Water Economics and Governance
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Lecture - 21
Pricing Water: Sustainable Water Pricing

Hello everyone. So, we are into the 5th week of this course and last week we are we were talking about the valuation of water. So, how water is valued taking clue from there what we are going to primarily discuss this week about the how water is priced when we allocate value to water as a commodity or as a good. So, it has to be price accordingly the tariffs need to be set for water services or in terms of quantitative uses, or whatever other uses are so, this week we are going to dedicate onto the aspects of pricing water.

So, what are the different key points that need to be considered while pricing water wise while setting a tariff for water of course, we will talk about the different models for setting tariff what are their pros, and cons what are the different elements of sustainable pricing structure.

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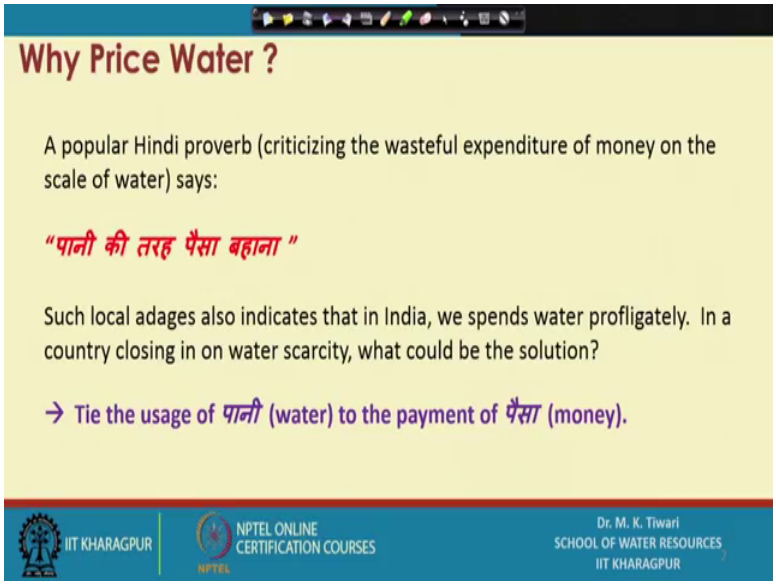

So, all these things that we are going to talk in this week, to start with first thing why we should price water so, if you see we belong to like a country where water has not been given due value for ages. So, I will start with the popular Hindi proverb what we call in [FL]. So, people say that [FL] he has wasted money like water ok.

So, this is a common like common term or common proverb which is often used [FL] or what are you doing like why you was in difference sense it is said that way, which essentially aims to criticize the wasteful expenditure of money on a scale of water. So, like how the water is thrown or water expenditure is quite wasteful. So, money should not be expended or money the expenditure of money should not be in that similar wasteful manner. So, it indicates like that, now this this proverb or such local and also indicate our social and moral values ok.

So, making a proverb or designing a proverb like, this indicates that we have actually not given due importance or due value to the water. So, we spend water profligately we like reckless expenditure or unjustifiable expenditure of water what we do usually. Now in a country which is closing in on water scarcity that, we have discussed earlier that we are actually on a verge of water scarcity.

So, is this justifiable to use even water recklessly or even use water injudiciously probably not, then what is the solution well the solution, lies somewhat in this proverb only that when we say that money should not be spend wastefully like water. If you want to prevent the wasteful expenditure of water also why do not we link water expenditure with money.

So, if we tie if we link the uses of water to the payment of money probably this this sense of this proverb like, we will not go for spending water also in a wasteful ways, because as the money should not be spend in a wasteful manner water should also not be spend in the wasteful manner. So, if you want to prevent this we should somehow link or we should somehow tie the uses of the water with the payment of money. So, that is the concept which brings us to the pricing water. So, the payment for water will actually be only if we keep a price tag to the water that this water if somebody is consuming has to pay.

So, what has to be paid comes with a certain price and so, does the water. So, that is why the concept of pricing water comes, now there could be different objectives of pricing water, when we talk that let us keep tariff to the water or let us keep price tag to the water. Essentially what we are pricing or for what purpose we are pricing.

