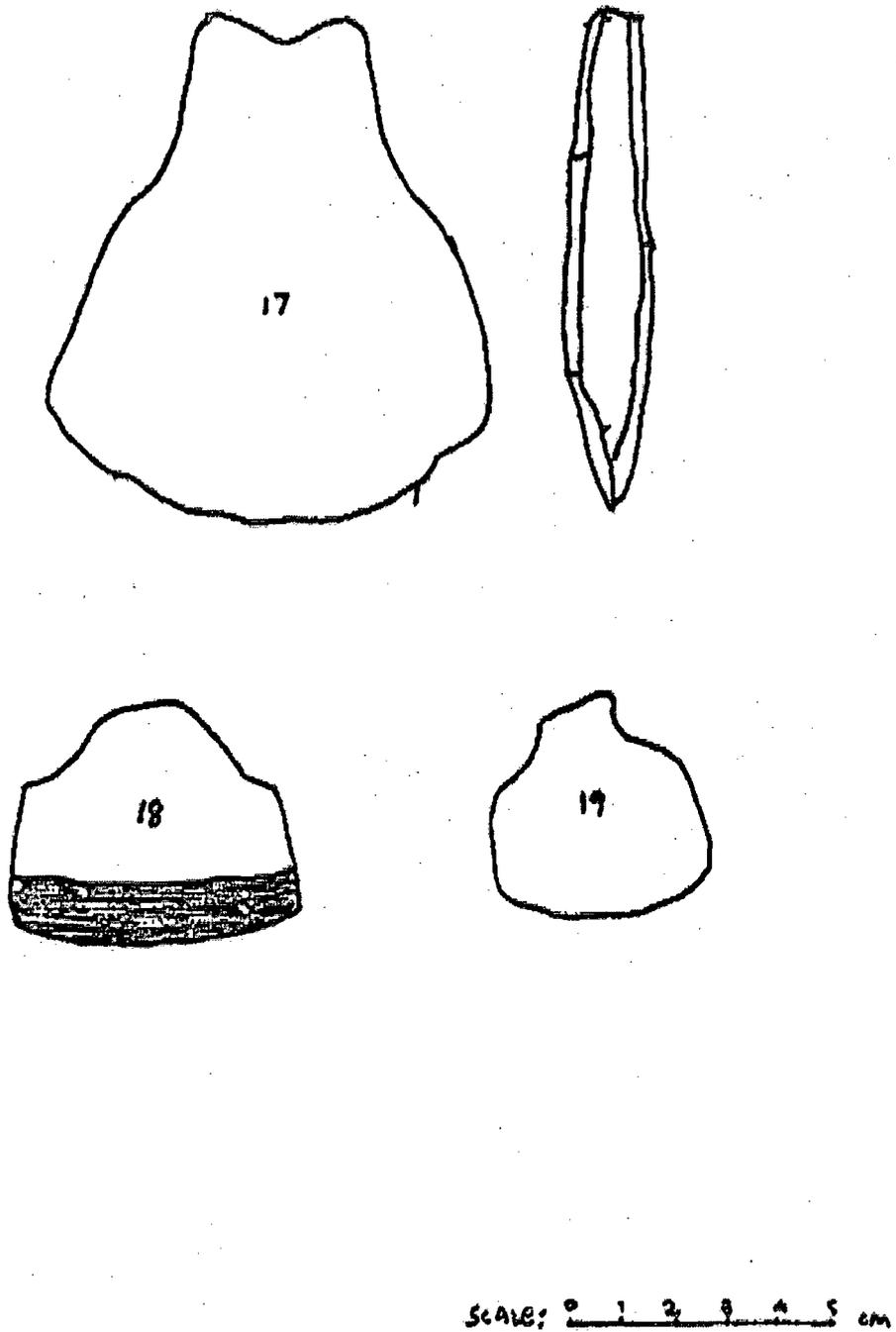


FIGURE 4: Stone tools from North Cachar.

(after Dani 1960: Plate 8)

There is one site (Daojali-Hading) in North Cachar which has been excavated. It is situated at a distance of 1.5 kilometres from the river Lanting, which is a tributary of Barak River in southern Assam. In the Dimasa dialect it means “the hill of the bird”. This site was excavated by Guwahati University in 1961 and 1963. The total number of stone tools that were reported is 137. out of which 32 are edged tools - 14 (8.38%) complete and 18 broken (8.98%). The total amounted to 17.36%. Grinding stones found were 22 in number (13.17%), 4 querns (2.39%), 6 mullers (3.59%), pebble of quartzite and fossilwood 11(6.58%), by product flakes of shale and fossilwood (38.92%) (Roy1977: 117-118).



FIGURE 5: Stone tools from Daojali-Hading.

(after *IAR* 1962- 63: Plate VIIIa)

The bulk of the tools belong to the small celts and shouldered celts type. The illustrations (see figure 5) suggest that the tool types are small in size. In many of them the width of the blade is greater than its length, although some have equal length and breadth. These differences may have been due to the size of raw material available and the relative softness of the rocks used. Due to reshaping also the length of the blade decreases (Choudhary 1985:46).

B) SARUTARU IN KAMRUP

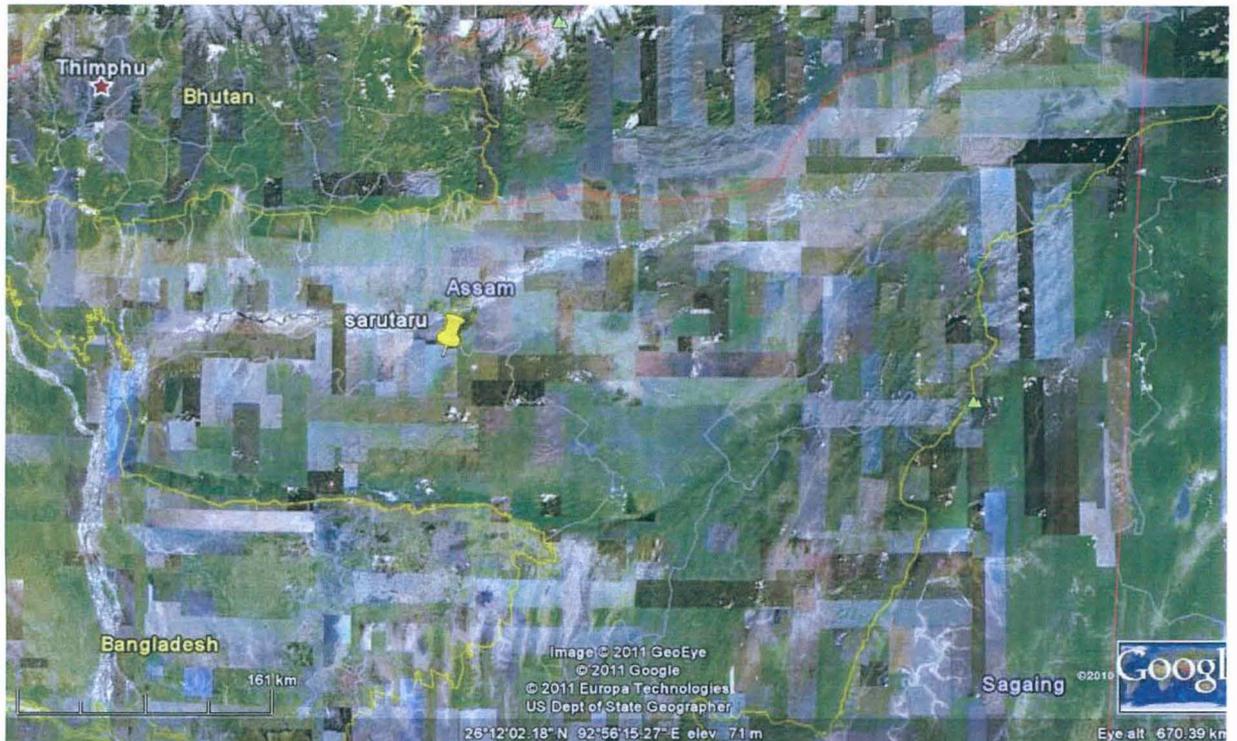


FIGURE 6: Google image showing the site of Sarutaru, Kamrup, Assam.



FIGURE 7: Google image showing a closer view of the site.

The excavation at Sarutaru was carried out by Rao between 1969-72. The site of Sarutaru is situated at about 25 kms south-west of Guwahati. Geologically this area comes under the Shillong plateau range. The River Digaru, a tributary of the Brahmaputra flows about a kilometre on its northern side. Nine ground stone tools were recovered of which 7 are shouldered celts and 2 round-buttet axes. They are made of slate of grey to black colour and fine-grained silty slate of cream to buff colour (Rao 1973: 1-9).

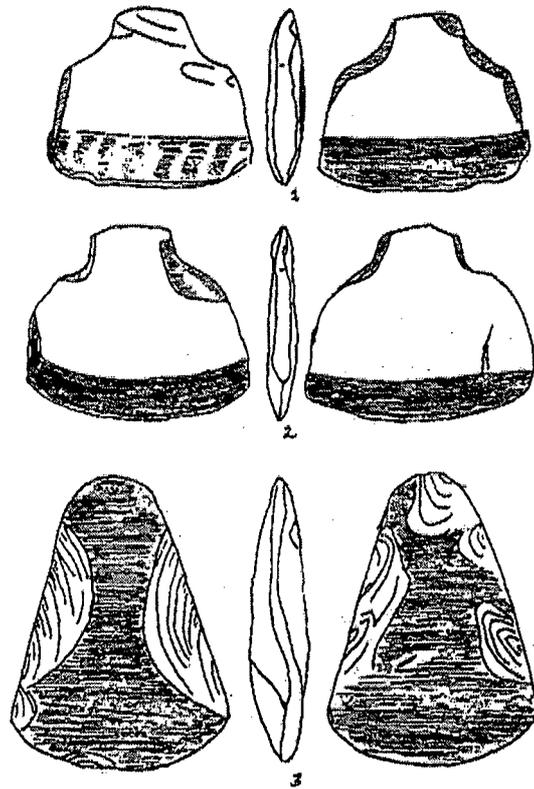


FIGURE 8: Stone tools from Sarutaru, Kamrup district, Assam. (after Rao1973:3)

H.C. Sharma (2003: 15-16) points out that the radio-carbon dates as given by Tata Institute of Fundamental Research (TIFR) reveal that the site is modern. Further, exploration in Sarutaru was done by him. He points out that except for late medieval ceramics no celts or cord-impressed pottery was found.

C) GARO HILLS- Garo Hills form a part of the Meghalaya plateau. The greater parts of the Garo Hills range in height from 450m to 600m and drop steeply to the Brahmaputra valley on the north and to the plains of Bangladesh on the south. Nokrek (1412m) east of Tura town is the highest peak in western Meghalaya.

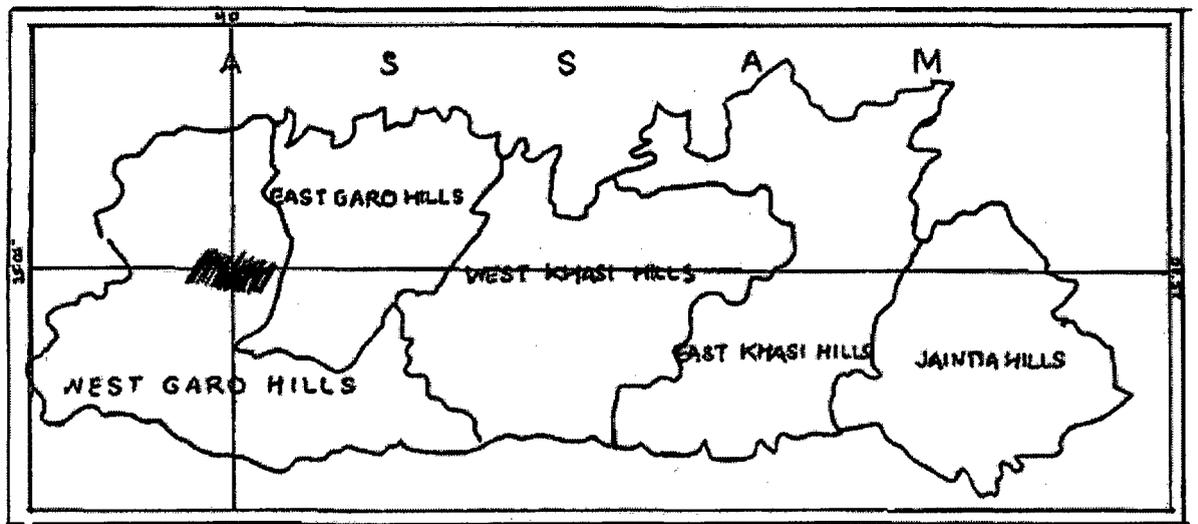


FIGURE 9: Map of Meghalaya.

The shaded portion shows the distribution of sites in Ganol and Rongram valley.

(after Sharma 2002: 15)

(not to scale)

The West Garo hills provide significant information about the lithic tools. The different areas of this region have been time and again explored and trial cuttings undertaken. This area has produced a rich collection of lithic tools, which is quite diverse in character. The first attempt to study the tools

goes a long way back when Dani (1960) made the first attempt to study the collection of lithic tools in the Pitt Rivers Museum.

In his classification Dani (1960:46) points out that the tools were largely made of sandstone. The most common type found in this region is the faceted tool type and the shouldered tools. It is interesting to note that while Dani reports the tools as being made of sandstone and limestone, later archaeologists like S. Sharma (2007) mentions of dolerite tools.

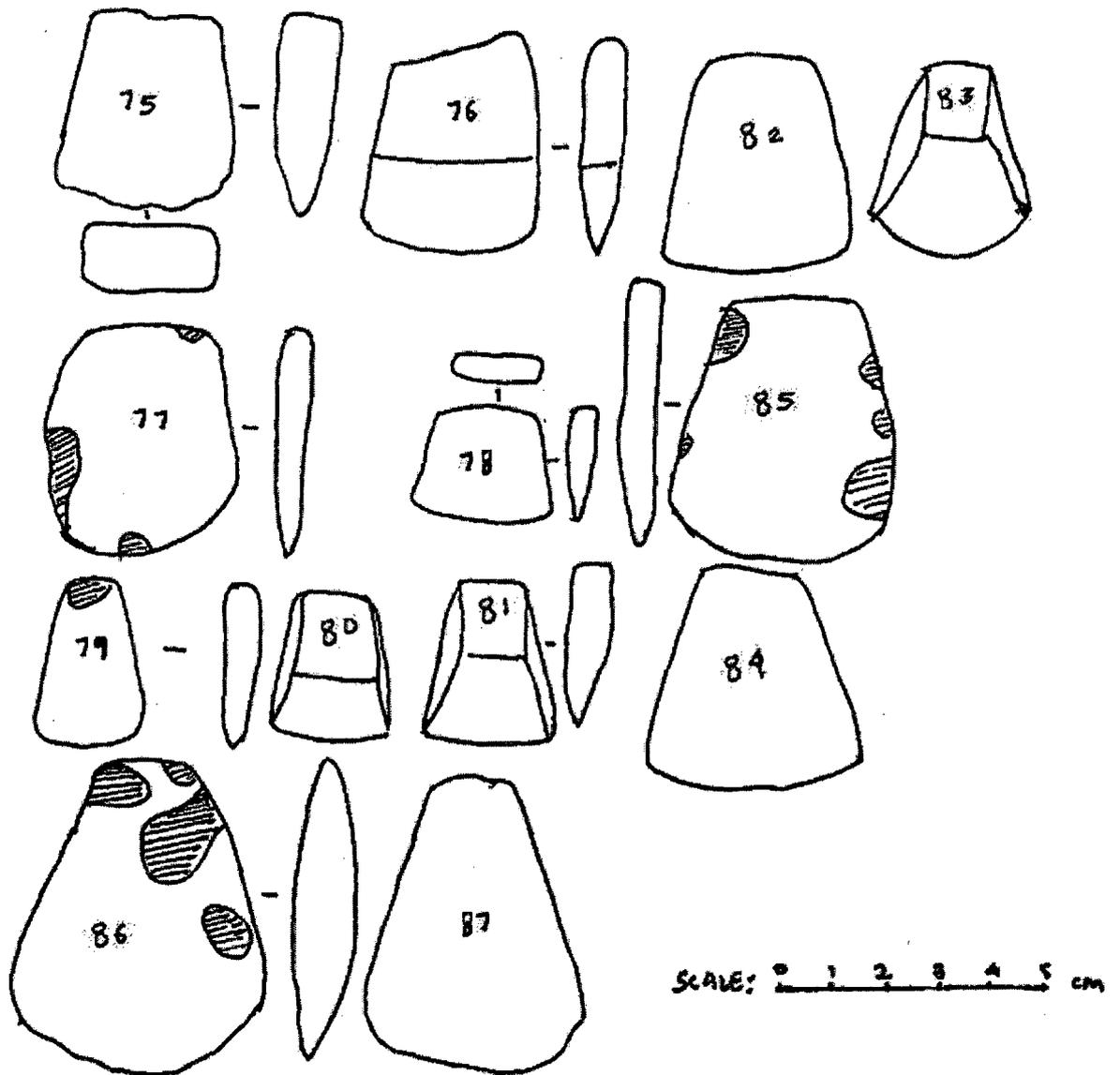


FIGURE 10: Stone tools from Garo hills.

(after Dani 1960: Plate14)

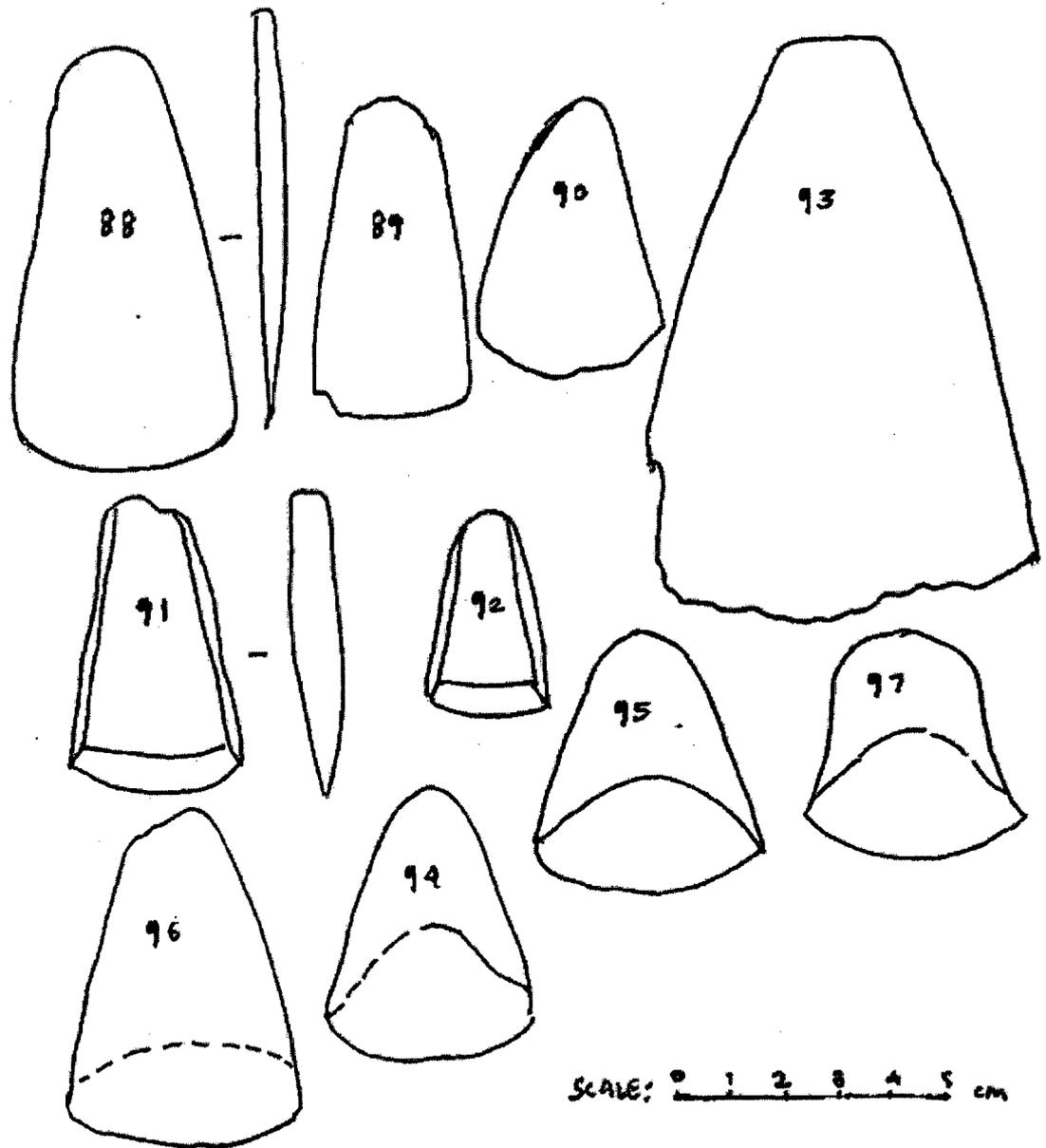


FIGURE11: Stone tools from Garo hills.

(after Dani 1960: Plate15)

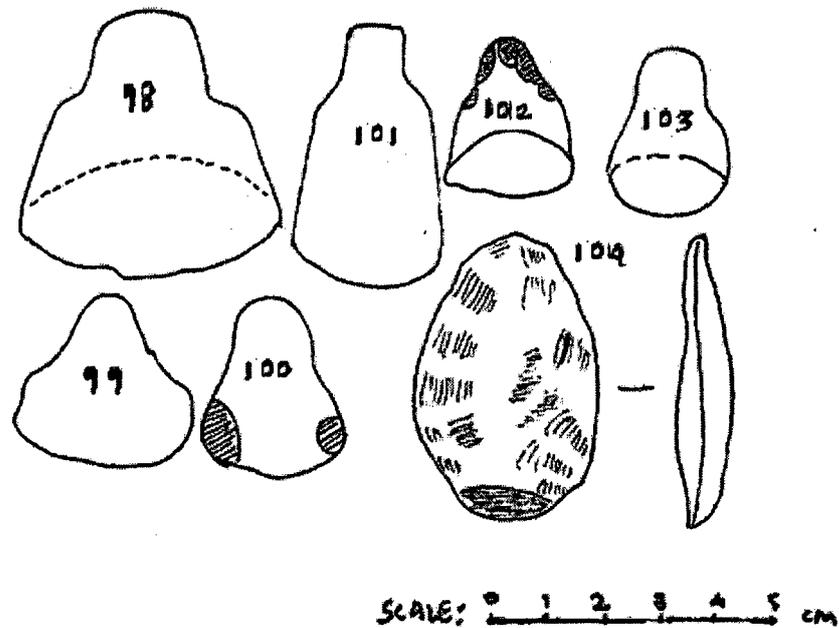


FIGURE 12 : Stone tools from Garo hills.

(after Dani 1960: Plate16)

There have been many explorations carried out in this area from time to time. Some of the important sites in Ganol and Rongram valley sites mentioned by T.C Sharma include- 1) Rongram, 2) Chitra Abri, 3) Selbalgiri, 4) Mokbal Abri, 5) Michimagiri I,II and III 6) Watri Abri 7) Ida Chiring 8) Ganol Abri 9) Miksak Abri 10)Wadru Abri, 11) Brongiri and 12) Arbela (Sharma 1984:8).

