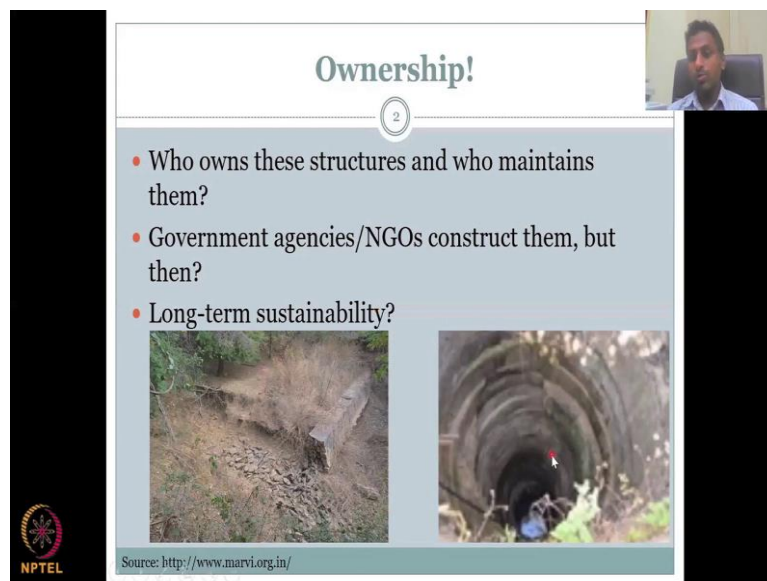


Rural Water Resources Management
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Week 08 - Lecture 03
Rural Water Management Issues: Ownership

Hello everyone, welcome to NPTEL course on Rural Water Resource Management. This is week 8, lecture 3. In this week, we have been looking at the issues in rural water resource management especially from the schemes that are existing and the local agenda of participation with farmers and also stakeholders et cetera. We also looked at the UN definition of water security.

And what are the four themes where water security is as we understood that it is not a single ownership or stakeholders perspective, there should be a combined holistic approach for water management. If one or two of these fail if you do not acknowledge these partners in assessing and monitoring these rural water resources, then there is potential for the system to collapse.

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Ownership!

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- Who owns these structures and who maintains them?
- Government agencies/NGOs construct them, but then?
- Long-term sustainability?

Source: <http://www.marvi.org.in/>

The slide features two photographs: one showing a concrete structure in a dry, eroded landscape, and another showing a deep, circular well with a person visible at the bottom. A small video inset of the professor is in the top right corner.

Let us move on forward further to look at what are the issues that we have noticed in rural water resource management. In today's lecture, we will discuss about ownership. What is ownership? Let us define this word when someone gives you a gift or for example, for your birthday gift is given, who is the owner of the gift? Is the owner the person who bought the gift? Or is it you because you have in possession the gift?

And that is the question which is being raised here, when you talk about the assets. Remember, last class we showed a map of where the water resources are placed by the government, especially the MGNREGA project, under the MGNREGA, there is NRM and in our NRM there is some water resource projects. So, in the water resource projects, the government has put the MGNREGA money however, there is no ownership of these structures.

In the previous years, before the MGNREGA was given in as assets, it was given us money started with 100 rupees and then now it has increased based on inflation. So, when the government gives a farmer money, then the money goes into them and they are the owner. But if the cost and then the pay, which they give them the money which is given is based on the work which is done like making a time for rural irrigation or storing water, why is that not taken as ownership?

So, this is the question where the government also wants to know we are given you a platform, we have given you the money and construction materials, et cetera. Now, we have constructed it, but if you do not take care of it, who is the loser? There is no rules and suggestions saying that if we build this, you have to take it ownership.

Since the rules are not there, people are still not sure who is the owner and or there is laziness and they do not want to see others getting the benefit, because only some part of the society will be working on the water where others will be enjoying. So, they want to be very sure that either all should participate as a rule or mandate are known participants. Unfortunately, the later is what is happening. No one is participating in most of these programs.