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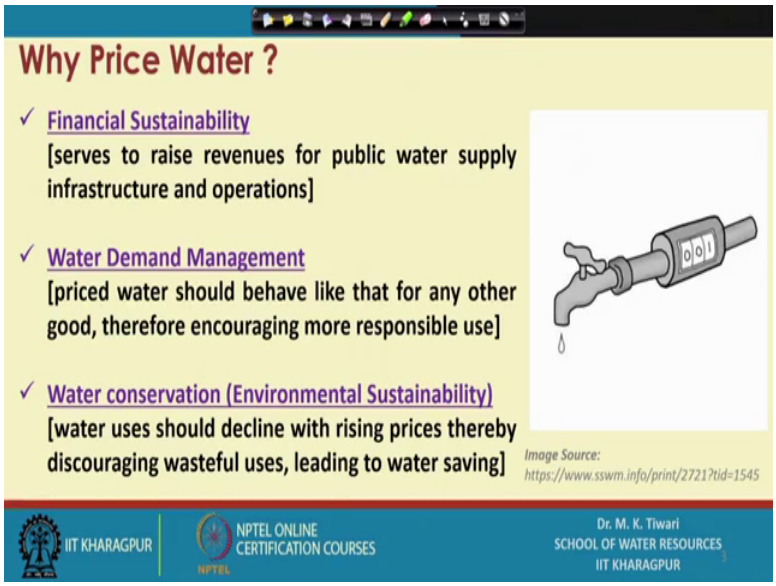

Because the pricing water does not mean that you take some charge for unit consumption of water, this has various direct and indirect implications. The first or direct implication is that the as we have been discussing earlier also that the water services requires expenditure water services incur some cost bringing that water from resource to the tap.

So, that cost need to be recovered, and it can be recovered from it should ideally be recovered from the consumers in a sustainable approach. So, in order to maintain that financial sustainability in order to ensure that financial sustainability the water should be priced. So, the user should actually pay for the water in order to meet the expenditures incurred in the water services, if not the like water as a good or as a commodity itself.

So, the pricing water serves to raise the revenue for public water supply infrastructure and operations. So, whatever it is not limited to in fact, municipal supplies only for irrigation supplies also, we need to develop infrastructure in terms of canal or in terms of waterways those kind of setups for industrial supply we need to develop the pipeline or those kind of system which can supply water to industries.

So, all this supply or all this human consumption be it from any sector industrial agriculture domestic whatever sector we are talking about, will eventually need some finance and in order to make that system sustainable we should recover the expenditures from the user, and that is why the water should be priced. So, that is one aspect second or the indirect implication of water pricing is the water demand management. So, the when

we price water actually it will behave like any other good in the market. So, if there is a price tag for a stuff in the market we consider that like we considered that in what optimum amount we need this ok.

So, there comes the demand management concept. So, priced water should behave like that of any other good, and that would encourage more responsible uses, we buy let us say rice we buy potato we buy different things in the market for our consumption. So, we buy only that much for which we have a demand, we buy your food only that much for which what we can eat or for which our family over all family has a demand of that much of quantity of let say rice wheat [FL] or what whatsoever we say. So, similarly if a price tag is attached to the water ideally the water should also be taken in the quantity which is actually needed.

There would not be any wastage of water. So, that the demand management concept also can be dealt with pricing water, then there is a aspect of water conservation or environmental sustainability, where water uses would likely to decline with the raised prices thereby discouraging the wasteful uses. Which eventually will lead to the water saving water, saving translates to the better environmental sustainability. So, if I am let say using 300 liters per day water at when the water is free I do not bother whether I have used 300 or 400 or 500 liters in a day, because I am not paying for it.

Then comes the price tag to water I will see you if I use 300 liter I have to pay let say thousand rupees in a month, if I reduce is down to 150 my cost will come down to only 300 400. So, those sort of signals are sent by pricing water. So, with in conjunction to the management of demand the wasteful uses will reduced, and eventually when the wasteful uses are reduced, we are generating less of waste less amount of waste which is releasing in the nature, and we require less amount of water from the resources from the natural resources. So, when we need less amount of water from the natural resources, eventually we are reducing the stress on or natural resources and in a way achieving or taking a step forward towards environmental sustainability.

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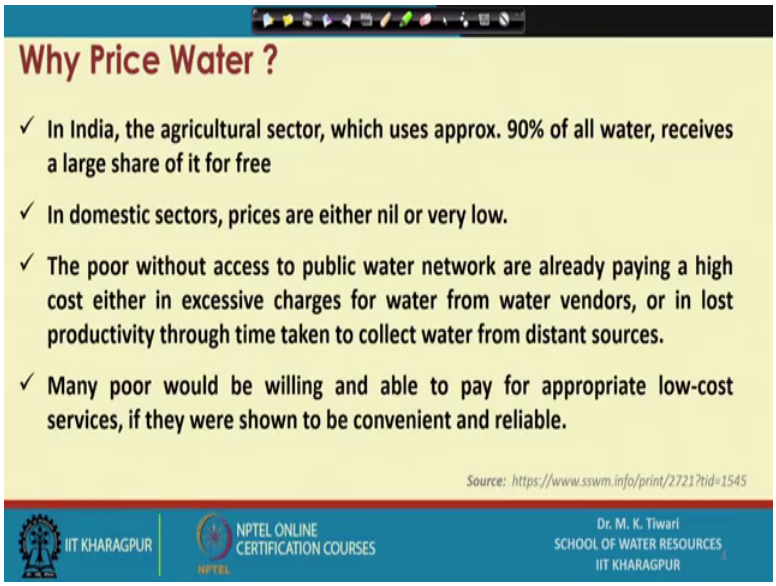