As mentioned earlier lithic tools have been found from different parts of the region. On the basis of the tool typology they have been divided into flake-blade assemblage, pebble assemblage, bifacial tools assemblage and the polished and ground tool assemblage (Sharma 2002: 15). The sites reported from this area it can be divided into 3 types - 1) *In situ* sites which were buried after abandonment and remain buried – these includes the sites of Gawak Abri

and Didami 2) *In situ* sites exposed by the removal of sediments but without disturbing the arrangement of the tools- Rongram IB, Ida Bichik, Bibragiri, Missimagiri, Selbal Bichik, Mokbol Bichik II and 3) Sites with scattered artifacts on the surface, like Chitra Abri and Mokbol Bichik (Sharma 2002: 29).

In this study emphasis has been given to the field-work done by S. Sharma and the reports of *Indian Archaeology- A Review* (hereafter IAR). The sites studied by Sharma (2007) are from Ganol and Rongram valley and she have made a study of ten different sites in this region.

Gawak Abri- This site is situated at a height of 550 mean sea level (hereafter msl). Here a total of 123 artifacts are found from a 2x2m trial trench. These include ground and polished celts, short axes, chipped celts and high percentage of micro size flakes, some of which were most probably used. The tools also have patina on the surface.

Didami- The site is situated at an altitude of 916 m msl. Here the lithic tools comprised of bi-facially flaked artifacts- blade-flakes and utilized flakes. Seventy-five tools were collected. Patination on the tools was absent here.

Rongram IB - This site is situated at the height of 458 msl. Till 36 cms ground and polished celts, pestles and few flakes were found. Below it were found edge-ground tools, chipped tools, short axes, pebble scrappers and choppers. At 55cms level flattish stone was uncovered. Sixty seven tools found from a 2x3m trial trench.

Ida Bichik- This site is at an altitude of 550m msl. Nearly 100 artifacts were collected and these include ground and polished celts, chipped celts, flake tools like points, scrapers, flake blades, pebble cores. Out of the 100 artifacts found, 60% of them were ground and chipped. Near it the site of Ida Bichik II which yielded similar tool typology.

Bibragiri- This site is situated at an altitude of 800 m msl. Two mounds were surveyed named Bibragiri I and Bibragiri II. At Bibragiri I, pebble short axes, large and medium size flake tools were collected. The total artifacts are

50 and from Bibragiri II 150 lithic tools were collected. At Bibragiri II blade flake dominated the assemblage.

Missimagiri-This is situated at an altitude of 750 m msl. Blade flakes ranging from 2 cm to 10 cm dominated the assemblage. Here, the tool density is the maximum. There have been inventories made by different scholars like Sonowal (1987:52). A study of the inventory shows that this site has yielded a number of stone tools. At this site a large amount of flake tools have been found. The size of the tools also varied from 1cm to 15 cms. This gives an indication that this might have been a factory site.

Selbal Bichik- This is at an altitude of 550 msl. Only 25 artifacts were recovered from the surface. It includes 2 ground and polished celts , 1 chipped celt, 2 hammer stones and 9 flakes.

Mokbol Bichik II- The site is located at an altitude of 630 m msl. Here the tools found are slightly larger than medium size tools and are mostly made on slabs. Sixty seven artifacts were collected from area measuring 5x5 m.

Citra Abri- This site is located at an altitude 500 m msl. Ground and polished celts and flake artifacts constitute the assemblage. Double-shouldered axe was only found from here. High percentages of flake assemblages were found. The percentage of flake is 56% in comparison to ground and polished tools.

Mokbol Bichik I- This is identified as a surface site as the artifacts are exposed on the bedrock. The tools are mostly made on slabs. A few short axes and huge amount of waste flakes are found. Eighty- two artifacts were collected from a 5x5 grid (Sharma 2007: 29-34).

Besides these there are other sites that have been reported in *IAR* time to time. One of the important sites is that of Selbalgiri. Six stone axes collected from that of Selbalgiri I. Selbalgiri II yielded 5 hand-axes, 2 picks, 5 discs, 158 chipped celts, 152 ground celts, 32 shouldered celts, 5 awls, 158 scrapers, 20 borers, 66 blades, 26 knives, 7 knife-flakes, 141 points, 12 spear head, 30 arrow heads, two chisels, 53 cores, 27 hammer stones, 22 micro-lithics and 1772 waste flakes (*IAR 67-68: 7*). In an excavation carried out at Selbalgiri

were found 6 ground, chipped axes and 1 scraper from layer 1. One core, 4 hammers and several small flakes from layer 2 and microliths, points and some arrow-heads from layer 3. Another site Chibrigiri yielded hand axes, choppers and chopper tools (*IAR 1971-72: 36*). Charm Abri and Michingrenchep, yielded 1500 tools, some of which included 67 hand axes, cleaver, choppers, scrapers, points, borers, blade tools, burins, microliths etc (*IAR 1974-75: 36*). They were discovered when the area of Chibrigiri and Missigiri was explored.

Ganol Abri was explored in 1981-82. It is situated near the shifting cultivation field of Selbalgiri village. This site has yielded 314 regular tools, 209 simple flakes, 34 cores, 20 chunks, 46 fragmentary tools and 24 small chips. The regular tools included- choppers 3.2 %, hand-axe 6.4%, cleavers 15.6%, scrapers 45.6%, points 26.24%, blade flakes 25.3 %, and chipped celts 2.4% (*IAR 81-82:52-53*).

Muksak Abri is located 2 kilometres towards the site of Ganol Abri. Here choppers 8.25 %, hand axes 8.73 %, cleavers 7.76%, scrapers 32.55%, points 41.25%, blade flakes 31.19 %, simple flakes, broken tools and chips were found (*IAR 81-82: 52-53*).

Rongru Abri is located 3 kms towards the west of Muksak Abri. It yielded ground and polished tools, few chipped celts and scrapers (*IAR 81-82: 52-53*). Another exploration carried out 6 kms from Missimagiri to Bibragiri yielded chipped stone axes, scrapers, points, blades, cores included- ground and polished tools (*IAR 1998-99:120*).

As seen above most of the stone tools reported are from surface collections and very few sites have actually been excavated. Thus, the context of the artifacts is mostly devoid of stratigraphy. It is seen that there is great variability in the occurrence of the lithic tools from the different areas. From the areas which are at a higher altitude like Didami and Missimagiri mostly flake based tools are found. Whereas, at the sites at lower altitudes ground and polished tools along with flake tools are found. If a comparison of the tool-type is made with the different areas of Garo hills we find that the most common of the tool type is the flake-blade assemblage. This point is important to take into account because we have seen that they might also have been used.

One major difference as regard lithic tools that can be found in the excavated areas of Daojali Hading and Sarutaru with that of the Garo hills is that in Daojali Hading and Sarutaru the shouldered, ground and polished tools are only found but in Garo hills the flake-blade tools also form a distinct part of the tool assemblage.

Sharma (2007: 39) opines that the sites with ground and polished tools are found in regions with gentle slopes. These sites included Rongram IB, Chitra Abri, Selbalgiri, Ida Bichik I and II and Gawak Abri. This kind of settlement pattern is also present in the area at present. The nearby alluvial tracts are used for cultivation. Thus, she finds a similarity in the settlement patterns of the pre-historic past with that of the present day shifting cultivators, thereby postulating that the ground and polished tools represent the agricultural communities of the pre-historic past. But the important thing to note is that along with these ground and polished tools, flaked based as well as bifaces are also found. For example, she mentions that in Gawak Abri a very high percentage of micro size flakes were found which were probably utilised. Again, in the case of Citra Abri there was around 56% flake assemblage that was found. Another noteworthy thing about the flakes is that if a comparative analysis is done, then flakes from Mokbol Bichik are slightly larger than those of Gawak Abri, Mokbol Bichik, Bibragiri and Didami, while the flakes from Bibragiri and Didami are almost similar in size.

Sharma (*ibid*: 37) mentions that there are distinctly different tools assemblages which occur within the same context. At Chitra Abri ground and polished celts are found at the bed-rock and at Mokhol Bichik I a flake tool assemblage kit is found at the bed-rock. Typologically, these two assemblages belong to two different periods but are found in same context. The same assemblages are also found in buried context.

No detailed study of the artifacts type has been provided by the excavators or the archaeologists who have explored the area. There is great lacuna in the theoretical understanding of the lithics. This region has not yielded any other archaeological data. Whatever evidence is there is only in the form of lithics

and a scanty number of potsherds. So, it becomes important to understand the underlying meaning of an artifacts tool type.

Sharma (*ibid*: 40) has identified three broad categories of assemblages based on her study of 789 lithic artifacts. These were in turn divided into 33 types. There are three categories of assemblages (celts, core tools and flake-blades) that have been identified in her work.

1) Celt assemblage includes fully ground and polished, partially ground celts and chipped celts. Among the fully ground and polished axes, flat celts, shouldered celts and small axes were found. The study of these tools shows the different stages of the manufacturing process. The damaged edges and the small size suggest that they were discarded after heavy use.

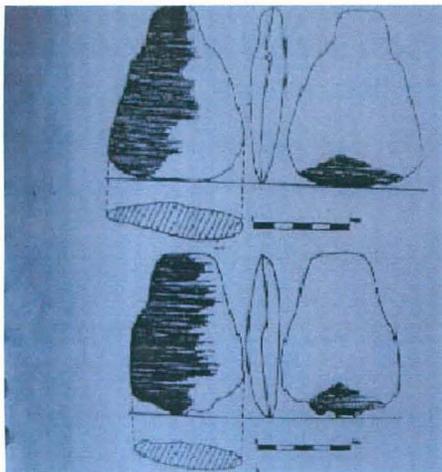


FIGURE 13: Shouldered celts.

(after Sharma 2007:42)

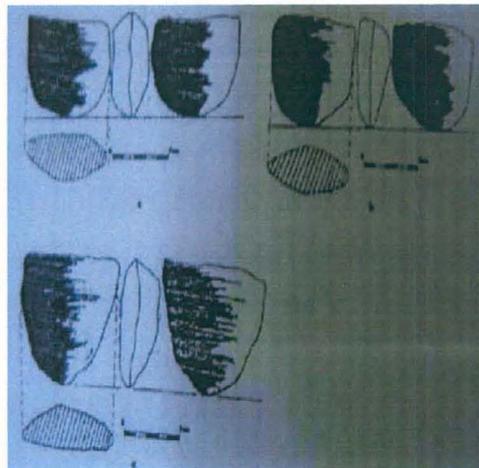


FIGURE 14: Polished short axe.

(after Sharma 2007:42)

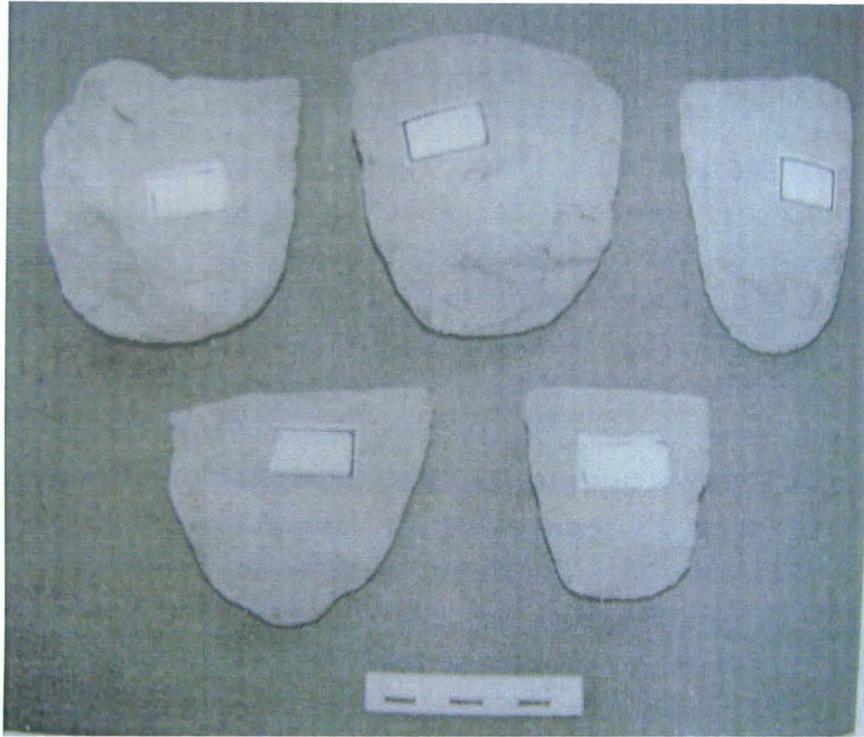


FIGURE 15: Short axes.

(after Sharma 2002:24)

2) Core tool assemblage includes (i) pebble tools and (ii) bifaces. Most of the pebble tools were reported from Rongram IB and Bibragiri which are on the banks of river Rongram and Bibragiri respectively. The short axe is the most common of the tools found here followed by the utilised flakes and chopping tools. The different types of bifaces include square biface, triangular biface, stemmed/abrupt scraper, hachoir, concave scraper, convex scraper and bevelled biface.

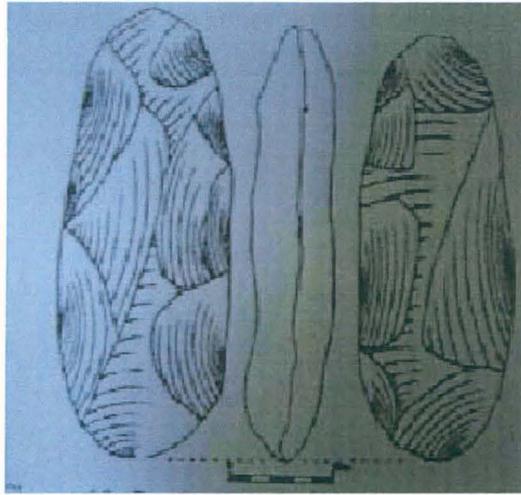


FIGURE16: Partially ground axe.

(after Sharma 2007:45)

3) Flake-blade assemblage has been divided into 2 groups - those with the ground and polished tools and typical flake-blade assemblages. The flakes of the typical flake-blade group are either blade shaped or amorphous in shape and the size varies from 1 to 10 cms.

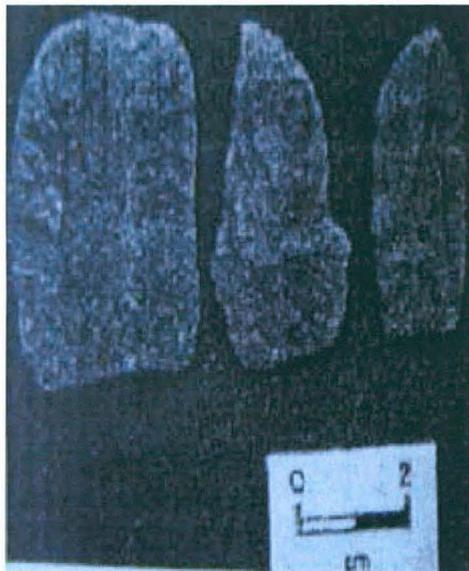


FIGURE17: Probably utilised flakes from the

Neolithic context from Gawak Abri.

(after Sharma 2007:49)

Tabular cores have been recovered from Didami, Gawak Abri and Missimagiri. They have helped in understanding the technique of flake production of typical flake-blade assemblage. These are made of dolerite boulders. Two platforms are seen at opposite ends of the boulder. From the part of the core which could be dressed, blade flakes could be produced and from the rest core, flakes of amorphous shapes were made. The flakes were homogeneous in size. The evidence of flake-blades belonging to Group 2 has been found at Gawak Abri in association with potsherds, chipped celts, short axes and ground and polished celts.

From the above description of the tool type one thing is prominent that this area yielded a variety of tool types. Another interesting point that Sharma (*ibid*: 57) makes is that of the use of the short axes. It is found that they occur as ground and polished, partially polished and chipped short axes. They occur in buried context in Rongram IB and Gawak Abri. The pebble short axe is found at Gawak Abri, Rongram IB and Bibragiri. A detailed analytical study of this tool-type can provide clue for its re-occurrence. Another distinctive tool-type is the flake with the concave edge. This appears with celt assemblages and also other flake-blade assemblages. It is also hypothesized based on an ethnographic study that there may have been specialised tools made out of bamboo. This is based on the ethnographical study of the community. But as it is an organic material so it has little chance of survival.

CONCLUSION- Thus from this section we can conclude that the sites of Daojali Hading and Sarutaru were only excavated once. Only tools were recovered and there is no mention of any kind of flakes found. Thus it is seen that the celt assemblage forms an important lithic tool type at these sites although in North Cachar fossil wood tools and debitage are also found. Whereas in the Garo hills one can see that along with the celt assemblage, the flake blade and other pebble tools also form a distinctive type in this region. This is not reported from the sites of Sarutaru and North Cachar of Assam. Another important point is the use of bamboo, which may have played an important role as a tool.

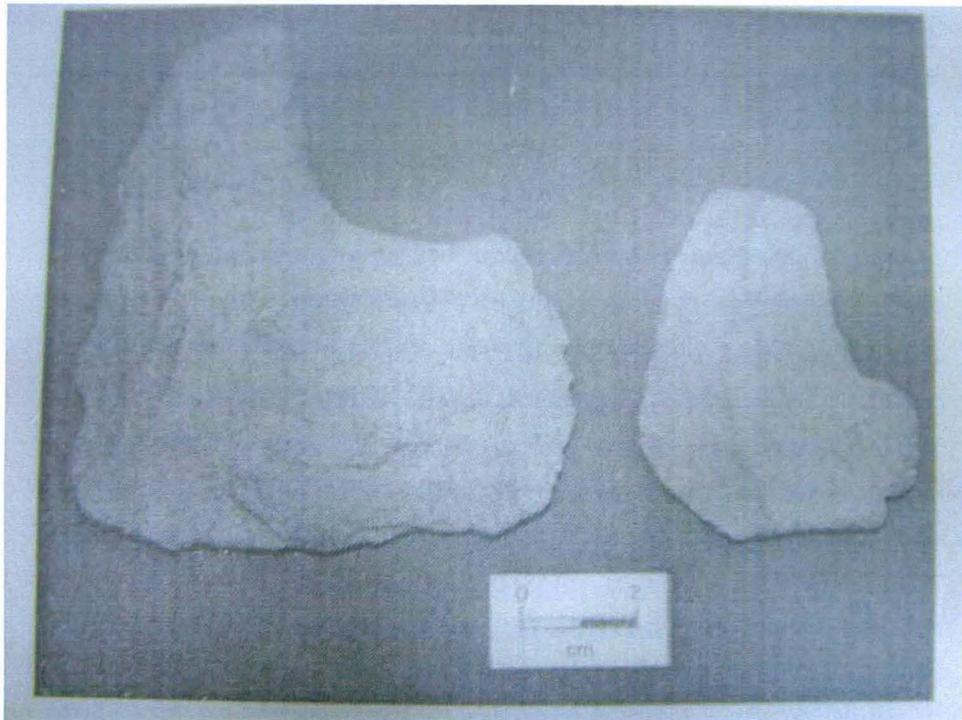


FIGURE18: Flakes like concave edges.

(after Sharma 2002: 25)

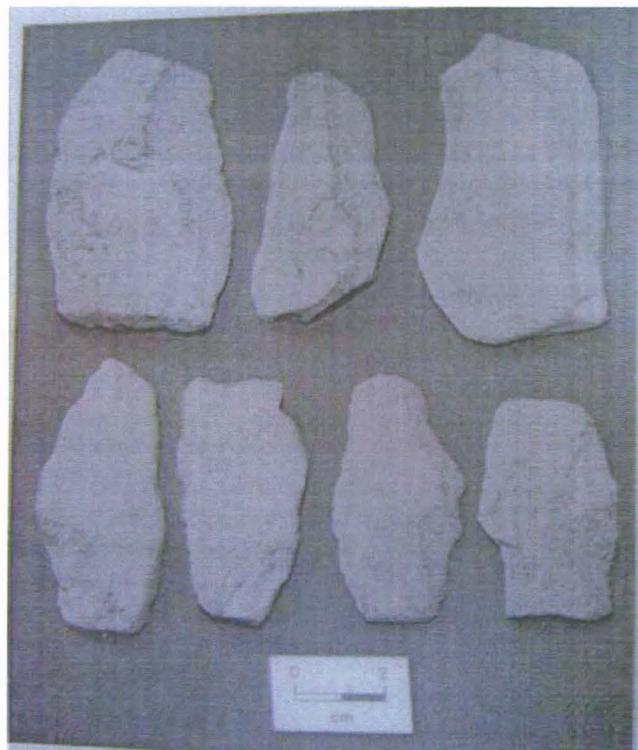


FIGURE 19: Blade like flakes.

(after Sharma 2002: 26)



FIGURE 20: Blade flakes and amorphous
flakes from Didami
(after Sharma 2007:52)

SECTION B: EASTERN INDIA

INTRODUCTION- In this section the different tool types from Eastern India region are discussed. The aim behind this exercise is to study the tools types from Orissa, Bihar and West Bengal and to see if the regions present some distinct features in terms of tool types and also to examine if the dominant tool types in the North-East region forms a part of Eastern region or not.

A) ORISSA

One of the important excavated Neolithic site in Orissa is Kuchai. This site has been excavated by B.K. Thapar. It is 8 kilometres north of Baripado district and lies 5 to 6 kilometres east of Burhabalang river. The tool industry includes faceted hoes, pounders, mace-heads and grinding stones. Shouldered axes, bar-chisels, round butted axes and wedges and hammer stone and microliths have also been recovered (*IAR1961-62: 36*).

Singh (2000: 112) focuses on the Neolithic of Central Orissa. He has surveyed some of the sites of the central area. These include the sites of Nimidha, Sarang, Gotamara, Balaramprasad, Joragadia, Kurudole, Panchamahala, Turang, Ranigoda, Sakosingha, Phulapada, Talmul, Jamunali, Prang, Kuio, Sankerjang, Ghantapada, Balhar and Dera. He collected 211 artifacts and which include 94 axes (44.3%), 18 adzes (8.4%), 47 chisels (22.3%), 7 bar celts (3.3%), 16 scarpers (0.4%), 28 Ringstones (13.2%), 1 shouldered celt (7.5%), 1 chopper (0.4%) and some baked hand-made pottery with grain impression.¹ In this classification it is seen that axe tool form a predominant part in the tool-typology.

Sahoo (2000:173) has focused on the sites of the coastal areas of Orissa. Darpankhas lies in the Darpan tehsil, district Jajpur between 21°41'N-20°04'N, 85°04'E-85°08'E. The survey included Darpankhas, Sunaukhi Tangar and Ranibandhi in the northern zone and Dhanmandal, Kahanikia Tangar and Mahagiri Tangar in the southern zone. Twenty seven artifacts were collected from these sites. Basa and Mohanty (2000: xi) highlight the recovery of a shouldered adze from Dhanamandal in coastal Orissa although they do not elaborate as to why this discovery is important as there are two specimens that are found one from Dhanamandal and other from Sunamukhi Tangar . Further, these do not form any distinct category in the tool type.

From the typological distribution it can be seen that the ring stone of which eight have been found, has the highest distribution (29.63%). It is found in four of the six sites taken for exploration. It is followed by ground axe (25.92%) numerically 7 collected from four sites, while the shouldered axe only forms 7.40% of the total tool assemblage.

Behera (1991-92, 1992, 2000) on the basis of his study of Bonaigarh, divides the Neolithic complex into- workshop areas and sites associated with celts and ceramics. On the basis of the materials recovered from 18 sites, he divides the workshop areas into minor and major workshop sites for semi-finished celt production. The minor workshop sites are widespread in the

¹ Some discrepancies can be seen in the percentage of the artefacts. Shouldered celt and chopper both account for one specimen. But the percentage of shouldered axe is shown to be 7.5%, whereas chopper is 0.4% (Singh 2000:112).

