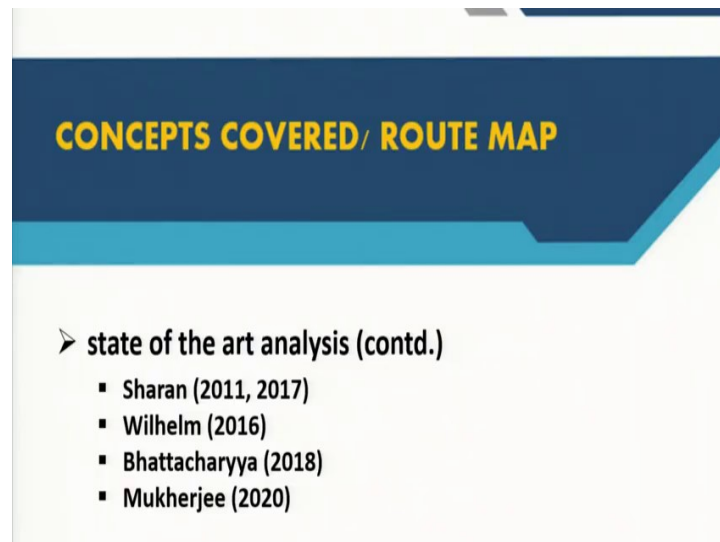


**Urbanization and Environment**  
**Prof. Jenia Mukherjee**  
**Department of Humanities and Social Sciences**  
**Indian Institute of Technology, Kharagpur**

**Module - 04**  
**Urban environmental social sciences frameworks**  
**Lecture - 27**  
**Urban Environmental History: South Asia (SAUEH) Part II: Trends and Trajectories (Contd.)**

Alright, I told you that I have kind of divided South Asian Urban Environmental History into two parts. So, in the previous lecture we discussed few important works which came out in the first decade of the 21st century of this particular century we discussed Broich, we discussed Michael Mann and we also discussed a more recent work which was published in 2015 by Pratik Chakraborti. So, here we continue, in this lecture we continue with our historiographical tour, alright.

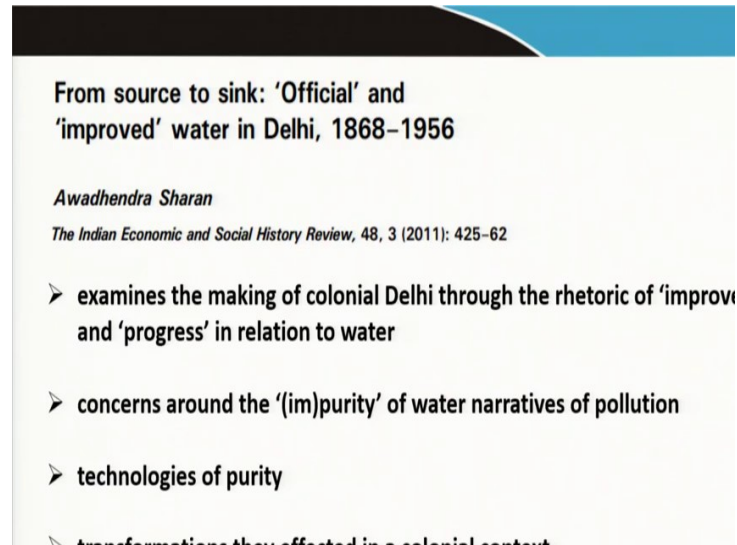
(Refer Slide Time: 00:47)



And, I will be basically discussing four major works, actually five works – two works by Sharan here and three other works which I would like to discuss which is very very recent you can see their years of publication and Awadhendra Sharan, Janine Wilhelm, Debjani Bhattacharya and my own work which came out last year.

And, with this we will also you know kind of do a state of the art analysis and which will enable us to kind of identify and map the present research trends or directions you know within this domain of South Asian Urban Environmental History.

(Refer Slide Time: 01:24)



Now, the first work that I would like to cite here or discuss here is the work by Awadhendra Sharan and this is on Delhi, but he says that you know he specifically mentions in this particular article which was published in 2011 in the Indian Economic and Social History Review ISHR.

So, Awadhendra Sharan says that you know that the purpose of this article is not to make us aware of the modern infrastructures or the works and projects which were implemented in the city of Delhi which to an extent Michael Mann actually did in his article called Delhi's Belly published in 2007 which we covered in our last lecture.

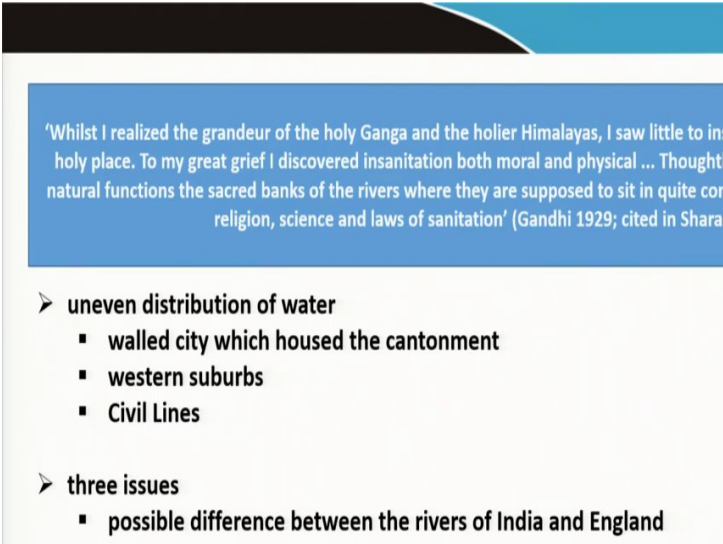
But, Sharan says that here his major concern is basically to examine the making of colonial Delhi to the rhetoric. This is very very important, to the rhetoric of improvement and progress in relation to water. So, he is more concerned about the purity of water narratives or impurity of water narratives of pollution. So, what are these different kind of narratives and you know how these narratives were formulated within the context of colonial Delhi.

