

## CHAPTER ONE

### PROCESS OF URBANISATION IN THE GANGA-YAMUNA VALLEY.

Towards the middle of the first millennium B.C. the most important single event which brought about institutional changes in the socio-economic life of the north Indian people was the beginning of the process of the Second Urbanisation in the Ganga-Yamuna valley and its outskirts when some rural units gradually began to turn into urban settlements. The notion of urbanisation was first evolved by V. Gordon Childe who puts forward ten criteria on the basis of which a settlement is to be termed as urban. His theory of urban revolution is based upon some assumptions: 1> the first cities were more extensive and more densely populated than earlier settlements; 2> cities must have accommodated non-food producing classes supported by the surplus produced by the peasants; 3> each primary producer paid over his surplus to a deity or a divine king who then concentrated the surplus; 4> buildings distinguished in each known city from the village and symbolized the concentration of social surplus; 5> the non-food producing specialists were supported by the surplus concentrated in temples and royal granaries. They were dependent on temples or the court. Among those who specialised priests, civilian and military officials absorbed a major share of the surplus and thus formed the ruling class. The latter again conferred substantial benefits upon the subjects in the way of planning and organisation. 6> Revenue administration obliged the administrators to invent writing and numerical notation for record keeping; 7> the invention of writing enabled the

leisured class to elaborate more exact and predictive sciences like arithmetic, geometry and astronomy: 8> Other specialists gave a new direction to artistic expressions by carving, modelling or drawing, according to conceptualised or sophisticated styles : 9> the concentration of surplus facilitated foreign trade; 10> the city was a community to which a craftsman could belong politically and economically .It appears that Childe attempted to show that without development in metallurgy and technological advancement an urban settlement could not grow . His theory has been criticised by scholars who have pointed out that writing can hardly be associated with an urban settlement. Secondly, development in metallurgy can not be considered as a pre-requisite for an urban growth. Thirdly, although agricultural surplus is necessary for an urban growth, it could not have been effectively channelised to give expression to an urban settlement without an established political authority. In the view of Adams three factors were responsible for the institutional growth : reliance on widely different food resources being linked up with the concept of agricultural hinterland; the adoption of irrigation system and the emergence of guilds as one of the characteristic features of town-life . In the works of Sjoberg and Mumford the credit for the establishment of cities has been given to the ruler, leaving the merchant to follow . Both D.K.Chakraborti and A.Ghosh have attached less importance to the role of technology and put more emphasis on the importance of an effective social or political institution -- a state, a king or a mercantile community.

There are some other scholars who argue that the economic factors acted behind the origin of towns. According to them, the

application of iron implements in the agricultural operation might have created enough surplus which was the essential precondition for the emergence of towns<sup>7</sup>. Scholars like N.R.Banerjee, Krishna Deva, B.K.Thapar, M.C.Joshi follow the same line and give top priority to socio-economic factors in the growth of urbanisation<sup>8</sup>. Emphasising on the role of economic factors in the growth of urbanisation, M.C.Joshi has drawn our attention to the fact how the punch-marked coins are closely associated with the early historical urban growth<sup>9</sup>.

From the above discussion it appears that the main controversy among the scholars regarding the primary causative factors behind the growth of urban centres veers round four points -- 1) political institution, 2) social institution, 3) surplus and 4) socio-economic factors. In this background we shall now examine the process of urbanisation in north India in the light of literary and archaeological sources. One thing must be borne in mind in this connection that although the traits of urbanisation may be traced from around 600 B.C., its real development would not have occurred before the Maurya period.

#### PROCESS OF URBANISATION : MAURYA PERIOD

##### LITERARY EVIDENCE :

The first theoretical discussion regarding the urban centres begins with Kauṭilya. In his Arthaśāstra Kauṭilya gives top priority to the proper selection of a site for building up a city or town<sup>10</sup>. For the protection of a Durḡa, Kauṭilya lays down certain measures to be adopted for its fortification. According to him, the king should cause three moats to be dug round it, at a distance of one Danda from each other, filled with water and stocked with lotuses and crocodiles<sup>11</sup>. At a distance of four

Danda from the moat a rampart is to be made out having clusters  
 of thorny bushes and poisonous creepers <sup>12</sup>. Kauṭilya also enjoins  
 that on the top of the rampart the king should cause a parapet  
 to be built <sup>13</sup> and gate-way to be laid out <sup>14</sup>. In addition, the  
 planning of a fortified city (Durga) is dealt with in the Artha-  
 śāstra in considerable detail. Regarding its lay-out Kauṭilya  
 enumerates that three royal highways running from west to east  
 and three running south to north should divide the entire resi-  
 dential area (Vāstuvibhāgaḥ). It should have twelve gates and be  
 provided with water, drains, etc. He also allots different  
 quarters for different Vargas and professionals living in the  
 city <sup>15</sup>. This theoretical discussion leads us to suggest that  
 during the Maurya period the urban centres in Northern India  
 gained some degree of maturity and that Kauṭilya must have before  
 him the instance of some towns and cities about which we hear in  
 the early Pāli texts.

Corroborative evidence of the flourishing condition of urban  
 centres in the Maurya period may also be gathered from Megas-  
 thenes' account of Pāṭaliputra the remains of which still evoke  
 our admiration. Megasthenes informs us that the number of Indian  
 cities in his time was so numerous that one could not state it  
 with precision; the greatest of them was Palimbothra (Pāṭalipu-  
 tra). This city was eighty stadia in length and fifteen in  
 breadth, and was surrounded by a wooden wall, pierced with loop-  
 holes, for the discharge of arrows, and crowned with 570 towers  
 and had 460 gates. Apart from that, a ditch encompassed it all  
 round <sup>16</sup>. Megasthenes gives us to understand that in the big  
 cities the 'market commissioners' and the 'city commissioners'  
 were appointed for some works. Mention may be made in this con-

nection that Kauṭilya also refers to some officers such as the Saṁsthādhyakṣa, Paṇyādhyakṣa, Śulkādhyakṣa, Samāhartā, etc. who were closely associated with city life. The city commissioners of Megasthenes were divided into six bodies of five each<sup>17</sup>. These references taken together seem to suggest that the people of the Maurya period had become accustomed with urban life and with the growing complexity of the urban society a set of specialised officials had to be employed for the proper administration of the emerging cities.

#### ARCHAEOLOGICAL EVIDENCE : URBAN SETTLEMENTS

A survey of the Maurya archaeological sites and stratigraphic analysis of the remains exposed therefrom may very well indicate the picture of the growth of urbanisation in North India during the Maurya period. The urban settlements are characterised mainly by the use of burnt bricks, ring-wells, Northern Black Polished Ware, iron, and punch-marked coins.

#### TANLUK/TĀMRALIPTI, (DT. MIDNAPUR) :

Settlement began in this ancient port - town in pre-NBPW times, although NBPW may have appeared here around c. 300<sup>18</sup> B.C.

#### CHANDRAKETUGARH (DT. 24 PARGANAS (N) ) :

The site had been occupied from the pre-Maurya period (Period-I). From Period I excavators found a red-slipped ware and ivory beads. The next Period (Maurya-Śunga) yields NBPW, Black-slipped ware, beads of terracotta and semi-precious stones, terracotta figurines, copper antimony rods, silver and copper punch-marked<sup>19</sup> coins. It has also been reported that ivory objects belong to the pre-Śunga period, when several copper punch-marked<sup>20</sup> coins with ship motifs appear. This evidence

supports the view that Chandraketugarh had become involved with the oceanic trade.

**BANGARH/KOṬIVARṢA (DT. W. DINAJPUR) :**

Situated on the eastern bank of the Punarbhavā, Bangarh became occupied at least from the 3rd century B.C., if not earlier. Stratum V (pre-<sup>21</sup>ḅuṅga) had a ring-wall, stone beads, NBPW, terracotta figurines, silver punch-marked and copper cast coins .

**CHIRAND (DT. SARAN) :**

It is one of the sites from where the earliest specimens of the NBPW have been reported. It appears that the NBPW was introduced here about the 7th century B.C. <sup>22</sup> This phase, corresponding to Period III, witnessed the occurrence of weapons of war in iron ; <sup>23</sup> antimony rods; stone objects; terracotta beads, human and animal figurines; bone points; a few punch-marked and cast copper coins; remains of baked brick walls appeared in the upper <sup>24</sup> levels .