Bonaigarh sub-division, particularly in the southern part and generally found on the cliff surface of the rivers and foothills as well as piedmont areas, not far away from the river Brahmani. It is to be noted that the number of stone implements and the associated debris produced is not very much. It may have been used for a comparatively short period of time. Thus, it is seen that most of the sites are located near the area which in the vicinity of the perennial rivers (Behera 2000: 226). Behera divides the tools into two categories-(I) Celt and (II) Pebble tools. The former includes celts, chisels and axes in high frequency although a few adzes have also been found they composed an important part of the minor workshop area. A large majority of axes, chisels and some adzes were ground on the working edges. The occurrence of fully-ground ones is very rare and the typical shouldered celt does not constitute a feature in these sites. Among the pebble-tools in the order of proliferation, choppers and bored stones mostly made of dolerite have been found.

i) CELTS - The total number of axes amount to 82. The sites on the foothills have yielded more than those on the banks of the river. Axes made of pebbles have also been recovered. The axes other than those made of pebbles have been classified as ungrounded specimen thoroughly chipped, bifacial grinding on the working edge and fully ground axes. This indicates three different manufacturing processes. Two flaking techniques could be identified - bilateral flaking or chipping and quadrilateral or chipped techniques. The study of the tools demonstrates that most of them have convex cutting edge, faceted or convex butt and rectangular medial cross-section.

Finished, semi-finished and some broken specimen of chisels have been recovered. On the basis of the surface preparation the chisels are grouped into unground, edge ground and fully ground chisels. Behera (2000: 234:238) carried out the study of 65 chisels and found that unlike the axes all the chisels are prepared quadrilaterally. The medial cross-sections of all the ungrounded and edge-ground chisels vary from rectangular to slightly trapezoidal type, while it is rectangular in the case of all fully ground specimens. Most of them have convex cutting edges. The size ranges of the three categories of chisels indicate length varies widely, but it is less in the case of width and thickness. The mean width shows only a minimal difference.

Site	DP	ST	RB	DM	KT	MT	Total	%
Ground Axe	-	03	01	01	02	-	07	25.92
Chipped Axe	-	-	01	-	-	-	01	03.70
Adze	-	-	-	01	-	-	01	03.70
Chisel	-	01	-	02	01	-	04	14.81
Shouldered axe	-	01	-	01	-	-	02	7.40
Ring stone	01	05	-	01	01	-	08	29.63
Arrow head	-	-	-	01	-	-	01	03.70
Indetermina nts	-	-	-	-	03	-	03	11.11
Total	01	10	02	07	07	-	27	99.99
%	(3.70)	(37.40)	(7.41)	(25.92)	(25.92)	-		

TABLE 1: Typological distribution of Neolithics around Darpankhas.

(after Sahoo 2000:181)

Sites-

Darpan(DP),SunamukhiTangar(SMT),Ranibandhi(RB),Dharmandal(DM),Kahanikia
Tangar(KT), Mahagiri Tangara(MT).

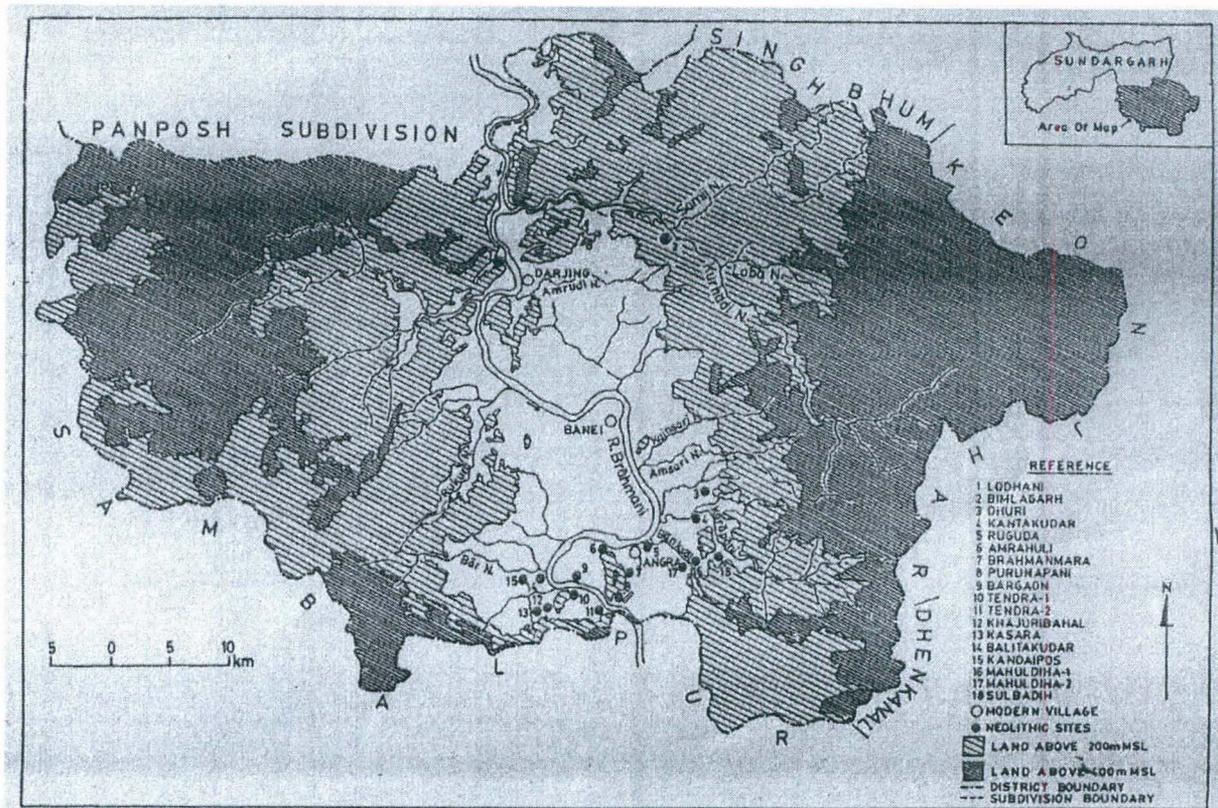


FIGURE 21: Map showing distribution of neolithic sites in the Bonaigarh subdivision, district Sundargarh, Orissa.

(after Behera 2000: 225)

On the basis of forms the chisels can be categorised into four basic groups. The first includes small to large specimens having bevelled or median working edge, faceted or convex butt, curved under surface, and convex or straight working edge. The second includes narrow convergent butt, slightly splayed or broad convex working edge and curved under surface. This is only found in Ruguda. The third group is characterised by straight or slightly convex median cutting edge, faceted straight butt, symmetrically prepared faceted lateral sides which expand slightly towards the working edge, slightly curved under surface. This category has a wide distribution in the South-East Asian countries and is generally known as the 'quadrangular celt'. The fourth category includes a solitary specimen of chipped chisel with an elongated

narrow tang, curved under surface, convex median working edge and rectangular cross-section. The proportion of adzes is less in comparison to the axes and chisels. They include unground adzes, edge-ground and those made of pebbles. The fully ground type is absent here and there are substantial number made of pebbles. Only one specimen of gouge is collected from Brahmanmara. Unfinished celts are not tools but forms of various celt types and they have been found at five manufacturing sites.

(II) PEBBLE TOOLS- These comprises the second major group in the complex of Orissa. On the basis of typo-technological studies the whole group can be divided into eight broad types- bored pebbles, chopper-chopping tools, unifacially flaked pebbles, waisted flat pebbles, worked split pebbles, worked elongated pebbles, and elongated knife and grain pounders.

Only one major workshop has been found and this has yielded evidence for the mass production of celts. More prominently, there is evidence for a large number of semi-finished chisels. They are of two cross-section types- triangular and rectangular. Large debris is found in the vicinity of the village of Sulabhdihi. Behera (1991-92:129) talks of huge accumulation of artifacts debris in this site. He points out that there are four large debris mounds located in the vicinity of Sulabhdihi. Besides this area, several localities in the foothills and river bank areas of Bonaigarh have yielded small clusters of celt-dressing spots and a few habitation sites characterised by occurrence of coarse gritty red ware and celts. A large number of chisels have been recovered where micro-chipping and grinding were carried out. Here, the debris is in the form of micro-chips, and absence of other artifacts like cores, flakes and blades and the debris is also less in comparison to Sulabhdihi. He also reports that despite the small size of the tools in these areas, they hardly differ technologically from the quadrangular-sectioned chisels of the Sulabhdihi type. Thus, he postulates that it was supplied to other localities from Sulabhdihi where it was finally finished. They were also polished and ground at the edge, which suggests that they were used as well.

On the basis of his data, Behera (1991-92: 257) suggests that the rectangular cross-section was for local use whereas the triangular cross-section

was for the more distant consumer. This is on the basis of the fact that he did not find any chisels with triangular cross-section in the locality of Sulabhdini. Thus on the basis of his study Behera points out that there were three different types of Neolithic sites. The first category of sites were represented by sites of micro-chipping and finished celts and other types. These were characterised by small to medium size artifacts located in the foothills as well as piedmont areas. The second category was represented by large scale production sites, where semi-finished celts were manufactured such as at Sulabhdih. The third category represented the habitation site located close to Brahmani.

From this study two important things come to light: 1) pebble tools form an integral part of the tool type of Bonaigarh and the presence of chisels type in different localities as semi-finished at Sulabhdih or polished and ground at nearby localities of Sulabhdih also bring out a distinctive pattern unique to the region of Bonaigarh and one which is not seen in the other regions of Orissa. Sharma (2007:6) points out that the "occurrence of shouldered celts is a noteworthy feature of the Orissan Neolithic". This is based on the observation of Basa and Mohanty (2000), however it should be mentioned here that their observation is based on the recovery of shouldered adze from Dhanamandal in coastal Orissa alone and not on the study of tools found all over Orissa. Moreover, the shouldered celt does not form any distinct form in the tool-typology of Orissa. For example, in his work Behera (2000) shows that there are no shouldered celts in the tool assemblage of Bonaigarh.

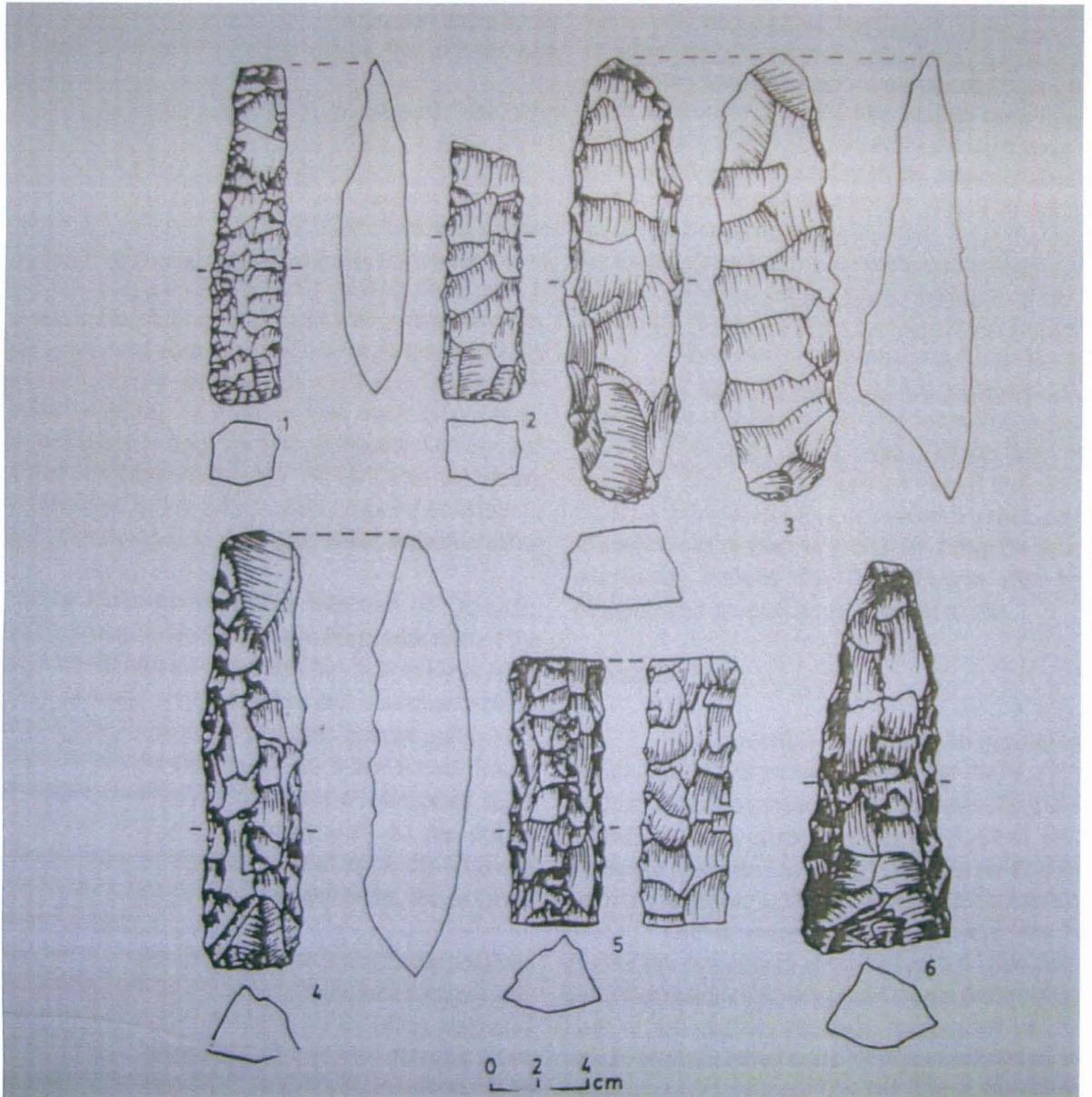


FIGURE 22: Chisels from Sulabhdhi.

(after Behera1992: 128)

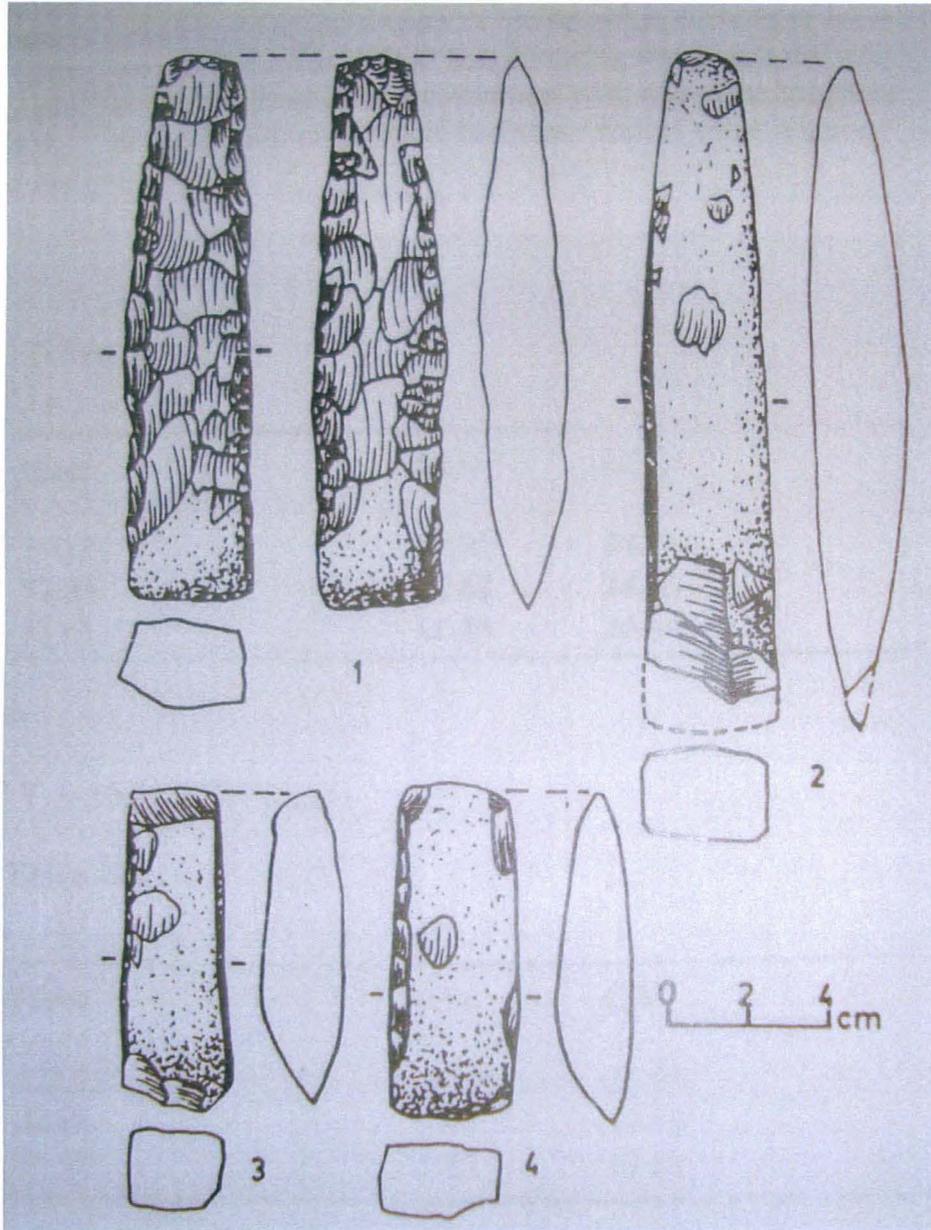


FIGURE 23: Chisels from nearby locality of Sulabhdihii.

(After Behera1991-92:130)

B) WEST BENGAL

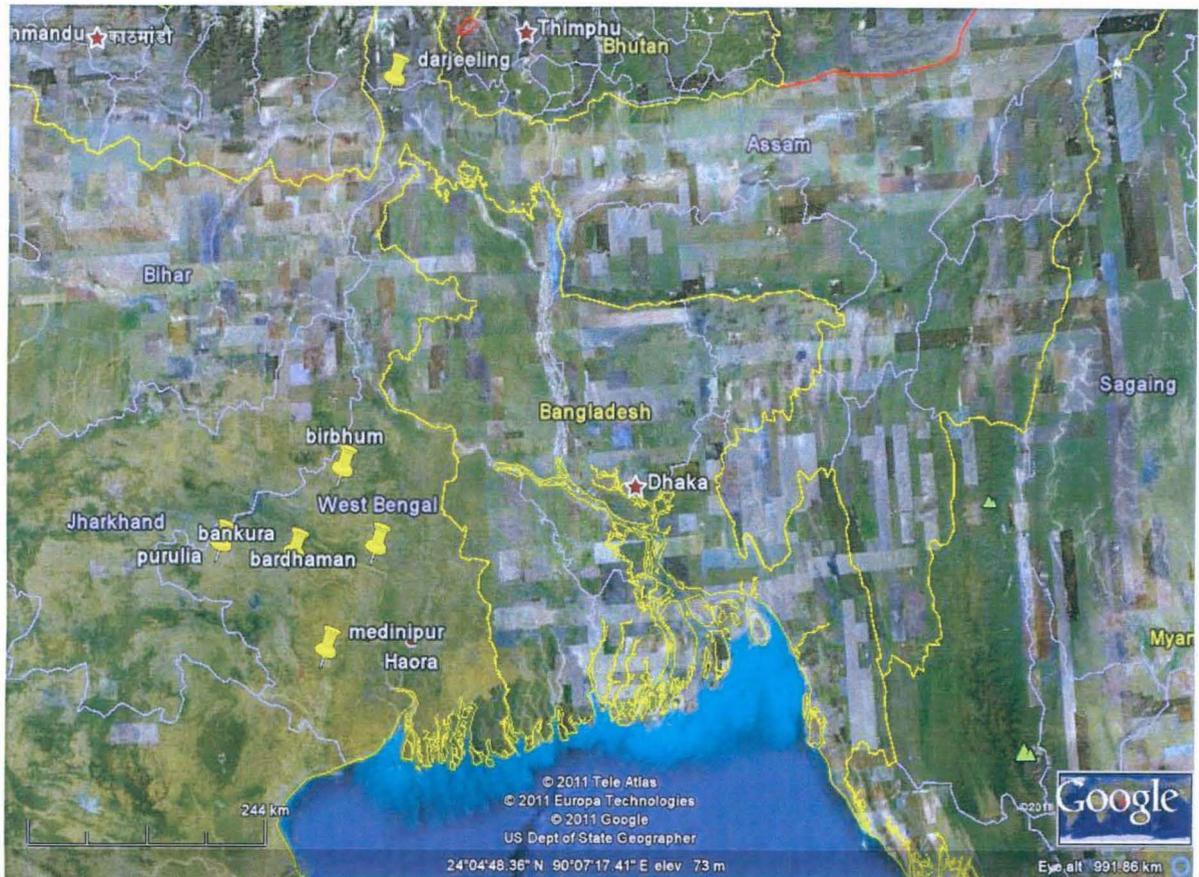


FIGURE 24: Google map showing the districts of West Bengal from where Neolithic sites have been reported.

On the basis of material assemblage the Neolithic sites of West Bengal can be divided into zones: (a) midsouth western districts comprising of Midnapur, Bankura, Purulia, Burdwan and Birbhum; and (b) mid north-eastern region comprising of Kalimpong and the other adjoining state of Sikkim. In the south-western region the Neolithic sites are found in the plateau fringe where the Neolithic sites are free from Chalcolithic culture, while in the western plains, the Neolithic sites are always associated with Chalcolithic culture or in the matrix of mixed up conditions. The south-western region can be divided into two ecological zones - plateau fringe and western plains.

Suvarnarekha complex- Here the major tool types comprise of celts, adzes, splayed axes, shouldered celts, bar-celts, chisels and maceheads. The

celts form the predominant tool type of this region. A total of 122 tools have been reported. Out of these 62 are from the Tarafeni valley (Datta 1992: 71). Celt assemblage is the most dominant type found in the two complexes. It seems that archaeologists have used the term 'celt' interchangeably with axe although technically celt comprises of axes, chisels and adzes.

Kasai complex- This region comprises of Midnapur, Bankura and Purulia. Few celts from Bamal near Lalgah in Midnapur have been reported. Between 1981 and 1986 a number of sites were discovered and a number of tools including celts, chisels, bar-celts, shouldered celts, ringstone, pestles, grinding stones were collected. Celt is the predominant tool type which amounts to 60%, among them celt with rounded butt end form 58.82%, followed by ringstone and adzes. The materials from Laljal cave to Devapahar consists of one ringstone, microliths, bone tools and grey ware. Another site is in the region of Dhuliapur along the Tarafeni river near Silda. A surface survey yielded celts, adzes, ringstones together with microliths and iron slags (Sengupta, Chattopadhyaya and Chakrabarty 2005: 72).

Gandeshwari complex- This region was extensively explored by Dasgupta. Who collected a number of tools comprising of celts, bar-celts, ringstone and one doubtful specimen of tanged axe (Sengupta, Chattopadhyaya and Chakrabarty 2005: 73).

