

Introduction to Environmental Economics
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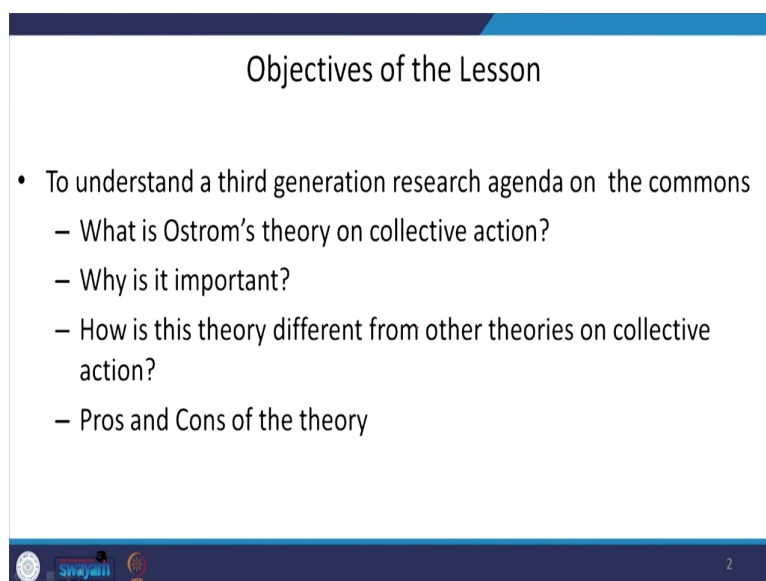
Lecture – 10

Governing the Commons: The Evolution of Institutions for Collective Action-I

So, welcome to this online platform again. And right now, we will be delivering a lecture on the Governing of the Commons. And, now we will be taking a different standpoint, and as you have already understood that we have already taken into account two seminar theories that expresses the situations of commons and what is the kind of problems that we are encountering in collective actions particularly in case of the commons itself.

So, after understanding this two theories previous theories Hardin's tragedy of the commons and Olsen's theory related to organization and the group itself; now, let us focus on this theory that is developed by Ostrom itself. So, basically we can say that, we can highlight this theory on this ground the very ground that we need to see that by studying this Ostrom's of governing governance of the commons we can actually understand the a kind of research which we are saying it is a third generation research on the agenda of the commons itself.

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The slide is titled "Objectives of the Lesson" and contains a bulleted list of objectives. The slide has a blue header and footer. The footer contains the Swayam logo and the number 2.

- To understand a third generation research agenda on the commons
 - What is Ostrom's theory on collective action?
 - Why is it important?
 - How is this theory different from other theories on collective action?
 - Pros and Cons of the theory

So, the first thing that we need to understand is why we were saying it is the third generation research on the commons itself. Because, when you will be finding the literature and the commons itself then we will be finding that the common researches or the common problems on the commons itself were basically developed by Hardin which talked about the exploitation of the resources by the users itself.

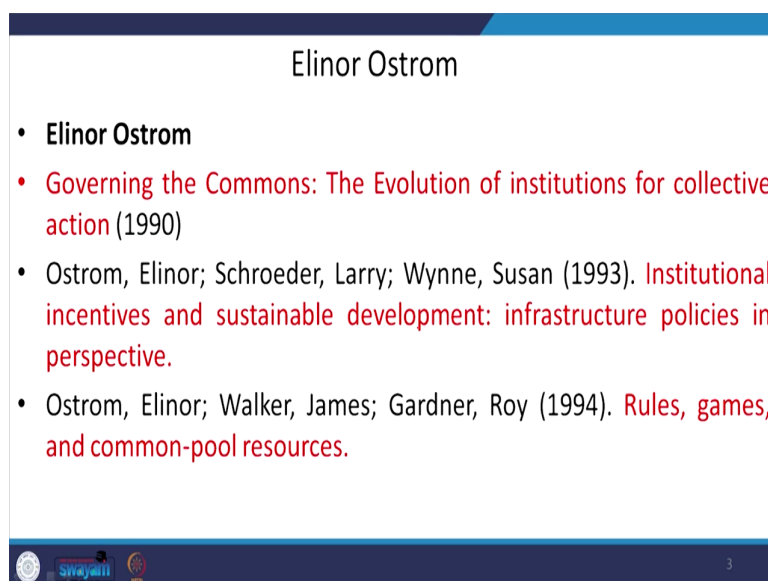
And because of which, he talked about that there should be some mechanisms and otherwise the commons will be getting deteriorated. And, this mechanism see propounded or he can actually explore the potential of the mechanisms that is either the privatization of this of this same resource or there should be the governance of the state or a kind of a enforcement that must be present.

