

Urbanization and Environment
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Module - 03
Urban (environmental) trajectories in India: Plans, policies, visions and missions
Lecture - 11
Historical Pasts

So, now we are entering into module 3 which is on Urban Environmental trajectories in India. So, the focus now would be on the Indian subcontinent. So, this model, we will focus on urban environmental trajectories in India; discussing various plans, policies, visions and missions.

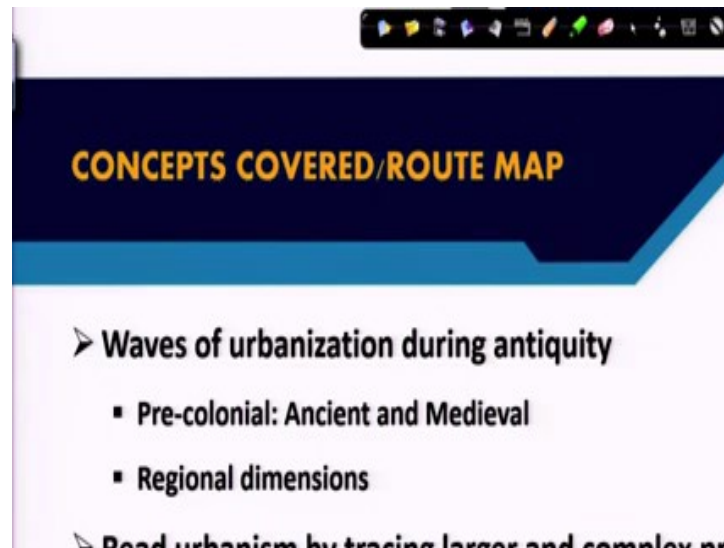
But before we move into the more you know contemporary conjecture which is flooded with urban plans, urban policies also trying to incorporate the environment in the urban planning and you know management discourses, it will be important for us also you know to look back into our roots and to learn from the you know from our historical past that how the relationship between urban and environment to a great extent led to you know the complex processes of a state formation.

So, we can get lot of clue from like what happened during the days of antiquity and its I mean it is a good news that research you know addressing this urban, I mean addressing this intersection between urban and environment, it has already started. And like I think to a great extent we owe to the Marxist historians on early India. So, I will be discussing that a bit here.

But what I am saying is that you know before we move into India's contemporary urban scenario or scene, it will be important for us to also you know understand like urban environmental dynamics.

Though, I mean it is quite difficult to trace the environment from the urban or within the urban; but you know the historical work secondary literature which we which are dependent a lot on the archaeological and literary resources. It provide very fresh insights on you know city nature entanglements during our ancient times.

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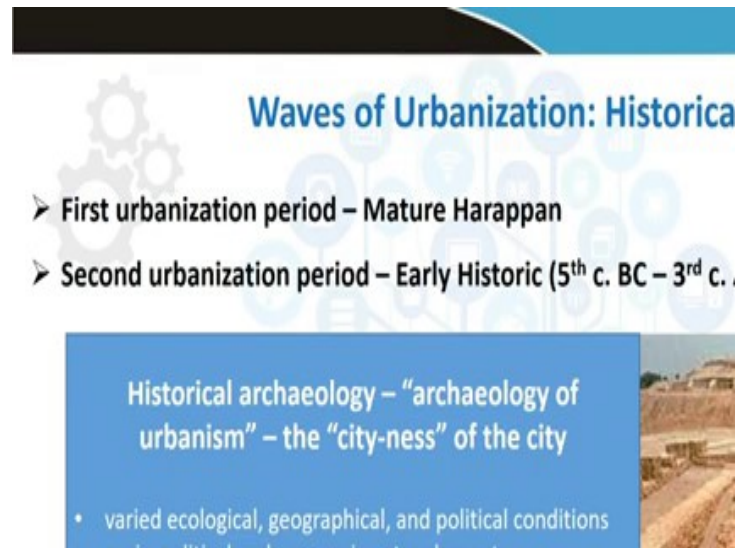


So hence, this like presentation would be all about the various waves of urbanization during antiquity and at recovering both the ancient and medieval period, because the idea is to provide coverage to the pre-colonial you know time or temporal scale.

And though you know North India or the Ganges Valley can be considered as the epicenter of urbanization. But yet, it is important to look into the regional dimensions. So, different other urban centers like Kalinga, like several cities in Bengal, like cities in Malwa region, there is like Western and Central India also developed.

