

**Trade in the Middle Ganga Plain in the Post Mauryan
Age (Circa 200 B.C.—300 A.D.)**

Dissertation submitted to the Jawaharlal Nehru University
in partial fulfilment of the requirements
for the award of the Degree of
MASTER OF PHILOSOPHY

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1990



July 1990

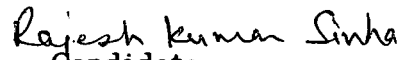
DECLARATION

Certified that the dissertation entitled "Trade in the Middle Ganga Plain in the Post-Mauryan Age (Circa 200 B.C.-300 A.D.)" submitted by **Rajesh Kumar Sinha** is in fulfilment of ten credits out of the twenty four credits for the degree of **Master of Philosophy** of this University. This dissertation has not been previously submitted for any other degree of this University and is his own work.

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


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ACKNOWLEDGEMENT

This dissertation could not have taken shape without the active support of the Faculty Members of the Centre for Historical Studies, JNU. I am also grateful to the various libraries, particularly the libraries of the JNU, the Indian Council of Historical Research, the Archaeological Survey of India, and the National Museum. The encouragement provided by my family and friends was tremendous. The financial assistance provided by the University Grant Commission was a key factor in the final stages of typing & binding etc. I do not find words to thank my supervisor Dr. Himanshu Prabha Ray under whose expert guidance I have managed to put together whatever little that I could.

I claim no originality whatsoever in this work. But constant sifting and arranging might have opened some new vistas, and it is to this that I lay my claims on. The errors, however, are entirely mine.

Rajesh Kumar Sinha

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ABBREVIATIONS

- AI - Ancient India
- ASIAR - Archaeological Survey of India, Annual Reports
- EIA - An Encyclopaedia of Indian Archaeology
- IAR - Indian Archaeology - A Review
- JESHO - Journal of the Economic Social History of the Orient
- JNSI - Journal of the Numismatic Society of India
- JUPHS - Journal of the Uttar Pradesh Historical Society.
- PIHC - Proceedings of the Indian History Congress.

INTRODUCTION

This study focusses on trade in the Middle Ganga Plain but the discussion is limited to the post-Mauryan pre-Gupta period, i.e. Circa 200 B.C. to A.D. 300. Archaeologically, the Middle Ganga Plain may be defined as a separate unit.¹ This region has yielded evidence of pre and proto-historic settlements such as the Middle and Upper Palaeolithic, Mesolithic, Neolithic, Chalcolithic and Megalithic. There is no evidence of Copper Hoard occupation so far, although these are reported from several places in the Lower Ganga Plain.² Most of the Ochre Coloured Pottery sites are found in the Upper Ganga Plain, the terminus point eastwards being the site of Sringaverapura in District Allahabad. Sringaverapura represents the final stage of the Ochre Coloured Pottery culture.³ The Iron Age Painted Grey ware culture also does not extend eastwards beyond Kausambi and Sringaverapura though, a few sherds have been found at Vaisali and Katragarh. The Northern Black Polished ware is a characteristic feature of the Early Iron Age of the Middle Ganga Plain. From Allahabad westwards it is not so dominant (except at a few sites) and wherever reported it is found with the Painted Grey Ware.⁴ The tradition of black-and-red

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1. T.N. Roy - The Ganges Civilization, New Delhi, 1983 p.244
 2. Ibid - P.94
 3. B.B. Lal and K.N. Dikshit - Sringaverapura : A Keysite for the Proto-history and Early History of the Central Ganga Valley, Puratattva, No. 10, 1978-79, pp.1-7
 4. T.N. Roy - Op. cit, P.9

ware with simple linear designs in white so commonly found on several sites of the Middle Ganga Plain (like Rajghat, Prahladpur, Sohagaura, Sonpur and Chirand) does not extend beyond Kausambi westwards. The archaeological evidence then supports T.N. Roy's arguments that the Middle Ganga Plain's geographical delimitation is in harmony with the archaeological culture.⁵

The first 'colonization' of the Middle Ganga Plain began with the first phase of the Northern Black Polished Ware characterised by an increased use of iron. In Varanasi district there are five settlements of the Early Iron Age, namely, Rajghat, Sarai Mohana, Prahladpur, Takiapar and Sarnath. Out of these settlements Rajghat alone was an urban centre in the late phase of the Iron Age. The other settlements of this phase in the Middle Ganga Plain south were Patna, Rajgir, Campa, Sonpur and Buxar. In the north the important sites were Ayodhya, Vaisali, Piprahwa, Ganwaria, Masaon and Chirand. Both in terms of geographical features⁶ and distribution of early sites, the Middle Ganga Plain may be recognised as a distinctive unit. But regional studies have been few and there is none devoted only to this area.

5. Ibid

6. S.C. Singh - Delimitation of the Middle Ganga Plain, National Geographical Journal of India, Vol. XI (2nd June, 1965) pp.74-83;

O.H.K. Spate, A.T.A. Learmonth - India and Pakistan, New Delhi, 1972 ;

R.L. Singh (ed) India : A Regional Geography, Varanasi, 1971

Trade in particular has been a rather neglected area,⁷ though many works have concentrated on a study of certain crafts either on a regional basis or for a given period. Thus a review of the studies in ancient Indian technology and production has been done by Amita Ray and Dilip K. Chakrabarti.⁸ D. Schlingoff has only described the technique of cotton manufacturing but does not discuss the places associated with cotton-production.⁹ L. Gopal discusses different kinds of materials but there is little effort made to locate the places and periods with which these were associated.¹⁰ S.N. Sahay's article on textile industry in ancient India discusses the evolution of technique of production and provides startling evidence of continuity and prosperity of the textile industry upto the end of the early medieval period.¹¹ Vivekanand Jha has shown the gradual increase in demand of leather goods in the ancient period.¹²

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7. R.S. Sharma & D.N. Jha - The Economic History of India upto A.D. 1200 : Trends and Prospects, JESHO, Vol.XVII, Part-I, 1974, Pp 48-80.
 8. Amita Ray and D.K. Chakrabarti - Studies in ancient Indian technology and production: a review, JESHO, Vol.XVIII, 1975, pp. 219-232.
 9. D. Schlingoff - Cotton manufacture in ancient India, JESHO Vol. XVII, Part-I, 1974, pp. 81-90
 10. L. Gopala - Textiles in ancient India, JESHO, Vol.IV, 1961, pp. 53-69
 11. S.N. Sahay - Textile Industry in ancient India, Journal of the Bihar Research Society, Vol. LIX, Part-I-IV, 1973, pp.115-131
 12. Vivekanand Jha - Leather Workers in ancient India, 40th PIHC, Waltair, 1979.

Thomas R. Trautmann concludes that there was no elephant trade in ancient India¹³. On the basis of Jaina sources, O.P. Srivastava discusses slave trade in the ancient and medieval periods¹⁴. H.P. Chakraborti, on the basis of inscriptions, concludes that metal-working flourished in the Gupta period¹⁵. Adhir Chakravarti argues that Indians maintained a supremacy, usually naval and sometimes political over the Bay of Bengal till the collapse of the Colas and decline of Srivijaya in the 13th century A.D.¹⁶

Some historians have traced the evidence of trade in literary texts. The articles of V.S. Agrawala¹⁷, M.M. Singh¹⁸, R.P. Singh¹⁹ and Kameshwar Prasad²⁰ are generally descriptive and not analytical.

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13. Thomas R. Trautmann - Elephants and the Mauryas, in S.N. Mukherjee (ed) India : History and Thought, essays in honour of A.L. Basham, Calcutta, 1982, Pp. 254-281.
 14. O.P. Srivastava - Slave trade in ancient and early medieval India, 39th PIHC, Hyderabad, 1978.
 15. H.P. Chakraborti - Crafts and industries as reflected in the inscriptions of the Gupta period, 35th PIHC, Jadavpur, 1974.
 16. Adhir Chakravarti - Some aspects of Indo-China maritime trade (c. A.D. 250-1200), 24th PIHC, Delhi, 1961.
 17. V.S. Agrawala - Trade and commerce from Panani's Astadhyayi, 5th PIHC, Hyderabad, 1941.
 18. M.M. Singh - India's oversea trade as known from the Buddhist canon, Indian Historical Quarterly, Vol.37, No.293, 1961, pp.177-182
 19. R.P. Singh - Artisans in Manu, 32nd PIHC, Jabalpur, 1970
 20. Kameshwar Prasad - Urban Occupation and crafts in the Kusana period, 38th PIHC, Bhubaneswar, 1977.

A study of trade can be better understood if we have information about the population. Studies in population in ancient India are very few. K.M. Shembavnekar²¹ and J.M.Datta²² have tried to provide data on population, but these studies are not satisfactory.

Jean Deloche's writings suggest that ports were spaced every 20 or 30 kilometres²³ and this supports the Arthaśāstra's preference for coastal trade as compared to high sea trade.²⁴

Studies which are relevant to our discussion are those by Steven G. Darian, Xinru Liu and H.P. Ray. Steven G. Darian has considered the entire Ganga valley as a homogeneous region and has generally neglected the different

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21. K.M. Shembavnekar - The population of ancient India, Annals of the Bhandarkar Oriental Research Institute, Vol. 33, 1952, pp.83-96.
 22. J.M. Datta - Population in India about 320 B.C., Man in India, Vol.42, 1962, Pp. 277.
 23. Jean Deloche - Geographical consideration in the localisation of ancient seaports of India, Indian Economic Social History Review, Vol.20, No.4, 1983, Pp.439-448.
 24. Arthaśāstra, 7.12.21

topographical zones through which the Ganga passes²⁵. The feeder routes and the tributaries have not been properly examined. But this article quite correctly tries to trace the symbiotic relationship between certain regions : rice and sugarcane was common in areas like the delta, with its abundant rainfall, while the upper part of the Ganga valley was more suitable for wheat, barley and maize. He argues that internal and oceanic trade continued in this region in the post-Mauryan period²⁶.

Xinru Liu's work²⁷, which is not a study in regional trade, focusses on trade activity between the two regions of China and India. In this book she discusses changes in Buddhist ideology vis-a-vis traders, and the concept of dāna as well as the importance of the Buddhist monastery in the economy.

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25. Steven G. Darian - (a) The economic history of the Ganges to the end of Gupta times, JESHO, Vol. 13, 1970, Pp. 62 - 87.
- (b) Commerce on the Ganges between the Mauryan and Gupta period, Journal of the Ganganath Jha Kendriya Sanskrit, Vidyapeeth, Vol. XXXIII, Part - I, 1977, Pp.1-9.
26. Ibid (a) and (b)
27. Xinru Liu - Ancient India and Ancient China, A.D.1-600, Delhi, 1988.

H.P. Ray focusses on the western Deccan and discusses the expansion of settlement and the link between landed wealth and commercial capital.²⁸

In recent years developments in the Middle Ganga Plain have been linked to broader questions regarding the role of iron in the growth of urban centres and the role of external trade in the decline of settlements in the Gupta and post-Gupta period. Thus, R.S. Sharma states: " The wide spread use of iron helped the clearance of the thickly forested area of the middle Gāṅgā basin, and the use of the iron plough-share led to the production of considerable surplus. People practised paddy transplantation or wet paddy production which doubled the yield. All this led to the establishment of large rural settlements and paved the way for the rise of towns in the middle Gangetic basin or Majjhimadeśa around the sixth century B.C.²⁹ - ".

28. H.P. Ray - Monastery and Guild, Delhi, 1986.

29. R.S. Sharma - Material culture and social Formation in Ancient India, Delhi, 1983, P.162

Diametrically opposite to this view is what Makkhan Lal concludes on the basis of his field work in Kanpur district. He argues that 'the so-called extensive use of iron tools and the large scale forest clearing for human settlements and agricultural land is nothing but a myth.³⁰' The urbanisation of the Ganga plains was mainly due to the culmination of several social, political and economic factors that were operating over many preceding centuries to channelize the energy, resources and generate a need and circulation of the surplus.³¹

Dilip K. Chakrabarti also argues that the 'agricultural base of the Gangetic valley was laid down by the pre-iron farmers of this region'. The urbanisation of the Ganga valley owed perhaps more to growth of organized political power structure in the region around or before 600 B.C. than to such factors as economic and commercial activities.³²

30. M. Lal - Iron tools, forest clearance and urbanisation in the Gangetic plains, Man and Environment, Vol. X, 1986, Pp. 83 - 90.

31. Ibid

32. Dilip K. Chakrabarti - Iron and Urbanization : An Examination of The Indian Context, Puratattva, No.15, 1984-85, Pp.68-74.

Romila Thapar states : ' To argue that the technical feasibility of a surplus was sufficient to start a chain reaction which automatically led to state formation would be too mechanical an interpretation of the change.³³ She characterises these developments on the basis of a change from the lineage system to the state system. The Vedic period saw a change from the lineage system to a combined lineage and house holding economy of the later vedic period. " In the post-Vedic period the sharper stratification of the chiefdoms of the middle Ganga valley was in part a continuation of the lineage system but in effect also a germinal to the tendencies encouraging state formation and, therefore, these gana - sanghas were both a contrast to, as well as in some ways the pointers to the kingdoms of Kośala and Magadha which saw the emergence of a peasant economy and subsequently commence.³⁴

Some historians suggest that while urbanisation was a product of iron technology, ' de-urbanization' is linked with trade. Thus R.S. Sharma writes : ' Once long distance overland and over-seas trade suffered, urban centres began to decline.³⁵ But perhaps questions of urbanisation or ' de-urbanisation' can only be dealt with vis-a-vis internal developments.

33. R. Thapar - From Lineage to State, Delhi, 1984, P.77

34. Ibid P. 17

35. R.S. Sharma - Urban Decay in India (c.300-c.1000), New Delhi, 1987, P.9

In this study we shall analyse the internal developments of the Middle Ganga Plain that led to an expansion of trade networks in the post-Mauryan period. For as Adam states : " Both social change and social continuity require interactive processes with the significant interaction in some respect confined to single communities, in others to multiple groups in time ordered settings, in others to whole regions, in still others to inter-regional contact whose historic role was far out of proportion to their limited scale and frequency.³⁶" Thus a study of regional trade requires the knowledge of the geographical and ecological back-ground, dispersal of exchange centres, administrative places as well as location of religious institutions and development of ideology to support the changing social structure and the distribution of crafts and industry centres in the region. It is these sub-topics that will form the core of the chapters.

The main source for this study will be archaeological supported where possible with literary references. Because literary sources such as the Manu Smṛti, the Milindapañho, are of a general nature and not very useful in identifying regional developments.

36. Robert McC Adams - Anthropological perspective on ancient trade, Current Anthropology, Vol. 15, No.3, 1974, Pp. 239 - 258.

In chapter-I the geographical and ecological back-ground of the Middle Ganga Plain will be outlined. The relevant literary and archaeological sources have also been examined here. However, our emphasis will be on the nature of the soil, navigability of rivers, location of mineral resources and rainfall in this region. This will be followed by a chapter on settlements to define the emerging 'Nāgaraka' culture in this region. The distribution of sites, improvement in technology in agriculture and industry and expansion of settlement will be the main areas of focus. In chapter-III the contact of this region with other parts of the sub-continent will be discussed; and an attempt will be made to trace the feeder routes and shift in major trade routes. The nature of guilds, currency system and organisation of trade will also be analysed. This will be followed by a chapter on the role of religion in trade and changes in Buddhist ideology as reflected in archaeological remains. One aspect of trade that has not been discussed in this dissertation is the status and social position of traders. This is because such studies based on

³⁷ Buddhist and ³⁸ Brahmanical literary texts have been done by scholars for north India as a whole. Very little can be added to this which would be relevant only to the Middle Ganga Plain.

The Middle Ganga Plain formed the core region during the period of the Maurya and the Gupta empires, but very little of its political history during the post-Mauryan period is known to us. After the decline of the Mauryas the political connection of Madhyadeśa with the valleys of the Indus and the Godavari was temporarily snapped and the splendour of the Magadhan metropolis is dimmed by the rising glory of Śākala, Vidiśā, Pratisthana and other cities.³⁹ Bṛhadratha, the last Mauryan ruler of Magadha, was according to the Purāṇas and the Harṣacarita,

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37. Uma Chakravarti - The Social Dimension of Early Buddhism, New Delhi, 1987.
38. Vivekanand Jha - Varnasaṃkara in the Dharmasutras : Theory and Practice, JESHO, Vol . 13, Pt.III, 1970, Pp.273-288 ; R.S. Sharma - The Kali Age : A Period of Social Crisis, in S.N. Mukherjee (ed) India History and Thought, Essays in honour of A.L. Basham, Calcutta, 1982, Pp. 186 - 203 ; R.P. Singh, " Varna, Jati and Technical Occupations in the Dharmasastra" in B.N. Mukherjee and others (ed) - Studies in Indology (D.C. Sircar Felicitation Volume), Delhi, 1983 Pp.285 - 309; etc.
39. H.C. Roychaudhuri - Political History of Ancient India, Calcutta, 1972 P. 237

assassinated by his general Puṣyamitra who usurped the throne and founded a new line of kings.⁴⁰ The dominions of Puṣyamitra extended to the river Narmada and included the cities of Pataliputra, Ayodhya and Vidisa and probably Jalandhara and Sakala.⁴¹ After the death of Puṣyamitra, north India was divided into a number of petty states while the descendants of Puṣyamitra continued to rule in and around Vidisa.

Coins of the post-Mauryan period suggest three categories of polities -

- (a) Coins bearing names of important cities, probably issued by some autonomous city corporation;
- (b) the dynastic issue of monarchical states bearing names of the rulers ; and
- (c) the tribal coins of Janapada or gana states of the Punjab and Rajasthan, issued in the names of particular tribes, sometimes with those of the tribal chiefs added to them.⁴² But the distribution

40. Ibid P. 238

41. Ibid P. 329

42. Bela Lahiri - Indigenous States of Northern India (circa 200 B.C. to 320 A.D), Calcutta, 1974, P.72

of coins is hardly helpful in delimiting the territories of the " indigenous " states of northern Indian [see the Map-C]. K.M. Shrimali also states that these so-called 'Local Coins' were also circulating in areas other than their own.⁴³

Nevertheless the political condition can be studied on the basis of numismatic evidence. It appears that with the weakening of the imperial power important mint towns of the empire which formerly produced punch marked coins with apparent local variations but bearing a common imperial stamp, took upon themselves to strike independent coinage of their own.⁴⁴ Since some of these coins bore names of the respective places, e.g. Kausambi,⁴⁵ Ayodhya,⁴⁶ it is possible to suggest that these places concerned gained some sort of local autonomy.

43. K.M. Shrimali - History of Pancalas, Vol.I, Delhi, 1983, P. 57

44. Bela Lahiri - Op cit P. 73

45. I.A.R., 1962 - 63, P. 64

46. I.A.R., 1970 - 71, P. 63

One of the major ruling dynasties in the north was that of the Kuṣāṇas. It is difficult to suggest the extent of the Kuṣāṇa empire in the east and south east.⁴⁷

B.N. Puri argues on the basis of a Bodh-Gaya plaque that the Kuṣāṇa hold over Bihar seems to have continued in the time of Huviska.⁴⁸ Though inscriptions of the Kuṣāṇas have been found upto Varanasi and their coins are widely distributed in the region [see the Map - C], the inclusion of the Middle Ganga Plain in their empire as well as the duration of their domination, remains a controversial matter.

In the post-Mauryan period two dynasties namely, Magha and Pañcāla played an important role in this region. The tentative territorial delimitation of the Magha rulers at its climax extended from Bandhogarh in Shahdol District of Madhya Pradesh in the south to Fatehpur District of Uttar Pradesh in the north and might at one time have extended further south as to include Sough Kosal (Chattisgarh region of Madhya Pradesh) or part thereof.⁴⁹ They found a place on the historico - archeological map of India rather late. The dates of the inscriptions of the Maghas range from the year 51 to 139; and these can be

47. B.N. Puri - India Under the Kuṣāṇas, Bombay, 1965 P.51

48. Ibid P.50

49. Ajay Mitra Shastri - Kausambi hoard of Magha Coins, Nagpur, 1979. P.3

referred to Saka era of 78 A.D.⁵⁰ (i.e. the date according to Magha inscription will be 129 A.D. to 217 A.D). Some of the Magha chiefs were contemporaries of the later members of the Kuṣāna dynasty while others flourished after the Kuṣāna period.⁵¹ We have no conclusive evidence to determine if the Kausambi was included within the Kuṣāna empire. Even if the Kosam inscription of Kaniska's reign and his seal bearing the legend Mahārāja Rājātirāja Devaputra Kaniskasya Prayoge unearthed at Kausambi are taken to prove the inclusion of the Kausambi area within Kaniska's empire, it may be suggested that the hold of the Kuṣāna's over this region ended shortly after Kaniska's reign as no post-Kaniska Kuṣāna inscription has been found in this area and the political vacuum was filled by the Maghas.⁵² From Kausambi a large number of coins have been found [see the Appendix-c]. S. Chattopadhyaya argues that the presence of coins of different rulers are an indication of conflict to control this

50. Ibid P. 20

51. Ibid. The Magha rulers have been chronologically arranged in the following way - Magha, Bhimasena, Bhadramagha, Prasthī, Bhattadeva, Kautsiputra Sivamagha, Vaiśravaṇa, Sivamagha II and Bhimvarman.

52. Ibid. P. 20

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prosperous economic centre. Since the presence of coins hardly helps in territorial delimitation of political powers this argument is not valid. It may be better explained in terms of Kausambi's enormous economic importance as it was located on the route leading to the trade centres of eastern and western India.

The five hundred years preceding the Guptas saw a remarkable revival of the fortunes of the Pañcāla rulers who came to occupy a very conspicuous position in the history of north India. The Pañcāla kings had two spells of power - first the pre-Kuṣāna phase i.e. from circa 150 B.C. to A.D. 125 and secondly a shorter spell of fifty years after the fall of the Kuṣānas which ended in 350 A.D. when the Pañcālas became part of the Gupta dominion in the days of Samudragupta.⁵⁴ The Pañcāla kings ruled from Ahicchatra though their coins have been found at Sohagaura and Pataliputra as well [See Appendix - C].

53. S. Chattapodhyaya - Early History of North India, Delhi, 1976, P. 142.

54. K.M. Shrimali - Op cit, P.192; The author has chronologically arranged the rulers in the following way (P.116) -
Vaṅgopala - C. 150 B.C. to 130 B.C.
Damagupta - C. 150 B.C. to 140 B.C.
Bhāgavata - C. 130 B.C. to 100 B.C.
Aśādhasena
Yugāsena
Brhaspatimitra

Jayagupta C.100 B.C. to 85 B.C.
Yojñapāla C. 85 B.C. to 75 B.C.
Rudraghoṣa C. 75 B.C. to 65 B.C.
Dhurvamitra C. 65 B.C. to 50 B.C.
Prajapatimitra
Varunamitra } C. 50 B.C. to 20 B.C
Viṣnumitra C.20 B.C. to 10 B.C.
Suryamitra C.10 B.C. to A.D.1
Bhanumitra C. A.D.1 to A.D. 20
Anamitra C.A.D. 20 to A.D. 25
Jayamitra C. A.D. 25 to A.D. 45
Indramitra C. A.D. 45 to A.D. 65
Bhūmimitra C.A.D. 65 to A.D. 80
Agnimitra C.A.D. 80 to A.D. 100
Bhadraghoṣa C. A.D.100 to A.D. 110
Phālgunimitra C.A.D. 110 to A.D.120
Śivanandi C.A.D.120 to A.D. 125

In Magadha the Licchavis, the Kota dynasty and the Maukharis are said to have ruled on the basis of a Nepalese inscription of Jayadeva II (8th Century A.D.), the Kaumudi Mahotsava drama and a seal bearing the legend in early Brahmi script found near Gorathgiri (Barabar hills) respectively.⁵⁵ The existence of a Murunda power in the Ganga valley a couple of centuries before Samudragupta is indicated by Ptolemy and the Jaina text Prabhāka- Carita.⁵⁶ Another Jaina text the Āvaśyka Bṛhadvritti mentions a king of Pataliputra whose envoy visited the king of Peshawar.⁵⁷ A Jaina recension of the Vikramacarita refers to "King Murunda the emperor of thirty-six hundred thousand people of Kanyakubja".⁵⁸ However, the relationship of the Murundas participating in trade activity in the north western

55. R.R. Diwakar (ed) Bihar Through the Ages, Calcutta, 1958, P.205

56. H.C. Roychaudhuri - Op.cit, P. 483

57. Steven G. Darian (b) - Op.cit

58. Steven G. Darian - (b) - Op.cit

59
region with those who ruled the Magadha region needs to be analysed in greater detail.

On the basis of literary texts scholars have argued for invasions in the Middle Ganga Plain by the Indo-Greeks from the north-west and Khārvela, ruling in Orissa. The Pañcāla and the rulers of Mathura together with the Yavanas (the Indo-Greeks) attacked Sāketa and marched to establish control over Kusumdhvaja (Pataliputra). When they reached the mud fortifications of Pataliputra they destroyed the city. However, the invaders quarrelled among themselves and as a result of fierce fighting between them the Yavanas could not remain in Madhya deśa.⁶⁰

59. P.H.L. Eggermont - The Murundas and the ancient trade route from Taxila to Ujjain, JESHO, Vol. IX, 1966, Pp. 257 - 296.

Steven G. Darian quotes secondary sources and says that shortly after 225 A.D., the king of Fu-nam (the region of Cambodia) sent an embassy to India. After reaching the mouth of the Ganga, it sailed up river to the Muruṇḍa capital either Pataliputra or more likely Vaisali, judging from its distance of 700 Li from the river entrance. After travelling in the kingdom, the embassy returned with a present of horses from the Indo-Scythian country. A later Chinese mission visiting Fu-nam between 245 and 250 met a Muruṇḍa envoy at the court;

B.N. Puri Op.cit (P.51), however, suggests that the Kuśānas defeated a Muruṇḍa ruler at Pataliputra.

60. A.K. Narain - The Indo-Greeks, Delhi, 1980, P.82

In the Hathigumpha inscription, King Khārvela claims that he defeated the King of Magadha and Anga and frightened the kings of Uttarāpatha.⁶¹

Thus, the political structure of the Middle Ganga Plain in the post-Mauryan period is marked by a plurality of ruling powers; shifts of political centres; local autonomy of the cities for some time; and emergence and revival of the ruling dynasties of the Pañcālas and the Maghas.

61. Epigraphia Indica - Vol. XX, Pp. 71 - 89

CHAPTER - I GEOGRAPHICAL OUTLINE

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The Middle Ganga Plain is not a well-defined physical unit and requires some explanation, though historians and archaeologists have very loosely used this term for their purpose¹. Geographers, on the basis of geology, structure, relief and physiography, have tried to divide the Ganga Plain in three parts, namely, the Upper Ganga Plain, the Middle Ganga Plain, and the Lower Ganga Plain. The Middle Ganga Plain is delimited by longitude 81°47'E to 87°50'E and latitude 24°30'N to 27° 50'N which covers a large physical area of 144, 409 sq. km.². It largely covers the Bihar Plains and eastern Uttar Pradesh (mostly Purbia Plain). In the north the Himalayas and in the south the Peninsular rampart mark the geographical boundaries of the region. The eastern and western sides of the region are wide open forming the central part of the east-west continuum of the vast isotropic Ganga Plain. In fact, it is a transitional area, par excellence.³.