**BONPUR (DT. GAYA) :**

This site is suggested to be the same as Ukkaveṣa <sup>25</sup>, a Nigama of the Vajjians on the bank of the Gaṅgā. <sup>26</sup> The commentary of the Majjhima Nikāya calls it a Nagara. <sup>27</sup> It was connected with <sup>28</sup> Vaiśālī . The Period, however, ranging from c. 650 B.C. to 200 B.C. is characterised by the appearance of NBPW of various shapes and shades. Metal objects include weapons of war, axes, nails, chisels, etc. of iron and antimony rods, bangles, rings, ear-ornaments of copper. Terracotta animal and human figurines, beads of semiprecious stones and glass as well as copper punch-marked <sup>29</sup> and uninscribed cast coins are encountered . Terracotta ring wells <sup>30</sup> appear in this phase .

### VAISĀLĪ (DT. VAISALI) :

Referred to in the Jātaka as a highly prosperous river-port (Paramasobhaggapaṭṭam)<sup>31</sup>, Vaiśālī, situated on the Sadānirā / Gaṇḍak, was under occupation from at least 500 B.C. when NBPW,<sup>32</sup> bone points and iron objects make their appearance. In the next phase (300-150 B.C.) NBPW continued; beads of semi-precious stones,<sup>33</sup> terracotta figurines and kiln-burnt bricks are noticed.

### KATRAGARH (DT. MUZAFFARPUR) :

Excavations reveal<sup>34</sup> that Period I of Katragarh, called Maurya period, is marked by the presence of NBPW, grey ware sherds, comparable with Vaiśālī and Kauśāmbī, antimony rods and bone points.

### MANJHI (DT. SARAN) :

In Manjhi, situated on the Sarayu/Ghaghara, a full fledged iron-using culture appeared with the NBPW Age (600-50 B.C.) when objects of terracotta, bone, ivory and glass, and coins, moulds, inscribed sealings and a massive baked brick fortification<sup>35</sup> are found. Urbanisation started here around 300 B.C.

### KHAIRADIH (DT. BALLIA) :

It is situated on the bank of the Sarayu/Ghaghara. Habitation started here around 800 B.C. Notable finds of the pre-NBPW phase include potteries of various types, a bone point and lumps of clay with reed impression. A type of painted sherds recovered from this phase bears similarity with those reported from the PGW<sup>36</sup> phase of Hastināpura.

### SOHGĀUKA (DT. GORAKHPUR) :

In Period III Sohgaunka was well settled<sup>37</sup> which is characterised by the presence of NBPW. The latest level of this Period showed the use of baked bricks: the associated floor

levels yielded burnt grains of rice and wheat; bone styli, copper  
and iron objects <sup>38</sup>. Beads of semi-precious stones, punch-marked  
and cast copper coins are also found from this Period. A charcoal  
from this phase has been dated to 240 + 90 B.C. <sup>39</sup>.

#### BANWARIA (DT. BASTI) :

Though habitation started here around 800 B.C., the Period  
ranging from 600 to 200 B.C. yields NBPW and other associated  
wares, a limited number of terracotta figurines and punch-marked  
coins <sup>40</sup>.

#### PIPRAHWA/KAPILAVASTU (DT. BASTI) :

It remained under occupation roughly from the 5th century  
B.C. to the 3rd century A.D. The limited antiquities from the site  
include copper bowls, stone weight, iron pan, hook, nail and  
sockets, copper antimony rod, a borer, stone head, terracotta and  
carnelian beads, NBPW sherds, copper and silver punch-marked  
coins <sup>41</sup>.

#### MASON/MASOON (DT. GHAZIPUR) :

This settlement may be identified with Machchhikāśāṅga <sup>42</sup>. In  
the Samyutta Nikāya it is referred to as a Nigama; but the Dham-  
mapadattakathā <sup>43</sup> calls it a Nagara. NBPW appeared here in the  
late phase (c. 400-200 B.C.) of Period I (c. 600-200 B.C.). Grey  
ware, Black-slipped ware and red ware in fine and ordinary fabric  
also occur. Other finds include a copper mirror, terracotta human  
and animal figurines, bone points, terracotta beads and punch-  
marked coins; ring-wells, baked brick walls and rammed floors  
have been exposed <sup>44</sup>.

#### RAJGHAT/BENARES :

Period I (c. 800-200 B.C.) at this site is divisible into  
three Sub-periods. The introduction of the NBPW marks the begin-

ning of Sub-period IB, from where iron arrow-heads, nails, knife blades, chisels (?) and a few objects of indeterminate shapes along with slags have been unearthed<sup>45</sup>. Interestingly, the smooth laying of the wooden planks upto a length of 34 metres along the Ganga leads one to infer that the structure possibly served as a wooden platform for loading and unloading of goods from ships<sup>46</sup>. A kāchhā drain passing close to a soak-pit has come to light. The presence of mud plaster with reed impressions in several pits suggests the existence of houses having reed walls plastered with mud. Sub-period IC is characterised by the inferior NBPW, red ware pottery, terracotta ring-wells and un-inscribed copper cast coins<sup>47</sup>.

#### AYODHYĀ/SĀKETA (DT. FAIZABAD) :

Situated on the right bank of the Sarayu/Ghaghara this site came under occupation at a time when the NBPW of a very fine quality and in a variety of shades was in use<sup>48</sup>. Both iron and copper were in use. Along with the NBPW, coarse grey ware, red ware, terracotta discs, balls and wheels, bone points, beads of copper, crystal and glass were noticed<sup>49</sup>. Houses were made of wattle-and-daub or of mud<sup>50</sup>. The antiquity of this site may go back to circa 7th century B.C.<sup>51</sup> An interesting find of circa 4th-3rd century B.C. was a Jaina figure in grey terracotta<sup>52</sup>.

#### CHAMPĀ (DT. BHAGALPUR) :

Excavation revealed that the city was occupied from 500 B.C. Period I has yielded the finest varieties of the NBPW in all brilliant colours. Associated with them are black ware, black slipped ware and grey, red and black-and-red wares. Quantitatively the largest number of NBPW sherds have been recovered from the earliest layers. A number of soapstone jewellers' moulds, a

beautiful ivory female figurine, copper ear ornaments and stone beads are significant discoveries pointing to the richness of industrial crafts of the city during this Period. An exceedingly well-built plastered drain has been exposed the date of which is placed in the 4th century B.C. Some evidence of brick-built structure at its top levels has been detected. In the late phase of NBPW we come across a rampart wall. Initially the wall was made of rammed earth from where a few copper cast coins are recovered .

#### KUMRAHAR/PĀṬALIPUTRA :

Though the details of the iron objects discovered from the site could not be worked out due to the absence of period-wise or phase-wise distribution, they are suggested to have been associated with Period I (c. 600-150 B.C.) characterised by the use of NBPW . At the lowest levels are encountered terracottas of anarchaic type which may go back to the 5th century B.C. In the middle and top layers of Period I appear well-moulded clay figurines (4th - 3rd century B.C.). Along with these are found a polished sandstone piece, traces of walls of burnt bricks, ring-wells, a statue of bull of polished Chunar sandstone, two nude polished sandstone torsos of Jaina Tirthankaras with the plinth of a brick structure, a life-size Yakṣī, the remains of a pillared hall presumably used for religious purpose, punch-marked and cast coins of copper from Period I .

#### BUXAR (DT. BHQJPUR) :

Period I (c. 600-400 B.C.) yielded terracotta human and animal figurines, grey ware and black-and-red ware associated with the NBPW. In Period II, covering roughly the Maurya period, the NBPW is in abundance . This Period shows better signs of habitation . Terracotta sealings impressed with symbols found on

punch-marked coins, bone points, antimony rods, ornaments and peculiar head-dresses are present <sup>58</sup> .

**RAJGIR/RĀJAGRHA (DT. NALANDA) :**

Here Period I, dated earlier than 5th century B.C., is characterised by the Early Phase of NBPW; Period II ranges between the 5th and the 1st century B.C., while the third and fourth periods in which NBPW is absent are dated respectively to 1st century B.C. and 1st century A.D. <sup>59</sup> In Maniyar Math, NBPW (probably its late phase), ring-well, masonry well, terracotta figurines, iron and copper objects are reported. In New Rajgir, NBPW along with terracotta human figurines, copper and iron objects as well as 14 punch-marked coins and also steatite amulet and an elaborately carved steatite plaque formed the materials of Period I. In Period II a mud rampart was built <sup>60</sup> (c. 400-300 B.C.) .

