Environmental Science
Lecture 26

Reconstruction after Resettlement and Rehabilitation

Usually when you talk about reconstruction, there are three stages involved in the process. The first stage important stage is rescue. Right after any disaster, manmade or natural, our main aim is to save as many lives possible. During the rescue mission, our focus is mainly on saving the lives at immediate risk. Then comes the next stage of relief, people who have been saved and the unfortunate lives that have been lost. Our next focus falls on what best can be done for the victims of this turmoil. The next focus is on reestablishment; provide basic services to keep them alive as well as healthy. The portion of keeping just the people is not sufficient especially after any kind of disaster. Usually there are a lot of other ancillary problems that crop up. For instance, in case of floods, it could an epidemic that comes about because of water stagnation, cholera, malaria, dengue, etc. When we talk about relief, it is to keep them comfortable, alive as well as healthy.

Next stage is Recovery. It is during this stage we think about the property, the things that have been lost. It is during this phase we think about infrastructure, economy as these things are slowly rebuilt. The standard time frame for these phases are - Rescue is 7 days after day of impact, Relief goes on for about 3 months and Recovery can be 5 years, 1 - 5 years is anywhere with respect to recovery. All of these data are based on the magnitude of the impact or the disaster we are talking about. Things like earthquakes, landslides, where there is complete disruption like the one that happened in Uttarkashi recently or let it be our own Chennai floods, the repercussions are different based on different disasters and the magnitude of these disasters and even the geography of these disasters. If it's the metro city which has accessibility to different kind of rescue operations from different directions. The rescue operations, relief and recovery is much faster. In cases where it is more remote like hill stations and places of higher altitude where relief and rescue takes a lot of time, even recovery takes a lot of time. In terms of housing we need to keep these stages in mind and usually three types of housing forms come into being because of this. You have emergency shelters which are anything from tents, shacks. Temporary housing is a little better than shacks, kits or little more structured tents with proper solutions for sanitation. Final permanent housing are ideally homes that need to be provided. It could be built construction, built homes, whatever it is depending on the place of impact. If that place is deemed unsafe to live, people have to be evacuated and another place has to be given to them where they can work as well as live.

The typical problems and concerns with these are, there are a number of reasons like we discussed, why people are getting rehabilitated and resettled. Besides disasters, another important thing are government undertakings of constructions of dams, mines, broadening of

roads, highways, expressways, all of these are deemed important and of national importance. Just not something that can be frivolously put aside because even about 50,000 or even 100,000 people are going to be displaced because these projects are considered for the good of the entire country and the economy as such. In these situations, what actually happens is, besides displacing people we are even displacing plants and animals, flora and fauna pertaining to that area and if that is going to be moved, those species might decide and may deteriorate and collapse and may no longer exist. They are not as resilient as human beings where they can be uprooted and planted elsewhere. Even with respect to human beings, tribal communities are mostly affected because their livelihood, their way of life, all of them are intrinsic to their culture and their way of life. If tribal people are completely uprooted because of any particular reason, because of construction of dams or mines, they'll feel completely lost. They might be put in an equally spacious place but that culture and an intangible element or value is also lost. We cannot assign a value to everything in terms of money and economics but we do loose a huge chunk of our culture and history when tribal people are dislocated and like we just mentioned, besides tribal people, in the same area, we are losing a lot of indigenous flora and fauna species as well. We are actually not only rapidly diminishing indigenous population within the flora and fauna community but also amongst human beings especially the tribals. Even the land that is given to them as a compensatory measure of dislocating them and displacing them, that is never sufficient. For instance, they would be in a highly well ventilated area in the hills, mountains or in the forest with no pollution, clean air, water and everything and from there, a populated country like India to get good quality land is impossible. So basically, they will be put in some waste land that's lying around. Then, their quality of life goes down, their work ethics go down, they can no longer be employed in the kind of jobs they were previously attached to and they pretty much become slaves to whatever atmosphere they are forced upon.

Besides that, the place they are thrust upon, even that place and the people already living in that area also suffer as well since they have to share their natural resources which is already highly pressurized. Let it be water, air, everything, all of their natural resources, have to be shared.