Western plains- Most of the sites in this region are multi-cultural in nature. The site includes Bharatpur and Pandurajar Dhibi in Burdwan, Dihar in Bankura, Tamluk in Midnapur. Pandu Rajar Dhibi has yielded a four-fold cultural sequence of which the first period yielded handmade grey ware with rice husk impressions, a wheel made painted red pottery, a limited quantity of black- and -red ware along with a number of microliths and bone tools and ground stone tools. Explorations in Jamboni yielded black and red ware, microliths, celts and profuse bone tools including points and scrapers. In the Tamluk region also, celts and Ill-fired pottery has been found though scantily in the lowermost level. Archaeologists have pointed out that defining "Neolithic culture" in West Bengal has remained a problem in the absence of proper excavation. They also point out that lithic tools may not be necessarily

associated with Neolithic and could well have been a part of Mesolithic or even associated with the black-and-red ware (Sengupta, Chottopadhyaya and Chakrabarty 2005: 73). It is also seen that often the Neolithic assemblages are also found in the Chalcolithic levels.

The mid-north eastern region comprises of Kalimpong. Dasgupta has explored this area from time to time and has collected nearly 400 tool types. The major tool types include adzes, celts, chisels, perforated celts, splayed axes, knives and harvesters. Adzes are the predominant tools and amount for 52.67%. Shouldered celts, bar-celts and ringstones typical of south-western region are completely absent and no ceramics have been found. The Kalimpong region is dominated by triangular or sub-triangular adzes and axes mostly lenticular or oval cross sections while the shouldered celts are absent. The presence of perforated celts is the distinctive feature of this region (Datta 1992: 69-70). Thus, in West Bengal also we can see that the sites are mostly divided according to different ecological zones and variation of tool types can be seen in different regions.

BIHAR

The Neolithic sites in Bihar can be divided into three geographic zones –(i) the riverine plains to the north of the Ganga (mainly Chirand and Chechar-Kutubpur), (ii) the foothills of the northern flanks of the Kaimur ranges (Senuwar, Sasaram, Taradih and Gaya districts) and (iii) the hilly regions of south Bihar (Settar and Korisettar 2002: 137). Celts have been found from the excavated sites like Manjhi, Chechar, Sonpur, Taradih and Barudih both in Neolithic as well as non Neolithic contexts. During an exploration in Seraikalla, Singhbhum district- celts, pounders, saddle-querns, chisels and hammer-stones were found. This is claimed to be a Neolithic site (*IAR1961-62*: 9). In an exploration in Singhbhum district (which now forms a part of the modern state of Jharkhand) many Neolithic sites were found. They were discovered near Sanjay valley near Sini from which a large number of celts, chisels, pounders, saddle-querns and ring-stones made of epidolerite were collected (*IAR1962-63*: 6). At the site of Barudih located in the district of Singhbhum the stone tools recovered include stone axes and adzes, mainly

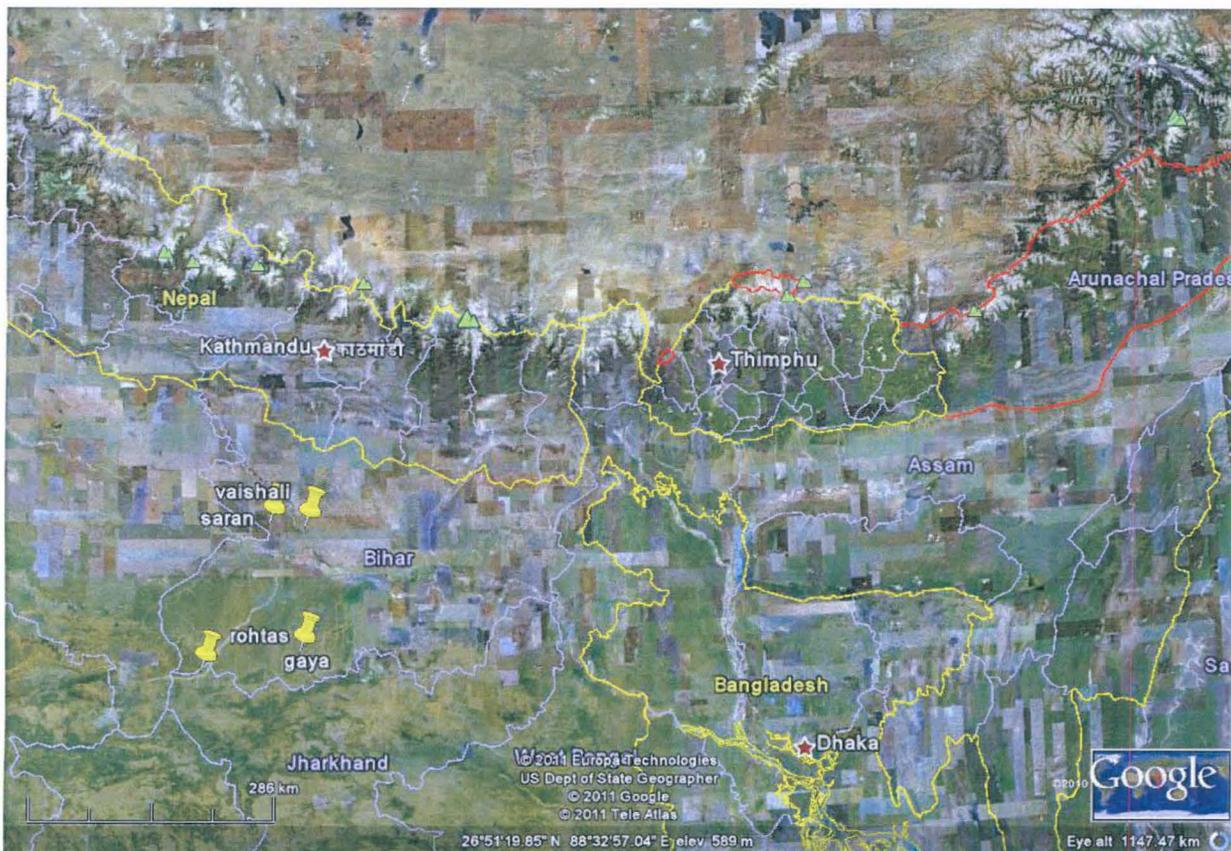


FIGURE 25: Google map showing the districts of Bihar where Neolithic sites are located.

chipped and smoothed and round-buttled (*IAR1963-64: 9*). Chirand is a small village on the left bank of the Ganga in north Bihar (*IAR1962-63: 6, 1964-65: 7, Sinha 1994: 76, Singh 2002: 137*). The tools found here comprises of microblades, notched blades, arrowheads, points, lunates, borers and scrapers. All these tools are made of chalcedony, chert, agate and jasper which were made from nodules probably collected from the bed of the Son River. The stone celts found in Bihar are small in number and comparatively smaller in size as well although the actual size is not mentioned. Only 4 celts made of basalt have been found from Chirand. The triangular celts at Senuwar also made of basalt generally of small variety, are ground and polished. An interesting feature of the Bihar Neolithic is the occurrence of bone tools recovered from the four excavated sites of Chirand, Chechar-Kutubpur, Taradih and Senuwar. These bone tools generally comprises points and arrowheads. On the basis of the materials remains recovered from Chirand, Bhattacharya (2005-06: 18) points out that there are only four celts found from the excavation pit in Chirand whereas there is an enormous amount of hunting

implements made of bone. Another point he raises is the presence of a thick layer of fish scales, sometimes extending to almost 15 centimetres in thickness. So, he suggests that Chirand was a fishing village where there was a moderate population and subsistence was based on hunting and fishing. Most of the pulses and cereals may have been obtained through exchange with the more favourable agricultural sites. Thus, he points to the different kind of subsistence pattern that may have practiced as there is scanty evidence for agriculture.

CONCLUSION- In this section we can distinctly point out the differences in lithic types found in Eastern India. In Orissa itself, from the different regions of central Orissa axes are common, whereas in the coastal sites ring-stone forms a dominant group and again, in Bonaigarh district of Orissa, the celt assemblage especially the chisels and the pebble tools form a dominant category. In West Bengal there is variation in the (a) mid-south and (b) mid north-eastern region tool types, and in the eastern region comprising of Kalimpong perforated axes and adzes form an important part. In Bihar, more of bone tools have been recovered than the lithic tools. Thus, the variability is very apparent.

SECTION C: A COMPARISON OF STONE TOOLS FROM NORTH-EASTERN AND EASTERN INDIA.

In the study of the different tools from different regions we can see that there is dominance of different kinds of tool types. We can also see some distinctive character that is peculiar to each of the regions. Thus, it can be said that to understand the tool-typology better it is necessary to study them in their own regional specificities rather than trying to understand them through the model of 'diffusion'. The fact that there is variation in the different kinds of tool types due to geographical variations is well documented by archaeologists. But curiously, they have not tried to go beyond dividing them into different eco-zones and then trying to see the influence from different regions. It seems that the study and understanding is mostly based on surface finds. The tools found are collected as a part of surface survey and in most cases the tools are randomly mentioned without giving quantitative details.

Despite decades of research, little insight is available on aspects related to technology and technical processes of the tools as well the wider social and economic dimensions that such practices may illuminate.

If one has to analyze the work done so far we find that the archaeologists apparently are more interested in discovering new sites which yield lithic tools in order to prove the richness of the site and not in trying to understand the site as a whole. Another interesting point to note is that we do not find archaeologists excavating sites with specific questions in mind. In this chapter we have seen that there are some tools which are specific to a region. In North Cachar fossil wood and celts; in Sarutaru (as mentioned earlier, scholars doubt this site to be Neolithic) the celt assemblage forms a distinctive part; whereas in Garo hills along with celt assemblage, flake blade tools and pebble assemblage form a part. The kind of tool types like flakes with concave edge, amorphous flake blades and short axes have not been reported from elsewhere. Thus they form a distinct type in this region.

Again, in Orissa also we find that different kinds of tool type dominate in the different regions. In central Orissa, mostly axes are common, whereas in the coastal sites ringstone forms a dominant group. In the Bonaigarh district of Orissa, the celt assemblage especially the chisels and the pebble tools forms a dominant category. In West Bengal a clear division between (a) mid-south and (b) mid north-eastern region tool types can be seen. In the eastern region comprising of Kalimpong the perforated axes and adzes form an important part. In the region of Bihar, bone tools have been mostly found and they outnumber the lithic tool types.

Thus one can see the vast variability in tool types present in different regions. Thus, the idea of 'diffusion' cannot help in understanding the relation of non-bi-faces to bifaces unless they are studied as the product of cumulative knowledge interacting with imperatives of adaptation. It is seen that most archaeologists have argued that the North-Eastern Neolithic tradition bears affinity with the South-East Asian and Chinese type. But here too there is a lack of an in depth study. One main distinction is between the mainland and the islands. China is also a huge landmass and which has different eco-zones.

In the absence of any in depth comparative study the suggested affinity does not prominently stand out as a conclusive entity.

CONCLUSION: Thus, we can conclude that the variation not just between the tool types of North-Eastern and Eastern but within these two zones is very apparent. To understand the distinctiveness one needs to understand the spatial and temporal variations of different regions and sub-regions.

SECTION D: STONES AS PERCEIVED BY SOME DIFFERENT COMMUNITIES

INTRODUCTION- The idea of stone as an active entity has been included in this section in order to highlight the importance that people of some communities associate with the stones, how it is still in vogue among few of them and the symbolism that they may generate. Another aim is to bring to light the fact that most of the stone tools that are in different museums and collected by different scholars like Hutton and Mills were from the villagers who possessed them as auspicious objects.

Stone in many cultural contexts is not viewed as a passive entity but as a meaningful, indeed often animated, substance. For many people of different communities stones are considered to interact freely with the world of humans (Brumm, Boivin and Fullagar 2006: 14). Although there is separation as regard time and space but some kind of similarity can be seen in the beliefs and customs of different communities of different places. With regards to stone tools we can find there is a great deal of beliefs and superstitions that are associated with them. Though it may differ from community to community but they have been considered in high esteem. A foray into these issues may give a new insight of the beliefs and customs of different communities.

The study of scholars like Lubbock, Austen, Mills, Hutton, Walker was mostly ethnographic in nature where they tried to understand as to how these tools were perceived by local people of that time. Most of their stone collections were from households who preserved them as they believed them to have magico- medicinal properties (Rao 1974: 1). These are known by

different names by the local people. Among the Garo villagers these are known as *goera gitchi* meaning the axe of God and they are believed to possess the potentialities to cure diseases and to bring good luck to the possessors (Sharma 1984: 7).

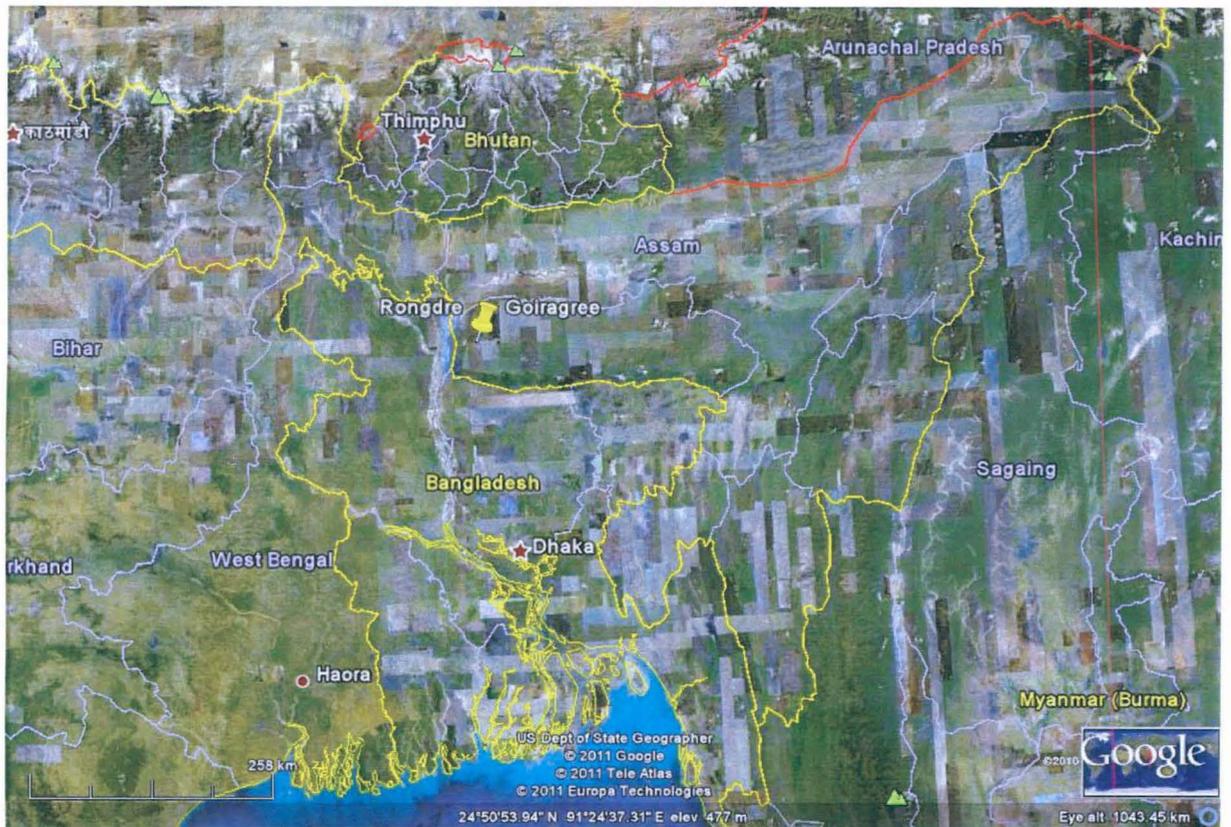


FIGURE 26: Google image showing the location of Rongdre and Goiragree.

A small field work was done in order to see how the Garos today perceived the stone tools. For this reason two villages was selected, Rongdre (N25°36.582' E090°04.723'), and Goiragree (N25°36.600' E090°04.271'). The villages are located in the inner part of West Garo hills. The reason for the selection of these villages was because they still follow some of the old beliefs and customs. Today as many of the Garos have converted to Christianity, there are only a handful of people who still follow the old traditions. Thus many of the indigenous practices of the people are slowly dying. The village in which the old practices are still prevalent is known as *Sansarik* village. They worship

nature gods. Both the villages visited were not fully *Sansarik*. In Rongdre, there are 45-50 households approximately and 14 of them are Christian, whereas in Goiragree, there are 34 households, and out of them 8 families have converted to Christianity. The study was mostly in the form of interview with the people. Mostly the *Nongma* or the village headman of Rongdre was interviewed. As, the villagers did not know any language other than Garo, so I had to take the help from a guide. Vaishali, a member of the State Tourism Department agreed to assist me and acted as a translator. Among the Garos there is a belief that thunder god strikes with what is called *Goira Gitchi*. The word *Goira* means God in Garo. The word *gitchi* is used for hoes. According to their belief, this is of 7.62 centimetres and can strike anything. It is considered auspicious although they have never seen it. Now, the *Goira* is worshipped for the well-being of the crops and the whole village participates in it. It is performed by the *Nongma* or loosely translated as the village headman. This is mostly performed during the month of June. They do not however preserve any stones in their houses as many people of different communities tend to do so. It is just a belief among the Garos that is transmitted from generation to generation.

In Arunachal Pradesh, the Neolithic celts are considered as celestial objects. They call them *Doje-hunting* (Jungle God's Axe) and *Talu-hey* (Devil's Axe). The *Doje-hunting* are considered as having magical properties and the *Talu-hey* is considered to be an evil spirit. If someone goes missing then they worship the celt in order to show the direction (Sahu 2000-01:153-154). Thus we see that there are many beliefs associated with the stones.

Reports of engraved stones finds have been made in the northern part of the South Asian subcontinent, in Southwest Asia, and beyond. They have been reported from the Palaeolithic to the historic period, and occur on both modified and unmodified stones. A review of the ethnographic literature suggests that many indigenous societies hold the belief that deceased relatives, spirit entities and other supernatural potencies dwell within particular stones, or indeed, are embodied as the stones themselves. In the recent excavations at Hiregudda engraved stone artifacts have been found. Contextual and microscopic investigation of a number of engraved artifacts discovered in a

large assemblage of dolerite artifacts excavated from this Neolithic hilltop habitation and stone-tool production site in south India suggests that there may be an alternative interpretation of engraved stone artifacts. The archaeologists associated with this work have suggested that the engravings may have been a response to a perceived 'life-force' within dolerite (Brumm, Boivin and Fullagar 2006: 15).

In addition to the large immobile stones rooted to permanent locations in the landscape, smaller, more portable stones are or were often considered by many communities to be living entities. Many such cultures describe portable stones moving around of their own accord. For example, in the Tangma area of Irian Jaya (West Papua, Indonesia), green schist axes are believed to fly through the air at night, and also travel underground through subterranean passageways. In other Melanesian societies, ethnographers have recorded examples of stones believed to walk around, dance, light fires, transmit and cure disease, speak, procreate and kill. On this note, it is important to point out that it is not only megaliths and small natural pebbles that become associated with such deeper symbolic meanings. Many people also regard the stones used to make tools to be alive (*ibid*: 14-16).

While describing the functions of the stone tools scholars like Hutton have given details about their work. They are regarded as charms and are kept to protect their crops. Among the villagers in Naga Hills it was believed that the souls of the dead became infused into stone menhirs, which in turn made the land fertile. On the basis of function, Hutton (1926: 79) has arbitrarily divided stones into three kinds- ceremonial, magical and utilitarian. The Nagas regarded them as thunder-bolts and are kept as charms to increase the fertility of rice. Again, there is a practice among the Nagas to keep small black oval stones in their houses that were believed to be possessed by spirits. The stones magically protected the rice crops. They are considered to be living forces and they die when they are burnt or they change colour. Another belief associated with the stones is that they bring rain and wind. Such stones are not touched as they were believed to bring hurricane and rain.

The various ethnographic examples outlined above highlight the potential significance that stones themselves can take on, including stones that

are to be manufactured into or used as tools. Crucially, they suggest that stones are understood by many people as more than just lifeless objects that function as passive receptacles of human energy. Stones can possess a life-force, which may need to be acknowledged, respected, mollified, nourished, or coaxed into human service. These examples suggest that when it comes to the prehistoric engravings, the stone itself may have been critical to the marks made on it. They encourage a shift away from the idea, common within archaeological interpretations, that the marks represented some sort of unrelated abstract notion or thing, and that the stone was just a convenient surface on which to engrave them.

CONCLUSION- As mentioned above stone is an active entity as perceived by different people. Even today the stones have an important role in lives of many people. There are certain beliefs and ideas attached to them. This is not only a phenomenon unique to this area. But these kinds of practices are also very common to people of different areas. These kinds of study provide a fascinating insight on ways how some communities perceive an object which is mostly considered passive by other communities. These kinds of studies also leave a space for a different interpretation and use of stone tools. It enhances to understand the socio-symbolic practices and beliefs.

CONCLUDING REMARKS: In this chapter an attempt has been made to understand the multi-faceted dimensions that the study of lithics enumerates. Section A, deals with the lithics of Northeast, Section B, that of Eastern region, Section C, is a comparison of the tool types between and within the two regions; and in Section D, the study of tools as perceived by different communities is taken into account. The comparative study attempted here has helped us in broadly bringing out the tool types of different regions. It has also helped to understand that differences always persists in terms of regions and so an extensive and detailed study needs to be done to understand them. We need to get away from the 'cultural historical' approach and try to bring out the distinctiveness of the region as per as the evidence from a site is concerned. Also the belief of different communities in stone tools is very interesting and provides a fascinating insight in their socio-religious beliefs.

CHAPTER 4

A COMPARATIVE ANALYSIS OF POTTERY

INTRODUCTION:

The archaeological study of North-East India is entangled with questions mostly concerning the affinities with South-East Asia and East Asia. As far as the study of 'Neolithic' goes the evidence is most commonly in the form of lithics and ceramics. Most of the archaeologists have pre-dominantly seen the lithics and ceramics from the northeast as having affinities with South East Asian types and Eastern Asia types. The premise of this argument is however not based on a sound comparative analysis. What is more surprising is that the affinities so ascribed are based on rather scanty pottery materials recovered from the excavated and explored areas, like that of Daojali-Hading in North Cachar, Sarutaru in Kamrup, Assam and the sites in West Garo hills in Meghalaya.

In this chapter, an attempt is being made to compare the 'Neolithic' pottery from the North East with that of South East Asia and in particular Thailand. The sites of Daojali Hading, Sarutaru, Selbalgiri and Gawak Abri will be taken up for the case of North East India. On the other hand, the three sites of Khok Phanom Di, Ban Kao and Non Nok Tha from Thailand are taken as case studies for South East Asia.

The whole chapter is divided into three sections- Section A which deals with the ceramics of NorthEast India, Section B deals with the ceramics of South East Asia while Section C is a comparative analysis of the ceramics from the region of NorthEast and South East Asia.

SECTION A – NORTH EAST INDIA

INTRODUCTION- In this section the sites from North East India are discussed. The site of Daojali Hading, Sarutaru, Selbalgiri and Gawak Abri are taken up for my study. The aim is to study the different kind of ceramics found in these sites and also to try and compare them with each other.

A) DAOJALI-HADING

The excavation of this site was carried out in 1961 and 1963 by Guwahati University. The ceramics found have been studied by T.C. Sharma. He (1967:126-128) points out that all the ceramic types recovered from the excavation in Daojali-Hading were fragments. There is no evidence of any diagnostic type or and neither was any intact vessel found. The sherds thus found are divided into 4 types-(i) cord-marked pottery, (ii) incised, (iii) stamped and (iv) plain fine red ware. The colour of the cord-marked and incised pottery is mostly grey. Other colours include dull red and chocolate brown and the plain pottery is red in colour.

