

Environmental Science

Lecture 31

Environmental Management

If you look at environmental management, the phrase is not as simple as it seems. It is not managing the environment, rather managing modern activities of human beings so that the interaction with the environment is minimal and the impact phase by the environment is also minimal. That is what is managing the environment or environmental management. We have to control our activities rather than going about and trying to control the environment to suit our whims and fancies.

Environment in Public Health. This is the classical Environment: Health Interface. You have a Hazardous Environmental State, you are exposed to it which diminishes human health. It is a very simple theory. If you have a poisonous, hazardous environment, it could be the smallest thing, land pollution, air pollution, whatever it is, if human beings are exposed to it, not just humans but plants, pets, animals, poultry animals; any of these could be exposed to it and it is going to gradually diminish human health. Either the exposure could be direct or indirect, the end result is the same, having diminished human health. The implications are quite significant. Society can no longer hope to deliver health, wellbeing, health care without returning to an 'environmental conceptualization' of public health. Public health must think and act on a vastly extended temporal and spatial state. From now on, we must build public health and wellbeing on ecological principles. Those of us concerned with the relationship between the environment, health and wellbeing must embrace a distal dimension to their work.

We have to realize that health has nothing to do with medicines, nothing to do directly with our lifestyle but it has everything to do with our environment. The more we disturb the environment, the more we are going to feel the repercussions either in the form of health or other related issues.

Environmental pathways from human activities to health being 'distal', usually for one or more of the following three reasons. They may be 'temporarily distal' because the true extent and gravity of their impacts on health and wellbeing will be felt only with time. They may be 'spatially distal' because they relate to those environmental impacts which are happening, or predicted to happen, elsewhere. Perhaps after decades or even generations. They may be 'extremely complicated' involving an unfamiliar interplay of societal, economic and physical factors which modify and amplify risks.

This basically depends on whether we are directly going to be involved. If we are not directly involved, what is the time frame you are looking at and if at all there is going to be an issue we

are directly related with, is it going to be immediate in the time frame or is going to be many years from now and there is another final factor, it is just not a direct interplay between man and the environment. There are many other layers which come into it with respect to economics, society and other physical factors. All of these are ways in which the environment and human activities play a role hand in hand. If you look at the ecosystem services, our final requirement is 'Human Well Being'. The supporting factors you have are; Nutrient Cycling, Soil formation, Primary production and what are the Provisioning elements? Food, Fresh water, Fuel, Wood, Fibre, etc. All of these are our basic requirements and our Regulating requirements are; Climate regulation, Flood regulation and Water purification. When you look at these three regulating factors along with the provisional factors, finally for our emotional well being, we need cultural factors; Aesthetic, Spiritual, Educational and Cultural. All of these together comprise the ecosystem services. The final result is 'Human Well Being'.

If we look at Agenda 21 stated by the United Nations, this is a comprehensive global plan of action to achieve Sustainable development. This was basically an outcome of the United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro in 1992. This was adopted by 178 countries. Sustainable development itself has three important pillars which are mutually supportive of each other; Economic development, social development and environmental development. When you look at sustainable development, it does not only refer to thinking about the environment, we also have to think about the economics of the country, the social development of the people. What is the price we are willing to pay. The third branch of environmental protection is very important because that's going to keep a count or check on the resources we are consuming or the resources we are giving back. All of these are very much in play over here. You have about 40 chapters in Agenda 21 but the four main sections we will be discussing are, Social and Economic dimensions. This basically discusses about 'how do you combat poverty, how do you change consumption patterns' because you have some people who are over consuming, mal nourished or under nourished, change population and sustainable settlement. The next sessions discusses Conservation and Management of Resources for development. This includes atmospheric protection, combating deforestation, protecting fragile environments, conservation of biological diversity and control of pollution. The third section is Strengthening the role of Major groups, this includes the role of children, youth, women, NGOs, local authorities, as well as business model workers. All of these are the main players in the environment. What was their role and if they do not have any role, let's give them a role. Either they have to be people who are spreading awareness or the people who are at the end stick of an awareness programme. There should be some kind of involvement of the environment education in every person's life. Means of implementation - implementations include science, technology transfer, education, international institutions and financial mechanisms. All of these also need to play a very important role. Having an agenda is not

sufficient, we need to have some kind of an authority who is going to make sure that the agenda is being fulfilled and implemented.

