

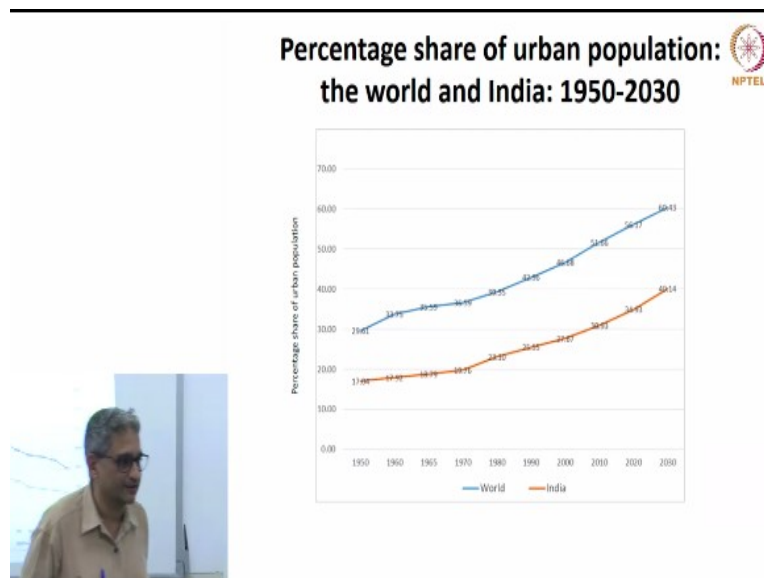
Towards an Ethical Digital Society: From Theory to Practice
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CITAPP Winter School
International Institute of Information Technology-Bangalore

Lecture - 04
Smart Cities and Equity

Good afternoon everybody and thank you all for being here today. As you probably know, some of you know, some of you do not, my name is Balaji and I am a colleague of Bidisha here at IIIT. And I would like to share with you some ideas about smart cities and equity. Just pick up your feet and I would like to start off by saying if you have questions at any point feel free to stop me and I will be happy to answer it.

I would also like to start off with asking a question. Why do you think we should be talking about smart cities? Or what is it that you understand by that? (()) (00:54).

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One of the pretty good reasons why we are talking about, you know smart cities, we should be talking about cities in general, is the fact that we are becoming an increasingly urban planet. And if you look at the numbers, say by 2030, and I stop at 2030, because projections for 2050 you know the numbers are only bigger. But then, in the long run, we are dead, as John Maynard Keynes said.

So we will stop at 2030. It also is a nice sort of an end point because it terminates the sustainable, sustainability goals. So if you look at 2030, India, which is likely about 40% urban, and the world at large, about 60%, right. And if you actually look at numbers from the world urbanization project, etc., from where these numbers are taken, India will be more than 50% urban by the middle of this century.

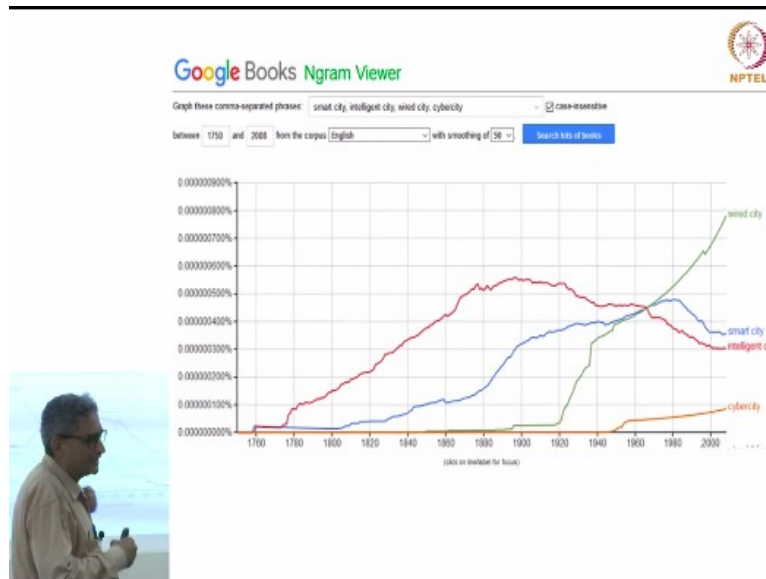
And we will be two thirds urban at a planet scale. So we are talking about large numbers, and we see this shift to an increasingly urban planet, notwithstanding strong intellectual and ideological push backs that you had in the recent centuries, not least from people like Mahatma Gandhi, who said India lives in its villages, right? You had people, American thinkers, like Thoreau who wrote Walden Pond who praised the virtues of living in nature.

But all that seems to fall on deaf ears, for better or worse. We as a race are becoming increasingly urban, even in this country, alright. And among the reasons for that is the fact that cities are increasingly sort of major contributors to our economic well being, right. They contribute a significant share of national income, because a lot of the activities that are productive, when I say productive, this is not to say this is not to pass judgment, on one form of economic activity or another, right.

But measures of productivity right, in terms of output per hour, or whatever indicator you might use, here is the point or the fact that most of those activities are urban in nature. And therefore cities are also providing significant amount of the work. The other reason of course, is that there have been other changes that have been taking place, we can expect to see more of that.

You are faced with current crises like climate change, which are making agriculture a lot less predictable, right? We see war in many parts of the world, just think of what is going on in a place like the Middle East, right? So, there is a lot of movement of people that is unsettling, okay. And where do many of them go? It is to the city. So there is a good reason why we talk about cities. Now let us get to the smart bit of it you know in a few minutes.

