

## Scarcity, Abundance & the Human Dimension: Analysing Urban-Rural Water Conflict in India | Text Transcript | CIRCLE

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This is a text transcript for the webinar “Scarcity, Abundance & the Human Dimension: Analysing Urban-Rural Water Conflict in India” presented by the Canada India Research Centre for Learning and Engagement (CIRCLE) at the University of Guelph. The guest speaker was Bharat Punjabi, Research Fellow, Global Cities Institute & Lecturer, Munk School of Global Affairs and Public Policy. The event was recorded on November 12, 2020 and was moderated by Bill Barrett.

Transcript:

### Bill Barrett:

Welcome everyone, my name is Bill Barrett and I'm a community representative on the steering committee of the Canada India Research Center for Learning and Engagement, which is CIRCLE. CIRCLE was established in February 2020 at the University of Guelph. The aim is to be an interdisciplinary nucleus in Canada for cutting-edge research on India and the Indian diaspora; to showcase, advocate, catalyze, and foster an equitable, respectful, and sustained exchange of knowledge between Canada and the Indian scholars on complex, emerging and unexplored topics related to sustainability and social economic well-being and I'm broadcasting live from Guelph today. It's a beautiful day, sunny day and today we have a webinar with Bharat Punjabi and just a bit of our etiquette; we will entertain questions through the chat box or if you want to raise your hand then we'll recognize you if you'd like to speak as well.

So, what I'd like to do now is just do a brief introduction of Bharat who's a fine, fine fellow. Bharat Punjabi has a PhD in human geography from the University of Western Ontario, where he researched intersectoral water conflict in the Mumbai region in coastal western India. He's completed post-doctorate fellowships at the University of Toronto and at the University of Guelph. His main interests are in water governance and policy in large metropolitan cities and urban studies. And he's currently teaching in the Asian Institute which is part of the Munk School of Global Affairs and Public Policy at the University of Guelph. Just to note, Guelph has a long history of water activism and so this topic is particularly of interest to folks here in Guelph. So, Bharat take it away please!

### Bharat Punjabi:

Thank you, Bill, for that introduction and it's an honour being here at Guelph though we can't meet in person, but I've always followed Guelph's water activism very closely and I hope that it's going to influence my work someday even if it's on India you know, I draw a lot of inspiration from the community participation and activism that has been taking place in Guelph and then that is to bring us to our topic which is water in India and my own interests with water actually began when I was a student in India, almost a decade and a half back, and I was actually working on water problems as an activist and then as a researcher and what brought me to Canada was both an interest in exploring water ethnographically but also looking at

water from a kind of policy perspective. Now, I know that many people don't do that but, in my presentation, today I'll try to integrate the two and draw some attention to the kind of very vibrant policy context in India on water and kind of marry that with the very rich, ethnographic context of both Maharashtra and the state of Tamil Nadu.

Now, most of you may not be aware that in the last five years have been very busy as far as Indian water governance reform has been concerned. We've had a number of reports. Indian think tanks have produced a number of reports - they're very good at doing that - we need to get them to actually reform everything [chuckles] but to start with there was a report in 2018 by the NITI Aayog which actually drew attention to the water crisis in India which is very multi-dimensional. You have regions which are extremely water stressed, you have regions which are water scarce; there have always been water scarce regions in India where the availability has always been a challenge, and we've had particular attention being paid to urban issues but also issues of water supply, where the demand supply gap is narrowing.

The Central Water Commission, which is a government body, came up with a report last year, but of particular importance was the committee headed by Mihir Shah who's actually an economist but also an activist who actually wrote a very important report in 2016 calling upon the kind of wholesale reform of Indian water governance and he recommended basically that some of the late kind of colonial period organic parties which were set up in India by the British like the Central Water Commission, Central Groundwater Board, have become redundant – they're not doing their work properly and what we need is a national water commission and for those of you interested in his work – in Shah's report – the report is available online it's called, 21st Century Institutional Architecture of India's Water Reforms Report and this is separate from the NITI Aayog report which I'll come to.

But what Shah is basically trying to do with his report and with the recommendations he's made is that he's trying to reform water law in India at the federal level. This is very important and as a result of his recommendations a national water policy is being currently drafted. Now, as I said we have a number of these reports. You also have non-profits and think tanks both Indian and foreign which are drafting important reports on the water crisis in India and pointing out how urgent, how badly, we need solutions. And the current government's paying a lot of attention to it, but the challenge as you would expect as in a federal country like India, water tends to be a state subject and you need a lot of state, central, local cooperation but if there's one message that one can take from this report - from all these reports - is that Indian water governance is in urgent need of decentralization.