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1. T.N. Roy - Op.cit. - excludes archaeological sites like Sringaverapura, Sravasti etc. which are geographically within this region:

R.S. Sharma(1987) op.cit. includes even the sites like Jajmau or Yayatipur, Manwan which are not part of the Middle Ganga Plain.
2. R.L. Singh - Op.cit. P. 183
3. Ibid Pp. 183 - 184



The eastern limit may be drawn by the Bihar - Bengal state boundary except in the Kishanganj subdivision. Geographers generally accept the 100 m contour passing from Allahabad to Utraula (District Gonda) onwards, which roughly corresponds with the line joining Faizabad with Allahabad to be of greater help in delimiting the western boundary of the Middle Ganga Plain⁴. As far as Bihar state is concerned the entire Bihar Ganga Plain comes into this region. However, we have also included the region of Chotanagpur plateau for the purpose of this study. The Chotanagpur plateau is, of course, geographically a distinct region. But the evidence of the Asura sites as well as the vast natural resources, have been factors which have led to the inclusion of this region in the Middle Ganga Plain. Thus the region of our study consists largely the whole of Bihar state and eastern Uttar Pradesh.

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4. S.C. Singh - ^{R.L. Singh - Op.cit} Op.cit, P. 194 - The administrative divisions of Gorakhpur and Varanasi (excepting part of the Chakia tehsil of Varanasi district) and tehsils of Balrampur and Utraula (Gonda District), Faizabad, Tanda, Akbarpur (Faizabad district), Sultanpur and Kadipur (Sultanpur district), Patti (Pratapgarh district) and Phulpur, Handia, Kanchhana and Meja (Allahabad district) in eastern U.P. are considered as the part of the plain.

The Middle Ganga Plain shows a transitional character. It is more humid than the Upper Ganga Plain while it is drier than the Lower Ganga Plain. The season of general rain starts abruptly although the pre-Monsoon showers precede it. Though the annual amount of rainfall shows that the region is on the safe side, almost free from drought, the western half of the region is prone to drought which is not as severe as in other parts of the sub-continent. However, floods throughout the region suck the economic vitality of the area by their frequent occurrences. The faulty distribution of rainfall is not favourable to agriculture. Near about 90 % of the total rainfall is concentrated in the rainy season⁵ and the region lacks adequate moisture in other seasons. Secondly, most of what falls, drains off without benefitting the soils as much. Thus the region gets little rain for growing crops in the rest of the year and particularly it lacks when required most⁶. Moreover, the monsoon may give either a wide gap causing drought, or be sudden and heavy enough to affect the remaining crops through floods or end abruptly resulting in considerable crop damage and causing hinderance in the rabi sowing because of lack of moisture in the soil. The tailing off of the rains in

5. R.L. Singh - Op.cit. P.201

6. Ibid

October causes disadvantage to the Kharif harvesting or rabi sowing and sometimes results in floods⁷. Perhaps this uneven distribution of rainfall explains the presence of tanks at the major sites in the Middle Ganga Plain during the early historical period. Brick-built tanks of the Post-Mauryan period have been unearthed during the excavations at Sringerapur and Vaisali [Details of tanks, canals and wells are given in Chapter II].

As contrasted to this, the climate in Chotanagpur plateau is sub-tropical or sub-temperate over a large part of its elevated regions. It is also free from floods associated with the south-west monsoon. The ground in Chotanagpur is well drained and the unwelcome muddy surface that characterizes the plains after a rain shower is unknown⁸.

The common drainage pattern of the Middle Ganga Plain is dendritic, and the rivers meet at acute angles. Several tributaries form parallel or sub-parallel lines to the main stream. The Ganga is the main stream which receives water from the subsidiary systems. The major sub-systems include the Ghaghara, the Gandak, the Kosi and the Son. The

7. Ibid. P. 202

8. Enayat Ahmad - Bihar, Ranchi, 1965 , P. 53

flood plain of the Ganga varies from 5 to 30 Km or more and is known as Khaddar. Due to the presence of Kankar, gravel or other resistant rock reefs the southern bank of the Ganga is relatively more stable than the northern.

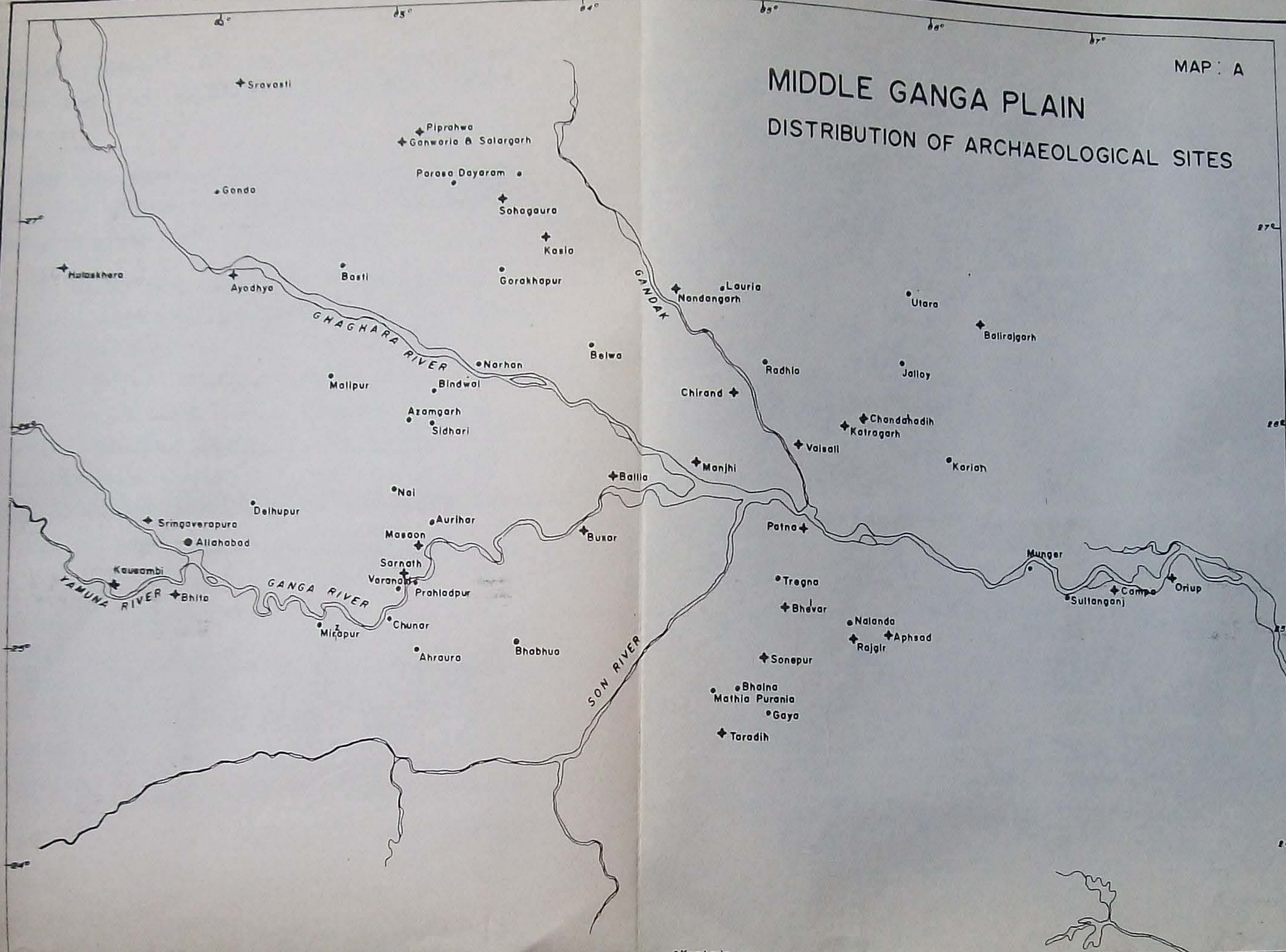
The Middle Ganga Plain may be divided into six sub regions : (1) The Ganga - Ghaghara doab ; (2) Sanyupar Plain ; (3) Mithila Plain; (4) Kosi Plain; (5) Ganga - Son divide and (6) Magadha-Anga Plain.

The Ghaghara joins the Ganga near Chapra and makes the Ganga-Ghaghara doab a triangular region. The largest number of early historical sites are located in this sub-region [see the Appendix - A]. The alluvial filling is shallower and the water table is lower than the other northern plains. Except in the Khadar tract, the area is mostly Bhangar with an usar-infested east west zone in the middle⁹. The Gomati divides it diagonally into two parts. The eastern part of this doab is more riverine. The Chinese traveller of the seventh century, Hsuan Tsang comments that Ayodhya¹⁰,

9. R.L. Singh Op.cit P. 246

10. Watters - On Yuan Chwang's Travels in India. , 1961
Vol. I. P. 355.

MIDDLE GANGA PLAIN DISTRIBUTION OF ARCHAEOLOGICAL SITES



+ MAJDR SITE

• MINDR SITE



• Kumharua

• Lohardaga

Sardakel
+ • Khuntillall
• Khuntli

• Pindrabhera

• Mohalla

• Kusumbagan
• Rakha

• Bamanghalli

Kausambi¹¹, Varanasi¹², which are located in this sub-region, yielded good crops, fruits and flowers and had a genial climate.

The region between the Ghaghara and the Kosi is dotted with a chain of lakes and north Bihar has India's largest output of fresh water fish¹³.

The Saryupar Plain is more humid, riverine with Khadar tracts, tals, Ox-bow lakes and deserted channels, high water table and more flood prone. This plain has been further divided into the Tarai, the Saryupar west and the Saran Plain. The Tarai is a low, marshy stretch of land with a low gradient and fertile. Hsuan Tsang comments that around Kapilvastu¹⁴ the soil was fertile and farming operations were regular while the climate was temperate. About Sravasti he says that it was on

11. Ibid P.366

12. Ibid Vol.II P.47

13. O.H.K. Spate - Op.cit, P.565, J.W. McGrindle -Ancient India As Described In Classical Literature, Edinburgh, 1971, P. 141. A Greek author of 2nd century A.D., Aelian writes that the Ganga breeds fishes of monstrous size and from the fat of these an unguent is prepared.

14. Watters -Op.cit. Vol.II. P.1

the bank of the Rapti and had good crops and an equable climate¹⁵. Rice, wheat, pulses, oilseeds and jute thrive well and kharif predominates here. In Saryupar west rice is the dominant crop. Sugar, maize, and wheat are other important crops. The Saran plain has rich bhat soil which produces rice, maize, and sugarcane. Other than Kapilvastu and Sravasti this sub-region has important sites like Kopia, a site of glass industry, Chirand, Sohagaura, etc. Explorations in this sub-region show that this area was extensively occupied in the early historical period. [see the Appendix-A].

The Mithila is a fertile agricultural tract. Rice is the predominant crop, Maize, sugarcane, pulses, barley and Khesari are also produced here. The northern part of this plain has moist deciduous forests with bamboos and grasses. Hsuan Tsang says that Mithila was a fertile region abounding in mangoes, plantains and other fruits¹⁶. Nandangarh, Balirajgarh, Vaisali, Katragarh are situated in this sub-region.

15. Ibid Vol.I P.377

16. Ibid Vol. II P. 63

The Kosi plain is covered by the Khadar land. With a moist climate and high water-table this region is a rice-jute tract with pulses, wheat, maize and oilseeds. Floods are frequent. The Kosi is the 'sorrow' of Bihar. It is the wildest and the most devastative of the Indian rivers and flows through several capricious channels¹⁷. Sakligarh has yielded traces of fortification and a brick-stupa. A proper exploration of this sub-region is awaited. Hence it is difficult to discuss the settlements in this sub-region.

The Middle Ganga Plain south covers about 30% of the whole region. It has a thinner, alluvial veneer, mostly less than 1500 m deep and has a higher ingradient with several projections of the southern uplands¹⁸. The Ganga receives numerous tributaries from the southern uplands among which the Son is the largest. It is supposed to have undergone marked changes in its course during historical times. But other than the rainy season, the Son remains disconnected pools of water¹⁹. The Son has been a traditional physico-cultural divide forming two regions - (i) the Ganga-Son Divide and (2) the Anga-Magadha Plain. The Ganga-Son Divide is an agricultural region. The Magadha

17. R.L. Singh - Op. cit P.196

18. Ibid P. 248

19. Ibid P.196

Anga Plain is a historically important region lying east of the Son. Rice, Khesari, pulses, wheat and maize are important crops of this region. Hsuan Tsang says about Magadha that ' the soil was rich, yielding luxuriant crops. It produced a kind of rice with large grain of extra-ordinary savour and fragrance called by the people " the rice for grandees"²⁰. Important sites like Pataliputra, Buxar, Campa are situated on the banks of the river Ganga. In comparison to the Ganga-Ghaghara doab this sub-region has yielded fewer number of archaeological sites. [see the Appendix - A].

The Chotanagpur plateau is the richest region for mineral resources. In this region coal, iron ore, copper, mica, limestone, kyanite, china clay, manganese, bauxite, fire clay, chromite, quartz, silica, steatite, dolomite, asbestos, pyrites, etc are found on a large scale. Iron ore is mainly found in Singhbhum, Orissa region and Dhanbad. In Palamau there are small out crops of magnetite, an ore of iron.

20. Watters - Op.cit Vol. II, P.86

Copper is found in Singhbhum in a narrow 80 mile long arcuate belt extending from Duarampur on the Bamani river through Kharswan and Saraikela, Rakha and Mosabani mines to Bahorgora²¹. The Asura culture is the typical culture of this region in the early historical period. [Details in Chapter- II].

The main rivers of the Chotanagpur plateau are the south Koel, the north koel, the Subarnarekha, the Damodar etc. which flow in different directions. The northern fringe of the plateau is drained by small tributaries of the Punpun, the Phalgu, the Sakri and the Kiul river towards the South Bihar plain, while the Ajai, the Mor, the Brahmani, the Gumani etc., drain the Rajmahal highlands. The rivers are marked by wide shallow channels over the flat plateaus. The river regime is highly fluctuating with a continuous flow only during the monsoon season. During the rest of the year these are either completely dry or disconnected pools of water. Even during the monsoon season the plateau streams do not maintain a regular flow. But at the time of approaching the Ganga, due to presence of underground water the plateau streams are characterised

21. Enayat Ahmad - Op.cit P. 122

by a regular flow and large discharge²².

While the rivers of the Middle Ganga Plain north are generally navigable throughout the year, the rivers in the south are hardly navigable. M.S. Pandey writes, " Besides the Ganga there is one more river in south Bihar where boats can be rowed throughout the year, the Śoṇa. The other rivers, being fed from the hills remain dry from for the major part of the year. We do not find any reference to trade on the Śoṇa, but the location of Pāṭaliputra at its junction with the Gaṅgā suggests not only the strong influence of the metropolis but also local trade by the water of the Śoṇa²³. " But as we have discussed in the preceding pages, except in the rainy season the Son remains disconnected pools of water. Secondly, as Map-A shows, the archaeological sites are generally not found on the bank of this river. Thirdly, for Pataliputra the Ganga and the Ghaghara which joined the former at Chapra, were more important than the Sona. Except for a few sites the archaeological sites in the Middle Ganga Plain south are not located on the banks of the river.

22. Ibid P.30

23. M.S. Pandey - The Historical Geography and Topography of Bihar, New Delhi, 1963, P.204.

In contrast to these, the archaeological sites are generally on the bank of rivers in the northern part of the Middle Ganga Plain [See the Map-A].

The river Ganga was the main artery of communication and the navigability of this river is reflected both in geographical factors and literary sources. Strabo and other foreign authors²⁴ recognise the importance of this river. In indigenous sources the Ganga has been shown as having both ritual and economic importance²⁵.

The river Aciravati or Rapti, on the bank of which Sravasti is located has contradictory references in literature. In Buddhist sources it has been shown as an important river which was used for navigation²⁶. In the Jaina sources it has been said that the water of this river was knee deep and could be crossed easily. It has also some dry places²⁷. The Rapti which is a tributary of the Ghaghara, is highly notorious for its floods, and it deposits fertile silt and provides highly fertile agricultural tracts²⁸.

24. McCrindle⁽¹⁹⁷¹⁾ - Op.cit P. 19 & P.216 etc.

25. B.C. Law - Historical Geography of Ancient India, Delhi, 1976. P. 77

26. Ibid P. 61-62

27. J.C. Jain - Life in ancient India as depicted in the Jaina Canons Bombay, 1947, P.282

28. R.L. Singh - op.cit P.195

We do not have exhaustive information on the nature of crops cultivated in the early historical period. However, rice was the most important crop in the Middle Ganga Plain. Buddhist texts describe rice and its varieties, e.g. raktaśāli, kalamāśāli, mahāśāli and gandhaśāli, with as much detail as the Rg Vedic hymns refer to cows²⁹. Though a domesticated variety of rice (Oryzasativa) was available from the neolithic settlements dating to the Sixth millennium B.C., it was organizationally different from 'intensive wet rice cultivation which was to become characteristic of the Middle Ganga Plains'³⁰.

This survey of the geographical features of the Middle Ganga Plain indicates the different sub-regions within the area and the relative importance of these. By the Mauryan period, navigation and communication on the Ganga had become an important factor. In the next chapter we shall discuss the archaeological evidence for expansion of settlement in the region.

29. R. Thapar (1984) - Op.cit P. 73

30. Ibid P. 72

CHAPTER - II SETTLEMENTS

As discussed earlier in the 'Introduction' and Chapter-I, the Middle Ganga Plain is a distinct archaeological and geographical region. The distinctive character of this region is also emphasised by the nature of the settlement. A study of the settlement pattern is essential to demarcate the emergence and decline of urban centres in this region. According to Vijay Kumar Thakur, " Thus, a survey of history of second urbanisation in India suggests that the process which began in 600 B.C. unlike the first urbanisation, had a continuity in time and space. While during the Mauryan period the urban scene was further widened, it reached its climax in the succeeding period. From the Gupta period onwards urbanisation seems to have received a set back and instead of a further expansion of urban tradition, urbanisation started declining, but it did not disappear altogether."¹ This process of urbanisation will be evaluated in this chapter on the basis of literary and archaeological evidence.

Regarding urbanisation itself two diametrically opposite views have been expressed by scholars. According to R.S.Sharma,¹ what really marks out a town

1. V.K. Thakur - Urbanisation in Ancient India, New Delhi, 1981 Pp 83-84.

is not merely size and population but the quality of material life and the nature of occupation. Though agrarian surplus derived from the hinterland is vital to the existence of a town, merely a settlement of non-agriculturists cannot be regarded as an urban centre. Concentration of crafts and prevalence of money-based exchange are equally important features of urban life²." According to this view, structural remains such as fortification, burnt-brick houses, etc., are important indications of urbanisation.

On the other hand Dilip K. Chakrabarti argues that the overemphasis on the presence of fortifications, burnt-brick houses, etc., has generally ignored the position of that settlement in the regional settlement size hierarchy. If the settlement in question fulfilled some urban functions such as administrative, economic, etc, in the regional landscape, and if the contemporary society is literate, there is no reason why this settlement cannot be called urban even if it is found to possess no fortification and burnt-brick architecture. The clue to urbanism is provided by the settlement hierarchy of a given period and impressive structural remains are not " safe criteria " to judge

2. R.S. Sharma (1987) - Op.cit P.5

whether a site was urban or not³.

In this chapter the urban character of the sites as well as the position of the sites in the umland shall be analysed and an attempt shall be made to understand the emerging urban features of the sites. According to S.M. Karimi, " The phase of urban revolution was, therefore, followed by a distinct phase of 'urban hierarchy' so that the urban centres even in the distant past were graded scientifically according to ranks or were delineated into hierarchical order and showed well developed morphological and functional structure in them⁴". The 'morphological and functional structure' of the sites of different strata will be worked out in this chapter.

We begin our study with the literary sources. A study of the names of the places in Bihar, concludes that most of the urban sites have suffixes like pur, puri, nagar, nagari, nigama, grama, or gama and are of Sanskrit origin. Though they have lost much of their form and accuracy in modern times, but there must have been some distinction in the use of

3. Dilip K. Chakrabarti (1984-85) - Op.cit

4. S.M. Karimi - Origin and evolution of towns in ancient Bihar, Journal of the Bihar Research Society, Vol. LIX, Parts-I - IV, 1973, Pp. 75 - 92

these terminals in the earlier period⁵. However, we shall confine ourselves to the terms used in ancient literary sources for the sites in this region. The early Buddhist texts mention mahānagaram⁶, nagara⁷, nigama⁸, gama⁹ and refer to six mahānagaras - Campa, Rajagaham, Savatthi, Saketam, Kosambi, Varanasi¹⁰. The early Buddhist texts did not consider Vaisali as an important city, though the archaeological remains support this fact. During the post-Mauryan period, the number of important cities increased. Patañjali, in the second century B.C., mentions the following as important cities - Taksasīla, Mathura, Pataliputra, Samkasya, Saketa, Varanasi, Kausambi, Hastinapur, Govindhumata, Ahicātra, and Kanyakubja¹¹. Patañjali

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5. Johan Christian - On some names of places in Bihar - their Origin and history, Calcutta Review, Vol. XCII, April, 1891, P.54
 6. Dhammapada-II, P.188; Sanyuttanikaya IV, P.113; Mahāparinibbana Sutta V. 41.
 7. Jātaka, V. No. 310
 8. Dīghanikāya, III, P. 203
 9. Jātaka, II, No. 358, etc.
 10. Dhamapada II, P. 188; Sanyuttanikaya IV P.113; Mahāparinibbana Sutta, V.41
 11. B.N. Puri - India in the time of Patañjali, Bombay, 1969, P. 79.

also refers to big cities (nagara), village (grāma) and station of herdsmen (ghoṣa). He also refers to bigger village units like the Vāhikagrāma and Udicyagrāma¹². Similarly, in the Jaina canon like the Bhagavati, the Avasyakacūrṇi, BṛhatkalpaBhāṣya (dated to the early century of the christian era) and other scriptures, there are references to the names of a number of towns, townlets and villages¹³. Though it is difficult to trace the original 'villages' or 'towns' mentioned in the literary sources, the terms used nevertheless indicate their position in the settlement hierarchy. According to Buddhist literature it appears that 'nigamas' were probably market places¹⁴. S.M. Karimi suggests that urban centres with the appellation 'pura' (e.g. Kusumpura, Kuśāgrapura, Kuṇḍapura) and nagara (e.g. Campānagara, Srinagara) signified urban centres of a high order. These were perhaps the metropolitan or regional cities and major towns respectively. Towns of a lower grade were referred to as 'Nigama' (e.g. Nigama of Assapura in Deśa country). To the lowest

12. Ibid

13. J.C. Jain - Op.cit P.246

14. M.M. Singh - Life in North-Eastern India in Pre Mauryan Times, Delhi, 1967, P. 194

order of settlement signifying probably the initial phase, the word 'grāma' or 'gāma' was the most common suffix¹⁵. This classification of towns or cities or market places continued to be adopted by the authors of the later period¹⁶. Vijay Kumar Thakur comments " Surprisingly, unlike archaeology, literature makes clear distinction between different categories of towns and hardly gives the picture of their mixed functions¹⁷". But before looking at the archaeological evidence it will not be out of place to see what the Manusmṛti has to say about the cities. The cities had their assembly halls (sabhā), drinking booths (prapā), victualler's shop (apūpaśāla), artisans dwelling (Kārukāveśna), brothels (veṣa), taverns (madyavikryaḥ), meeting places and theatres (Samājāh prekṣaṇani ca) where people assembled for a variety of activities.¹⁸ The capital cities possessed royal store house (Koṣṭhāgāra) and magazines (āyudhāgāra)¹⁹. They were surrounded by palisade walls (prākāra) interspersed with gates (dvāra) and by a ditch (parikhā)²⁰. This description of a city by the

15. S.M. Karimi - Op.cit

16. E.G. Amarkoṣa, Kāmasutra, etc.

17. V.K. Thakur - Op.cit p. 21

18. Manu IX 264 - 265

19. Ibid IX 280

20. Ibid IX 289

Manusmṛti is not reflected in the archaeological remains as no horizontal excavation of any city in north India has so far taken place. What do appear in the archaeological record are ramparts and embankments.

Remains of fortifications have been found at Kausambi, Sravasti, Rajghat, Manjhi, Vaisali, Katragarh, Balirajgarh, Nandangarh, Pataliputra, Rajgir and Campa. In the Kosi Plain only at Sakligarh a fortification has been traced²¹. This list includes both ramparts and embankments. At some sites like Kausambi²² the fortification was modified at a later date to suit military purposes. The phase dated between 185 - 125 B.C. at Kausambi saw a further raising of the wall and construction of a complex of guard rooms, flank walls and towers. The wall continued to be made higher till the last phase when the Hunas destroyed the whole complex. Five successive road levels leading to the ramparts were identified²³. At Sravasti in early period II (i.e. Circa 275 B.C. - 200 B.C.), a mud rampart was made which was later converted into a fortification wall of burnt-brick with structures at regular intervals.

21. I.A.R., 1973-74 P. 50

22. M.S. Mate - Early Historic Fortification in the Ganga Valley, Puratattva No. 3, 1969-70, Pp. 58 - 69.

23. E.I.A. Vol. II P. 214

Subsequently but still within this period the height of the rampart was raised and the brick fortification was rebuilt. Interestingly from the early christian era the fortification fell into disuse²⁴. At Chirand a high mud rampart revetted externally and internally with baked brick, was found²⁵. At Vaisali the earliest traces of a rampart goes back to 350 - 150 B.C. when a mud rampart was erected; in the Śunga period it was strengthened with courses of mud bricks. Afterwards a massive rampart about 21 metre in width at the base and 6.4 metre in width at the extant top and about 4 metre in the extant height was made of rammed earth. During the late Kuṣāṇa or early Gupta period, a burnt brick rampart was made with military barracks made of brick 37.2 x 23.3 x 5 cm in dimension²⁶. At Katragarh also, two phases of fortification, the earlier one of mud and the later of burnt brick, 50 x 30 x 8 cm, over-rammed earth, have been detected . The fortification

24. Ibid. P. 420

25. Ibid P. 278

26. Ibid. P. 458

may be ascribed to the Sunga period ²⁷. At Balirajgarh the fortification remained in use from the 2nd century B.C. to the Pāla period ²⁸, and underwent three phases ²⁹ of construction and repairs. A massive brick built fortification has been encountered at Nandangarh ³⁰. Remains of ramparts were also discovered at Pataliputra which is one of the earliest settlements to provide evidence for the transformation of a flood embankment into a defensive structure ³¹. At Campa we come across an embankment raised right over the rampart to strengthen the overall defensive system of the fort. A rammed brick floor with six post-holes was made, the structures identified as watchman's rooms on the ramparts ³². At Rajgir which is surrounded by hills, the natural defences were substantially reinforced by fortification consisting of a high rubble wall running at the top of all the hills,

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27. Ibid. P. 210
28. I.A.R., 1962-63, P.5
29. E.I.A. Vol. II. P.43
30. Ibid P. 255
31. M.S. Mate - Op.cit
32. E.I.A. Vol. II P. 90

with a circuit of about 25 miles, and the natural gaps between the hills were utilised as gates in the fortification. Inside the valley were other defensive walls built in different periods, the main one was the inner defensive wall, generally built of heaped-up earth with a rough rubble-core³³. Outside the valley of Rajgir is a small fortified area known as New Rajgir. The beginning of the mud ramparts is datable to probably the sixth century B.C.³⁴.

At Rajghat the mud ramparts were not used for defensive purpose rather it was an embankment to protect against floods. Being merely a defensive measure against floods, it was not planned to be a regular fortification or rampart, a fact which is corroborated by three more cuttings laid in the same alignment³⁵. This survey suggests that these fortified sites were certainly more important than other sites, enlisted in Appendix-A. Secondly, the use of burnt-brick fortification at Sravasti, Chirand, Vaisali, Katragarh, Balirajgarh, Nandangarh, Patliputra and

33. A 1 No. 7, 1951, Pp 66-78

34. Ibid

35. I.A.R. 1957-58, P. 50 and 1960-61 P.37

Campa shows an improvement in the construction of fortifications as well as a prosperous period of occupation of these sites. Thirdly, since fortification at all these sites did not come at the same time, nor fell into disuse simultaneously in a uniform manner, it is difficult to relate this process of fortification to any single cause. Fourthly, many new fortified settlements emerged during this period e.g. Balirajgarh where the fortification is dated to the post-Mauryan period.