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Look at sort of this Google Ngram. It is a really fun thing to do whatever topic you are sort of researching. And I, I do not know if you guys can see this clearly. But what I because I just decided to throw in few terms like each one is like a flavour du jour. Today it is wired city, cybercity, smart city, intelligent city, etc., right.

And one of the things that you actually see is the you know over like a 200 year period, this is all the literature in English, the corpus is only from English, you see a significant growth in the numbers. Of course, there are ups and downs every now and then. And this largely coincided from the middle of the 19th century, particularly when you had the expansion in telecommunications, right?

So that is what that points to. So, let us take a look at what some of these terms might actually mean, right? I just sort of, there is nothing hard and fast about these labels or titles. So you can plug in other terms and see what it gives you back.

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From cybernetics to cybercities



cybernetics - Greek origins meaning "to govern" and is about systems (living/non-living) that embody goals.

cyberspace coined by American science fiction author William Gibson in 1982. Origins from the mathematician/philosopher Norbert Wiener's 1948 book *Cybernetics: Control and Communication in the Animal and the Machine*.

cybercity has also been called a huge megalopolis without a center, both a city of sprawl and an urban jungle; an unwieldy mixture of dystopia and cyberspace turns the reality of time and space into an imaginary matrix of computer nets electronically linking together distant places around the globe and communicating multilinearly and non-sequentially with vast assemblages of information stored as electronic nodes.

Christine M Boyer, 1996. *Cyber Cities: Visual Perception in the Age of Electronic Communication*, p.14, Princeton Architectural Press.

Okay, let us take the term cybercities, what does it actually mean? Now the term 'cybercities' goes back to cybernetics. Now the Greek origin, which means to govern, right? And it is about systems that embody certain goals, right. And I have emphasized this particular point, the importance of the governance, this becomes very crucial. And I will get to it later on right about how we should possibly be thinking about it in some of the current debates that we are having.

The term cyberspace itself, again which is something very common in our day to day parlance, okay goes back to the American science fiction author, William Gibson. And he himself was borrowing that term from you know the renowned sort of mathematician and philosopher Norbert Wiener in 1948 book, *Cybernetics: Control and Communication*, right?

So that is an absolute classic for those of you who have done electrical engineering, computer science, or even you know some aspects of philosophy and epistemology, right. Now from that, right, we have the notion of a cybercity, I am here quoting a well known author Christine Boyer. And she says the cybercity has been called a huge megalopolis, right, without a center. Both a city of scroll and an urban jungle.


An unwieldy mixture of dystopia and cyberspace turns the reality of time and space into an imaginary matrix of computer nets, electronically linking together distance, places around the globe, and communicating multilinearly and non-sequentially with

vast assemblages of information stored as electronic nodes. So what are we really looking at here?

There is you know, there is a simultaneous, you know centripetal and centrifugal force that seems to be working here. On the one hand, we are all sort of getting into, we are all becoming more and more urban dwellers. On the other hand, there is this tendency to decentralize, right. So there is this tension that is actually taking place in these sort of debates.

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Wired cities



References to **wired cities** dates back to advent of telecommunications – telegraph, telephone, and now the internet.

Cable technology is blossoming, and it won't be long before the television set in the living room turns into a device for shopping at the best stores, conducting bank transactions, taking college courses, scanning library reference sources, reading the morning newspaper – even guarding homes against burglars (Young, 1981:28).

The wired city is usually spoken of at the local level, not on the national or federal. I think this shows a sound instinct. The kind of interaction and communal spirit that the **wired city** can foster, if it is managed rightly, may very well deteriorate into mass manipulation if the scale is allowed to grow too large (p.266).

Panel on Information Technology and Development. 1978. Local Government and Information Technology. Volume 12, Informatics Studies. Organisation for Economic Cooperation and Development.

Now let us look at wired cities. What are exactly a wired cities, right? References to this goes back to again, like I said to the day you know advent of communication, you know you have the telegraph, and so on, which a wonderful book by the former economic editors of the Economist refers to as the Victorian internet, right. And you know then of course you have telephony and the internet, etc.

Now an article written in 1981, was rather preceded said, cable technology is blossoming. And it would not be long before the TV set in the living room turns into a device shopping at the best stores, conducting bank transactions, taking college courses, right? familiar. Scanning library reference sources, reading the morning newspaper, and even guarding the home against burglars, right.

Now then there was a OECD document from 1970. It says the wired city is usually spoken of at the local level, not national or federal. I think this shows a sound instinct,

kind of interaction and communal spirit that the wired city can foster, if managed rightly, may very well deteriorate into mass manipulation if the scale is allowed to grow too large. Again, does that sound familiar? Right.

So the thing is, what this particular sort of these definitions on these slide, this slide point to is that there is a social dimension that one must add to the spatial dimension of bringing in technology into the city, right. And we need to sort of explore that and we have to sort of connect that with the governance issue that we spoke about earlier that was referred to in the previous slide.

Now this, what I would call is a somewhat clean, well defined aesthetic notion, of what a wired city is. And why do I say that?

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Look at this. This is also wired, isn't it? In ways that we do not necessarily anticipate? So one of the things about these is about how technology actually manifests itself, how it gets appropriated right, how it gets deployed. These are issues that we need to think about. So this also applies to what we call the Smart City.

So we need to think about what is it that we mean when we think about technology, right. Is it, there is a certain tendency to sanitize, okay which may not always be valid. I just want to sort of bring that to your attention.