So, this becomes the focus of this particular article. So, he discusses different technologies of purity and the kind of transformations they affected in a colonial context. So, he studies water or rather he kind of introduces water both as infrastructure and as environment.

So, this article kind of you know it uses a framework through which we are able to perceive and understand water both as infrastructure you know infrastructure or like portable drinking water which was then kind of accessed by households I mean, through this piped networked infrastructure. So, how you know the city become became networked through the introduction of modern water supply systems.

And, on the other hand, water should also be perceived as an environment, why? Because you know it was finally, used as the ultimate sink the city used how the city used water or water resources in the form of like farmlands, marshlands, wetlands, etcetera as the site of disposal. So, water both as infrastructure and as environment.

(Refer Slide Time: 04:01)



'Whilst I realized the grandeur of the holy Ganga and the holier Himalayas, I saw little to inspire me in this holy place. To my great grief I discovered insanitation both moral and physical ... Thought the natural functions the sacred banks of the rivers where they are supposed to sit in quite conformity with religion, science and laws of sanitation' (Gandhi 1929; cited in Sharan 2002)

- **uneven distribution of water**
  - walled city which housed the cantonment
  - western suburbs
  - Civil Lines
- **three issues**
  - possible difference between the rivers of India and England

Now, this article is also quite interesting from the point of view that you know here Sharan kind of echoes Chakraborti. So, you remembered the previous article which we discussed about the you know discourses and paradigms or practices surrounding purification, purity and pollution in colonial Kolkata right.

So, here also what happens is that Sharan talks about the many meanings you know, the many meanings of pollution. So, that multiple narratives you know, the multi layered understandings so far as pollution is concerned within you know cities like India again within the colonial context.

So, he kind of quoted one of Gandhi's remark when Gandhi was actually lamenting about the condition of the river Yamuna. And you know just it is this remark is quite I mean this remark is comprehensive because this remark itself it shows how Indians kind of understood or till date understand pollution across multiple levels. So, the multiple perspectives that make way you know to the formulation of the discourse or the narrative on pollution.

So, Gandhi says where I realize the grandeur of the holy Ganga. So, sorry this is about Ganga and the holier Himalaya. So, he is talking about Ganga, but he also spoke about the Yamuna and he was also he also felt sorry about the deleterious state of the Yamuna river as well, but here this is from you know, Gandhi's 1929 right up where he laments about the degrading condition of the Ganga river and he says that I saw little to inspire me in what man was doing in this holy place.

So, he talking about like human alterations and I mean, how I mean the human activities were kind of adding to the problem of pollution on the river Ganga and affecting the sacrality or the holiness of the river. So, he says that to my great grief I discovered in sanitation both moral and physical.

So, this is also very very interesting that how you know in the Indian discourse, this pollution not only it was not or water rather was not a not only a secular category. It was also a kind of a sacred category. So, it has like so, when we discuss issues like pollution immediately we think about the moral there is a moral base and there is also a physical dimension you know associated in this kind of an understanding.

So, and Gandhi fleshes this out quite well and he says that thoughtless ignorant men and women use for natural functions the sacred banks of the rivers where they are supposed to sit in quiet contemplation and find God. So, they violate religion, science and laws of sanitation. So, everything you know enmeshed together.

So, these multi-layered understanding, multi-layered perspectives, multi-layered narratives on pollution this is I think one of the crux of one of the fundamental tenet that to a great extent you know makes urban environmental history of South Asia quite unique and different from its like western counterpart.

So, apart from this Awadhendra Sharan also you know he also touches the like Michael Mann he also touches water injustice in the city of Delhi. So, he talks about this uneven distribution of water, how you know the beginning of the like 19th century only 146 houses had piped water connection and those of course, were European households.

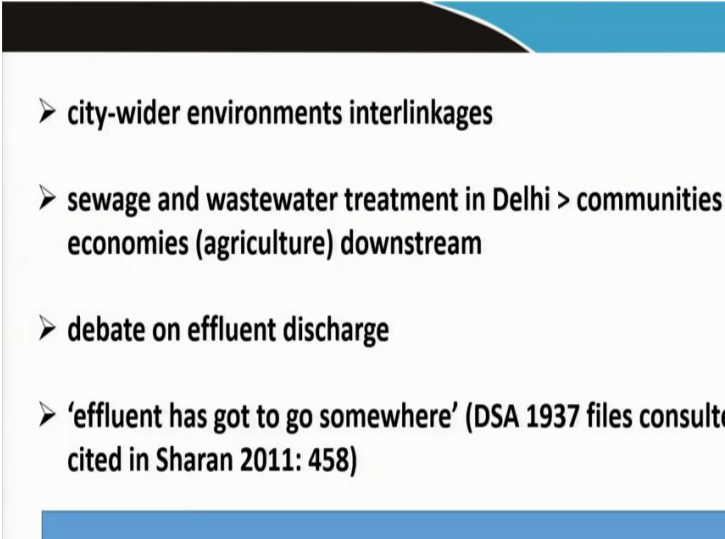
And, the how the European quarters like the cantonment area, civil lines you know were connected or were could access piped portable water and on the other hand, the I mean the, the Delhi which was I mean part of Delhi which was inhabited by the native people for a long period of time they actually could not access safe, healthy, fresh and portable water.