Now, decentralization means empowering local governments but also adopting what we know in Canada as a watershed approach. We have these conservation authorities in Canada which actually do a very good job of managing water at the local level and coordinating local needs and aspirations with the province and the federal level. So, decentralization is one message which comes from the Shah report and from the other reports that we need more participation by communities in urban rural areas and the states need to work that out.

The one thing – this is a rather long quote, I'm sorry about that – but this also kind of captures the sense of the problem in India, where since the 1980s we've had both these organizations - The Central Water Commission, The Central Groundwater Board - highly oriented towards hydrogeology and civil engineering actually dominating water management. And what the Shah report, for instance recommended was that we need people in the social sciences, we need agronomists, we need other disciplines which need to have their own input into water policy, and this is a long-standing critique which Shah has actually given more voice to in a government report and this was also a critique made by the anti-dam, large dam movement in the 80s and 90s.

But again, the fact that this has actually moved into official discourse is very very significant and there's been a big battle over this as well in the last two, three years where there's been arguments on both sides whether we should do away with the Central Water Commission or not. But what Shah is actually saying is that we need to reduce their powers and have a new kind of national water commission which combines all these various expertise's and not centre everything around civil engineering and hydrogeology. So, bring in ecological economists and bring in agronomists and bring in social sciences, and seek their input on water governance.

So, some others have also said that this is not a crisis which is experienced everywhere. It's not experienced in a uniform manner but it's important to kind of disentangle what the geographical, social dimensions of this crisis is. So, you have water scarcity, where as I said now there are certain areas which have always had long-standing water problems; arid, arid areas, but then you also have areas having good availability of water especially in the North where waters come under stress and this is the focus of the NITI Aayog report. For instance, where you have groundwater being depleted at a very fast rate in states like the Punjab Uttar Pradesh, but also in other states in western India where due to the kind of influence of the green revolution, we are depleting water faster than we can replenish it.

Some others from the political ecology perspective which still is quite influential within India, are talking about how access to water has always had an inequity damage. We've not had equal access to water and many government reports and national sample survey reports actually have highlighted how people from the communities from the lower caste and tribal communities have less access to water than upper caste communities.

And finally, everyone agrees that this is a crisis of governance. This is a big crisis of governance as I've just pointed out and not just that the country needs water laws that need to be reformed at the national level, but also at the local and state level. Where there's this strong influence of a very colonial style of management; very top-down where communities are not involved and also that Indian water laws have what is called Riparian influence, and I'll dwell on that shortly when I come to the summary of this presentation.

## Bharat Punjabi:

This is a map I've taken from the NITI Aayog report and it shows you that areas in the north are particularly highly stressed, where availability is less than 1700 cubic meters per person, per annum. That's a real problem according to water experts, hydrologists. Anything less than 1500 is bad and we are nearing a situation where things are actually getting much much worse, especially in the north and west of the country and it includes pockets in Andhra Pradesh, Maharashtra, where you already have a gradient crisis, just compounded by the fact that water is not easily available.

Demography plays a big role. India, as you know, is a highly populated country and that actually adds to the water stress where you have growing population and less and less availability of water. But you look at the causes as to why this is happening, so this is just summarizing what I just showed you, 600 million people facing high to extreme water stress. 75 percent of all households do not have drinking water on their premises. And the third and more important part is that – and you might have seen this in several BBC and New York Times reports, as well a lot of Indian cities have water tanks which have become polluted because we don't have proper sewage systems and a lot of waste gets into water.

So, average per capita water availability which is already low enough for a country to be categorized as water stressed is expected to be reduced and those levels are expected to fall. And by 2025 the situation is going to be even much much worse according to the NITI Aayog report. And these are average numbers okay and some areas the situation is already bad where availability could be lower than 1000 cubic meters in more arid areas especially because Indian farmers are also growing very water intensive crops.

This is again a very long quote I've taken from the NITI Aayog report, but it captures the kind of dilemma quite well. Not only are livelihoods under threat but the fact that we have children dying out of lack of access to safe water both in Indian cities and rural areas shows us how grave the crisis is and as the situation gets worse – because as I said this needs a kind of coordinated federal state, local response - we are looking at very severe water scarcity by 2030 and for a lot of economists that's troubling because uncertainty around water could also lead to a decline in the country's growth rate - economic growth rate.