Let us take some examples. So, these wells you could see should be managed properly along the edges. If these routes and other obstructions happen, then slowly the structures will break and then collapse into the well. So, here is the well where the labor for digging the well hand digging and placing all these structures, there is a labor cost was given as a NRM project to the farmers.

They were paid for it. But then if you do not manage it, then those problems same thing on this check dams also. They have given you the money for the missionary the ingredients, the concrete, the rocks and cement. They have also given your location and a labor to construct the labor cost per day cost. When after it is running for some years. If it breaks down, no one is taking care of it. And the MGNREGA money now moves to the next asset.

So, after one asset, it goes to a next asset next asset they want to win many assets for water resource management. But this one is lost now, all the money that has been put all the time that has been put is a loss. Another thing is it is built on government land for example, this one is built on the river across the river and that river is owned by no one by the government, a farmer might have the land on this side.

So, this part of the land may be owed by farmer A and this part of the land may be owned by farmer B, but in between the river and the buffers along the river or the stream is owned by the government, you cannot encroach it. This is another reason like they do not want to get in because it is not on their land. So, who owns these structures and maintains them is the most important question and that is what ownership means on paper on record, it is MGNREGA assets.

It is assets, which are paid by the MGNREGA and it is an government assets. And normally, government assets are taken care of by government. For example, you have streetlights, you have roads, if it breaks then you call the corporation office, the city office and then they will fix it in the bulbs are not coming up in the street, you call them they fix it or they maintain it often even the divider in cities where it has flowers and plants is maintained by the government.

But here once it is built, once it is given to the farmers not as a property, but as an asset, it has to be maintained by pillar and because the government MGNREGA has to move on to the next project, there is no capacity built and it is not viable to build that capacity to maintain this. So, it has to be the government or the local NGOs who help in making these structures.

So, government NGOs or government agencies construct them, but then what happens they put so, much time and effort and NGOs are very very important like dam foundation here it is marvi it was ECD all these foundations and NGOs who work on the ground for the people are getting affected because they see this in front of the eyes getting wasted which should have been taken care of.

So, the long-term sustainability is not achieved. It is not that the farmers do not know the benefit of that is the other point when the water was flowing they could see that okay the water is ponding I can lift it for my irrigation when there is water in the well they could see they could access the water for domestic use, then why not manage it? Why not maintain it? This is the question.

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The slide is titled "Lack of Ownership by agencies" and is numbered 3. It features a list of three bullet points: "The use of the structure might have changed, e.g. from irrigation to domestic, etc...", "Less budget for operations and maintenance", and "Project term and new projects". Below the text is a photograph of a concrete dam structure with water flowing through it. The slide also includes the NPTEL logo in the bottom left corner and the source "www.nrega.in" at the bottom.

- The use of the structure might have changed, e.g. from irrigation to domestic, etc...
- Less budget for operations and maintenance
- Project term and new projects

Source: www.nrega.in

The other ownership also. So, one side it is the maintenance and management by the locals sewer who are actually using them and there is lack of ownership by agencies on the medium to higher structures. The users structure might have changed for example, from irrigation to domestic use. So, in which circumstances that the ownership itself becomes a question mark, is the question.

Let us take a classic example of Bangalore. In Bangalore, initially there was a lot of agriculture happening inside the city along the periphery et cetera. But slowly when urbanization happen, what happens to the rural lakes, so, there were lakes inside the city, which was giving water to the agricultural field. So, it was managed by the agriculture department.

But once that land has been sold and urbanization happens, then there is no mandate for the agricultural agency to maintain the lake then what happens the urban agency should take it up, but suddenly a lake cannot be built and given to the ownership of the of the urban agency. So, that is where now the next stands without an ownership and that is what we are trying to tell here.

The user structure might have changed from irrigation to domestic use, when it becomes domestic it is dirty when mission when it becomes irrigation, it is agriculture department, you see how there are two different sectors just for water you built a dam or small check dam and check dam is holding the water and then siphoning it into the tanks and filtration for drinking for example.

