

INDIAN INSTITUTE OF TECHNOLOGY GUWAHATI

NPTEL

**NPTEL ONLINE CERTIFICATION COURSE
An Initiative of MHRD**

Ecology and Society

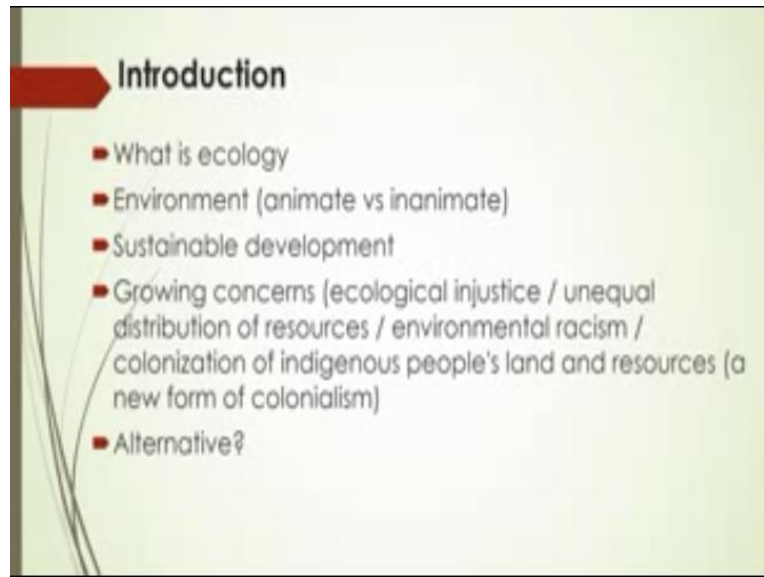
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Well we have come to the last part of this course and in this lecture I will be trying to briefly summarize what we have discussed so far in different, under different teams. And roughly we have covered around 19 different teams in this course on ecology and society. I am sure by going through the lecture slides and at the same time the readings which are being provided you will be able to perhaps certain concepts and meanings which we have discussed.

And also partly some of the case study which are being covered in the course. And we begin by looking at the brief introduction of a few concepts like what is ecology, what is environment and the difference between ecology and environment which perhaps is often used interchangeably or maybe which represent almost the same meaning, but if you look at in depth ecology and environment is different.

And ecology rather looks at the kind of relationship which are being shared among the animate and inanimate, in the natural surroundings.

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Environment in a way is the natural surroundings where this animate and inanimate inhabits. And also we began looking at the whole idea of what ecology is and what environment is within the context of sustainable development which is first defined by the WCED. And now why is the need for looking at ecology from different perspective, and as I said ecology the subject of ecology has been the area of concern mostly for the geographers ecologists and biologists.

And in the past few decades even within the social scientists like anthropologists and sociologists are pretty much concerned about looking at ecology, and the environment in general is mainly, because there has been an increasing realization that there is an injustice which is being done to different certain sections of people in the context of development. And also we have discusses the kind of inequality which exists in the context of the distribution of resources where only a handful really get benefit and control the resources.

And now we also have certain terminologies like environmental racism where the context of north America where the black people are being looked at or being marginalized and the ecological needs are being seen as where human wastes are being dumped. Now these are some of the growing concerns which have been perhaps witnessed in the past few decades, and also

the kind of development policies and planning which are being initiated mostly in the land of the indigenous people or native societies are being seen a new form of colonization.

Now take any development projects like maybe mining, dam or maybe even the construction of road so and so forth. The people at the receiving end are usually the indigenous people and their perceptions of voids are hardly being taken into account when these decisions are being made. Now as a result of all these the indigenous people have been marginalized and their means of livelihood are at stake and their resources are being used up in which they have been innately being very much embedded and connected with.

So therefore, this question or the debate of this sustainability arises, because for quite long these indigenous peoples are perceived to be sharing a pretty much harmonious relationship with nature and as a result of all this maybe the ecological injustice being meted out to them and also the kind of unequal distribution of resources, and also like the instances of environmentalism which are being witnessed.