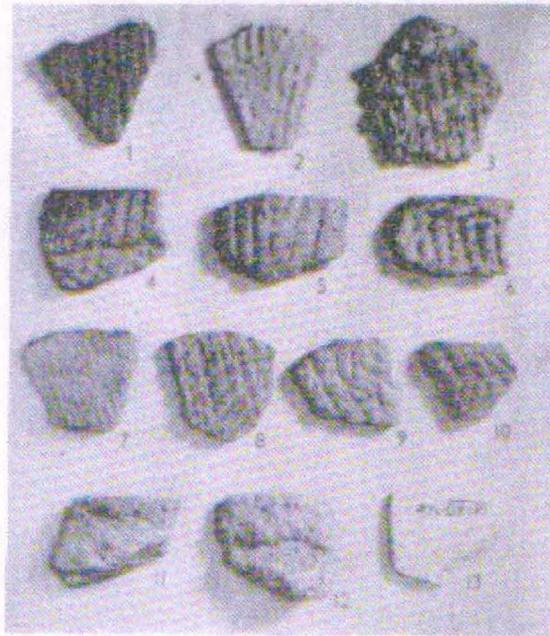


FIGURE 27: Pottery from Daojali-Hading.

(after Choudhary 1985: Plate VI, Fig 9)

As we can see in Figure 27, the cord-impressed sherds have been numbered one to seven, the stamped sherds have been numbered eight to ten, although these look more like a criss-cross pattern. The incised is numbered eleven although it is not very clear. The twelve number sherd is labelled as stamped without design (this is quite doubtful as there can be nothing like

stamped without design, this looks like a coarse ware and the incision is not clearly seen), Plain ware is represented by number thirteen in the figure.

The Daojali Hading pottery has also been studied by S.K. Roy as part of his doctoral work. He (1977: 117) points out that there were 625 sherds in total. Out of which 595 are cord-impressed, 19 stamped dull red and 11 plain red. Interestingly, the category which Sharma mentions as incised is missing in the analysis of Roy.

Object	Trench					Total
	A	B	C	D	E	
Pottery						
Cord marked	25	500	-	50	20	595
Stamped dull red	-	19				19
Plain brick red				11		11

TABLE 2: Pottery from Daojali-Hading.

(after Roy 1977: 117)

B) SARUTARU

The site of Sarutaru in Kamrup was excavated by Rao in 1973. Numerous potsherds were recovered from the excavation. However, no complete vessel was found. The pottery is hand-made. Two or three shades can be recognised such as brown, pale buff and grey. Brown is the predominate colour while the grey type is rarely found. The exterior is sometimes decorated with cord-impressions or basket impressions. The decoration is in the form of either

parallel or criss-cross lines. The sherds belonging to the neck or rim portion are plain without any decoration. In the report the sherds have been illustrated through drawings but surprisingly they are not drawn to any scale.

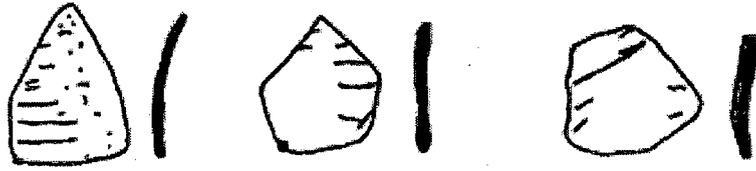


FIGURE 28: Potsherds from Sarutaru.

(Not to scale)

(after Rao 1973: 4)

Rao (1973: 6-7) states that nothing can be said about the ceramic forms as only tiny fragments were recovered. So he concludes that from the point of view of colour, matrix and exterior decoration the pottery of Sarutaru is similar to that of Daojali Hading as that of South-East Asia. Further, he claims that cord-impressed pottery is only found in the North East and South-East Asia. So he suggests the pottery type of North East region is not similar to that of Indian counterpart. It needs to be pointed out that cord-impressed pottery has also been found in the northern region of India at the sites of Koldihwa and Mahagara. Further, a detailed comparative analysis with that of South-East Asia is absent. It is also evident that the pottery recovered from the different sites are non-diagnostic in nature and so do not give us an idea of the shapes and forms of the vessels.

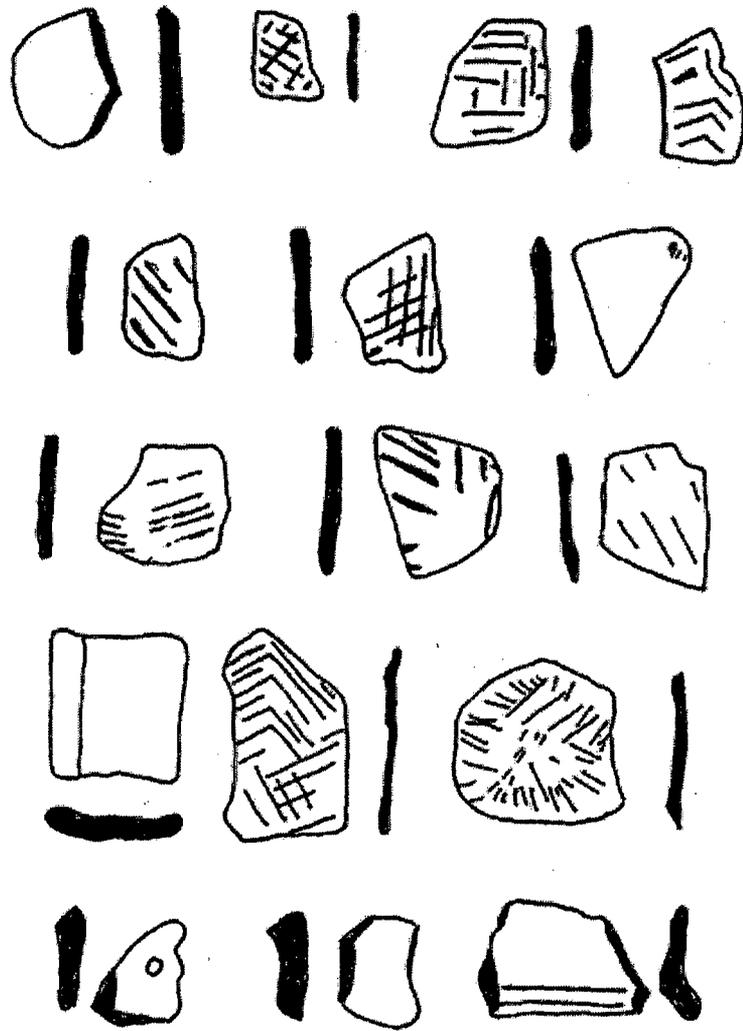


FIGURE 29: Potsherds from Sarutuaru.

(Not to scale)

(after Rao 1973: 5)

C) WEST GARO HILLS:



FIGURE 30: Google map showing the site of Selbalgiri.

In 1967 M.C. Goswami and T.C. Sharma explored Selbalgiri. They found Red ware, Grey ware and Grey and Red ware (as cited in Roy 1977:142-159). Roy has pointed out that the pottery of Selbalgiri and Daojali-Hading does not show any uniformity. At the same time he has mentioned that these two pottery types belong to the South-East Asian type (Roy 1977: 255-256). Further, he points out that the pottery collected from Garo hills is devoid of any design and those from Daojali-Hading have designs which are similar to those of South-East Asian types. And that of Garo hills can be compared to that of South-East Asia (*ibid*: 288-289). But a comparative analysis with any of the site of South-East Asia is completely missing. However, it needs to be pointed that the similarity between the Neolithic ceramics of North East and South-East Asia has actually not been demonstrated through an actual comparative study.

Again Sharma (2007: 51) reports the finding of two types of handmade dull grey plain pottery from a site called Gawak Abri, West Garo hills in her field survey, although the amount of potsherds found is not mentioned. Of these one was a coarse and gritty variety while the other had a thin wash on the surface. The potsherds recovered were very small in size which makes reconstruction of the shapes difficult. She argues that the absence of cord-impressed pottery in Garo hills marks a major difference from the South-East Asian counterpart and points this as a local development. But at the same time she also mentions of other sites in North East India which have yielded cord-impressed pottery. (*ibid*: 78). Thus, variation in pottery type is also seen among two different areas. It should be pointed out that the sites in Garo hills have yielded scant evidence of pottery.

CONCLUSION- In this section, we can see that the data available for study is too negligible and the reconstruction of the vessel types is not possible. However, regional difference can be seen among them also. In Daojali Hading and Sarutaru, cord-impressed pottery was found. But in Garo hills from the sites of Selbalgiri and Gawak Abri it has not been reported and only plain types are found here.

SECTION B- SOUTH-EAST ASIA

INTRODUCTION

For South-East Asia, I have taken up three excavated sites- Khok Phanom Di, Ban Kao and Non Nok Tha in Thailand. These are three of the important excavated sites in Thailand. Khok Phonam Di, is described as a rich hunter-gatherer site and is included in the study as it belongs to the same time-period as the other sites taken for study here and also because of the huge evidence of pottery it has yielded. Ban Kao is a Neolithic, while Non Nok Tha is a multi-cultural site where the lowest three levels (Early Period 1, 2 and 3) are Neolithic phase. Another reason for the selection of these sites is that they are located in three different zones of the country. Khok Phonam Di in the coastal region, Ban Kao in west continental highlands and Non Nok Tha in Khorat plateau (see Figure 31).

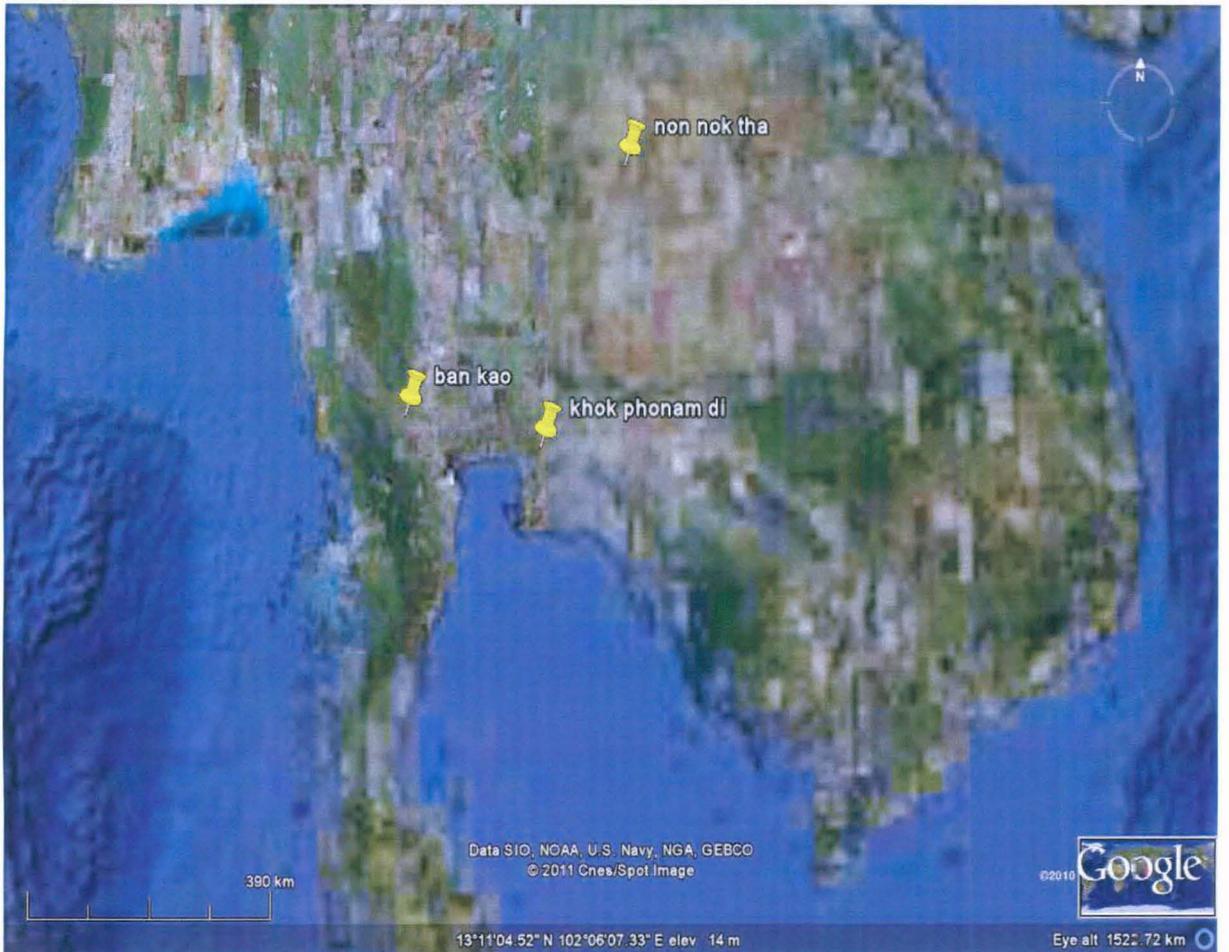


FIGURE 31: Google image showing the location of Khok Phonam Di, Ban Kao and Non Nok Tha.

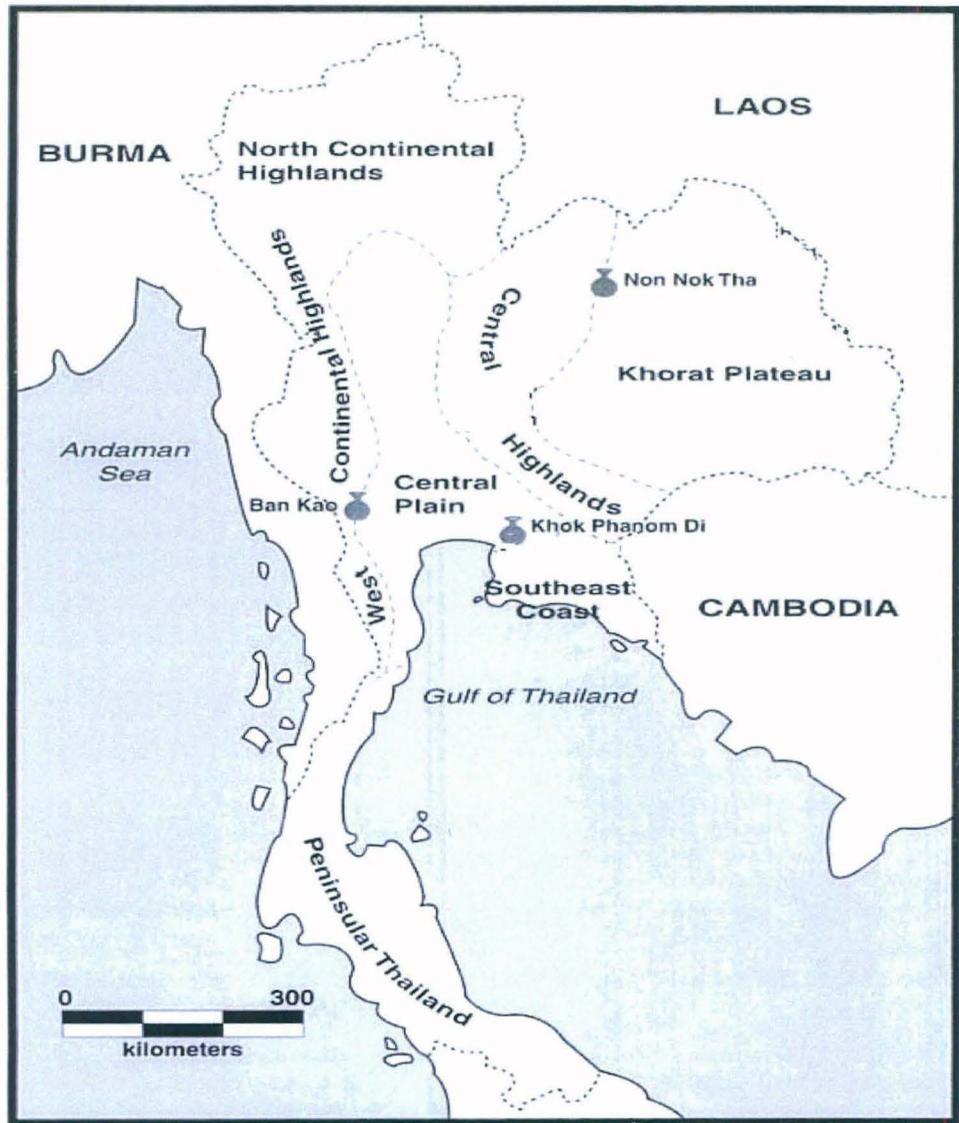


FIGURE 32: Map of Thailand.

(after Vincent 2003:231)

A) KHOK PHANOM DI

Khok Phanom Di is located in the Ban Pakong Valley, which is 22 kilometres from the coast. This site was occupied for nearly 500 years and has a deposit of 7 metres. Many human burials have been discovered associated with pottery vessels and samples of rice. This site has been dated between 2000-1500 B.C. The excavation was carried out in an area of 100 metres sq. in 1984-85 and 11 cultural layers were identified. The lower 30 centimetres featured an occupational zone. This was overlain by a cemetery spanning several mortuary phases. What is specific to this region is that the site is not associated with a regular rice producing area. But it has yielded evidence of huge pottery production (Vincent 2003: 240).

The upper layer has yielded evidence of a potter's workshop. Potters' anvils, burnishing stones, bone incising points, prepared cylinders of clay and dense deposits of potsherds were recovered from the excavation. Almost 11 tonnes or 3,000,000 sherds were recovered from the excavation. The pottery from Khok Phanom Di has been studied by Brian Vincent. The ceramics are divided into 4 phases based on the change in the ceramic spectrum and labelled as Ceramic Period 1 (CP1), Ceramic Period 2 (CP2), Ceramic Period 3 (CP3) and Ceramic Period 4 (CP4). They include pottery made of clays variously tempered with sand, bleg grog, shell or rice. The various kinds of pottery include- cord-marked, painted slipped, burnished, incised, punctuate or paddle and shell impressed modes of decoration (*ibid*: 240). At the site there is presence of both mortuary and non-mortuary ceramic types.

In the pottery from the Ceramic Period1 (CP1) the wares are tempered with quartzitic sand. Some kind of similarity can be seen with the ceramic tradition of Nong Nor (a site in coastal Thailand, it lies on the flood plain of the Bang Pakong River in Chonburi province, 14 kilometers to the south). Many of the decorative techniques are also similar. This includes burnishing, incising, shell-impressing and cord-marking (*ibid*: 140). During Ceramic Period (CP 2), local wares were mostly composed of a sandy fabric tempered

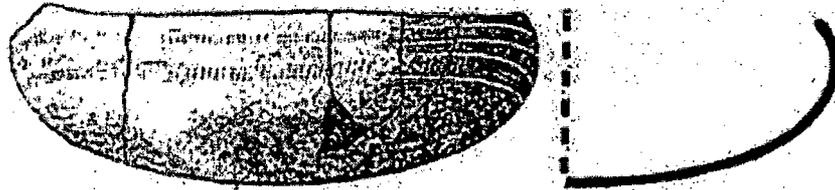
with grog. Ceramic Period 2 (CP2), represents highly burnished and incised fine wares. Mostly the colour was dark brown or black. The mortuary vessels were mostly carinated jars made for interment with the deceased. Often the vessel rim carination points are shell-impressed. Some were shell impressed outlined with incised lines. This decoration was either geometric or curvilinear patterns or in stylised motifs. A few carinated jars with bases featured stylized turtle motifs. Two different ceramic traditions at Khok Phanom Di, Ceramic Period (CP2) and Ceramic Period (CP3) are represented by pottery-associated ceramic artifacts recovered from the cemetery deposits. Both mortuary and non-mortuary wares found. A total 139 mortuary and 40 non-mortuary wares has been recovered (*ibid*: 241). The ceramics thus found can be classified into 3 major groups – bowls (see figure 33), platters and jars (see Figure 34).

Bowls and jars are either shallow, with inverted or everted rims, or deep and everted. Two variants have bases. Jars have eight variants, from direct inverted to perpendicular, to indirect inverted and everted. Carinated variants include a tall form with a base. Platters are shallow and open with either inverted or everted rims. In another carinated version the base is much wider. The third version has a concealed base which is a continuation of the vessel wall. The most abundant is a deep cord-marked jar with a distinctive simple rim made by folding the wall over inwards (*ibid*: 241). Later, the pottery saw a change in the form of cylindrical with straight sides and rounded rim folded inwards (see figure 34)

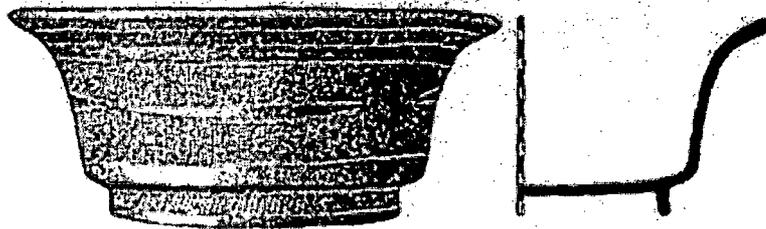
The Ceramic Period 2 (CP2) tradition is characterised by highly burnished and incised fine wares. The favoured colour was dark brown or black. Most of the mortuary vessels are carinated jars made for interment with the deceased. A few carinated jars with bases featured stylized turtle motifs have been found (see figure 35).



Shallow everted



Shallow inverted bowl

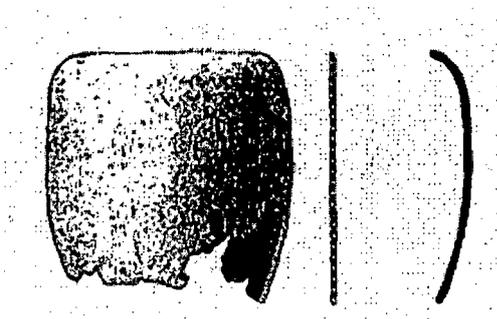


Footed everted bowl

FIGURE 33: Bowls.

(Not to scale)

(after Vincent 2003: 241)



CP4

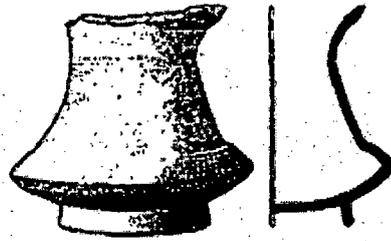
FIGURE 34: Inverted jar.

(Not to scale)

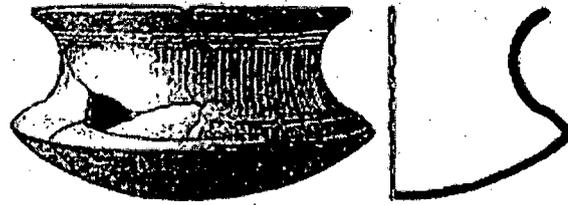
(after Vincent 2003: 245)

In the Ceramic Period 2 (CP 2) phase, two vessels displayed attachment points for tripod feet. Several feet are found from the local matrix. They are solid and either ovoid or round in section and measures 18-90 mm long by 18-80 mm in diameter. Fine miniature wares have also been found.

In Ceramic Period (CP 3) in the non-mortuary context two conical tripod feet, one composed of exotic fabric, tempered with rice and probably one composed of local CP3 fabric were recovered from general deposits . In Ceramic Period 3 (CP 3) the mortuary deposits continued to be dominated by carinated burial jars. Some new forms could be seen. This includes an outstanding large jar of ceremonial proportions and a large egg-shaped vessel which both encased an infant burial and a highly ornate vessel with a complex form from burial 15 (see figure 36).