**SRINGAVERAPUR (DT. ALLAHABAD) :**

Period III (c. 700-250 B.C.) of Sringaverapur, situated 35 k.m. upstream of Allahabad on the Gaṅgā, is divisible into three Sub-periods. The presence of baked brick structures was not very clear in Sub-period III B. <sup>61</sup> In Sub-period III c, besides burnt brick structures, the NBPW of inferior quality, coarse grey ware, <sup>62</sup> terracotta female figurines (Mauryan) and balls occur .Period III as a whole offers iron and copper objects, bone points, un-inscribed cast and punch-marked coins of silver and copper <sup>63</sup> .

**SAHETH-MAHETH/SRĀVASTĪ (DT. GONDA-BAHARAICH) :**

Situated on the Achiravati/Rāpti it was the capital of Kosala, where Prasenjit ruled. Period I (600-300 B.C.) is marked by the NBPW in prolific number and other pottery associates like black slipped ware, black-and-red ware, grey ware, red ware and

even the PGW. It was observed that copper was more popular than  
iron in this Period <sup>64</sup> .

#### HULASKHERA (DT. LUCKNOW) :

The Period extending from circa 6th century B.C. to 2nd century B.C. at this site is marked by the presence of NBPW, black-and-red and black-slipped wares. Other antiquities are Ghaṭa-shaped beads, bone awls, beads of ivory and terracotta animal figurines <sup>65</sup> .

#### ANICHCHNATRA (DT. BAREILLY) :

Early excavations here revealed nine strata. Though the levels prior to the Maurya period (Stratum IX) are characterised by the occurrence of PGW and NBPW they did not yield any structure. The Maurya levels (Stratum VIII) offered NBPW, terracotta human figurines, terracotta moulded plaques, etched beads, two eye-beads of agate, round cast coins with simple symbols and mud brick structures. In the Early Phase of NBPW a broken burnt brick was discovered. But it overlapped with the next phase (Stratum <sup>66</sup> VII) .

#### MORADHWAJ ( DT. BIJNOR) :

Habitation started here since the occurrence of the NBPW in the 5th century B.C. Iron and copper objects; terracotta figurines, wheel carts and beads; baked brick structures and fortification walls <sup>67</sup> came from the pre-Kuṣāṅga phase.

#### RANIHAT (DT. TEHRI) :

Excavation report <sup>68</sup> shows that the distinctive pottery of Period I (c. 5th-4th century B.C.) is red ware along with fine unpainted grey ware. Iron and copper objects were found, but no structure has been noticed <sup>69</sup> . The early phase of Period II has a crude variety of the NBPW. The shape of the red ware jar bears

similarity with that of Ahichchhatra 10 a . In this phase brick structures with floorings paved with bricks appear. Besides, wadge-shaped bricks were probably used for constructing wells or barns .

#### KAUSĀMBĪ (DT. ALLAHABAD) :

Excavations at this famous site were conducted in four main areas. These excavations reveal four Periods of which Period III (605-45 B.C.) and IV (45 B.C.-A.D. 580) cover our period of study. The NBPW appears in profusion in Period III and has several shades. In the pillar area there were no brick structures in the early levels of the NBPW. In its late levels uninscribed cast coins made their appearance with the earliest brick structures and a road, assigned to c.300 B.C. Thenceforth there was a spurt in 'building activities', of which the first two belonged to Period III. Kausāmbī also yielded a large number of coins. Among them the punch-marked silver and copper coins came from levels datable to 535 to 185 B.C. The Kausāmbī 'lanky-bull' type coins occurred from about the end of the 4th century B.C. cast coins continued till the end of the 1st century B.C.

#### BHITA/SAHAJĀTĪ (DT. ALLAHABAD) :

Situated very near to the Yamunā this settlement is referred to as a Nigama in the Pāli Aṅguttara Nikāya . We learn from the Vinaya Piṭaka that it was connected with Sorevva, Saṅkissa, Kanauḥ, Udumbara, Aḡgalapura (perhaps Agra) and also with Vaiśālī by boat . The total deposit of the excavated site was, however, divided into five periods ranging in date from Pre-Mauryan to Gupta times. No burnt brick structure had been constructed before the 4th century B.C. . That the industrial and mercantile guilds had flourished in Bhita during the Maurya-Kuṣāṇa period is evi-

dent from the discovery of guild seals from this site. Notable among them are the seals bearing legend Sahljitiye Niḡamaśa in Mauryan characters .<sup>76</sup>

#### JAJMAU (DT. KANPUR) :

It is located on the Gaṅgā. Here the Mauryan levels yielded NBPW bone points, terracotta beads and plaque, an ivory seal, iron objects, uninscribed cast coins and two wells of baked bricks .<sup>77</sup>

#### ATRANJIKHERA (DT. ETAH) :

The site is situated on the bank of the Kāli Nadī, a tributary of the Gaṅgā. Some scholars have tried to identify Atranjikhera with the Nigama of Verañjā . Its connection with Śrāvastī and Mathurā is referred to in the early Pāli literature . From the Vinaya Piṭaka we learn that it fell on the famous route which from here went to Vaiśālī via Soreyya, Saṅkisa, Kanauj, Prayāga and Benares . It is one of the four biggest mounds in U.P. Here Period IV (600-50 B.C.) is subdivided into two phases. The material culture of the lower phase remains more or less the same as in Period III . In the lower phase no definite house-plans may be noticed. In the late (upper) phase, however, mud as well as burnt brick structures were found. During this phase the site was fully urbanised and showed intense structural activities in the form of brick floors, houses, ring-wells, etc . The late phase covers the Maurya-Śuṅga period . In the early phase advancement in agriculture is warranted by the discovery of agricultural tools of iron like sickle, weeder, hoe, spade and ploughshare and also unlined wells for irrigation purpose. Iron and copper were used in the late phase on an extensive scale . Recovery of coins indicates their use in commercial transaction.<sup>84</sup>

BATESWAR (DT. AGRA) :

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Excavations at Bateswar, near the Yamunā, show that Period II (c. 600 B.C. - A.D. 100) is characterised by the presence of the NBPW, black-slipped ware, grey, black-and-red and red ware. Other finds include human and animal figurines, bangles, marbles, beads pendants, discs, ear studs, wheels, skin-rubbers, etc. of terracotta; shell bead and bangle; bone points antimony rods, bracelets and a jewel box of bone; glass beads and bangles; beads of carnelian and agate; stone balls, etc. A large quantity of iron slag through out the deposit and iron objects suggest iron smelting. Further, a terracotta crucible and fragments of copper objects attest to coppersmithy. Coins were also found.

Structures of mud brick and baked brick were noticed. Floors with brick-lined edges have also come to light. A ring-well is met with.

MATHURĀ (DT. MATHURA) :

The available evidence resulted from excavations at Mathurā for a long time suggests that the earliest settlement began around Ambarish-tilā which was perhaps of the size of a small hamlet in Period I (c. 6th -- closing decades of the 4th century B.C.). But during Period II (from the end of Pd. I -- c. 200 B.C.) this habitation turned into an extensive settlement, fortified by a massive mud wall. Period II is distinguished by the NBPW and associated pottery including plain grey ware. Terracotta animal and human figurines, including those of mother goddess, toy wheels, gamesmen, discs, bangles and beads of semi-precious stones and bone; a miniature pot containing 24 beads perhaps of amethyst and topaz and a few punch-marked copper coins

constitute the antiquities of this Period. Ring-wells are encountered. The sides of a discovered platform are found to be faced with baked brick of large size. Remains of soakage jars, probably forming a drain, have also been noticed <sup>87</sup> .

#### SONKH (DT. MATHURA) :

Mud has been profusely used as building material in Period II (400 -- 200 B.C.). Recovered materials from this Period include the NBPW and its associated wares, a bone plaque, grey terracotta figurines, a bronze Triśūla, punch-marked as well as uninscribed cast coins <sup>88</sup> .

#### KANAUJ (DT. FARUKHABAD) :

The site is situated near the confluence of the Gaṅgā and the Kālī. The NBPW is found in Period II (600-200 B.C.). Other-potteries include black-slipped ware and red-slipped and coarse red wares. Terracotta figurines and beads of stone and terracotta are conventional findings. A structure of large bricks was also exposed <sup>89</sup> .

#### HASTINĀPURA (DT. MEERUT) :

Although habitation started here from very early times, in Period III (early 6th--early 3rd century B.C.) a town sprang up here afresh with the NBPW and other associated wares. The people of this culture were more advanced than their predecessors <sup>90</sup> . Iron tools including ploughshares, sickles, axes, adzes, weapons of war, copper objects, terracotta human and animal figurines, beads of semi-precious stones and glass have been noticed <sup>91</sup> .