For today's presentation I've chosen to kind of highlight one important type of crisis within the overall water challenge in India and that is how we are seeing a kind of increase in rural urban conflict. A large part of India's population, more than 50 percent, still lives in rural areas - depends on agriculture - but Indian cities are growing so urban hinterlands and also large watersheds around dance which are tapped for water for cities are witnessing conflict between rural communities and urban areas, that's particularly marked in terms of peri-urban areas; urban fringe areas where there's a transition going on from agriculture to industry and services and peri-urban management is becoming very very important in large metropolitan city regions in India.

The one big problem I found while I was doing my field work last decade and this decade is that we still are growing water intensive crops okay. Present some data on how agriculture takes away a lot of water especially crops like rice and so you have the scenario where if we really change our crop patterns there's a lot of promise, but how that has to be done is still an open question where in some cities and some urban hinterlands we are already having a lot of solutions being proposed and actually being implemented. For instance, in Haryana where farmers have been actually moved away from water intensive crops, so you have a lot of water it's just that we need to learn a lot from countries which have moved away from water intensive crops and in India there's been this move towards growing grains which don't take a lot of water. And even in this particular dimension of the problem, the kind of rural urban water conflict, I found that we have the mechanisms and processes and the laws still have a lot of colonial influence and through a study of Mumbai I'll show all of you how that manifests itself.

I was part of a study, it was led by Dustin Garrick, who's a water expert at Oxford, where we actually tried to look at the kind of rural water-urban water conflict globally. The research has been published in environmental research letters. My contribution was in India and there were contributions on other countries, Mexico, The United States, other countries in Asia. The kind of method we chose, the kind of unit of analysis we chose in taking our analysis forward was a dyad and we were pairing urban recipient regions and rural donor regions, so most of water is actually reallocated from agriculture to urban as a country transitions into an industrial economy. And we identified about 69 urban agglomerations worldwide.

So, what we actually did was we looked at large metropolitan centres, more than four million people and we found that there are almost like 103 reallocation projects so really basically looking at the literature, conducting a kind of qualitative and quantitative analysis of where and how much water is being drawn into urban areas. We found that from our own sample, that almost 16 billion cubic meters of water are removed per year from rural areas at an average distance of 13 000 kilometers, and the benchmark here taken was 2015 so 383 million people globally benefiting from that transfer.

So, as I said, we documented these dyads in North America and Asia and found that it was in Asia – obviously as Asia industrializes very fast, the latter constituting the majority of dyads implemented since 2000 - so water reallocation projects and these were water transfers that were taking place voluntarily but also involuntarily, so I'll explain what that means. These are the kinds of water reallocation. So, what do we mean - I'm just trying to kind of hide this thumbnail which is kind of coming in my way – So, how does water reallocation occur, so one of the ways it occurs is through land use change.

Guelph is an example of that where the region around Guelph becomes the donor region, but it becomes urbanized itself leading to a change from agriculture to urban water use as land use changes, and many large metropolitan areas in Asia especially urban French, very urban areas are witnessing the same Chennai, Mumbai - very urban areas - where water is drawn from wells and transferred to the growing townships - the peri-urban areas.

The second type is inter-basin reallocation, though one of the best examples of the classic kind of examples of that is the Colorado River in The United States which supplies Los Angeles with water. So, water drawn through long distances right across hydrological basin boundaries. It's still being done, large cities in India kind of are benefiting from that as well - Delhi, Mumbai - where water comes from large distances and then you have existing dams which have mostly kind of helped with agriculture - irrigating agriculture, irrigating crops - actually sending their own water to cities so you have what is one variant of this is the upstream, downstream reallocation where an agricultural donor region which is upstream of the city sends water.

So, these are the three, the fourth type is where you have a downstream, upstream reallocation where the agricultural donor region is downstream of the upstream city. One example of that is Hyderabad, where Hyderabad actually uses water and then it throws it back into the river and that water's picked up, used for agriculture and then some of that is actually transferred to the city through a very complex process. So, these are the four types of water reallocations which we studied. And this is a map, and I can send this presentation to anyone who wants to take a closer look at it, but the paper is there online and it's available free.

So, this is a sample of the studies we carried out globally, you can see that a lot of the studies are concentrated in Asia and The United States, but also some in the Middle East. So what we really found in order to summarize the study was water reallocation was occurring to a large extent as I said in Asia because of faster urbanization. So, we really focused - and this is what my own interest in rural to urban transfers is all about - focused on contextual features, drivers and characteristics of donor and urban recipient regions, reallocation processes and institutional mechanisms.