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What is a smart city?



- "collect lots of data through instrumentation, bring these data together through integration, and then analyze the integrated data for intelligence" (WDR 2016: 240, original emphasis) to optimize data flows and use predictive analytics for evidence-based decision-making.
- Indian Smart Cities Mission (SCM) launched in 2015 to promote 100 cities that "provide core infrastructure and give a decent quality of life to its citizens, a clean and sustainable environment and application of 'Smart' Solutions";
- however, each city has "to formulate its own concept, vision, mission and plan (proposal) for a Smart City that is appropriate to its local context, resources and levels of ambition" (Ibid.).

So then what is a smart city, right? Now this goes back, I take this definition from the World Development Report that is brought out every year and this report says you know, a smart city collects a lot of data through instrumentation. We bring these data together through integration and then analyze the integrated data for intelligence to optimize data flows and use predictive analytics for evidence based decision making, right.

Now this particular definition right is sort of widely used okay. And is the emphasis in this definition is clearly unambiguously on the technology. Collect data, process it right and then come out with some results, which forms the basis for some kind of decision making or what they call predictive analytics. Now the question therefore, we have to ask is that is this the only way of thinking about smart cities, right?

And if onus of that definition right is going to be placed on technology alone, right. In a sense, a definition like this also raises a lot of questions. It says collect lots of data, right. What is 'lots of data'? What kind of data is it? You know questions of relevance, right. So how do you know this is you know it might be lots, is it relevant, irrelevant? Those are all questions, we need to think.

Bring these together through integration. Now how do you combine different kinds of data, okay? Do you want to combine certain kinds of personal information that is collected with certain kinds of data that might be collected from other sources? So

who decides on what kind of integration actually takes place, right. So this is another question that emerges.

To optimize data flows and use predictive analytics, right? You want to optimize data flows, okay. So in a sense, what this is, is primarily a transactions based approach, right? So you have a set of nodes, you have flows. And then you are trying to optimize those flows. In other words, the city is conceptualized as little more than a set of flows. Okay, now the thing is, whether it is right or wrong is a separate question. What we need to understand here is analytically what this definition implies, right?

I do not necessarily want to say that this is how you should think, I would want to say that this is how I would like to provoke you and ask and see if you can ask certain kinds of questions about the nature of the debate that we are having. So that is what I see my purpose as, not to give you a right or wrong answer about whether we should be putting more money into smart cities. That is not the point, okay.

Now in our own country, in about 2014, 2015, when the current government had its first term, the Indian Smart Cities mission was launched. And the original intent was to promote 100 cities that provide core infrastructure and give a decent quality of life to citizens, a clean and sustainable environment, and application of smart solutions, right. Now this again immediately, I hope you can see or I suppose you can see raises a number of questions, right?

Core infrastructure, what the core, what is not core, these are definitional issues. A decent quality of life. What is decent? To whom? right? In a sprawling metropolis, Take Bangalore for instance, 9 million, 10 million people, right, whose city are we talking about? Who makes claims to a decent living? Who cannot? So again, it raises a set of issues. And you know a clean, sustainable environment, that again is up for debate even as we speak, right?

People well above our pay grade, are debating these weighty matters in places like Madrid and Brussels. There is a huge international negotiation going on, right about what it means to be sustainable. So and that scales across all levels, okay. But to sort

of slightly shift gears what the Indian Smart City Mission says is that each city okay, has to formulate its own concept, vision, mission and plan for a smart city appropriate to its local context, resources and levels of ambition.

So in a sense, the city has a lot more agency here, right? So even if we do not necessarily are not able to, you are not necessarily able to come down whose city or whom or what, there is at least a little more agency. In that sense, and I sort of juxtapose these two definitions or these approaches if you might, because one is gives you, in one the emphasis is significantly on technology. The other one says, take it and come back and tell me what, right. Now what is it that actually makes sense, right? Does the Smart City make any more sense in one of these two approaches? How do we interpret, okay? Now let me add at the very start that interpreting or to sort of pass any judgment on the Indian Smart City Mission is perhaps too early, because the projects are still under way, not too many projects have started.

Even fewer have been completed, right. And there is a lot of uncertainty over what is going to be, we do not know the timeframe and so on. But with what little we have right, we can try and grab a sort of an, we can try and sort of give to ourselves an analytical lens to understand what its implications are given that this is how it is been formulated. All right.

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Now the emphasis on technology is global, right, and I want to start off there. It is, you know that is the whole sort of the rhetoric of smart cities, right. And a lot of that

has actually been pushed in part by people who are urban planners, people who are sort of urbanists.

More broadly because given the levels of or given the kinds of challenges across the world face, not necessarily only in India, offer variety of sort of, you know on a variety of issues, from flooding, and the threat of submergence of Venice, to violence in places like Johannesburg right to, you know to congestion in a variety of cities, traffic congestion and so on.

You know people have, you know planners have almost sort of lost an institutional focus and technology seems like the last card in your hand that you are willing to play. So you say, this is manna from heaven for me, let me see what it will do for me, right. And this is egged on right by any number of you know those peddling boxes and often snake oil promises, right, mostly vendors, consultants and so on saying you do this, you know congestion will be history, urban poverty will be history, urban housing will no longer be a problem, right and so on and so forth.

So the betting on smart city is primarily a now it is almost a sense of, in some cases a sense of desperation, right. Our urban challenges are growing. We are unsure how to deal with it, okay. So can we seek refuge? That is the thing.