Role of NGO

Moving on to the role of a NGO, the making of Environmental law. The Environmental Protection act came about in 1986, "Rules for the manufacture, use, import, export and storage of hazardous Micro-organisms or genetically engineered organisms or cells." under the Environmental Protection Act or EPA in 1986.

Definition of NGO - NGO is a non-governmental organization and in its broadest sense, is one that is not directly part of the structure of government. In simple words, Non-governmental organizations are not part of either the local or state or central government.

Role of NGO - Our very own father of the nation, Mahatma Gandhi also focussed his work on the environment along with the freedom movement, equality and social justice. According to him, the Earth provides enough to satisfy every man's need, but not for every man's greed. That is so true especially in today's world when are taking more and more from nature, more than what we require and we have made it a part of our lives in the sense, we have made sure that nature is subservient to us, rather than we being subservient to nature. Nature is something that can heal itself, it can recreate if it was lead to be by itself. Human beings aren't like that, we are completely dependent on nature for all our activities right from work, life, basic living like air, water, everything we require the natural environment. The role of any non governmental organization with respect to the environmental protection is to ensure that the strategies and the law is upheld and they are more relevant in the field of awareness in ensuring that the common people, schools, institutions, educational institutions, industries, all of them are aware of their carbon footprint, the kind of stress they are inflicting on the environment on them. The NGOs have their own set of rules with the help of the government as an overlooking body but not an interfering body. Apart from the word NGO, often alternate terms are used; independent sector, volunteer sector, civil society, grassroots organizations, transnational social movement organizations, private voluntary organizations, self-help organizations and non-state actors (NSAs). All of these are synonyms of the basic term 'NGO'. Non-governmental organizations are heterogeneous groups. You have a long list of acronyms that have developed around this particular term. The typical terms we need to be aware of are - CSO - Civil society organization, DONGO - Donor organized ngo, ENGO - Environmental NGO, INGO - International NGO. All of these when we especially come to environmental protection, it goes beyond the boundaries of village, city, state and country because we know the natural environment, environment as such, nature as such is shared by the entire globe and this is one place where all the nations do come together to ensure that they are not depleting the natural resources at a rapid space and they can keep a check on the different countries around them.

Indian Forest Service defines Environmental conservation. We have to take into consideration the degradation that happens that happens in a particular pace, the different kinds of pollution and its effects on the environment. The typical effects are global warming, ozone layer depletion, acid rain is a main complex, principles of Environmental conservation, critical measures and Environmental monitoring. If you look at Environmental Conservation, only when we decide to develop a strategy and find out, what are the ways in which our environment is getting degraded. What are the ways in which we are going about this process, only then can

we come up with a strategy to conserve this environment. We should have the first part in place for us to carry it forward to the second portion of conserving it.

Environmental impact assessment of projects, you have sustainable development strategy for sustainable energy use. For us to use the natural resources at a particular pace, at a particular rapid stream of usage, we have to ensure that the usage is proportional to the population as well as, as we are consuming the natural resources something is being done to replenish it at the same time. That's what makes it sustainable development. Green house emission - a greenhouse is built out of any material that passes sunlight, usually glass or plastic. It mainly heats up because the sun warms the ground which then warms the air in the greenhouse.

Introduction of Green house. How does the Earth actually stay warm and comfortable in the coldness of space? Temperatures on Earth are livable and bearable because of natural processes and this is what we call the 'Greenhouse effect'. When the sun reaches the atmosphere, some is actually reflected back into space and some passes through and is absorbed by the Earth. This causes the surface of the Earth to warm up. The Greenhouse effect is a continuation of the same. Heat from the sun is radiated outward and is absorbed by greenhouse gases. This process prevents heat from disappearing into space and ensures that the Earth is kept warm enough for us to sustain life and this continues on to a greater extent and that's when global warming begins. Some human activities, primarily the burning of fossil fuels intensifies the warming effect by releasing additional greenhouse gases into the atmosphere. These gases make the Earth warmer and warmer, more than the required temperature to sustain life. The typical greenhouse gases that we are discussing here are; Carbon dioxide, encompasses of about 53%. Nitrous oxide takes a small chunk of 12%, Methane around 17% and other gases combine to take 18%. If you look at the pie chart here, Carbon dioxide holds majority, followed by Methane and then Nitric Oxide.