So, he also, Sharan discusses three major issues here in this particular article. So, the possible difference between the rivers of India and England, and we will see that in the next book chapter of Sharan 2017 which I will be discussing right after this that how he also talks about this difference and imitation framework, I will come to it. So, yeah.

So, in this article also he touches base on this particular issue he talks about you know how the British or the colonizers were quite clever enough to you know kind of highlight or emphasize on the difference between the rivers of India and England. So, and how this distinction drawing a line of separation between tropical and temperate environments actually help the British to legitimize and kind of justify affordable or cheap sewerage systems in colonial cities.

So, the distinction was made between solid and sewage and we know that you know we know the effects of the combined water and sewerage systems in our cities in cities like Delhi, Mumbai, Calcutta, Madras. And also you know the possibility of adequate treatment that would render it fit to be drained into the river. So, there is also huge debates you know on this issue, on the issue of adequacy or rather inadequacy you know in the treatment of sewerage and also the treatment of drinking water.

(Refer Slide Time: 09:58)

- 
- city-wider environments interlinkages
  - sewage and wastewater treatment in Delhi > communities economies (agriculture) downstream
  - debate on effluent discharge
  - 'effluent has got to go somewhere' (DSA 1937 files consulted in Sharan 2011: 458)

In this particular article Sharan also talks about the city wider environment interlinkages. So, he brings to the, four the interlinkages or the wider interactions between the city and it is you know it is surrounding like ecological infrastructure or environment.

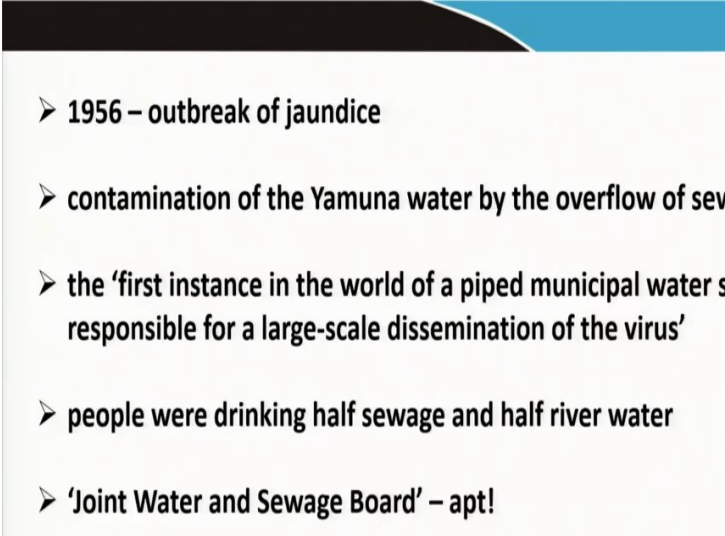
So, sewage and wastewater treatment in Delhi it also definitely had a whole lot of implications for the communities and economies, agricultural economies downstream and he also kind of talks about the protests or the dissatisfactions which were kind of expressed by the farmers of Punjab, UP, etcetera; who were complaining against the over extraction of water from I mean different zones of UP and Punjab by the city of Delhi.

On the other hand, there are also debates on the mechanisms of effluent discharge, but Delhi was happy because for Delhi effluent has to go somewhere else that is it and. So, what happened is that we also find lot of like clashes and conflicts across multiple stakeholders and across different social groups. And so, the hopes reports by colonial engineers in brick and mortar you just look into the quote that have cited here from Sharan.

Scientific standards and technological interventions, as the guarantor of water in sufficient quantity and of good quality, both at points and access and moments of discharge, fail to materialize as fiscal conservatives. This is again another factor and I think when we will discuss Janine Wilhelm's work. She has like for, I mean in her book she has discussed financial conservatism as a major factor a major variable that actually

has decided the fate of our water sanitation projects. So, fiscal conservatism dictated pragmatic choices and spatial distinctions.

(Refer Slide Time: 12:03)

- 
- **1956 – outbreak of jaundice**
  - **contamination of the Yamuna water by the overflow of sewage**
  - **the ‘first instance in the world of a piped municipal water supply being responsible for a large-scale dissemination of the virus’**
  - **people were drinking half sewage and half river water**
  - **‘Joint Water and Sewage Board’ – apt!**

And, as I was mentioning that you know finally, this modern water and sewerage systems proved to be quite inadequate and ineffective. For example, the outbreak of jaundice in the city of Delhi in 1956, which I mean and mainly the brunt of burning also fell on the poor people, the marginalized people as always it I mean it is the case.