And similarly, if you look to the theory propounded by Olsen himself, then he talked about the same more or less the same thing along with the prisoner prisoner's dilemma game. So, what is the contributions then here? So, here Olsen want to highlight that this perception on the commons, the where you are governing the commons whether we are actually needing the privatization or the case of this state intervention here its urgently necessity or there is some alternative boy by which we can govern our own commons and we can also say our commons from getting degradations.

So, in this respect the key objectives of this lesson is two understand the theory of collective actions taking the arguments from Elinor Ostrom's and then we will be understanding why this theory is so important because you have already gone through to the two important theories on the commons itself. And, the second objectives of this lesson that we had right now interested to know how is this theory different from the other collective actions theories.

And after that after knowing this the importance of the theory and the argument of that led by a Ostrom then we can actually evaluate what is the frozen cones of this theory take into account the present days scenario of the commons.

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Elinor Ostrom

- **Elinor Ostrom**
- **Governing the Commons: The Evolution of institutions for collective action** (1990)
- Ostrom, Elinor; Schroeder, Larry; Wynne, Susan (1993). **Institutional incentives and sustainable development: infrastructure policies in perspective.**
- Ostrom, Elinor; Walker, James; Gardner, Roy (1994). **Rules, games, and common-pool resources.**

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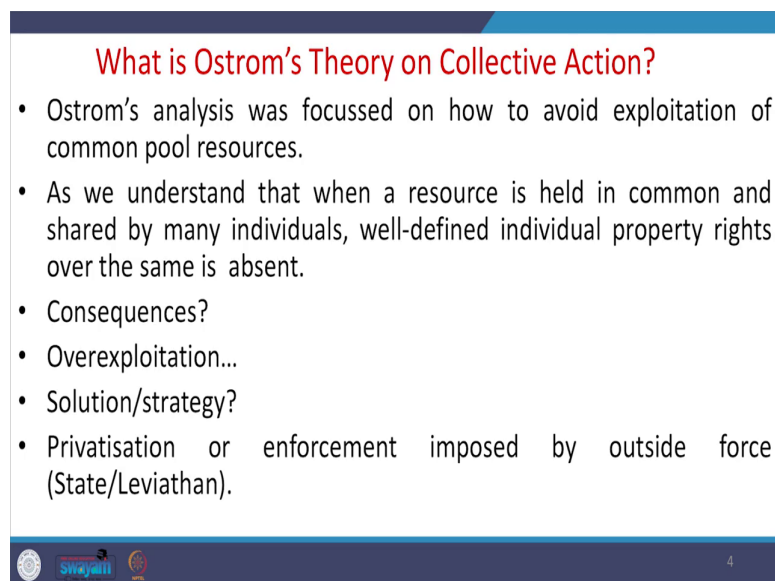
And, if you want to know that what this Elinor what this governance or the governance of the commons that is propounded by Elinor Ostrom, we must take into account this masterpiece that talks about something different on who which because which we can say it is a kind of paradigm thinking in the vary management and governance of the commons itself. So, that see dealt with in this book, that is *Governing the Commons: The Evaluation of institutions for collective actions* in 1990.