All these have in a way being flopped together and then the whole idea of this sustainability is being questioned, and if that is the case what perhaps is the answer in looking at what sustainable development is. So what are the kind of alternatives which are being looked upon and then based on the kind of studies and literatures and mostly in the ecological anthropology we are in a way trying to look at some of the challenges and the possibilities which are being seen in the literature.

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Now we also begin by trying to look at how do we understand the culture and how does one perceive culture the reason why this culture becomes important is because in the anthropology and under the sub team of cultural ecology, many studies are being conducted to understand the human nature relationship in the past generations. Now what then is culture as we have discussed cultures are nothing, but it is share ideas and also the kind of meanings which are being attributed within the society, within that particular cultural group.

And as a result of these different kinds of behaviors are being institutionalized and as time passes by, it becomes part of that particular culture and culture can be implicit and also at the same time explicit, and as we have discussed in the symbol making processes how does one makes symbols it is a sign and the kind of meanings which are embedded in symbols also does have an implicit and explicit meaning.

The implicit meanings are more latent and whereas the explicit are more manifest which is observable and which in a way is being strongly expressed by the particular cultural group. Now what then does cultural ecology attempts to look at and study it normally tries to look at the way

in which a group of people make sense or try to adapt with their environmental setting and also through the use of certain kind of technology.

And in terms of existing work with their environment or maybe by in the pursuit of their means of livelihood. And also we have this idea of these cosmology of world worldview where a different cultural group has different idea or understanding of how the maxims of their environment. And through that it sort of tries to depict and we have come across certain ways of their relationship and also how they perceive and behave in that particular environment.

And then all this in a way are being institutionalized within that particular cultural rubric. Now for instance, if you look at the cultural ecology in the context of economics it rather tries to bring us or make sense of the kind of subsistence strategies which a particular cultural group has dealt with and I mean in this we have this idea of how a particular culture group adapt by using certain kind of technology in making sense of not just their environment, but also through their economic practices.

For instance, we have certain subsistence strategies like the hunting gathering society for example, and also the phrasing community. Now depending on their societal or basic needs people engage and tries to look at how they make sense of their environment, and then marks come up with an idea of how in primitive society people engage mostly in a sighted mode of production for example.

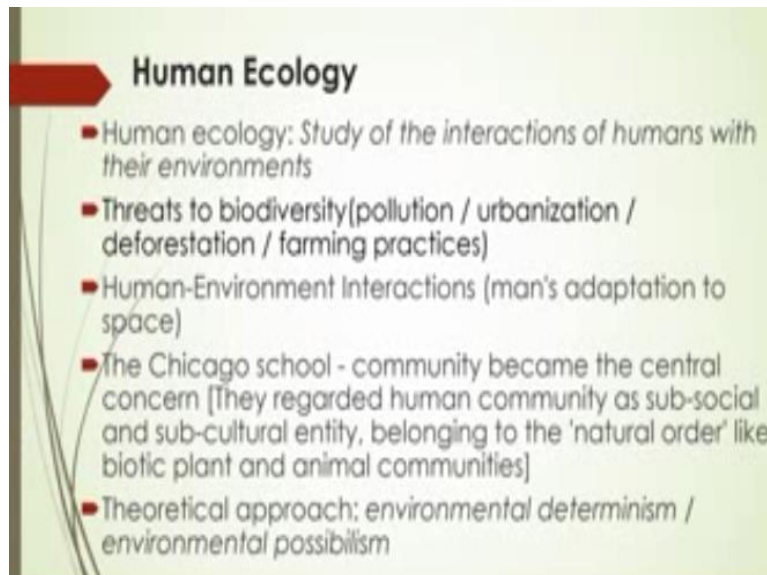
Now in a sighting mode of production there is no concept of property, and then there is no sense of individual ownership. Now it is the smaller less based on the communal if not a communitarian ideas of how they engage in making sense of their means of livelihood. Now there are also certain constraints in the context of environment. Now for example, maybe the population growth and also maybe certain other environmental constraints like maybe the weather, the climatic change so and so forth.