And, so, because the contamination of Yamuna water I mean it reached at like an uncontrolled level uncontrolled level and due to the continuous overflow of sewage. And, by 1956 the demography the population also increased to a great extent and then I mean this particular case of this jaundice outbreak it shows or rather it is a it can be considered as the first instance in the world of a piped municipal water supply being responsible for a large scale determination of the virus what an irony.

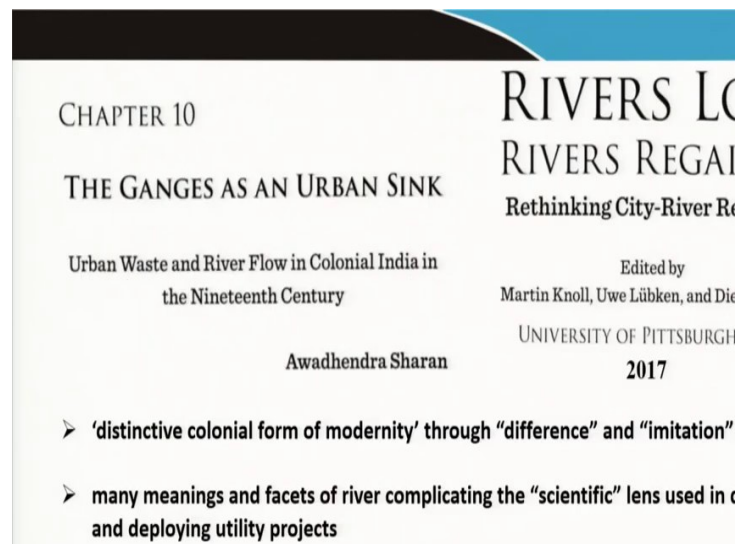
So, people are drinking half sewage and half river water which absolutely brings out. So, in with these Sharan actually you know brings out the ineffectiveness and the inadequacy of this modern urban utilities. And, in quite a satirical notice says that you know this joint water and sewage board this name is also quite apt because people were actually drinking half sewage and half river water.

So, he ends this article with an interesting note where he says that you know how in contemporary times also we are actually following the this colonial legacy because the colonizers when finally, this sewage treatment seemed to be adequate, they also talked about the fact that you know just mix chlorine. So, at least add chlorine.

So, they were talking about and they also like designed plants where finally, before mixing into the river at least sewage or the effluent could be chlorinated. So, this system of chlorination was introduced.

And, Sharan says that you know today the way this commercial private companies are making business, so, UVs and through ROs Reverse Osmosis etcetera, you know these enable us to understand that how UV kind of drew these technologies from colonial modernity , colonial modern you know systems of treating drinking water and waste.

(Refer Slide Time: 14:39)



So, yes with this we move on to Sharan's next work which came out in 2017 in this particular book called Rivers Lost Rivers Regained, Rethinking City-River Relations, edited by Knoll, Lubken and Dieter Schott all very renowned historians so far as the European urban environmental history is concerned. So, we also have discussed their work in our previous lecture.

So, in this particular book you know which is more like I mean this particular book it is a compilation of several case studies across different parts of the world global southern,

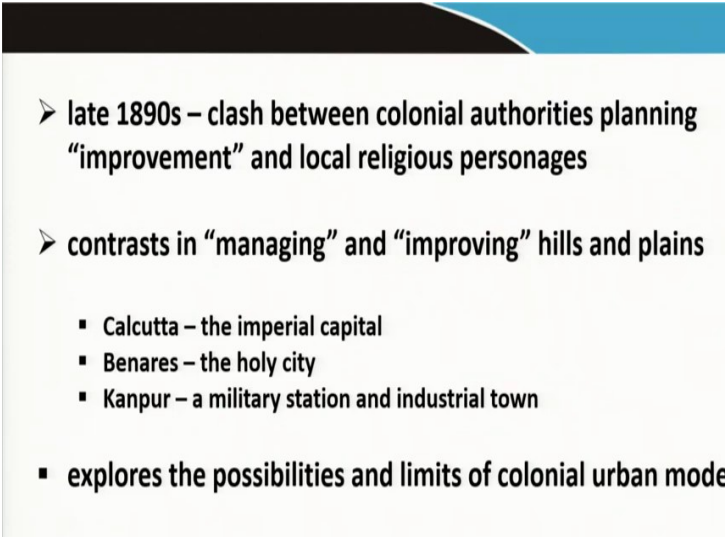


global north. And, here Sharan has a chapter on again Ganges as an Urban Singh and here you know he navigates through the Ganges across many cities; Haridwar, Benares, Kanpur, Calcutta.

And, this particular methodology makes this you know this discussion quite interesting and fascinating because we see the not only the multilayered understanding or multilayered narratives of pollution purity etcetera.

But, we also see that how these narratives also kind of change with changes or with special connotations, how space also you know played the role of an important variable determining changing connotations of you know this multiple narratives surrounding pollution purity purification etcetera.

(Refer Slide Time: 16:16)

- 
- late 1890s – clash between colonial authorities planning “improvement” and local religious personages
  - contrasts in “managing” and “improving” hills and plains
    - Calcutta – the imperial capital
    - Benares – the holy city
    - Kanpur – a military station and industrial town
  - explores the possibilities and limits of colonial urban mode

Yes. So, another important point is the please concentrate on the first bullet. So, this is what I very much liked or enjoyed about this chapter. So, he talks about the distinctive colonial form of modernity, the distinctive colonial form of modernity through difference and imitation.