So, while we were quantifying how much water is being transferred, we were also looking at what are the processes, laws, politics, and what are the impacts on farmers and outcomes, and we found that there's a lot of gaps in the data. This is something it took us about seven to eight months doing the research, but we found that countries that were well-documented were the United States, where these processes were documented quite well. India, where we found at least 18 examples, China, Mexico and Iran.

And the other thing we found is that a lot of these large cities are going everywhere in their search for water right like they are going into multiple basins far and near and drawing water from not just dams but also, groundwater, so as you can imagine it's a big ecological footprint which cities are actually placing on rural areas. In India you have cities drawing both ground and surface water, which really complicates the picture a lot. Again, we don't have enough data on this, we might have missed something because we were drawing from the secondary literature, but also newspaper articles and it was particularly challenging.

So, there are serious data gaps which exist and most of the researchers who were actually writing on the subject were actually arguing how identifying the kind of institutional mechanisms around water transfers is very very challenging. So, doing the field work is very

challenging but also getting information obviously from government departments which are not very transparent about how much water is being reallocated.

So, one could say that the problem of water reallocation is also political because we have large populations in rural areas, it becomes a very sensitive subject and so engineers are very reluctant, in addition to their very technocratic perspective on water. They're also very hesitant in sharing data on water reallocation with researchers, which makes the problem difficult to research and also, we don't have much information which could ideally inform policy.

We also depended a great deal on NGOs and their reports on where the water transfers are occurring and that was actually a very very rich source. NGOs like Centre for Science and Environment, for instance. So, Chennai was one of our big case studies, where Chennai actually for those of you who know the city, you know that it was during a very desperate situation last year, kind of zero availability of water situations. They were already rationing water in various parts of the city but Chennai as it has grown gets a lot of its water from wells which the municipality of Chennai has actually purchased, and some of the water is actually drawn from wells where the farmers actually sell water to the municipality. And Chennai has been going in southern India, has been going to other parts of neighbouring states for water.

So, it's a very very complex kind of geography where the metropolitan region is expanding and is looking for water far and wide without a lot of success. Given Chennai's geography it has to depend a great deal on Andhra Pradesh, a neighbouring state which has always been reluctant to share water given that it has its own problems. Mumbai, much more well-endowed with water unlike Chennai, which is water scarce, abundance of water but still problems, many water scarce areas. One, because as I've highlighted right at the beginning that water is a management problem. You always had a kind of recourse taken to supply side solutions - build more dams, let's supply this part of the city with the new dam without actually considering demand management and recycling water and this is actually a map of the Mumbai metropolitan region and Mumbai draws a lot of its water from Thane district and Raigarh. And the one thing that stands out in this situation is the kind of impact on Indigenous communities which have borne the brunt of dam building and water laws which have privileged the city of greater Mumbai, not only over these tribal areas but also over some of the other towns in the metropolitan region.

So, I deliberately chose an example where there was scarcity – actual scarcity – in Chennai and then you have an area in coastal western India which actually has a lot of abundant water and still because of various factors - fact that water is not well managed – many areas are facing water scarcity especially during the summer and late spring. And some other things we tried to do in this paper and in my own other papers on Mumbai is that we have tried to understand why are we facing such a situation. And one of the things I've really found noteworthy is that the rights and land for tribal farmers, tribal communities, are not clearly defined. That in itself creates or negatively impacts their entitlement to water.

So, the state basically has a pretext to divert water from some of these tribal areas and also you have a kind of situation and a kind of policy take on water where everyone assumes that more people are working in agriculture water is actually allocated to those agricultural belts but a lot of people are working in informal sectors, industrial employment so we don't have a very good understanding of why we should be growing water intensive crops, why should we reallocate so much water to agriculture and then taking it away.

And also, here I've found that there's a kind of nexus. In one of my papers which is published in India review, I found that there's a nexus between local engineers, politicians around maintenance contracts building large canal networks which actually don't have any water in them, and so it's a kind of political economy of rent seeking corruption which is very interesting. I'll leave it out of my discussion today but it just tells us as to how we have this on-the-surface commitment towards agriculture, but we are not doing anything to make sure that farmers actually get the water, and we are diverting all the water to the city because we think that the cities will pay for water and that will make the water sector more viable.