Now depending on this people tends to adapt and then make sense of their environment by engaging in different kinds of mechanisms. Now also we have different modes of productions as

I was saying this idea of ownership in a way has took a dramatic sieve when people in the newly click pair when they start engaging in agriculture. In agriculture practices as we all know you have the evolution of this technology at the same time the sense of ownership had changes.

As a result of this the relationship between humans and their environment or Lenin forests has also changed to a large extent. Now moving on we have also looked at the various strengths of human ecology what is human ecology, and also why is there a need of human ecology and what does human ecology in a way tries to look at.

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It strongly espouses this idea of looking at the how human interact with their environments. This is perhaps one of the main crux of the study of human ecology. And if you tries to look at the background they are different trips to the biodiversity for instance pollution for example, we have different kinds of pollution, air pollution, water pollution so on and so forth, the kind of wastes which are usually being dumped on ores and the river in a way have posed a certain kind of equal reaction to the human society.

And also I mean not necessarily to biodiversity, but the pollution of biodiversity in a way has an impact on the human population as well. And also we have this processes of urbanization, now it looks cool to look at the post areas and then many cities which are being coming up, but we seldom do not really give you no attention to the kind of consequences which causes as a result of this process of urbanization for example.

Now with the in this process of urbanization you can actually see how the rural populace are actually moving towards the urban species. Now as a result of this there is an increasing demand for you know open spaces and also people have some this agriculture farming, and then they move towards the urban area which are more engaged into trading and the productions are mostly dependent on the industry and the fact systems.

Now in that the kind of people's heavily dependent of machines and with the pursuit of multiplying their production has in a way whose serious impact and consequences to the biodiversity as well. And as there is an increasing pace of this urbanization or maybe the expansion of cities, and as a result there is an increasing demand for resources like, for instance the wood, the timbers, for building different kind of infrastructure.

And as a result of this there is these consequences of this deforestation and the farming practice also has changed to a large extent, because earlier people were engaged mostly in using simple technology and engaging in subsistence agriculture motor production. But as a result of this the influence of this urbanization at the same time maybe with a gap idea of this capitalist the intrusion of this capitalist mode of production people tends to engage in using different kind of technology by not more less not taken into account the kind of adaptability to that particular environment.

And they start engaging using different kinds of fertilizers chemical so on and so forth which in a way is not really sustainable in the long run. Now here is here also we come across the idea of this sustainability, the question how we tries to address this process of the sustainability is it this practice is really sustainable enough keep aside their trips to the biodiversity. Now if you look at

these human activities for the past generation in a way also has posed certain kind of a deep scar or danger to the kind of environment.

Because humans are exposed to those kind of harmful impact and effects to the different environment. Now human ecology also tries to look at the kind of how investigating the individuals or the individual society to interrelate with nature and with their environment. Now if you look at the kind of human environment interactions, now for instance there are modes of adaptation to a particular space.

Now despite this there is an increasing realization that human in a way has caused certain kind of consequences or danger to the environment. Now for instance, if you look at the Chicago School the human community or the human population became the central concern, because the Chicago school of thought regarded human community as a part of the sub social and the subculture and tightly.

And which also belongs to the natural order like for example, the biotech plant and animal communities. Now in human ecology if you look at the classical Chicago School has we come up with two different trends of understanding this human equality, and then they develop the two different theoretical approaches in trying to understand human ecology. The first one is environmentally determination.

Now what is environmental determinism it is a deterministic approach which assigns one factor as a dominant influence in explanation, and environmental determinism in a way is based on the assumption that cultural and natural areas are coterminous, because culture represents an adaptation to the particular environment. Now therefore, these environmental factors in a way determine human social and cultural behavior.

So it does not really tries to draw a boundary or try to segregate and differentiate between the two, because the human behavior the cultural practices or may be even the economic practices or maybe the subsistence strategies are to a large extent being influenced by the environment. Now

therefore this idea of determinism in a way emphasis on the philosophical position that people had about their relationship between man and nature.