Environmental Health Planning - how do you go about forming a planning team? A planning team is made up of people who represent different views and constituencies in the community. The planning team will then guide the community through each step of the planning process. Then you have many possible approaches to forming a planning team. Many communities already have land use planning commissions, this commission has demonstrated an interest and commitment to community environmental issues and they might also be able to oversee the environment planning process as well. You can have one additional member to ensure that their interests are not counterproductive or not going to hamper the growth of the other planning process. The planning team should include some of the following types of people; Managers or operators of environmental facilities such as water and wastewater systems who are actually knowledgeable about consumption, environmental issues and other conditions of the existing facilities. What we actually read around us may not be true based on face value; it's entirely different finally. Elected officials or board members who are already involved in managing local communities and are familiar with issues that affect the area's environment, local physicians, engineers and scientists who can provide technical information about environmental as well as key health issues and make sure there is a link between pollution and health and other key data. All of these people need to play a very important role as key players in the planning team.

What are the different ways of having Environmental Planning? You have different approaches, the first approach we will be looking into is the; Comprehensive Planning - Comprehensive planning is considered as a pioneering method advocated and applied in environmental planning. It builds on the idea that a harmonious relationship between the environment and human beings and they have to prevent any kind of irreversible damage, this ensures achievement of sustainable development within a particular society. This environmental planning approach follows the conventional steps in decision making. The first step is to identify the problem, formulating a set of solutions to that particular problem and then you finally streamline to one particular best solution based on certain preset criteria and judgement. Incremental planning - this planning does not necessarily have to be preceded by means of specific or time bound plans, this can be proceeded incrementally, by making small local changes. It is applied if environmental problems have already become so disturbing, magnified or reach crisis proportions. If our main immediate resolution is to mitigate the problems, incremental planning is a better choice. It does not exactly remove the root cause entirely but changes a few things, alters them such that the final product will gradually change. The main issue with this is it is not holistic, rather piecemeal. We cannot anticipate what are we going to face, five years or ten years from now. This kind of planning approach goes step by step. Its

reactive rather than proactive. What happens with incremental planning is, this is basically a solution to a problem rather than avoiding a particular problem. It resides heavily on the capacity of decision makers instead of information gathered from scientific evidence. It is more political as well as community based rather than information based. Incremental planning is inappropriate to the environmental impacts which are irreversible. It violates the precautionary principle in dealing with environmental problems. What happens with incremental planning is, it actually gives a leverage to human beings. 'It's okay to commit all these mistakes, we will come up with a solution as and when it occurs', this is not an advisable way to go about planning.

Consensual Planning - it is a participatory planning where the concerns of different sectors of society are taken into consideration in the planning process. Environmental problems are given solutions by involving those who are affected in finding a common, agreed solution to environmental problems. Although this is a democratic environmental planning, in reality and in practice, the consensual planning approach takes time because to have two people concur on one particular concept is very difficult. You can imagine the concept that is going to come from trying to get concurrence from an entire community or a town. Sometimes, compromises are arrived to ensure that none of the different sectors of society is put in a disadvantaged position. Another major disadvantage with consensual planning is what kind of authority or who is going to come from these different sectors to represent them. If one particular sector is overrepresented by a better person, one sector might go unheard and might not have the required details pertaining to that sector. Consensual planning needs to have a backing authority to ensure that all sectors have equal representation. Adaptive planning builds on people's experience. Past mistakes are actually considered valuable inputs to resolve the current environmental problems. It is founded on the idea that the prediction of the outcomes of resource use is difficult. What adaptive planning actually states is, we are obviously not going to be able to anticipate what might happen but let's be prepared, note what has happened so far and go about life like that. It's basically not informed, the weakness here, lies in not being able to foresee the future problems. It goes by what has happened in the past which doesn't really set a good benchmark. The future could be an entirely different scenario and it doesn't take into consideration any of the future technological advances that are occurring. Everything is with respect to the immediate past or the current trends. It may be too late to do something if irreversible damage has already been done to the environment. This entails competition between different groups in influencing decisions concerning environmental issues. You have group-backed arguments or positions that strive for influence to resolve environmental problems. There is no guarantee, however, that the most influential solution to give a particular problem is the most appropriate one. But in advocacy planning, that is considered to be the most appropriate one, which is considered to have the most backing or influence. This becomes