So, it will be important to also delve deep into this regional dimensions along with focusing on you know urbanization in North India. And finally, like we would be actually as I mentioned that we would be in this presentation. We would be reading urbanism by tracing larger and complex processes of urban environmental entanglements in these you know first cities or cities which were built during the early historic period.

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So, yes mainly like two major waves of urbanization during ancient times and like the first urbanization period, mainly constructed the major Mature Harappan Era, followed by the second urbanization period is also known as the Early Historic period and the cities are known as Early historic cities that flourished between 5th century BC and 3rd century AD.

And I must also discuss the you know the development of this exciting new avenue called Historical archaeology. Because historical archaeology or archaeology of urbanism, it actually accounts for varied ecological, geographical and political conditions.

It make us aware of the socio political and economic entanglements in urban spaces, role of ideologies, the impact of technological advancement. So, everything together. So, I think like "archaeology of urbanism or historical archaeology", you know make us aware or draw our attention to the "city-ness" of the city.

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Before we move into the Indian context, I think it will be very important for us to discuss Gordon Childe. So, why would should we discuss Gordon Childe? Because Gordon Childe, I mean his influence had been enormous on the Marxist historians shedding light on early India or early like historic period and also early historic cities of the Indian subcontinent.

So, Gordon Childe who was he? So, Gordon Childe was the most influential archaeologist of the 20th century and he wrote two seminal books. So, one is this 'Man Makes Himself' which came out in 1936 and 'What Happened in History?' which came out in 1942.

And when we were history students, so when I was an U.G student, I had to read these two books you know. And these were the first two books which I read during my university days and which you know to a great extent kind of like transformed our, my perspective you know and my exposure to the discipline of history.

So, anyway beyond this personal note, I think it is important all of us should really you know go through these two particular books by Gordon Childe. But here, instead of focusing on these two books. I would mainly draw your attention to one particular article by Gordon Childe which came out in 1950 in the journal called 'Town Planning Review'.

And here, he suggested the 'ten-point model' of urbanization and he focused on two revolutions; one is this Neolithic revolution and more importantly, the urban revolution. So, what is so important about Gordon Childe is that, he kind of you know he applied social models to archaeological data.

So, he used a hardcore archaeological data to understand the complex evolution of society. So, he says that you know he shows that how like in Neolithic, I mean why Neolithic period should be considered as Neolithic revolutions. So, what was so revolutionary about Neolithic revolution was that, you know a lot of major changes or transformation took place.

So, for example, like there was there was I mean there was a transformation shift from sedentary lifestyle to from, from like a nomadic lifestyle to sedentary lifestyle, because there was a agricultural revolution through like domestication of plants and animals and there was a shift from hunting gathering to farming. So, these like kind of crafted lot of other changes social changes, like there was an evolution of more complex division of labor.

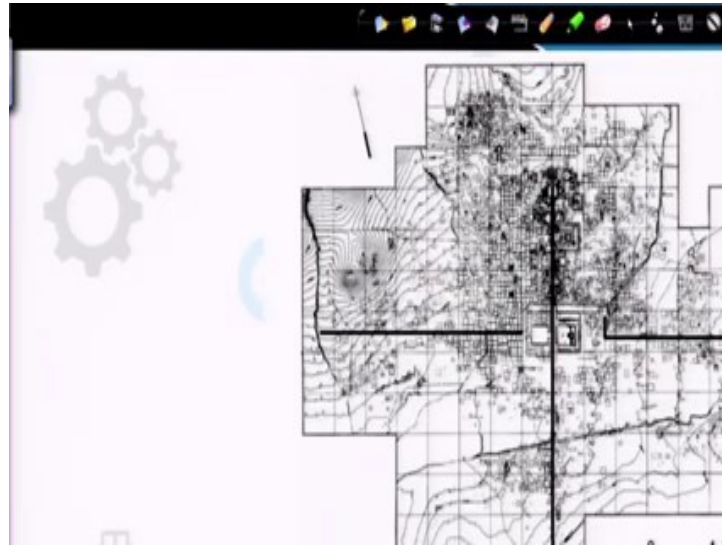
But if we consider urban revolution which is definitely connected to neolithical, Neolithic revolution, we see that you know urban revolution the society became more complex because there we can locate more complex social stratification and economic activities of all sorts actually expanded.

So, there was the growth or the emergence of the first cities. But what is so fascinating about the Childean paradigm is that, he traces or he traced the interconnected series of changes; but his argument or his focus did not remain constricted to the development of cities.