Tall footed carinated jar



CP 2 carinated burial jar



CP 3 carinated burial jar

FIGURE 35: Burial jars

(Not to scale)

(after Vincent 2003:243)

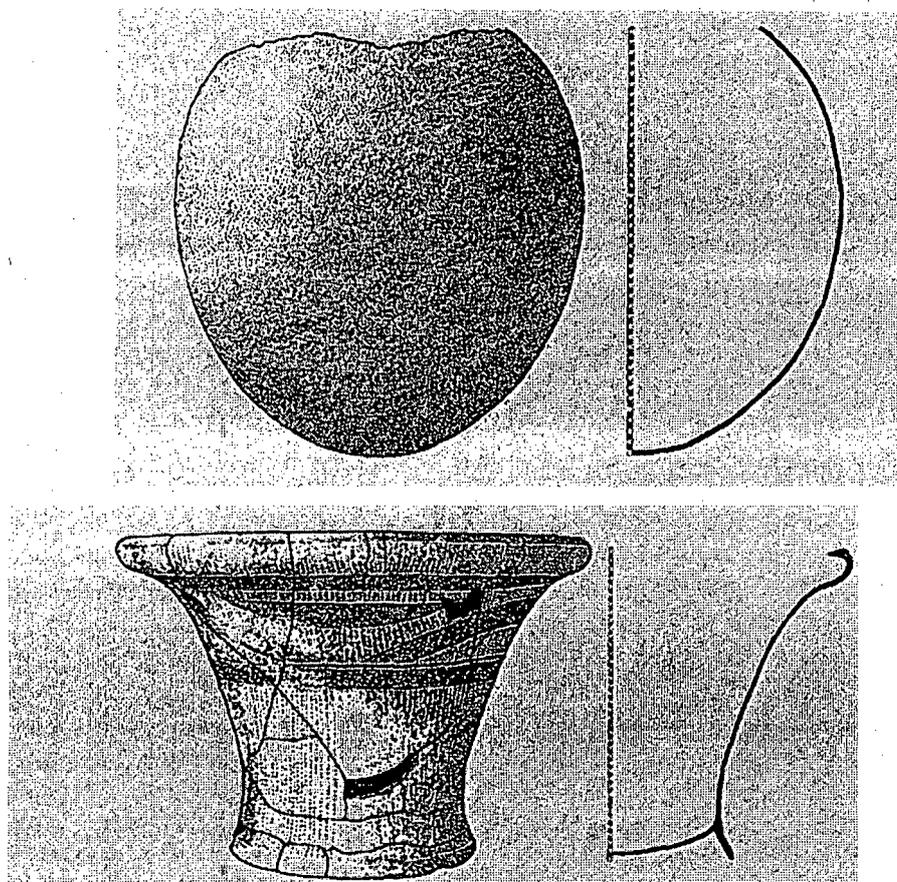


FIGURE 36: CP3- Infant burial vessels.

(Not to scale)

(after Vincent 2003: 244)

Carinated burial jars throughout Ceramic Period 2 (CP2) and Ceramic Period 3 (CP3) were decorated with a variety of motifs. In burial 15 all three such vessels featured incised lines immediately below the rim. Carinated burial jars with identical markings were restricted to six other CP3 graves. In each case burnishing stones and anvils were also present (*ibid*: 244).

The upper deposits comprise CP 4, a pottery workshop directly overlying the cemetery. During this period, coarse wares were constructed from local silty clay heavily tempered with rice. This was rare in the case of CP1 to CP3. Most were cylinder-shaped jars with a simple inward-folded rim.

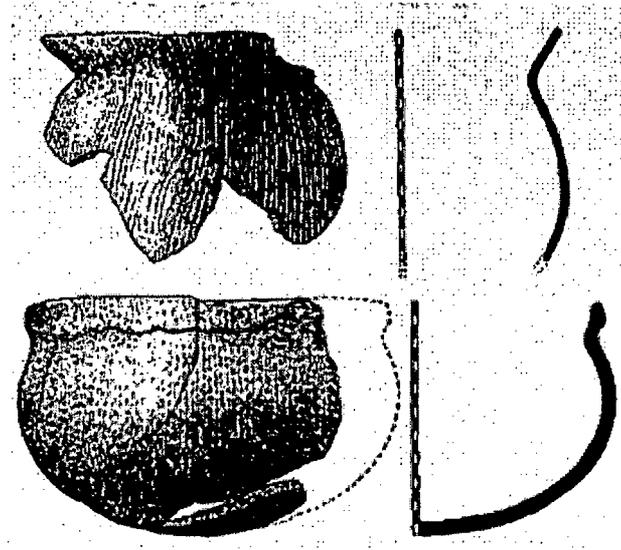


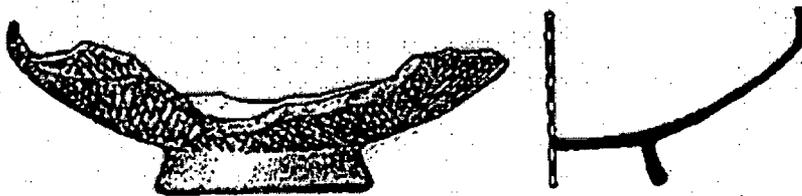
FIGURE 37: CP4- Coarse wares.

(Not to scale)

(after Vincent 2003: 245)

Cord-marked wares tend to be roughly made, and the surface finish of fine wares is coarse compared to the earlier local examples. In Ceramic Period (CP 4), different forms were now manufactured. The earlier forms reduced in number. Two hundred and ninety kilograms or 94.15% of prepared clay mostly in cylinders from Ceramic Period (CP4) has been recovered. Nearly 214 anvil fragments have been recovered of which 64% belong to the Ceramic Period (CP4) period. More than 100 bone stylus points were also recovered. The majority of the potters' tools were also recovered from Ceramic Period (CP4). Thus, it gives strong evidence of ceramic production in this particular area (*ibid*: 246).

Numerous cord-marked footed bowls with an inverted rim, either incised or partially smoothed have also been found.



Cord-marked and incised foot ware (Ceramic Period CP4-coarse wares)

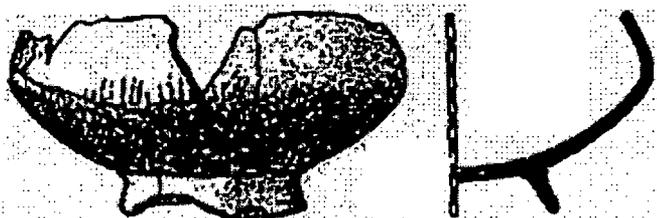


FIGURE 38: Footed bowl (smooth above inflection) (ceramic period CP4-coarse wares).

(Not to scale)

(after Vincent 2003: 246)

A different focus is also apparent in the form of wares present and their surface treatment. Incised fine ware decreased rapidly. No tripod feet were evident. Paddle-impressed and appliqué wares were rare in Khok Phanom Di in the previous periods but both increased sharply in CP4. Painted and slipped wares which were rare in CP2 and CP3 became extremely rare in CP4. The site use also changed. No firing stands were recovered from CP4. The abundance of ceramic anvils, clay cylinders, bone stylus incising points, and the very dense concentration of potsherds within CP4 are consistent with a potting workshop. Thus, it is seen that Khok Phanom Di ceramics continued over time and the dominance of different vessels could be seen in different CP periods (*ibid*: 246).

B) BAN KAO

This is a site in Kanchanaburi Province. It lies on the river terrace plain of the Kwaie Noi river, at the western extremity of the Central Plain at the West Continental Highlands. An area of 400 square metre was excavated. Many potsherds and fragments of stone adzes were found on the surface of the mound. In 1961-62, 44 graves were uncovered, in which the dead were inhumed in a supine extended position, associated with grave offerings which included pottery vessels, adzes and shell jewellery. Radio-carbon dates suggest occupations between 2300-1500 BC (Higham and Thosarat 1998: 76).

In the analysis of the pottery of Ban Kao twenty six vessel types and several variants based on shape, surface and colour differences have been noticed. The pottery has been divided into an early group which has vessels including tripods, ringfeet or high pedestals and a later group with plainer round or flat-based forms (Bellwood 1985: 258). The former includes tripod vessels, pedestal bowls, a deep, keeled, bowl with a bulging ring foot, and funnel necked jars with a bulging body and a ring foot. Ring footed wares also include carinated bowls, cylindrical vessels and a small footed "basins". In addition there are deep and shallow carinated bowls, narrow and wide mouthed jars, some with concave bases and some with funnel necks. The excavation also recovered broad-bodied containers, simple gray or black bowls and saucers, cups, and globular-shaped storage vessels. Most forms have

variants. Tripod vessels and pedestalled bowls measure up to 30 cms high, and apart from small footed 'basins' at about five cms, the remaining vessels measure from 16 to 40 cms high (Vincent 2003: 233). The majority of burial offerings are pottery vessels. The vessels has been divided these into 12 principal forms. The two major divisions included vessels with or without supports. The former includes- tripods and latter beakers and bowls (Higham and Thosarat 1998: 76-79). The site has provided evidence of some of the unique vessel forms especially the tripod type. Eleven out of 44 burials excavated contained tripod vessels. Burials containing tripod vessels were ascribed to the Neolithic Early sub-phase of the site on the basis of typological analysis of the pottery finds. The tripod vessel is described as one of the "key artifacts types". Finds of complete tripod vessels has been unearthed from the Bang cemetery site in Ban Kao in 1961-62. A highly burnished tripod vessel from burial B.27 from the Bang site at Ban Kao was reported to have stood 34.5 cms tall, while five others from other burials from the same cemetery site are 28cms or above in height (Heng 2003: 173-180).

Thus, here also we can see that the ceramics are in the form of mortuary and non-mortuary vessels. The burial goods mostly consisted of pottery, thus suggesting the importance of pottery in the mortuary context.



FIGURE 39: Adult burial.

The burials of 3 women containing grave goods from Khok Phonam Di.

(after Higham and Thosarat 1998: 60).



FIGURE 40: Infant burial.

Two pots in a circular pit containing infant skeleton with pots.

(after Higham and Thosarat 1998: 60).

C) NON NOK THA

Non Nok Tha lies in the vicinity of the confluence of two small streams set within an extensive tract of low-terrace sandy-loam soil. Test trenches were undertaken in 1965 which revealed the presence of inhumation burials associated with whole pottery vessels and fragments of bronze. These excavations opened 340 m of a site covering 1.1ha. On the basis of the changing artifacts typology, the orientation of the individual graves and the successive soils and occasional periods of the sequence three periods have been named as Three Early phases, Eight Middle phases and Six Late phases. The excavators mention that the main occupation area associated with the cemetery levels lay about 500 to 1000 m north of Non Nok Tha, to the west of the modern village of Ban Na Di. This site called Don Kha, seems to extend over an area of some 300x500 metres (Higham 1989: 122).

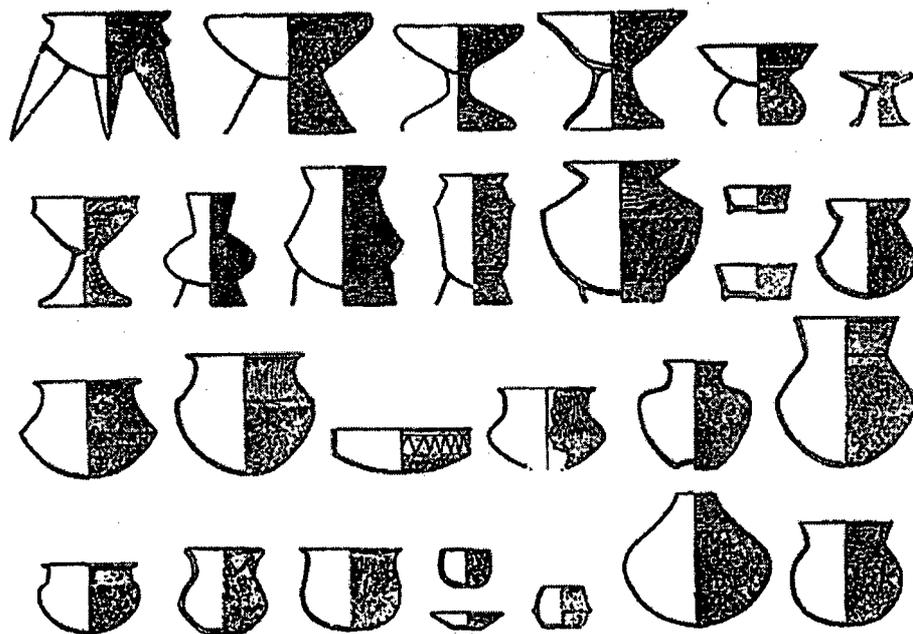


FIGURE 41: Different pottery forms from Ban Kao (not to scale).

(after Vincent 2003: 233).

The pre-historic stratigraphy of the area is subdivided into Early, Middle and Later periods. The former is divided into three phases of which the first two lacked bronze and is dated between 2000-1500 B.C. Here, the three phases of Early Period (EP1), (EP 2) and (EP 3) have been taken up for this study. The excavation at Non Nok Tha² was carried on in 1966 and 1968. In the excavation of 1966, due to lack of time the Early Period (EP) layers could not be reached. So here mostly the data from the excavation of 1968 has been used. The layers identified are numbered from 1 to 9 and divided into eleven more or less discrete archaeological levels; two of these levels are pre-metal (I, II), five are bronze period (III-VII), and the remaining four are iron-period (VIII-XI). With the exception of Level VI, all pre-metal and bronze-period

² The author points out that, there is a place which is referred as Nam Phong 7, which was then changed to Ban Na Di when they started excavating. Later, they discovered that it had a local name Non Nok Tha, or the 'partridge mound'. Thereafter, they started calling it Non Nok Tha (see Bayard and Solheim II 2009:13).

levels are represented mainly by burials and debris from burials rather than by occupational refuse and extensive structural features (Bayard 1970: 121).

In this study the three Early Period (EP) from excavation of the year 1968 are taken, as in the excavation conducted in 1966 the level of Early Period (EP) could not be reached. The pottery from Non Nok Tha is also divided into burial and non-burial context. In the non-burial context the database comprised of 4223 sherds from 1966 and 5349 from the 1968 excavation (Bayard 2009: 167). The non-burial sherds are divided into four classes based on the vessel part: body sherd, sherds from the decorated shouldered area, rim sherds and base sherds (*ibid*: 168). There were 30 categories which were identified of which 12 have been considered to be important by the excavators: (i) Plain, (ii) Cross-hatched cord marking, (iii) Red-slipped, (iv) Unidirectional cord-marking, (v) Smoothened cord-marking, (vi) Polished, (vii) Diagonal unidirectional cord-marking, (viii) Red-slipped and polished, (ix) White slipped, (x) Organic coat, (xi) White slipped over cord marking and (xii) Red-slipped plus organic coat (*ibid*: 174-175).

The rim forms include (1) short vertical, (2) long vertical, (3) curved everted, (5) inverted bowl, (6) carinated bowl, (7) vertical with everted lip, (9) vertical with internal flange, (10) round bead (11) large ovoid bead, (12) elliptical bead, (13) straight everted, (14) recurved everted, (16) simple everted bowl.

Type	EP1	EP2	EP3	Total
Total number	70	114	39	223
Cord Marked				
Cross-hatched	67	110	39	216
Cord-marking				
Smoothed	2	0	3	5
Cord-marking				
Unidirectional	0	2	0	2
Cord-marking				
Red slipped	2	5	1	8
Polished	2	3	0	5
Diagonal	3	2	0	5
Unidirectional				
Cord-marking				
Red slipped and polished	1	0	0	1
Plain	4	5	0	9
White-slipped over	0	0	0	0
Cord marking				
Red slip	0	0	0	0
Plus organic coat				
Organic coat	0	0	0	0
White slipped	0	0	0	0
TOTAL	81	127	43	251

TABLE 3: Phase wise distribution of different pottery types from the Early Period levels of Non Nok Tha, 1968 excavation (non burial: body sherds).

(after Bayard 2009: 176)

Type	EP1	EP2	EP3	Total
Cord marked	12	12	12	36
Cross hatched Cord marking	11	12	11	34
Vertical Cord marking	0	0	1	1
Polished	2	6	1	9
Diagonal unidirectional Cord-marking	0	0	0	0
Smoothed Cord- Marking	0	0	0	0
Plain	9	14	6	29
Redslip or Polished	1	2	0	3
Red slipped	0	0	1	1
Organic coat	0	0	0	0
White slipped	0	0	0	0
Level total	24	34	20	78

TABLE 4: Phase wise distribution of different pottery types from the early period levels of Non Nok Tha, 1968 excavation (non-burial: shouldered sherd).

(After Bayard 2009: 177)

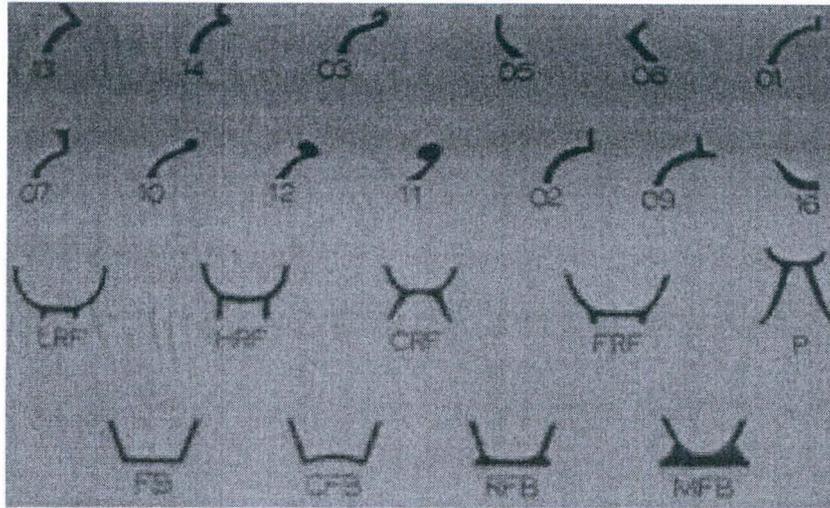


FIGURE 42: Rim and base forms from Non Nok Tha the Early, Middle and Late period.

(not to scale)

(after Bayard 2009:179)

The rim sherds were classified into 19 categories. The thirteen rim sherds are organised in chronological predominance. The type 13 rims are dominant during the early period and also continue as common form from Early Period forms. Also types 14, 03 and 05 are the other common types.

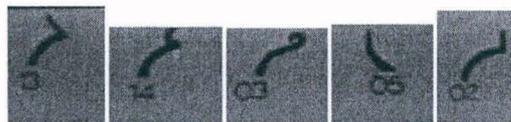


FIGURE 43: Common rim forms found in early period from Non Nok Tha.

(not to scale)

(after Vincent 2009: 179)

The middle period saw the introduction of the new rim forms (6, 1, 9, 16 and 7) and the types 2, 11, 12 and 10 are most characteristic of the Late Period.

Type	Rim shapes	EP1	EP2	EP3	TOTAL
13		14	32	17	63
14		6	2	1	9
3		2	8	0	10
5		4	2	0	6
2		0	2	0	2
TOTAL		26	46	18(20)	90

TABLE 5: Phase wise distribution of rim types in the Early Period levels from Non Nok Tha (1968 excavation- non-burial sherds).

(drawings not to scale)

(After Bayard 2009:181)

The base sherds form found include four types of ringfeet, one type of pedestal, and four types of flat bottoms. (A) Ringfeet – (1) Low vertical ringfoot (LRF), (2) High vertical ringfoot (HRF), (3) Conical ringfoot (CRF) and (4) Filleted ringfoot (FRF), (B) Pedestal – (1) Pedestal (PED) and (C) Flat bottoms –

(1) Plain flat bottom (PFB) , (2) Concave flat bottom (CFB), (3) Ridged flat bottom (RFB) and (4) Multiple-ridged flat bottom (MFB).

Form code	Base shape	EP1	EP2	TOTAL
CFB		0	3	3
FB		1	0	1
CRF		0	1	1
LRF		0	1	1
HRF		3	0	3
Unclassified		0	1	1
TOTAL		4	6	10

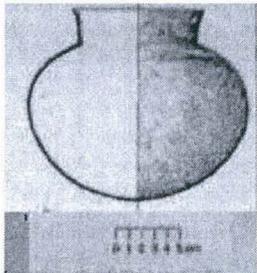
TABLE 6: Phase wise distribution of base types in the early period levels from Non Nok Tha (1968 excavation: non-burial sherds).

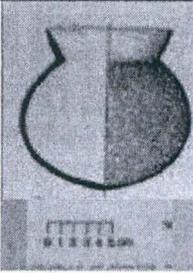
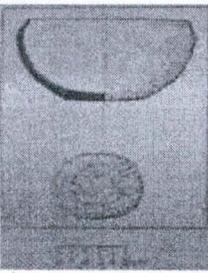
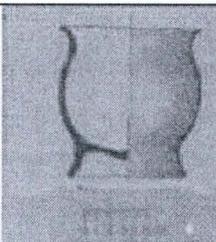
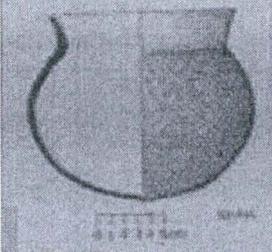
(drawings not to scale)

(after Bayard 2009: 183)

Complete vessels:

The reconstruction of the whole vessels is mostly from the burial context. The vessels are into six morphological classes based on two criteria: openness verses closeness (i.e. more or less globular). It includes-CLASS 1: round-bottomed globular vessels with rim-neck junction (pots), CLASS 2: Ringfooted vessels with rim-neck junction narrower than the vessel's maximum width ("ringfooted pots or jars"), CLASS 3: More or less round-bottomed vessels with rim-neck junction equal to the vessel's maximum width ("cups"), CLASS 4: Ringfooted vessels with rim-neck junction equal to vessel's maximum width ("goblets"), CLASS 5: Flat-bottomed vessels with rim-neck junction equal to vessel's maximum width ("bowls") and CLASS 6: Flat-bottomed vessels with rim-neck junction narrower than the vessel's maximum width ("flat-bottomed pots or jars") (*ibid*: 199).

TYPE	SHAPES	EP1	EP2	EP3	TOTAL
4G		1	0	0	1
1B		4	0	0	4
1A		7	4	4	15

					
4A		5	1	0	6
2B		2	1	2	5
1G		19	5	8	32
1C ³		8	17	0	22
3AB ⁴		2	2	2	6

³ There is discrepancy regarding the fig referred to consult.(See Bayard 2009 : 202-203).

⁴There is a discrepancy regarding this. In the table the type 3AB is mentioned whereas there is no description of such type of a category, nor is the photo available.(See Bayard 2009: 208-231).

TOTAL		48	30	16	91
-------	--	----	----	----	----

TABLE 7: Distribution of complete vessel types of early period from Non Nok Tha (Bayard 2009: 231).

Description of the different pottery types of Table 7 -

TYPE 4G: This is a minor type of ring footed goblet, very small (8 by 5 cm) in size and plain finished, with no slipping on rim or foot. One of the two specimens has simple bowl rim and sand / chaff temper, the second has slightly inverted rim and sand temper (Bayard 2009: 212).

TYPE 1 B: This type is characterized by large to very large globular round-bottomed vessels (average dim 31 cm wide by 28 cm high). Body covered with cross hatched cord-marking, shoulder smoothed, polished, and decorated with elaborate and skilfully executed incised and punctuate designs. Rims usually massive, straight everted, polished inside and out, and decorated with additional incised and filled designs. Sand tempered. Only five specimens found and all of them from EP1 (*ibid*: 202).

TYPE 1 A: This consists of medium to large globular round-bottomed vessels with mouths less than two-thirds the maximum vessel width; body completely covered in cross-hatched cord-marking. Rim usually straight everted and plain finished, although a few specimens have red-slipped or polished exterior rims. The body is sand tempered. Twenty seven specimens have been found (*ibid*).