So, and again a she has a list of books and the list of ideas that actually talks about the collective action problems. So, again another book she contributed that is *Institutional incentives and sustainable development: infrastructure policies in the prospective* itself because sometimes you are saying that this collective action problem may not work by self-governance itself.

So, in the first books she talked about that how self-governance is necessary is urgently necessary for governing the commons, so that we can we can a safe our commons to degrade further. So, that is why in this in this second book she talked about the right kind of institutional incentives for sustainable development of the sustainable development and management of the commons itself. And again in her third book she talked about rules, games and common pool resources, so that is again the contributions or you can say the supplement to the existing knowledge that she led for the first book.


And based on these theories or based on this understanding that she contributed in terms of different books to the literature of commons, then what is the Ostrom's theory on collective actions. Based on these understanding that we let us talk about that what is the understanding of this a collective action so far argued by Elinor Ostrom itself.

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What is Ostrom's Theory on Collective Action?

- Ostrom's analysis was focussed on how to avoid exploitation of common pool resources.
- As we understand that when a resource is held in common and shared by many individuals, well-defined individual property rights over the same is absent.
- Consequences?
- Overexploitation...
- Solution/strategy?
- Privatisation or enforcement imposed by outside force (State/Leviathan).

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So, the governing of commons this book is a kind of masterpiece at the present time although it has a it was written in 1990, but still in the present time you can find its relevance. So, that is why we can say this analysis of Ostrom's that focused on these governance of the commons it tried to avoid how to, it tried to avoid basically the exploitation of common pool resources or how to have a kind of mechanisms that can save the commons or common pool resources itself.

And, as you understand; that the very nature of the common pool resources or commons, that we have already talked in the very beginning of our commons and the nature of public goods contexts. So, here we can find the very so far the very features of the common pool resources as concerned then they are lacking these two criteria, so far the excludability or non-excludability and rivalry or non-rivalry is concerned.

So, what would be the very features of this a common pool resources? So obviously, it would be a rival, but it is non-excludability in nature. So, because of this peculiarity that it is non-excludability in nature that is why the common pool resources does not have a very well defined individual property right and because the resource or common pool resource does not have well defined individual property right; so, this is the problem here.

Again when the resources are not having any well define property right then everyone can have access and everyone can say at the benefits. So, if you remember the tragedy of the commons by Garrett Hardin, then he talked about this scenario. So, there he talked that a scenario of a pasture that is that all the Hardin's they can have equal access and everyone being the rational because they are following this rationality rule. And, in order to maximize their satisfaction and utility or in terms of profit from the herds itself they will be keep on adding one more, one more and so that the resource the grazing resource will degrade.

And, it happened because this commons does not have well defined property right and that is why the resource is subject to degradations. So, this is the common belief at that point of time when said wrote this masterpiece that is governance of the commons. Because since the Hardin's time then if you look into this literature of the commons from Olsen to Hardin then

we are finding actually the same story that in case of the commons, if it is not governed properly by the mechanisms of privatization or the market or the state intervention then obviously, the resource will subject to degrade.


And, for the first time we got some a different view on this remark. So, in this regard when you are saying that if there is no property right that is by the individual property right itself, then obviously, the resources will be subject to over exploitation or over consumptions. And, the peculiar strategies that we are believing from the economic literature or common pool literature we can find that these two strategies like your either the privatization of the resources or enforcement imposed by outside the force; that means, it may the government mechanisms or government intervention will be here or either in terms of privatization if these two types of strategies can be undertaken then the common pool resources can be said.

So, here we are talking about this enforcement imposed by outsiders, the state intervention or sometimes here in Olsen's remark here she talked about the leviathan, the role of leviathan. So, that means, a major power is their which can actually control over these resources in managing and governing. So, these are the two or popular beliefs. And, in this contexts actually a Ostrom talked about something different in order to how a solution for this kind of problem. So, what is this alternative solution she talked about? So, she talked about that this kind of commons problem or collective action problem can be solved by stable institutions of self-governance.

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Ostrom's Argument...