And possibly one of the most well known, well publicized is the one in Masdar in Abu Dhabi. It is about roughly about a decade. And they, you know they have got the money, the cash to splurge. And they went ahead to build this, right.

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And it is called, you know it was a, I got this quote from some of the Masdar's zero-carbon dream, okay could also become the world's first green ghost town. Because the set of associated activities that you think about when you consider a city, right it is not there.

So while you might put all your money in this infrastructure, the question is, you know you have created a spatial entity, but what you have not yet answered is what about the social entity that you think about when you talk about a city. See because the city is a social spatial entity, right. And that is the real challenge here.

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The stupefying smart city



- incorporating "every bit of high-tech into your design," to monitor and regulate a city's functioning leaves little opportunity for an urban experience that is apparently disorderly but experientially rich (Sennett, 2012)
- a comprehensively planned smart city as a closed system where "unforeseen activity is either incorporated into existing rules – the algorithms – of the system or expelled as irrelevant 'noise'" (Sennett,
- using our growing ability to centralize information gathering and processing to dictate choices that limit citizens' ability to make sense of the conditions in which they live.
- sensed city is about "installing, experimenting, testing, or discovering to generate innovations . . . as the city becomes a living laboratory for smart urban technologies that can handle all the major systems a city requires: water, transport, security, waste, green buildings." (Sassen, 2012:13)
- censored city i.e. the tendency to make technologies invisible, both physically and metaphorically, may put them in command rather than in dialogue with users

We have a sociologist whom I deeply admire and probably many of you, you are also familiar with - Richard Sennett, right. And for those of you who have not seen his

work, I would highly recommend Sennett. So he says incorporating every bit of high tech interior design to monitor and regulate a city's functioning leaves little opportunity for an urban experience that is apparently disorderly, but experientially rich.

Now think about that photograph that I showed - experientially rich. Why experientially rich in the sense you know all your sort of cognitive senses are bombarded right, the visual right, the auditory, the nasal right, the sights, the sounds, the smells, right. That kind of experience right, is not what you will get in a place that is where everything is controlled. Part of this comes from the fact that there is a there is not too much tight control on who behaved how, right.

That is part of the argument, right. Now a comprehensibly planned city as a closed system, where unforeseen activity is either incorporated into existing rules, that is the algorithms that tell you what to do, how to do, when to do it, where to do, of the system or expelled as irrelevant noise, right. So essentially, activity that is not considered in some way contributing to urban function is seen as noise, right?

And for those of you, you know who are aware of Shannon's theorem or electrical, you know or electrical engineers by training, you want to minimize the noise to signal ratio, right. And that is and that is the kind of approach you get if you take a very limited definition of what the city is like, right.

The thing is the city, what Sennett is really trying to tell us, is that cities bring together people, not only for just economic activity, but historically if you look at where some of the most interesting ideas have come from, they have all been very urban in nature, okay. What cities do or any human encounter, it does not necessarily have to be in this artifice called city because the notion of a city itself is very fuzzy, come to think about it, right?

But nevertheless, what you are essentially trying to argue or what Sennett is arguing here is that human encounter or the greater the sort of chances of human encounter the combinatorial possibilities of new ideas, right, or you are confronting different forms

of living right are enhanced substantially right, and that is what is a problem when you have very tightly designed, closely monitored spaces.

You are trying consciously to minimize those combinatorial possibilities, okay. The and I now turn to some of the work of another sociologist whom I happen to admire, and who is coincidentally Richard Sennett's wife, Saskia Sassen, she is Dutch, is using our ability to centralize information gathering, and processing to dictate choices that limits citizens' ability to make sense of the conditions in which they live.

See because what are the things that technology does for you and okay is that it gives you a certain amount of scale and ability to centralize. That is the power of technology, right? You can make or maintain a single database. And you can do all kinds of integration that you want with that or data you know manipulation that you want with that.

But the moment you are able to do that, right, you are giving a single point of entry into various sources of information. You are able to centralize that. That ability to sort of decentralized information, a decentralized data, or data to remain decentralized let me put it that way, and providing or using that as a means to take or make behavioral decisions becomes significantly curtailed.

Yeah, you follow what I am saying? If there are any issues, please ask. Because then you are saying you have a single point, you have potentially a single point of control. You may not necessarily control everything, but then you at least have that point of control. And then Saskia Sassen makes a sort of wonderful, so there is a play on words, but she makes this lovely distinction.

Because she says a censored city is about installing, experimenting, testing or discovering to generate innovations as the city becomes a living lab for smart urban technologies that can handle very systems that a city requires. But she warns us, if you push that too hard, that censored city becomes a censored city, the s gets replaced with a c.

And the tendency is to make technologies invisible, both physically and metaphorically, may put them in command rather than in dialogue. It means what? I'm sure most of you have gone to shopping malls, and we will take that as an example of a smart city, we will call that a smart space, right. And many of them love to sort of paint that picture themselves, right? So you most of you or at least all of you, anybody here who has not been to a shopping mall? Good. Its almost redemptive, isn't it?

But the thing is, if you go to most of these shopping malls, they typically will advertise themselves at public spaces. Cinema, and of course you have all these stores. If you have a cinema, you typically have a food court and certain other amenities that you might you know want you know quote unquote "public space." But how public do you think it really is, right? One of the characteristics of that public space is that it is very heavily monitored, right.