So, that is another aspect for which water is to be priced. Now if you see in India the agricultural sector consumes approximately 90 percent of all water and receives a large share of irrigation water for free, farmers does not usually to pay too much for the irrigation water it is available in the canal, and the systems and whosever is needed it whatever way they actually take, or they pump groundwater whichever manner, but nobody is technically most of them are not paying for it in domestic sector also prices are either nil or very low. So, we the prices that are kept in Indian the tariff for the water uses or the prices for water which is being paid in the domestic sector also are not probably sustainable, because the expenditures are more and recovery is less.

That is the problem with all the all our municipalities or all our water utilities, and when we say that water it is not limited to water we are basically including wastewater services as well. So, whether water or waste water services wastewater services we do not charge typical any price. So, like the water going into the sanitation the treatment cost or all this is basically totally borne by the government consumers, typically do not pay any charge for it.

Similarly the water charges in most or in many of the cities are either not there at all, and if it is there it is priced at a very low level, in order to ensure affordability your other aspects, because there are there is lot many other social and socio political aspects also

involved in this. So, that leads water not to be priced adequately which could be high of course, the adequate water prices could be high because the investments are huge.

So, the poor without the access of public water network in fact, end up paying more than the person with the water connections, because they have to either buy water from the vendors. So, that costs a lot or alternatively if they have to let us say go to a public water source or the public tape, and then there is a lot of time an energy wastage in bringing that water. So, it may not they may not be actually if let us say person walking down 2 3 kilometers for fetching the water, he may not be paying for that water, but the time to commute and energy to basically bring that water is also lost.

So, that way the lost in productivity in the collect collection of water from the distant sources, also form of expenditure only because work hours are lost. So, otherwise you would have spend that much time in doing some productive work and would have gained some would have basically gained some money out of that, but since the person has spent so much of time in acquiring the water. So, that productivity has lost. So, there is a direct or indirect lost both type of things need to be considered many poor people would actually be willing to pay, and would also be able to pay for appropriate low cost services, if they were shown to be the convenient and reliable.

But that is where our many state utilities or water utilities often fail. So, if you see the coverage area of a water utility, the first focused coverage area usually goes to the well settlements regularized well settlements. And the poor and these peoples often either stay deprived or are considered at the end, even if we can let us do something on let us put some tap for them as well. The proper household connection to the poor is not given the due priority which in fact, goes against the principle of social equity, because they end up paying more price probably then the one who is getting water through tape in their homes.

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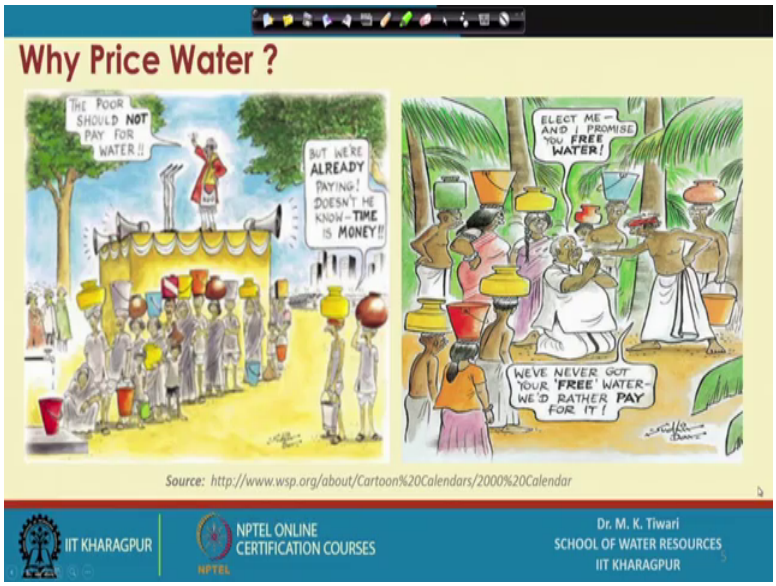

So, what you see is the couple of cartoons borrowed from Washington post. So, you see in the left one there is a leader who is saying that poor should not be paying for water, but the other people out there saying we may not be paying for water, but we are directly, but we are already paying does not the know the time is money.