- Is there any alternative solution?
 - The problem can be solved by stable institutions of self-governance which can be possible if problems related to supply, credibility and monitoring are solved.
 - She describes some key elements for successful common-pool management schemes.
- She was the first woman to receive Nobel Prize in 2009 for her 'analysis of economic governance focussing on common property'



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So, this is something like innovative idea or it is a kind of really the new idea that we are finding in the commons literature. So, because we only knew that this commons can be can be pressured and it can be the resources of this commons can sustainably used, if we are finding the state intervention mechanisms over there, control of this states and there must be some rules and regulations stated by the state itself or there would be the market mechanisms through the privatization system.

But here she talked about that in order to ensure the resources to continue forever, we can have a stable institutions of self-governance and this mechanism can be possible if the problems related to the supply side, credibility side and monitoring side can be solved. So, the thing is that, see for the first and see highlighted the role of the stable institutions that should be self-governed.

So that means, some here she talked about the participation of the local community or the local users or the users who are the party of the stakeholders of the common property resources. And they can actually if this kind of institutions be made then the self-governance of the commons is possible, but there are certain problems that need to be a fixed that is this apply side problem that and the credibility problem and monitoring problem.

So, in this 3 3 characteristics or the 3 issues are fixed then there would be no problem in this self-governance so far maintaining the stable institution for a governing the commons itself. And also, she describe some key elements of the variables for a successful common pool he resource schemes that will be talking. And because of this contribution because it is it really novel, it is really something different idea she put forth and it is not the idea because she has a little taken into accounts so many empirical evidences from the countries like Japan, Switzerland, Philippines, California, Canada and Turkey.


So, if you see the kind of resources she explored or taken into account for her fill survey and the experience she got, so it talks about the high mountain (Refer Time: 13:33), the case of water project and irrigation systems and the fisheries which are largely commons and governed by or which all these resources they do have the property of the common pool resources. So, because of her contributions in this commons literature and the idea she put forth that how to self-govern the common pool resources, so that the resources would be providing it is a characteristics forever.

So, because of which she got this Nobel Prize in 2009 and the Nobel committee prescribed that she got this prize because of the analysis of economy governance focusing on common property itself, although this the this prize was shared. And I you can also think that she is the first women till now, she is the first women to receive this Nobel Prize in the in this effort.

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- Her arguments has challenged the established theories like 'tragedies of the commons,' 'collective-action problems,' 'prisoner's dilemmas'.
- The prior theories underestimated the capacity of the community or groups to manage the collective goods.
- Hence, she argued that common resources can be well managed under the condition that those who benefit most from these resources must be in close proximity to the resources;
- And, tragedy in those commons may occur in the case when external groups exerted power socially, economically or politically.



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So, what is the argument? Our argument actually challenge some established or conventional theories like that we have already taken into account the first theory, she argued against if the tragedies of the of the commons and the second one is collective action problems by Olsen and the third one that we have already taken into account that is prisoners dilemma. So, these are the established theories. And Olsen's theory of governance of the commons argued and challenge this established theories and prior to this the prior to her theory that is governance of the commons.

So, generally this established theories they underestimated the capacity of the community or the individual groups to manage their own collective goods or own collective resources. So, that is why she argued that this common resources can be well managed, it can be well managed, but thing is that we need to have some kind of conditions. So, what is the