So, he talks about the growth of cities as part and parcel of you know state level societies. So, this process very much linked to the rise of the state. So, he locate cities within the larger processes of states formation and also, talks about the urban rural interlinkages.

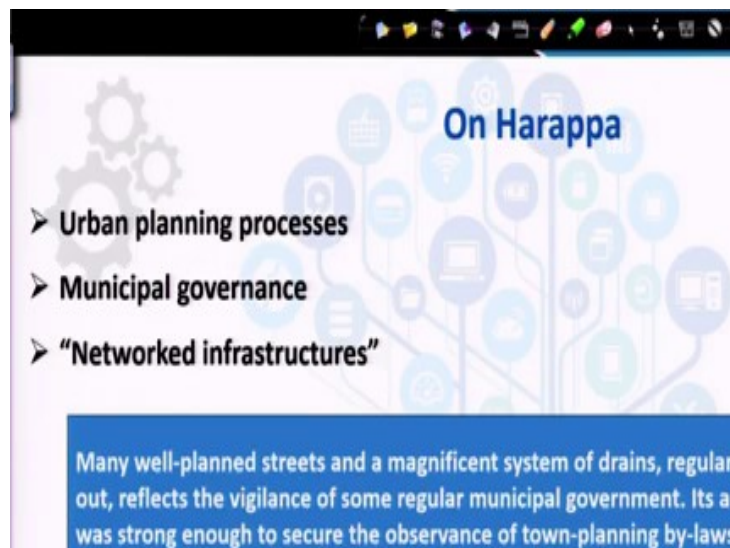
And so, these are some of the like ancient civilizations. So, no cities, no civilizations, and Stuart Piggott and Childe, you know through his archaeological data he could discuss this complex evolution of society.

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So, this is also like I mean he argues that I mean he talks about the link between urbanism and early state dynamics. And how these early state societies were like urban societies having very large and dense cities.

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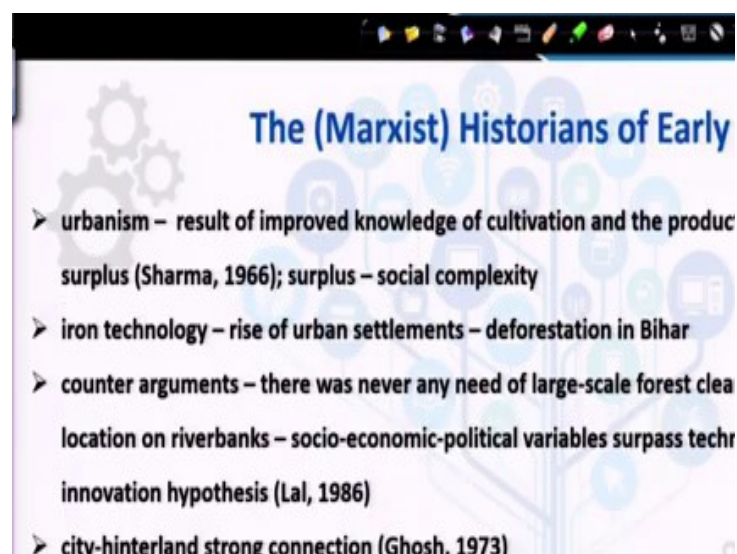
Also, Gordon Childe was very fascinated with the developments that occurred in Harappa, most importantly development in terms of like developments in terms of civic infrastructures. So, he studied urban planning processes for the two cities of Indus Valley civilization; Harappa and Mohenjo-Daro. He studied municipal governance and also

network infrastructures. And he was fascinated you know with these two cities and he says that many well-planned streets and a magnificent system of drains regularly cleared, I mean regularly cleared out reflects the vigilance of some regular municipal government, right.

So, its authority was strong enough to secure the observance of town planning by laws and the maintenance of approved lines for streets and lanes over several reconstructions rendered necessary by floods. So, you know this passage, it shows or it demonstrates that how he analyzed archaeological data, you know archaeological data to come up with social analysis, to come up with like what was going on in the society during that particular point of time.

So, you know very clearly, this magnificent system of drains, he argues here that how this shows that you know very regular municipal governance mechanism was actually present in this Harappan city. So, I think like Gordon Childe is fascinating because Gordon Childe really you know kind of, I mean his work is located at the interface between you know archaeology as a techno, I mean as a very technical hard science field. And you know and the social like the social ramifications of social manifestations from these hardcore you know technical data.