The discovery of silver and copper punch-marked as well as uninscribed cast copper coins <sup>92</sup> suggest the existence of commercial activities in Hastināpura. Trading activity in Hastināpura

received further impetus possibly due to its location near the Gaṅgā. Houses are made of mud as well as kiln-burnt brick and are oriented along the cardinal directions. A sense of town planning was thus in evidence<sup>93</sup>. A wall of burnt brick was noticed<sup>94</sup>. The excavator traced here a drain which was provided with a brick floor and lining<sup>95</sup>.

A ring-well was exposed which was lined by a superstructure of five courses of wedge-shaped bricks<sup>96</sup>. In spite of the richness in antiquities and brick-built structures, the settlement in the earlier levels of this Period was rather sporadic.

#### HULAS (DT. SAHARANPUR) :

Period III of Hulas is marked by the presence of NBPW, black-slipped ware, grey ware and red ware potteries. Wedge-shaped bricks and elliptical hearth represent the structure of this Period<sup>97</sup>.

#### PURANA QILA/INDRAPRASTHA (DELHI) :

It is situated on the Yamunā. Excavations show<sup>98</sup> that the ceramic industry of Period I (Mauryan, 4th-3rd century B.C.) is represented by the NBPW, grey ware, Black-slipped ware and associated red ware; Terracotta human and animal figurines as well as inscribed seals; small rings and disc of banded agate; a series of hearths and an uninscribed cast coin constitute the findings of period I. Houses of mud brick and wattle and daub structures, drains of backed brick, both rectangular and wedge-shaped, encountered.

#### URBAN SETTLEMENTS BEYOND THE GANGA FLAIN:

##### HARYANA :

#### RĀJĀ-KARŪA-KĀ-QILĀ (DT. KURUKSHETRA) :

Situated three kilometres away from Thanesar, the site

witnessed the beginning of habitation in c.400 B.C. The deposit of Period I (C.400-100 B.C.) is characterised by the occurrence of grey ware along with red ware. In construction the use of burnt-bricks is also attested by the occurrence of brick-bats

PUNJAB:

SUGH (DT. AMBALA):

The use of iron and copper becomes profuse in Sub-period IB (C.400-100 B.C.). NBPW and <sup>T</sup>grey ware persist. Silver punch-marked coins, silver coins of Menander and Antimachus and inscribed or uninscribed cast coins including a lead cast coin bearing legend Kīdasa in the Mauryan characters are important finds. A similar coin is also reported from Taxila. The houses are constructed of burnt brick and are provided with pottery drain pipes

ROPAR (DT. ROPAR):

Situated on the bank of the Sutlej, the site witnessed the introduction and disappearance of the NBPW in Period III. This Period may be divided into three sub-periods of which the upper levels belonged to the Maurya period. The NBPW in different shapes and designs reached this site by way of trade. Thick grey ware also occurs. Though copper continued in use, rapid advancement in iron technology is evidenced by the large quantity and variety of objects.

The burnt-brick retaining wall of an oval-shaped reservoir of period IIIB was exposed. Ring-lined soakage wells occur in clusters or singly. The remains of a smith's workshop contained a furnace. Copper bar coins, punch-marked coins of copper and silver are noticed. The lower levels of the period may be

assigned to 485 - 100 B.C .

RAJASTHAN :

NDK (DT. BHARATPUR) :

Here in Period IV NBPW along with plain grey ware, iron and copper objects, terracotta figurines and uninscribed cast coins occur .

RAIRH (DT. JAIPUR) :

Rairh attained prosperity in the period between the 3rd century B.C. and the 2nd century A.D. The discovery of as many as 115 ring-wells suggests congested population . A considerable variety of iron objects including sickles, axes and adzes along with enormous quantities of iron slag indicate that it was a centre of iron industry. The remnant of a broken rim of polished Chunar sandstone is an import. On some constructions the use of bricks are evident. Apart from the chance discovery of a hoard of 326 silver punch marked coins on the surface, four more hoards of 99, 132, 535 and 1983 punch-marked coins were found in the excavation .

BAIRAT (DT. JAIPUR) :

Though NBPW was found here, it was a prized article and imported from other NBPW sites. This is evident from the discovery of NBPW alms-bowls rivetted with copper pins. A brick-built temple of the Maurya period has been exposed .

MADHYA PRADESH :

JADERUA (DT. GWALIOR) :

Though habitation started at this site in the 6th-5th century B.C., the introduction of crude NBPW along with a thicker variant of red ware distinguished the Sub-period IIA (C. 350 B.C. - 2nd century B.C.) which yielded various iron objects including a

large sickle. A huge quantity of slag suggests an extensive iron-smelting on the spot <sup>106</sup>. Some of the red ware varieties are similar to type 10a <sup>107</sup> 109 of Ahichchhatra and other sites also in levels of comparable date. Bricks were used in construction <sup>108</sup>.

#### ERAN (DT. SAGAR):

A. Cunningham first discovered a number of copper punch-marked coins and a few inscribed die-struck and cast coins some of them bearing legend Erakanya or Erakana in early Brāhmī script <sup>109</sup>. Subsequent excavations <sup>110</sup> show that the Sub-period II A (C. 700-200 B.C.) marked the introduction of iron and the black-and-red ware. A sherd of NBPW was also recovered. Other antiquities include copper and iron objects and a number of tribal and punch-marked coins.

#### TRIPURĪ (DT. JABALPUR):

Excavations at Tripurī <sup>111</sup> show that the NBPW along with sherds of buff-slipped and russet-red and black wares occur in the period ranging from C. 500 to 300 B.C. We have also iron and copper objects. Two Mauryan stone seals come to light. Mud brick houses, terracotta tiles and lime plastered floors are exposed. The period contains the Tripurī and punch-marked coins.

In the next period (C. 300-100 B.C.) were found mud and also baked brick houses with roofs of terracotta tiles, ring wells and soak-pits. In addition to the ceramics of the preceding period, very fine red ware was found.

#### AWRA (DT. MANDASAU):

The NBPW and its associated wares mark the beginning of the early historical period (C. 600-100 B.C.) at Awra. Iron objects, copper and ivory are noticed <sup>112</sup>. Of the 4th century B.C.

or a little later three punch-marked coins appeared along with a terracotta seal having legend in characters of the third century B.C., (Alparaya, 'of Apara' which may indicate the old name of the place <sup>113</sup> .

#### BESNAGAR

#### VIDIŚĀ (DT. VIDISHA):

The NBPW phase yields objects of iron and copper, punch-marked coins <sup>114</sup> and Vidiśā city coins <sup>115</sup> . Ring-well appeared. Among the structures belonging to this period we have an eight-course high baked brick wall which was provided with drain and was twice rebuilt in brick <sup>116</sup> . This Period may have ended around 200 B.C.

#### UJJAIN/UJJAYINI (DT. UJJAIN):

Excavations at this famous city reveal four successive Periods of occupation <sup>117</sup> . Period II (C. 500-200 B.C.) is characterised by NBPW, Black-slipped, black-and-red, thick grey and vesiculated ware. The last two types continued in IIIA. However, in period II we notice numerous objects of iron and copper as well as punch-marked copper coins. The find of iron ore, quantities of slag, the remains of a furnace for smelting the metal and a blacksmith's forge is significant. Structures were sometimes built of burnt bricks. A massive brickbuilt water tank and a long channel of trapezoidal cross-section possibly for use in conjunction with an industrial workshop have been unearthed.

#### MAHARASHTRA:

#### BROACH/BHARGUKACHCHHA/BARYGAZA (DT. BROACH) :

Excavations at this ancient port-town have revealed that early historical people settled here around 3rd century B.C. The sole NBPW sherd discovered here has a copper-pin revetment. Five ring-wells in a cluster have also been

exposed . There is little doubt that the process of urbanisation during the Maurya period had its beginning in Magadha (Eastern India) that was rich with mineral resources under the supervision of the state. The material culture gradually did spread from the middle Gangetic plain to other parts of Northern, Western and Eastern India.