This is data I kind of took from the FAO and an Indian organization which collects data on how much water is utilized in various sectors and we find that irrigation actually uses the bulk of water, and there's almost a consensus now that we need to really make water use and agriculture more efficient; drip, sprinkler irrigation and that's the key because if you have to have viable cities, if you have to have a situation where we actually overcome some of these problems of water scarcity and water stress, we have to be very mindful of what we are growing. State of Maharashtra, for instance, grows sugarcane as most of you might be knowing, which is a very water intensive crop. So how do we change that so looking at crop pricing, procurement policies is very very important.

And the entire focus of... it's all very good that we're having this focus on national water laws and national water governance but what will matter is acknowledging that water is inherently local. And that's kind of informed my method and also the methods of many of my colleagues who do water governance study research and we have to understand, for instance, in the case of the problem of rural to water urban reallocation that context matters and case studies are valuable. And what I found, as I said, was that some of these transfers are occurring through both formal and informal mechanisms. The distinction being formal being the state actually taking water and conveying it to a city, but then there are also informal mechanisms where you have a lot of undocumented water trade going on especially in the peri-urban, fringe areas of large Indian cities, sometimes done through coercive means - waters extracted, sold, and the groundwater levels and adjoining agricultural areas are impacted.

And that is what I mean when I said involuntary means and you have a lot of force being used, where you have the water mafia operating. So, all of this makes this subject and the kind of urban areas and urban hinterlands very contested terrain for both policy and for activists and often this is posed as an urban versus rural issue, but I think that we need cities, but we need food as well so how to balance some of these needs is going to be very important both for the Indian state but also for the private sector because we need agriculture as well.



The other thing I've found which compounds the kind of management problem is that we have too many actors - state actors, parastatal actors - where you have municipalities, irrigation departments, organizations that are set up by the World Bank to supply water to urban areas all managing their own domain so there's no coordination. This is largely true of large metropolitan regions where you have too many institutions trying to do their own thing and it's a mess, and that compounds the problem, it compounds the problem of management.

This is a classic problem in metropolitan economics where you have this problem of what they call fragmentation. I just thought I would highlight, it's about the kind of research I've done which has been published in various journals which I'm drawing from for today's presentations. So, to conclude - I think I'm up with my time, am I Bill?

**Bill Barrett:**

Just trundle along there Bharat, we'll get the questions in.

**Bharat Punjabi:**

So what - and I know that Guelph as an area with all its water activism has been a particular inspiration to me, and it also highlights the same issue. It highlights how the entire kind of pressure the GTA poses on Guelph - if I can pose it that way, not a lot of people agree with how I'm presenting that problem - but there's a footprint of urbanization on rural areas which has become very important in urban studies and urban political ecology. But in India the problem is very complex and I think we have just begun with how we could start addressing the problem by actually looking at water governance, but we have to look at the geography of the country, the kind of varying endowments of water in various –

**On-screen content:**

The video connection is disrupted, the audience can no longer see Bharat.

**Bill Barrett:**

Uh oh, Bharat. I don't know if you can hear me but we're kind of losing you. We may have lost you. Oh lord.

**Sharada Srinivasan:**

Can I say something Bill? I mean comment, it's a question.

**Bill Barrett:**

Sure, you're in charge!

**Sharada Srinivasan:**

I mean, I think at the time just before he disappeared he was talking about how a lot of the water is actually being used inefficiently in agriculture and he gave the example of sugarcane cultivation in Maharashtra, and I think that's a little unfair to too much of agriculture that happens in India which is actually undertaken by small and marginal farmers. They

constitute about 70 percent of Indian agriculture. While, yes, sugarcane is a water intensive crop, that's not the only thing that's grown in Maharashtra but from the research that we have done with young farmers in India in two states – in Tamil Nadu and Madhya Pradesh - one of the things that comes up is a water crisis.

We are talking about the future of farming in a country where water crisis has been a reality for farmers for more than a century and a large part of the problem is reclaiming of land which were actually water roots, river beds, marshland, wetland, all of these are being reclaimed for urbanization, much like what we are seeing in Canada as well, in and around Guelph. In the past five, six years that I have been in Guelph I've seen a lot of this land actually disappearing for real estate and other aspects of urbanization.

So, I think what Bharat was trying to do appeared to me to be rather simplistic to say that is the water needs of cities and that there is all this inefficient agriculture being practiced, and I think there is a lot more to it. There is inefficient water use in urban centres, in cities so I think the problem is a lot more complex than – and I understand that Bharat was trying to talk about governance structures rather than these issues but somehow, I felt like –

**CIRCLE:**

Can I just interrupt? I have Bharat on my phone, I'm going to see if he could talk through so you guys could hear him, would that be okay?