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So, yes, as I mentioned earlier that the Marxist historians of early India, they were highly influenced by the research conducted by Gordon Childe. And they were also inspired by

several other frameworks, but Childean paradigm had a very long lasting influence on these early I mean Marxist historians of early India.

So, for example, R. S. Sharma, when he started writing in 1960s, so he I think he did exhaustive research to try to understand the causative forces behind urbanism during the days of antiquity. And he pointed out that you know that the urbanism was result of improved knowledge of cultivation and production of surplus. So, the surplus, it I mean the surplus was very much you know it was considered to be the most important variable leading to the birth of cities.

And iron, iron technology, so iron you know being discovered in the Ataranji khera. In Ataranji khera in it district in UP around like nine 9th century BC. So, iron also played a very important role, because like through iron intensive agriculture could happen and there was agricultural expansion. So, which actually also I mean through iron or iron technology like urban settlements also emerged and also, at the cost of deforestation.

So, there is data which shows massive deforestation in Bihar through the use of iron technology and also, talks about how agricultural expansion and generation of surplus gave rise to you know urban settlements. But there are also counter arguments.

For example, Makhanlal, he has shown or he argues that there was never any need of any large-scale forest clearance for urbanism to happen or for urbanization to occur in the northern part of the Indian subcontinent. And he talks about these urban locations, on river banks. And he says that socio-economic political variables played more important role and could actually surpass technological innovation hypothesis.

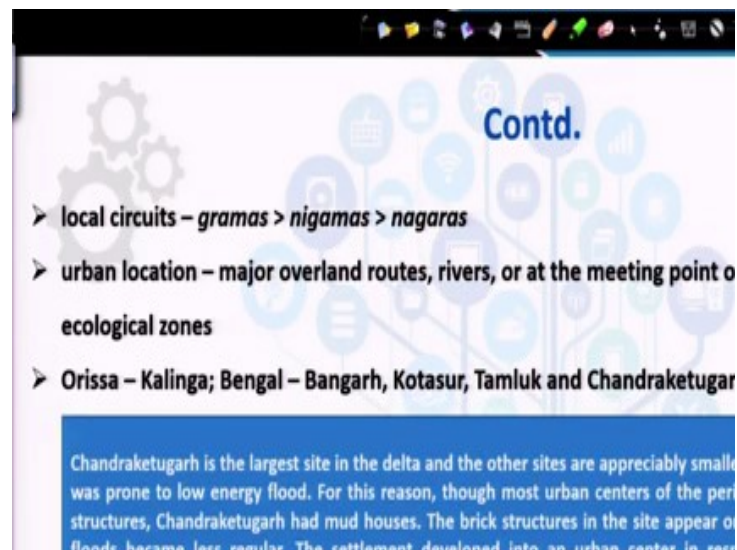
But you know, we have we also have like historical evidences sources being compiled by historians like Ghosh, talking about city-hinterland strong connection and also, talking about the importance of iron technology. I think Romila Thapar should, I mean Romila Thapar should be discussed and she comes into the picture you know with her brilliant book called 'Lineage to State' which was published in 1983 and Romila Thapar definitely talks about this surplus.

And she says that this surplus was definitely a result of the invention of iron and the use of iron technology that led to agricultural expansion. And then, when more and more lands were being brought under cultivation, so there was a desire, political desire to kind

of control you know to control technologies, tools and technologies, which also led to the which led to this generation of surplus. And the surplus provided stable base you know to the urban settlement or to urban population. So, this is the hypothesis.

So, she talks about like more labor land and irrigation. So, when more labor, land, irrigation, all these became possible, so it created the context for the development of cities and towns in ancient India; and again, mainly in the Ganges Valley.

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So, all these historians like R. S. Sharma, Mahanlal, Romila Thapar, they had conducted research on the Ganges Valley and on the northern part of North India, on different districts and different regions of North India.

So, Romila Thapar also talks or shows that you know how uneven distribution or uneven access to you know iron implements and technologies etcetera also you know led to the development of circuits of trade and medium of exchange.

And the local circuits of trade it actually linked the village units gram, gramas with the local trade center nigamas. And finally, you know these were linked to the nagaras or the towns which was the main trading center and the center of exchange.

And Thapar argues that urban locations could mainly be traced on major overland routes, rivers or at the meeting point of two ecological zones. So, which we are testimony to the

fact that you know there was lot of development in trade and exchange networks during that particular point of time.