The use of burnt brick was also not limited only to fortification. As shown in Appendix-A, at most of the sites burnt brick or brickbat structures have been encountered. But what needs to be emphasised is that the use of burnt-brick is much more widespread than the earlier Mauryan period. At Hulaskhera the site shows evidence of occupation which spread from the sixth century B.C. to fifth century A.D.³⁶. In the post-Mauryan phase of this site, the presence of baked brick structures has been reported³⁷. The Kuṣāṇa period shows three levels of baked brick structures, although construction in the last level shows the use of brickbats³⁸. Houses of period II (i.e.

36. I.A.R. 1978-79 P.74

37. Ibid

38. I.A.R. 1983-84 P.88

Circa 275 - 50 B.C.) in the habitation area were built of re-used burnt bricks. The Kuṣāṇa road was traced upto a length of 200 metres. A well planned drainage system belongs to the Kuṣāṇa complex³⁹. The ruins of Sravasti consist of two distinct units - Saheth, the Buddhist establishment and Maheth, a fortified city separated from each other by low lying land probably the ancient bed of the Rapti⁴⁰. Numerous stupas, monasteries and temples have been exposed at Saheth. The earliest of them goes back to the Kuṣāṇa period⁴¹; the latest datable object is a copper plate of Gāhaḍavāla ruler Govindacandra (12th century) granting land to the Jetavana monastery⁴². According to K.K. Sinha, occupation ended towards the beginning of the Christian era when the city lost its metropolitan character⁴³. But A. Ghosh writes that the deposits of Period III (i.e. early centuries of the Christian era) have been noticed only in a limited excavated area. The fortification fell into disuse but the town must

39. E.I.A. Vol. II P. 420

40. Ibid P. 419

41. ASIAR 1908-9, P. 35

42. E.I.A. Vol. II P. 419

43. K.K. Sinha - Excavation at Sravasti, Varanasi, 1967 P.11

have remained inhabited as the structures found in the previous excavation indicate ⁴⁴.

The excavation at Kausambi was conducted in four main areas : (1) the pillar adjacent to the ASI excavation ; (2) the defence complex; (3) the Ghositrāma area ; and (4) the palace complex⁴⁵. In the pillar area the lower part of the NBPW levels was devoid of burnt brick structures but there were vestiges of mud or mud block walls, earthen walls or ring wells. Burnt brick structure appeared in the Upper part of the period which saw a spurt in building activities. Brick walls, terracotta drains, ring wells, floors of brick concrete laid in mud, tanks of brickbats and later on of bricks set in lime mortar and brick drains, proliferated⁴⁶. The monastery complex showed 16 phases of structural activity, the earliest one probably dating back to the fifth century B.C. In the third phase important additions seem to have been made by Aśoka. The cells and the inner veranda came up in the eighth phase. The maximum building activity took place during the time of the Maghas, particularly

44. E.I.A. Vol.II P. 420

45. Ibid P. 212

46. Ibid P. 213

Bhadramagha. The boundary wall was erected in the 13th phase. The monastery met its end with the destruction by the Hunas⁴⁷. The structural development of the palace complex could be divided into three phases on the evidence of building materials and finish. In the first phase the palace was a random-rubble construction, perhaps with a plastered face. In the middle phase dressed stones measuring 66 X 56 X 23 cm were used for the wall face but the core remained the same. In the last phase, following a conflagration, the walls were made of a brick core with a veneer of dressed stones. The corner towers were enlarged and rebuilt and many buildings were made within the complex. A drain of dressed stone, 86 cm deep and 45 cm wide, has been dated to the second phase. The final phase saw vigorous building activity. The complex now comprised three blocks with two galleries running north to south. The doors of each block were identical in alignment with each other. The audience hall, 11.50 X 3.42 metre was in the central block and

47. Ibid

was interconnected with rooms. In the last sub-phase of this period a network of underground chambers came into being. This complex is believed to have originated in the 8th century B.C. and the third phase culminated towards the end of the 3rd century A.D. But occupation in the area continued for three more centuries⁴⁸.

At Bhita, the excavated brick structures belong to five periods, the last of which has been ascribed to the Gupta age⁴⁹. The site seems to represent a township inhabited by a mercantile community⁵⁰. Several shops and houses set up in the Suṅga period were deserted or destroyed in the early Gupta period or even in Kuṣāṇa times⁵¹. Some houses were rebuilt and shops re-appeared in the Gupta period⁵².

48. Ibid

49. Ibid P. 74

50. Ibid P. 74

51. ASIAR - 1911-12, Pp. 34-38

52. Ibid P. 38

At Sringerapur the habitational area yielded a large number of structures of baked brick ascribable variously to the Maurya, Śuṅga, Kuṣāṇa, Gupta, Rājput and medieval times⁵³. Though the stratified level is not clearly marked, the archaeologists' report a 'widespread disturbance of the site in the Gupta period'⁵⁴. The tank complex yielded besides pottery, terracotta figurines. These were assignable to the period around the beginning of the Christian era⁵⁵. After the tank-complex had fallen completely into disuse there came up in the southern area a prominent house complex which had at least three structural subphases. The lowest of these was associated with a late Kuṣāṇa gold coin⁵⁶. At Ganwaria amongst the burnt brick structures of Periods II, III and IV (i.e. Circa 600 B.C. to 4th Century A.D.) two massive complexes, in five phases and with a projected bastion-like entrance towards the east, are most impressive. The large complex is about 30 metre square and the smaller one towards northwest 26 metre square. The central courtyards of the smaller

53. I.A.R., 1978-79 P. 59

54. I.A.R. 1977-78 P. 54

55. I.A.R. 1982-83 P. 91

56. Ibid P. 92

complex is made of burnt brick with a well in the north-west corner. The floors are made of brick jelly and brickbats. Drainage from the central courtyard is provided by a covered drain of burnt brick with an outlet towards the south-west end. A ringwell of Phase-I with a diameter of 85 cm was noticed in the north-east gallery of the large complex. Other secular structures included a house complex and a large structure with several rooms, two courtyards in the centre and a long drain near the south-east end of the larger complex, a house complex on the northern fringe of the mound, a cistern like structure 3 metre deep and a very deep well⁵⁷.

At Ayodhya occupation continued through the Śunga, Kuṣāṇa and Gupta periods to medieval times⁵⁸. A baked brick wall of the Śunga period was noticed⁵⁹. Within the NBPW period house began to be built of kiln-burnt brick and terraeotta ringwells also came into existence⁶⁰. Brick structures have also been found at Sohagaura⁶¹. In the archaeological excavation the earliest building at Kusinara dates back to Maurayas⁶².

57. E.I.A. Vol. II P.143

58. I.A.R. 1979-80 P. 77

59. Ibid .

60. E.I.A., II. P. 32

61. I.A.R. 1974 -75 P. 47

62. ASIAR 1904-5, P.58

Later on there had been constant collapse and rebuilding; one monument being raised over the ruins of another⁶³.

Rajghat shows the characteristics of an urban complex of major importance. Period III (Circa 2nd century B.C. - 4th century A.D.) represented the prosperous period of the site as revealed by some impressive structures, belonging to three broad phases⁶⁴. The houses were made of baked brick, the size of which averages into two groups, 40 x 25 x 5 cm and 39 x 29 x 5 cm⁶⁵. The structural activities not only increased enormously during this period but also the houses were better planned and covered large areas. In fact, there was an overall development in the pattern of settlement indicating perhaps the growth of population⁶⁶. Similarly at Masaon, structural remains indicate the use of baked brick in rooms alongwith a brick flooring and a drain⁶⁷. It also consisted of regular walls with brick-flooring and pavements⁶⁸. In period II (200 - 50 B.C.)

63. Ibid

64. I.A.R. 1964-65 P. 45

65. E.I.A.I.P. 361

66. B.P. Singh-Life in ancient Varanasi, New Delhi 1985 P. 54

67. I.A.R. 1964-65, P. 63

68. I.A.R. 1970-71, P. 39

structural remains are represented by well arranged brick walls and rammed floors presenting a rough plan of a house. In period III (i.e. the Kuṣāṇa age) the baked brick structure well oriented to the cardinal direction representing a house and floors came to light. In period IV (i.e. A.D. 250 - 600) the structures are poor and badly disturbed⁶⁹. The excavation at Khairadih brought to light the remains of a flourishing township datable to the Kuṣāṇa period⁷⁰. An extension of the excavation to the north of the main road brought to light remains of several residential buildings standing on both sides of the subsidiary roads and lanes⁷¹. A drain measuring 6.82 metre from east to west and 7.10 metre from north to south was also found. Very close to the drain was found an underground structure measuring 2.04 x 1.68 metre. Another underground structure for storage measured 1.07 x 0.94 sq. metre and dates to the third-fourth century⁷².

69. E.I.A. Vol. II. P.281.

70 I.A.R. 1981-82 P. 67

71. I.A.R 1982-83 P. 93

72. Ibid

Evidence of town planning with a baked brick fortification , moat, roads, houses of baked brick, terracotta ring wells has been found at Manjhi⁷³. A unique road running in a north - south direction and laid almost in the middle of the township was also exposed. The road was made of small brickbats, gritty materials, sherds, clay and lime concretions heavily pounded.⁷⁴

In the upper levels of Period III (NBPW culture) at Chirand there are remains of baked brick structures, evidence of mudwalls and floors associated with the latter are of rammed earth⁷⁵. In Period IV (1st century to the 3rd century A.D.) the structural remains generally built of burnt brick, belong to both monastic and residential buildings⁷⁶. Of the residential structures one of the blocks shows two small interconnected rooms with a drain passing through the floors into a square cistern outside the main building. The

73. I.A.R. 1984-85 P. 13

74. Ibid

75. E.I.A. Vol.II P. 105

76. Ibid

brick used in both monastic and residential structures measures 41 x 25 x 6 cm. These structural remains show five phases; the last two phases are very poor and clumsy, almost built of brickbats of earlier structures. The structures of the first two phases had tiled roofs, as terracotta tiles have been found.⁷⁷

Vaisali became prosperous by the beginning of the Christian era. The period 50 B.C. - 200 A.D. is called a ' phase of affluence and artistic activity'⁷⁸. A stupa was unearthed during excavation. It was originally of mud but was later on encased in brick. The stupa had been opened up at an early date and renovated and enlarged more than once being buttressed with brick and brickbats in the first century⁷⁹ A.D. At Chechar-Kutubpur in Vaisali district, Period III is represented by a large brick structure⁸⁰.

77. Ibid

78. Krishna Deva and V.K. Mishra, Vaisali Excavation, 1950, Vaisali, 1961 P. 3

79. E.I.A II P. 458

80. I.A.R. 1977-78 P. 18

Excavation in the early levels of Katragarh revealed intensive structural activity in baked brick (size: 36 x 24 x 4 and 33 x 24 x 9 cm)⁸¹. The walls of the structure had the width of a single brick, while the floor was made of rammed earth or paved with brick⁸². A unique sewerage system was discovered. The main drain pipe was made of baked brick - four bricks forming a circular hole. Besides, other sewers were made of baked clay pipes, inter-locked with each other and connected with the main drain⁸³. It drained off its water to the Bagmati river⁸⁴. Remains of a flooring with intact pots and ovens were found at Chandahadih⁸⁵.

At Balirajgarh, Period I (2nd century B.C. to second century A.D.) is represented by a residential structure⁸⁶. It also revealed a well of wedge-shaped

81. I.A.R. 1979-80 P. 14

82. Ibid

83. I.A.R. 1978 -79 P. 93

84. R.S. Sharma (1987) Op.cit - P. 47 - As information provided to him by K.K. Sharma who was one of the excavators.

85. I.A.R. 1977-78 P.15

86. I.A.R. 1962-63 P. 5

bricks and a ring well. A brick wall of Period II was exposed⁸⁷. Digging has exposed at Nandangarh a huge stupa and many signs of urban life in C. 200 B.C. - 200 A.D. The stupa had a polygonal base; with its missing dome which must have been proportionately tall, the stupa must have been one of the highest in India⁸⁸.

At Buxar, a long wall measuring 6 metre in length, perhaps part of a large hall, was brought to light⁸⁹. In view of the very limited area available for excavation no clear house plans have been detected at Pataliputa⁹⁰. From the trench in Shāhkamal Road area, numerous flimsy walls of brick, 43 x 29 x 0.5 cm, have been found dated to Period II, 150 B.C. - 300 A.D.⁹¹. In Kumhrar, at the monastery-cum-sanatorium known as Ārogyavihār the structures belonged to circa 150 B.C. to 300 A.D.⁹². Kumhrar is rich in Kuṣāṇa brick structures and terracotta⁹³.

87. E.I.A. Vol. II P. 43

88. Ibid P. 255

89. I.A.R. 1963-64 P. 9

90. E.I.A. Vol. II 335

91. Ibid P. 336

92. I.A.R. 1953-54 P. 10

93. A.S. Altekar and V.K. Mishra, Report on Kumhrar Excavations: 1951-55, Patna, 1959, P. 29

In Period III (200 B.C. - 200 A.D) of Sonpur, structures with a maximum of four brick courses have been exposed in the upper levels of the Period, the brick dimensions being 43 x 31 x 8 cm. House plans, however, could not be ascertained⁹⁴.

Rajgir was historically older than Pataliputra. The period from the first century B.C. to the first century A.D. provides traces of three roads⁹⁵. Two building phases were noted: to the earlier phase belonged a large elliptical wall, while the later one was represented by another elliptical hall in the centre with subsidiary rooms surrounded by a compound wall⁹⁶. Remains of a residential building built of rubble in mud and datable to the earliest post NBP phase ware level were unearthed alongwith a ringwell and a circular masonry wall.⁹⁷ The Śunga and Kuṣāṇa periods were well represented at Campa by remains of numerous brick built house complexes, characteristic Śunga terracottas, particularly plaques of mother goddess with weapons around the head⁹⁸.

94. E.I.A. Vol. II P. 419

95. A.1 No. 7, Pp 70-71, 72-78

96. I.A.R. 1953-54 P. 9

97. I.A.R. 1954-55 P.16

98. E.I.A. Vol. II P. 90

At many of the sites of the early historical period wells were generally lined with baked bricks⁹⁹.

99. E.I.A. Vol.I P. 305 : Among the early historical sites with brick-lined wells are : Ujjain, the NBPW level, Period II datable between 200 B.C. and the beginning of the Christian era; Rajghat where one of the wells was raised at a later period by the addition of terracotta rings and seven brick-courses, another had a brick pavement, and particularly a third one, of the 4th-5th century, remarkable for the thickness of its wall; Prahladpur, NBPW levels; Saheth-Maheth, late Kuṣāṇa levels; Kusinagara, many examples one of them being square and surrounded by a low circular platform; Kumhrar dated to the Gupta period; Bhita where each house has a well, datable between the 1st and 5th centuries A.D. one of them composed of wedge shaped brick and terracotta rings on the top and lower portions respectively and others of wedge shaped bricks; Vaisali, three square masonry wells adjoining each other of the Gupta period, the smallest one having two holes in each of its eastern sides which seem to have held two wooden beams laid across the well at about half of its depth; Nalanda where amongst the many wells one excavated in one corner of the court of monastery 6 is octagonal on the upper part and circular below; etc.

Ringwells were provided as part of the civic amenity to the township at Sravasti¹⁰⁰.

Similarly, as far as the tank complex is concerned, mention can be made of tank complexes at Sringaverapura and Vaisali. Ascribable to the post-Mauryan period was a massive burntbrick tank consisting of two units with an elaborate inlet and inter-connecting system, excavated in the natural soil in the low lying area. The sides of the tanks were retained in a terraced fashion by three successive burnt-brick walls with battered brick against the natural soil. Besides, being the largest tank ever revealed through an excavation in the country, it is unique in a number of ways¹⁰¹. The tank was fed through a channel cut into the natural soil. It lay immediately outside the northern end of the tank and received the water of the Ganga through a nullah when the river was in spate¹⁰². Of these special interest

100. K.K. Sinha - Op.cit P. 11

101. B.B. Lal & K.N. Dikshit - Op.cit

102. Ibid.

attaches to a set of two staircases descending from the opposite directions to a common level from which a brick-on-edge ramp leads down to the bed of the tank. From the bed of tank-B terracotta figurines of Hariti holding a Child in the left lap were found. According to the excavator the tank was used ' for religious purpose as well, besides, of course serving the prime need of water supply to the people'¹⁰³. At Vaisali a tank was discovered. The original tank might have been a smaller one which was subsequently enlarged and surrounded by a wall in about the second century B.C.¹⁰⁴. In period III (150 B.C.-100 A.D.) there were rooms for guards with places for quivers in specially made holes. It had a surrounding wall with concrete platforms, with as many as six occupational levels¹⁰⁵. At Kausambi tanks and drains were attached to the houses¹⁰⁶. The tank was also utilised as a septic tank¹⁰⁷. In addition remains of canals have been found at Pataliputra¹⁰⁸ and in the Vaisali¹⁰⁹ region.

103. Ibid

104. I.A.R. 1957-58 P. 10

105. E.I.A. Vol.II P. 458

406. Memoris of the Archaeological Survey of India
No. 74, P. 31

107. Ibid P. 35

108. E.I.A. vol. II P.296

109. I.A.R. 1974-75 P. 11

This survey of structural remains of the post-Mauryan period suggests that the quality of construction at the urban centres had improved. In comparison to the pre-Mauryan and Mauryan periods, the archaeological sites in the Middle Ganga Plain show better urban planning. Burnt brick was not only used for ramparts and houses, but also for roads and drainage systems. Even the sizes of the bricks found at different sites were of uniform dimensions. From Appendix-A, it is quite evident that this spurt in building activity was supported by an increase in the number of sites in this region. Almost all the geographical sub-regions show evidence of settlement. Only in the sub-region of the Kosi plain we do not come across many new sites. But this area is yet to be explored properly for early historical sites.

An agricultural innovation which can be attributed to the Kuṣāṇa period is the construction of brick-wells which were perhaps also used for irrigation¹¹⁰. The presence of brick wells, even at Campa, located on the eastern boundary [see also the Appendix-A] and tanks and canals in the Middle Ganga Plain show internal development leading to improvements in agricultural production. This, however, contradicts R.S. Sharma's argument¹¹¹ of paucity of canals, tanks, wells in this region.

110. M.S. Randhawa A History of Agriculture in India Vol.I, New Delhi, 1981 P. 401.

111. R.S. Sharma - Perspective in Social and Economic History of Early India, Delhi, 1983 P. 167

This process of increase in the number of sites even penetrated the peripheral region. In the Chotanagpur plateau are a series of sites known as Asura sites and dated to the beginning of the Christian era [see the Appendix-B]. Among the Asura sites Sardakel is the most prominent. At Sardakel a fortification wall of well burnt brick was found¹¹². " The assemblage of such typical forms as the ledged lid, flat based bowl, sprinklers, combined with incised decorated designs strongly suggests a kushan complex"¹¹³. A radio-carbon analysis of the artifacts dates the 'Asura culture' of Sardakel from 1970 \pm 30¹¹⁴ to 1850 \pm 100¹¹⁵ i.e from 20 B.C. to 100 A.D. Artifacts and structural remains of this culture have been found at several places in Ranchi and Singhbhum districts, [see the Appendix-B] together with iron slugs and copper / bronze objects. Puri-kuṣāna coins have been found at Pindrabera, Kusumbagan, Manbhum, Masubazar, Mohalia and Rakha hills¹¹⁶, whereas Kuṣāna coins of Wima, Huviska and Vasudeva have been discovered at

112. I.A.R. 1964-65 P. 6 ; E.I.A. vol. II . P. 393

113. I.A.R. 1964 - 65 P. 6

114. I.A.R. 1965-66 P. 86

115. I.A.R. 1966-67 P. 69

116. JNSI Vol. XXXV, 1973

Belwadag¹¹⁷, Lohardaga¹¹⁸, and Kumharia¹¹⁹. This expansion of settlement to rich mineral areas is also reflected in the literary texts. In the Jaina canon it is stated that Mahāvira arrived at Lohaggold, identified with Lohardaga, from Bahusalaya and proceeded to Purimatala¹²⁰. The Jainas also trace a pilgrimage at Samet-sikhara on the Parasnath hills in the district of Hazaribagh¹²¹.

Together with the expansion of settlement, increase in the number of sites, and improvement in the standard of urban life, there is a spurt in the construction of stupas and donations, made to them. At almost all the important sites from Kausambi in the west to Campa in the east, and Sravasti, Nandangarh and Vaisali in the north to Pataliputra, Rajgṛha and Bodh Gaya in the south the whole Middle Ganga Plain yields evidence of the construction of stupas. At these sites the brick-built stupa came into existence. In the archaeological excavations at Kusinara, the place where Buddha died, the earliest building dates back to the Mauryas¹²².

117. Ibid

118. JNSI Vol. XXXVI, 1974

119. I.A.R. 1966-67 P.62

120. J.C. Jain - Op.cit P.306

121. Nundo Lal Dey - The Geographical Dictionary of Ancient and Medieval India, Delhi, 1927 (reprint 1984) P. 176.

122. ASIAR 1904-5 P. 58

The area is studded with remains of which eight monasteries with the usual plans have been excavated, but nothing earlier than Kuṣāṇa coins has been found¹²³. Clay seals of Gupta and pre-Gupta predominate¹²⁴. These seals were qualified with the words 'the Great Decease' (Mahāparinirvāṇa) ranging from early Gupta to Medieval times¹²⁵. As shown in Map-B, it is quite evident that Buddhist monastic sites were located on the main trade-routes. Some of the monastic sites were in the vicinity of important trading centres, e.g. Sarnath, Saheth, Piprahwa are near Rajghat, Maheth and Ganwaria respectively.

Another area where major improvements have been recorded is in the field of crafts especially terracottas. According to D. Desai, "There is a spectacular and unprecedented growth of terracotta industry in this period as a consequence of the rapid progress of urbanization. Numerous centres between Bengal and Punjab came into prominence"¹²⁶. The

123. E.I.A. Vol.II P. 247

124. ASIAR 1905-6 Pp 83-86

125. K.K. Thaplyal - Studies in Ancient Indian Seals, Lucknow, 1972, P.210

126. D. Desai - Social Background of Ancient Indian Terracottas, in D.P. Chattopadhyaya (ed). History and Society; Essays in honour of Professor Nihar Ranjan Ray, Calcutta, 1978 P.143-165.

potter during this period had to meet the mass demand for terracottas. This he was able to do by adopting the mould technique in the manufacture of terracotta. D. Desai continues - " The adoption of this technique gave such a great boost to the production that terracotta making rose to the level of an industry. Terracottas became commodities for the market¹²⁷." In the Maurya period secular and artistic figurines were mainly confined to Magadha whereas other sites generally yielded ritual figurines.¹²⁸ With the improvement in technology production of terracotta objects could meet the demand. Thus, both monastic and non-monastic, sites yield evidence of terracotta objects¹²⁹. Terracotta plaque of the Śunga-Kuṣāṇa period have been found at Balirajgarh, Campa, Chirand and Rajghat, while terracotta plaques of male deities have been reported from Campa¹³⁰. Secular objects like skin rubber of terracotta etc. have been found widely distributed in this region. A terracotta lamp was found at Srinagaverapura¹³¹. The taste of the

127. Ibid

128. Ibid

129. Ayodhya, Balirajgarh, Bhelwar, Bhita, Buxar, Campa, Chirand, Kapilvastu, Hulaskhera, Katragarh, Kausambi, Khairadih, Manjhi, Masaon, Nandangarh, Pataliputra, Rajgir, Sohagaura, Sonpur, Sravasti, Sringaverapur, Vaisali, Chandah^adih, Rajghat, Sarnath, etc.

130. I.A.R. 1975-76 P.7 131. I.A.R. 1983-84 P.85

' Nāgaraka ' class is reflected in some of the plaques showing goṣṭhi or cultural parties (Kausambi), wrestling, animal fights (Kausambi), palace scenes, ladies decorating themselves (Kausambi, Mathura, Rajghat), a well-dressed nāgaraka with a parrot in hand, a nāgaraka with elephant (Candraketugarh), a child writing an alphabet (Haryana), Kāmaśāstriya scenes (Candraketugarh, Tamruk, Bhita, Kausambi), love-making couples (Kausambi, Sankisa, Mathura, Ahicchatra), Udayana-Vāsavadatta theme (Kausambi) etc. The vast array of themes is baffling. The potter artists of the period have succeeded in presenting the dynamic quality of popular culture in terracotta¹³². In addition there are two types of terracotta objects : one produced by double mould and other modelled completely by hand. "Seated gaṇas and yakṣas, grotesque figures, musicians and riders on horse back were produced by the double mould technique giving depth and roundness to figures.... They remind us of the Seleucian terracottas of the Parthian period¹³³". For the period A.D. 50 to 300 A.D. sites of Uttar Pradesh have yielded better figurines as compared to those of Bihar, as the centre of economic and political activity had shifted to the north¹³⁴.

132. D. Desai - Op.cit

133. Ibid

134. Ibid.

There was an increase in the use and number of bronze and gold objects found in the Middle Ganga Plain. Not only bronze beads, bangles, coins but also bronze images have been discovered. Seven Jaina images belonging to this period were found at Chausa¹³⁵, while a bronze tripod was found at Sarnath¹³⁶. Similarly Vaisali yielded gold and silver objects. The gold objects consisted of two ear-ornaments, their interior filled with copper, with artistic designs in repousse, two ear-rings, two humped bulls, "a standing human figurine in the Kuṣāṇa-Mathura style and a hair-clip or armlet, the last three with hollow tubes behind¹³⁷". Silver amulets were also found¹³⁸. A golden broken talisman was discovered at Pataliputra¹³⁹. A serpentine finger-ring of six coils and beads, both being made of gold were encountered at Bhita¹⁴⁰. Gold objects were also found at other sites

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135. P.L. Gupta - Patna Museum catalogue of Antiques, Patna 1965 P. 107
136. ASIAR 1904-5 Pp 101-2
137. I.A.R. 1958-59 P. 12
138. Ibid
139. A.S. Altekar and V.K: Mishra - Report on Kumrahar Excavation 1951-56, Patna 1959 P.131
140. ASIAR 1911-12 P. 92

like Rajghat, Sravasti, Sringaverapur etc. At Khairadih a goldsmith's touch stone of black basalt with test marks of gold on both sides was recovered.¹⁴¹ A flat figurine made of lead was also encountered during this period.¹⁴²

Ivory, semi-precious stones, copper and iron objects have been found at many sites [see the Appendix-A]. The Middle Ganga Plain has yielded a variety of ivory objects. Ivory bangles have been found at Hulas-khera¹⁴³ and Oriup¹⁴⁴, while beads have been encountered at Ganwaria¹⁴⁵ and Khairadih.¹⁴⁶ While at most of the sites, terracotta seals are a characteristic feature, Bhita¹⁴⁷ and Kausambi¹⁴⁸ have yielded ivory seals along with other seals. The Kausambi seal bears a svastika symbol and the legend Devarakṣitasya i.e of Devaraksita, in the Brahmi script. Ivory seals of Bhita are shaped like a casket with a handle above and the legend in

141. I.A.R. 1982-83 P.93

142. P.L. Gupta (1965) op.cit Pp.349-50

143. I.A.R. 1980-81, P.71

144. I.A.R. 1966-67 P.6

145. I.A.R. 1976-77 P.52

146. I.A.R. 1982-83 P.93

147. ASIAR 1911-12 P.48

148. JUPHS Vol. XII Pp 81-86

the late kuṣāṇa script which reads 'Nāgadevasya'. At Manjhi¹⁴⁹ we come across a decorated ivory from the early deposits. A handle of a mirror, dice and die have been found at Vaisali¹⁵⁰ and Sringaverapura¹⁵¹, while from Campa comes an ivory figurine of a female¹⁵².