#### PROCESS OF URBANISATION : POST-MAURYA PERIOD.

##### LITERARY EVIDENCE :

In the post-Mauryan literature we have also references to some towns and cities. Notable among them are Takṣaśīlā, Mathurā, Pāṭaliputra, Saṅkissa, Śāketa, Vārāṅasi, Kauśāmbī Hastināpura, Gavidhumata (mod. Kudarkot in the Etah dist.), Anichchhatra, Kānyakubja, Ujjayinī, Māhiṣmatī, Nāsikya, Rājagṛha, Kapilavastu, Vaiśālī, Kāmpīliya, Mithilā, Śrāvastī, Gayā .<sup>119</sup> A somewhat clear and relatively elaborate description of a city is found in the Milindapañho where Nāgasena says to Menander : "The architect of a city, when he wants to build one, first clears the site of the town, and then proceeds to get rid of all the stumps and thorny brakes, and thus makes it level, and only then does he lay out the streets and squares, and cross-roads and market places, and so builds the city."<sup>120</sup> Describing the city of Sagala the author lays down : "Wise architects have laid it out... Brave is its defence, with many and various strong towers and ramparts...and with the royal citadel in its midst, white walled and deeply moated. Well laid out are its streets, squares, cross-roads, and market-places. Well displayed are the innumerable sorts of costly merchandise with which its shops are filled... splendid with hundreds of thousands of magnificent mansions, which rise aloft like the mountain peaks of the Himalayas. Its

streets are crowded by men of all sorts and conditions... sweet odours are exhaled from the Bazaars...guilds of traders in all sorts of finery display their goods in the Bazaars that face all quarters of the sky." <sup>121</sup> More or less similar description can be found in the Saundarānanda <sup>122</sup> the Buddhacharita, <sup>123</sup> the Lalitavistara <sup>124</sup> and in the Mahāvastu. <sup>125</sup> All these literary texts contain references to moats, streets, ramparts, multi-storied buildings, squares, market-places, watch-towers, gate-ways, rest-houses, parks, wells, palaces, mansions,etc, which adorned the cities of Kapilavastu, Vaiśālī, Mathurā,Hastināpura, Mithilā, Dipavatī, Vasumata, Kampilla, Vārāṇasī.From the Jātakas also we can get some idea about the structures, planning of a city. They frequently refer to weighing houses, <sup>126</sup> dome of a house, <sup>127</sup> multi-storied buildings, <sup>128</sup> columns and pillars, <sup>129</sup> horses' stalls and elephants' stables, <sup>130</sup> heating chambers, <sup>131</sup> dice chambers, <sup>132</sup> courtyards, <sup>133</sup> and tanks. <sup>134</sup> Besides, some of the Jātakas contain description of cities. Thus the Mahājanaka Jātaka gives us to understand that the city of Champā was provided with gates, watch-towers and walls. The Mahā-Ummagga Jātaka mentions that the city of Mithilā was encircled by a rampart with watch-towers at the gates. Outside the rampart there were three moats. The city of Mithilā, it is further stated, was seven leagues <sup>135</sup> . In the Ekapanna Jātaka it is stated that in the days of the Buddha Vaiśālī enjoyed marvellous prosperity. A triple wall encompassed the city,each wall a league distant from the next, and there were three gates with watch-towers. By far the best account of the description of a city is preserved in the Vidhuraṇḍita Jātaka which describesthe city of Rājagṛha in the following words : " Behold....a city furnished with solid foundations and with many

gateways and walls, and with many pleasant spots where four roads meet. Pillars and trenches, bars and bolts, watch-towers and gates... See a marvellous city with grand walls, making the hair stand erect with wonder, pleasant with banners upraised... see the hermitages divided regularly in blocks, and the different houses and their yards, with streets and blind lanes between... Behold the drinking shops and taverns, the slaughter-houses and cooks' shops, and the harlots and wantons ... the garland-weavers, the washermen, the astrologers, the cloth merchants, the gold workers, the jewellers... See drums and tabours, conchs, tambours and tambourines and all kinds of cymbals... jumpers and wrestlers... jugglers and royal bards and barbers... Crowds are gathered here of men and women, see the seats tiers beyond tiers...." Though the description might have some exaggeration, one can hardly rule out the possibility of some degree of reality in it. Similar evidences for the reconstruction of ancient Indian urban history may be gleaned from the Jain canons also. According to the *Aupapātik-Sūtra*, the important parts of a city were the moat, solidly built rampart, bastions, paths, gates, towers, parks, gardens, tanks, etc. The *Achārāṅga Sūtra*, the *Kalpa Sūtra* and the *Āṅgaviḥjā* contain similar references.

#### ARCHAEOLOGICAL EVIDENCE :

#### EPIGRAPHIC SOURCES :

From some of the Brāhmī epigraphic records we find names of such cities as Anichchhatra, Bharukachchha, Vārāṅasī, Bhogavardhana, Govardhana/Nasik, Kalyan, Kapilavastu, Kausāmbī, Mathurā, Madhyamikā (mod. Nagari), Māhiṣmatī (Maheswar-Navdatoli), Prabhāsa (mod. Dwarka), Pāṭaliputra, Paithan, Rājagṛha, Śrāvastī, Takṣaśilā, Tumbavana

(mod. Tumbain) <sup>157</sup>, Ujjain <sup>158</sup> and Vidisa <sup>159</sup>. But it is very difficult for us to give a judgement on the actual situation prevailing at a particular point of time in the light of epigraphic sources only.

#### NUMISMATIC EVIDENCE:

Coins were issued either by the ruling authority from administrative headquarters or by the mercantile community in the capacity of guilds settled in a centre of trade and industry. Of these coins special importance may be given to those which bear the names of some cities like Kauśāmbī <sup>160</sup>, Tripurī <sup>161</sup>, Ujjain <sup>162</sup>, Eran <sup>163</sup>, Vārāṇasī <sup>164</sup>, Māhiṣmatī <sup>165</sup>, etc. Besides, we have also at our disposal some Niṣāma coins discovered from Taxila and Kauśāmbī.

#### FIELD ARCHAEOLOGY : URBAN SETTLEMENT

##### TAMLUK/TĀMRALĪPTI

In the upper level of the NBPW appeared red ware, terracotta figurines and phase and cast copper coins <sup>166</sup>. The next Period (c.A.D. 0-200) is marked by the introduction of the Rouletted ware and the Red Polished Ware; the occurrence of sprinkler indicate trade relation with the Roman world. In addition, a stepped tank of brick and ringed soak-well of this Period enriched the site <sup>167</sup>.

##### CHANDRAKETUGARH :

The late Śuṅga and Kuṣāṇa phases are represented by Period III and IV respectively. In these periods grain storage rooms, ivory objects, terracotta figurines, rouletted ware, tiled roofs, terracotta ring-wells <sup>168</sup> and cast copper coins <sup>169</sup> have been recovered. Some experts have tried to identify this port-town

with Gange, the famous harbour mentioned in the Periplus.

#### BANGARH/KOṬIVARṢA :

Excavation of Stratum IV (2nd-1st century B.C.) reveals grey ware, red-slipped ware and polished black ware in various shapes, terracotta plaques with female figurines, terracotta sealings, beads of various materials, a wall, a cess-pit, crucibles, silver and copper punch-marked and uninscribed cast coins.

Habitation continued in the Gupta and Pāla period <sup>170</sup>.

#### CHIRAND :

Period IV (Kuṣāṇa) yielded about 400 crucibles and several objects of iron and copper <sup>171</sup>. Various stone objects have been reported. Beads of semi-precious stones, which are exotic to <sup>172</sup>

Chirand <sup>173</sup>, might have come here in course of trade. We also notice terracotta objects, potters' stamps, ornaments, and animal figurines.

Among them the human figurines have non-indian features; their head dresses and costumes show how the people reacted to the foreigners visiting the Gangetic cities as officials, merchants or casual travellers <sup>174</sup>.

Numerous bone, shell, ivory and glass objects are recovered <sup>175</sup>. Ceramics include bottle-necked jar in various shapes, dishes and sprinklers which the Kuṣāṇas might have got from Roman contact <sup>176</sup>. This

Period has also yielded 88 Kuṣāṇa copper coins <sup>177</sup>. The Period is 'particularly noteworthy for its structural remains' <sup>178</sup> general-

ly built of burnt bricks. They include both monastic and residential buildings. These structures show five phases: the first two had tiled roofs but the last two are very poor and clumsy, almost built of brick-bats of earlier structures <sup>179</sup>.