Now, apart from like this developments, these urban developments in Northern India and apart from Northern India being considered as the epicenter of urbanization, urbanism also like it ushered in different other regions of the subcontinent including Eastern India including Western and Central Indian, also parts of South India. And South India, it emerged little late which we will discuss in the subsequent slides.

So, like focusing on Eastern India, we find you know two belts quite important like Orissa and Bengal. So, in Orissa like Kalinga, Kalinga actually developed as part of you know the exchange network that was established here in contact to the rulers of North India.

So, like the Hathigumpha inscription of Kharavela, it shades light of the fact that Kalinga was acquired by the Nandas of Magadha and also, by the Mauryan Empire. So, and the Mauryans were interested in Kalinga out of like their mercantile interest. And so Kalinga of course, like this external variable played an important role, it provided an impetus too, impetus so far as the growth of urbanism was concerned in Kalinga, Orissa.

There is dearth of research, very less research, scanty research on Bengal. But definitely some research on the emergence of very important cities, again cities most of these located on riverbanks and also, emerging as very important centers of trade being connected to the major nodes of trade and also, being connected to North India. So, areas like Bangarh, Kotasur, Tamluk in Midnapore and Chandraketugarh.

So, Chakraborty has done a lot of research on Chandragupta Chandraketugarh. And Chandraketugarh, you can understand the ecological location of this particular site. So, it is the largest site in the delta, Bengal delta, Ganga delta and the other sites are appreciably smaller. So, the region was prone to low energy flood. For this reason, though most urban centers of the period had brick structures.

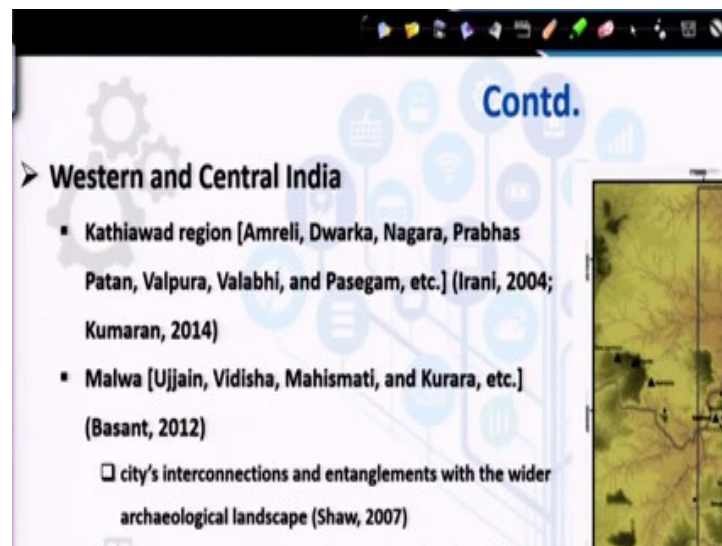
So, see how like ecology also determined you know the urban layout and urban structure and urban planning during those times. So, for the as it was prone to low energy flood. So, most urban centers of the period had brick structures. Chandraketugarh had mud

houses, the brick structures in the site appeared only when the floods became less regular, right.

So, they said, so again you know the Childean paradigm if you remember; so how archaeological data you know provides a lot of insights about social ways of life or social ways of livelihood during historical times. So, the settlement developed into an urban center in response to the prospect of trade.

The linear pattern of settlements emphasize the importance of the rivers which acted as channels for communication. So yes. So, rivers playing a very important role, I mean playing I mean being arteries of trade and communication.

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So Western India, again a lot of research recent research by Irani, Kumaran and Basant has written a fascinating book called 'The City and the Country in early India'. So, the major focus being on the Malwa region. But apart from Kumaran, Irani and Basant, one fascinating research has been done by Julia Shaw.

So, Julia Shaw is mainly an archaeologist, but Julia Shaw like she is the principal investigator for; she was the principal investigator for this Sanchi Survey Project. And in the Sanchi survey project, she actually applied reflexive multi-stage survey methodology right.

So, she actually was interested to understand the influence of Buddhism in the Vidisha Sanchi area. But she decided not to constrict her research by just you know concentrating on the Buddhist monastic sites.

But also to kind of you know kind of understand the wider archaeological landscape so that you know like the social processes, the political processes could be I mean the nuances could actually be like; could actually be explored through see by reading by tracing cities interconnections and entanglements with a wider archaeological landscape.