Now it tends to look at in a more critical manner the kind of relationship which is being shared between men and nature, and environment determinism also looks at how the human conditions are being defined by these determinants. In other words the human behaviors for example, like the lifestyles and the economy of living are pretty much conditioned by the environment. Now therefore, this determinism in a way gives a maximum emphasis on the value of nature.

Now therefore, men cannot really cannot afford or really stay out of the influence of nature. Now in contrast these free will approach lays emphasis on human capacity and potential. The potential to adapt at the same time make use of the resources it holds that man has a free will capacity to challenge and change the power of nature. Now for example, like the storm, the flood, drought etc.

Now human have the capacity of in a way to modify this force of the environment through the use of technology. Now perhaps from the Western rationalist point of view science and technology in a way is capable enough to encounter if not with any kind of the environmental challenges, they are being guided by this idea. Now here comes the importance of the human consciousness that is with signifies men's active involvement in the men of the environment.

Now on the other hand environmental possibilism in a way asserted that while the environment did not directly cause specific cultural developments, the presence of absence or this specific environment in a way place limits on such development by either permitting or forbidding their occurrences. Now for example, as I have already discussed in the lectures on human ecology that for instance the island peoples could be seafarers.

But residents of for example, like the Inner Mongolia might not be so, because of the inhabitants of the temperate regions might practice agriculture, but those living in arctic latitudes could not. Now over here you have this idea of how this notion of this possibility in a way took place. Now as we had also discussed the American anthropologist Alec Robert talks about in the context of

not questioned America that which adopt the practice of these maids agriculture from the southern neighbors.

Because of the frost free growing season in the region was shorter than the four months required for the meats plants to reach maturity. Now their environment does limited the ability of their culture to evolve in an agriculture direction, now a possibly stance was perhaps also being taken by the British historian Arnold Toynbee in his multi-volume which we had discussed in the study of history.

And in which he had argued that the development of civilizations could be explained in terms of their responses to environmental challenges. Now we have two different trends of looking at that is the environmental determinism and other is the environment possibilism. Now in the ecological anthropology we had also discussed how this idea is being influenced by the work of Charles Darwin that is the origin of species.

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And then we had also discussed that Charles Darwin in a way bus was being influenced by the works of Malthus in his easy own population. What Malthus has actually argued was with the

increasing rise of human population it in a way pose a certain kind of not really threat, but then it posts a certain kind of anxiety to the available resources, because as the population increases there is an increasing realization that the resources might not really be sufficient enough to meet the needs of the increasing population.

So there will be certain kind of imbalances, now there is also different ways of looking for example, that no ecology how a particular communities share different kind of thoughts and understanding about their ecology. And in that they have different practices for example, the subsistence strategies as we have discussed.

Now increasingly there has been an attention being paid to this approach called ethno ecology where the certain kind of beliefs not just their ideas everything which makes a particular community has to a particular environment or ecology is to be looked at. Now why is there is an increasing the idea the relevance of this eco ecological anthropology.

Now ecological anthropology if we look at today is pretty much irrelevant to the contemporary concerns with the state of this general environment, because anthropological knowledge has in a way the potential to inform and instruct humans about how to construct a sustainable ways of life. Remember the sustainable or sustainability should in a way be the starting point of this particular course.

Now viral biological diversity again is necessary for the adaptation and survival of all species. Now culture diversity may serve a similar role for the human species, because it is clearly one of our most important mechanism to adaptation. Now therefore, in ecological anthropology culture is also given utmost emphasis and importance.

And these new perspectives in a way considers the role of the physical environment in cultural change in a more sophisticated manner than environmental determinism. And ecological anthropology is also a reaction to idealism which is the idea that all objects in nature and experience are representation of the mind. Now we had also looked at how royal mean the cultural matterism was developed by Marvin Harris.

And in cultural materialism it tries to look at how human engage in using different kinds of strategies in terms of their means of production and royal I took out also construct to three particular in processes or concepts that is the first one is new functionalism and this term in a way represents a productive, but short leave beginning from the 1960s ,and new functioning in a way attends explicitly to the modeling of system level interaction especially negative feedback and assigns primary importance to techno environmental forces.