And there are eyes that pry. And if you happen to go there, you know and behave in a certain way, or go there dressed in a certain manner that is deemed inappropriate, right you are almost inevitably right going to attract the attention of those who are maintaining the orderliness of that place. So what happens is that the niche, the notion of what is sort of public right, takes a bit of a hit. Because it is not what it is not the kind of public space you are really talking about.

Now if you think if you go back to that street in Delhi that I pointed out okay, or if you go to you know if you go to say Avenue Road or Chickpet in Bangalore, where there are a lot of you know merchants who sell jewelry and you know and silk saris and things like that okay. Those streets are not very different from what you saw at Delhi street if you go to Avenue Road, chickpet area. And each city has its own equivalent, right. Many of those guys are also wary of customers quietly vanishing from the stores without paying for the product. So of course, they will have cameras, they will have RFID, tags, all those sorts of things that we are familiar with. But the crucial distinction is this. That is what we call the private realm, right? That is not in the public realm, right? We do not confuse the urban street or urban open space with the so called public space in the mall, right? The distinction between the private and the public becomes very blurred, right?

And although in the other case, in the case of the street in Delhi, wherever it is that you want to say, the distinction is fairly sharp, and the irony or the interesting fact is that that place on the streets of Delhi, or in any other city is just as secure, right. Because you are part of a community because there are what Jane Jacobs wonderfully termed, eyes on the street, right.

Jane Jacobs was a, is a, you know homemaker in the US in the early 1960s, who saw all the redevelopment taking place in New York - streets being widened, houses being torn apart, right. And said look, and there is a lot of it was under the, under the guise of sort of security, improving amenities and so on. She said, look, I feel much more insecure here. Why? Because I cannot talk to my neighbor, or the chap who sells vegetables down the road, right.

So what Jane Jacobs was talking about, okay, and something that is of great relevance even to this day. And ironically, even though Jacobs did not have any formal training in urban planning, I think her book *The Death and Life of Great American Cities*, right is something which I would recommend you to read is by far the most widely read book by any urban planning student, right?

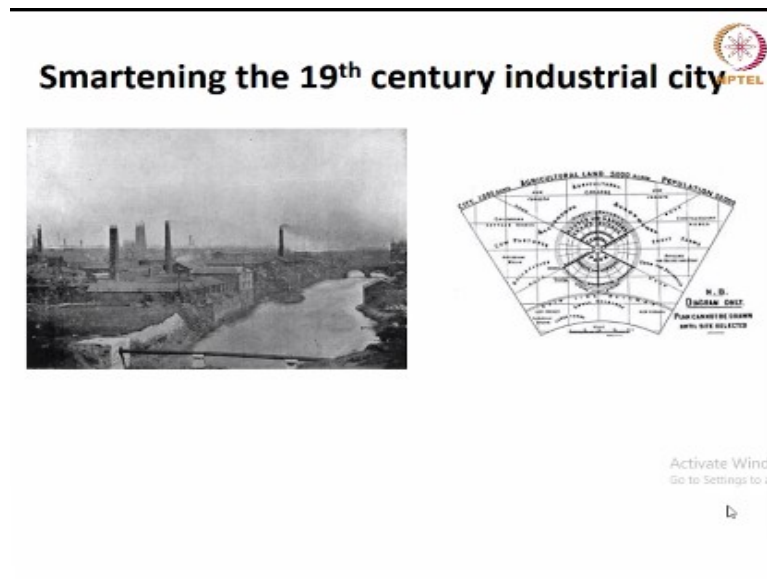
So the thing is, it just comes of observation that what she saw in her neighborhood, and this need for sort of, you know that there are many ways of maintaining security. You do not have to do it through these elaborate measures, of collecting data you know processing that data, and then coming out with predictive analytics. Not that it is not unimportant. But the question is, whether and when, and how.

So this thing is not about smart city good or bad, right? That is a dumb question to ask, frankly. But the question is, how do you actually think about definitions? How do you think about contextualizing or applicational you know where is it that you actually apply some of those things, right. That is the real challenge in the question that we want to pose ourselves. All right.

Now this is, of course, from the 21st century, what is happening in Abu Dhabi and some earlier examples in South Korea, Songdo, etc., which you can look up. Now the, call it the temptation, or the or the sort of the attraction of using technology is not

something that is new, right? So if you go back to the previous century, I will show you some examples.

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What happened was okay, before I get there, I will show you this. The notion of what kind of technologies you use, right is not necessarily limited to physical entities, right. And in response to sort of the conditions, and this is actually a photograph of mid 19th century Manchester, right, the kind that Marx and Engels, were writing about, right really desperate conditions, you know industrial workers, the first industrial revolution, Manchester was where it all happened, right.

Of course, the fact that some of these conditions exist in our cities to this day, is another kind of a tragedy. But we would not go there for now. But so they were all these sort of, you know ideas of creating what are called Garden Cities, and sort of you see this diagram.

I am sorry, if it is not terribly clear, you know the cities in the core, cities in the core, and as this sort of call to sort of build all these sort of what came to be known as sort of the the town-country interface around these dense, polluted, miserable living conditions of English industrial cities. So the idea of sort of bringing in various kinds of technology and one of the technologies that are used at that time was to open up the countryside using one of the most prominent technologies in the 19th century, the railways.

So you could actually commute from the city center to the sort of these, what they call town-country interfaces, which you now call suburbs. So, **so** they were the sort of efforts to bring together technology with other forms of organization, in order to alleviate and overcome some of the, what were perceived to be by reformers at that time, the darker sides of industrial progress.