So, and I think like Julia Shaw's like project, it is also it is very important in terms of water management research because she also kind of she applied temporal and spatial data sets; to understand the temporal and spatial relationships between monasteries, dams, settlements and she also studied the non-Buddhist cult sites. Because her understanding, I mean she wanted to explore the relationship between the sangha and the local region and local population.

So, this is a very important research you know where which studies the deeper and dispersed entanglements between city and its wider archaeological landscape. And also yes, in all these researches the importance of like small and major rivers, and hence gradual increase of sediments in alluvial zones come out very sharp.

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- **South India (Champakalakshmi, 1987, 1996)**
 - late beginning – early medieval period
 - maritime trade, orthodox religion and wet agriculture
 - *Tinai* (Sangam text) – extremely diverse ecological zones *kurinci* backwoods/forest), *mullai tinai* (pastoral tract), *neital tinai* (coastal riverine wetland/plains) and *palai tinai* (parched/arid zone)
 - interactions between micro-zones led to the integration of small regions

So, South India; South India, the major name is Champak Lakshmi. So, Champak Lakshmi ma'am had done lot of research on South India, mainly focusing on the Tamil region. And like South India actually had a late beginning and mainly like urbanism or urbanization process, process started since the early medieval period when maritime trade, orthodox religion and wet agriculture started taking root.

And one of the reasons that why urban urbanization you know had a late entry in this region, you know it can be explained by the fact that the area was physically partitioned into extremely diverse eco-zones. So, and we get to know about this diverse eco-zones in the Tinai text which is part of the Sangam literature.

So, it talks about this extremely diverse ecological zones. Like for example, the kurinci tinai which is this hilly backwoods forest, mullai tinai pastoral tract, neital tinai coastal region, marutam tinai riverine wetland plains and palai tinai parched arid zone.

And all these diverse ecosystem zones, so there were interactions between these micro zones which led to the integration of smaller settlements called kuti into macro economies. So, all these micro-zones were integrated to the, I mean about integrate into macro zones and there were formation of like areas of attraction in coastal deltaic plains rather than urban spaces.

And I think to a great extent, hence, geography becomes a key determinant or a variable you know in terms of this delayed urbanizing or urbanization process for South India.

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So, with this finally, we come to the medieval situation or the medieval period. And for a long period of time like the Marxian Asiatic mode of production thesis was I mean seem to be a valid theory.

And Marx talked about this Asiatic mode of production, where he talked about like; I mean where he talked where he distinguished between euro feudal Europe and pre modern or you know medieval India. And as, but later you know this Marxian hypothesis, Marxian and Asiatic mode of production theory was up I mean it was countered, it was critically interrogated.

And people like Irfan Habib, pointed out that you know by collecting empirical data and a very hardcore analysis of those empirical insights showed that you know no like medieval India did not encounter any stagnation, rather like it was very I mean developed in terms of urban development, in terms of agricultural development.

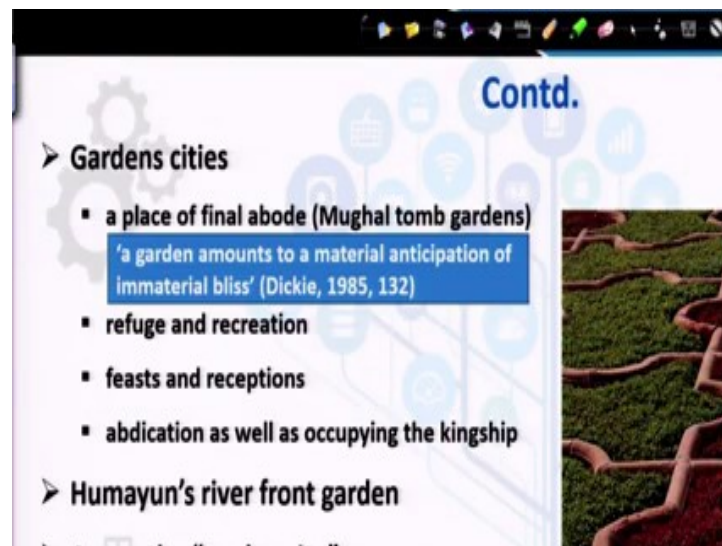
In terms of you know trade and transactions, internal trade transactions are also maritime commerce. So, urban markets or qasba's you know emerged which definitely challenge the theory of economic stagnation propagated by this Asiatic mode of production, AMP. So, qasba was a typical like "rurban" centre. And so, there was there the peasants sold their products in this qasbas and the qasbas. So the towns fetched the products from this for this rurban centers.