You remember I talked about you know Broich work and Mann’s work. So, Broich actually talked about you know that though colonial and mother country context were different. But the strategies which were implemented and the outcomes or the

consequences for both the countries were same and in that when he said that Bob and Manchester are not, were not different.

But, Michael Mann you know he talked about the very fact that that how the British themselves the colonizers started making difference between tropical and temperate you know environment. So, similarly what happen is that not only that Awadhendra Sharan specifically shows that you know that there was imitation and that is why like technology transfer was done, technologies were transplanted in the colonial cities.

But, at the same time in Indian cities or within urban the context of urban India, people, nature, material, fiscal arrangements were absolutely different, but altogether very different you know from the arrangements which were made in the European cities.

So, there is imitation, but there is also or there was also the element of difference. So, far as the implementation of modern water supply and sewerage system are concerned and this is an important point which we need to really you know kind of remember very carefully, yeah.

So, he talks about like clash between colonial authorities, planning improvement and local religious personage. So, I remember particular example. So, like when the colonizers they wanted some kind of improvement measures improvement on the river in Haridwar during the time of the Kumbh Mela when the sludge load you know used to become high.

There were like resistances and like local protest and also protests which were kind of organized by Hindu nationalist leader like Madan Mohan Malviya who pointed out that you know if Ganges was intervened in the upstream, then you know like the flow her unimpeded flow will actually be disrupted.

But, on the other hand, we see that you know that there are different voices with the farmers they were actually in favor of you know some sometimes they were in favor of some sort of I mean some of these colonizing interventions because the these catered to their economic more specifically irrigation needs. So, these are the various issues that you know Sharan discusses complicating the environmental discourse you know so far as colonial urban India was concerned.

(Refer Slide Time: 19:43)

- debates on the efficacy of the “modern sewage system” on cities
- locally adaptive schemes; not universalized technologies
- flow in the Ganga – concern about the unimpeded flow in Haridwar than the (sluggish) flow in the plains
- resistance against the construction of the Upper Ganges Canal voiced

So, yes; debates on efficacy of modern sewage system, locally adaptive schemes and not you know. So, again place of course, had its own influence so far as the implications of these technologies are concerned. And, like flow in the Ganga again like there was this concern I talked just now I talked about how Madan Mohan Malviya and his group they like kind of protested against a very against like improvement measures pointing out that this would disrupt the unimpeded flow in Haridwar.

So, and there were also resistances against the construction of for example, the upper Ganga canal, upper Ganges canal which was I mean which was intended to kind of widen another existing canal which ran through Haridwar and meeting utility needs, but again various voices where we find that the farmers, they were supporting this construction work because of course, it catered to their livelihood and economic and irrigation interest.

So, this our sanitary modernity the picture and the whole I mean the entire narrative or the tale is quite ambiguous.

(Refer Slide Time: 21:02)

- **“ambiguous sanitary modernity” (215)**
- **‘...the dependence on colonial bureaucracy for creating infrastructure could coexist with appeals to traditional and religious values’**
- **mediations along the differently oriented discourses and practices on “purity” and “pollution”, “sacred” and “secular” flows**
- **‘...a river such as the Ganges may well have been contaminated through native habits’ but pollution – ‘inaugurated by the colonial regime itself’ (214)**

So, ambiguous sanitary modernity and these are all you know these are all remarks that I have taken from these are all like powerful arguments statements that I have taken from Sharan’s chapter. The dependence on colonial bureaucracy for creating infrastructure could coexist with appeals to traditional and religious values.

So, I mean I very much admire all these works from Chakraborti to Sharan to Wilhelm which we will discuss next because you know they do not like kind of come up with or they their works are not like declensionist teleology, which was the case when South Asian environmental history actually started its journey during the initial, in its initial phase.

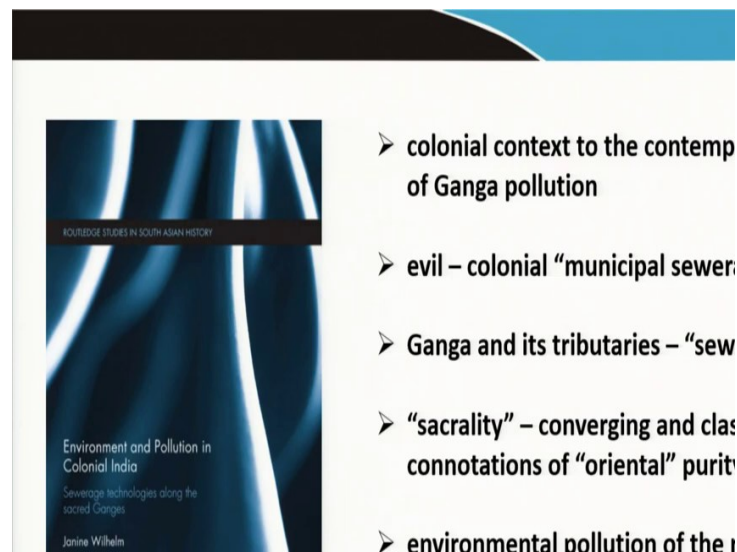
But, rather they are like very nuanced narrative, nuanced analysis of like different forces together and how all these forces how all these you know processes together made way to so called quote unquote colonial sanitary urban modernity, right.