Once it was irrigation, and once the irrigation land has all taken up and ground water has been used, then this is more news for domestic use. So, now the educational department will not manage it, because it is not their mandate. Just because it was once irrigation structure, it is not their mandate, which is compulsion to maintain it. It is the domestic sector which is the Jal Jeevan mission for example, less budget for operations and maintenance.

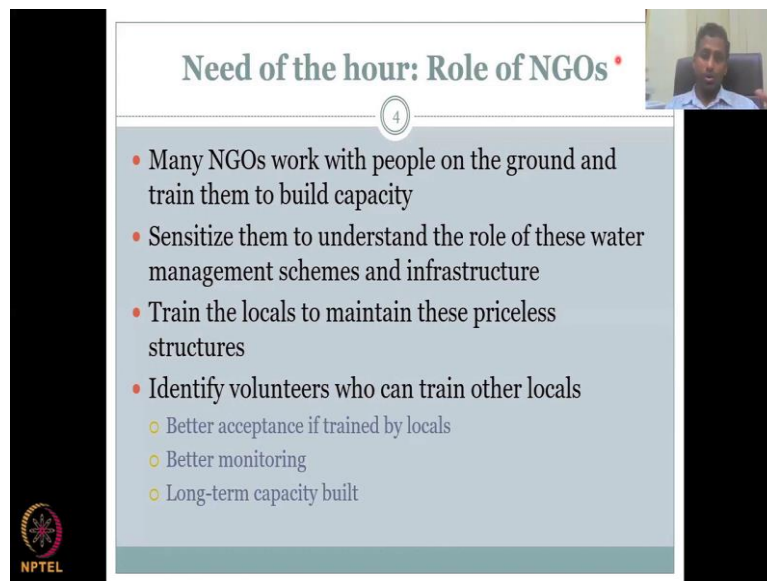
This is where the agency have to give it out or just let it go and then go to the next. Less budget for operations and maintenance. If you look at these structures, there is a budget for labor, there is a budget for the materials like sand, silt, clay, cement, rocks, et cetera. There is a budget for the engineers, but there is no budget for maintenance. Because these projects have to close in 2 years, 3 years.

For example, they will say, build a check dam within 1 year. This is the budget, where is the budget to maintenance? Suppose it breaks after 2 years, which budget should you put to repair it otherwise the whole structure is gone like we saw in the previous slide. If one part of the check dam is broken, the entire work objective of the check dam is gone. And slowly other parts also start to break.

So, less budget for operations and maintenance are not thinking about that budget is an issue for water management. Project term and new projects, as I said, the agency is there for building check dams. And they are not constantly looking for old projects and renewing it. They are making new new projects, because every year you get tax money and the tax money goes to MGNREGA.

And the MGNREGA goes to NRM so, it is like us as a cascading effect. So, they have less manpower for example, 1000 engineers are there their goal is to go and build these water infrastructures. And there is no capacity or team built for management and maintenance. So, it is on the stakeholders it is on us like academics and faculties research centers to look at these and give it to the public and the agency government agency to repair and manage it.

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The slide is titled "Need of the hour: Role of NGOs" and is numbered 4. It features a list of bullet points and the NPTEL logo in the bottom left corner. A small video inset of a speaker is visible in the top right corner of the slide area.

- Many NGOs work with people on the ground and train them to build capacity
- Sensitize them to understand the role of these water management schemes and infrastructure
- Train the locals to maintain these priceless structures
- Identify volunteers who can train other locals
 - Better acceptance if trained by locals
 - Better monitoring
 - Long-term capacity built

So, the need of the hour, which means the urgent need is role of NGOs, what is an NGO for those who do not know much about it, it is a non-governmental organization, it is a nonprofit organization which means they have a setup like a company a consultancy company but they do not take profit. There is no profit, which they have to record and sustain the system it is just for example, it will be an office and with a lot of staff and volunteers, they will collect money from the government.

And then they will do it for the public no profit built it is only the salaries which are as per the government rules and regulations or salaries are kept only that salaries they will take. So, it is like a company which does not work for a profit, there is no profit here. Because that is a non-profit agency and non-governmental is because it is not associated with a government sector. However, it works for the government projects.