Some urban centres are also known to have issued their own coins in the post-Mauryan period. A copper coin of the city of Ayodhya which bears the legend Ajudhe in Brahmi characters of the first century B.C. have been reported¹⁵³. Similarly the town name of Kausambi, written in Śuṅga-Brahmi characters along with the figure of Lakṣmī and a bull was noticed on a unique type of coin¹⁵⁴. However, we do not come across similar coins from other important sites like Pataliputra, Campa, Vaisali, etc. In the post Mauryan period local coins bear place names and were perhaps issued by some kind of city states. City-states known

149. I.A.R. 1983-84 P. 26

150. Krishna Deva and Vijaya Kant Mishra Vaisali Excavation: 1950 Vaisali, 1961, P.59-60.

151. I.A.R. 1983-84 P.85 & IAR 1985-86 P.86

152. EIA Vol. II P. 90 ; and R.C. Prasad - Archaeology of Campa and Vikramsila, Delhi 1987 P.78

153. I.A.R. 1970-71 P. 63

154. I.A.R. 1962-63 P. 64

their coins are: Hiranyasrama in Gandhara region, Varanasi, Sravasti and Kausambi in Ganga Plains, Uddehikas and Sudavapa in eastern Rajasthan and Ujjaini, Erakanya, Mahismati, Kurara, Bhagila and Tripuri in Central India¹⁵⁵. Sites associated with coins bearing place names are in the western section of the Middle Ganga Plan.

Seals bearing the legend nigama or its variants have been found at Rajghat¹⁵⁶ and Bhita¹⁵⁷. Seals with the legend nigama combined with the name of the place were discovered at Bhita, the legend reading 'Sahijitiye nigamasa' in the language of the third century B.C.¹⁵⁸. In the Anguttara nikāya Sahajati is described as a nigama of the Cetis¹⁵⁹. Motichandra suggests that Bhita, from where this seal has been found, was on the route from Soreyya to Sahajati¹⁶⁰. However, in the literary sources Bhita is not discussed.

Leaving aside the sites which have been found in exploration, other sites can be categorized according to

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155. P.L. Gupta - Coins, New Delhi, 1969 P. 35.
156. JNSI, Vol. XXIII P. 411
157. ASIAR 1911-12 P. 56
158. Ibid P. 44
159. Anguttara Nikāya, iii, 355
160. Motichandra - Sarthavaha (in Hindi) Patna, 1953
P.16

MIDDLE GANGA PLAIN

NATURE OF MAJOR SITES



their function into three divisions; monastic, non monastic, and non-monastic site associated with monastic establishment¹⁶¹. As Map-B shows most of these sites are generally located on the trade routes. George Erdosy argues that by the early historical period even minor sites like Chirand could support a monastic establishment¹⁶².

A settlement hierarchy can also be demarcated on the basis of the area under occupation. Though we do not have adequate information on about all the site sizes in the post-Mauryan period, Erdosy has prepared a table for the major fortified centres in the Ganga Valley¹⁶³.

161. This classification is based on James Heitzman's article Early Buddhism, Trade and Empire, in Kenneth Kennedy and George Possehl (ed) Studies in the Palaeoanthropology of South Asia Oxford, 1984, PP 121-137. However unlike Heitzman we categorize Chirand as non-monastic site associated with monastic establishment because it yields remains of a Buddhist monastery (I.A.R. 1962-63 P.6).

162. George Erdosy - Urbanisation in Early Historic India, Oxford, 1988 P. 131.

163. Ibid P. 134

AREA IN HECTARES

<u>Site</u>	<u>Date of Defence</u>	<u>Fortified</u>	<u>Undefended</u>	<u>Religious Structures</u>
Pataliputra	300 B.C.	1350	--	+
Mathura	300 B.C.	300	--	+
Besnagar	200 B.C.	240	--	+
Vaisali	100 B.C.	240	--	+
Kausambi	500 B.C.	200	25	+
Old Rajgir	500 B.C.(?)	200 (1800 ?)	--	+
Ujjain	500 B.C.	190	??	+
Ahicchatra	200 B.C.	180	--	+
Sravasti	200 B.C.	160	12	+
Sisupalgarh	200 B.C.	144	??	+
Rajghat	500 B.C.	40	100	+
New Rajgir	200 B.C.	100	+	
Balirajgarh	200 B.C.	70	--	--
Atranjikhhera	500 B.C.	50	--	+
Tilaurakot	??	20	??	+
Ayodhya	300 B.C.	20	??	+
Eran	??	10	10	--
Bhita	300 B.c.	14	5	--
Campa	500 B.C.	??	--	--

On the basis of this table Erdosy concludes that Mathura, Kausambi and Ahicchatra became the centres of autonomous states in the second century B.C. Ayodhya, Besnagara, and Sisupalgarh are other sites which may be seen as regional centres in the post-Mauryan period while the rest were smaller towns, except, of course for the imperial capital of Pataliputra which remained the largest city in the Ganga valley even after the demise of the Mauryas¹⁶⁴. There was a five fold hierarchy of settlement between 100 B.C. and 300 A.d. The impression given in all respects is of a period of peak prosperity which is the culmination of the centuries of development¹⁶⁵.

The settlement pattern of the Middle Ganga Plain in the post-Mauryan period suggests an expansion of settlement, increase in the number of sites which was accompanied with improvement in irrigation system and production of crafts like terracotta objects. Structural remains as well as minor objects suggest an emerging 'Nāgaraka' culture in the region. Trading centres were generally associated with monastic establishments. The

164. Ibid P. 132

165. Ibid P. 78

centre of activity during the post-Mauryan period shows a shift from the eastern to western part of this region. In the next chapter we shall analyse trade-routes, contacts of this region with other parts of the sub-continent and organisation of trade.

CHAPTER III

TRADE- ROUTES AND ORGANISATION OF TRADE

As discussed in earlier chapters the Middle Ganga Plain in the post-Mauryan age saw the emergence of a plurality of political forces. However, this was also the peak period for trade activity and agrarian production. The nature of settlement suggests a generally 'prosperous urban phase'. In this chapter we shall study the contacts of this region with other parts of the sub-continent as well as its participation in the external network. Contacts with other regions will be demarcated on the basis of routes and distribution of commodities. A later section of this chapter includes a discussion on the organisation of trade. The sources to be utilised for this chapter will be primarily archaeological, including inscriptional and numismatic data, while literary references will be of a general nature.

Trade-routes during the post-Mauryan period were of two kinds : land-routes and water-routes¹. The Arthaśāstra shows the active participation

1. The Arthaśāstra 2.6.8; B.N. Puri - India in the time of Patañjali, Bombay, 1968, P.130; V.S. Agrawala - India As known to Pāṇini, Lucknow, 1953, P. 243

of the state in the maintenance of routes. The king should keep clear the trade-routes that are harassed by the king's favourites, work-officers, robbers and frontier chiefs or are reduced by herds of cattle². At the same time the Arthaśāstra suggests several measures to control the traders through taxes and punishments³.

The Arthaśāstra prefers the land-route to the water-route. The water-route is restricted in movement and not usable at all times while the land routes is the opposite of this⁴. Among the waterways the route along the shore is preferable to the one on the high sea, because the former passes through a large number of ports⁵. A river-route is preferable because of perennial use and because the dangers in it can be withstood⁶. Jean Deloche's study indicates that the ports were spaced every 20 or 30 kilometres⁷ and thus supports the

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2. Arthaśāstra 2.1.38
 3. Ibid 2.12.2 - 22
 4. Ibid 7.12.20
 5. Ibid 7.12.21
 6. Ibid
 7. Jean Deloche - Geographical considerations in the localisation of ancient seaports of India, Indian Economic Social History Review, Vol. 20, No. 4, 1983, Pp. 439 - 448.

Arthasāstra preference for coastal trade as compared to high sea trade.

Studies⁸ in major trade routes passing from Taksasīla to Tamralipti differ slightly in detail but share the same outline. Very few studies have tried to consider the development and decline of a trade-route⁹; its shifting nerve centres; and changes in material and political condition of the people in different periods.

The Middle Ganga Plain comes into historical focus with the migration and settlement of people along two routes¹⁰. The northern route followed the foothills of the Himalayas and the second followed the south bank of the Yamuna and the Ganga at the base of the Vindhyan outcrops. A comparative study of routes in the Mauryan and

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8. Motichandra - Trade and Trade-routes in ancient India, New Delhi, 1977; B. Srivastava - Trade and Commerce in ancient India, Varanasi, 1968; H. Chakraborti - Trade and Commerce of Ancient India (C.200 B.C. - C. 650 A.D.), Calcutta, 1966; G.L. Adhya - Early Indian Economics, Bombay, 1960; etc.
 9. B.D. Chattopadhyaya - Trade and commerce in Early Medieval North India, Indian Historical Review, Vol.I, No.2, Sept., 1974; Pp 203 - 209.
 10. R. Thapar (1984) Op.cit P. 70

post-Mauryan period will be helpful in analysing the process of urbanisation and trading activities. Romila Thapar writes - " With the spread of the Mauryan empire from Pāṭaliputra outwards communications had naturally to be extended so far as the frontier or even farther. The development of bureaucratic administration contributed to the necessity for such communications, since the officials had constantly to be in touch with the capital cities. Thus there were not only the main routes traversing the empire or radiating from Pāṭaliputra, but the provinces had also to be served with their own smaller network routes¹¹". The royal highway from the northwest (in the region of Taksasīla) to Pataliputra was considered the most important route¹². Evidence of routes to south India is scanty. Journeys as far as the Vindhya were probably not extraordinary events, but travelling farther south may have been something of an adventure. The sea-route along the western coast from Broach and Kathiawar to ports on the south western coast line and Ceylon, appears to have been in use¹³. Land routes

11. R. Thapar - Aśoka and the Decline of the Mauryas, Delhi, 1973, P. 81

12. Ibid

13. Ibid p.82

across the Deccan plateau would naturally tend to follow the river valleys as far as possible. One of the obvious routes to south India would be across the Son Valley as far as Sasaram, then over the plateau descending later to Tosali in Kalinga and along the coast to the Krishna delta. The road further along the Krishna valley would lead to the Raichur area. The Tungabhadra valley leading off the Krishna would give access to northern Mysore. Another route from Pataliputra following a more inland course would branch off at Rupanath and would meet a northern tributary of the Godavari in the Wainganga valley. At the mouth of the Godavari it would go south to the Krishna river and then follow the Krishna valley. Another route may have followed the west coast, from Pratisthana to Sopara and farther north.¹⁴ Pataliputra was probably connected with Nepal by a royal road.¹⁵

These routes were much more in use during the post-Mauryan period. Strabo¹⁶ refers to boats going from sea by way of the Ganga to Pataliputra. In the

14. Ibid

15. Ibid P.232

16. McCrindle (1971) - op.cit P.16

Mahābhāṣya, the line of communication connecting the north with the south west has been discussed. From Sravasti to Paithan, this route passed from Ujjeni, Gonaddha, Vidisa, Kausambi and Saketa¹⁷. In the Dhammapada Aṭṭakathā the entire distance between Supparaka and Sravasti is given as a hundred and twenty leagues¹⁸. In the Vinayapitaka, a route from Uruvela to Varanasi has been mentioned¹⁹, while the Buddhacarita refers to a route from the river Ganga to Uruvela.²⁰

By the end of this period the literary sources like Mahāvastu Avadāna²¹ refer to Mathura instead of Sravasti as the starting point for the Dakṣiṇāpatha. This finds corroboration in archaeological sources as excavation shows that Sravasti lost its metropolitan character at the beginning of the Christian era²². At the same time the position of Mathura grew

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17. B.N. Puri - Op.cit P. 130
18. Dhammapada Aṭṭakatha, ii, P. 224
19. Vinayapitaka Mahāvagga - 1.6.6
20. Buddhacarita XVII.8
21 Mahāvastu Avadāna - III No. 395
22. K.K. Sinha - Op.cit P. 11

and it became the second capital of the Kuṣāṇas. In addition to these shifts new centres of power emerged in the Middle Ganga Plain during this period. The two dynasties of the Maghas and Pañcālas had their political centres at Kausambi and Ahicchatra respectively. It would seem that the route that followed the south bank of Yamuna and the Ganga at the base of the Vindhyas crops became more important than the northern route that followed the foot-hills of the Himalays because all the major sites are located on the bank of river the Ganga or its tributaries which are navigable throughout the year. Secondly, important sites like Sringaverapura, Bhita, Masaon etc., which emerge during their period are located on the river Ganga itself. Internal and trans-oceanic trade continued despite the political fragmentation of the region²³ and sites like Allahabad, Chunar and Mirzapur which yield evidence of Roman coins are on the bank of the Ganga²⁴.

The movement of men and commodities along the major routes of the north can be better analysed by tracing the distribution of certain characteristic items such as the spinkler, clay bullae, votive tanks and ceramic industries.

23. Steven G. Darian (1977) - Op.cit

24. A 1, No. 2, 1946, P.116

The sprinkler is a bottle with a spout and long neck and is widely distributed from western India to the Ganga Plains. The texture of sprinklers found at different sites in the Middle Ganga Plain differs from each other. As shown in Map-D, sprinklers of red ware have been generally found in the Middle Ganga Plain. While a complete specimen of a red ware sprinkler was discovered at Narhan²⁵, a sprinkler of Red Polished Ware of the Gupta period has been found at Rajghat²⁶. The nuclear region of the Red Polished Ware was Kathiawad, though it is widely distributed at the sites of the north. A sprinkler of terracotta has been found at Masaon²⁷.

However, the presence of a sprinkler fragment at Sardakel in the Chotanagpur region raises the question of its link with the Middle Ganga Plain. Sardakel was perhaps linked by a land route. Interestingly, the Jaina canon provides evidence of communication between the Middle Ganga Plain and Dalabhum²⁸, Lohardagga²⁹, and

25. I.A.R. 1984-85 P. 91

26. A.K. Narain - Excavation at Rajghat, 1977 P. 52

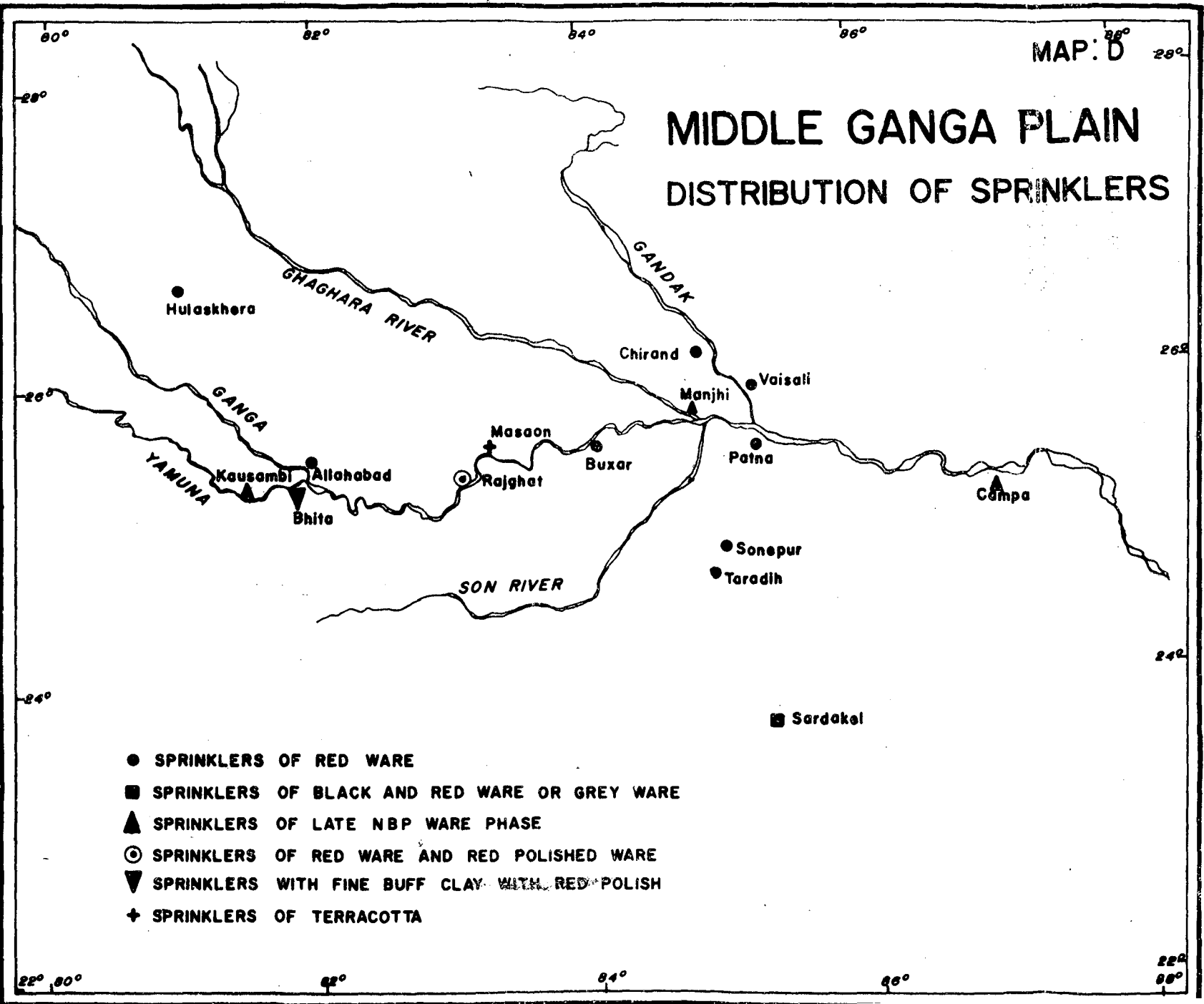
27. I.A.R., 1965-66 , P. 52

28. J.C. Jain - Op.cit P. 278

29. Ibid P. 306 and P.324

MAP: D 28°

MIDDLE GANGA PLAIN DISTRIBUTION OF SPRINKLERS



- SPRINKLERS OF RED WARE
- SPRINKLERS OF BLACK AND RED WARE OR GREY WARE
- ▲ SPRINKLERS OF LATE NBP WARE PHASE
- ◎ SPRINKLERS OF RED WARE AND RED POLISHED WARE
- ▼ SPRINKLERS WITH FINE BUFF CLAY WITH RED POLISH
- + SPRINKLERS OF TERRACOTTA

Samet-Sikhara³⁰ on the Parasnath hill which was part of the Chotanagpur plateau. The Jātaka stories also refer to the city of Dantapur in the Kalinga Kingdom³¹. We find a record of three merchant brothers who had gone to Tamralipti from Ayodhya on business, at Dudhapani in the Hazaribagh district³².

In addition to Kathiawad and Gujarat, the Middle Ganga Plain also formed the hinterland for the coastal trade along the eastern littoral. An indicator of this link are the Rouletted Ware sherds found at Ayodhya³³ and Rajghat³⁴. Rouletted Ware was first identified at Arikamedu but since then has been found extensively distributed from Chandraketugarh and Tamruk in Bengal to the Andhra and Tamil coasts as well to sites in northern Sri Lanka³⁵. The Ware has also been found at sites in Indonesia³⁶. It is dated between second-first century B.C. and third century A.D. There is very little information on the production centres of the Ware and for the moment the distribution pattern can only be used to demarcate broad linkages.

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30. N.L. Dey - Op.cit P. 176
31. Jātaka II No. 276; III No. 301 and No. 408
32. Epigraphia Indica, Vol. II, Pp.343-47
33. I.A.R. 1976-77 P. 53
34. I.A.R. 1963-64 P. 59
35. Vimala Begley - Rouletted Ware At Arikamedu : A New Approach, American Journal of Archaeology, Vol.92 1988 Pp 427 - 40
36. M.J.Walkar & S.Santoso - Romano - Indian Rouletted Pottery in Indonesia in Pieter Van de Velde (ed) Prehistoric Indonesia - a Reader, Dordrecht.1984. P376_83

Similarly votive tanks have been found at Srinagaverapura³⁷, Bhita³⁸, Masaon³⁹, Rajghat⁴⁰, Chirand⁴¹ and Rajgir⁴². These are widely distributed from Taksasila to Chirand in the east and Kolhapur in the south⁴³ but have not been reported from the early Bengal sites so far⁴⁴. Parthian influence is seen in terracotta votive tanks enshrining a Mother-Goddess surrounded by birds and musicians. These votive tanks have been found from various sites, such as Ahicchatra, Hastinapur and Taksasila (Sirkap)⁴⁵. Votive tank with three seated drummers, beating drums in three different styles have been encountered at Chirand. In front of the drummers were placed seven pot-like objects⁴⁶.

37. I.A.R. 1983-84 P. 85

38. H.P. Ray (1986) Op.cit P.135

39. I.A.R. 1965-66 P.52

40 B.P. Singh - Op.cit, P. 263

41. I.A.R. 1970-71 P.7

42. H.P. Ray⁽¹⁹⁸⁶⁾ - Op.cit P. 135

43. E.I.A. Vol.I P. 277

44. Ibid. P. 278

45. D. Desai - Op.cit

46. I.A.R. 1970-71. P. 7

Bullae are known in early historical levels of circa 300 B.C. to 200 A.D. In the Ganga Valley they come from Kashipur, Kausambi, Masaon and Rajghat⁴⁷. Terracotta bullae have been reported from several sites in different parts of India including the Deccan⁴⁸ while metallic bullae were found at Pataliputra. From the same site also comes a broken talisman made in imitation of the gold coinage of the Kuṣāṇas⁴⁹, while another such talisman showing the bust of the King Huvishka comes from Bodh-Gaya⁵⁰. A stone mould for casting mettalic bullae has been reported from Besnagar⁵¹. At Masaon a pendant bearing an impression of a human head, perhaps a royal personage, was found⁵². The contact of Varanasi with north western India is indicated by seals representing classical themes consisting of Hellenistic gods, goddesses, and royal heads and busts made in imitation of Indo-Bactrian coin types⁵³.

47. E.I.A. Vol.I P. 178

48. S.B. Deo & R.S. Gupta - Excavation at Bhokardan, Nagpur, 1974 P.76

49. A.S. Altekar and V.K. Mishra - Op.cit. P.131.

50 Ibid

51. S.B. Deo and R.S.Gupta Op.cit. P.77

52. I.A.R. 1970-71 P. 39

53. JNSI, Vol.III, 1949 Pp 73-78

A rare object from Kosam is executed in the same type of soft stone found at Taksasita, Kausambi, Rajghat and Vaisali and which has been used for making artistic ringstones. The partly dome-shaped object which is flat at the bottom contains a crudely made nude female figurine⁵⁴.

The coins of the Middle Ganga Plain show the influence and contact with Ujjain, through the continued use of the Ujjain symbol [see the Appendix-C]. Perhaps the trade channel with the western region continued by way of Ujjain⁵⁵.

Equally of interest are beads of coral and lapis lazuli and pearls. The best pearls comes from the Indo- Sri Lankan straits and there is evidence of their inclusion in the trade network along the east coast in the centuries prior to the Christian era. It was perhaps along this route that the pearls reached Sravasti⁵⁶.

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54. Jayantika Kala - A rare object from kosam, Puratattva No. 15, 1984-85, P.120
55. B. Srivastava - Economic Background of the Post-Mauryan Currency, in A.K. Narain (ed) - Seminar Papers on the Local coins of Northern India, C.300 B.C. to 300 A.D. Varanasi, 1968 Pp 165-168.
56. ASIAR 1910-11 P. 14-15

Coral was a valuable import from the Mediterranean region and was highly prized in the Indian sub-continent. Beads of coral have been found at Piprahwa,⁵⁷ Rajghat⁵⁸ and Vaisali⁵⁹. Similarly the major source of lapis lazuli was Badakshan in Afghanistan and it is perhaps to the north-western route that the lapis lazuli from Prahladpur⁶⁰ and Sravasti⁶¹ can be traced.

This study of the distribution pattern of certain archaeological objects emphasises the strategic positions of the Middle Ganga Plain along the major routes both overland as well as along the river. What is much more difficult to determine is the importance of the region in external trade of the sub-continent. Contacts with the Mediterranean region were primarily maritime, hence references to the Ganga valley are infrequent. Major foreign accounts like the Periplus of the Erythraean Sea, Pliny's Natural History and Ptolemy's Geography do not make specific reference to this region, though they mention Pataliputra as a major market-town. Thus Pliny writes - "From this place (Alexandria of the Areias - Herat) to the river Copes (Kabul river) and Peucolaitis, a city of India (Puskalavati) (Capital of Western Gandhara) is 237 miles and from thence to the river Indus and the city of Taxila, 60 and from thence to the famous river Hydeopes (Jhelum) 120; and from thence to

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57. K.M. Srivastava - op.cit. P.218
58. A.K. Narain and P.Singh - Excavation at Rajghat, Part III Varanasi, 1977, P.31.
59. B.P. Sinha & S.R. Roy - Vaisali Excavation, (1958-62) Patna, 1962, P.174
60. A.K. Narain and T.N. Roy - The Excavation at Prahladpur, Varanasi, 1968, P.47.
61. K.K. Sinha - op.cit. P.63

Hypasis (Vipasa-Sutlej) a river so famous, 290 miles and 390 paces. To the river Sydrus (Satadru) 168 miles; to the river Jomanes (Yamuna), the same; thence to the Ganges, 112 miles; to Rodapha (?) 509 though according to some writers, this last distance is only 325 miles; to the town of Calinipax (Kanya Kubja), 167 miles, according to some 265; thence to the confluence of the river Jomanes (Yamuna), and Ganges (Prayaga-Allahabad) 625; most writers add 13 miles to this last distance; thence to the city of Palibothra (Pataliputra), 425 and thence to the mouth of the Ganges (Tamralipti ?), 637½ miles⁶². Similarly the Periplus of the Erythraean sea states that through the city named after the river Ganges were brought for export malabathrum and Gangetic spikenard besides other specialities of the localities.⁶³ Ptolemy says that from Proklais (Puskatavati) in Ganghara to Tamalites (Tamralipti ?), there were on the eastern bank of the Indus and the Ganges 44 towns and cities.⁶⁴

In contrast Chinese sources contain reference of a very general nature. The History of the Later Han records that India possess elephants, rhinoceros, tortoise-shell, gold, silver, copper, iron, sugar, pepper, ginger and black salt, as well as precious things from the Roman Empire because it trade with the Romans.⁶⁵ As for the commodities China exported to India, information is scarcer.⁶⁶ Even more difficult to define are contacts with South East Asia, especially since there is a dearth of written record from the region.

62. Natural History II, BK.IV Ch.21 Pp.41-42

63. Periplus - Ch.49

64. McCrinkle - Ancient India as Described by Ptolemy, London 1885, P.115, 118.

65. History of the Later Han - LXXXVIII P.2921 [quoted by Xinru Liu, op.cit.]

66. Xinru Liu - Op.cit. P.54

But it is likely that some of the items (e.g. glass, iron, copper, etc) locally produced were involved in external trade. The early centuries of the Christian era have been the most affluent period for the spread of glassware in India. It was no longer a precious commodity to be treasured but become an article of use⁶⁷, Rajghat⁶⁸, Sravasti⁶⁹, Pataliputra⁷⁰, Sonpur⁷¹ and Oriup⁷² yielded glass objects in the pre-Kuṣāṇa period when glass objects were luxury items [see the Map-E] Glass beads from Kausambi constitute an important landmark in the history of glass in this region⁷³. Surface finds at Kopia near Sravasti⁷⁴ indicated that it was a glass manufacturing centre in the early historical period. In 1944 M.M. Nagar found countless number of tiny glass beads and glass fragments and earthen

67. M.G. Dikshit - History of Indian Glass, Bombay, 1969 P. 25.

68. I.A.R. 1957-58 P. 50

69. I.A.R. 1958-59 P. 50

70. A.S. Altekar & V.K. Mishra - Op.cit P. 132

71. I.A.R. 1956-57 P. 19; I.A.R. 1959-60 P. 14,
I.A.R. 1960-61 P.5, etc.

72. I.A.R. 1966-67 P.6

73. MG. Dikshit - Op.cit P. 26

74. Ibid P. 39

crucibles with glass sticking to them. A block of glass discovered by him was found to weigh 120 lbs⁷⁵ and these specimens are dated from circa 3rd century B.C. to 3rd century A.D.⁷⁶. However, the question of its chronology can only be solved when controlled excavations are made at Kopia and the glasses from stratified levels are chemically analysed⁷⁷.