Especially environment ecology and the population and within this new functionalism culture is reduced to an adaptation and functional behaviors are home aesthetic and deviation counteracting and also serving to maintain the system altars. Now new functional well-being is measure intangible currencies such as population density debt relative fitness as in evolutionary biology processes.

Now the second one that is the carrying capacity again is the number of individuals inhabited that can support that is if we go by Darwin at the Malthusian theory that is if the population increases it multiplies it in a way will pose a threat to the carrying capacity of that particular geographical area or space. This idea is related to in a population pressure referring the demands of population of the resources of its ecosystem.

If the technology of a group shift then the carrying capacity changes as well an example of the application of carrying capacity within anthropology is demonstrated in reports study of the chamber grammar in which we have extensively talked about in the context of the resemble armoring and trying to look at how this carrying capacity actually functioned.

Now in this we also in a way try to look at the kind of how different functions in a way look at. Now among the seminal community there are two modes of function that is latent function and manifest functions when a peak is being sacrificed. Now a latent functions in a way is explicitly stated and recognized or intended by the people involved in it, thus they are able to be identified by the observer.

Now for example, for in the rituals of those sacrificing the peak the latent function of the sacrifice is the presence of too many peaks while its manifest function is the sacrifice of peaks to the system. Now this manifest function is rather explicitly stated and understood by the participants in the relevant action.

Now it is here important also to look at the kind of looking at the cultural poor which is developed by Julian Stewart. Now in culture poor it is the people that is the kind of perception or ideas or knowledge which they have becomes important. Now moving ahead there are two ways of models which are developed within ecological anthropology that is the first one is the ecosystem model of human ecology, and the second is the actor based models.

Now what then is the ecosystem based model. Now the American anthropologist and the idea and Roy Rappaport in a way suggested that instead of studying how cultures are adapted to the environment attention should be rather focused on the relationship of specific human population to the specific ecosystem.

Now as we had at length discuss about Rappaport's understanding or contributions towards ecological anthropology. not just in the sacrificing of the peaks for the end system, but also religion in the making of humanity, and how regional religion in a way are old responsible in and trying maximum of the environment. Now in their view these human beings conceived simply another population among the many populations of plants and animal species, that interact with each other.

And with the nonliving components for example, the climate soil water of their locally or ecosystem. Now if you again look at this director model of human ecology this actor based model of human ecology has become a major new wave in human ecology that is adaptations occurs at the level of individuals rather than the cultures or populations. Earlier when we discussed in the ecosystem based model the culture becomes important.

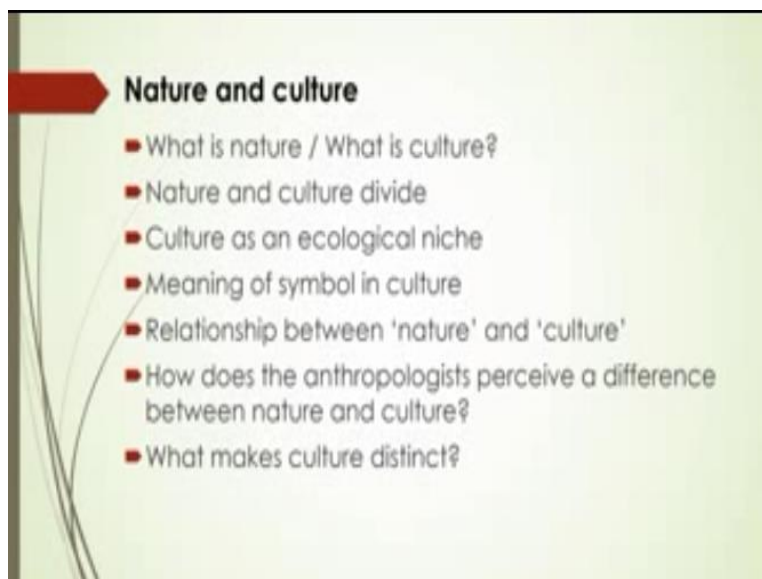
But in the actor based model it is the individual which is given a priority and importance. Now this model reflects both and religion concerns with individual decision-making processes and

also the evolutionary biologists current preoccupation with showing that natural selection operates exclusively at the level of individual organism. Now this perspective in a way tends to look at the human social system the community is the ecosystem which exists only as fortuitous outcomes of interaction among many individual organisms.