So, the cost in bringing the time spend in bringing that water can also be converted in some form of expenditure some form of money. So, those kind of thing and the right 1 that you see that the villager are saying, we you may promised free water, but we never do get that. So, let us give the water and would be happy to pay for it also. So, this kind of scenarios are very common in India all of us are aware with that.

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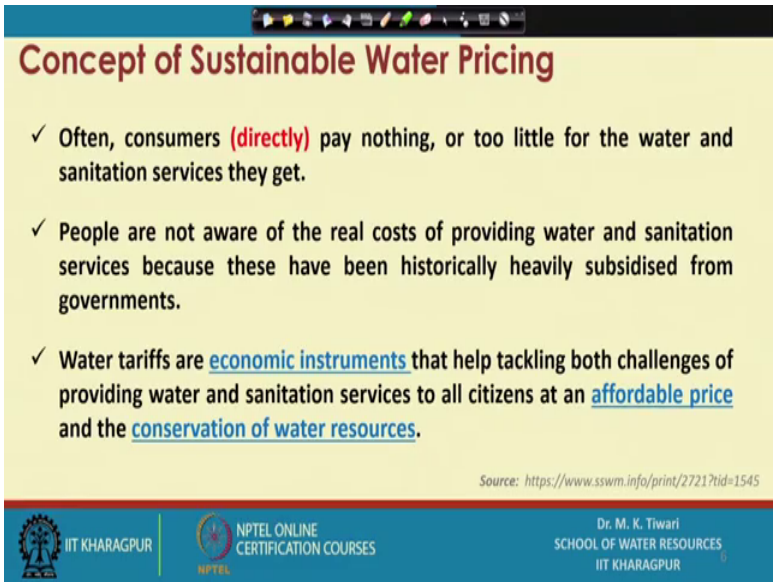

So, let us discuss what this sustainable water is pricing. So, you see often consumers directly pay nothing or too little for water, and sanitation services they get people are not aware that real cost of providing water and sanitation services, because they have been historically heavily subsidized from the government. So, as we were discussing that the price that we pay particularly the domestic sector is almost nothing or very little agriculture sector almost most of the places there is no price at all.

So, when people are not paying any proper price, or any proper cost for water in sanitation services, they do they are not actually aware also with how much cost or how much money is being invested in that. So, one when you are not aware with you do not give the due importance you do not give the due consideration, or put the right kind of perspective, or right kind of thoughts upon using water or paying water or making it to be a converting it to be a sustainable system. So, water tariffs can actually be used as a economic instruments, which help in tackling both challenges providing water and sanitation services to all citizens ok.

So, that is what we have been discussing that they are apart from generating the revenue, it is economic instrument to ensure meeting the other challenges also on to the conversion conservation of water resources, and making water available to residents or to citizens at affordable prices now citizens of the different sections.

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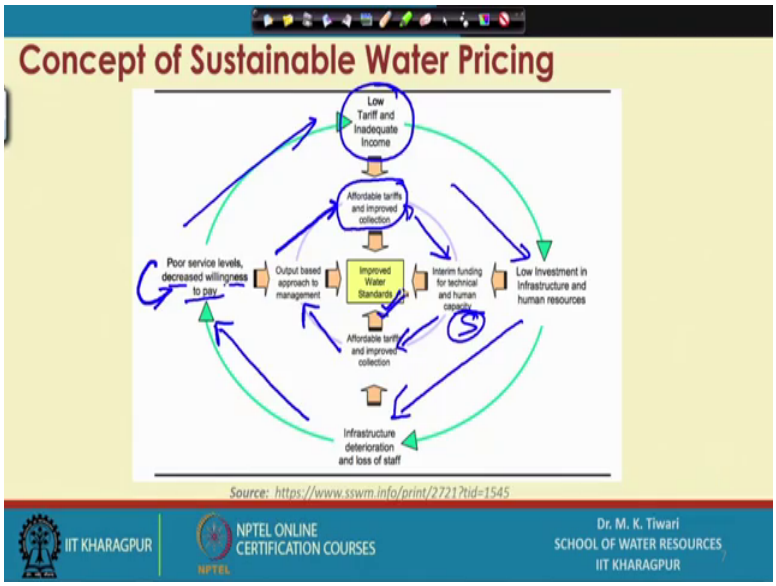

So, you see when we when we go on to eventually discussing the concept of sustainable water pricing, you can start from any point if one is put in with the low tariff, and inadequate income for a water utility.