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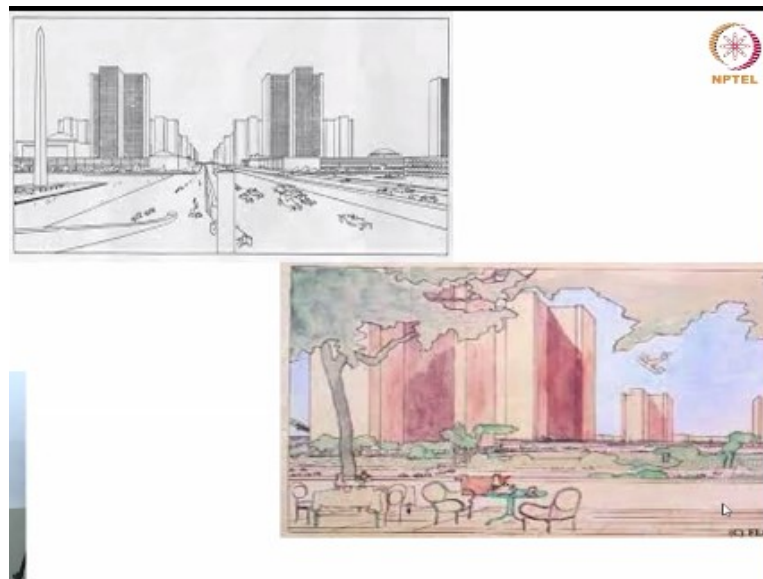


Then in the roughly around 20, in the 1920s right, the extremely well-known French architect, Le Corbusier, who in the 1950s, also designed Chandigarh, came up with this notion or came up with this sort of grand concept for a city for 3 million. And this was the city in the park. The whole idea of this sort of a city in the park was that he had a series of these high-rise buildings, exploiting a new material that became available to architects in the early 20th century, which was reinforced concrete.

And the city itself was structured along these major axes to provide mobility using another early 20th century advance, which is the automobile, right? So it was the effort to sort of bring these in, right? And to capture what you call like you know what in German they call *Zeitgeist*, the spirit of the times, right of a certain kind of modernity.

Just like information communication technologies seem to represent the *Zeitgeist* of our times that we are talking about, you know the kinds of definitions that we had in the very first slide, that was the *Zeitgeist* of the early 20th century, and to create cities around those technologies. Alright, so.

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And these were some of the sketches. But I want to ask is there something about these sketches that strikes you as interesting or as idiosyncratic? Precisely. Absolutely right. So in the larger vision right, so there is all to Corbusier, the designing of the city was like a piece of sculpture, right, where you had a new material concrete, you had new technologies that you could deploy, right?

And what was even more interesting was that the metaphor that was used, and this is where the Zeitgeist comes in the spirit of time was the city is like a machine, right? It is a huge center of production, right. And so Corbusier went down to the level of detailing individual and designing individual apartments and so on with this whole notion of efficiency.

You also have to remember that it is at about that time, right, that the field of industrial engineering actually emerged, right looking at questions of time and motion studies, right. So that was actually translated into the realm of the urban and you had a new kind of a socio-spatial conception that actually emerged, okay. So so this would prove extremely influential, which is why in many parts of the world, you know cars are very dominant. Alright.

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And of course, this is interesting, because this is a, you know a very smart piece of technology back then 1932 in London Ludgate Circus, the first ever traffic light, right. It is about moderating traffic flows. So, this is you see at different points in time technology gets introduced. So, the question is, what are they introducing it for? What is it, who are the people behind it? These are all important questions that we must be asking to interrogate this concept.

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GIFT CITY HIGHLIGHTS

- India's first international financial 'smart city'
- Strategically located between Ahmedabad and Gandhinagar
- State-of-art infrastructure at par with global standards
- It will target 8-10% of financial services potential in India
- Will create of 1 million direct & indirect jobs
- Up to 90 million sq.ft. of real estate office and residential space
- Construction began in 2011 and is expected to be completed in the next ten years
- Few towers are already completed

Now our own sort of romance with this, okay started back in 2010, 2011 when in Gujarat, there was this notion, there was this idea of this setting up a smart city and so on. So I will just sort of very quickly run you through it. So you know that these terms are very global. These are not limited to India, right? State-of-art infrastructure, world class infrastructure, those kinds of terms.

And the you know financial smart city. That is what it was all supposed to be about. It is called gift, right? Gift city. That is what it is.

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And here are some images. Do you see the striking resemblance of Corbusier's modernist vision? The nature lover in you, Bidisha, I can I am sorry, I guess you picked it up, yes. She is all being pumped. But the thing is this, the lack of any sort of human skill, the lack of any sort of spatial you know the role for the human being here, is striking in the conceptual framing, right.

It is not necessarily that they obviously want people to occupy all the floors and pay them good rent. They want the real estate market to work very well. But it is just that they do not want them visible on their glossy brochures.

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Okay, here are some of the banks of the Sabarmati and it would be an exclusive and secure zone. That is what they said, with an ideal work life balance. Now the question of ideal work life balance, for whom is again another question. Who can afford to get in there, whose work life balance?

And frankly, if you did not have half a dozen people come to take care of your house during the day you will neither have work nor life, right? So and those people are going to be far away probably on the other bank of the Sabarmati, okay.

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So there was all these debates that were of course going on, not surprisingly, just ten minutes I will come back to you, okay. So there were all these things that were going

on. But these were the early days. To be very fair, these were the early days of the debate in India.