So, but there are controversies, yes, there are controversies among historians about this issue of dependence between village communities and you know urban areas. So, for example, Irfan Habib says that the nature of trade or the nature of dependence was one directional, because the towns were mainly dependent on the villages.

But Chetan Singh, he showed that how you know this was a mutually interdependent and reciprocal relationship, because the peasants also looked forward to gain you know to gain profits by selling their market produce in this in the qasbas. And the urban residence were also the buyers or the consumers of the goods that the peasants actually supply.

And Satish Chandra, he actually provides a kind of a balanced outlook where he says or where it talks about an integral part of the growth of agricultural production and the growth of money economy. So, and the processes were parallel and simultaneous.

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So, coming to the final part of this presentation, I think this the towns or the medieval cities, they are actually icons of or they are harbingers of ecological wisdom. And also, like ecological aesthetics. Because like for example, the medieval cities like Agra or Fatehpur, Sikri, they are famous as garden cities. And gardens, I mean it occupied a central part, it was it occupied a central part of the landscape of Mughal cities.

So, gardens you know had different meanings, different use values etcetera. So, it was a place of final abode, Mughal tomb gardens is so famous and J Dickie has done research

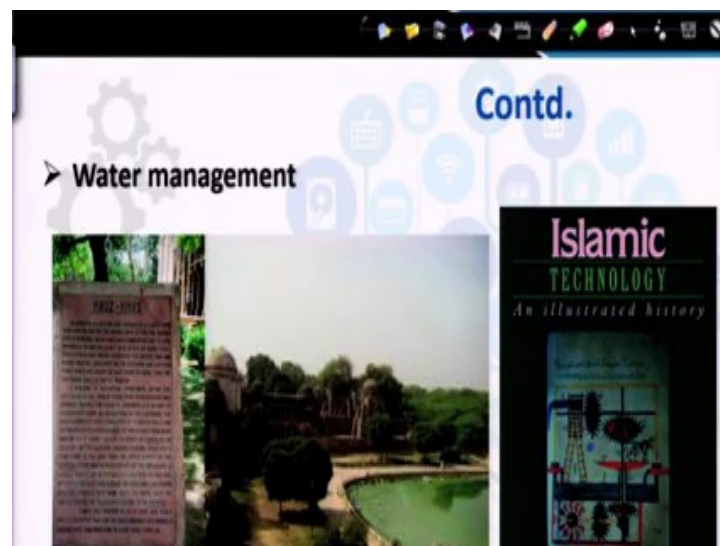
on this tomb gardens. And he says that a tomb garden amounts to a material anticipation of immaterial glees, right. And these were places of refuge and recreation places for feast and receptions and also, places signifying abdication as well as you know occupying kingship.

Humayun's river front garden is so famous in history and rest; I mean it had like rested on this 4 two storey structures which were again connected to four barges. And here, lot of like a lot of events and festivities, music fits and even honours were conducted.

Fatehpur Sikri, Agra these are all garden cities and Agra I mean Agra has this epithet of garden city. And Fatehpur Sikri like if you just, if you concentrate on the inner part of the city like the inner walls; till date, it has like 29 gardens which is beautiful and like there are 6 gardens in the in the outside ramparts.

Similarly, like Hayat Bakhsh in Shahjahanabad, it is basically the Hayat Bakhsh is the was the personal garden of Shahjahan. So, and now like environmental historians, they are actually shedding light on these garden cities, the management you know, of gardens in cities, the cultural sense the it and this you know this urban ecology could actually kind of nurture in these cities and towns of the medieval period, mainly like so far as gardens garden are concerned and mainly the Mughal cities.

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Water management, again water management like fascinating systems so far as both the Sultanate and the Mughal periods are concerned. And we would discuss this in detail, when we would discuss the social urban social sciences frameworks approaches like urban environmental history.

But for now, very quickly I would like to mention that you know this Mughal and the Sultanate rulers who came from central Asia; they also carried that knowledge with them. And several like Islamic, so called Islamic technologies, it got diffused in the Indian in the sub-continent which was and this diffusion was so important to kind of make North-West frontier province which was otherwise so dry like arid and semi-arid to become very fertile. So, and the production agricultural production, it increased like anything, India was also producing the 40 varieties of cash crops.

As and the cities had very I mean their cities had very good water management systems. And like for example, different lifting devices were used like the Sakia or the Qanat.