Now therefore, this theory is concerned with the general properties of the structures and functions of system as such rather than within their specific contents. Now moving on we try to also look at the nature culture debate, and how is nature perceived and how is culture perceived, because there are different differing notions of trying to perceive and understand what nature and what culture is.

Nature in a way is the physical setting where the plants animals so and so forth in its natural surroundings in a way the naturalism is pretty much exhibited here.

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Culture rather is something with changes and the kind of notion belief perceptions behavior so and so are being practices within a culture group. Now the nature and culture divide in a way has emerges at certain point of time, now for instance prior to the Renaissance period this idea of

ordering or keeping aside this nature different from culture was not really prevalent, but the post from the period of innocence this idea of uttering the nature or the dichotomy or the binary which exists between nature and culture has emerges.

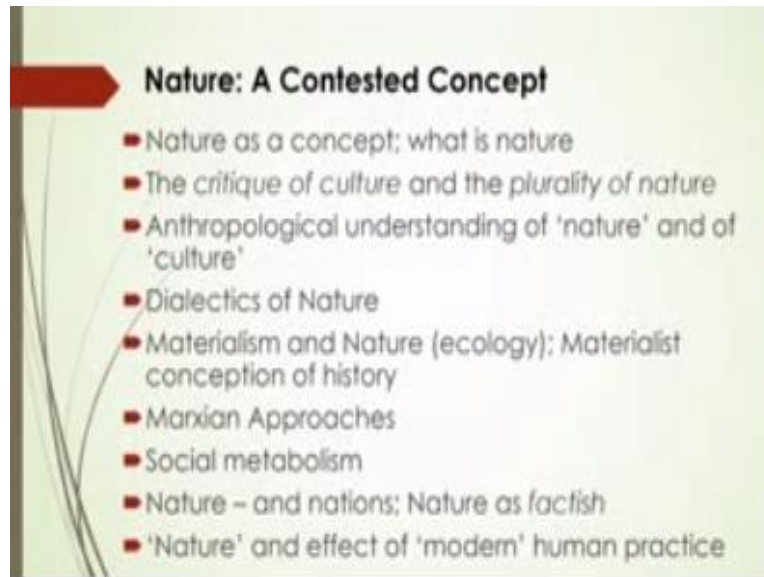
And culture in a way is to be located or sinned from the ecological niche, because we did not that particular ecological space culture is being established in terms of the kind of a behavior and then action which are being embedded in that particular cultural community. Now symbol in a way is sort of an expression in terms of relating with the particle environment by using certain kind of science and it sort of represent and denotes that particular culture and group.

Now how does the anthropologist in a way perceive a difference between nature and the culture or does it see nature and culture as something different, this was something which we had strongly try to look at and then discusses by taking different viewpoints of the anthropologists. And within this what makes cultures so much distinct is, because human in a way that sort of imaginings.

And this idea in away has enabled human to develop and if even if you look at the kind of the evolutionary theories or the stages of human evolution which move on from simple to complex and then to a much more complex society. Now therefore in each and every stages of human evolution we come across certain kinds of culture which are being embedded in that.

Now why has nature been look at as a contested concept, now the critical culture and this morality of this nature is being look at for example like the works of Latour and others and then how they try to establish needs as something which is different, and then is how human tries to you know develop certain kind of relationship with nature. Now if you look at this the materialistic conception of history perhaps Marx had stated that human and gates in the first form of actions was through their means of you know livelihood love like for example agriculture. Now in agriculture practices man enters into a relationship with nature.