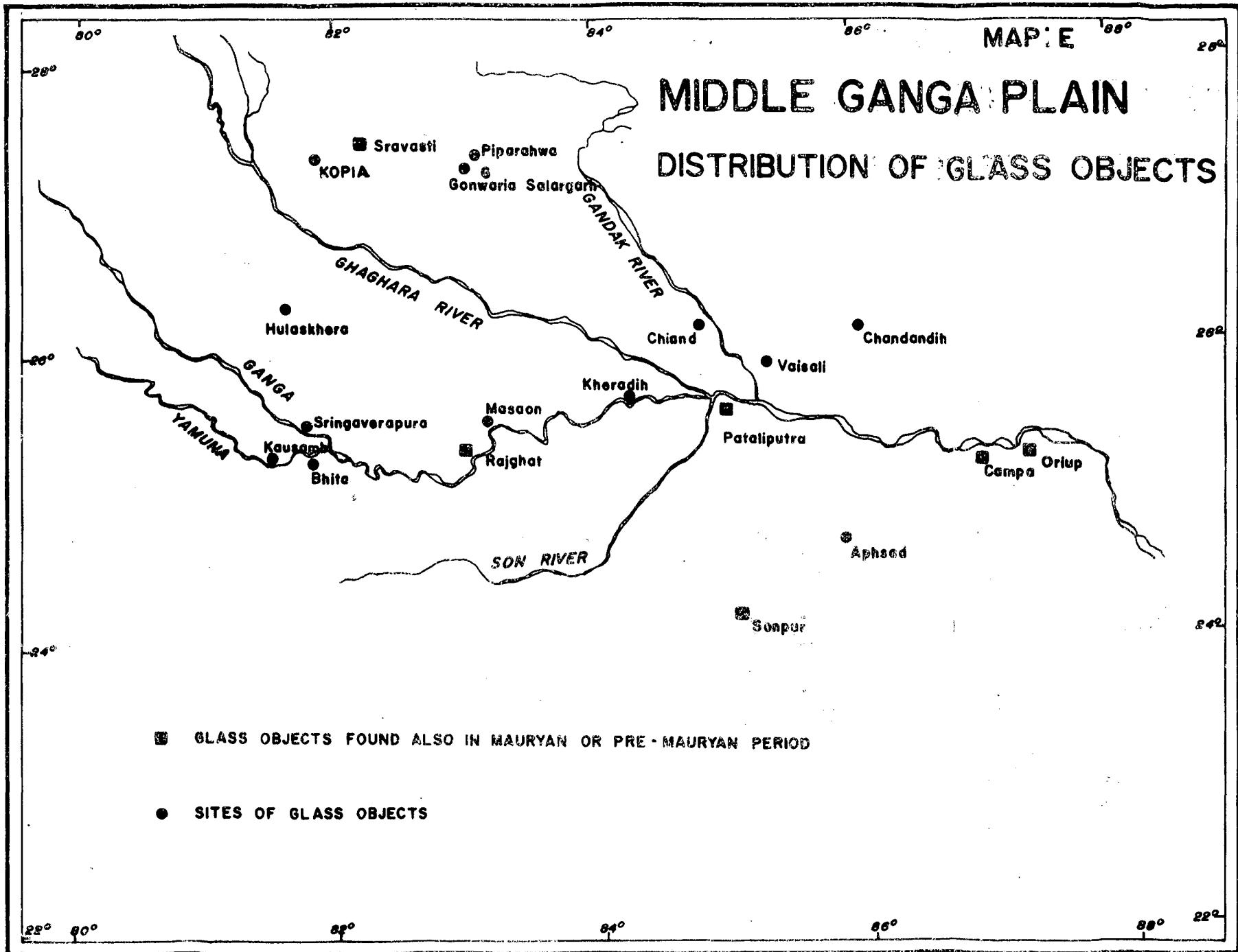
On the basis of similarity in chemical constituents we can divide these glasses into two categories. In category-I we may place glasses from Rajghat, Taxila A, Nalanda, Kopia and Bhitari. These are free from oxides of antimony, lead, tin and phosphorus. In general soda is the main alkali while manganese and titanium are present in small amounts⁷⁸. In category II may be placed the glasses from Taxila-B, Kausambi, Ahicchatra, Ter and Arikamedu. These show the characteristic constituents e.g. oxides of lead,

75. H.C. Bhardwaj - Aspects of Ancient Indian Technology, Delhi, 1979 P. 44

76. M.G. Dikshit - Op.cit P. 39

77. H.C. Bhardwaja - Op.cit P. 48

78. Ibid P. 63



antimony, tin and phosphorus. Here the occurrence of manganese seems to be a deliberate and intentional addition while in the former case it is rare and a stray.

Copper objects have been found from almost all the excavated sites [see the Appendix - A]. A Metallographic study of Rajghat copper objects has been done. The results of spectrographic examination of Rajghat objects and copper ores from Rajasthan (khetri) and Bihar (Rakha and Mosabani) suggests that Rajghat copper was made from copper ores from Bihar⁷⁹. Both the Rajghat copper and Bihar ore show the presence of iron, sulphur, silver, nickel, cobalt, molybdenum, bismuth, calcium, magnesium, aluminium and silicon. Frequency of lead, arsenic and antimony is less in both Rajghat samples as well as Bihar ores and significantly tin is absent in unalloyed copper specimens from Rajghat as well as copper ores from Bihar⁸⁰. Dilip K. Chakrabarti⁸¹ says that the Chotanagpur tin resource was

79. Ibid P. 97

80. Ibid

81. Dilip K. Chakrabarti - The Preindustrial Mines of India, Puratattva, No.16, 1985-86, Pp.65-71. On the basis of information from P.K. Chattopadhyaya, D.K. Chakrabarti says that it has been demonstrated by the find of 10% tin in a copper ring found in the proto-historic levels of Bahiri in Birbhum district, West Bengal.

being opened up atleast in the beginning of the first millennium B.C.

Iron objects have been discovered from several sites of this region. [see the Appendix-A and B]. Iron slag was found at Sardakel, Belwadag, Bichna, in the Chotanagpur plateau, and Manjhi, Sanjaiti, Sapaha, Rajghat, etc. This period was well known for its export of steel objects to the other parts of the world. Chemical and metallographic examination of iron objects from Prakash, Kausambi, Besnagar, Taksasita etc. show that a process of converting wrought iron into steel was discovered during the phase 200 B.C. to 200 A.D.⁸² Quantitative chemical analyses of iron objects of Kausambi shows that the percentage of carbon is spread over a large range from 0.08 to 0.74, while the presence of manganese and nickel has been detected by spectrographic analysis in all the iron objects. An iron object of period 100 B.C. - 500 A.D. showed the structure of a high carbon steel. The structure shows the grains of pearlite and fersite is present at the grain boundaries⁸³. It appears that the Chotanagpur region played an important role in the production of iron and of steel goods as an iron smelting^{pit} has been found at Sardkel⁸⁴.

82. H.C. Bhardwaj - Op.cit P. 158

83. Satya Prakash & Rajendra Singh - Coinage in Ancient India, New Delhi, 1968, Pp. 529-532.

84. E.I.A. Vol.I P. 142

A study of sources of gold concludes that 'alluvial gold washing has been carried on since remote times in the sands and gravels of many of the rivers of Madhya Pradesh, Uttar Pradesh, Bihar, Assam and Orissa and in sections of Indus Valley at Ladakh, Baltistan and Gilgit⁸⁵. However, in the ancient period gold mines in Mysore, Hyderabad and Madras were famous for gold production⁸⁶. It is difficult to demarcate the source of gold at this stage though, gold ornaments and coins have been found at many sites.

In addition to these scientific analyses, some information is also available from literary sources. The Arthasāstra informs us that Patrona, a quality of silk, was obtained from Magadha, Pundra and Suvrnakudya. It mentions Madhura, Aparanta, Kalinga, Varanasi, Vanga, Vatsa (Kausambi) and Mahisa country as being the centres of manufacture⁸⁷. During the early Christian period cotton was manufactured in practically all parts of northern and western India. Perhaps the most important areas of production were Bengal, the area around Varanasi, Gujarat and Gandhara. The stone discs from Murtajiganj (Patna city) now in the Patna Museum also contain beautiful designs in all probability used for printing cloth in the 1st-2nd century A.D.⁸⁸.

85. Upendra Thakur - Sources of gold for early gold coins of India, JNSI, Vol. XXXIX, Part. I and II, 1977, Pp. 89-107

86. Ibid 87. Arthasāstra 2.11.15

88. S.N.Sahay - Textile Industry in Ancient India, Journal of the Bihar Research Society Vol.LIX.Pt.I-IV, P.115-131

Intoxicating drinks like madya, maireya, and kapisāyana⁸⁹ were probably items of inter-regional trade as well as long distance trade. Scented oil which was obtained from Cinnamon (tvaca), saffron, myrrh (murā), analda (name of various plants, Plumbago, Rosea, Semi carpus anacardinus) and Vālaka (a kind of Andropogon), Tagara, Cola (probably some aromatic wood from south India) may be an item of inter regional trade. Two copper coins from Kausambi suggest dealers in perfumers⁹⁰ and the Gandhikas (dealers in perfumes) played an important role in ancient Indian economic life. The donations made by the Gandhikas are referred to in various early inscriptions from Bharhut, Mathura, Karle, Pitalkhora, Amravati, etc. Rich perfume dealers hailed from such towns as Mathura, Pratisthana, Dhenukakata and Karhataka⁹¹.

The river Ganga with its tributaries remained the main artery of communication though land routes were also

89. V.S. Agrawala - (1941) Op.cit.

90. K.D. Bajpai - Authority of Minting coins in Ancient India, JNSI Vol. XXV Part-I, 1963 Pp. 17-21

91. Ibid.

used. Elaborate and decorated models of transport vehicles of the early historical period in bronze and terracotta have been found. Simple vehicle drawn by a single or pair of bullocks, horses and rams are in evidence⁹². Others are covered wagons while quite a few represent chariot models. The covering consisted of materials such as a framework of light bamboo or leather cover. Two types are distinguishable: independent frames of carts and wagons and models prepared from moulds representing details in front⁹³.

The vehicles of the first type were the fore runners of the modern two wheeled vehicles. Their salient features can be seen in the toy models of bronze, copper and terracotta reported from Atranjikhhera, Brahmpuri, Campa, Hastinapur, Kausambi, Mathura, Rairh, Rang Mahal, Sambhar, Charsada and Takasila⁹⁴. A terracotta plaque from Kausambi⁹⁵ shows a warrior driving a chariot of four horses. A terracotta tablet having the legend Rathikasya (i.e. of a Charioteer) datable to the 2nd Century B.C. has been found at Kausambi⁹⁶.

92. E.I.A. Vol. I. P. 336

93 Ibid

94 Ibid

95. I.A.R. 1954-55 P.18

96. M.M. Nagar - Some inscribed Seals from Kosam, JUPHS, Vol.XII Pp. 81-86

Some fine models from Atranjikhera, Kausambi and Mathura, consist of an open vehicle with two wheels, hub and spokes - a typical specimen of the Ganga Valley.⁹⁷

The second type has representations of bulls in front. It is mostly reported from the Ganga Valley - at such sites as Bangarh, Chandraketugarh, Kausambi, Sonpur⁹⁸, etc. Carts tracts have been noticed at Kausambi and Rajgir. On a sheet of bed rock in a locality at Rajgir there is a pair of wheel cruts about 1.40 metre apart from each other indicating the gauge, though the period is uncertain⁹⁹.

The crafts that carried goods and passengers on the Ganga were of two kinds : rafts and plank-built boats. At Kausambi a terracotta seal bears the legend 'Nāvīkasya' i.e. 'of a boatman', in the script of the 2nd century B.C.¹⁰⁰. A boat shaped bead of carnelian has been found at Rajghat¹⁰¹. The Mahāvastu Avadāna

97. E.I.A. Vol. I. P. 336

98. Ibid

99. Ibid

100. M.M. Nagar - Op.cit

101. I.A.R. 1964-65 P. 45

mentions the 'navika' and 'odumpika¹⁰², while the Avadānasataka of the 2nd century A.D. refers to a village of mariners located as far north as Sravasti¹⁰³.

During the post-Mauryan period there was a change in the nature of control of trade. While in the Maruyan period, the state took considerable interest in organising and regulating industry¹⁰⁴, this period experienced a loose control of the state over the industrial life of the country. In this period there was an increase in the number of crafts. The Mahāvastu mentions 36 kinds of occupations, and the Milindapañho speaks of 74 kinds of occupations¹⁰⁵. Most of these occupations which are new are generally related to the metal trade. For example, the Mahāvastu Avadāna mentions the following metal crafts - Lohakārka, tāmrakārka, Suṛṇakārka¹⁰⁶, Trapukārka, Sispiccatākāra, Kaṇḍukārka¹⁰⁷ etc. In Milindapañho workers in gold,

102. Mahāvastu Avadāna III No. 444

103. Avadāna sataka- 1.1 : The Āṅgavijja gives a list of names of boats : nāva, potā, kottimba, sālikā, tappaka, plava, piṇḍikā (round boat), kāṇḍevelu, dati (water skin), (in the introduction of the Āṅgavijja. P. 49)

104. Arthaśāstra Book II passim.

105. G.L. Adhya - Op.cit P. 82

106. Mahāvastu Avadāna III, No. 443

107. Ibid No. 444

silver, lead, tin, copper, brass and jewellery are mentioned¹⁰⁸. In Āṅgavijja the list of workers include goldsmith, utensil makers, iron smiths, bronze smiths, profession of toilet-making (pasādhaka), lapidiary (maṇikāra), Kottaka (inlayer)¹⁰⁹. The archaeological evidence supports this development. [see the Appendix-A for metal remains]. Probably the increased use of metal was one of the reasons for the expansion of settlement to the mineral rich peripheral region.

The gradual development of a guild system seems to have loosened the control of the state. According to the Manu Smṛti the king was supposed to fix the rates for the purchase and sale of all marketable goods, having duly considered whence they come whither they go, how long they have been kept, the probable profit and the probable outlay; once in five nights, or at the close of each fortnight, the king should publicly settle the price for the merchants, all weights and measures

108. Milindapañho V. No. 331

109. Āṅgavijja (Introduction by Motichandra) P. 47

must be duly marked and once in six months these should be re-examined¹¹⁰. This book also prescribes punishments for adultering commodities and for breaking gems or for improperly boring them¹¹¹. But that man who behaves dishonestly to honest customers or cheats in his prices shall be fined in the first or in the middle-most amercement¹¹². He who sells (for seed corn that which is) not seed-corn, he who takes up seed (already sown), and he who destroys a boundary (-mark) shall be punished by mutilation¹¹³. He who avoids a custom house (or a toll), he who buys or sells at any improper time, or he who makes a false statement in enumerating (his goods) shall be fined eight times (the amount of duty) which he tried to evade¹¹⁴. However the King was supposed to fix in his realm the duties and taxes in such a manner that both he himself and the man who does the work receive (their due) rewards¹¹⁵. Interestingly the Manusmṛti suggests that for a long passage a boat-hire must be proportional to the places and times and this rule refers to passage along the banks of river, at sea there is no settled freight¹¹⁶.

110. Manu Smṛti VIII 401-403

111. Ibid IX. 286

112. Ibid IX. 287

113. Ibid IX 291

114. Ibid VIII 400

115. Ibid VIII 128

116. Ibid VIII 406

However, at another place it has been said that whatever rate men fix, who are experts in seavoyages and able to calculate (the profit) according to the place, the time and object (carried) that (has the legal force) in such cases with respect to the payments (to be made)¹¹⁷.

In spite of these injunctions by the Manu Smriti regarding the role of the king, it would seem that trade was controlled by guilds and private individuals. We come across a number of guilds in the ancient period¹¹⁸.

117. Ibid VIII 157

118. R.C. Majumdar - Corporate Life in ancient India, Calcutta, 1969 pp 15-17. He enlists the following guilds on the basis of all kinds of sources:- 1. workers in wood (carpenters including cabinet makers, wheel-wrights, builders of houses, builders of ships and builders of vehicles of all sorts); 2. workers in metal including gold and silver; 3. leather workers; 4. workers in stone; 5. ivory workers; 6. Workers fabricating hydraulic engines; 7. bamboo workers; 8. braziers; 9. jewellers; 10. weavers; 11. potters; 12. oil millers; 13. rush workers and basket makers; 14. dyers; 15. painters; 16. corn dealers; 17. Cultivators; 18. fisher folk; 19. butchers; 20. barbers and shampooers; 21. garland makers and flower sellers; 22. mariners; 23. herdsmen; 24. traders including caravantraders; 25. robbers and free booters; 26. forest people who guarded the caravan; 27. money lenders; 28. rope and mat makers; 29. toddy drawers; 30. tailors; and 31. flour makers

Though inscriptions of this period suggesting guild activities have been found at several places in the subcontinent, there are few inscriptions from the Middle Ganga Plain. An inscription at Kausambi refers to the guild of stone masons¹¹⁹, while seals of guilds have been found at Bhita¹²⁰, Rajghat¹²¹ and Basarh¹²².

The importance of the guild is reflected in the law books of this period. Thus Manu says that a king who knows the sacred law must enquire into the laws of castes, of districts, of guilds and of families and thus settle the peculiar law of each¹²³. Similarly, the king is asked to punish the person who breaks the agreement with the guilds¹²⁴. The Yājñavalkya smṛti prescribes that if a man steals the property of a guild or any other corporation or breaks any agreement with it he should be banished from the realm and all his property confiscated. On the basis of this text it can be concluded that guilds could possess corporate property and lay down rules and regulations which it was a penal crime to violate¹²⁵. Their representative often

119. Epigraphia Indica Vol. XXIV P.256

120 ASIAR 1911-12 P. 56

121 JNSI Vol. XXIII P.410

122 ASIAR 1911-12 (Eastern Circle) Part.II P.47

123 Manu Smṛti VIII. 41

124. Ibid VIII 219.

125 Yājñavalkya Smṛti II. 186-192

transacted business with the court in their name and were held in high respect there. In the Mahābhārata guilds are described as one of the principal supports of royal power¹²⁶ and sowing dissension among the heads of guilds, or inciting them to treason, is looked upon as a recognised means of injuring the enemy's kingdom¹²⁷. Duryodhana after his defeat by the Gandharvas, refused to go back to his capital for, humiliated as he was, he dared not face the heads of the guilds¹²⁸. No amount of expiation can remove the sins of those who for sake their duties to the guilds to which they belong¹²⁹.

While literature provides a general idea about the guilds in the sub-continent, seals and coins provide further evidence. Seals of individuals, guilds and officials have been found at a number of sites. At most of the sites like Sravasti¹³⁰, Kusinara¹³¹, Bhita¹³²,

126. P.C. Roy (ed) Mahābhārata - Vol.IX Aśramvāsika parva; However, BORI, Poona edition of the Mahābhārata does not include this statement.

127. Mahābhārata 12.59.49; 12.138.63

128. Ibid 3.238.15

129. Ibid 12.37.14

130. ASIAR 1910-11 P.19

131. ASIAR 1905-06 P.83-85

132. ASIAR 1911-12 P.47-57

Chirand¹³³, Campa¹³⁴ and Pataliputra¹³⁵ seals and sealings of the Gupta and post-Gupta periods predominate. Seals of guilds are classified into those of the nigama and Śreṇi. Seals with the legend nigama or its variants have been found at Rajghat¹³⁶ and Bhita¹³⁷ while from the latter site comes a seal with the legend nigama combined with the name of the place read Sahijitiye nigamasa in the language of 3rd century B.C.¹³⁸. In the Anguttara Nikāya Sahajati is described as a nigama of Cetis¹³⁹. At Kapilvastu sealings carrying the legend Kapilvastu have been found¹⁴⁰, but these are not associated with any guild. In the early Gupta and post-Gupta periods the legend nigama was generally used together with a personal name¹⁴¹. In contrast sealings with the legend Śreṇi are fewer in number and only two

133. I.A.R. 1975-76 P.7

134. I.A.R. 1970-71 P. 5

135. ASIAR 1912-13 P. 82; A. S. Altekar & V.K. Mishra - Op.cit P. 103

136. JNSI, Vol. XXIII P. 411

137. ASIAR 1911-12, P. 56 138. Ibid P.44

139. Anguttara Nikāya, iii, 355

140. K.M. Srivastava - Op.cit P. 80

141. K.K. Thaplyal - Studies in Ancient Indian Seals, Lucknow, 1977, P.225

specimens have been found¹⁴². A sealing from Rajghat bears the legend Gavayāka Seniye (in the guild of milkmen) and another sealing from the same site bears the legend Vārāna-syāranyaka śreṇi (the guild of the forest people of Varanasi). The number of seals with the legend nigama and śreṇis is less than those bearing personal names, official names or names of the rulers. The śreṣṭhi-nigama, the śreṣṭhi-kulika-nigama, the śreṣṭhi-sārthavāhakulika-nigama sealings have been found only at Basarh and nowhere else¹⁴³. A number of terracotta sealings mostly inscribed with proper names without titles and honorifics have been found at Sohagaura¹⁴⁴. Seals of Kuṣāṇa rulers like Vasudeva¹⁴⁵, Wima Kadphises¹⁴⁶, and Magha rulers¹⁴⁷ have been discovered together with seals of boatmen¹⁴⁸ and of charioteers¹⁴⁹. Among the Asura sites only Sardakel has yielded sealings while monastic sealings have been encountered at Kapilvastu¹⁵⁰.

142. Ibid P. 237

143. ASIAR 1903-4, Pp91-104

144 IA.R. 1974-75 P. 47

145 I.A.R 1976-77 P. 53

146 K.M. Srivastava - Op.cit P. 91

147. I.A.R. 1970-71 P. 63

148. JUPHS Vol.XII, Pp81-86

149 Ibid

150. K.M. Srivastava op.cit P.80

Numismatic evidence is also helpful in determining the role of the guilds and overall trading activity. Coins of the post-Mauryan period are characterised by variety. Punch marked coins continued till the rule of the Kanvas. The inscribed coins of this period may be categorized into (i) local (ii) tribal and (iii) monarchical issues from their inscriptions¹⁵¹. Local coins bear place names and were perhaps issued by some kind of city state. City states known from the coins are : Hiranyasrama in Gandhara region, Varanasi, Sravasti and Kausambi in the Ganga plains; Uddehikas and Sudavapa in eastern Rajasthan and Ujjaini, Erakanya, Mahismati, Kurana, Bhagila and Tripuri in central India.¹⁵² Ayodhya has yielded copper coins bearing the name of the city ' Ajudhe' in Brahmi characters of the first century B.C.¹⁵³. Similarly the town name, Kausambi, written in Śuṅga-Brahmi character along with the figures of Lakṣmi and a bull was noticed on a unique type of coin¹⁵⁴. However, we do not come across similar coins from other important cities like Campa, Pataliputra, Vaisali, etc. These city-states are in the western part of the Middle Ganga Plain. Bela Lahiri argues that with the weakening of the imperial power,

151. P.L. Gupta - Coins, New Delhi, 1969 P. 35

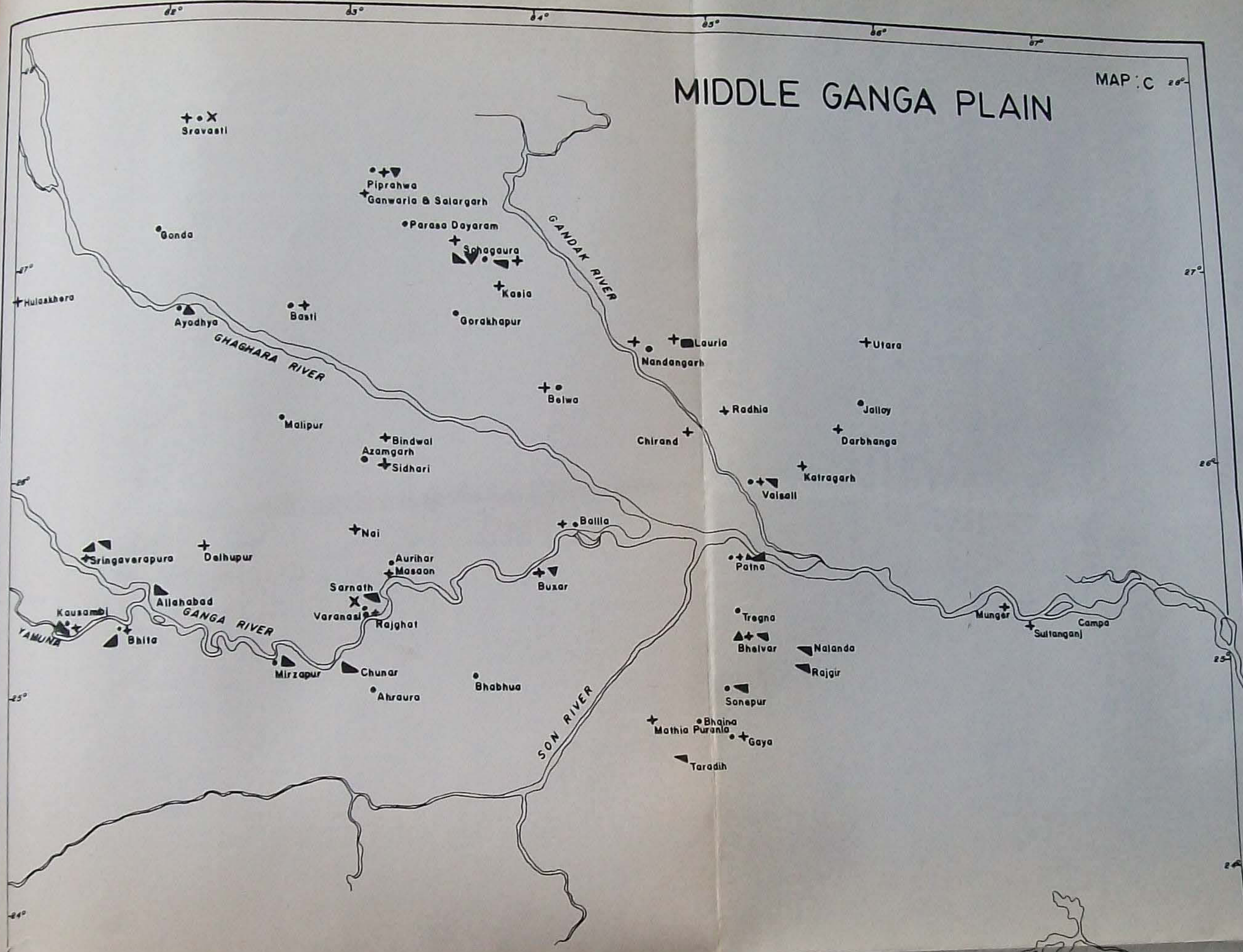
152. Ibid P. 36

153. I.A.R. 1970-71 P. 63

154. I.A.R. 1962-63 P.64

MIDDLE GANGA PLAIN

MAP 'C' 28°



- ◆ KUSANA COIN
- ▲ MITRA COIN
- PURI KUSANA COIN
- ▼ AYODHYA COIN
- PUNCHMARKED COIN
- ◀ KAUSAMBI COIN
- ▶ CAST COIN (Uninscribed)
- ◀ ROMAN COIN
- ✕ INDO SASSANIAN COIN



+ Kumharia

+ Lahardaga

● Sardakel
+ Balwadag

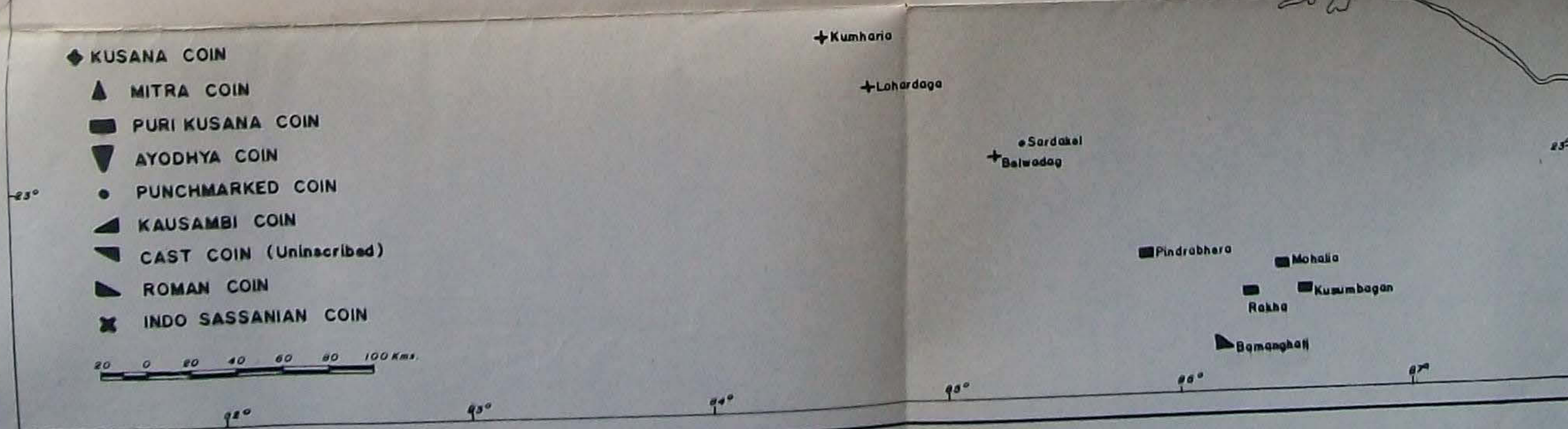
■ Pindrabhera

■ Mohalia

■ Rakha

■ Kummbagan

■ Bamanghat



important mint-towns of the empire which formerly produced punch - marked coins with apparent local variations, but bearing a common imperial stamp, now took up themselves to strike independent coinage of their own. The places concerned gained some sort of local autonomy during the period¹⁵⁵. B. Srivastava argues that in the absence of any central authority like the Mauryas, the local monarchs took a lead in matters of currency and trade and thus they issued copper coins which were particularly suitable to support local trade and commerce¹⁵⁶. Monarchical coins of Kausambi and of Kosal have been discovered. The coins of the Middle Ganga Plain show the influence of and contact with Ujjain. The distribution of local coins in the region suggests that these coins travelled far from the place of their origin. While Pancala, Ayodhya and Kausambi coins were discovered at Pataliputra¹⁵⁷, Ayodhya coins were discovered at Kausambi¹⁵⁸. While Roman gold and

155. Bela Lahiri, Op.cit P. 73

156. B. Srivastava (1968) - Op.cit

157. A.S. Altekar and V.K. Mishra - Op.cit P.98

158. I.A.R. 1960-61 P. 56

copper coins have been found at Allahabad, Mirzapur, Chunar and Bamanghati, Kuṣāṇa copper and gold coins dot the whole Middle Ganga Plain. [see the Map- C and Appendix-C]. Though the evidence of Kuṣāṇa copper coins indicates the inclusion of the Middle Ganga Plain in the trade network of the north-west, the effective control of the Kuṣāṇa rulers remains a matter of debate. On the other hand, the presence of Puri-Kuṣāṇa coins at several sites suggest that this region formed a part of the eastern coastal net-work. [see the Appendix B and C]. Coins were also issued by the guilds. Two copper coins of Kausambi bear the legend Gadhikanam which can be interpreted to mean "of the Gandhikas" (dealers in perfumes)¹⁵⁹.