And so, Qanat it is also a very important like it is a very significant water lifting system which came from Iran. And so, here like water could be pumped I mean water could Qanats could deliver water to the surface by drawing water from the subterranean basin, but without the need of pumping. There are several other structures in this in the medieval cities.

So, for example, Hauz Khas which dates back to the time of the Khilji Dynasty. So, Hauz Khas is the this the large square tank 600 meters and 70 acres; 600 meters in length and 70 acres in breadth. And like Ali Yazdi, in his Zafar Nama says that it was Daryacha, so which means a small sea; and which remain filled with water during the rainy season.

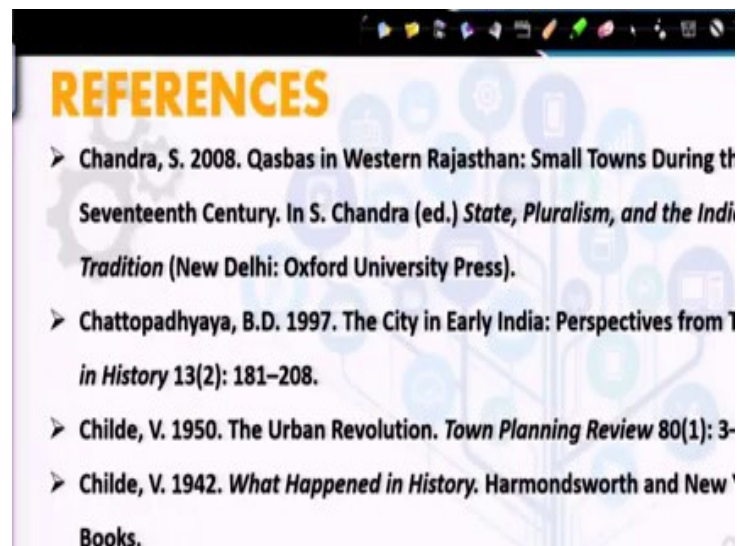
And it was also responsible for providing or for meeting drinking water needs for the residence of the city of Delhi. So, very significant water structures, and so this medieval cities are fascinating examples of you know of incorporating ecology in urban spaces, where we get the sense of ecology of rather than ecology in cities.

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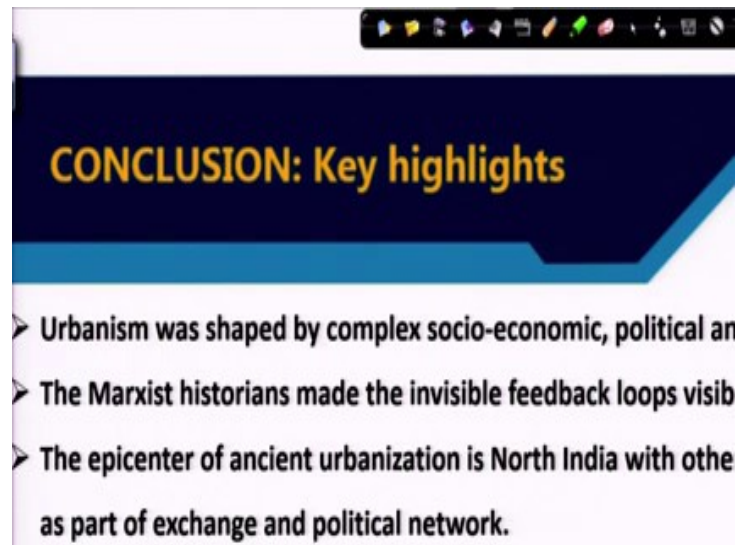
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And so, I think I would like to conclude by talking about or by you know discussing these key points or key highlights that have been covered in this presentation. So, we discussed how urbanism in ancient India was shaped by complex socio economic political and ecological processes and all these processes integrated and embedded with each other.

The Marxist historians, they made the invisible feedback loops visible. So, it is important to go through their works. Though this epicenter of ancient urbanization North India, but other urban centers also emerged as part of exchange and political network, so, Kalinga is a typical case. Medieval India also visualized proliferation of towns with ecology as central to the physical and cultural landscape of Sultanate; but more importantly, Mughal cities.

So yes, with this, I think we had discussed waves of urbanization. I mean historically by shedding light on our historical past and through coverage of you know these multiple entanglements between the urban and the environment in this different cities and towns that emerge during the pre-colonial period; that is across the ancient and medieval times.

Thank you.