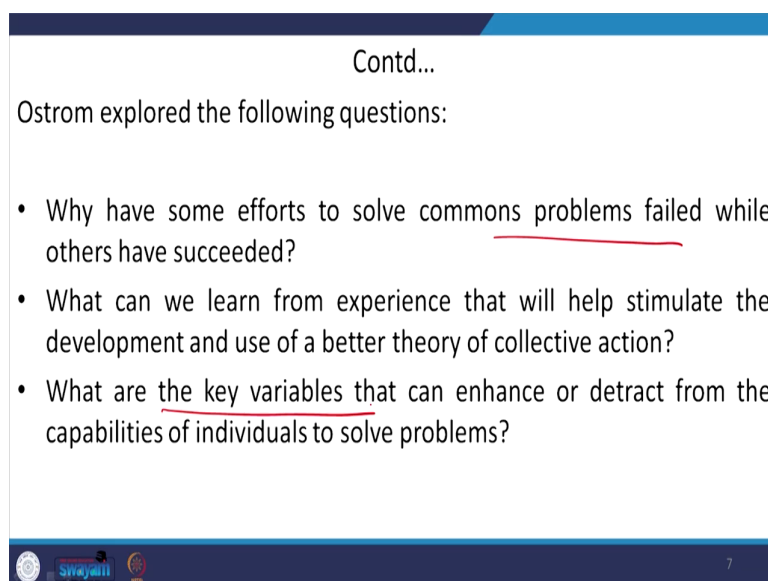
conditions? The under the condition that those who benefit from these resources, this common pool resources they must be in the close proximity to the resources.

So that means, obviously, when the users are in the close proximity to the resources there can actually have a kind of group and that group will be self-managing or self self-governing by some conditions or by some features. So, that the conventional idea that the tragedy will be happening to this commons in the existence of or because of the lack of property right, well defined property right it will not actually happen.

So, this tragedy in this in this commons may actually occur in the case when the external groups they exerted some power like social power or economic power or political power, political power. So, this is again the her unique idea that the commons may meet the tragedy because of the interventions and this interventions are the outside interventions and these intervention maybe the social groups and social power intervention in terms of social power interventions, in terms of economic powers power intervention or it may be informed of the political power interventions.

So, if these external groups they are exerting any kind of power socially, economically and or politically then those commons may face the tragedy otherwise not. And in this context in this very basic understanding of the situations that how Ostrom talked about or argued against the established idea in managing the commons.

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Ostrom explored the following questions:

- Why have some efforts to solve commons problems failed while others have succeeded?
- What can we learn from experience that will help stimulate the development and use of a better theory of collective action?
- What are the key variables that can enhance or detract from the capabilities of individuals to solve problems?

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So, in this regard the Ostrom explore the following questions like the first one could be that why I have some efforts to solve common problems felt. So, what is the reason behind it? We are making efforts to solve the collective action problems are problems related to the commons, but still we are not very successful. So, what is the reason behind this? What are the factors there may attribute for the success or valuer of the common commons?

And the second things he also talked about see its see actually wanted to know enquired about what can we learn from the experience that will help stimulate development and use of better theory of collective actions because what about the existing theory that talked about the free rider problem and apart from this free rider problem. So, this kind of phenomenon or this kind of idea that the local community they may get empowered, a kind of empowerment and if they

will be learning this kind of self-governance then there will be no problem in managing the commons.


So, by taking the experiences from so many countries, across so many resource management of the commons she actually concluded the very basis what she talked about governing the governance of the commons. And the third question she also incurred about that what are the key variables that can enhance or detract from the capabilities of individual to solve the problems. So, again she wanted to find out in the social sciences basically this kind of commons governance is a part of either the political science in the sub field of political science or economics or natural resource management.

So, in these cases of social sciences it is very difficult to find out the key variables in the decision making for in terms of governance of the commons, but she tried to find out the key variables that can enhance or detract from the capability of individuals to solve this problem of commons.

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- In her analysis of the group dilemma or collective action problem, the participants themselves design their own contracts.
- The self-interest of those who negotiated the contract will lead them to monitor each other and to report observed infractions so that the contract is enforced.
- Whereas, a regulatory agency/authority, always needs to hire its own monitors. The regulatory agency then faces the principal-agent problem of how to ensure that its monitors do their own job.



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And, in her argument of self-governance see again found try to find out that how to solve this collective action problem if the participants they themselves design their own contracts. So, in a simple way, simple manner we can say that this problem of collective actions can be solved by the communities or the very stakeholders of the participants does what, directly extracting the resources and dependent on the resources.