This survey of trade-routes, commodities, transport vehicles, mechanism of exchange and organisation of trade suggests a flourishing phase of trade activity in the post-Mauryan period. Despite the plurality of political powers, trade continued to flourish in this region. Hence it is imperative to survey the institutions which supported the trade activity.

CHAPTER IV

ROLE OF RELIGION

As discussed in preceding chapters, the Middle Ganga Plain in the post-Mauryan period saw an extension of settlement, expansion in the fringe areas, improvement in urban life, increased trans-oceanic travel, spurt in minting of coins and better organisation and support of guilds. Hence it becomes imperative to analyse the ideology and institutions which supported trade activity.

In the conduct of long distance trade in pre-industrial economics, competition between ethnic groups over the capture of strategic positions in trade is intense and therefore, requires utmost speed in the development of a network of organised and highly interconnected communities, with their own economic, political and other social institutions. The question as to which ethnic group will succeed in controlling what trade in a specific area depends on a variety of circumstances; historical, ecological, economic, social and cultural. But other things being equal, success in this competition will be achieved by the speed with which an ethnic group can build a network of organised communities placed strategically at various stages of the trade route.

This entails finding quick solutions to the various organised functions (distinctiveness, communication, authority, etc), so that the diaspora will ramify and will establish stable institutional structures which allow a high degree of mobility of personnel in accordance with the requirements of the trade. Only a highly developed ideology, a complex and comprehensible symbolic blue print can accomplish such a task¹. In the Middle Ganga Plain such an ideology can be broadly traced to Buddhism.

Studies linking Buddhist establishments and trade demonstrate that monastic establishments were intimately connected with urban settlements and trade routes². In the Middle Ganga Plain the Buddhist monasteries are invariably on the trade centres [see the

1. Abner Cohen - Cultural strategies in the organization of trading diasporas, in Claude Meillassoux (ed). The Development of Indigenous Trade and Market in West Africa, London, 1971 Pp.226-281; H.P. Ray - The Yavana Presence in Ancient India, JESHO, Vol. 31, 1988 Pp.311-325.
2. D.D. Kosambi - Myth and Reality, Bombay (reprint), 1983; James Heitzman - Early Buddhism, Trade and Empire, in Kenneth Kennedy and Gregory Possehl (ed). Studies in the Palaeoanthropology of south Asia, London, 1984 Pp.121-137; etc. H.P. Ray Monastery and Guild, Delhi, 1986,

Map-B]. It is imperative to analyse the Buddhist ideology and its connection with trading activity. The oft-quoted explanation for this is the relatively liberal attitude of Buddhism towards the inter-mixing of varnas and the status of traders. What is seldom discussed is the institutionalization of the religion and historical change in the way of life of monks from that of homeless wanderers to one of monastic habitude³. Xinru Liu has discussed the institutionalization of Buddhism and its linkage with the laity and its impact on trade⁴. She has traced the evolution of the idea of donation, image worship, attainment of nirvāna in the Sanskrit Buddhist texts of the first half of the first millennium A.D. In the Milindapañho the idea of worship of relics was prescribed⁵. The worship of relics enlarged the scope of potential donations to Buddhist institutions. In addition to providing food and housing for monasteries, the laity had to pay for the construction of and decorations on stupas as well as the jewels buried along

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3. H.P. Ray - Early historical trade. An Overview, The Indian Economic and social History Review, Vol. 26 No.4, 1989, Pp 437 - 457
 4. Xinru Liu - Op.cit
 5. Milindapañho IV. 3, 24-6

with the relics⁶. The dual trend of divinizing the Buddha and the increasing effort to attract lay devotees emerges more clearly in Aśvaghoṣa's Buddhacarita⁷. This trend found its final expression in the Mahāvastu where the Buddha enjoys eternal existence and he stays in this world not because he is under the control of Karma, but of his own free will⁸. The Mahāvastu repeats a specific list of saptaratna or seven treasures which is supposed to be given as dāna; suvana (gold, rūpya (silver), vaidūryā (lapis lazuli), sphaṭika (crystal or quartz), muktā (pearl), lohītikā (a red precious stone or red coral), musāragalva (ammonite, agate or coral)⁹. According to Xinru Liu the transformation following first the divinization of the Buddha and then the development of the conception of sharing merit reflects actual changes in Buddhist institutions and their relationship with the laity during that period¹⁰. As lay devotees expected more in return for their religious donations, Buddhist monasteries were no longer the abode of the congregation of monks outside

6. Xinru Liu - Op.cit P.90

7. Ibid P.91

8. Mahāvastu I, 132-4

9. Mahāvastu I, 49; 63; 194; 195; III, 226; 227;323

10. Xinru Liu - Op.cit P. 109

the pale of normal society. These changes in Buddhist ideology can be shown in five salient areas : residential, ritual, social, political and economic¹¹. Unfortunately, archaeological remains of the monastic sites and non-monastic site associated with monastic establishments do not provide adequate evidence for such a documentation.

First we should identify the most prosperous phase of the monasteries in the region. According to the Mahavastu a king who builds a palace of precious materials for a Buddha has the full right to claim Buddhahood by virtue of this act of merit¹². The maximum growth of a monastery at Kausambi¹³ took place in the eleventh phase, during the rule of the Maghas, particularly of Bhadramagha whose name was found inscribed on a jar. At Sravasti many stupas have been found. The earliest of these stupas go back to the Kuṣāṇa period¹⁴. The stupa at Piprahwa¹⁵ was enlarged

11. Ivan Strenski - On Generalised Exchange and the domestication of Sangha, Man, Vol.18, 1983 pp.463-477.

12. Mahāvast I, 49-50

13. I.A.R. 1950-50 P.20

14. ASIR 1908-9 P.55; E.I.A. Vol.II P.119

15. K.M. Srivastava - Discovery of Kapilvastu, New Delhi, 1986, P.88

during the time of kuṣāṇa emperor Kaniṣka and all the viḥaras surrounding the Great Stupa seem to have been amalgamated into one composite Bhikkhu Sangha which assumed the name of Mahakapilvastu Bhikkhu Sangha. The word Devaputra indicates that the monastery was built by the Kuṣāṇa Kings¹⁶. A similar kind of development also took place at Vaisali. The stupa at Vaisali was originally, built of mud but later on encased in brick. The stupa had been opened at an early date and renovated and enlarged more than once, being buttressed with brick and brickbats in the first century A.D.¹⁷. In an earlier study¹⁸ of Buddhist monuments also came to a similar conclusion. During the rule of Śuṅga, Kaṇva and the Sātavāhanas, building activities continued on an accelerated pace due to the piety of an increasing number of lay devotees of means (śreṣṭhis, sārthavāhas, grāhapattis, etc). The wealth of the rich mercantile community, a large percentage of whom formed the class of lay disciples, was utilised in erecting Buddhist

16. Ibid P.48

17. E.I.A. Vo.II. P. 458

18. Debala Mitra - Buddhist Monuments, Calcutta, 1971.

edifices. Every pious Buddhist tried to contribute whatever he could; the poor came forward with their offer of skill and labour; and thus grew up a large number of Buddhist monuments including the celebrated stupas at Sanchi and Bharhat in Central India and Mahacaityas at Amravati in south-eastern India¹⁹. One can say that in no other period of the history of Indian Buddhism did art and architectural activity reach such a high pitch of popular participation. So long the stupas had been built in brick; the preference was now for stone, so that the edifices might be everlasting. People were not satisfied with giving mere permanency; they wanted to embellish the edifices, to make them being of beauty and attraction²⁰. Thus the process of construction and embellishment of a stupa was on the increase in the early centuries of the Christian ear.

19. Ibid P. 11

20. Ibid.

The changing philosophy of Buddhism and its relevance to the society as a whole is also reflected in the gifts made to the Buddhist monasteries. The remains found in different stupas suggest that donations during the post-Mauryan period was made in costly things. In a stupa at Sravasti an earthen pot about 10 inch (or 25.4cm) high was found. It was filled with earth in which were found a hollow bead of gold, two pieces of thin gold wire, a crystal bead, and another piece of crystal which were originally set in a finger ring²¹. In another stupa the bowl was composed of a fine clay, covered with a white slip and red colour wash. On the rim were three concentric grooves and some trident like devices, such as are frequently found in terracotta sealings. But the most interesting feature of the bowl is a short inscription in Kuṣāṇa characters cut at its base, outside. It reads : Bhadāntasya Budhadēvasya dānaṃ "Gift of the Venerable Buddhadeva". The contents of

21. ASIAR 1910-11 P. 14-15

the bowl consisted of three minute fragments of bone, 17 or 18 hollow beads of gold, 104 beads of various sorts of stone and a quantity of large pearls in semi-decayed condition. Two of these beads are fashioned like miniature vases and six others like birds²². From the Buddhist monastery at kapilvastu a single piece of a wire in gold occurred in the upper levels of Period-III (i.e. the Śuṅga period)²³; and semi precious stones like carnelian, crystal, quartz, Heliotolope, chalcedony etc., and coral and ivory beads have been found. These belong to the Śuṅga and Kuṣāṇa period²⁴. From the monastery at Nandangarh a very fine collection was made of beads of different kinds of semi-precious stones, terracotta and faience. The stones include agate, carnelian, crystal and amethyst²⁵. In the centre of the original stupa at Vaisali was a relic casket of soapstone containing a small quantity of ashy earth, a piece of gold leaf, two glass beads, a small conch and a copper punch-marked coin²⁶. At Sarnath the change in nature

22. Ibid

23. K.M. Srivastava - Op.cit P.229

24. Ibid P. 218

25. ASAIR 1935-36 P. 65

of dāna is reflected in the inscriptions. An inscription incised on a railstone bears the legends in Brahmi character of the second century B.C. - Bhikkhu nīkāye dānaṃ ala[m] banam - ' This base stone is the gift of the nun Saṃvahika'. To about the same date is another inscription bearing the legend " the railstone of Jāmṭeyika and Sihā.²⁷ A large Bodhisattva statue bearing an inscription dated in the third year of King Kanīṣka was found ²⁸. Another inscription²⁹ on the umbrella post of King Kanīṣka bears the legend that 'In the third year of Maharaja Kanīṣka, the third [month] of winter, the 22nd day , on this date [specified as] above was [this gift] of Friar Bala, a master of the Tripitaka and a fellow of Friar Pushyavudhi [namely, an image of] the Bodhisattva and an umbrella with a post erected as Benares...³⁰. A similar inscription recording the gift of a Bodhisattva statue and an umbrella post comes from Sravasti³¹.

27. ASIAR 1906-7 P. 95

28. ASIA 1904-5 P. 78

29. Ibid P. 80

30. Epigraphia Indica Vol. VIII Pp. 176-177

31. Ibid P. 181

Coins, semiprecious stones and objects of gold and silver have been found from both monastic sites and non-monastic sites [see the Appendix - A & C], but the presence of these within the remains of monasteries suggest that the ideology of sapta-ratna as advocated in the Mahāvastu was taking concrete shape.

According to Bruce Trigger religious pilgrimages may also be a factor contributing to urban growth.³² Studies in the 'Sacred Complex'³³ show that pilgrim place enjoys a different kind of economic relation. Pilgrimages provide enough support for the prosperity of the religious places. 'The places associated with the Buddha were many; and some of them gained great renown

32. Bruce Trigger - Determinants of growth in pre-industrial societies, in P.J. Ucko and G.W. Dimbley (ed) Man, Settlement and Urbanism, Cambridge, 1972 Pp.575-599.

33. L.P. Vidyarthi - Sacred Complex in Hindu Gaya Bombay, 1961; Donald Von Eschen in the forward of the book 'Social Profile of Tarkeswar', written by P. Chakrabarti, Calcutta, 1984, writes - The study strikingly reveals the large magnitude of the economic demand called forth by the temple complex, a demand which extends well outside the temple town itself, not only to surrounding village, but toward Calcutta. These findings indicate the extent to which religious activities have ramifications well outside the activities themselves' (P.XIII).

in subsequent days and leading centres of Buddhism¹³⁴. Of them the Four Great Places, named by Buddha in reply to Ananda's query about the objects to be seen and venerated after the Master's demise - Lumbini where the Tathāgata was born, Bodh Gaya which witnessed his Enlightenment, Sarnath where the First Sermon was delivered, and Kusinagara where he passed away, are regarded as sacred places. Debala Mitra says that four other places, though of a somewhat lesser importance in Buddhas's life, similarly became the scenes of monumental activities through subsequent centuries. These were Sankissa where he descended from the Trayastrimśa heaven, Sravasti where he performed miracles in order to confound six heretical teachers, Rajgrha where he tames Nālāgiri and Vaisali where he was offered a bowl of honey by a monkey³⁵.

The idea of pilgrimage was very much there in the Buddhist philosophy and practices. Asoka's edicts clearly mention the royal pilgrimages³⁶. From a monastery at Sarnath³⁷, a large store of terracotta seals with the creed and deer and wheel symbol stamped on

34. Debala Mitra Op.cit P. 8

35. Ibid

36. E. Hultzsch - The Inscription of Asoka, Varanasi, 1969, The Rummindei Pillar inscription discusses his royal pilgrimage (P.164).

37. ASIAR - 1904-5 P.71

them and the diminutive clay stupas, with small seals let into the bottom were found. It is suggested that these were made so that the pilgrims could take them away as mementos to their houses or to deposit at their village shrines³⁸. According to K.M. Srivastava, since the site of Kapilvastu turned into a pilgrimage centre for the Buddhists in subsequent times, different class of people, including nobles and kings enriched the site by issuing seals and sealings in token of their visit to the site³⁹. From Kapilvastu two seals and seventy-seven sealings have been found. Out of these sealings, sixty-three belong to the monastic organisation / establishment and fourteen carried personal names including both royal and private⁴⁰.

The nature of donations made to monasteries suggests that at this stage the property of Buddhist monasteries in the Middle Ganga Plain seems to have been limited to monks residences, monumental buildings such as stupas and images, coins and jewellery. There is no indication that the monasteries owned land, though inscriptions from Mathura and the Deccan indicate donations of land and villages to the Sangha. There is no direct evidence to suggest the role of monasteries of

38. Ibid

39. K.M. Srivastava Op.cit P.80

40. Ibid P. 82

the Middle Ganga Plain in disseminating information on cropping pattern etc. But in the post Mauryan age the institutionalization of Buddhism must have made monasteries centres providing information on cropping pattern, distant markets, organisation of village settlements, and trade. The monasteries undoubtedly accumulated wealth during the post-Mauryan period but their role in the supply of capital for trade is not clear from the evidence found in this region. The close relationship between trade-routes and monasteries suggest that the monasteries provided valuable services for the traders. While evidence outside India suggest that Buddhist monasteries in Kuṣāṇa India may have participated in trade by providing the necessary facilities, conclusive proofs has yet to come from within India itself⁴¹.

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At this point an analysis of Jaina influence in the region would perhaps be relevant. Images of Jaina thirthankars made of terracotta* and bronze have been found at Chausa⁴². Except for Sonbhandar cave near Rajgir⁴³ we are unable to identify the Jain basadis (monasteries) in this region. However, in Jainism we do

41. Xinru Liu - Op.cit P.122

42. P.L. Gupta (1965) Op.cit P.107

43. E.I.A. Vol.I. P. 301

not come across Buddhist kind of monastic organisation and its interaction with the laity. Hence, Jainism which supported merchants as a hetrodox sect, could not provide the cultural unity and identity to traders in this region during the post-Mauryan period.

In Brahmanical religion evidence of monasteries and temples are not found during the post-Mauryan period in the Middle Ganga Plain. In the Gupta and post-Gupta period temples and tirthas are evident in this region. R.S. Sharma writes about the brahmanical tirthas - " The tirthas were really set up on the ruins of ancient towns which were once centres of crafts, commerce and other urban activities. When urbanism declined the tirthas were instituted to preserve the ancient memories of the towns⁴⁴".

44. R.S. Sharma - Communal History and Rama's Ayodhya (revised and enlarged version of Mamidipudi VenakataCrangaiyya Memorial Lecture entitled " Communalism and India's Past' delivered on the occasion of XIV session of Andhra Pradesh History Congress at Warangal), New Delhi, 1990, P. 25

The brahmanical literature of the post-Mauryan age provides evidence of a hostile attitude towards the traders and trading activity and considers it Satyānrta i.e. which is a mixture of truth and falsehood⁴⁵.

Unlike the Buddhist texts the Brahman sources disapprove of usury, although they live off usury⁴⁶. Brahman orthodoxy was averse to city-dwellers and restrictions were placed on snatakas living in cities⁴⁷.

Nevertheless, parallel development of Buddhist doctrines in Vaiṣṇavism, sometimes chronologically earlier than those of Buddhism, can be traced here. Twin doctrines of bhakti and incarnation can be seen in Vaiṣṇavism during this period. Suvira Jaiswal writes- " The emphasis on devotion and faith in the Gītā was quite in keeping with the demands of the

45. Manu IV. 6.

46. Āpastamba Dhanma Sutra 1.6.18.22; Baudhāyan Dharma Sutra 1.5. 93-94.

47. Manusmṛti IV. 107; Gautama XVI. 43;
Baudhāyana II 46.33

times. By the end of the Mauryan age, Aryan society was firmly established into a social structure based on the varṇa division. The old feeling of uneasiness and apprehension at the break-up of tribal solidarity had given place to a sense of security and hope as the new order settled down, and stable governments were formed, based not on tribal loyalties but on Varna organisation. To hold this form of society together, devotion and loyalty were essential attributes, which could take the place of earlier tribal bonds and ensure the smooth functioning of the State⁴⁸". The doctrine of incarnation was important in mitigating regional and tribal separatism and extending brahmanism to "semi-civilized" indigenous tribes⁴⁹. But the nature of developments which Vaiṣṇavism experienced in later period i.e. during the Gupta period considerably widened its role in society. Since it is not the area of our study, we quote here the most exhaustive study done on Vaiṣṇavism. Suvira Jaiswal writes - "None-the-less, under the patronage of the Guptas Vaisnavism reached the climax of its

48. Suvira Jaiswal - The origin and development of Vaiṣṇavism (circa 200 B.C. - 500 A.D.), New Delhi, 1981 P. 121

49. Ibid 148

popularity. The fact that Śri-Lakṣmi, the goddess of wealth and plenty, was united with Visnu during this period bears testimony to the growing prestige of the new religion, which spread from one end of the country to another and extended to the countries of South East Asia. It enjoyed full support of the rich nobility and traders, merchants and priests, as shown by numerous land grants; on the other hand it also counted amongst its followers, women agriculturalists and craftsman as indicated by archaeological and literary sources. The religion kept its door open to all the four varnas, and, with the prestige and authority it derived from the support of the higher classes, it must have influenced deeply the masses also, and was a good deal responsible for preserving the varna system and economic conditions.⁵⁰

Our contention is that expansion of trade in Middle Ganga Plan in the post-Mauryan period was the result of an ethos supported and encouraged by Buddhism. This ethos changed in the Gupta period both as a result of parallel developments in Brahmanism as well as changes within Buddhist ideology itself. It was these internal dynamics that influenced social and economic development in the Gupta period.

50. Ibid P. 235

CONCLUSION

This analysis of trade in the Middle Ganga Plain suggests that greater attention should be paid to regional trade in ancient India. It is only at the micro-level that the impact of trade and the changes resulting from it can be studied. The emphasis in historical studies has been on external trade so far and this has led to a somewhat distorted view of the early historical period. This needs perhaps to be balanced by concentrating more on internal developments that led to an expansion of trade networks.

The Middle Ganga Plain was settled in the latter half of the first millennium B.C. and became the core region under the Mauryas. The early centres were primarily political centres such as Ahicchatra and Ayodhya or combined both political and commercial functions, such as those of Sravasti, Kausambi, Vaisali, and Rajgrha.¹ By the Mauryan period control of traffic on the Ganga became important and this led to the shifting of the capital to Pataliputra near the confluence of the major rivers of the Ganga valley. In the post-Mauryan period the centres of political authority were Ahicchatra, Mathrua,

1. R. Thapar (1984) - op.cit. P.91

Kausambi and Ayodhya;² and this shift can be explained in terms of increasing riverine traffic on the Ganga coinciding with an expansion of overland and transoceanic trade. Vidisa with its association with the Sungas remained an important political centre till the beginning of the Christian era. While the old cities like Sravasti and Rajgrha were losing their metropolitan character, cities on the banks of the Ganga-Yamuna like Kausambi, Rajghat, Masaoon, Pataliputra, Campa, Sringaverapura etc. continued or emerged as important trade centres. Ayodhya, Vaisali, Katragarh, Sohagaura, Chirand etc., which were on the banks of navigable tributaries of the Ganga also flourished during this period. This period saw an increasing importance of the Yamuna-Ganga route to the Middle Ganga Plain while the route passing from the foot-hills of the Himalayas was declining. Some centres on the latter route like Kapilvastu and Kusinara which maintained their importance enjoyed this position generally due to their significance as pilgrim places. This shift in trade routes can be substantiated by literary evidence which shows a change in the starting point of Dakṣiṇāpatha, from Sravasti to Mathura.

2. P.L. Gupta (1969) - op.cit. P.38. In the Ganga-Yamuna plains sprang up monarchies during this period and four such big ones may be located in this region. One was Śurasena with its centre at Mathura, the other was of the Pañcāla with its capital at Ahicchatra (Ramnagar, district Bareilly), the third was of the Vatsa with its headquarters at Kasuambi (district Allahabad); and the fourth was of Kosal. It had its capital either at Sravasti (district Gonda, U.P.) or at Ayodhya (district Faizabad). The monarchy of Śurasena (Mathura) was overshadowed by the Saka-Kṣatrapas and was later occupied by the Kuṣāṇas. The Pañcālas enjoyed sovereignty till the rise of the Guptas. Vatsa was probably occupied for a short while by the Kuṣāṇas but thereafter a new dynasty occupied the kingdom and was later subdued only by the Gupta emperor, Samudragupta. Kosala does not seem to have survived the onslaught of the Kuṣāṇas.

The archaeological remains reveal the contact of the Middle Ganga Plain with other parts of the subcontinent. There was a profusion of coinage systems circulating in the Middle Ganga Plain and these included Kuṣāṇa coins, Magha coins, Pañcāla coins, Ayodhyā coins, etc. The presence of lapis lazuli, beads, shreds of the Rouletted ware and Red Polished Ware; votive tanks; symbols on coins etc. show that during the post-Mauryan period this region had trade relations with the north-west, Gujarat and Central India and with the east coast. Literary texts such as the Āṅgavijja, the Milindapañho, and the Matra-vastu show an increase in the number of occupations. New occupations were generally in the field of metal trade.

This period saw the formative stage of the emerging 'Nāgaraka' culture. The expanding numbers of tanks, canals and brickwells indicate improvement in agrarian technology which led to an increased agrarian surplus to support urban centres. There was a growing demand for metal objects which led to the expansion of settlement in the fringe areas. Thus the mineral-rich Chotanagpur plateau began to be exploited on a large scale during this period. There is very little information in Greek and Latin sources on direct contacts between the Middle Ganga Plain and the Mediterranean region while much more research is required to document the role of trade with Southeast Asia in this early period.

This shift in focus from external trade to internal dynamics of the region shows that ideological changes

were equally important. In recent study the changes in the social role of Buddhism have been demonstrated from literary sources and archaeological evidence of this comes from the sites in the region under study. Institutionalization of Buddhist monasteries in this period provided a stimulus to the growth of trade networks in this region. The inclusion of Buddhist monasteries in the social and economic life of the community added to their role as nuclei of information. The location of monastic settlements invariably on the trade-routes suggests that the Buddhist monasteries had undergone a complete change in their interaction with laity.

Finally this study tried to show the complexity of factors that were responsible for the expansion of urban settlements in the Middle Ganga Plain in the post-Mauryan period. A prominent role in this was played by Buddhism and the encouragement and support it provided to traders. This has implications for developments in the Gupta period as well. Two leads worth following would be : the emergence of the Brahmanical temple and its impact on the social milieu ; and shifts in the settlement at the microlevel vis-a-vis changes in political centres.