TYPE 4 A: This is a medium- sized, wide mouthed, shallow bowls with low conical ringfoot. It is usually cord-marked, but one smoothed over cord-marked specimen was recovered. Rims are plain and slightly too moderately inverted (types 05, 06). Six of the eight specimens recovered (all from 1968 excavation, as this type is mainly characteristic of the Early period) most of them were sand tempered, but two were tempered with chaff and sand (*ibid*: 210).

TYPE 2B: This type is characterised by medium size, tall ovoid vessels, with smoothed over cord-marked finish and usually ringfoot smoothly joined to

body of pot with no distinct angle at the junction, although low and high vertical and conical ringfeet sometimes occur with this type. Rims are usually straight everted and plain, although two examples of red-slipped recurved inverted rims are also present. Ringfeet is plain. Temper used vary, but in most cases sand is used. Twenty-five of such specimens are found (*ibid*: 206).

TYPE 1G: This type is a medium-sized round-bottomed vessel with squat ovoid profile. Body is wholly cord-marked, shoulder often demarcated with vertical unidirectional cord-marking. Shoulder also simply and fairly crudely incised with two or three straight or wavy horizontal lines circling neck. Rimform variable, but usually straight everted, recurved everted, or recurved inverted; rims usually plain but sometimes polished on inner surface. It is usually sand-tempered. Fifty –four specimens are found (*ibid*: 203).

UNIQUE VESSELS

The following vessels could not be categorized into any of the morphological classes. These includes – (i) A moderately large globular vessel with high everted collar rim which is tempered by sand tempered and is overall cord-marked but with appliqué “cord” motif encircling shoulder (see figure 44). (ii) Another was a red-on-buff footed vessel, spiral designs painted on shoulder and triangular motifs on outer rim; two perforations each on opposite sides of rim and ring foot and tempered with clay (see figure 45). (iii) Next was a vessel with unidirectional cord-marking and an apparently conical ringfoot (mostly missing). The rim was very highly everted and tempered with clay (see figure 46). (iv) Globular vessel with high collar rim, vertically erected flaring conical ringfoot, red slip on outer rim and shoulder and the body was covered with cross-hatched cord-marking (see figure 47). (v) A globular vessel with short a ringfoot and high vertical rim and a distinct fringe protruding outward at rim-shoulder junction. The body was cord-marked with a plain rim. Shoulder was polished and decorated with incised and dentate-stamp-filled motifs the motifs are separated by lines of single punctuations and tempered with sand (see figure 48). (vi) Another was a fairly large (20 cm diam.) globular vessel with tall, slightly everted rim and very short conical ringfoot applied to round-bottomed base, body was cord marked with possible

traces of red slip; ringfoot plain with two perforations. The shoulder is narrow and was smoothed and polished, decorated with two lines of punctuations separated by a band of vertical punctuations. A second line of these extends around rim-shoulder junction, and a final band of horizontal plus vertical punctuations decorates the upper inside of the rim. Sand was used as tempering agent (see figure 49). (vii) A rouletted vessel with a shorter everted rim, horizontal rouletted bands could be seen above foot and below rim; central portion of the body decorated with a complex pattern of interlocking rouletted bands and was clay tempered (see figure 50). (viii) Another was a cuplike vessel with a slightly everted lip. Outer rim, shoulder, and upper body was smoothed; lower body was cord-marked and the conical ringfoot was plain (see figure 51). Thus, the unique vessels are divided into 8 categories.

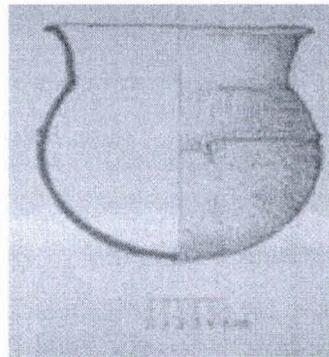


FIGURE 44: Moderately large globular vessel from phase 1 of the early period.

(after Bayard 2009:216)

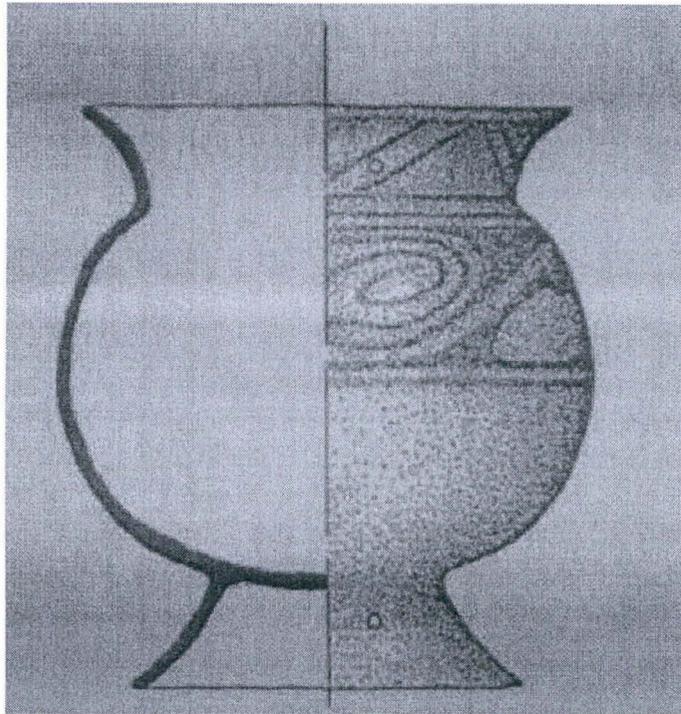


FIGURE 45: Footed vessel from phase 3 of the early period.

(after Bayard 2009:217).

(not to scale)

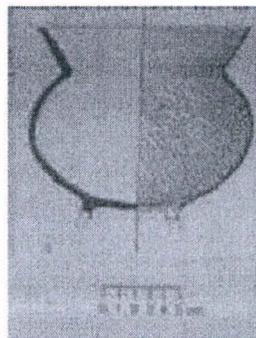


FIGURE 46: A pot with conical ringfoot (mostly missing).

(after Bayard 2009:218).



FIGURE 47: Globular vessel with high collar rim.

(after Bayard 2009:218)

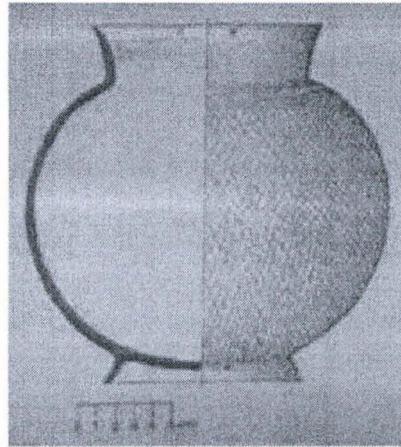


FIGURE 48: Globular vessel with tall, slightly everted rim and a short conical ringfoot.

(after Bayard 2009:216).

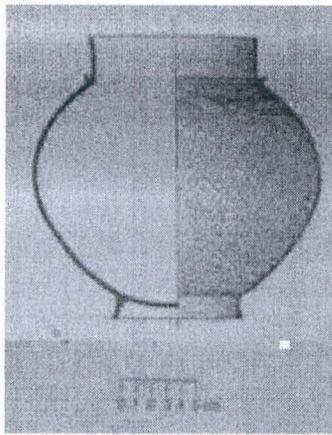


FIGURE 49: A globular vessel with short applied ringfoot.

(after Bayard 2009: 220)

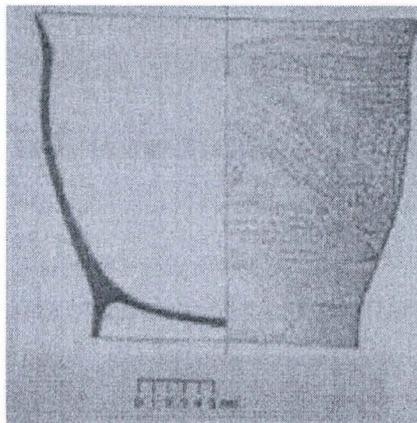


FIGURE 50: A roulette vessel with a short everted rim.

(after Bayard 2009: 220)



FIGURE 51: A cup like vessel with a conical plain ring foot (After Bayard 2009:216).

CONCLUSION- In this section, the ceramics types from the three different sites of Thailand have been examined. What we can see is a great diversity and variability of vessels at the three different sites. In Khok Phonam Di, the main ceramic types are classified under 3 major groups- bowls, platters and jars. Bak Kao pottery into 2 groups - Early which includes tripods, ringfoot and high pedestals and Later which includes plainer round or flat-based forms. Non Nok Tha pottery is divided into 30 categories of which 12 are considered important. In this study only the pottery types from Early Period 1, 2 and 3 are taken for study.

SECTION C- A COMPARATIVE ANALYSIS OF CERAMICS FROM NORTHEAST INDIA AND SOUTHEAST ASIA.

From the above exercise we can clearly underline the different patterns of ceramic present at different sites. The ceramics from the sites of Northeast can only give an idea of the colour, and body pattern of the sherds. But, we cannot get an idea of the pottery types, whereas the pottery types can be clearly reconstructed in the case of Southeast Asia. The 3 sites from Thailand exhibit great variability. Similarity or dissimilarity of vessels kinds can only be established with the help of vessel types.

Here I have tried to compare the cord-impressed pottery of the sites based on the data presented in the chapter. The cord-impressed pottery from Daojali Hading is grey in colour. In the figure 27, they are marked as 1-7. Roy classified 595 sherds as cord-impressed out of 625 total sherds from Daojali Hading (see table 2). The number of sherd count from Sarutaru is not mentioned and the drawing also does not help in giving a clear idea of the potsherds (see Figure 28 and 29). Again, from West Garo hills no cord-impressed pottery has been recovered.

From Khok Phonam Di, a number of different kinds of cord-impressed pottery has been recovered which includes cord-marked footed bowls with an inverted rim, either incised or partially smoothed (see figures 37 and 38). In Non Nok Tha out of the 30 listed categories, 12 are referred to as being

important. Out of the 12 categories, 5 are cord-impressed. This includes-cord-hatched cord marking, unidirectional cord-marking, smoothed cord-marking, diagonal unidirectional cord-marking and white slipped over cord marking. Among the complete vessels Type 1B, Type 1A, Type 4A, Type 2B, Type 1G (see, table 7) are cord-impressed pottery. Among the unique vessels (see Figure 44, 45, 47, 48, 49 and 50) are cord-impressed. Thus, we can see variation with the cord-impressed pottery as well.

If we were to compare the pottery from the seven sites of North-East India and Thailand then some points need to be highlighted. First, there are major differences in the pottery from these two regions. In the case of sites from Assam and Meghalaya we find that there are hardly any diagnostics that can help us to re-construct the shapes whereas, both diagnostics and non-diagnostic potsherds have been recovered from the sites of Thailand. Further, while whole vessels have been found in some cases with regards to the sites in Thailand, this is not at all evident from the sites taken for study from Assam and Meghalaya respectively. Second, most of the whole vessels found in Thailand are from the mortuary deposits of the sites discussed above. This phenomenon brings to light the practice of offering burial goods in this region. Most of the burial goods are in the form of pottery. Third, if we see the contexts in which potsherds have been recovered from Thailand, then it is both in the form of mortuary and non-mortuary context. However the phenomenon of mortuary pottery deposits is absent in the context of Assam and Meghalaya. Thus this shows that the context of finding different kinds of pottery is different in Assam, Meghalaya and Thailand. Fourth, the kind of evidence found from the sites of Thailand is no where reflected in the kinds of finds from the sites of Assam and Meghalaya. As mentioned earlier, from the sites in the latter regions, only non-diagnostic pottery has been identified, which does not help in re-construction of the different forms of vessels and types. Thus there is no way of knowing if there was any similarity in the vessel forms between the sites in North-East India and Thailand. Even, as far as the 'cord-impressed' types are concerned we find different kinds in this category also. Moreover, the decorated, incised and polished wares found from Thailand are not found in Assam and Meghalaya.

Thus now the important question that needs to be addressed is that whether the scanty evidence found from the regions of Assam and Meghalaya holds a strong ground for emphasising an affinity ascribed to that of South-East Asia? What seems to be the answer is that the issue of 'affinity' is not substantiated by the data available so far. Again one needs to bear in mind that in order to suggest an affinity between different geographical areas there is a need for a systematic study of all the assemblages found from both the areas, as well as settlement patterns, subsistence strategies, rites and rituals.

Recently there have been claims by some scholars that there is a strong relation between the distribution of cord impressed pottery and expansion of rice (Kharakwal, Yano, Yasuda, Shinde, Osada 2004: 105-115; Hazarika 2006: 25-43). In this study we can see how Khok Phonam Di has emerged as an important site which has yielded a huge data base for the study of pottery production in Thailand, and is a rich hunter-gatherer site. This site has provided evidence of cord-impressed pottery. But the site does not show any evidence of for the local development of rice domestication (See Higham and Thosarat 1998). Claims have also been made that the Cord Ware shapes were particularly used for cooking rice in different regions and they can provide useful clues to understand the expansion of rice. In short there is an attempt to relate the cord-impressed pottery with the expansion of rice. On the issue of the uses of cord-impressed pottery archaeologists hold that there are a number of shapes, including bowls and pots with slightly tapering or convex bodies, featureless rims and flat bases, common to different regions (Kharakwal, Yano, Yasuda, Shinde, Osada 2004: 105-115). However it also needs to be pointed out that the cord-impressed pottery is also present in the mortuary context from the sites of Thailand. Here, the use of cord-impressed pottery need not necessarily be seen as being used for cooking. It can be seen as something important for ritualistic purpose also. No one to one co-relation can be archaeologically established in this regard. Thus the whole exercise of establishing a correlation of cord-impressed pottery with possible expansion of rice needs to be reviewed.

Again, claims have been made that the manufacturing and decoration technique of this ware of Ganga Valley appears to be quite similar to the one

found from North-Eastern India, South East Asia and East Asia (Ibid: 113). This can be questioned on the ground of the different kinds of cord-marked pottery found in different areas and in different context. A comparative analysis can easily show how the contexts of the pottery are different. For example, at Non Nok Tha, if we make a study of the data of cord-impressed types, we find that there are around 5 different types of cord-impressed pottery out of the 12 types. The issue of diffusion is very much evident but the evidence for this kind of a development is lacking. Thus the issue of generalisation has been a constant problem which has lead scholars to make broad statements without taking into consideration the temporal and spatial variation. A much more in-depth study is needed in this area.

From the above exercise, it is apparent that pottery styles present in different places are different in one sense or the other. Not only cord-impressed pottery but also incised, stamped and polished ceramics are found in different places. And the kind of designs and types also vary. Even within the categories of cord-impressed pottery many sub-categories are evident. Thus, we can see there is variation as far as different sites are concerned. So in this case it is problematic to ascribe any affinity as differences persist in the kind of data found.

CONCLUDING REMARKS:

In this chapter, we can see that there is variation in ceramic types from different regions. As far as the North East is concerned the scanty evidence recovered cannot help us in understanding the vessel kinds. Thus the claim of an affinity with South East Asia appears to be speculative in nature. A much more in depth study is needed of the Neolithic ceramics in Northeast India and South East Asia before any concrete hypothesis can be made. The contexts of the ceramic and types recovered from different regions are different and suggest great variability. From the study of the ceramics, we can see that it is problematic to make claims of affinities with South East Asia.

CHAPTER 5

CONCLUSION

In the quest to locate the 'Neolithic' in North-Eastern India, I have tried in my dissertation to raise several related problems and issues. At the outset one needs to question as to what defines 'Neolithic' in this region. Further 'Neolithic' should be placed in a larger framework of social complexity. The scenario in this area is very perplexing. Recent research has shown that different subsistence strategies persisted as adaptive processes. But, they have never been explicitly explored. To seek a more convincing answer, one needs to systematically address this issue. In this region, the studies undertaken so far have been along traditional lines of the appearance of pottery and widespread use of polished tools and an economy based on sedentary agriculture. We need to move away from this understanding and take into consideration other subsistence strategies which might also have been prevalent. Bhattacharya (2005-06: 20-21) has very rightly pointed out that the existing approach in Indian archaeology tends to club together varieties of adaptation under a single category. The main problem is that the study of 'Neolithic' in the Northeast has so far not engaged with the newer approaches and theoretical frameworks, and which have been used elsewhere. The main aim behind this work has been to bring out new issues and perspectives and suggest possibilities for future research.

The main factor which acts as a hindrance for research work in this region is the climatic condition. As this region witness heavy rainfall, so there is less chance of the survival of archaeological data in this situation. In many of the excavations that have been carried out in the region we can see that beyond a point it becomes a problem for the excavator to excavate due to the high water table. So one needs to formulate a different approach which can take care of all these problems and carry forward the research.

SUMMARY FINDINGS

In the first chapter, I tried to provide insights as to how the definition of 'Neolithic' has changed over time. This has resulted in the understanding of

'Neolithic' in a new perspective. A systematic thrust was also given to the studies that have been undertaken on this theme outside of India in order to understand the changing conceptualisations of the 'Neolithic' and also to see if these can help in formulating more appropriate questions for further research in the North-East.

In the second chapter I attempted a critical review of the studies undertaken so far in the North East. The aim behind such a review was to (i) present some of the problems with the previous studies, (ii) to critique some of the dominant and prevalent approaches of the scholars and (iii) also suggest the different themes which can be incorporated in order to formulate a new perspective for the study of the region. Based on this exercise, it was concluded that a rather confused scenario of the 'Neolithic' still persists in North East. There are many problems related to this theme which have not been given proper attention. Some of the prevalent notions have also been questioned. Based on the problems highlighted in the second chapter, I have tried to critique the two dominant views of 'diffusion of tool types' in the third chapter and the problem of 'affinities' ascribed to South-East Asia in the fourth chapter.

In the third chapter, the evidence of lithics is used to question the 'cultural-historical' approach. Here, a comparative analysis of the North-Eastern and Eastern Indian tool types was taken into consideration. The common tool type used to suggest diffusion is shouldered axe and polished ground tools. But from this chapter it becomes evident that there is presence of other lithic types in the different regions also and in fact in Chirand, Bihar bones tools outnumber the lithic tools and form a dominant category. Similarly, we can see variation in tool typology from region to region in Orissa and West Bengal also. Thus the study of tool types should be seen as adaptive strategies for survival. What stands out from the exercise is that variations occur in tool types in different area and so we cannot simply talk in terms of diffusion from one place to another. Regional variation was the main thrust of the chapter. What was however missing in this chapter was a systematic comparative analysis of tool types from the different regions of South-East Asia. This was due to the limited amount of material that I could access. This

would have provided an interesting perspective for my study. However, this can be taken as an initiative for future research. Another interesting theme that this chapter dealt with was the importance of some stone tools among the different communities today. We found that they are perceived in different ways by different communities. So, the heterogeneous character is evident. This needs to be explored further and explicitly studied.

In the fourth chapter, I tried to look into the issue of 'affinity with South-East Asia'. Here, I tried to study the ceramics in a comparative scale to question the prevalent notion by bringing to light the distinct features found in different areas. What distinctly comes out is the difference in the kind of ceramics found and also in different context. The most common pottery type used to suggest Southeast Asian affinity is the cord-impressed pottery. A comparative study of this type of different sites shows the presence of different types across the regions. In Thailand, the evidence yielded from burial context is immense and therefore the studies of burials have been an important aspect in the study of the society in this region. Burial studies have revealed a complex society of the past. This kind of evidence has not yet been recovered from any of the areas of Assam and Meghalaya. Thus we can see that there is great variability as to how evidence has been recovered from different contexts. Again, from North-East we do not have any absolute date as yet. In this dissertation, the main thrust has been given to a comparative analysis of the evidence of lithics and ceramics as these form the dominant form of evidence that excavations and explorations in this region has yielded.

In this region we can see that the study of archaeological data has gotten trapped in a cycle of 'cultural-historical' approach and it is necessary to move away as this approach has limited the understanding of archaeological data as a monothetic entity rather than as a polythetic entity. We have seen that till now the explanation given is mostly speculative and is partially supported by the available evidence. The evidence is negligible in quantity and all hypotheses made are rather weak. While pointing this, I am aware that there is a problem of archaeological evidence surviving in the region due to the climatic condition. But it should also be pointed out that rarely has an attempt been made to carefully collect the data through systematic surveys. There is

hardly any detailed recording that has been published, though we have seen that stone tools have been recovered from time to time. The approach so far has been mostly to find stone tools and to study them as to which type they belong and then create an inventory. A very simplistic approach has been used to understand the tool typology. So, there is a need to break from such approaches and adopt more rigorous strategies of survey and recording.

We have seen that many scholars have tried to compare stone tools or ceramics of one region with another region. But what is missing is the context in which they have been studied. When a comparative study of evidence is undertaken with other regions then the entire assemblage should be taken into account rather than considering only one set of evidence from the region which may be similar with the other. This is important because all the evidence found in the same context forms a part of the same assemblage and selecting some and ignoring the others does not present a complete picture of the concerned area.

FUTURE RESEARCH

First, the studies done outside India must be explored systematically as they can provide us with insights on the kind of research that can be carried out in the future. By suggesting this, I do not mean to directly transfer the kind of work done elsewhere, rather to see how the approaches used elsewhere can be of help in the research of this region. Here I have tried to outline some of these studies to give an idea as to how they can be pursued for solving some of the problems in our region. For example, from the regional studies of Thomas (1999) and Kuijt (2002) what one can understand is that there are slight, yet significant differences within regions in different areas. Thomas has presented three different Neolithic patterns within England. Thomas (1999: 163-228) in his study has attempted to demonstrate the extent to which the Neolithic cultural assemblage was deployed in different ways in different settings. Geographically, the study is principally focused on the central southern part of England (the counties of Avon, Berkshire, Dorset, Gloucestershire, Oxfordshire, Somerset and Wiltshire). Some aspects of the regional sequences proved to be quite distinctive. In Stonehenge, the construction of large

monuments formed a distinct part. At one stage they were used as cemetery ground, but in the later phase only few graves could be recovered. Further, the extensive clearance of tree covers was used for pasture but cultivation was limited. Again in Upper Thames Valley the areas of pasture and tillage were found within these islands of clearance as well as complexes of monuments along the courses of river. They were smaller than those of Wessex. Again, in Salisbury Plain extensive areas of grassland gradually emerged, but in the Upper Thames basin the scale of clearances may have been somewhat smaller. In Avebury, the scattered traces of activity in the earlier Neolithic gave way to a marked concentration on the Kennet Valley floor. The monuments of Avebury were more closely integrated than elsewhere, and while the West Kennet palisade enclosures and the henge and avenue complex reveal quite different uses, they remain parts of a closely interconnected landscape. The cleared area was dominated by pasture. The pattern of disposition was different from south Wiltshire or Thames. In the later period of Neolithic the single graves were scarce and beaker burials increased. Thus regional variations are evident among the different areas of England. Meanwhile, recent studies have also focussed on the differences in the context of the Near East. The variations in material and social adaptations within and between different geographical areas of the northern Levant and Anatolia have become apparent. One issue that comes out very prominently is that the North-East as a region is not a homogenous entity and regional and temporal variations persist as far as different areas go. Thus, one needs to study the North East by taking all these factors into account and not see the 'Neolithic' as a uniform or a single entity.