So, they look into mediations along the differently oriented discourses and practice on purity, pollution, sacred, secular flows, etcetera. So, rivers such as the Ganges may well have been contaminated through native habits, but pollution inaugurated by the colonial regime itself, again its significance should not be undervalued. So, what happened in cities had serious implications of people living elsewhere so, in the hinterland especially communities downstream.

And, there are various examples various you know instances where even like you know people of Bengal they protested against the water that was coming from upstream I mean fully muddy and full of sludge load. So, the water to the Ganga water coming from Benares, Kanpur, Agra and then when it was reaching Bengal it was really it became a source of nuisance and the people of Bengal were in trouble.

So, this upstream, downstream, like upstream downstream, interactions and clashes and constraints and like the relation between city beyond its immediate urban territory, these are all very significant components of urban environmental history of South Asia.

(Refer Slide Time: 23:30)



So, we move on to Janine Wilhelm’s book Janine Wilhelm she actually did her PhD under Michael Mann. So, Michael Mann was her supervisor and she studied environmental pollution in colonial India specifically focusing on the sewerage technologies along the sacred Ganges.

And, when she says along the sacred Ganges so, she discusses urban modern water supply and sewerage systems in cities like Benares, Allahabad, then Lucknow and then Calcutta and Kanpur. So, these are the various cities that you know of course, that are located on the banks of the river Ganga and the colonizers.

For example, Wilhelm quotes Colvin the British colonizer who says that you know how Ganga and its different tributaries actually offered themselves, as which receptacles to kind of where the sewage of these cities could actually have been disposed.

And, this is something on which the entire debate then started getting formulated and consolidated and this clash is continuing or this debate or this you know hot bed of controversy is continuing till date. So, Janine Wilhelm in her introduction says this she says that you know the contemporary pollution problem that we are, we I mean that has been discussed in the recent times.

So far as the pollution of the Ganga is concerned, this needs to be contextualized, within this needs to be contextualized within the you know within, the colonial discourse and the colonial sewerage practices and the deployment of colonial sewerage technologies on the river Ganga. So, this you know the contemporary problem she says it is a long drawn problem and it is a problem which has come down to us from the past and not very long past, but quite an immediate past the colonial past.

And, Janine Wilhelm also you know what is very significant about her work is that there are some other works on I mean on similar lines, but they have they are not really historians, but they have discussed this contemporary pollution problems. So far as the this particular river the Ganga is concerned, for example, the work by Katie Ellie or you know the work by Lena Zulka.

So, they argue that religion you know and for European or for like a foreign anthropologists you know Ganga is a very complicated case study. Why? Because, they said that you know that this understanding that the river; that the river can purify itself. So, she is the goddess. So, she can actually absorb pollutant in such a way that other rivers cannot actually absorb. So, she has like this mysterious antiseptic ability.

So, Katie Ellie and Lena Zulka they say that you know how these kind of an understanding actually became deleterious for the health of the river. So, but Wilhelm kind of counters this argument I mean if she does not counter it absolutely she does not do that.

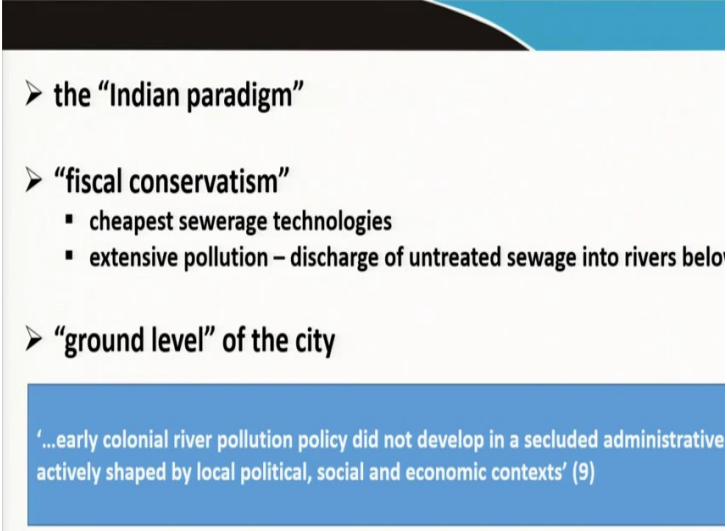
But, what she does is that she is for her religion is also an incentive because she shows she stresses that how religion you know provided the context through which activism,

environmental activism were reinforced through which people or several social groups you know they were compelled or they were rather, they were they got collectively united to put pressure against the state.

So, she says that you know unfortunately today's several missions you know that are that are talking about cleaning the river and several other you know environmental programs that are being discussed upon and being sanctioned. Unfortunately, they do not these initiatives do not take into consideration you know this component, this component of the religion.

So, Janine Wilhelm says that why and how this religious perspective need to be positively harnessed and buttressed and integrated within the environmental programs and planning initiatives of the Indian subcontinent.

(Refer Slide Time: 28:34)



➤ the “Indian paradigm”

➤ “fiscal conservatism”

- cheapest sewerage technologies
- extensive pollution – discharge of untreated sewage into rivers below

➤ “ground level” of the city

‘...early colonial river pollution policy did not develop in a secluded administrative actively shaped by local political, social and economic contexts’ (9)

Yes. So, three major arguments that Wilhem discusses one is the Indian paradigm again she also talks about that how when the colonizers made a difference between tropical and temperate environment. How that you know that kind of provided, that legitimize their denial of germ theory within the context of Indian rivers.