In India many pollution boards are there. As and when the things have changed with respect to environment, the Earth and we know there is global warming and there is change in precipitation patterns, we do realize that we are hampering nature. As watch dogs, the government actually creates a number of boards, NGOs have started coming up to ensure that the government is doing its job at the right time and right place. The typical boards that we will be discussing are, the Central Pollution control board, Eco Wrist watch, Gujarat pollution control board, the Energy and resources institute, Environment organization and resources persons in TamilNadu. All of these play the same role at different levels and degrees of ensuring that pollution is kept in check and that encompasses all the different kinds of pollution that is there. They ensure that the energy and resources being consumed are well within the standards that are for the population supported in that particular area and if at all we are consuming natural resources, what are we doing to either make an attempt at using alternative

resources like wind, solar, etc or what are we doing to replenish the natural resources. Like building more trees, reducing deforestation, what are the steps that are being taken? At a global level, many organizations are there to protect the environment. We have the world trade organization itself which has actually changed, the law is tremendously to support the environment and become very stringent with industry and factory laws. UN Development Programme (UNDP), The World Food programme (WFP), World Health Organization (WHO), UN Educational, Scientific and Cultural Organization (UNESCO), UN Industrial Development Organization (UNIDO). All of these are involved in making sure we are going to use the environment with a check to ensure that this pattern can continue and we are able to sustain the future generations as well.

Environmental Ethics

The philosophical discipline that studies the moral relationship of human beings as well as the value and moral status of the environment and its non human components. It basically considers an ethical relationship between human beings and the environment. In this case, human beings have to play the 'Devil's Advocate'. Environment doesn't have a talking body to come and state to us that we are destroying it. We have to keep a tab on the environment and on ourselves to ensure that we enjoy a well balanced symbiotic relationship. In most cases obviously as the environment ends up being a silent spectator, it does get destroyed more than it is supposed to and there is no stopping it. By encouraging these boards, the government organizations, non-governmental organizations step in and put their foot down and enable us to follow the rules better is what is environmental ethics. They actually help define man's moral as well as ethical obligations toward the environment. Human values become a factor when you actually look at environmental ethics. Environmental ethics and human values affect our ability to understand and solve environmental problems. Three common ethical principles - ecocentric, biocentric and anthropocentric. The images are very self explanatory. Anthropocentric is human centric, just think of the needs of the human beings, our needs in particular and how we can enjoy from the environment. Biocentric is the next level where we do encompass the immediate organisms that we come in contact with and that is again to affect the human life as well. Ecocentric is open to the entire world, we think about the entire ecology, the natural environment as one and all elements that encompass it. Not just the animals and plants but the sky, the air, the water, everything that comes under the biosphere. Anthropocentrism is a human-based ethic arguing that humans possess complete authority over decisions about the environment. States that natural resources are open to human manipulation. Nature exists solely for the benefit of man. True to a certain extent because we have learned to tame the environment but if we do continue doing so in such an arrogant and obsolete fashion, nature will collapse and decide to just stop providing for us and we are going to be the suffers.

Biocentrism basically focuses on the theory that all forms of life have an inherent right to exist. Bio centrists are split into two different subgroups. Some places greater responsibility at protecting plant species rather than animals and vice versa. Even within the biocentrism, there are two studies that give importance to animals on one end and plants on the other.

Ecocentrism maintains that Earth itself has moral value and has to be treated with respect by those living in it. It also states that the Earth and its resources should be treated as a community rather than a commodity. It is only when treated as a part of a community and given an intrinsic life value, only then can we sustain it for our future generations. The second it is going to be commodified and an economic value is going to be put to it, its approachable, doable and can be bought which isn't true because only a part of the environment can be replenished even at a smaller pace that we can see. The rest of the natural resources that we are talking about are going to get decades and centuries to replenish themselves way beyond our lifespan.