## SONPUR :

Apart from the iron, copper objects and terracotta human and animal figurines, the Śuṅga-Kuṣāṇa Period (c.200 B.C.-A.D. 200 ) yields bone and ivory objects, stone balls of different sizes<sup>180</sup>. This Period brought to light sprinklers, spouted basins, lid-like ink-pot, etc<sup>181</sup>. Besides, punch-marked coins and cast coins of copper are also met with<sup>182</sup>. In contrast to the mud wall and a rammed-earth platform of the earlier Period, structures of this Period with a maximum of four brick courses have been exposed<sup>183</sup>. Ring-walls have also been reported<sup>184</sup>. More signs of habitation in the Kuṣāṇa phase than in the earlier phase may be noticed<sup>185</sup>.

## VAISALI :

The mud rampart of the Maurya period was strengthened in the subsequent Period (150 B.C.-A.D.100) with courses of mud brick<sup>186</sup>. This Period was also characterised by punch-marked and cast copper coins<sup>187</sup>. The next Period (c.A.D. 100-300) is rich with massive structures, defence walls, concrete floors, rooms, military barracks, drains, etc<sup>188</sup>. Structures of this Period are more thick and had broad foundations of rammed bricks<sup>189</sup>. They hardly exhibited the use of broken or reused bricks<sup>190</sup>. Other finds comprise sprinklers, terracotta figurines having non-Indian faces, metal objects, sealing, beads of semi-precious stones<sup>191</sup> and nine Kuṣāṇa copper coins<sup>192</sup>.

## KATRAGARH :

In the 2nd century B.C. the settlement was fortified (Period 11)<sup>193</sup>. Fortification shows three phases. In the earlier phase it was built of rammed earth and in the last phase of baked bricks<sup>194</sup>. This Period shows 'intensive building activities' in

baked brick . Terracotta seals, sealings and uninscribed copper  
 196  
 coins are among other important finds . In the Kuṣāṇa times  
 197  
 (Period III) finds include a few sealings , a crucible and  
 198  
 typical Kuṣāṇa potsherds, red ware pots including sprinklers  
 199  
 and a gold coin of Huvīṣka . Structures of this Period comprise  
 single brick walls, and probably tiles were used for  
 200  
 roofing .

**BALIRAJBARH (DT. MADHUBANI) :**

201

Fortification started here around 200 B.C . Period I (2nd  
 century B.C.-2nd century A.D.) yielded a few sherds of NBPW, grey  
 ware, Śuṅga terracotta plaques, clay wheels, toy-carts and animal  
 figurines, iron nails and crucible, copper antimony rods, beads  
 of semi-precious stones, terracotta sealing and cast copper  
 202  
 coins . This Period also revealed a residential building with  
 203  
 awall of wedge-shaped bricks . The next Period (2nd-6th century  
 A.D.) is marked, according to the excavator, by the presence of  
 204  
 stone beads terracotta balls, beads and figurines . But no struc-  
 ture belonging to this Period has so far been exposed.

**MANJHI (DT. SARAN) :**

In Manjhi a full fledged iron-using culture appeared with  
 the NBPW Age (600-50 B.C.), when objects of terracotta, bone,  
 ivory and glass, and coins, moulds, inscribed sealings and a  
 massive baked brick fortification are found. Urbanisation started  
 here around 300 B.C. The next period (50 B.C.- A.D. 300) yields  
 the largest number of antiquities and shows exclusive red ware  
 industry distinguished by scooped basins and bottlenecked sprin-  
 klers. Terracotta and stone pestles, inscribed terracotta sealing  
 and an ivory scale are important finds. Baked brick structures  
 205  
 comprising walls have also been exposed .

LAURIYA-NANDANGARH (DT. W. CHAMPARAN) :

A. Cunningham identifies this settlement with Allakap-  
206  
pa , a settlement-cum-state of the Bulis. Signs of urban life  
here, however, may be noticed during the period from c.200 B.C.  
to c.A.D. 200. Iron and copper objects, terracotta figurines, a  
large quantity of pottery including pan-shaped vessels similar to  
that from Bhita, a ring-well and cast copper coins, all came from  
levels assignable to the 2nd century B.C. are important finds.  
The discovery of one terracotta coin mould and a lead piece  
suggest that the site was a mint-town which evidently procured  
lead through long-distance trade. The major structural discovery  
of 200 B.C. is the eighty feet high single brick-built Stūpa  
which is surrounded by a massive rampart wall. The Stūpa contin-  
ued even in the 2nd century A.D. Moreover, two copper coins  
one of Kanīṣka and the other of Huiṣka were discovered .  
208

KHAIRADIH :

Horizontal excavation at Khairadih reveals fascinating data  
of an urban settlement during the Kuṣāṇa period . Materials  
bearing upon urban environment include iron nail, knife-blades,  
shovel, rod, lamp, ring and sickle; copper bangle, bracelet and  
ear ornament; terracotta skin-rubber, dabber, potter's stamp,  
wheel, stopper, wheeled toys, human and animal figurines and  
sealings; beads of glass, terracotta and semi-precious  
stones . Two furnaces and slag are found in a room . The site  
was a manufacturing centre for iron objects . An ironsmith's  
workshop has been discovered in the northernmost part of the  
township which is held to be the area reserved for workshops .  
A road flanked on either side by a row of residential buildings  
has been exposed . A six-roomed house with its floor built of  
210 211 212 213 214

bricks , pavements made of bricks and brick-bats are encountered; tiles were used for roofing . Adjacent to the complex, a two roomed house was exposed; one room was probably used for storage . Two underground structures were also used for storage and one of them is assigned to the 3rd-4th century A.D . All these evidences and several Kuṣāṇa coins suggest that urbanism in Khairadih reached its peak in the first three centuries of the Christian era.

#### KASIA/KUŚĪNAGARA (DT. DEORIA) :

In the Aṅguttara Nikāya and the Vinaya Piṭaka it is described as the capital of the Mallas . According to the Dīgha Nikāya, it was merely a Śākhānagara (townlet) when the Buddha died here . Archaeological excavations, however, have brought to light some structures assignable to the Kuṣāṇa period. These structures are of religious nature. Some Kuṣāṇa coins were also found here. These finds tend to suggest that the settlement must have attracted the attention of pilgrims, converting it into a religious town .

#### SONGAURA :

Here Period IV is marked by the absence of NBPW and the presence of terracotta human and animal figurines , stamped pottery, comparable to those found from Hastināpura IV and a terracotta figure marked by foreign features. Some brick structures, ring wells and the Ayodhyā, Pañchāla and Kuṣāṇa coins are noticed . This Period continued upto the 3rd century A.D.

#### GANWARIA :

Occupation in Ganwaria became impressive only in Śuṅga and Kuṣāṇa times when a larger structural complex came up . Heads of the Buddha, several sculptures, terracotta figurines,

beads of glass, terracotta and semi-precious stones, stone-weights; chisels, sickles, arrow and dagger-heads, knives and a razor of iron; copper bowls, glass bangles and a highly polished legged stone quern, pestles are important antiquities of this phase <sup>227</sup>. Apart from a hoard of 64 silver punch-marked coins, the site has also yielded Ayodhyā, Pañchāla and Kuṣāṅga copper coins <sup>228</sup> although the Kuṣāṅga copper coins form the main lot <sup>229</sup>. The houses of the earliest Period (c. 800-600 B.C.) have mud walls with roofs supported on wooden post. Burnt brick structures made their appearance in the subsequent Period (600 B.C. - A.D. 400) <sup>229</sup>. Among these structures two massive complexes in five phases are most impressive. We notice rooms, courtyards with floors paved with bricks or brick bats <sup>230</sup>. Covered drain of burnt bricks <sup>231</sup>, ring-well, a cistern like structure and a very deep well <sup>232</sup> are exposed all of which may be taken as material signs of urban life.

#### PIPRAHWA :

Kuṣāṅga and Ayodhyā copper coins have been recovered from this site <sup>233</sup>. Some sealings of the 1st- 2nd centuries A.D. have been discovered which bear the legend 'Devaputra-Vihāra-Kapilavastu-Bhikkhusaṅghasa' or 'Mahā-Kapilavastu-Bhikkhusaṅghasa' <sup>234</sup>. Structural activities became impressive during the Kuṣāṅga period. Among them a structure very much similar to a monastery with 17 rooms, built of well-burnt bricks has been exposed <sup>235</sup>. An extensive floor of baked bricks belonging to the Kuṣāṅga period draws our attention because such floors have also been noticed at Furānā Gilā, Atrāñjikhera and Ahichchhatra in the corresponding chronological horizons <sup>236</sup>.

heyas (beginning of the Christian era) and imitation coins of Vāsudeva of c. A.D. 250<sup>309</sup>. The houses of this Period are of kiln-burnt brick and duly oriented along the cardinal directions. A street-drain and a terracotta ring-well<sup>310</sup> indicate civic consciousness of the people.