**Sharada Srinivasan:**

Is he able to sign in to zoom on his phone?

**CIRCLE:**

He's having issues on signing back in.

**Bill Barrett:**

Let's test his audio.

**CIRCLE:**

Okay, go ahead Bharat.

**Bharat Punjabi:**

Hi. Can you hear me?

**Bill Barrett:**

Not bad.

**CIRCLE:**

Can you hear Bill?

**Bharat Punjabi:**

Yes.

**CIRCLE:**

Okay, go ahead.

**Bharat Punjabi:**

So, if I could just conclude, what I was saying was that I was trying to say that while all the national governance measures, reform measures are laudatory we are not going to be able to solve all our problems from New Delhi. We need to understand the specificity of context in the case of water and for that we need really a stakeholder approach. I hope I was not coming across as kind of saying that it's all agriculture's fault. I think both agriculture and cities need to get efficient in their use of water but that will really need a lot of reform both at the state and the local level, and also kind of recognizing that at the end of the day water is a political topic or something which needs to be acknowledged, and that's the only way we can start providing answers to some of the problems.

I'm sorry, I don't know what is going on with my zoom, hold on here, but I keep going to the blue screen saying I posted [inaudible] but I can't seem to get on here. But I'm happy to answer any questions which some of you may had after my presentation.

**Bill Barrett:**

Okay, Bharat, that's great! We've got a duct tape solution here that we'll see how long it lasts. Sharada was raising a point about water use in industrial agriculture versus small scale producers. Sharada, do you just want to chat about that to Bharat for us?

**CIRCLE:**

Can you hear? We're just waiting for Sharada.

**Sharada Srinivasan:**

Sure, thanks Bill. So, Bharat, I understand that in this talk you're focusing on large governance issues but I think when we talk about Indian agriculture it's all fine to talk about sugarcane in Maharashtra being a water guzzler, but I think it's good to remember that 70 percent of Indian agriculture is actually undertaken by small and marginal farmers who are, to a large extent, dependent on rain-fed farming right, so I'm not sure. I think it's rather simplistic to say it is agriculture that is part of - a large part of - the problem. Yes, there is inefficiency but... so it is not a question, it is just a comment to where you switched off from zoom.

**Bharat Punjabi:**

No, I agree with that. I mean I was not just saying going to make a case for water efficient agriculture but also making a case for water efficient urban areas because a lot of our urban areas are not recycling water, and I think that's needed. So, maybe I did not make that point sufficiently but I was trying to say that both agriculture and urban areas need to get more

efficient and you have a valid point that we cannot just put the burden of adjustment on small and marginal farmers who actually take out quite a meagre existence through land and agriculture, so I hope I... hello?

**Bill Barrett:**

Yep, we can hear you.

**Bharat Punjabi:**

So yeah, in a nutshell I was trying to make the case that both cities and agriculture need to get efficient but given that agriculture uses a lot of water we need to have policies around crops that should be emphasizing more water efficient crops and I don't see how that can take place in a context where centre-state relations are not very good, and we don't have an adequate level of decentralization in our cities and villages.

**Bill Barrett:**

Okay, so we have a question from Vinay, his audio is not working. So, he's asking can you comment on financial resources, resources available to water supplies.

**Bharat Punjabi:**

Financial resources for what?

**Bill Barrett:**

Water supplies. I guess this must be water supplies

**Bharat Punjabi:**

Financial support for water supplies. I'm sorry I don't get the question.

**Bill Barrett:**

Yes, and his audio isn't working so maybe he can give us a little more clarity and in the meantime Elizabeth has a question. Elizabeth can you ask your question?

**Elizabeth Finnis**

Sure, thanks so much for that Bharat, I thought it was really interesting! One of the things that I always think about when I think about water is also the sort of quality of water. So, is it drinkable? What kind of work needs to go into it to make it drinkable or usable? So, I wondered if you could talk a little bit about how that issue of quality plays out in terms of this discussion? Thank you!

**Bharat Punjabi:**

Can I answer that Bill?

Bill Barrett:

Oh, yeah!

Bharat Punjabi:

Thanks Elizabeth. Yeah, the water quality issue is very important especially if we have to, for instance, recycle water in cities as Sharada pointed out, the burden of water efficiency shouldn't just fall on agriculture but on cities as well. One of the ways we could make our urban areas more efficient is by recycling the water and that's already happening in a number of Indian cities which have undertaken initiatives. Often what happens when you do that is that due to certain cultural or spiritual beliefs people may not want to consume that water.