We are calling them user groups. If this participant themselves they design their own contracts how to govern the commons itself, what would be the frequency of the extractions? The very knowledge the traditional knowledge and other knowledge that can be helpful in growing the commons and also for deciding what would be the, right time for extraction itself.

So, taking to account all these knowledge about the very commons then these participants they themselves can design their own contracts for governing the commons. And who will be

participating? Obviously, the user groups they will be participating and they will be trying to design their own contracts for governing this commons because this self interest of those participants who negotiated the contract will leave them to monitor each other.

Because in this decision making process when we are saying that it is the user groups they can govern themselves for the very very sustainability of the resources. So, the question arises that, so if there is any loop holes then who is going to monitor it or who is going to check it. So, that is why she argued because the self interest of these participants. So, they will be negotiating and they will be also reading that who will be monitoring.

So, in this case everyone will be monitoring each other's action in extracting the resources and maintaining the resources for infinite time. And if there is any kind of glitch present in this monitoring system or the contract system so far the very obedience or the very following the where the participants their following the rules and regulations or as per the contract then they can each of this member whosoever is finding this glitch it here see can report.

So, that the contract what about the contract was decided earlier it can be enforced in a very good manner or in a right directions. And so, this is the mechanisms she talked about that how to frame these contracts, so that the commons can be governed by the local community or the users group itself. But, if you are thinking about the other kind of mechanisms other than this concept that she developed: so that we can talk about either the private mechanisms or a regulatory body or a kind of authority led by the government itself.

So, in this case how to monitor this particular contract or particular rules and regulations developed by the a regulatory authority or agency itself? Because in this case, in this mechanisms so, the regulatory agencies or the authority then need to hire its own monitoring systems or monitors itself. Who will be monitoring? There will be a stereotype or a kind of hierarchy or a bureaucracy you can say or a system that we need to actually hire in this process.

So, this, this is required on that the conditions that if there is any existence of regulatory agency then how the commons will be managed. So, here the regulatory authorities or

agencies they will be facing the challenge that how to ensure that monitors do their own job. So, that is again a very critical question. Because in this system, so far the regulatory agency is concerned, so there is there maybe some hierarchy or there maybe some individual monitors. And, the question is that if there is some glitch found on the part of the monitors itself then who is going to pick that, who is going to point out that that it the very system or very monitoring system is not working perfectly.


So, this is how we can say, in the former case, like in case of the a community contracts if there is any kind of if there is any kind of glitch found then the participant they can actually point out find the loopholes of each other. But in this mechanisms when the regulatory authority is governed by the private mechanisms or the state mechanisms like your leviathan and thereby they will be hiring some kind of own monitoring system or you can say monitors. So, in that case it is very difficult to ensure that who is monitoring its own job. There is no third party who can monitor the monitor's job. So, this is the difference between these two strategies of the commons governance.

And if you see a if you want to find out the final results or the optimum results that are that are that we can find in case of the former case that is self-governing groups will be having some kind of parameters. So, what is the very basic parameters that we are talking about in case of self-governing the commons?

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- The optimum results are obtained in such self-governing groups because of following parameters:
 - Communication among the participants.
 - Better understanding of the structure of the game or collective goods.
 - Reliability on the others' actions.