(A) Sub-Region - The Ganga - Ghaghara Doab:

SITES	REFERENCE	POTTERY	STRUCTURAL REMAINS	CULTURAL REMAINS	REMARKS
Adampur	George Erdosy- op.cit.Appen- dix B	Ceramics of 4th century to third century A.D.			
Allahabad	Ibid I.A.R.1960-61 P.33	N.B.Pware,Red ware		bowls,sprinklers	5 sites have been excavated here
Ambai Buzurg	G.Erdosy op.cit.	Pottery is light Ceramics of both 100 B.C.-300A.D. and more recent time.			
Asadha	Ibid	Dense scatter of pottery of 100 B.C. 300 A.D.			
Aureni	Ibid	Dense scatter of pottery of period 100 B.C.-300 A.D. and medieval period			
Awana Adampur	Ibid	Pottery of 100 B.C.-300 A.D. and Gupta period.			
Ayodhya	I.A.R.1976-77 1979-80;1969-70 1960-61;1970-71 Epigraphia Indica Vol.XX Pp.54-58	Rouletted ware Red ware, NBP	baked brick wall,ring well, sokage jars	coins, seals, terracotta figurines,weights of jasper,agate,chalcedony pendents,iron objects	An inscripti record performa of two asvamed sacrifi
Bahadurpur	G.Erdosy op.cit.	Ceramics of 350- 100 B.C.			
Bahamankanti	Ibid	Ceramics of 600 B.C.-300 A.D.			
Bahotrakakot	I.A.R.1963-64 P.43	Black and Red Ware			
Bairat	I.A.R.1960-61 P.43		ramparts	beads of carnelian, agate,terracotta.	
Baresa	G.Erdosy op.cit.	Ceramics of 100 B.C.- 300 A.D.			
Bariawan	Ibid	Pottery of 100 B.C.- 300 A.D.	brickbats		
Bhaghauka Kot	I.A.R.1963-64 P.43	Black and Red ware			
Bhardwaja	I.A.R.1960-61 1978-79 1981-82	Black slip cum NBP ware,Pottery with inscription		inscribed seals, sealings, terracotta figurine	abrupt change pottery in lower layer. upper layer of Gupta period yield seals and sealings
Bhauri-ka- kot	I.A.R.1963-64 P.43	Black and Red ware			
Bherawan	G.Erdosy op.cit.	Ceramics of 100 B.C.- 300 A.D.			
Bhikampur- ka-kot	I.A.R.1963-64 P.43	Black and Red Ware			
Bhimpur	I.A.R.1965-66 P.49	Red ware			
Bhimpurdih	I.A.R.1963-64 P.43	Black and Red Ware			
Bhiradih	I.A.R.1973-74 P.51			terracotta seal containing the fire-altar motif and an inscription	

Bhita	ASIAR-1909-10 1911-12	NBP ware	Brick structure	votive tank; sprinkler; ivory seal; serpentine gold objects; beads of semiprecious stone; decorative bone frag- ment; glass beads; bronze objects like small bell, bowl, lid of box, beads; copper armlet etc.	The site seen to represent township inhabite by a mercanti community. Bot mecantile religious object were encountere
Bhojpur-ka- kot	I.A.R.1963-64 P.43	Black and Red ware			
Bidaon	G.Erdosy op.cit.	Ceramics of 350 B.C.-300 A.D.			
Bijalipur	I.A.R.1963-64 P.43	Black and Red Ware			
Bindwal	JNSI, Vol.15, No.1 1953			Hundred copper coins of Kusana	
Chako Ailai Niwaz	G.Erdosy op.cit.	Pottery of 350 B.C.-300 A.D.			
Chakkhudaganj	Ibid	Pottery from 1000 B.C.-100 B.C.	brickwell		
Chandravati	I.A.R.1960-61 P.54	NBP Ware			
Chapohan	G.Erdosy op.cit.	Ceramics of 350 300 A.D			
Chawar-ka- kot	I.A.R.1963-64 P.43	Black and Red Ware			
Chirwa	G.Erdosy op.cit.	Ceramics of 100 B.C.-300 A.D.			
Dariabad	I.A.R.1960-61 p.333	NBP, Red and Grey		bowls, sprinklers	It has been found in surface exploration
Daryapur	G.Erdosy op.cit.	Ceramics of 1000 B.C.-300 A.D.			
Delhupur	JNSI, Vol.34 Part I, 1972				Gold coins of Kaniska I, Vasudeva, Kaniska III, Vasu
Diha	G.Erdosy op.cit.	Pottery of 100 B.C.-300 A.D.	brickbats, ringwell		
Faridpur Parsakhi	Ibid	Ceramics of 100 B.C.-300 A.D.			
Fazlabad	Ibid	Ceramics of 1000 B.C.-300 A.D.			
Gaddikathan	I.A.R.1965-66 P.49	Red ware			
Gangasari	G.Erdosy op.cit.	Ceramics of 350 B.C.-300 A.D.			
Garhagopal pur	I.A.R.1965-66 P.49	Red ware			
Garhi	G.Erdosy op.cit.	Ceramics of 350 B.C.-300 A.D.			
Godbirghar	I.A.R.1963-64 P.43	Black and Red ware			
Hamirpur-ka- kot	Ibid	Black and Red ware			

SITES	REFERENCE	POTTERY	STRUCTURAL REMAINS	CULTURAL REMAINS	REMAINS
Hulaskhera	I.A.R.1978-79, 1979-80;1980-81; 1981-82;1982-83; 1983-84.	Red ware of medi- um to coarse fabric	Roads,rooms,forti- fication walls baked brick structure, residential complex rebuilding activity.	Storage jars,stone sculpture,sprinklers, beads of semiprecious stone and gold,some gold coated beads,coins terracotta,human figurine with various hair styles; image of Kartikeya in gold, bowls,inkpots, gold pendents and plaques ivory and glass bangles iron implements etc.	
Jalhupur	I.A.R.1960-61 P.53	WBP ware			
Kamlapur	G.Erdosy op.cit.	Ceramics of 350 B.C.-300 A.D.			
Karari	Ibid	Ceramics of 350 B.C.-300 A.D.			
Karaunt	I.A.R.1965-66, P.49	Red ware			
Katwar	I.A.R.1965-66 P.84			An inscribed copper coin of Kuṣāna dynasty.	
Kausambi	I.A.R.1953-54 1971-72;1976-77 G.R.Sharma Excavation at Kausambi Memoirs of Archaeological Survey of India N.74 Ancient India Nos.10-11, pp.18-19.	NBP Ware Grey ware	Small stupas, pavements,terracotta drain,brick drain tank,monastery, ramparts,palace complex, ringwells floor of bricks	Coin-moulds;seals, Bronze seal of Gupta Brahmi character, glass beads,sprinkler votive tanks, soakage jars	
Kesari Masari	G.Erdosy op.cit.	Ceramics of 1000 B.C.-300 A.D.			
Khajuapur	Ibid	Ceramics of 1000 B.C.-100 A.D.	brickbats	disc	
Khairadih	I.A.R.1980-81 to 1983-84	NBP,Grey,Red ware	Township	discs, A carnelian pendant in the shape of a monkey,terra- cotta naga figurine, beads of carnelian,quartz agate,ivory,basalt, copper-red glass; copper antimony rod;lamp;	Town was planned a fresh in the Kuṣāna period
Koh Inam	G.Erdosy op.cit.	Ceramics of 100 B.C. - 300 A.D.			
Konder	Ibid	Ceramics of 100 B.C. - 300 A.D.			
Kosi-ka-kot Kotari Purah Kotsann	I.A.R.1963-64. p.43 G.Erdosy op.cit I.A.R.1965-66 P.49	Black and Red Ware Red ware	brickbats, embank- ment of earth		
Lonka-ka-top	I.A.R.1963-64 P.43	Black and Red ware			
Madhia Mai	G.Erdosy op.cit.	Ceramics of 100 B.C.-300 A.D.			
Mahgaon	Ibid	Ceramics of 350 B.C.-300 A.D.	brickbats		

	REFERENCE	POTTERY	STRUCTURAL REMAINS	CULTURAL REMAINS	REMARKS
Mainhai	1963-64, p.42		Fragments of tapering walls, comprised mostly door-jambs door-sills and fragments of panels decorated with floral patterns	Ten fragmentary inscriptions of mostly Post-Mauryan and Gupta times	The occupati was inhabited arou the first to four centuries A.
Mairadih	I.A.R.1963-64 P.43	Black and Red ware			
Makhupur	G.Erdosy op.cit.	Ceramics of 350 B.C.-300 A.D.			
Masaon	I.A.R.1964-65 1965-66, 1967-68,1970-71	NBP and black slipped ware but the main ceramic industry of the period being red ware	baked brick showing rooms, brick flooring drain,regular walls pavements	Sprinklers, votive tanks gold objects, glass bangles,shell bangles, ivory game pieces, terracotta, figurine, terracotta plaque showing a couple in an amorous pose; A pendant bearing an impression of a human head, perhaps a royal personage; handi, vase jar; inscribed seals and sealings.	
Mateh ^u -ka-kot	I.A.R.1963-64 P.43	Black and Red ware			
Mirapur	I.A.R.1960-61 p.33				
Mustafabad	G.Erdosy op.cit	Ceramics of 350 B.C.-300 A.D.		bowls, sprinklers	One of the site of Allahaba
Nidaura	Ibid	Pottery of 100 B.C.-300 A.D.			
Pabaiya	Ibid	Ceramics of 100 B.C. - 300 A.D.			
Pabhosa	Ibid;Epigra- phia India II	Ceramics of 100 B.C.-300 A.D.		Inscriptions	
Parita-ka-kot	I.A.R.1963-64, P.43	Black and Red war			
Prahladpur	A.K.Narain & T.N. Roy The Excavation at Prahladpur; I.A.R.1960-61	Black and Red ware Black-slipped ware NBP ware,Grey ware,red ware, red-and-black ware	terracotta ringwell	Beads of carrelian glass, crystal, green jasper,lapis,shell terracotta, agate	
Pura Kotia	G.Erdosy op.cit.	Ceramics of 350 B.C.-300 A.D.	brickbats		
Purab Sarira	Ibid	Ceramics of 350 B.C.-300 A.D.			
Rajghat	I.A.R.1957-58 1960-61,1961-62 1963-64,1964-65 A.K. Narain & T.N.Roy - Excavation at Rajghat & E.I.A.Vol.II	NBP ware,coarse grey ware,red ware Rouletted ware,red polished ware	Baked brick drain Baked brick made house.Impressive structure,use of tiles	A red ware stamped with leaf,floral and terracotta symbol;the earliest specimen of makara- mukha; the soakage jars sprinkler, spout, Bullae; lapis lazuli;coral, ivory gamesuan;Boat shaped bead of carnelian of Period IV, Votive tanks	
Sanai	G.Erdosy op.cit.	Ceramics of 350 B.C.-100 B.C.			
Sanjaiti	Ibid			Iron slags	
Sankha	Ibid	Pottery		Iron slags	

SITES	REFERENCE	POTTERY	STRUCTURAL REMAINS	CULTURAL REMAINS	REMARKS
Sapaha	Ibid	Pottery		Iron slags	
Saraswan	Ibid	Ceramics of 350 B.C. - 300 A.D.			
Sarnath	ASIAR 1904-5 ASIAR 1906-7, ASIAR, 1927-28 I.A.R. 1972-73 Catalogue of the Archaeological Museum of Sarnath E.I.A. Vol. II		Stupa, monastery, Asoka's column had additional inscriptions	Bodhisattava, image; mini- ature clay stupas; large pottery jars evidently for storing grain; bronze tripod; grinding stone, terracotta torso of seated Buddha; Terracotta figurine standing in ornamental panel, seals and sealings Indo-Sassanian coin; Kuṣāṇa coins.	
Saunakdih	I.A.R. 1960-61 P. 53	NBP, Black slipped ware, grey and red ware			
Shahzadpur	G. Erdosy op. cit.	Ceramics of 350 B.C. - 300 A.D.			
Sidhari	JNSI, Vol. 15 No. 1 1953			Coins of Kaniska, Huviska and cock-bull type of Ayodhya	
Singera-ka- Kot	I.A.R. 1963-64 P. 43	Black and Red ware			
Sringaverapura	I.A.R. 1977-78 1978-79; 1982-83 1983-84; 1984-85 B.B. Lal & K.N. Dikshit - op. cit.		Baked bricks, tank complex, house complex	Votive tanks; lamp; figurines of goddess with a child; ivory handle of mirror; decorated stamps; rectan- gular and square tablets of terracotta gold plaited glass bangles coins of Kuṣāṇa and Kausambi	The habitational area yielded large number of structures of baked bricks ascribable vari- ously to the Maurya, Sunga, Kuṣāṇa, Gupta Rajput and medieval times.
Sukhda	G. Erdosy op. cit.	Ceramics			
Takiapar	I.A.R. 1971-72, P. 49 E.I.A. Vol. II P. 428-429	NBP, Black and Red ware, Black-slipped ware, red ware	Two successive structural phases. Burnt brick, rooms are fairly large and spacious	stone, large sized bricks, seals of black stone, terra- cotta figurines	
Tejpur-ka- kot	I.A.R. 1963-64 P. 43	Black and Red Ware			
Tiwaripur	G. Erdosy op. cit.	Ceramics			
Uchauri	I.A.R. 1965-66 P. 49	Red ware			
Udhatu	G. Erdosy op. cit.	Ceramics			
Vainagadha	I.A.R. 1963-64 P. 43	Black and Red ware			
Vairat	I.A.R. 1981-82 P. 71	Red ware		Punchmarked coin, terra- cotta figurines	
Vikrampur	I.A.R. 1965-66 P. 49	Red ware			

SITES	REFERENCE	POTTERY	STRUCUTURAL REMAINS	CULTURAL REMAINS	REMARKS
Airana	I.A.R.1974-75 P.34-35	Black-slipped ware			Early Historical site
Bahabol	Ibid	Black-slipped ware			Early Historical site
Banarasia	I.A.R.1961-62 P.105			dish fragments, carinated handi, terracotta bead figurines, cooking vessels	
Bansgaon	I.A.R.1963-64 P.45			terracotta figurines	
Bansi	I.A.R.1962-63 P.33			terracotta figurine	
Bansidila	I.A.R.1974-75 P.34-35				Early Historical site
Bansi-Sarai	I.A.R.1960-61 P.66	pot sherds		terracotta figurines, habitation site, brick structures ringwell.	
Baranagar	I.A.R.1974-75 P.45	NBP Ware		Kuṣāna coin	
Basti	JNSI, Vo.8 Part I 1946, P.61-62			Kuṣāna copper coin	
Belwa	JNSI, Vol.35, 1973; ASIAR 1918-19 P.16			Copper coins of Kaniska Punchmarked coins	
Bhainsa	I.A.R.1962-63 P.33			Terracotta figurines	
Bhari	I.A.R. 1974-75 P.34-35				Early Historical site
Bishnupur	Ibid. P.45				Early Historical site
Chaniya Kot	Ibid. P.34-35				Early Historical site
Chirand	I.A.R.1962-63 63-64;70-71;71-72 72-73;80-81;81-82 68-69		burnt brick-structure of Buddhist monastery	Terracotta figurines iron objects, glass objects Beads of semiprecious stones, ivory objects, votive tank.	
Devariya	I.A.R.1974-75 P.34-35				Early Historical site
Dhurviapar	Ibid P.45				Early Historical site
Dighwa	I.A.R.1962-63 P.33			Terracotta figurine	
Dughava	I.A.R.1974-75 P.45			Kuṣāna coins	
Farenda	I.A.R.1963-64 P.45				Early Historical site
Jāakvarman	I.A.R.1974-75 P.34-35	Black-slipped ware		Kuṣāna coin	Early historical site
Jhujhura	Ibid	Black slipped ware			Early historical site
Kapilvastu	K.M. Srivastava op.cit. I.A.R.1975-76; 76-77;72-73;74-75	NBP ware	stupa, monastery house complex	Glass objects, iron objects, semiprecious stones, terracotta figurines, coins copper objects, coral jasper, stone weights coins of Kuṣāna and Ayodhya	Piprahwa, Ganwar Salargarh are the sites considered in this site of Kapilvas

SITES	REFERENCE	POTTERY	STRUCTURAL REMAINS	CULTURAL REMAINS	REMAINS
Khamatha	I.A.R.19				Early historical site
Kopia	M.G. Dikshit op.cit. P.39				Factory site for glass objects
Kurthia	I.A.R.1974-75				Early historical site
Loharsandihwa	Ibid				Early historical site
Makandwar	I.A.R.1974-75 P.45			Kusana coin	Early historical site
Manjhi	I.A.R.1967-68; 1983-84;1984-85	Redware, Grey ware	township	Sprinkler, Ivory scale semiprecious stone, terra- cotta objects, Iron slags, iron spearheads, skin rubbers.	
Narhan	I.A.R.1984-85 P.singh, M.Lal & A.K.Singh, Exca- vation at Narhan, 1983-85 Puratattva, No.15 1984-85	Red ware Black slipped ware	ringwell	Coins, sprinklers iron, copper objects terracotta figurines	
Narhane	I.A.R.1974-75 P.45				Early historical site
Pehar	Ibid, P.34-35				Early historical site
Pipra Harakesin	Ibid	Black-slipped ware			Early historical site
Puramina	Ibid				Early historical site
Ramvapur	Ibid				Early historical site
Rengai	Ibid				Early historical site
Sahansali	Ibid. P.45				
Shitalganj	Ibid. P.34-35	Black-slipped ware			Early historical site
Sohagaura	I.A.R.1961-62; 1974-75	NBP ware		Coins, terracotta figurines, iron objects, bone styli, semipre- cious stones, copper/ bronze objects.	
Sravasti	ASIAR 1907-8; 1908-9;1910-11; I.A.R.1958-59; K.K.Sinha- op.cit. E.I.A. Vol.II	NBP, Black-slipped ware, Red ware	road, monastery city	gold objects, terracotta figurines, sealings, coins Iron objects glass objects, bronze bangle, semiprecious stone, lapis lazuli	
Tarhankot	I.A.R.1974-75 P.34-35				Early historical site
Tekiava	Ibid	Black slipped ware			Early historical site
<u>SUB-REGION - C - MITHILA PLAIN</u>					
Baisi	I.A.R.1965-66 P.79		Brickwall, ringwell storage jars	metal bird, ear- lobes of terracotta	
Bajidpur	I.A.R.1975-76 P.9	Pottery of Sunga- Kushana period	Massive brick- structure, ringwell	Black stone sculpture	
Balirajgarh	I.A.R.1962-63; E.I.A. Vol.II	Red ware, ceramic industry	Fortification, residen- tial structure	Terracotta plaques, per- forated jars, vases, pans with handle, copper antimony rods, beads of semiprecious stone.	

SITES	REFERENCE	POTTERY	STRUCTURAL REMAINS	CULTURAL REMAINS	REMARKS
Bangai	JNSI, Vol. 15 Part II, 1953				Coins of Huviska & Wima
Batesar	I.A.R. 1974-75 P. 11	Red ware, Black- slipped ware			
Bhadwar	Ibid	Red ware, Grey ware, Black-slipped ware.			
Brahmpur	I.A.R. 1974-75	Grey, Red and Black ware			Early historical site
Chandahadih	I.A.R. 1977-78 P. 15	NBP Ware, Red ware	Flooring with intact pots and ovens	Conch bangles, terra- cota objects, copper and iron objects.	
Chechar-kutub- pur	I.A.R. 1977-78 P. 18		large brick structure		
Cherithan	JNSI, Vol. 35 1973				Coins of wima, Kaniṣka and Huviska
Dhanaraj	I.A.R. 1974-75 P. 11	Red ware, Black- and Red ware, Grey Ware			
Fatehpur- Buzurg	Ibid	Red ware, Black and Red ware, Grey ware			
Fatehpur Ram	Ibid	Red ware, Grey ware Black-and-Red ware			
Hajipur	I.A.R. 1977-78 P. 77	NBP ware, Śuṅga- Kuṣāṇa, Gupta and medieval pottery			
Hessanpur	I.A.R. 1974-75 P. 11	Red ware, Black-slipped grey ware			
Imadpur	Ibid	Red ware, Black-slipped ware			
Kanhauli	Ibid	Red ware, Black-slipped ware			
Karian	I.A.R. 1954-55 P. 76				beads, terracotta, iron objects, copper- antimony rod
Karihan	I.A.R. 1974-75 P. 11	Red ware, Black-slipped ware			
Katragarh	I.A.R. 1975-76; 1976-77; 1977-78; 1978-79; 1979-80 E.I.A. Vol. II	Micaceous, rusticated red ware	fortification		coins, terracotta objects beads of semiprecious stones, bone objects
Konhanaghat	I.A.R. 1977-78 P. 77	Śuṅga-Kuṣāṇa pottery			
Kothia	I.A.R. 1978-79 P. 93	NBP Red ware	brick structure		
Lauriya	JNSI, Vol. 35 1973				50 coins of Kusanas
Madurapur	I.A.R. 1975-76 P. 9	Pottery assignable to Śuṅga-Kuṣāṇa period			
Nandangarh	ASIAR 1935-36 E.I.A. Vol. II		Stupa		terracotta sealing, coins, beads of semi- precious stones, jar- covers.
Panapur	I.A.R. 1974-75 P. 11	Red ware, Black and red ware			
Radhia	JNSI, Vol. 35, 1973				Coins of Kusana rulers
Raghuasoi	I.A.R. 1974-75 P. 11	Red ware, Black and Red ware			

TYPE	REFERENCE	POTTERY	STRUCTURAL REMAINS	CULTURAL REMAINS	REMARKS
Rajasan	ASIAR 1918-19 P.3			Pillar of the Sungar Age. Inscribed fragment of rail of Kuṣāna period.	
Sahodarsthan	I.A.R. 1960-61 P.57			Stone images of different deities	Early historical t Pala perio
Sheikhopur	I.A.R.1974-75 P.11	Red ware, Black- and Red ware			
Sherpur	Ibid	Red ware, Black- and-Red ware			
Uttara	JNSI, Vol.35 1973 Indian Numis- matic chronicle Vol.II Part I			Kuṣāna coins	
Vaisali	B.P.Sinha & S.R. Roy-op.cit. Krishna Deva & V.K.Mishra-op.cit. I.A.R.1957-58; 59-60;60-61;75-76; 77-78; ASIAR 1903-4; ASIAR (Eastern Circle) 1911-12;ASIAR 1913- 14.		brick ramparts monastery	Sprinklers, cast coins terracotta figurines, seals sealings, semiprecious stones, coral, carnelian, ivory bangle, gold objects, iron objects, silver objects multi coloured carnelian	

SUB - REGION - D - KOSI PLAIN

Sakligarh	I.A.R.1973-74 P.50		brick stupa, traces of fortification	Kuṣāna, terracotta Mauryan column	A proper explora- tion of this sub- region is awaited.
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SOUTH MIDDLE GANGA PLAIN

Apsad	I.A.R.1979-80 P.14			Beads of terracotta, stone glass; bangles of glass and bronze; terracotta objects probably essence-stick stand, iron chisel & nail.	Both the regions namely Ganga-Son Divide and Magadha- Anga Plain are inclu- ded in this region
Bakrapur	I.A.R.1973-74 P.10		Stupa	ear ornaments of gold, terracotta plaques, sealing beads of agate	2nd-1st century B.C. to 8th or 10th century A.D. under occupation.
Bhelvar	JNSI, Vol.43 No.1, 1981	Black-and-red ware, NBP, Red and Grey ware		Terracotta figurines seals and sealings coins	
Bhusunda	I.A.R.1980-81 P.8		ringwells of terracotta		
Buxar	I.A.R.1963-64; 1965-66, Journal of Bihar & Orissa Research Society XVII, P.140	Ceramics of early christian era	long walls perhaps put of a large hall	Coins, terracotta objects, iron objects, sprinkler, bowl, beads	
Campa	I.A.R. 1969-70 70-71;71-72;74-75; 75-76;82-83;72-73 E.I.A. Vol.II	NBP ware, Black and red ware	embarkment of brick debris, brickwall and brickwell	Terracotta plaques, sealings, coins, glass bangles, sprinkler, bowls, ivory objects, iron objects, copper-antimony roads semiprecious stones.	