So, if tariffs are kept at a lower level what eventually translate is that the investment in the infrastructure and human resources will also be low. Because when the tariffs are low when tariffs are not sustainable you are not getting that much of revenue you are not generating that much of revenue.

So, when you are not generating that much of revenue it eventually has to come from the government, now there is a limitation that government can spend on to the utilities from their own sources their own revenues. So, eventually because it is not a self-sustainable it relies on some external funding. So, there is will always be a crisis of funding, and this scheme and the program or policies that you make is with the low investment or low funds available ok.

So, basically low investment in infrastructure and in human resources will lead to the faster deterioration of this infrastructure, because you will not be able to make the good quality of infrastructure with low investment. Similarly in human resources if you acquire human resources at low investment low salaries low perks. So, you will often lose the staff, or you will not get the good quality well trained, or well skilled well knowledgeable people in order to operate and manage this infrastructure, which

eventually will lead to the poor services. So, when we do not when we do not spend too much of money, we do not develop nice infrastructure, we do not have a well-trained, or well skilled personnel the services are; obviously, going to be poor ok.

So, if services are going to be poor this is a very important point that poor level of services will translate to the decreased willingness to pay, if you see here the willingness to pay is also going to be decreased, because if I am not getting good quality of water. If I am not getting a regular supply of water, if I am not getting a good a pressure in my water taps why would I be willing to pay more so, person will the willing to; obviously, willing to pay more for better services only, when your services are deteriorating when your services are not adequate people will; obviously, not be willing to pay too much, and when they are not willing to pay too much that again will translate to the low traffic low tariff and inadequate income. So, this cycle the total overall cycle you see is full of problems and these are interrelated.

Poor services, less willingness to pay, less willingness to pay, less money generation, less fund generation, less investment, less investment poor quality of infrastructure, and not so, good human resources, if that ends up again it will lead to further deteriorate the services. So, this cycle will keep on deteriorating this stuff.

Now we need to transform this to the inner cycle that you can see here, that if we put a affordable tariff and improved collections. So, that people are actually like paying for that in justifiable in a sustainable tariff structure. So, if they are if the collection is improved and the tariffs are set in a sustainable base maybe little higher of course, it is going to be little higher, but if it is that and people are paying for it. So, then you will have sufficient funds to create a good quality infrastructure and have a good capacity of human resources ok.

Again it is not that you will start from just taking the prices for water from the people first, and then go on to the investment you can of course, is start from this point also. So, you may keep this as a maybe starting point. So, if you come up with a good service system, with good infrastructure, and well skilled manpower, human resources you are likely to you are likely to sort of generate nice infrastructure, and your human resources with that infrastructure with that kind of supply would be able to provide the better

services. Now when you give the better services the willingness to pay of the people could also be increased.

So, when the willingness to pay increases people will be willing to pay more, because the services of good quality. So, we buy in a many coastal areas you see that they in many cities in Chennai or in a even in Ahmedabad or part of the Gujarat, the tap water that you get is saline. So, if tap water is saline for drinking purpose for cooking purpose many people by bottled water. So, when they can buy water bottles at a much higher cost why would they not be willing to pay, if you get the proper desalinized water in there taps?

The good quality desalinized water in there taps this faith has to be developed, and faith will develop only with the good infrastructure, good quality assurance. So, when all this combines you know that no this system is very reliable, this system is very good, their infrastructure is good, their human resources capacity is very nice people are well trained well behaved well skilled.

So, then you know that the quality of supply is good quality of supply is going to be good you will or one will actually accept a higher tariff happily. So, their willingness to pay is going to increase, they can actually pay more and the prices when the prices of water are sustainable, they will be willing to pay that price probably and eventually your system can become self sustainable.

So, the earlier discussion that we were having that deteriorating system, will have all the shortcomings they are would not be proper collection, because people are not willing to pay the tariffs are lower, the funds generated are not that much, the investment are not that much the human capacity could not be hired appropriate human capacity, could not be hired with low investment, on the other hand with good system you will have all the cycles running perfectly, water quality is good, the supply system or the services are good, rather collectively we can say the water services are good. So, the people's willingness to pay is more people's willingness to pay is more you can have a nice collection or like the improved collection of the tariffs.

So, improved collection of the tariffs will generate significant resource for the upliftment or the improvement of the facility, as well and in order to further you can improve the services. So, this cycle eventually will learn will take you to the improved water standards or improved services. So, this is how the pricing of water can be used as a

instrument for the overall improved water services. So, with this we end here in the next session subsequently we will discuss the other aspects of water pricing, and how the in subsequent sessions we will talk about, how the different approaches or different schemes or models are there for pricing water.

Thank you.