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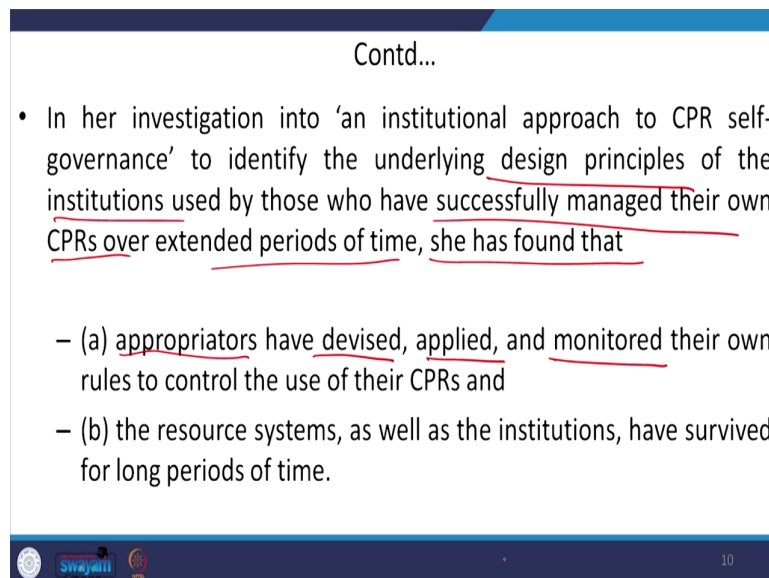
The first one is communication among the participants which was largely absent in the second mechanisms that if the governance is controlled by either the state mechanisms or the market mechanisms, then the communication part among the stakeholders will be lacking. But in this case of self-governance this communication among the participant will be frequent, and moreover there would be a good understanding or a better understanding of the structure of the game or collective goods itself among the participants.

What will be the structure? What will be the actions? What would be the strategies of each of the participants? Because the communication is frequent it is not just like the case of your prisoner's dilemma game. So, in prisoner's dilemma game there are no communication existing among to participants, so they are not cooperating. But in this case are the objectives are known that we need to ensure the resources to provide its resources forever and this is the objective for the participant itself then you can say that the we can have a better understanding

of the very systems are structure of the game so far the collective goods and the decisions are concerned.

So, the next one the third one reliability on others action is one of the important parameters for the optimum results that we are getting in case of self-governance. And, if you compare these this self-governance case a with the with these prisoner's dilemma, then we will be finding that in case of prisoners dilemma there is there was no communication taken place among the participants and the participant both the prisoner's they did not have any trust on each other's actions, right. And where whereas, in case of self-governing groups they do have the participants, they do have high a trust on each other's actions and that is why the optimum results are obtained in case of self-governing groups and whereas, in the other cases the tragedy of the commons and the prisoner's dilemma case these are this things did not happen. They do have trust on each other's actions so far governance is concerned.

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- In her investigation into 'an institutional approach to CPR self-governance' to identify the underlying design principles of the institutions used by those who have successfully managed their own CPRs over extended periods of time, she has found that
 - (a) appropriators have devised, applied, and monitored their own rules to control the use of their CPRs and
 - (b) the resource systems, as well as the institutions, have survived for long periods of time.

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So, in this context after taking to account many field surveys from this the countries across. So, after take into account so many observations from the field survey, so her investigations into this institutional approach to CPR self-governance, to identify the underline design principles of the institutions used by those who have successfully managed their own CPRs over extended periods of time she found some characteristics.

So, in a nutshell I want to convey this message that after undertaking so many fields are there she got to know the kind of institutional approaches existing for addressing the CPR problems and she found there is some principles that she told she is pointed out or she name as the design principles of the very institutions itself. And, if you are just trying to find the literature on the public policy then you will be finding this institutional approach is one of the fundamental approaches for delivering a any kind of public policy.

So, after getting into after investigating all the stories across the globe in across different common pool resources, she found out what are the factors that actually are behind the successful management of the CPRs and she highlighted that this factors are related to the design principles or the very structure of the governance itself.