Again in Garo hills, the evidence is mostly in the form of lithics. So, theoretical approaches to the study of lithics should be taken into consideration. For example in the first chapter we have seen how lithics have been studied in the Sanganakallu-Kupgal Project (Brumm, Boivin, Korisettar, Koshy and Whittaker 2007: 87). In the context of lithic analyses, the approach was aimed at reconstructing the technological modifications that a stone underwent between the time of raw material procurement and the final discard of the artifact into the archaeological record. The varying technical requirements of their manufacture, as well as the differences in their final

forms, point to the fact that the axes were produced from three separate reduction methods which operated in quite different functional and socio-economic contexts during the Neolithic period. Thus in this way this study moves beyond the stereo-typical typo-technological studies of the tools and has tried to give an insight on the socio-economic perspectives. More of this work can help in lithic analysis and a deeper insight into the pre-history of the North East. Sharma (2007: 40-55) in her study of the types of tools of Ganol and Rongram valley does hint to the fact that there must have been different stages of manufacturing of the celt types, but has not developed it further. Another importance aspect is the occurrence of the short axes made by different manufacturing techniques. One can also use such an approach for the further study of lithic tools.

Second in his study Chakrabarti (1998: 37-38) has suggested that the site of Daojali Hading should be re-excavated or a similar site should be freshly excavated and dated. Further, a detailed report should also be published. He also mentioned the survey in Manipur where cave sites were found and Nagaland where stone tools were found in association with handmade pottery and has suggested that research is also needed in these areas. I would like to add to it that the aim should be to record and recover all the information in a contextual manner from the sites. The research in different areas might yield interesting results. To my mind systematic excavation and survey should also be carried out in Garo hills as ample evidence of lithics tools have come from this area. A proper study of the lithics should be made in through a systematic survey and excavation rather than studying the tools only from random surface collections. What the study of Sharma (2007) work has successfully projected is that the tool kit of Garo hills shows great variability suggesting different manufacturing techniques. If one can give an insight into the different types, then its study can move beyond typo-technological analysis. One should also take into consideration the regional variations that can be seen as far as the different regions are concerned. This might lead to interesting conclusions. Taking into consideration the variability, what can be suggested is a focus on local and regional approach as the most effective way to study the Northeast.

Third, the Northeast is blessed with a wide diversity of plants. Therefore many botanists have suggested this to be an important place for early plant domestication and food-production (Hazarika 2006:26). Here it should be mentioned that considerable analysis of plant and animal populations, both past and present day, is still to be done. So attempts should be made to carry out extensive biological research on modern plant populations, both wild and domesticated. Only then can we make a conclusive hypothesis in this regard. Fuller (2005-06: 194-197) has pointed out how in Southwest Asia, the pre-domestication cultivation has been recognised through the statistical composition of wild seed assemblages. He has suggested that in India also future research needs to be along similar lines if we are to understand the processes of agricultural emergence. The study of more flotation, more seeds, and more quantification of their composition are needed, along with more quantitative patterns of morphology and size in the crops themselves. Important methodological hurdles need to be surpassed through more flotation studies. More sample analysis and more time-consuming quantitative study is needed. Such evidence needs to be then integrated for the consideration of the broader trajectory from foraging to farming, sedentism and ceramics. Only then the issue of domestication of rice can be understood. But, in North East we are still to recover any evidence of rice in an archaeological context.

In my work, the main limitation has been an extensive and intensive fieldwork due to limited time and resources available. This is an area which has not been surveyed systematically. So there is a need for both an intensive and extensive survey to be undertaken. This can be taken as a future initiative for research. Another problem was the study of collections of lithic tools in different museums and departments. In most of the cases I have tried to look at the collections, but the main problem was that the contextual information of the tools was missing and this was a major problem in studying them. Again, in different museums and department, the tools are not allowed to be photographed or studied systematically. So my study was only limited to observation from a distance of the tool types. This limits the scope of a proper and systematic study of the collections. In Dibrugarh University, I was allowed

to access the tools displayed there but it was devoid of any contextual information. So it became a problem to study the tools there.

What is needed is a reappraisal of the study of the 'Neolithic' in this region. This work has tried to raise a new set of questions for further research to follow. Many issues need to be addressed in a systematic way to get a better picture of the area. This includes chronology, ceramic study, lithic study, settlement pattern and environment diversity to name a few. To conclude one can say that the research in this area still has to go a long way. As a whole in this work I have pointed out that the persistence of the 'cultural-historical' approach has been instrumental in limiting the research undertaken and the issues raised as far as the 'Neolithic' in Northeast is concerned. The time has come to not only adopt new approaches but also to conduct systematic surveys and excavations in this region.

BIBLIOGRAPHY

Agarwal, D.P., and J.S. Kharakwal, 2002, *Archaeology of South Asia-I, South Asian Prehistory- A Multidisciplinary Study*, Aryan Publishers, New Delhi.

Andrefsky, W., 1998, *Lithics -Macroscopic Approaches to Analysis*, Second edition, Cambridge University Press, Cambridge.

Ashraf, A.A., 2006, Conundrum of past cultures of North-Eastern India through the windows of the Present, in G. Sengupta, S. Roychoudhury and S. Som ed., *Past and Present- Ethno-archaeology in India*, Pragati Publishers, New Delhi, pp. 235-252.

Bailey, D., and A. Whittle, 2005, Unsettling the Neolithic: breaking down concepts, boundaries and origins, in D.Bailey, A. Whittle and V. Cummings ed., *(Un)settling the Neolithic*, Oxbow, Oxford, pp.1-7.

Basa, K., and P. Mohanty. ed., 2000, *Archaeology of Orissa*, Vol.1, Pratibha Prakashan, Delhi.

Bayard, D., 2009, Ceramics, in Bayard D. and W Solheim II, *Archaeological Excavations at Non Nok Tha, Thailand*, Guampedia™, pp. 163-247. URL: <http://guampedia.com/archaeological-excavations-at-non-nok-tha-thailand>.

Bayard, D., and W Solheim II, 2009, *Archaeological Excavations at Non Nok Tha, Thailand*, Guampedia™, URL: <http://guampedia.com/archaeological-excavations-at-non-nok-tha-thailand>.

Bayard, D., 1970, Excavation at Non Nok Tha, Northeastern Thailand, An Interim Report, *Asian Perspectives*, Vol. XIII, pp.109-143.

Behera, P.K., 1992, The pebble tool component of the Bonaigarh Neolithic complex, Orissa, *Man and Environment*, Vol. XVII, No 2, pp.57-63.

Behera, P.K., 2000, Neolithic culture complex of Bonaigarh, Orissa, in K. Basa and Mohanty P. ed., *Archaeology of Orissa*, Vol.1, Pratibha Prakashan, Delhi, pp.222-263.

Behera, P.K., 1991-92, Sulabhdini: A Neolithic celt manufacturing centre in Orissa, *Purattatva*, Vol 22, pp.124-132.

Bellwood, P., 1985, *Pre-history of the Indo-Malaysian Archipelago*, Sydney, Academic Press, Sydney.

Bhattacharya, D.K., 2005-2006, Interpretations in Indian Stone Age Archaeology: A reappraisal, *Puratattva*, Vol.36, pp.12-23.

Bhattacharya, D.K., Cultural transformation in Indian pre-history: Some anthropological considerations, *Purattatva*, Vol.39, 2009, pp.6-39.

Braidwood, L., R.J. Braidwood, B. Howe, C. Reed, and P.J. Watson eds., 1983, *Prehistoric Archaeology along the Zagros Flanks*, The University of Chicago Oriental Institute Publications, Vol.105, Chicago.

Braidwood, R.J., 1948, *Prehistoric Man*, Chicago Natural History Museum Press, Chicago.

Brumm, A., N. Boivin and R. Fullagar, 2006, Signs of Life: Engraved Stone artifacts from Neolithic South India, *Cambridge Archaeological Journal*, Vol.16, No.2, pp.1-25.

Brumm, A., N. Boivin, R. Korisettar, J. Koshy and Whittaker P, 2007, Stone Axe Technology in Neolithic South India: New Evidence from the Sanganakallu-Kupgal Region, Mid-eastern Karnataka, *Asian Perspectives*, Vol. 46, No. 1, pp.65-95.

Brumm, A., 2010, 'The Falling Sky': Symbolic and Cosmological Associations of the Mt William Greenstone Axe Quarry, Central Victoria, Australia, *Cambridge Archaeological Journal*, Vol. 20. No.2, pp. 179-196.

Chakrabarti, D.K., 1998, *The Issues in East Indian Archaeology*, Munshiram Manohar, Delhi.

Chattopadhyaya, B.D., G. Sengupta and S. Chakrabarty ed., 2005, *An Annotated Archaeological Atlas of West Bengal: Vol I: Prehistory and Protohistory*, Centre for Archaeological Study and Training Eastern India, Kolkata.

Chase, B.A., 2004, Ethno-archaeology in South Asia: Introduction and Review, in H.P. Ray and C.M. Sinolopi, *Archaeology as History in Early South Asia*, Indian Council of Historical Research, New Delhi, pp.280-301.

Chauhan P. R, 2004, Human origins studies in India: position, problems and prospects, paper presented at the *National Conference on Human Origins, Genome, and Peoples of India*, organized by The Anthropological Survey of India on March 22-24, at India International Centre, New Delhi. Retrieved from internet on 26th March 2010. [www.google.com URLhttp://web.mac.com/kbolman/IndiaPrehistoric/05Human_origins_studies_in_India%3A_position,_problems_and_prospects*.html](http://www.google.com/URLhttp://web.mac.com/kbolman/IndiaPrehistoric/05Human_origins_studies_in_India%3A_position,_problems_and_prospects*.html).

Childe, V. G., 1936, *Man Makes Himself*, C.A. Watts and Co. Limited, London.

Childe, V.G.,1942, *What happened in History*, Penguin books, Baltimore.

Choudhary, N.D., 1985, *Historical Archaeology of Central Assam* (from earliest time to 12th c A.D.), B.R. Publishing Corporation, Delhi.

Conningham, R.A.E., and T.L. Sutherland, 1997, Dwellings or Granaries? The Pit Phenomenon of the Kashmir- Swat Neolithic, *Man and Environment*, Vol. XXVII, No.2, pp.29-34.

Dani, A.H., 1960, *Pre- history and Proto-History of Eastern India*, Firma K.L. Mukhopadhyay Publishers, Calcutta.

Datta, A., 1992, *Neolithic cultures in West Bengal*, Agam Kala Prakashan, Delhi.

David, N., and C. Kramer, 2001, *Ethno-archaeology in Action*, Cambridge University Press, Cambridge.

Dolukhanov, P.M., 1989, Cultural and ethnic processes in prehistory as seen through the Evidence of archaeology and related disciplines, in S.J. Shennan ed, *Archaeological approaches to cultural identity*, pp.267-276.

Dutta, H.N., 2006, *Ambari Archaeological Site: An Interim Report*, Directorate of Archaeology Assam, Guwahati.

Edmonds, M., 1999, *Ancestral Geographies of the Neolithic- Landscape, monuments and memory*, Routledge, London.

Fuller, D., 2005-06, The Ganges on the World Neolithic Map: The significance of Recent Research on Agricultural Origins in Northern India, *Pragdhara*, Vol.16, pp. 187-206.

Fuller, D., and N. Bolivin, 2002, Beyond Description and Diffusion: A history of Processual theory in the history of South Asia, Settar S. and Korisettar R. ed., *Archaeology and Historiography- History theory and method*, Vol. IV, Indian Council of Historical Research and Manohar, New Delhi, pp. 159-190.

Fuller, D., and N. Bolivin, 2002, Looking for Post-Processual Theory in South Asian Archaeology, in Settar S. and R. Korisettar ed., *Archaeology and Historiography- History theory and method*, Vol. IV, Indian Council of Historical Research and Manohar, New Delhi , pp. 191-215.

Gebauer, A.B. and T.D. Price, 1992, Foragers to Farmers: An Introduction, in Gebauer A.B. and T.D. Price ed., *Transitions to Agriculture in Prehistory*, Monographs in World Archaeology No.4, Prehistory Press, Madison Wisconsin, pp.1-10.

Ghosh, A., ed., 1989, *An Encyclopedia of Indian Archaeology*, Vol.I, Munshiram Manoharlal, Delhi.

Habib, I., 2001, *Prehistory People's History of India, Vol.1*, Tulika Books, New Delhi.

Hayden, B., 1992, Models of Domestication, in Gebauer A.B. and T.D. Price ed., *Transitions to Agriculture in Prehistory*, Monographs in World Archaeology No.4, Prehistory Press, Madison Wisconsin, pp.11-19.

Hazarika, M., 2006, Neolithic cultures of North-East India- A Recent Perspective on the origin of pottery and agriculture, *Ancient Asia*, Vol. 1, pp. 25-43.

Hazarika, M., 2006, Neolithic cultures of North-East India: A recent perspectives on the origin of pottery and agriculture, *Ancient Asia*, Vol. I, pp. 25-43.

Heng, L.S., 2003, Tripod pottery in Mainland South-East Asia, in J. Miksic ed., *Eastern ware of South- East Asia*, Singapore University Press, Singapore, pp.173-186.

Higham, C., 1989, Social Organisation at Khok Phanom Di, Central Thailand (2000-1500 B.C.), *Arts asiatiques. Tome 44*, pp. 25-43.

Higham, C., 1989, *The Archaeology of Mainland South-East Asia*, Cambridge University Press, Cambridge.

Higham, C., 1991, Exchange at Khok Phanom Di and social organisation, *Indo Pacific Pre-history Association Bulletins*, Vol 10., pp.320-326.

Higham, C., and R. Thosarat, 1998, *Pre-historic Thailand- from early settlement to Sukhothai*, Thames and Hudson limited, London.

Hodder, I., 1992, The Domestication in Europe, in Hodder I, ed., *Theory and Practice in Archaeology*, Routledge, London, pp. 208-218.

Hutton, J. H., 1965, The Mixed Culture of the Naga Tribes Source, *The Journal of the Royal Anthropological Institute of Great Britain and Ireland*, Vol. 95, No. 1, pp. 16-43.

Hutton, J.H., 1924, Two celts from Naga hills, *Man*, Vol. 24, pp. 20-22.

Hutton, J.H., 1926. The use of stone in the Naga Hills, *The Journal of the Royal Anthropological Institute of Great Britain and Ireland*, Vol. 56, pp.71-82.

Indian Archaeology –A Review, 1961-62, 1962-63,1963-64,1964-65,1965-66,1966-67, 1967-68, 1971-72, 1974-75 ,1981-82, 1998-99.

Jamir, T., 2006, in G. Sengupta , S. Roychoudhury and S. Som . ed., *Past and Present –Ethno archaeology in India*, Pragati Publishers, New Delhi, pp.449-463.

Jones, A., 2002, *Archaeological theory and scientific practice*, Cambridge University Press, Cambridge.

Kharakwal, J., A .Yano, Y. Yasuda, V. S. Shinde, and T. Osada, 2004, Cord Impressed Ware and rice cultivation in South Asia, China and Japan:

possibilities of inter-links, *Quaternary International*, Vol.123–125 , pp.105-115.

Kooyman, B.P., 2000, *Understanding Stone Tools and Archaeological Sites*, University of Calgary Press, Calgary.

Korisettar R., P.C. Venkatasubbaiah and D. Fuller, 2002, Brahmagiri and Beyond :The Archaeology of the Southern Neolithic, in S. Settar and R. Korisettar ed., *Indian Archaeology in Retrospect vol. 1, PRE-HISTORY, Archaeology of South Asia*, Indian Council of Historical Research and Manohar, New Delhi, pp. 151-237.

Korisettar, R., N. Boivin and D. Fuller, 2005, Further research on the Southern Neolithic and the Ashmound Tradition: the Sanganakallu-Kupgal Archaeological Research Project, *Journal of Interdisciplinary Studies in History and Archaeology*, pp. 63-92.

Krishnaswami, V.D., 1960, The Neolithic Pattern of India, *Ancient India*, Vol.16, pp. 25-64.

Kuijt, I., 2002, Introduction, in Kuijt I. ed., *Life in Neolithic farming communities- Social Organization, Identity, and Differentiation* , Kluwer Academic Publishers, New York, pp.3-11.

Lewin, R., 1984, *Human Evolution- An illustrated Introduction*, Blackwell Publishing, Malden.

Medhi, B., 1992, The potters and pottery of Nalbari district, Assam-A study in ethnohistory and Ethno-archaeology, Unpublished Phd thesis, Guwahati University.

Medhi, D.K., 1980, Quaternary History of the Garo hills, Meghalaya, Unpublished Ph.D.thesis, Deccan College, Pune.

Medhi, D.K., 2003, Potters and pottery of Assam region, in J. Miksic ed., *Eastern ware of South- East Asia*, Singapore University Press, pp.322-337.

Michael, A. F, 2000, Along the Brahmaputra: Beginnings of History, Unpublished M.Phil Dissertation, Jawaharlal Nehru University, New Delhi.

Paddaya, K., 1993, Ashmounds Excavation at Budhial, Gulbarga District, Karnataka, *Man and Environment*, Vol. XVIII. No. 1, pp. 57-87.

Paddaya, K., 2002, The Problems of Ashmounds of Southern Deccan in the Light of Recent Research, in K. Paddaya ed., *Recent Studies in Indian Archaeology*, Munshiram Manoharlal, Delhi, pp. 81-111.

Paddaya, K., *Lithic Studies: An overview*, Centre for Archaeological studies and Training in Eastern India, Kolkata.

Possehl, G.L., 1999, *Indus Age-The beginnings*, Oxford and IBH, New Delhi.

Rao, S.N., 1973, The Neolithic culture of Sarutaru, Assam, *The Bulletin of the Department of Anthropology*, Vol.2, pp.1-9.

Rao, S.N., 1977, Continuity and Survival of Neolithic Traditions in North Eastern India, *Asian Perspectives*, Vol. XX (2), pp 191-205.

Rao, S.N., 1977. Excavations at Sarutaru: A Neolithic site in Assam, *Man and Environment I*, pp.39-43.

Ray, R., 1987, *Ancient Settlement Patterns of Eastern India- Pre-historic period*, Pearl Publishers, Kolkata.

Roy, S.K., 1977, A study of ceramics from Neolithic to Medieval period of Assam: An ethno-archaeological approach, Unpublished Ph.D. thesis, Guwahati University, Guwahati.

Sahu P., 2000-01, Neolithic celt: Object of Charm for the Nishis of Arunachal Pradesh, *Puratattva*, Vol.31, pp.153-154.

Sahoo D., 2000, Prehistory of Darpankhas (District Jajpur) Coastal Orissa, in K.K. Basa and P. Mohanty ed., *Archaeology of Orissa*, Vol.1, Pratibha Prakashan, Delhi, pp.173-200.

Sankalia, H.D., 1974, *Prehistory and Protohistory of India and Pakistan*, University of Bombay, Bombay.

Sankalia, H.D., 1977, *Pre-history of India*, Munshilal Manoharlal Publishers Pvt. Limited, Delhi, pp.138-170.

Sant, U., 1991, *Neolithic Settlement Pattern of North-Eastern and Northern India*, Sarita Book House, Delhi.

Sengupta G., S. Roychoudhury and S. Som, 2006 , Introduction, in Sengupta G, Roychoudhury S and Som S. (ed), *Past and Present –Ethno archaeology in India*, Pragati Publishers, New Delhi, pp. XVII-XXVIII.

Sharma, A.K., 1996, *Early Man in Eastern Himalayas (North-east India and Nepal)*, Aryan Publication House, Delhi.

Sharma, H.C., 1972, Pre-historic Archaeology- Stone Age Cultures of the Garo hills, Unpublished Phd thesis, Guwahati University, Guwahati.

Sharma, H.C., 2003, Pre-historic Archaeology of North-East, in Subba T.B., and G.C. Ghosh ed., *The Anthropology of North-East India*, Orient Longman, Delhi, pp.11-32.

Sharma, S., 2002, Geomorphographical contexts of the Stone Age Record of the Garol and Rongram valleys in Garo hills, Meghalaya, *Man and Environment*, Vol. xxvii, No. 2, pp. 15-29.

Sharma, S., 2006, Settlement Patterns of the Prehistoric Inhabitants of the Ganol and Rongram River Valleys: An Ethnoarchaeological Analysis, in G. Sengupta, S. Roychoudhary and S. Som ed., *Past and Present Ethnoarchaeology in India*, Pragati Publications, New Delhi, pp.163-178.

Sharma, S., 2007, *Celts, Flakes and Bi-faces- The Garo hills story*, British Archaeological Reports, Oxford.

Sharma, T.C., 1967, A note on the Neolithic Pottery of Assam, *Man*, New Series, Vol. 2, No. 1, pp. 126-128.

Sharma, T.C., 1974, Recent Archaeological Discoveries in North-Eastern India, *Puratattva*, Vol.7, pp.17-19.

Sharma, T.C., 1984, Meghalaya in pre-historic times, in L.S. Gassah ed., *Garo hills land and the people*, Omsons, New Delhi, pp.1-14.

Shennan, S., 1989, Introduction, in Stephen S. ed., *Archaeological approaches to Cultural identity*, Unwin Hyman, London, pp.1-32.

Singh, J.P., and G. Sengupta eds., 1991, *Archaeology of North Eastern India*, Northeast India History Association, Shillong.

Singh, O.K., 1998-99, Cord-marked Pottery making Tradition in Manipur, *Puratattva*, Vol.29, pp.60-67.

Singh, P., 2002, The Neolithic cultures of Northern and Eastern India, in S. Settar and R. Korisettar ed., *Indian Archaeology in Retrospect vol. 1, PRE-HISTORY, Archaeology of South Asia*, Indian Council of Historical Research and Manohar, New Delhi, pp.127-150.

Singh, P.K., 2000, Stone age cultures of central Orissa, in K.K. Basa and P. Mohanty ed., *Archaeology of Orissa*, Vol.1, Pratibha Prakashan, Delhi. pp.102-113.

Sinha, H.P., 1994, *Archaeological and cultural history of North Bengal with special reference to Chirand*, Ramanand Vidya Bhawan, Delhi.

Sinopoli, C., 1991, *Approaches to Archaeological ceramics*, Plenum Press, New York.

Smith, B.D., 1998, *Emergence of Agriculture*, Scientific American library, New York.

Sonowal, M., 1987, Studies on the Flake and Blade industries of the Garo hills, Meghalaya, Unpublished Phd thesis, Guwahati University, Guwahati.

Thomas, J., 1991, *Rethinking the Neolithic*, Cambridge University press, Cambridge.

Thomas J., 1999, *Understanding the Neolithic*, Routledge, London.

Tiwari, R., R.K. Srivastava, K.K. Singh, K.S. Saraswat and I.B. Singh, 2003-02, A preliminary report of the excavation at Lahuradewa district Sant Kabir Nagar, U.P. 2001-02: Wider archaeological applications, *Pragdhara* , pp.37-68.

Varma, S., 2006, Ethnography as Ethnoarchaeology: A review of studies in the Ethnoarchaeology of South Asia, in G. Sengupta ,S. Roychoudhury and S. Som ed., *Past and Present –Ethno archaeology in India*, Pragati Publishers, New Delhi, pp 27-32.

Verma, A.K., 1988, *Neolithic culture of Eastern India*, Ramanand Vidhya Bhawan, Delhi.

Vincent, B., 1991, Ceramic Technology in Thailand, *Indo-Pacific Pre-history Association Bulletins*, Vol. 10, pp. 341-348.

Vincent, B., 2003, Earthenware in Prehistoric Thailand, in J. Miksic ed., *Eastern ware of South-Eastern Asia*, Singapore University Press, pp.230-248.

Map of Assam, URL http://d-maps.com/pays.php?num_pay=416&lang=en.