And, this is also connected to fiscal conservatism because it also makes us aware about the constraint budget for the urban sanitary infrastructures and you know the reason why you know when even this water borne sewerage system was implemented there were no

facility. There were not adequate facilities like for example, sewage farms to kind of first filter the waste and then dispose it into the river.

So, unfiltered waste was disposed into our river like the Ganga. So, this is again one of the major problems and again a difference. So, you remember Sharan's imitation, but difference this is again you know another I mean a major difference between urban, modern urban infrastructures introduced in Europe and European colony.

And, also every place has its own narrative; every city has its own narrative. So, the ground level dynamics of the city also need to be totally understood, unfold, unpacked in order to understand the you know production of the, or and the continuation also of the path dependent trajectories shaping reshaping urban nature.

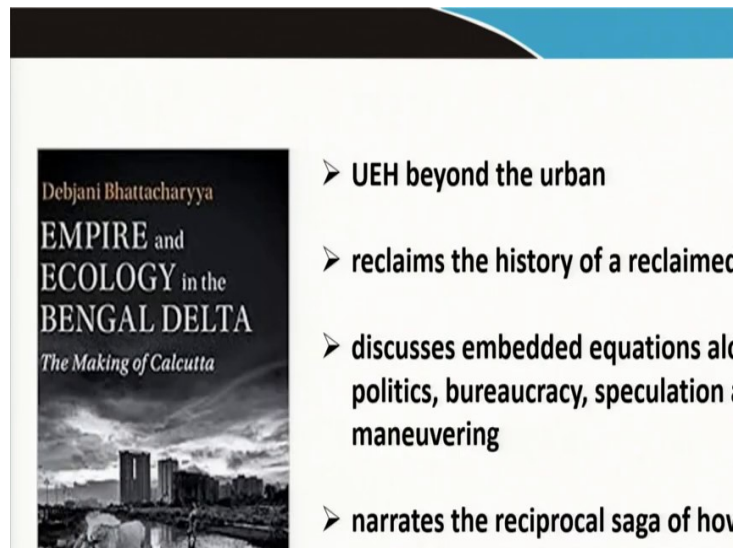
So, she says and this is a quote from Wilhelm early colonial river pollution policy did not develop in a secluded administrative world, but was actively shaped by local political, social and economic context. So, yes the importance of you know, the situated frameworks the significance of situatedness in urban environmental history.

So, Wilhelm's book actually offers the first extensive historical study on the evolution of colonial river pollution policy and its impact on the future of Indian rivers. So, she did a back casting you know in order to make us aware of the present condition and also how the future has to be laid out.

So, but also clarity shows that individual debates around sewage disposal and river pollution in cities must not be treated as isolated discourses exactly, but as components within an overarching process of policy formulation, yes.



(Refer Slide Time: 31:15)

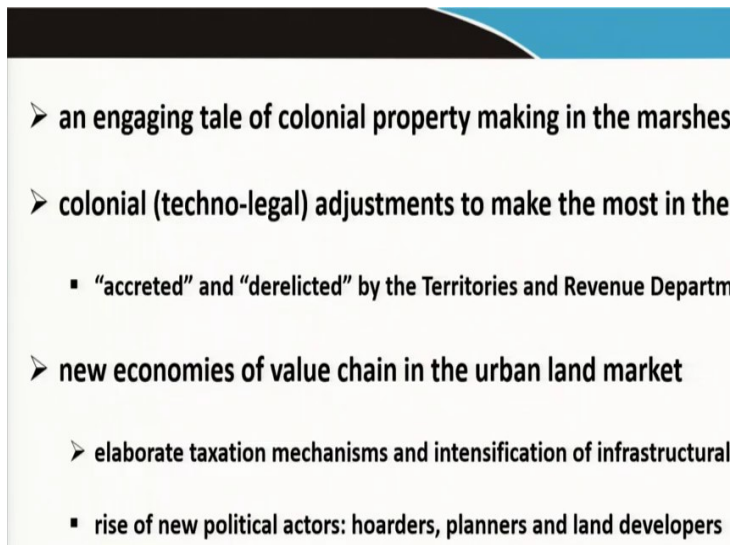


So, the next book which is the second last book here. So, this is seminal contribution and you know I think I should honestly confess that this is my most favorite book so far as South Asian Urban Environmental History till date you know is concerned because it talks about environmental history and urban environmental history beyond the urban.

And, this is so, Debjani Bhattacharyya and this book published from the Cambridge University Press Empire and Ecology in the Bengal Delta the making of Kolkata Calcutta. So, here she addresses the amnesia; the amnesia about the soaking ecologies of the Bengal delta. And she I mean shows ways through which there can be you know I mean through which the collective memory of reclamation of a city can actually be recovered.

So, this book it reclaims the history of reclaimed delta city discusses embedded equations along power politics bureaucracy speculation and legal maneuvering and this book it actually narrates the reciprocal saga of how mobile geographies of fluvial land waterscapes shaped colonial legal machinations and in turn gets shaped by this.