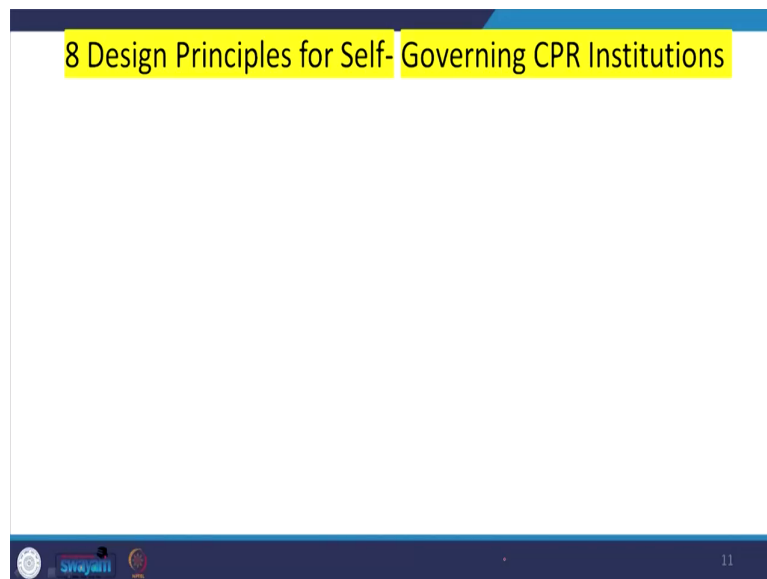
So, when we are talking about the structure of the governance, it was directly leading to the institutional schools of thought or institutional approach to the public policy itself. So, what she found out after getting into getting her investigations into so many successful management CPRs or common property resources or generally we are saying commons here? She found that appropriators have devised, applied and monitored their own rules to control the use of their CPRs.

So, what is the principle design principles she found? So, those who are appropriating or those who are actually using the resources they can device, they can apply and they can monitor their own rules related to how to control the common property resources or commons. They do have freedom to device, (Refer Time: 32:24) and how to apply, what would be the mechanisms, what would be the strategies, who is going to monitor it. So, every kind of a this kind of things are actually controlled by the user groups or this appropriators itself.

And the second one is that these resource systems and the institutions they have survived for a long period of time. So, that means, from her own observation of the field side she got to know that designing the principal is at most importance if you have to successfully manage the commons this is the first criteria. And that is why for designing this principles the appropriator sorry user groups the most of the at most of freedom to devise the rules and regulations that how to control this CPRs, how to apply it and how to monitor it.

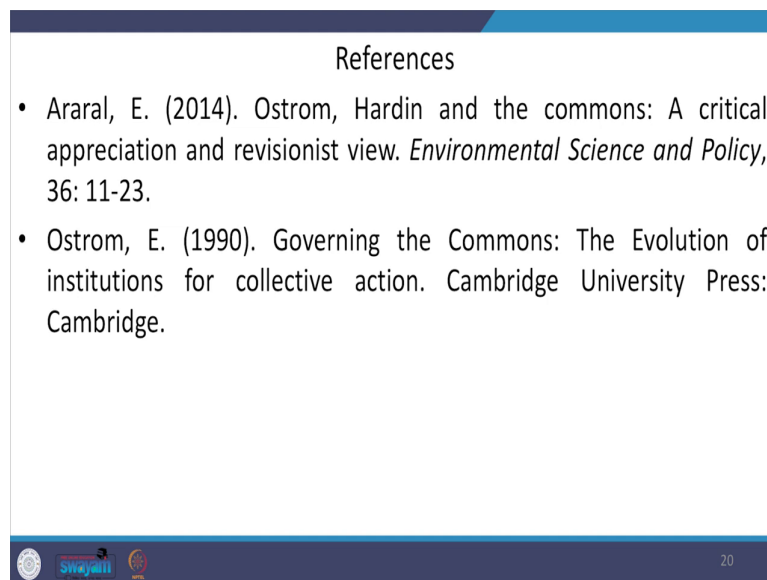
And, again she found this decision or she actually read these decisions after analyzing those systems and those institutions which we are having their successful story for a quite longer period of time.

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So, based on this experience she designed 8 principles for successful self-governance of CPR institutions.

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So, in the class we will be discussing the 8 design principles to manage the CPR and the institutions. And based on the different field studies that she had conducted all over the world, she found some of the some of these stylish facts, so from her own experience and field service she used and designed principles which is known as the 8 designed principles for managing disappears successfully, that will be discussing in the next class.

Thank you.