Environmental attitudes - development. This is basically an anthropocentric approach inclined towards the benefit of human beings. This basically promotes human control over the world's resources at the expense of future generations. This goes on with the 'capitalist' work ethic. Let's just think about ourselves today cause we don't know how tomorrow is going to be. We just think and focus on how we are going to keep our lives happy and healthy, healthy in the context of whatever we want to do, we can do. Let's not think too much about nature, for all we know science is going to come up with another solution where nature can be completely devoid or avoided. Preservation is an ecocentric approach, a nature based approach. This basically calls for preservation of world's resources, rather than complete human consumption. The typical example is establishing national parks and reservoirs. Conservation basically strikes a balance between the two where you are actually talking about being dependent on nature, human beings are going to take and use resources from nature but we have to keep an account of what we are taking and what are we giving back and that is a wise decision, a sustainable way of development.

Environmental Management - management of interaction by the modern human societies with and impact upon the environment. This is basically an attempt to control the human impact and make sure the environment and the interaction with the environment in order to preserve the natural resources. It basically aims to ensure that the ecosystem and the natural services are protected and maintained for future human generations. To play devil's advocate here, a lot of them say, they keep thinking about the future generations. If today's human beings are not able to sustain, what is the point in thinking about the future? If only we can sustain well today, then only the prospect of saving for tomorrow and saving for future human generations comes

into question. We need to identify the factors that are affected by conflicts that usually come by meeting needs as well ass protecting resources. It is thus linked to Environmental protection as well as sustainability. Carrying capacity, a more common philosophy and impetus behind Environmental management. It basically refers to the maximum number of organisms a particular resource can sustain. A particular say flows through a certain area, the carrying capacity of that river could be a particular density of population for a sq km and a total carrying capacity is the number of people the particular river can support. If that population increases, then the river is not going to be able to sustain, it might dry out, it might lead to drought conditions and famine conditions and that is exactly what's happening today. We are over burdening certain natural resources and those natural resources are not able to keep up with our demands. Sustainability involves managing economic, social and ecological systems within as well as external to an organizational entity so it can sustain itself and the system it exists in. Rather than competing for endless growth on a finite planet, development should improve quality of life without necessarily consuming more resources. This doesn't mean that we have to live well today and use whatever we have, we have to be sensible, save up for tomorrow and when we say tomorrow, not only for us but also for our future generations who are going to come on this planet. Public sector is responsible for administering natural resource management and implementing Environmental protection legislation.

Private sector's traditional role in Environmental resource management is that of the recovery of natural resources. The aim of civil society in Environmental resource management is to be included in the decision-making process by means of public participation. Public participation becomes very crucial because it is the public that is consuming the resources. Yes, at a level the centre has to decide what are the permissible levels of using certain resources, of deciding what kind of resources can be spent on what kind of population and all of that but it is the civil society and the community at large that has to come to a cohesive conclusion that they will take certain steps to consume less resources and we are going to take so and so measures to ensure that we are going to give back to the natural environment in such a way that if at all we are going to consume these resources in such an extent, let us find and focus on a way to find an alternate resource so that we don't have to replenish this particular natural resources.

Environmental Management system - Management of an organization's Environmental programs in a comprehensive, systematic, planning and resources for developing, implementing and maintaining policy for environmental protection. Usually what happens is, we have both governmental agencies and non-governmental agencies besides which on another level, we have huge industries, manufacturing units, public domains, industries, so many of them are there and corporates as such have to take up a role in appointing huge groups of people where they can actually inculcate an Environmental management system in

turn keeping the company in check to ensure that resources are being spent wisely, not being overused, making sure electricity consumption on a whole is reduced, making sure that battery operated vehicles are used within campus, fuel checks given free to employees, things like these are a part of the management system. It is also a set of processes and practices that enable a particular organization to reduce its Environmental impacts and increase its operating efficiency. A framework that helps a company achieve its Environmental goals through consistent control of its operations.