So, for example, I make medicine as a company I am making medicine. And for I sell it to the government, I sell it to the government and the government buys the medicine and distributes it to the public, how the medicine helps that the local how the medicine has to be administered, the doctor cannot go everywhere and do it. It is the role of NGOs. That is how NGOs are in the sector. And they are very, very important.

Because these are run by people who do not care about profits. Most of them, I am saying that most of the NGOs, and it has a goal of rural development or development of the public development of the ecosystem. For example, as an NGO, for forest, there is an NGO for public, there is an NGO for animals, birds, dogs, et cetera. So, many NGOs work with people on the ground and train them to build capacity.

So, the role of NGOs has been very important in this capacity building. The government officer who is making the assets, the infrastructure, check dams, et cetera may not teach the public about the check dams. Their role is they get the money, call the people show, this is the check dam, I am going to build it, they build it, give it to the people and go to the next project.

But who is there to teach them about maintenance about forming together and using the water? No one. And that is not the role of the government. So, here is where NGOs play a role. So, I hope you understand that the NGOs is like a bridge between the public and the government agency. They are well trained people most of them are well trained people, educated people I work for an NGO, for example, before I came to IIT Bombay. And this is one of the leading NGOs in India.

So, it was very active, working with the people on the ground to show what is water conservation, how to use water better, et cetera. So, I will show you some images on these and how you can think about water management from the perspective of NGOs, which are the pillars in achieving the rural water management with the government and with the public, because they do not, they do not talk much between them.

However, the NGOs know how to talk to the government agency and NGOs know how to talk to the local peoples. They sensitize them to understand the role of these water management schemes and infrastructure. So, the sensitization part or teaching part clarification part is done by these NGOs. For example, there is an NGO for studies, education of girls, et cetera.

What they do is, they go to these remote villages tribal villages, and set up a camp and then they do these teaching of classes and educational activities, physical activities, et cetera. There are other NGOs who have health camps for rural regions, because sometimes the rural people may not go to the hospital, they are afraid, but these NGOs go there and then say, okay, you have to have these vaccinations you have to have these medicines.

So, it is a very important role that NGOs play. So, they sensitize them, they first talk to them, they clarify all the doubts, and then they get them on board for water conservation. So, it is their role to understand to make them understand these water mining schemes and infrastructures, train the locals to maintain these prices structures, there is no price for this check dams however it is it is very, very valuable.

Because the farmers do not pay a price they are not going to play okay, I am going to give you money to build a check time they are not paying all they are doing is using the benefits. They pay every month rent for the check dam not they are using the benefits and thinking it is free. So, it is not free that is what the local NGOs train them. Also, they identify volunteers in the location who they could train and let them manage the water better.

Why does this happen? Because the NGO also has to go to the next asset next village next district, for example dam foundation as I said, they work in one area and Madurai, but if they said okay I only work in Madurai and only the benefits are with Madurai in South India, then they work again to another location and then Coimbatore et cetera. Wasson is a good NGO, which works with the Odisha government for millets.

They are very, very well known for providing you know, training materials to grow minerals et cetera. But then if they say okay, I only work in Karnataka or where they are from, then the benefits are not reached. And that is not sustainable also for one sector, we cannot have one NGO sitting there. So, it is better to identify the volunteers, train them, and then this closely watch them or you have one call often every month or so, and then let them develop the system and then you go to the next system. That is the beauty of NGOs work.

Better acceptance of trained by locals. So, the NGOs will train the volunteers, for example, as a village of 100 people, and then there are 10 percent of youth 10 out of college going kids, the NGO talk to the person and say I will train you on these water, you go train the rest 90 percent of the population is that they will now the 90 percent of the population would readily agree with the their own local youth rather than an NGO or a government agency telling them.

So, it is the goal of NGO to find these volunteers make them understand the concept of water conservation and they will take care of better monitoring. The locals are there the monitoring is better NGOs are there they will think creatively on how to monitor so, for example, when I was an NGO, we use satellites to monitor these activities of how the check dams are built, how the water has been stored et cetera that is very, very valuable data.