	REFERENCES	POTTERY	STRUCTURAL REMAINS	CULTURAL REMAINS	REMARKS
Chakmaka	I.A.R.1963-64			Punchmarked coins:	
Chausa	P.L. Gupta(1965) op.cit.			Bronze images	
Deochakmandey	I.A.R.1974-75 1963-64	NBP, Black-and- red, grey, black- slipped ware		Coins of Ayodhya Kausambai, and Pañcāla Kings.	
Fāzadari	I.A.R.1978-79	NBP, Grey and red ware		Crystal beads	Early historical site
Gaya	I.A.R.1955-56; D.Mitra, op.cit. E.I.A. Vol.II JNSI, Vol.3, No.1, 1951	NBP Ware	Monasteries	Votive stupas Inscribed image	
Karkhup	I.A.R. 1960-61			Iron slags, terracotta crucibles.	
Mangrawa	I.A.R.1980-81 P.8	Black-and-red, NBP and Black- slipped ware			
Mathia Puraria	JNSI, Vol.36 1974			Kidāra - Kuṣāṇa coins	
Nalanda	Memoirs of Archaeological Survey of India No.66, JNSI, Vol.18, Part I 1956			Cast copper coins	
Oriup	I.A.R. 1966-67	NBP ware, Red ware, black- slipped ware	an oven and circular fire place of period I	Beads of glass, ivory and terracotta objects, ivory, combs, iron spear, nails, fishing hook.	
Pataliputra	Altekar & Mishra op.cit. 1918-19; 1912-13; I.A.R.1953-54 to 1955-56	NBP Ware, Grey ware, red ware	bricks, tiles, monastery-cum- sanatorium etc.	Sprinklers, coins of Pañcāla, Ayodhya, Kuṣāṇa rulers, bronze and copper objects, golden talismen, semiprecious stone, amulet, terracotta objects seals, bone objects.	
Pirdauri	I.A.R.1979-80 P.12	NBP, Grey, Red ware		Terracotta bangle pieces	
Rajgṛha	Al, No.7; E.I.A. Vol.II	NBP, Red ware	ringwells, resid- ential buildings circular masonry well.	coins, terracotta objects beads, iron objects, stealite amulet	
Raungarh	I.A.R.1980-81	Black-and-red ware, NBP and Red Ware			
Sitnabad	I.A.R. 1963-64			Two silver and two copper coins.	
Sonpur	I.A.R.1956-57; 1958-59; 1960-61; 1961-62	NBP ware, Black- and-red ware	Buddhist monastery	Sprinklers, terracotta objects ivory beads, iron objects, copper objects, antimony rod bone objects, stealite weight	
Sultanganj	JNSI, Vol.35 1973			Gold coin of Huviska type, an image of female	
Taradih	I.A.R.1981-82 to 1984-85	NBP Ware, Grey ware, Black- slipped ware, red ware		Sprinklers, terracotta, objects, semiprecious stones, cast coin pans	

APPENDIX - B

DISTRIBUTION OF ARTIFACTS AND STRUCTURAL REMAINS IN THE ASURA SITES

Site	Structural Remains/Burial	Stone Objects	Iron Objects	Copper/ Bronze Objects	Coins	Gold	Beads	Clay and terracotta artifacts	Pottery
Kunjila	4 roomed structural with compound wall		Unspecified numbers						Coarse, red, painted pottery
Sardakel	Iron Smelting pits, defence wall, houses		Arrowheads, nails, chisels, ploughshares, caltrops, door hinges, knives, slag.	Hooks, rods	Copper coins with punch marked coin symbols		Chalcedony agate and carnelian	Sealings, hopskotches human and animal figurings, sprinklers.	Coarse, red pottery some grey black and red fabric also.
Khuntitoli	Stone slabs and cinerary urns.		Bracelets, rings, implement arrowheads.	Beads, ring, bangles, ankles, earrings, bell			Stone		Course, red painted pottery.
Belwadag	Foundation wall of building silted tank.	Round poulder, 9 sided crystal quartz	Slag, worn fragments, arrowheads.	Ornaments including bracelets.	3 Gold coins: kusan				
Pokhla	Cinerary urns			Bracelet anklet			Rock crystal		
Kamnta	Foundation of brickwalls, loose bricks, graveyard.								
Angira		Celts							
Dargamma		Implements	Socketed axeheads.	5 Celts earrings.					
Bichna	Broken piece of bricks	Grinder, celt, hammerhead, shafthole, stool.	Adzes, arrowheads, slag.	Celt		Pieces	Stone, including beads of blue colour.		Unspecified.
Pandu	Foundation of walls, cinerary urns.	Slab with roundish top, stool.	Adzes, arrowheads.	Ornaments					
Lupungdi	Stones and cinerary urns.			Ornaments	Unstamped copper slabs.		Stone		
Oskea	Cinerary urns.	Broken mace, quartz crystals.		Ornaments			Stone		

Site	Structural remains/ Burial	Stone Objects	Iron Objects	Copper, Bronze Objects	Coins	Gold	Beads	Clay and terracotta artifacts	Pottery
Toner	Loose bricks		Implements	Ornaments			Pieces		
Sanrigaon	Brick fragments, Cinerary urns.	Celts		Ornaments			Stone		
Digri	Cinerary urns			Ornaments	Unstamped Copper slabs.		Stone		
Indpiri	Stone slabs			Bracelets					
Bundu	Cinerary urns								
Erkia	Brick bats		Chisel						Grey fabric
Gajgaon	Tank and other un- specified remains.								
Ite	Brick walls	Celt					Unspecified		Coarse, red fabric.
Kanthartoli				Bracelet					
Bahea	Cinerary urns	Celt		Bracelet, handi, bells, bowls, plats, chain.					
Duhua	Brick walls		Unspecified						
Gargaon				Bracelet, anklet					
Lohardaga				Cup	Kusana				
Namkum			Implements arrowheads	Bracelet and axeheads					
Gora		Hammertool							
Digi			Bracelet rings	Bracelet, anklet					
Murud				Wheels					
Buruma				Bracelet				Handis, pots cups, lids.	
Rakha hills					363 Puri Kusana				
Mohalia					26 Puri Kusana				
Masubazar					Puri Kusana				
Manbhum					93 Puri Kusana				
Kusumbagan					12 Puri Kusana				
Kumharia					Wima kadphises huviska gold coins.	Coin, bangle Ornaments.			
Pindrabera					Puri Kusana				

APPENDIX - C : NUMISMATIC EVIDENCE FOUND IN EXPLORATION IN POST-MAURYAN LEVEL OF THE ARCHAEOLOGICAL SITES

SITES	REFERENCE	TYPE	NUMBER	MATERIAL	CHARACTERISTIC FEATURES
AHRAURA	JNSI-Vol.XVII Part II 1955 Monograph No.2, P.4	Punchmarked Coins	500	Silver	
ALLAHABAD	JNSI, Vol.XVII, Part II 1955 Monograph No.2, P.4 Ancient India, No.2 1946, P.120	Punchmarked Coins Roman	128	Silver	 Coin of Diocletian
AURIHAR	JNSI, Vol.XVII, Part II, Monograph No.2, P.4, 1955	Punchmarked Coins	534	Silver	
AYODHYA	JNSI, Vol.XVII, Part II, Monograph No.2, 1955, P.21	Punchmarked		Silver	
	I.A.R.1976-77		70		A coin of Muladeva. Several Mitra rulers of Ayodhya are known to us from their coins.
	I.A.R.1970-71, P.63			Copper	'Ajudhe' in Brahmi characters of the first century B.C.
	Allan-op.cit. P.129	Tribal		Cast coin	Uninscribed : Muladeva, Vayudeva, Visakhadeva, Dhana- deva, Sivadatta, Naradetta, Satyamitra, Kumudasena, Aryamitra, Sanghe(mitra) Vijayamitra
AZAMGARH	JNSI, Vol.XVII Part II, Monograph No.2, 1955, P.5	Punchmarked	Four hoards 44,60,16, & 280 coins	Silver	
BALLIA	Ibid.	Punchmarked coins	164	Silver	
BAMANGHATI	Ancient India, No.2, 1946, P.116	Roman	Loard	Gold	Including Gordian
BANARAS	JNSI, Vol.XVII, Part II, Monograph No.2, 1955, P.58	Punchmarked Coins	134	Silver	
BANGARI	JNSI, Vol.XV, Part II, 1953, P.187	Kuṣāṇa coins		Copper	One coin of Wima Kadphises and the rest of Huviska.
BARANAGAR	I.A.R.1974-75, P.45	Kuṣāṇa coin			

SITES	REFERENCE	TYPE	NUMBER	MATERIAL	CHARACTERISTIC FEATURES
BASTI	JNSI, Vol. XVII, Part II Monograph No. 2, 1955, p. 5	Punchmarked	88	Silver	
Unknown site in Basti district	JNSI, Vol. VIII Part I, 1946 p. 61	Kusana		Copper	A coin of Kaniska with the figure of Buddha
BELWA	JNSI, Vol. XXXV, 1973, p. 132	Kusana; Punchmarked	3 ; 7	Copper	One of Kaniska
BELWADAGA	Ibid	Kusana	3 ; 2	Gold	Huviska type
BHABHUA	JNSI, Vol. XVII, Part I Monograph No. 2, 1955, p. 9	Punchmarked	90	Silver	
BHAGALPUR	Ibid & JNSI, Vol. XXXVI, 1974, p. 31	Punchmarked Kusana	58	Silver Gold	Vasudeva
BHALNA	Ibid	Punchmarked	129	Silver	
BHELVAR	JNSI, Vol. XLIII Part I, 1986	Mitra, Kusana Uniscribed Cast Coin		Copper	
BHITA	JNSI, Vol. XVII, Part I Monograph No. 2, 1955, p. 21 ASIAR-1911-12	Punchmarked Janapada Mitra, Kusana Kosam			Ayumitra, Kuninda, Kadphises-II Kaniska, Huviska, Vasudeva
BINDWAL	JNSI, Vol. XV, Part II, 1953 p. 188	Kusana	100	Copper	Kaniska & Huviska
BODHGAYA	JNSI, Vol. XVII, Part I Monograph No. 2, 1955, p. 21 & JNSI, Vol. XX, Part I, 1958 p. 1	Punchmarked Kusana			A golden amulet imitate Huviska's coin
BULANDIBAGH (PATNA)	Ibid	Punchmarked			
BUXAR	JNSI, Vol. XII, Part II pp. 121-3	Kusana Ayodhya	390; 10		Coin of Wima, Kaniska, Huviska; Ayodha coins of cock and bull type
CAMPA	I. A. R. 1969-70	Punchmarked coins; cast copper coin			Cast copper coin; and copper coins with silver coating
CHAKMAK	I. A. R. 1963-64	Punchmarked Coin			

SITES	REFERENCE	TYPE	NUMBER	MATERIAL	CHARACTERISTIC FEATURES
CHAMPARAN	Indian Numismatic chronicle, Vol. II Part I, p.82	Kusana	2		Kaniska & Huviska
CHERITHAN	JNSI, Vol. XXXV, 1973, p. 131	Kusana	15	Copper	Wima Kadphises, Kaniska, Huviska
CHIRAND	I.A.R. 1963-64 I.A.R. 1968-69	Kusana	12;88		Heavily corroded Kusana coins; Kusana coins
CHUNAR	Ancient India, No. 2, 1946, p. 120	Roman		Copper	Numerianus (A.D. 283)
DARBHANGA	Indian Numismatic Chronicle, Vol. II Part I, P.82	Kusana			
DELHUPUR	JNSI, Vol. XXXIV Part-I, 1972	Kusana	33	Gold	Kaniska I, Vasudeva, Kaniska III and Vasu
DEOCHAK-MAN DEY	I.A.R. 1974-75 P.68 & I.A.R. 1963-64 P.85	Ayodhya, Kausambi Pancala			
DEORAPATTI	JNSI, Vol. XVII, Part I Monograph No. 2, 1955, p. 5	Punchmarked	Several thousand	Silver	
DUGHAVA	I.A.R. 1974-75	Kusana			
FATEHPUR	JNSI, Vol. II, 1940, pp. 95-108	Kausambi			Coins of Sivamagha, Bhadratragha, Vaisravana, Bhimavarman
GANWARIA SALARGARH & BIRDPUR	I.A.R. 1976-77	Punchmarked; Kusana	64;37	Silver; Copper	
GOHADA	JNSI, Vol. XVII, Part I Monograph No. 2, 1955, p. 9	Punchmarked	611	Silver	
GONDA	Ibid	Punchmarked	50	Silver	
GORAKHPUR	Ibid	Punchmarked	96	Silver	
HULAKHERA	I.A.R. 1981-82 & I.A.R. 1983-84	Kusana & Gupta		Copper; Silver	
JALLOY	JNSI, Vol. XVII, Part I Monograph No. 2, 1955, p. 10	Punchmarked	38	Silver	

SITES	REFERENCE	TYPE	NUMBER	MATERIAL	CHARACTERISTIC FEATURES
JANAKVA-RMAN	I.A.R.1974-75 p.34-35	Kusana			
KATRAGARH	I.A.R.1975-76 & I.A.R.1976-77	Kusana		Cast Copper, Gold	Uninscribed cast copper coin is gold coin of Huviska
KATWAR	I.A.R.1965-66 P.84	Kusana		Copper	
KAUSAMBI	I.A.R.1957-58 1960-61,1961-62; 1965-66;1970-71 1976-77;1962-63 P.64 A.M.Shastri op.cit. Allan op.cit. K.M.Shrimati- op.cit. P.66 G.R.Sharma Excavation at Kausambi, P.1	Mitra Magha Cast coin Punchmarked Kusana		Copper	Rama Mitra Priyamitra, Jyestha-gupta of the first century B.C. bearing the legend ga [n]dhi Kanam; 3 coins of Angaraja, Copper coin of Hastipala; Gomitra, Vasudatasa; of king Korkadeva, Vijaynandin; Uninscribed cast coin; Sudeva, Brhaspatimitra I, Parvata, Asvaghosa, Brhaspatimitra II Dhanadeva, Agnimitra, Jettamitra; The town name of Kausambi written in Sunga-Brahmi characters along with the figures of Laksmi and a bull. Lanky-bull type coin; elephant on one side and tree-in-railing on the other.
KHERADIH	I.A.R.1980-81 1981-82,1982-83	Kusana		Silver; Copper	a coin with a legend (Ra)tmadatsa circular in shape, coin of Kaniska
KUMHARIA	I.A.R.1966-67	Kusana	2	Gold	Kaniska and Huviska
KUSINAGAR	ASIA R-1904-5 P.52 & ASIAR 1910-11	Kusana	12	Copper	Four belonging to the reign of Kadphises-II and eight to that of Kaniska; late Kusana coins.
KUSUM-BAGAN	JNSI, Vol. XXXV, 1973, p.132	Puri- Kusana	12		
LAURIYA	Ibid, p.129	Kusana & Puri-Kusana	50;14	Copper	46 belong to Kaniska and 4 to Huviska
LOHARDAGA	JNSI, Vol. XXXVI, 1974, p.31	Kusana	2		One of them is a double stater of wima Kadphises and the other is a stater most probably of Vasudeva.
MADHIPUR	JNSI, Vol. XVII, Part I Monograph No. 2, 1955, p.10	Punchmarked	54	Copper	

SITES	REFERENCE	TYPE	NUMBER	MATERIAL	CHARACTERISTIC FEATURES
MAKANDWAR	I.A.R.1974-75	KUSANA			
MANBHUM	JNSI, Vol. XXXV, 1973, P. 134	Puri-Kusana	93		
MALIPUR	JNSI, Vol. XVII, Part I Monograph No. 2, 1955, P. 7	Punchmarked	6	Silver	
MASAON	I.A.R.1964-65 1965-66; 1970-71.	Punchmarked Kusana		Copper	Kusana Copper coin
MATHIA PURARIA	JNSI, Vol. XXXVI, 1974, P. 32	Kidara- Kusana	18		
MIRZAPUR	JNSI, Vol. XVII, Part I Monograph & No. 2, 1955, P. 7 Ancient India, No. 2, 1946, P. 120	Punchmarked Roman	8	Silver	Cariness
MOHALIA	JNSI, Vol. XXXV, 1973, P. 133	Puri-Kusana	26		
MONGHYR	Ibid, P. 131	Kusana	2	Gold	One of the specimen belong to Kaniska type and the other resembles the coin type of Huviska.
NAI	JNSI, Vol. XV, Part II, 1953 P. 189	Kusana		Copper	The hoard included the coins of Kaniska, Huviska, and the cock-bull type of Ayodhya
NALANDA	JNSI, Vol. XVIII, Part I, 1956, P. 101-107			Cast-copper	
NANDAN- GADH	JNSI, Vol. XXXV, 1973, P. 130 ASIAR-1935-36	Kusana Punchmarked	3	Copper Silver	one belong to Kaniska, and two to Huviska
NARHAN	I.A.R.1984-85, P. 91				Coins with Svastika, and other symbols.
PARASA DAYARAM	JNSI, Vol. XXVI, Part II, 1964 P. 131	Punchmarked		Silver	Hoard of punchmarked coins
PATALI- PUTRA (including all sites)	JNSI, Vol. XVII, Part I Monograph No. 2, 1955, P. 10 I.A.R.1955-56 JNSI, Vol. XIII Part II Report on Kum- hrar excavation 1951-55, P. 98 ASIAR 1912-13	Punchmarked Kausambi Kusana		Silver Copper Cast- Copper	'Lanky-bull' type, Two copper coins Wima, 12 of Kaniska, 30 of Huviska. Pancala coins of Bhunximitra Kaniska (Vayu type)

SITES	REFERENCE	TYPE	NUMBER	MATERIAL	CHARACTERISTIC FEATURES
PATRAHA	JNSI, Vol. XVII, Part I Monograph No. 2, 1955, p. 10	Punchmarked	2873	Silver	
PINDRA- BERA	JNSI, Vol. XXXV, 1973, p. 133	Puri-Kusana			
PIPRAHWA	K.M. Srivastava op. cit. P. 142 I.A.R. 1972-73 I.A.R. 1974-75	Punchmarked Kusana Ayodhya		Silver Copper	Unique silver punchmarked coin Wima Kadphises (4), Kaniska (24) and Huviska (5)
RADHIA	JNSI, Vol. XXXV, 1973, p. 130	Kusana	7	Copper	Wima Kadphises (1); Kaniska (2); Huviska (4)
RAJGHAT	I.A.R. 1957-58 I.A.R. 1964-65 E.I.A. Vol. II P. 361	Kusana Die-struck coin Ayodhya Kausambi	2 Plentiful coins	Cast Copper Copper	Uninscribed round. An Ayodhya coin bears the legend Sivadatasa and a Kaus- ambi coin with the legend Nevsasa.
RAJGIR	I.A.R. 1974-75	Cast Coin		Copper	
RAKHA HILLS	JNSI, Vol. XXXV, 1973, p. 133	Puri-Kusana	363		
SARDAKEL	Journal of Bihar & Orissa Research Society Vol. I,	Punchmarked		Copper	
SARNATH	ASIAR-1927-28 I.A.R. 1972-73 P. 62	Cast coin Kusana Indo-Sassani- an Coins	9	Copper Silver	One of them with Brahmi letter 'ra' and 'sa' assignable to the 1st century A.D.; Another is a copper coin of Huviska, all these square cast coins should be assigned to the Sunga Period. Adivaraha, Sri Vighraha
SIDHARI	JNSI, Vol. XV., Part II, 1953, p. 189	Kusana			Kaniska, Huviska, & cock and bull type of Ayodhya
SOHAGAURA	I.A.R. 1961-62 & I.A.R. 1974-75	Ayodhya Pancala Kusana Punchmarked Cast			One unique coin of hitherto unknown ruler Hathadeva
SONPUR	I.A.R. 1956-57 I.A.R. 1959-60	Punchmarked Cast		Silver	

SITES	REFERENCE	TYPE	NUMBER	MATERIAL	CHARACTERISTIC FEATURE
SRAVASTI	I.A.R.1958-59 P.50	Punchmarked	500	Silver, Copper	Coins of Agnimitra, Ayumitra, Kaniska and Vasudeva
	JNSI, Vol. XVII, Part I Monograph No. 2, 1955, p. 8	Ahicchatra			
	ASIAR-1907-8	Kusana			
	ASIAR-1910-11	Ayodhya			
SRINGAVERA- PUR	I.A.R.1977-78	Kusana		Silver, Copper	Lanky and bull type of Kausambi Wima Kadphises; late Kusana gold coin; circular and rect- angular coins.
	I.A.R.1982-83	Kausambi Ayodhya		Gold	
	I.A.R.1984-85	Uninscribed cast			
SULTAN- GANJ	JNSI, Vol. XXXV, 1973, p. 131	Kusana	1	Gold	Huviska
SUPAUL	JNSI, Vol. XVII Part I Monograph No. 2, 1955, p. 11	Punchmarked	15	Silver	
TARADIH	I.A.R.1984-85	Cast coin		Copper	
TREGANA	JNSI, Vol. XVII Part I Monograph No. 2, 1955, p. 11	Punchmarked	254	Silver	
UTARA	JNSI, Vol. XXXV, 1973, p. 131, Annual Reports of K.P. Jayaswal Institute, 1961	Kusana	500	Copper	
VAIRAT	I.A.R.1981-82 P.71	Punchmarked			
VAISALI	JNSI, Vol. XVII Part II Monograph No. 2, 1955, p. 11	Punchmarked		Silver Copper	
	I.A.R.1957-58	Kusana			
	I.A.R.1959-60	Cast	2	Cast Copper	

APPENDIX - D : SEALS AND SEALINGS FOUND IN THE MIDDLE GANGA PLAIN

REFERENCE	MATERIAL	NUMBER SHAPE & SIZE	EMBLEM	CHARACTERISTIC FEATURES
dhya I.A.R.1976-77 JNSI,XXV Part I 1963	Terracotta	6 One		Terracotta sealing of King Vasudeva of the second Century B.C.
awar JNSI,Vol.43 No.1,1981	Terracotta			
a ASIAR-1911- 12	Terrocotta ivory	Circular	No emblem	-3rd century B.C. -5th century A.D. legends - 'Sahijitya nigamaśa (3rd century B.C.); Na (ā) gadēasya (late Kuṣāṇa script); Mahārāja Gautamiputrasya Sri Śivam (e) ghasya (2nd-3rd century A.D.), Amātya-Balasya, Amātya Nāgadām, Sa (ē) naputasa dandanāya (kasa) (Kuṣāṇa characters) Sealing of guilds with Kuṣāṇa characters - 'Nigamasa' or 'na(i) gama' Sealings of private individuals - Pusasa (1st century B.C.); Pusamitasa (pre-Kuṣāṇa date); devasa (1st century B.C.)
K.K.Thaplyal- op.cit.	Terrocotta		Svastika	bears a circular legend 'Śūlaphalyikanaṁ - probably makers of arrow head.
Journal of Bihar And Orissa Research Society ,XVII P.410	baked clay	two		Brahmi sealing; one Pre-Mauryan and the other of 3rd century B.C.- legends - The seal of Śadaśana; The seal of Hathika
pa I.A.R.1969-70 I.A.R.1970-71 I.A.R.1974-75 I.A.R.1982-83	terracotta terrocotta terrocotta		Flower design	Śunga period Gupta period Inscribed seal with perforation in post - NBP phase
rand I.A.R.1962-63 I.A.R.1972-73 I.A.R.1980-81	terrocotta terracotta Clay			Sealing having letters in early Brahmi Sealing of the Kuṣāṇa period Gupta period
aria I.A.R.1975-76 I.A.R.1976-77 K.M.Srivastava Discovery of Kepilvastu P.91	terracotta		Siva-flanked by trisula and battle axe;	Śunga and Kuṣāṇa period legend in Brahmi characters of first-second century A.D. A sealing of Wima Kadphises
garh				

REFERENCE	MATERIAL	NUMBER, SHAPE & SIZE	EMBLEM	CHARACTERISTIC FEATURES
ASIAR-1905-6 P.83-85	Clay			of Gupta and post-Gupta period
agarh I.A.R.1975-76 I.A.R.1976-77	terracotta			bears only symbols; legend on a sealing inscribed in Brahmi characters of Kuṣāṇa period. -a few sealings bearing the script of the first or early second century A.D.
ambhi JUPHS-XII, P.81-86 I.A.R.1954-55 I.A.R.1963-64 I.A.R.-1967-68 I.A.R.1970-71 G.R.Sharma- Excavation at Kausambi P.20	terracotta, ivory, copper, Semiprecious stone Clay Clay		Swastika, Taurine, cross and balls, elephant, bulb	Legends : ' <u>Navi Kasya</u> - i.e. 'of a boatmen' - script - 2nd century B.C. <u>Rathikasa</u> - 'of charioturs. <u>Devakshitasya</u> - of Devarakshita - Brahmi script <u>Nagarasheshana</u> - 1st century B.C. Seal of Barbarka - 2nd century A.D. Sealings of the sixth century - one of Hunaraja An inscribed seal bearing the name Dhanbhuti in the Brahmi script of the first century B.C. bears the name Yaksha - Dhanasri in Brahmi characters of about A.D.-300. the legend <u>Sathamitasa</u> in Brahmi characters of the second century A.D.; legend <u>Rajno Parvatasya</u> in the third century A.D.; the other bears the name of Magha ruler <u>Śivamagha</u> alongwith his title <u>Mahārāja</u> . These seals, with the characteristic <u>Śuṅga</u> palaeography, were discovered in levels that yielded Mitra coins.
adih I.A.R.1980-81 I.A.R.1981-82 I.A.R.1983-84	terracotta terracotta	2	Taurine symbol within a crescent	legends - <u>Vachodamas</u> and <u>Srivada (T)ma putrsya Kumaranga(sya)</u> respectively in the script datable to the first century B.C. and second-third century A.D. respectively. a terracotta sealing bearing the legend <u>Ka(kshi)la</u> in Brahmi characters of the third-fourth century A.D. legend <u>Hathadevasa mitasa</u> in the script of the second century B.C.
hi I.A.R.1983-84	terracotta			inscribed sealing which on the basis of palaeography can be assigned to 2nd - 3rd centuries A.D.

ES	REFERENCE	MATERIAL	NUMBER, SHAPE & SIZE	EMBLEM	CHARACTERISTIC FEATURE
son	I.A.R.1965-66 I.A.R.1967-68 I.A.R.1970-71		2		Inscribed seals and sealings Kuṣāṇa style seals and sealings Inscribed sealings.
dang-	ASIAR 1935-36 ASIAR 1936-37	terracotta		Taurina; bull; svastika; a tri- angular symbol & the "Kassite" cross; hill symbol with crescent on top; tree inrai- ling and a cross	of privati individuals one mention 'Sivadāsa' A fragmentary sealing bears traces of symbol impressed on two faces, one of which is a cross. On another face across part of the legend Brahma mit(ra)... in 1st century B.C. characters.
ali- ra	ASIAR 1912-13 Report on Kumhr- ar Excavation I.A.R.1955-56	terracotta	One seal; fifty sealings; Oval, circular		Legend in four aksaras of circa 1st century B.C. - 'Gopalasa' - the seal of Gopala; seals generally of the Gupta period. Some bears symbols; some are uninscribed. Only one of these belong to the period II (circa 150 B.C. - 100 A.D.) two of the period III (C.A.D. 100-300) and the rest to period IV and V of circa 150 B.C. - 100 A.D. - symbols or legends.
rahwa	I.A.R.1972-73 K.M.Srivastava op.cit.	terracotta terracotta	77 sealings; 2 seals		the most important of those carrying the legend of Kapilvastu. The majority of the sealings refer to various monastic institutions or organisations while 15 only carry the name of different individuals. A pre-Kuṣāṇa sealing of first century B.C. bears the legend ' <u>Le Kha Ka Sa</u> ' might be of a writer (Lakhaka) indicating the profession or official position under an authority.
ghat	I.A.R.1957-58. JNSI, Vol. XXIII P.411 I.A.R.1960-61 I.A.R.1961-62 I.A.R.1964-65	terracotta terracotta terracotta	6 seals Conchant humped bull.	Indo-Greek symbols	Five bearing the name of Revatimita in letters of the second - first century B.C. and one of Puṣyamita or Agnimita in letters of the first century A.D. -of the 2nd-4th century A.D. -the legend 'Negamasa' or 'nigamasa' in early Kusana character. -inscribed terracotta sealing of second century B.C. to first century A.D. and large number of seals and sealings of the period (circa 2nd century - 4th century. A.D.). 'Harisena' the most common name. Seals and sealings -Aryanayaka - Vārāṇasyāranyaka śreni (Seal of the Guild of the forest people of Varanasi). -Gavaya Ka Seniye - (In the Guild of milkmen) in the first century B.C. Inscribed with the word <u>Puṣkarana</u>
	E.I.A. Vol. II P.361		humped bull		

SITES	REFERENCE	MATERIAL	NUMBER SHAPE & SIZE	EMBLEM	CHARACTERISTIC FEATURE
Rajgir	ASIAR, 1905-6 p.102	Clay			The lowest stratum revealed two clay seals bearing short illegible epigraphs in characters of the first or second century B.C. and may perhaps assigned to about that period.
Sardakel	D.K.Chakrabarti & N.Lahiri- op.cit.	terracotta			Sealings
Sarnath	ASIAR 1904-5 P.71	terracotta		Creed; deer-and-wheel	A large store of terracotta seals with creed and deer-and wheel symbols stamped on them and the diminutive clay stupas, with small seals let into the bottom, found in the ruins of the monasteries at Sarnath, such as the pilgrims would take away as the mementos to their homes or to deposit at their village shrines.
Sohagaura	I.A.R.1974-75	terracotta			A number of terracotta sealings mostly inscribed with proper names without titles and honirifics.
Sonpur	I.A.R.1956-57	terracotta			Seals
Stravasti	I.A.R.1958-59 P.50 ASIAR 1907-8 P.128	terracotta			bearing the legend <u>Baladatta (sa)</u> in second first century Brahmi character. the legend Buddha deva
Sringaverapur	I.A.R.1982-83 I.A.R.1983-84 I.A.R.1984-85	terracotta terracotta			Seals and sealings ascribed to the period around 3rd century A.D. Sealings each in Kuṣāṇa and Gupta Brahmi characters. Sealing in Kuṣāṇa-Brahmi characters
Vaisali	ASIAR 1903-4 P.95 ASIAR 1913-14 P.130				large number of seals Seals from Muryan to Gupta period. A small lump of clay with the deeply concave impression of one seal. There is no device, only the legend in well-formed characters in the Kuṣāṇa period reading <u>Hastadevasya</u> i.e. 'the seal of Hastadeva.' Legend <u>Mamalasa</u> i.e. 'the seal of Mamala' - of the first century B.C.

5
REFERENCE

MATERIAL

NUMBER,

EMBLEM

CHARACTERISTIC FEATURE

ASIAR-(Eastern
circle) 1911-12
Part II P.47

Clay

250

Legend - the seal of the Minister Hastabala, son of Miister Bhadrika
- 2nd century A.D.
Official and personal seal.

I.A.R.1959-60

terracotta

terracotta seals and sealings with Brahmi legend of all three periods.

Krishna Deva
& V.K. Mishra
op.cit. P.56

terracotta

Numerous seals and sealings including some of great cultural significance
were found

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