(Refer Slide Time: 32:42)

- 
- an engaging tale of colonial property making in the marshes
  - colonial (techno-legal) adjustments to make the most in the
    - “accreted” and “derelicted” by the Territories and Revenue Department
  - new economies of value chain in the urban land market
    - elaborate taxation mechanisms and intensification of infrastructural projects
    - rise of new political actors: hoarders, planners and land developers

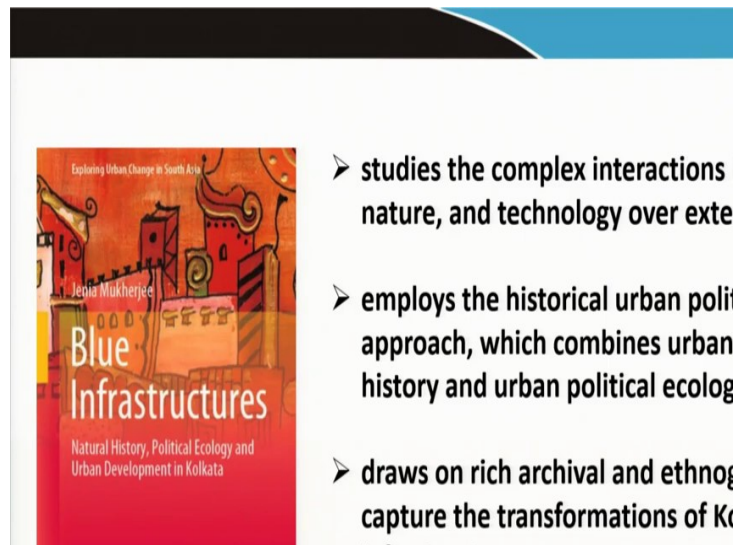
So, it is a fascinating book it is an engaging tale of colonial property making in the marshes where you know, she talks about this property making initiatives how you know this kind of articulated or this was done through legal articulations as response to the ecological indeterminacies of the Bengal delta which was partly water, partly mud, partly land you know and a fluid scape always dynamic and always in the process of flux an ecosystem in flux.

So, she talks about the colonial techno-legal adjustment which were made to make the most in this fluid scape, and how the territories and revenue department of Calcutta for example, they divided or they categories land as accreted and derelict in very much in tune to the shifting you know landscape of this volatile Bengal delta.

And, this book discusses or brings to the fore new economies of value chain in the urban land market restructured along elaborate taxation mechanisms and intensification of infrastructural projects expediting rise of new political actors like hoarders, planners and land developers.

So, I have I am blessed and I was blessed actually to review this book in the journal of history and in the review I have mentioned that this book I consider this book as a conceptual and methodological breakthrough in urban environmental studies and hydro sediment social scholarship.

(Refer Slide Time: 34:24)



This is the final book and the final slide for this lecture. So, this is my book on Kolkata's Blue Infrastructures and where I have kind of integrated you know political ecology with environmental history and kind of formulated framework which I call HUPE which means Historical Urban Political Ecology approach.

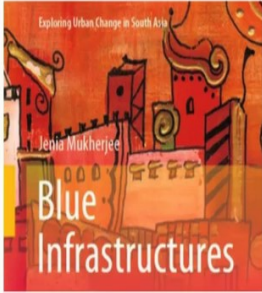
So, you can understand you know of course, then this methodology provoke me to kind of cross fertilize archival research methodology with ethnography to capture the transformation of Kolkata's Blue Infrastructure and what is good about this particular book is that I mean, I have used a kind of an elongated temporal scale to explore the complex interactions between city nature and technology.

So, yes extended time scale along the contemporary and along the colonial and the contemporary period. So, this extended time scale actually is quite significant for us to enable you know the dynamic, the dynamic power relations in the making of you know urban environment in specifically so far as Kolkata is concerned.

So, and I think like so, one of the like major incentives or rather the environmental urban environmental historians are quite motivated these days to kind of borrow from other fields, other domains and integrate come up with a kind of an integrated approach by you know combining several methods, methodologies, frameworks and approaches.

And, so, I think we will be able to discuss more of this cross fertilized approaches and integrated frameworks when we also finish discussing or finish when we cover urban political ecology as another major conceptual domain so far as urban environmental social sciences in is concerned in our next two or three presentations.

(Refer Slide Time: 36:30)



The book cover for 'Blue Infrastructures' by Jyoti Mukherjee features a stylized, colorful illustration of a cityscape with buildings and water elements. The title 'Blue Infrastructures' is prominently displayed in a large, bold font.

- studies the complex interactions nature, and technology over exte
- employs the historical urban politi approach, which combines urban history and urban political ecolog

• Guha, R. et al. (2005). What's Next for Environmental History?, *Envir* 10, Issue 1, January 2005, Pages 30–109

• Mann, M. (2007). Delhi's belly: On the management of water sources

So, these are the references.

(Refer Slide Time: 36:33)

## CONCLUSION: Key highlights

- continued with the historiography of SAUEH, discussing mor works
- updated with recent advances in UEH

What we have done here is that we continued with the historiographies of South Asian Urban Environmental History, discussing more recent works and we specifically covered

Sharan's work and Janine Wilhelm, Debjani Bhattacharya and my own work entitled Blue Infrastructures.

So, I have updated you with recent advances in South Asian Urban Environmental History, and I think this is something which I will take up more in the next, in the next sets of presentations. So, how you know this historians are making move the recent scholarship is making a move towards more integrated approaches.

Thank you.