#### MULAS :

Period IV (Śuṅga-Kuṣāṇa) shows spouted jars, lids, sprinklers, storage jars; beads of terracotta and of semi-precious stones; bangles and sealings of terracotta; shell bangles and some copper coins<sup>311</sup>.

#### PURĀNĀ QILĀ/INDRAPRASTHA :

The structures of Period II (Śuṅga, 2nd-1st century B.C.) are less impressive. Materials unearthed include a large number of terracotta plaques, spouted anthropomorphic pot, seals and sealings; beads of terracotta and semi-precious stones; bone points, and NBPW and some of its associated types.

The most prosperous phase of this site seems to be Period III (Śaka-Kuṣāṇa, 1st-3rd century A.D.) which is represented by the remains of systematically and regularly built houses of baked bricks, though the use of mud bricks was also evident. We notice a brick-paved floor inside a room and a flight of steps. The red ware consists of Kuṣāṇa bowls and sprinklers; bone dice of various types, terracotta plaques, figurines showing foreign and local influence, a small piece of ivory handle and crucibles. Kuṣāṇa copper coins along with the coins belonging to the Mathurā rulers and the Yandheyas have been found<sup>312</sup>.

## URBAN SETTLEMENTS BEYOND THE GANGA PLAIN

### HARYANA :

#### RAJĀ-KARNA-KĀ-QILĀ :

Period II (100 B.C.-A.D.300) of the site is divisible into two Sub-periods on the basis of the Red Polished ware which appeared in the late Sub-Period starting from the Christian era. In the upper levels burnt brick is seen <sup>313</sup> which was used in construction. In earlier excavations also burnt brick houses belonging to the Kuṣāṇa period were exposed <sup>314</sup>. Besides, copper coins, copper objects and household objects of iron are important finds of this Period <sup>315</sup>.

#### DAULATPUR (DT. KURUKSHĒTRA) :

At Daulatpur the historical remains of Period III (c.500 B.C.- A.D.500) is divisible into two phases. Though houses during the later phase (A.D.0-500) were constructed of mud bricks, the settlement seems to be well-planned in this phase. Red ware and Red Polished ware distinguish this phase. Besides, we have objects of iron and copper and a few copper coins <sup>316</sup>.

#### AGRĀHA :

Materials discovered from Agraha indicate that the site entered the phase of urbanisation in about 100 B.C. and continued as an urban centre till the late Kuṣāṇa or early Gupta period. During this period both baked and unbaked bricks were used in construction <sup>317</sup>. Structures of the late Kuṣāṇa or early Gupta period, it has been observed, were constructed of reused bricks of the earlier period <sup>318</sup>. Various copper objects, iron implements and red ware pottery have been found <sup>319</sup>. Again, four Indo-Greek, one punch-marked and a hoard of 51 coins with the

legend Agodaka Agacha Janapadasa gave an urban touch to Agroha.

PUNJAB :

SUGH :

The use of iron and copper becomes profuse in Sub-period IB(c.400-100 B.C.). NBPW and grey ware persist. Silver punch-marked coins, silver coins of Menander and Antimachus and inscribed or uninscribed cast coins including a lead cast coin bearing legend Kādasa in the Mauryan characters are important finds. A similar coin is also reported from Taxila. The houses are constructed of burnt brick and are provided with pottery drain pipes <sup>321</sup>.

In Period II (c.100 B.C.- A.D.300) appear red ware and the Red Polished Ware. Iron and copper objects continue <sup>322</sup>. A large rectangular burnt brick structure of the early historical period has been exposed. This probably served religious purpose or a fortress <sup>323</sup>.

GHURAM (DT. PATIALA) :

Though the discovery of various types of ceramics indicates that habitation at Ghuram continued at least till the 1st century A.D., its urban orientation lasted from the 2nd century B.C. to the 1st century B.C. During this period mud brick structures containing large soakage jars, corn bins and an inscribed sealing have been exposed. These structures probably include a goldsmith's house. The recovery of the Audumbara coins and coin-moulds of Menander suggests commercial activities and that Ghuram was a mint-town <sup>324</sup>.

ROPAR :

In Ropar plain red ware and some grey ware potteries became

popular in Period IV A (Śuṅga). A coin of the Indo-Bactrian Antialcidas and another Indo-Parthian Soter Megas coin as well as a clay-mould made from a coin of Apollodotus II testify the contact with Indo-Bactrian and Indo-Parthian dominions. The indigenous coins include those of the Kunindas and the Audumbaras, the latter in a fair frequency. The coinage of the Mathurā satraps is represented by the issues of Hagamasa and Rajubula and of the Kuṣāṇas by those of Kadphises II, Kaniska, Huviska and Vāsudeva. There are also a large number of imitation Kuṣāṇa coins .

#### SINGH BHAGWANPUR (DT. RUPNAGAR) :

After a break of occupation for 200 years the site came to be reoccupied in c. 200 B.C. The new settlers used baked bricks in construction as is evident from the remains of a wall. During this Period (c. 200 B.C.- A.D.) red ware in various shapes as well as some Indo-Greek and Kuṣāṇa coins occur .

#### SANGHOL (DT. LUDHIANA) :

Among the total finds from Sanghol those pertaining to the Kuṣāṇa period really outnumbered finds of other Periods. Six structural phases of early historical Sanghol ended during the Indo-Parthian or early Kuṣāṇa phases . The use of both baked and unbaked bricks was noticed. A terracotta coin-mould of Gondopharnes indicating that Sanghol was a mint town, and the coins of Indo-Parthians, Kuṣāṇas and tribal coins are other important finds.

#### SUNET (DT. LUDHIANA) :

Excavation report on Sunet shows seven structural phases which include store rooms, elaborate drainage system. The discovery of moulds of metals and moulds for the manufacture of orna-

ments points to artisanal activities. Beside copper coins, coins of Huvishka and Vāsudeva, we have a hoard of 30,000 coin moulds bearing the legend Yaudheyaḡanaasyajaya. It not only suggests that Sunet was a mint-town but also that it was a centre for the manufacture of coin-moulds<sup>330</sup>. On the basis of these materials it may be reasonable to hold that the phase of urbanisation at this site started from c.200 B.C. and it continued till A.D. 300.

#### RAJASTHAN :

##### NOH :

In sharp contrast with mud-brick structures of Period IV, the succeeding Period (early 2nd century B.C. ~ late 3rd century A.D.) witnessed eight structural phases, the use of baked brick being common<sup>331</sup>. A smelting furnace with a large quantity of iron slag<sup>332</sup> indicates that the town was a centre of industry. Besides, sherds with Trinatra and fish symbol resemble the specimens from Hastināpura IV. Coins<sup>333</sup> of the Mitra rulers of Mathurā are important finds<sup>334</sup>.

##### RAIRH :

Rairh attained prosperity in the period between the 3rd century B.C. and the 2nd century A.D. The discovery of as many as 113 ring-wells suggests congested population<sup>335</sup>. A considerable variety of iron objects including sickles, axes and adzes along with enormous quantities of iron-slag indicate that it was a centre of iron industry. In some constructions the use of bricks are evident. Apart from the chance discovery of a hoard of 326 silver punch-marked coins on the surface, four more hoards of 99, 132, 535, and 1983 punch-marked coins were found in the excavation. In addition, uninscribed cast, Mitra and Mālava coins<sup>336</sup> abound on the surface.

## BAIRAT :

A Buddhist monastery was erected before the 2nd century B.C. and its occupation continued at least till the 1st century A.D.<sup>337</sup> Hidden within one of the walls of this monastery was a jar with 36 silver coins, punch-marked and Greek and Indo-Greek. Eight of the punch-marked ones were wrapped in a piece of cloth.<sup>338</sup> Post-Maurya levels and the deposits of the early centuries A.D. show miniature jars and bottles, lids with lamps on the rim, etc.<sup>339</sup>

## MADHYA PRADESH :

### ERAN :

During excavations from Sub-period II B (c.200 B.C.-A.D.100) a plain red ware appeared. Other antiquities of the preceding Sub-period continued. Notable is the find of a hoard of 3268 punch-marked coins, predominantly of copper and some with silver coating. Floors of burnt bricks and a few tiles were discovered.