a highly political approach and it doesn't have any great things to do with the environment in the long run. Most popular or influential group or solution may not necessarily address the environmental problems in question. Here again, there is some amount of imbalance that is occurring. Contingency plan is where relevant events anticipated by a planner including low-probability events that would have some major impacts. The focus here is on environmental problems that have adverse consequences such as natural or man-made hazards. It could be soil erosion, land slide or any other hazards. Preparations are made to minimize risk due to unexpected, high impact environmental problems or disasters. Contingency planning is a sensible environmental planning approach as it provides a leeway for ordered action necessary in mitigating or reducing the impact of an environmental hazard.

What are the typical steps in a planning process? Whichever planning process you choose, these are the typical steps we will be looking at; Raising awareness. The next step is to review and manage municipal environmental health performance; Review existing municipal policies affecting environmental health; Making and reporting a local situation analysis; Building effective public participation; Setting priorities for practicable action; Drafting the environmental plan and Securing support from other levels if required. All of these steps will ensure the planning process based for any kind of plan we are practicing, happens in a systematic and well planned out fashion.

Importance of Human Rights

Moving on to the importance of Human rights, Human rights are generally defined as those rights which are inherent in our nature, and without which we cannot live as human beings. This is how United Nations defines Human rights; As fundamental Freedom in Political rights, As Domestic Rights, As Mobility Rights, As Right to Life, Liberty and the Security of the Person, As Legal Rights and As Rights of Equality. As these categories of human rights come into being, it is very important for all these rights to be observed for a human being to be considered as free individual without any constraints or restraints. Other Categories will usually refer to; As Economic, Social and Cultural Rights, As Workers Rights, As Aboriginal Rights, with respect to tribal people and their right to practice their tribal rituals. Reproductive Rights pertains to women and men, their right to choose to have a child or not. As Protective Rights of Persons in Armed conflicts, especially refugees and all those who have the right to live in another place even if their country is in conflict. As Right of Self-determination and As Minority Group Right. If you look at the concept of Human Rights in India, the situation of Human Rights is a very complex one and the result of the country's large size and tremendous diversity, its status as a developing country, and its history as a former colonial territory. It's coming up in a gradual fashion in the sense, it currently pertains only now to religious groups, activists, members of the dalit or untouchable caste have suffered because of which Human Rights actually came into

the picture. they continued to suffer discrimination inspite of having Human Rights commission in India, inspite of believing in 'equality of rights' and the rest. Although human rights problems do exist in India, the country is generally not regarded as a human right concern, unlike other countries in South Asia. We have our own issues. Every country does have issues with respect to Human Rights, it could be 'bonded labour', forced labour, human trafficking; all of these are present across the globe equally irrespective of whether it is a developing country or developed country. The Developed nation is able to combat it in a better fashion when compared to the developing country, that is the only difference. If you look at the chronology of human rights in India we have to look at the first important thing in 1829, the practice of sati was formally abolished in British India after years of campaigning by Ram Mohan Roy against this Hindu funeral custom of self immolation of widows after the death of their husbands. Then in 1929 came the Child Marriage Restraint Act, prohibiting the marriage of minors. In 1947, India achieved political independence. In 1950, Constitution of India established a democratic republic with universal adult franchise. Part 3 of the Constitution contains a Bill of Fundamental Rights enforceable by the Supreme Court and the High Courts. It also provides for reservations for previously disadvantaged sections in education, employment and political representation. In 1955 we ensured that there was a reform of family law concerning Hindus which gives more right to Hindu Women. In 1973, the Supreme court of India rules in Kesavananda Bharati that the basic structure of the Constitution is unalterable by a constitutional amendment. Many fundamental rights also get encompassed by this. Finally, in 1975 - 1977, the next incident of importance was the State of Emergency in India where extensive rights violation took place. People were overcharged, brutally beaten up; all of this happened between 1975 - 1977. The next important chronology we have was during 1989, the Kashmiri insurgency that sees the increasing violence between militants and security forces, resulting in heavy loss of lives. In 1992, we have the constitutional amendment that establishes the local self government, the Panchayati Raj as a third tier of governance at the village level, with one-third of the seats reserved for women. Reservations were provided for scheduled castes and tribes as well. That was life changing scenario in the chronology of human rights in India. In 1992 we had the demolition of Babri Masjid. 2001, the Supreme court passed extensive orders to implement the right to food because there was severe food scarcity and in 2002, we had the violence in Gujarat, chiefly targeting its Muslim minority, claiming many lives. In 2005, you had the national rural employment guarantee act which guarantees universal right to employment irrespective of any features or characteristics. In 2006, you had the Supreme court orders, Police reforms, in response to poor human rights record of the Indian Police itself. All of these are certain events that occurred in India and established the importance of having a human rights commission and even redefining what exactly is human rights. How are human rights defined within the protection of Human Rights Act 1993? In terms of Section 2, what it actually refers to is relating to life, liberty, equality and dignity of the individual guaranteed under the constitution or