But we are again finding in a number of south Indian contexts where water is a particular challenge that kind of difficulty is being kind of overcome; where people are actually understanding that this is what needs to be done and they're becoming less sensitive to the taste of water, but I'm not saying that it's something we can solve just through science, but it also needs some kind of cultural reworking.

[inaudible]

So, water quality again is another dimension, another aspect of the water quality question especially within urban India is the kind of pollution of water and I think it's a particular challenge in very urban area where the water is getting recycled through local initiatives, but we find a lot of pollution of water because of industries and urban areas, so it's a particular challenge. So, paying attention to quality is as important as augmenting quantity, which I think my presentation was focusing on augmenting quantity or how reallocation can augment quantity.

Bill Barrett:

Great. So, there's a question from Mervyn. Mervyn, are you there? Do you want to ask it?

Mervyn Horgan

Hi, sorry, yes. I'm here. So, I guess I'm not a water researcher, but I was particularly interested in the urban-rural conflict dimension of your talk and I guess I'm interested in - my kind of specific question I guess - was about how local level water activism or advocacy in the North American context, let's say in Guelph, can inform the same in India and vice versa, and particularly around kind of urban encroachment into rural areas.

Bharat Punjabi:

Yeah, well the one issue I find with water activism in India especially in the context where there's urban-rural conflict is that there's very little meeting ground between urban and rural water activism. I don't know if that happens in Guelph, but I think there's less so in Canada than India. In Canada we've had more of a consensus on how we need to use water more

prudently, efficiently. In India because of the nature of the development discourse, things tend to take on a rural versus urban dimension and except for certain kind of enlightened quarters or communities, activists, and rural areas are really working on their own with very little solidarity with urban areas and that's changing slowly, but I think there needs to be more of a common ground between urban and rural water activities. They've not been able to work on a consensus on how to face the water crisis. How to confront it, how to advocate or present novel solutions. It's mostly about don't take my water away, this water belongs to agriculture. Well, that is fine, but one also has to see, as I said, using water more efficiently in urban and rural areas to provide an answer and a common ground for both these rural and urban activists to come together.

This is again, a result of the development discourse in India, where you have urban versus rural development. We need a balance in our activism as well. I hope I answered the question.

### Bill Barrett:

Yes, he says thank you. So, Bharat I have a question. I'm not sure if this is your bailiwick but I'm curious about pre-colonial governance of water. How those common pool resources were managed, and then if there are any vestiges of those management systems that remain and could they be examples of how to move forward on water management in the future?

### Bharat Punjabi:

Yeah, that's an excellent question. In the 90s there was a lot of literature by anthropologists on this. David Mosse in particular, looking at pre-colonial traditions of water management where communities would come together especially in the South, in Tamil Nadu, when there was a kind of community organization around water management. The water was scarce, water tanks, but the only way to kind of supply human settlements with water – so community management was very important.

And then, I mean some of the pre-colonial knowledge has seeped into both the colonial and the post-colonial in a very interesting way, where the British actually during the colonial period thought that we should do away with this kind of management at the community level but then they learned quickly and thought that well let's use this, and in some parts of India community approaches are very influential, especially in Tamil Nadu, parts of Maharashtra, and these have actually seeped into, and have influenced modern approaches as well in many areas in Maharashtra.

So, maybe my talk was very pessimistic. I should have given you all examples of the Bani Panchayat, for instance, in Maharashtra, where it's a very novel approach to decentralization; decentralized management of water. From the 90s and I mentioned Rajendra Singh in Rajasthan. So yeah, I mean the pre-colonial influence is there but one also has to be careful about how some of the pre-colonial approaches at their own influence of hierarchy of castes. So, we cannot just advocate then, advocate these solutions finally. But, on the whole I mean

these provide a lot of promise and these have informed the kind of modern environmental movement in India.

**Bill Barrett:**

Yes, always good to add a little sweet to the salt.

**Bharat Punjabi:**

Yes.

**Bill Barrett:**

So, another question I mean in Guelph, the issue is corporations taking water groundwater and bottling it and so it's almost this commodification of a common resource and that's I think what primarily people get pissed off about, as well as the fact they're putting them in plastic bottles and creating lots of waste. And so is that commodification issue predominant? I think it's safe to say that's a fairly predominant issue in North America, would that be the case in India at all?