In Period III (c. A.D. 0-500) four structural phases were recorded. Buildings were made of stone and burnt brick. Some houses had covered brick drains. Thus this Period seems to be a flourishing period of development of the settlement in general. The dominant ceramic was the Red Polished Ware. Silver and copper coins of the Western Kṣatrapas, Nāgas, Rāmagupta. Indo-Sassanian and Huna rulers have been reported. Many clay coin-moulds of the Western Kṣatrapas have been found.<sup>340</sup>

### TRIPURĪ :

From the level ascribable to c.300-100 B.C. were found mud and also baked brick houses with roofs of terracotta tiles, ring wells and soak-pits. In addition to the ceramics of the preceding

Period, very fine red ware was found along with iron objects. Among coinage those with legend Tripurī and lead and copper coins of 'Siri Sātavāhana' are notable.

The subsequent Period (100 B.C.- A.D.200) had a baked brick apsidal platform, a brick wall, ring-wells and soak-pits. A large quantity of Kaolin ware and sprinklers in Red Polished Ware appear in this Period. Objects of iron and copper have been noticed. The Tripuri coins continued. Copper, lead and potin coins of Siri Sātakaṅgi and Siri Sāta and of the Kṣatrapas were recovered. Though the antiquities of the next Period (A.D.200-400) are more or less the same as the preceding period, structures now deteriorated which are marked by brick-bats <sup>341</sup>.

AWRA :

From the upper levels of the Period (c.600-100 B.C.) of Awra two copper coins--one of them punch-marked and the other belonging to Sātavāhana--have been recovered <sup>342</sup>. The Period is particularly remarkable for the advanced system of drainage as seen from fragments of drains of pottery pipes, ring-wells or soak-pits and soak-wells <sup>343</sup>. A square storage-tank of brick is unearthed <sup>344</sup> which may be assigned to the late Maurya or early Śuṅga period. Tiles were used for roofing <sup>345</sup>.

The structural remains of the next Period (c.100 B.C.-A.D. 300) have foundations of large brick and have shown in the upper levels a well-thought out plan. Brick was used in ovens. Red polished ware and its associates are found. Fragments of Roman pottery and its imitations and a clay-bulla bearing impression of a Roman coin found here <sup>346</sup> speak of the participation of Awra in Western trade.

## SĀNCHĪ ( DIST. RAISEN):

Famous for its Buddhist remains Sānchī attracted many pilgrims from different corners as is evident from their donatory records. People from Ujjain<sup>347</sup>, Nandinagara (mod. Nandur?)<sup>348</sup>, Udumbara<sup>349</sup>, Pushkara<sup>350</sup>, Atthakanagara<sup>351</sup>, Bhogavardhana<sup>352</sup>, Tumbavana<sup>353</sup>, Māhiṣmatī<sup>354</sup>, Vidiśā<sup>355</sup>, Pratiṣṭhāna<sup>356</sup> came here and made donations for the cause of Buddhism. Objects of copper, bronze and iron are found. Probably Red polished ware appeared in the early centuries A.D.<sup>357</sup> A vessel contained 41 base silver coins of the Western Kṣatrapas<sup>358</sup>.

## BESNAGAR/VIDIŚĀ :

The Period after 200 B.C. is distinguished by the use of the plain red, black-and-red and kaolin wares, inscribed stone seal in Śuṅga character and punch-marked coins<sup>359</sup>. A temple built probably around 4th-3rd century B.C. is now marked by a brick platform<sup>360</sup>. The subsequent Period (Nāga-Kuṣāṅga) provides red ware, red-slipped ware and copper coins<sup>361</sup>. During excavations the site yielded punch-marked and Kṣatrapa coins from the Maurya, Śuṅga and the Kṣatrapa deposits<sup>362</sup>.

## UJJAIN/UJJAYINĪ :

In Sub-period III A (c.200 B.C. - A.D.500) red ware and kaolin ware appeared. Among other finds mention may be made of coins of the Kṣatrapas and the Kuṣāṅgas. Clay-bullae moulded from Greek or Roman coins and a mould of the coin of the Roman Emperor Augustus Hadrianus (A.D.117-34) speak of commercial contact with the Western World<sup>363</sup>.

MAHARASHTRA :

BROACH/BHRGUKACHCHHA/BARYGAZA :

The economic prosperity of the people of Broach belonging to the early centuries of the Christian era is proved by the fact that the mud rampart of the earlier Period was now provided with a heavy brick-rivetment. Other finds include Red polished ware as well as lead and copper Kṣatrapa coins of the 3rd century  
364  
A.D .

The above discussion gives us to understand that the urban development was not confined to the Gaṅgā-Yamunā valley. It spread over an extensive region. Most of the sites beyond the Gaṅgā plain, in the Punjab, Haryana, Rajasthan and Madhya Pradesh had entered the process of urbanisation during the Maurya period and the process culminated in the Kuṣāṅga-Sātavāhana period. It is true that the spread of urbanisation may be attributed partly to the Maurya imperial policy. But at the same time the impact of trade on the process of urbanisation can hardly be overlooked. No doubt, the middle Gaṅgā plain formed the original centre of experiments with urbanisation under state-control during the Maurya period. The material culture gradually radiated in the periphery of the entire Gaṅgā plain (middle, north and south) as a whole and even beyond. In the post-Maurya period, the urbanisation had almost the same rate of progress in the Kuṣāṅga-Sātavāhana dominions. Both inland and foreign trade made urbanisation an all-India phenomenon in the early centuries of the Christian era.

URBANISM AND MERCANTILE ECONOMY :

The foregoing discussion on the process of urbanisation in the Maurya and post-Maurya period would reveal how the latter was more advanced than the former both in nature and extent.

Such growth in the economic life was bound to have been manifest in the emergence of the mercantile community including both artisans and traders, who were evidently instrumental in bringing about the advancement of urban economy with its emphasis on trade and industry. There is little scope of doubt that whatever might be the characteristic feature of a particular town or city it was basically a centre of trade and industry. For instance, an administrative headquarter or a University town or a place of pilgrimage accommodated the classes of people who were in need of the consumer's goods produced by the artisans and supplied by traders. That is probably the reason why any town or city ultimately turns to be a place of market, a place of business transactions.

It has been suggested that one of the important factors contributing to the growth of urbanisation was the surplus agricultural production that might provide daily necessities including food for the people inhabiting the urban centres. The provision made by the village people for those who were not directly responsible for production is supposed to be a pre-condition for the urban growth. We have also to consider that the population in an urban settlement was of mixed type, accommodating the ruling class, the intellectual class and the artisan cum trading class. The role of the mercantile class was more significant than the other two classes of people so far as the growth of an urban centre was concerned. The ruling class might have extracted the surplus from the villages with the help of the bureaucracy and that surplus might have been collected in the state treasury to support the maintenance of the army and the officials employed for administrative purposes. This process of extracting the revenue in kind from the villages was not perhaps enough to

furnish a town or a city with all its necessities . The city life as depicted in Vātsyāyana's Kāmasūtra would not have been possible by the state mechanism. The intellectual class, the Brahmin priests or the Buddhist monks, for example, who lived in towns were to some extent responsible for collecting the surplus from the villages. The Brāhmaṇas received sacrificial fees and the Bhikṣus collected alms from the householders. This process might not have paved the way to the growth of a settlement which was to be a centre of religious worship, that is, a place of pilgrimage or a centre of education and culture like University towns of modern times. The role of the mercantile community seems to have been more important than that of either the ruling or the intellectual class. Because, they did not only receive but also fed back. In other words, they not only helped marketing of the rural products in towns, but also paved the way towards the supply of materials or goods manufactured in towns to the villages. Therefore, the economic relation between the rural and urban centres, their mutual give-and-take process, might have been maintained by the artisan and mercantile community. There is little doubt that without the village-town economic cooperation the growth of urban centre was an impossibility.

It is difficult to state categorically whether the emergence of the mercantile community was prior or posterior to the process of urbanisation. Because urbanisation happens when there is surplus production and growth of trade and industries. Again, urbanisation happens when the mercantile community undertakes trade and industries as their whole-time occupations. Mere supply of the surplus from agriculture would not have led to the growth of urban centres. Of course it is true that without surplus, trade

and industry would not have flourished. But at the same time it is also true that a human agency directly responsible for the urban growth was the mercantile community. So it appears that the process leading to the growth of urbanisation and also to the emergence of the mercantile community were interdependent and simultaneous phenomena of the socio-economic life of any country. The history of urbanisation is closely connected with the origin and growth of the mercantile community.

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