Long term capacity is built. As I said the Wasson, Dhan foundation. If you go there, readily, people know it. The villagers know they do not know the government agency which will check dam but they know the NGO who helped them to understand the check them. So, there is a beauty it is not like taking credit, but they make them understand. So, long term capacity

is built between the NGO and NGO directly tells this is built by the government, we are there to help you and then the bridge is formed.

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The image shows two presentation slides from NPTEL. The first slide, titled "Ways Forward", has a small red dot in the center of a light blue background. The second slide, titled "Public Participatory with NGOs", features a photograph of several people working on a check dam. Below the photograph, the source is cited as <http://www.marvi.org.in/>. Both slides include the NPTEL logo in the bottom left corner and a small video inset of a speaker in the top right corner.

So, there is long term the bridges form and they also monitor them quite oftenly on how things are done. So, what are the ways forward? Moving on, the best way for ownership is to have public participatory with NGOs, where NGOs are able to train the public. So, understand that ownership was not taken because they did not understand the system also they know how to manage a check dam for example, they do not know how to build, rebuild a check dam when it is broken. So, what do they do, they do not take care of it.

So, that is where this public participatory the NGOs help a lot, because they train, but they will not do it, they let the people do the work. They are only there for training. One example

is this, where NGOs call the volunteers. So, these are the local volunteers from the village. And then the NGO person you could see is telling them how to use the water level meter, how to look at the well and know the depth of the water wells so, that you know how much groundwater you are using.

If you know how much groundwater is level is there, then you know how much you can pump. Otherwise, you just take out all the water, you lose energy, the diesel pump, and all you waste the water. And you can see all the youth are participating from younger people, school kids, everyone will be there, because they normally do these activities on a weekend.

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Let us take some case studies. One is a tank restorations by Dhan foundation and south of India, you could see here that first they would go and talk to the public and say this area was initially a traditionally a tank, village tank, which was catering for water. Now, since the kings rules all went off, the tank has been just there, no one is taken care of it. And the government, as I said, has a mandate only for some part of the time, not all the time.

So, it is up to the people and so the Dhan foundation went into the ground, identify the volunteers got some money from donations, and also government to help build the structure of the dam well on the size of the tank sorry, tank on the banks, the banks and all but they need labels. So, they brought the people saying that we will only work on the tank, if all the for every person of every house have to come and help. You can see all the locals helping. And then now the water is rejuvenated, people are happy, they can really use the water for their own village. It is not like they are building it for someone else it is for them. But they need that. And that gentle push is given by the NGO.

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So, another case study I am going to show is from NM Sadguru Foundation, which is also a very known, well known NGO, in the whole Gujarat where I do have some field experience, you could see that water was just wasted it was just going along the big big elevation says going down without getting stored in those regions water is already less and if it is not sustainably checked, but sustainably stored, it just goes down and then goes as a loss to the system.

So, what they did is they brought the community together, they got some funds from their resources. And then they said donations volunteers, but most importantly the government schemes et cetera. They talked to the government and then they built these massive massive structures, look at it, they built this in 85 days, along with the people and this indicating their interest involvement and ownership.

So, what has happened is because they held the all of these locals helped to handle built this check dam, they equal equally have rights to use it, everyone is enjoying the benefit. And if something happens, all these people who took part will come back again. And they know how they built it so, they know how to repair. So, this is how beautifully NGOs can work on building a public participatory approach.

So, public participation is called public participatory approach. And also, ownership. Once the public participates, then the NGO will set back and say okay, bye you take care of your check dam, I will go to the next check dam because there is a lot of carriers for work needed. And when that happens, these people would readily work on it and manage it this village people for example, suppose they cannot solve the issue.

Suppose as a major engineering problem, still they have the NGOs phone number, they know the NGO people they will just readily go to the office and then say we have this issue, can you come and help us and they readily help us or the NGOs can connect with the engineers from the Water Resource Department, state for central government and then help to retrieve it.