**Bharat Punjabi:**

Oh yes, I mean given the slow kind of decay of public water systems, a lot of middle-class families in India go towards bottled water and that's actually posted the bottle of water business in India a great deal, especially Nestle and some of the same culprits we have here are present there as well. And besides bottling plants we also have had pieces of a river in Jharkhand I think which was actually given away to a corporation – Indian corporation, I can't remember the name of the river – but rivers are common pool resources then so you just can imagine how unjust that might have been felt at the local level and it became a big kind of environmental justice cause.

In Northern India, I was talking to the mayor of, former mayor of Shimla and he told me how Shimla which is in the Himalayas that was a kind of water abandoned region, now is the water scarce region, and one of the reasons for that was also bottling plants around Shimla but also that when the mayor of Shimla tried to ban bottled water he was actually approached by some of these companies who asked him why he's doing that because he's undermining the business [chuckles] because he was trying to strengthen public water provision to the municipality. So, those kinds of conflicts exist in India as well; they are not as well documented as they used to be in the last decade but at the same time this has something to do with the kind of undermining of the Indian media that has taken place in the last seven, eight years.

But also that we don't have enough cases being documented, there's also been a lot of pushback against water bottling companies in southern India, for instance, in Kerala. So, yeah it's an ongoing battle but we don't hear as many stories as we used to and I'm sure it's still there out there.

## Bill Barrett:

Okay, Sharada has a question.

## Sharada Srinivasan:

Thanks Bill. In some ways I think I'm kind of going back to Elizabeth's question on the quality of water and I actually understood it as more in terms of the quality of water; how portable is it for drinking, with health consequences, and so on and so forth. And since you've been talking about Tamil Nadu and Chennai a lot and I'm sitting in Chennai, I think what the state often in land grabs the state is often the lead player in land grabs all over the world, and that's true for water as well and that's true for a lot of the states that you are talking about.

And while bottled water and canned water, water in big cans which are presumably cleaned because the water that comes in public taps is not safe for drinking, so the norm now is everybody irrespective of incomes when they're out actually buy packeted water, drinking water or these big cans of water; it's ubiquitous, you can see it in every household irrespective of the income levels so in some ways it comes back to the governance issues. The state is basically saying we cannot provide this level of good quality, safe quality water and it's not our business so somebody else takes the toll.

So I think I would come back to Elizabeth's question about quality, but from the point of view of how safe is it and how good is it for health and other purposes.

## Bharat Punjabi:

Yeah, I mean you're right. I mean the fact that we've had the state withdrawal from the provision of water is to blame for what is going on but I think what also has been happening is that - and again, my simple answer to that is - I think if we would have had cities which had more powerful local governments and more accountable local governments, we would have seen a lot of difference of water pictures, especially in Indian cities.

So, I think part of the problem - I mean what you just pointed out - is ideological but also I think we've not gone far in actually decentralizing and empowering local municipalities. So, local municipalities you guys might know they don't have taxation powers, they don't have a broad revenue base, so they are not able to really think for themselves and their constituencies. We would have had more stronger municipal government, we would have had much more positive results, and also accountable and more responsible. So, I agree that part of the problem is ideological like opposition to state provision and state itself has been under funding water provisions. Also, that we need accountable local governments which can tax people, actually then provide public goods. I hope I understood your question well Sharada.

Maybe we'll find an answer, but I think a lot of problems in India are actually solvable if you would have pay attention to decentralization and that's true of our cities because of course, water where we need to, not just decentralize, but also involve communities as stakeholders in what is going on in cities and very urban areas and I think that we would have answers for all these problems. Did I get your question right?



Sharada Srinivasan:

Yes! Yeah, thanks Bharat.

Bill Barrett:

So, do we have any other questions or comments? Okay, well then let's wrap it up. I appreciate everyone's patience in dealing with our technical issues and particularly I want to thank Shirley and Heather for their behind the scenes I.T. finagling with the duct tape to get the phone going with Bharat. Bharat, thank you very much. Water is –

Bharat Punjabi:

My apologies, I don't know what is happening. I'm still not able to sign in.

Bill Barrett:

Well, that's all right. I think we gained a lot of knowledge from you from your presentation and the discussion. So, thank you Bharat and I just want to mention that we are having another session on Wednesday, November 25th at 11 a.m. You will get an invite I'm sure. Our host or our speaker will be Elijah Dalton and he's going to be talking about the influence of cash transfers and remittances on children and he's going to provide a case study from Bihar in India. So, thank you all it's been great and everyone if you're in Canada and Ontario go out and enjoy the sunshine, it's a beautiful day and take care. Bye everyone.

[End of transcript]