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So as to you know not just primarily for the means of livelihood but true that they enter into certain kind of the materials aspect of humans, now monxian approach also tries to look at how human and nature in a way has the relationship has been transformed, because as a result of this the industrialism or the capitalist mode of production nature is seen to be you know which can be subdue and then which can be exploited in order to satisfy the needs of human.

Because nature is no more seen to be or perceived to be sharing a harmonious relationship with human but rather as something which can be and we exploited in order to satisfy the needs of humans. Now therefore the kind of modernization process which takes place in a way has you know chins all to get the idea and the picture of human and nature relationship, now if you look at the natural and the supernatural binary oppositions. Now there are different modes of categorizations. Now for example the totemic belief and the enemy systems.

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Now in tokenism it people tends to you know share certain kind of relationship with nature by espousing that certain kind of plants or animals in a way represent that particular cultural group, and that way that sort of the understanding or the perception of this that the prevalence of the supernatural again is prevalent in the enemy's system. Now this kind of these conceptions of nature has evolved over a period of time now with the with the coming of you know the Western rational thinking, now what we what is also known as the Cartesian anxiety which we have discussed.

Now this idea of the ecological relationship and the social practices of humans has evolved and this conception has changes and so is our attitudes and behavior towards nature, now as we all know humans is a choice making you know species in essence because for example if you take the example of the phrasing community the hunting societies they in a way evolved by adapting to the environment by using different strategies in terms of hunting and we have this process of enculturation unskilled man.

Now if you look at the works of the teaming goal in the dwelling perspective which we talked about, now the hunting societies also sell share certain kind of relationship with the environment

by you know making a rightful choice of its animal to hunt and in what particular type of season and this sort of you know strategy can be in a way stated as a rational choice now this choice in away is being managed and an adaptable will be the kind of changes in the environment as well.

Now therefore the even in the foraging community the humans are you know were guided by this reasoned and therefore nature becomes sort of an essence of selection, because human are pretty much, now you know infants by the kind of the natural surroundings. Now there is this idea of different notions or paradigms in these human environmental relations that is the idea of this Orientalism, paternalism, and communalism.

Now over here I will just try to you know like emphasize more on communalism because in communalism the sense of you know private ownership or individuals you know ownership was not present.

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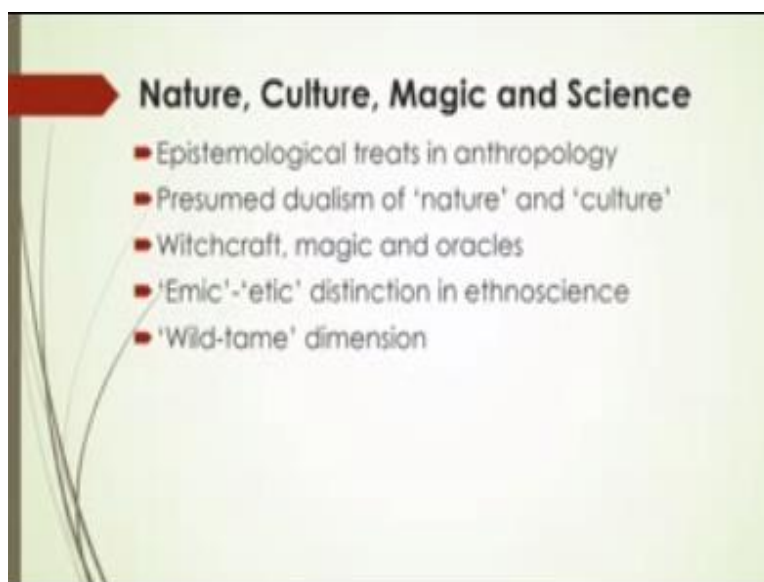
And therefore this idea of society was more egalitarian and there was no sense of this hierarchy, now in a way if you recall when we discuss about social ecology by more a books, books in a way tries to you know address the environmental problems which we are facing now is pretty

much embedded in the human society because these are perhaps the human problems because he tries to you know by bringing in the kind of hierarchy which exists between different sections of the society.