Initially, the villagers did not know who to ask. If something happens and breaks, they do not know who to ask tools to solve these issues. But now they know the NGO and NGO has all the connections they go by rules and regulation, they cannot just build anywhere they have to get clearances from the government, they have to notify all these water resource departments and then they make this.

So, they have the connections and they know how to make the bridges between the people and the government. So, all this was built, as I said, through involvement and ownership, it is not only building structures, maintenance is an issue water, long term sustainability is an issue. So, how do you address it by building involvement ownership and long-term goals? This is what this project has done.

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Now, what also they told us now if okay, we built check dam, we built and a long check dam, what was being sold, how can you use it and as I said, it is a holistic approach, it is not just storing the water. So, what they also did is typical soil and soil and moisture conservation works have you been used along with the water conservation. So, soil for example, they said, okay, you should be dealing this levels and on the sides, you have to have bonds to prevent the water from going and also prevent the soil from eroding to the ground elevations.



So, they made these ponds made sure the water stays inside the field, made sure the soil does not get eroded by wind or by water flow. And they have specified watershed development programs within the community. All this was built along with the community, some of the NGO people would be highly educated PhDs or engineers, Masters et cetera. So, they know how to do these along with the traditional knowledge of the public.

Both of these would share knowledge and then make these constructions and those would stand along for a long time. And NGOs not only work on one aspect, they try to cover the holistic aspect for example here, they said okay, we brought the water we also do soil and water conservation so, that we can have the whole benefit. And it is for the community and program implemented by the community can do better if supported by local and government funds.

So, local is your Panchayat funds your local body funds, and the government will be two types your central and state government, there are central government money for example MGNREGA money which can be used for an NRM activities. And there is the State Water Department funds which can be used. So, there are funds, which can be used to make these kinds of activities.

They cannot pay for salaries for the locals, because it is their own property their own village they are working for. So, most of the time, they will not pay for salaries, but they can pay for instruments, for example, they are in a big JCB to come and take these bonds, they need a cement work. So, those raw materials they can purchase.

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Convergence of funds

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- Each rural entity can assess available funds and missions
- The benefits from each fund can be evaluated against common goals
- Plan on continuation of the benefits through convergence of funds
- Need to understand the Gov. schemes in depth
- E.g. in next class...

That is where I am trying to end this session, as convergence of funds is necessary. Each rural entity can access available funds and missions, which means there is Jal Jeevan mission, for example, for rural drinking water supply, it mandates to have a tank of water tank on the top, but the water has to go there and there should be water. So, the pump they will give but where is the water the water does not come, there is some issues with the mission.

So, you can use that part of the money to actually take care of these storage structures. So, that water can be stored and from the storage, it can go to the tank and tank the dam. Where the people can all use it for drinking and domestic use. So, this is a quick example I have given the possibility of these funds depend on the location and the government scheme which is already there.

The benefits from each one can be evaluated against common goals. So, here a common goal is storing the water and using it as a domestic use, it can be agriculture, news, et cetera. So, for storing there is no funds, we can tie it up with the domestic use, this Jal Jeevan mission or the Agriculture Department, Ministry of Agriculture navigation to make these water resources more act for the rural village. And a common goal is saving the water and using it for development.

Plan on continuation of the benefits through conversions of funds. So, this is the maintenance evaluation part. So, maybe Jal Jeevan has money to take care of the tanks so, that money can also the person who is taking care of the tank can also take care of the check dam which is storing the water putting the water to the tank is one common you know linkage without the tank there is no water for the public, without the check dam, there is no water for the tanks.

Something like that analogy I am saying. Need to understand the government scheme in depth. This is where I am saying all these examples will be given. But is it possible or not? Is there a line drawn by the government saying no check dam should supply water for the tank all this has to be looked at. And that is the role of the government officer and the NGO. So, if you are in a village, and you want to help identify good NGOs nearby.

Identify the government agencies, they will also recommend some NGOs who have worked in those areas, and most of them are actually registered. So, and actually do a lot of work. If you just quickly look at what work they have done. They published reports, books, papers, et cetera. So, there is a lot of examples we can give, and I will be happy to go through these examples in the next class. Until then, thank you. I will conclude here