embodied in the International Covenants and enforceable by courts in India. 'International Covenants' means the International Covenant on Civil and Political Rights and the International Covenant on the Economic, Social and Cultural Rights adopted by the General Assembly of the United Nations on the 16th of December, 1966. We need to make sure life, liberty, equality and dignity are given to everybody. This is like the mantra that everyone needs to be aware of. The saddest thing about human rights is, even though we have one of the rights as 'Right to education', people get educated but still might not know that they have this right to be educated. In some cases human rights might not truly help people who are downtrodden but in the court of law, if there comes a case to fight against a landlord, a landowner, any of these people, it becomes a very useful covenant to stick to.

The typical issues with respect to human rights can range from Custodial Violence with respect to Family matters, it can be refugees, detention, preventive detention, missing women with respect to human trafficking, prisons, wages to prisoners, child labour, child marriage, domestic violence, dalits, freedom of expression, organ trafficking, sex trafficking, human trafficking, HIV and AIDS, Denotified tribes, Tourism, Right to information. Any kind of information in a democratic country like India, should be transparent. Any kind of information should be available to anyone who wants it. Corruption and Criminalization of politics, Natural disasters, disability and clamping down on protests. These are the typical human right issues that we deal with.

Value education - Challenges and Possibilities with respect to the same. This is the typical thing of Value education; we need to watch our thoughts because they become our words. We need to watch our words, they become action. We need to watch our actions because they tend to become habits and habits tend to become character. Character does not tend to become our destiny but the destiny of the country's as well. Value education might seem like a trivial thing but when we discuss the importance of environment amidst human population and pollution, value education becomes of core importance. Why do we actually need to teach values? Value crisis is the root cause of all social as well as technogenic maladies. Consequences of neglect of value education, perfection of means and confusion of the ends. All of this was said by Einstein which is basically what pertains to today's life. We only think about how to upgrade our lives but there is so much chaos around us that hinders us from achieving our goal. We have to ensure even our well being is maintained. Our vision should be towards a holistic education where we are teaching values and just not exams and exam related queries. If you look at common concerns about values, value education is usually bracketed with religious education which is where the root cause of the problem arises especially in a country like India. Value Education has nothing to do with religion, values can be picked up from the environment, from Role Models and only teachers, only great people have to teach morals. Morals can be taught by any concerned individual with respect to that particular problem. These are the usual

problems or concerns with respect to environment, value based education. When you want to have all these aspects incorporated, how do we make it religious free completely. This is where it gradually begins because the main reason why it hampers value education is in our country, the oldest text we have is sanskrit and Tamil. One of the most important problems that arise because of Sanskrit is, it is considered a language of the Hindus. It was a language of communication at that point of time, so we need to ensure that Dharma and religion doesn't pertain to Hinduism as such but to the value as an overall structure. We need to take about mental defilements such as ill will, anger, animosity, hatred, greed, etc; all of these need to be replaced with generosity, compassion, harmony, peace. These laws are applicable to all irrespective of religion. It basically means to understand and internalize such laws.

Can Values actually be taught? It is only the duty of parents to teach values. It is more effective when taught at home, is what people believe. However, it is quite the contrary. Schools can teach values, children spend more than 8 hours in a day at schools, hence it can be completely taught at schools. It is possible with a wider interpretation of facts, be it historical, rational, scientific and even let them question value based judgement. Where does value education fit into the curriculum?