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And yeah, so these are some of the you know the other one was the dholera project. And the irony of that was what I saw in this bottom. Now see this third thing. Where is the community? I mean, there are a few trees that Bidisha might love. But other than that, where is the community, right? The irony of all of this was probably lost on some of these people.

There are two parts I mean two ways of looking at that. Why do I not just put a dot and say city from infinity. Because I know buildings are going to come, the infrastructure is going to come. What do I have to boast of? And why is that I am actually coming to this city? There is another aspect, if you sort of zero in from that dot, right? What do I know about each of these buildings, right?

You talk about a community life. Am I going to find hospitals there? Am I going to find schools there, colleges there? You know what is it that, you know are you going to give me an opportunity to function as something beyond what economists would call homo economicus, right? What is the functional distribution, right? And how is it then that you are actually going to bring in people there?

Who are the kind of people who are going to be living there, right? These are questions you might want to know. That is the that is why, right. Look, at one level,

yes. You know who can argue, right like you are saying. Now somebody does not want to put people on them. And you know you will see some cases like that. You see many advertisements here for these exclusive Spanish villas in the middle of the tropics, thank you, with all people with blonde hair and blue eyes.

You probably seen that, plenty of it. So who are we to argue against that, right? Somebody wants to push a particular thing. But the thing is, I think the larger issue here is not just that. You are putting in a lot of public money, somebody said that. Did you say that? I wanted to come back to you. Because it is not just somebody's private development and that is their lookout, you know they can push it or pedal it in any way that they want.

But if you are going to spend a lot of money acquiring land, displacing people, building the infrastructure all from the taxpayer's money, then there should hopefully be some accountability. And that is going to be a detailed in the granularity what you offer, beyond a glossy brochure. But like I said, you can think of it as the initial phase of India's romance with smart cities.

To be very fair come 2015 actually lot of it evaporated. In part because the Indian Smart City Mission very quickly realized that the original idea of building 100 Greenfield cities was a total pipe dream. Where are you going to get the land for building so many cities, right. It was just not realistic. So what really then happened okay was were two things. One is a lot of the development under the so called Smart Cities program in the city, in the country, the Smart Cities Mission were largely limited to what came to be known as area development plans. We primarily take one locality, one neighborhood from that city. And then you essentially build for that and say, look, this is how we think certain things are going on.

This is how we would like to improve that particular area or neighborhood. And so vast majority of the projects have taken that particular form, it is not that. There are two aspects here that I would like to sort of emphasize when we talk about the smart cities mission. And to sort of contrast it with this sort of this more, or shall I say this global notion of sort of technology alone. Okay, I will come to that. Okay. Oh, this is

I want to share with you a couple of photographs, right? So this is Dholera and Gift city in Gujarat, right?

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This is this place called Manek Chowk in Ahmedabad. How many of you have been to Ahmedabad and Manek Chowk? Yeah. So which you know is like a very dense, crowded marketplace, right? And what do you get to see there?

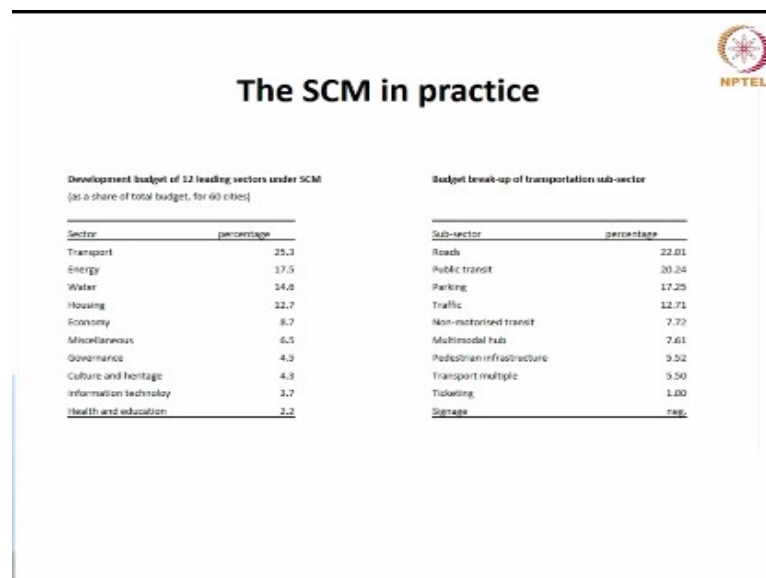
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You see things, sights like this, right. They are not selling Gucci under sort of, under the private, under a camera or something like that. This is the kind of thing and you saw the contrast with the what was sort of advertised. So the thing is you know when you think of the city as a social spatial entity, then you want to ask, what, whom are

you designing this for, are you designing this for especially when you are going to put in a lot of public money? It is not a private enclave, okay. All right.

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Now there are two things that I would like to sort of point out here. Actually what I call the SCM in practice. And this is why the Indian Smart City Mission has thankfully moved away from this Greenfield city projects, right? You have now sort of told cities that you can actually come up with your own definition of what you mean by smartness, it is not necessarily going to be something that you have to sort of that has to be influenced by technology. And you know to and if you actually look at sort of the spending, developmental budget of 12 leading SCM sector, Information Technology explicitly has only about 3.7% of the total budget. So it is not necessarily about our mission saying that you know the you know this is all about technology. I think there has been a lot of critique of the SCM project, the whole SCM the Smart City Mission.

But many of these critiques have often been misplaced because they appropriate the sort of global critiques and simply put them here. There are other reasons why we can critically think about that, think about this whole mission, okay. There are two parts. So first I will talk about the budget, okay. And then second I will talk about going back to the concept we started off with cybernetics governance, right. We will end with that.

Well, if you look at the actual developmental budget, you will see that about one fourth of it roughly goes to transport, okay. Then the transport and energy, right. So these are all basically based on what you might call network technologies, right? You want to get roads, you want to get electricity, etc. And you want to optimize those flows.

So it is so that is about that is about little more than 40%, right? So then, so in a sense, critiquing this whole thing for an emphasis on technology is probably irrelevant. Now but if you actually take a look at the breakup of the transport sector itself what you see is that you see, roads gobbling up 22%. Parking, right? That is 17. So you have almost 40 and traffic is another 12, 52.

Now if you actually include this multimodal hub and a transport multiple, which means looking at sort of multiple or integrated forms of transport, you have more than two thirds of it actually going to private transit. So it is not so much that our smart city mission invites criticism or a critique on the basis of its emphasis on technology, but rather saying how is that money actually being spent?

What is it being directed towards, right. So you have a, and look at the amount, if you look at if you look at pedestrian infrastructure is 5%, it is laughable, right. In a country like ours, where there is an enormous amount of pedestrian traffic, right. So it is that kind of emphasis that I think is worth asking questions about? Who is it actually benefiting rather than saying okay, is it a question of technology or not.

So it is largely for motorized transport or transit. And for a section of the, and it is only a small section of the population that actually goes that way. So when you think about you know pedestrian traffic, bicycle lanes and a variety of other options that could potentially open up right, they are not exactly represented. So that is one critique. The other one is how this whole program is managed.

The Indian Smart Cities Mission not only requires cities to bid, and once you bid right, and you are awarded a project, that project is actually it is done through the state. So each municipality or each city Corporation, routes it to the state. And then once you are given that, the management of the project itself is done through what is

called a special purpose vehicle, right, which is established under the Companies Act of 2013.

So if you establish that under the Companies Act, it says that I mean, it does two things. One it expects you to raise some private money, private capital, okay. And the question is, how many cities are actually able to do that? The bigger metropolitan areas may be able to do that, smaller towns less ably so. Or at least the wealthiest cities better, a better place to do that.

And it also says that, no more than 40% of your board can actually be people who often who do not belong to the state, right? But what happens in reality is that if you look at the composition of the boards or the SPVs 60%, the vast majority of them, because the money is coming through the state government is all dominated by state level bureaucrats.

And if you look at what are the, a premise of the whole Smart City Mission, it is to be inclusive, right. It is to create an inclusive, it is to make sure that the project is inclusive, it reaches out to different sections of society, right. Now unfortunately, if your board is going to be dominated by people who are, you know state level bureaucrats, you know if you are at the state capital, maybe things work for you.

But if you are in a second like say Hubli in Karnataka, you know you do not necessarily have access to some of these guys, your voice does not necessarily get heard. And even within the cities, as a result, cities which benefit from this mission, empirically I mean, there are some preliminary results. I mean, this is by no means conclusive.

So be careful of sort of in deciding that it is the more affluent parts of the cities that get the benefits, because they are the ones who can get the work done. So the thing is these distinctions that start to appear as a consequence of the Smart Cities Mission okay, in some ways, you know is really reproduction of certain existing inequities within our cities.

And in fact, you mentioned the BRTS in Hubli, a lot of the projects that are now being taken up right are actually used to be part of what was called the Jawaharlal Nehru Urban Renewal Management Fund, the JNNURM, which got repackaged really speaking, right? So things that could not get funded or did not meet the bar or whatever reason, or could not get money were rolled over into this one.

So it is sort of a new manifestation of old JNNURM projects. So you have this kind of, you know this, given the way the project is governed, which is very critical here, you know largely by state level bureaucrats, which bypasses for the most part, municipalities and does not necessarily help them build the capabilities that they may need, right. You are left with a situation where people do not have access to some of these resources, have a voice in them.

And you should therefore not be surprised if you see, you know more sort of pet projects that favor either motorized transport or actually, if you look at the other thing that I want to sort of mention very quickly, is if you look at things like housing, right? If you look at the breakup of housing, I did not give it to you here, a lot of it has to do with real estate development, right?

So essentially, it is see you are seeing certain specific groups within the urban areas that are actually benefiting from these projects. And the creation of many of these urban assets, right is also leading to or pointing us or taking us back to the older problems of saying how we acquire land. You know how do you know do you have to do “slum clearance” quote, unquote, right? Is it justified under SCM?

Is it what inclusion means? right. So there are many questions that arise, right? So what I want to sort of leave you with, so to open the floor of question is that, on one hand this notion of the smart city that is sort of heavily that heavily emphasizes technology, right. And you know that that is not going very far, right. But on the other hand, if you also go to the other, you take a very different position like Indian Smart Cities Mission.

So okay, we are not necessarily going to emphasize the technology, but you come and tell us what you want, right? What then happens is that it becomes a reproduction or

at least in our context, of existing social cleavages, if not inequities, right. So those existing social cleavages tend to get reproduced because of people who are who can sort of scream the loudest as they say it is the squeaky wheel that gets the grease.

So that is really in essence what is happening, right. So I think I am done. Okay. So if you have any questions, I will be happy to answer them or we can just we can have a discussion. We do not necessarily have to be question and answers. So it is five after five. So for those of you who want to leave, that is fine. I am sure you had a long day. But for those of you who want to stay back, we can chat. Okay, thank you.