And this hierarchy in a way is responsible for the kind of unwanted crisis which we are facing, now if you look at the kind of relationship people share with their land or the in terms of the economy of livelihood it will be interesting to you know look at the kind of the spirit of communalism which exists perhaps in the you know not really the primitive society. But in many of the societies even in the contemporary period like the indigenous communities.

Now which we will come I mean had a plenty discusses while we were talking about the idea of this indigenous knowledge traditional ecological knowledge which were pretty much embedded in the indigenous community and how it is different from the formal or the Western knowledge now therefore this human environment relationship also to be located because this idea of this paternalism of how for example the idea of the cronyism emerges in terms of you know intruding into the premises of indigenous people and as a result of that this whole notion of perceiving the environment also changes to a large extent.

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Now again how does we make sense of the environment by picking up you know the kind of relationship between maybe let us say the influence of culture magic so and so forth, now for instance why does a particular community you know perform a certain kind of magic and then what does this witchcraft magic or Oracle's mean to those practicing, and I mean those communities who are practicing. Now it is sort of you know an idea of this atom science that is the emic and etic distinctions which sort of emergence.

Now they innovate perceive in the exists believe in the existence of these supernatural powers and nature in away has to be you know sort of familiarize by using certain kind of magic's and spells, now for instance in magic's or in the practices of witch craft certain kinds of spells are being made like for instance the incantations the words if you look at I mean in certain case studies you will in a way tries to look at the kind of how those spirits are being worship or sort of being a fist.

Now a peace man is again - you know bridge the gap between the natural world and the human world now therefore this appeasement in a way is sort of a practice of reverence giving certain kind of respect or maybe you know seeking certain kind of you know maybe forgiveness permission so and so on depending on the nature of what is being done. Now therefore all these are being practices in order to you know make sense of to establish a cordial relationship with nature.

Now which will be you know different from the western science and then perhaps all these practices are you know being categorized as irrational and which are based on mythical beliefs, now we had also discussed at length about the idea of knowledge in the context of Levi-Strauss in his work that serve its mind. Now Rapa port also strongly advocated about the kind of ritual practices in the Seminole community to what extent or why is that the peaks are being shorter and then what does that symbolize and signifies to those communities one thing is if you look at from the you know ecosystem model for example it in a way you know fulfill the demands of the orbits the gap between the culture and the environment.

Because it in a way allows the same burger community to you know form a certain kind of sustainable mode.

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For you know being out or rearing the pigs, now from an actor point of view it can be said that that particular practices is assigned of masculinity because those who are able to rear a number of peaks are able to engage in that. Now from the works of Durkheim that is in his elementary form of religion or religious life he strongly talks about that most importance of a society because the individual is just a subset of the society and the society in a way you know from certain kinds of rules to be followed by the individual.

Therefore religion in a way is being created by the society and it is the indeed which abide by the you know or tends to conform within this and the Durkheim also tries to depict the you know all this form of you know religious practice like tokenism, animism so on and so forth. Now in this ritual practices it is also interesting to see the interplay of this it is a form of you know a theater like were in you know the performer in a way is to be the idea behind this performing is to be encode by those observer it will be something sort of to be seen as a mode of communication between the two parties.

Now Richard regulation and environmental you know relations are pretty much embedded and evident in the context of the ritual cycles of the Tsembaga community in New Guinea, and perhaps you can you know refer the books of Roy Rappaport that is the first one is reason relevant the making of humanity and the second one is peaks for the ancestors, so it will be eminent enough to you know look at how one Maxim's of religion. Now subsequent to that we had also discusses the three forms of religions and then this particular works are being you know picked from a particular book all relevant in and I mean under the team of this religion environmental crisis.

Now the question is why that is relevant given the ascender states or importance in this environment al crises it is because it is true religion that one tends to be influenced and with the kind of teachings one and give sweet or the kind of scriptures one reads with until certain kinds of the way they behave and the shear relationship with nature is to be sinned and inculcated now we begin by looking at lean White's work on the historical roots of our ecological crisis by tracing the history of how this equals the prices has been looked at now he tries to you know juxtapose.

Between the medieval period and then the Christian world and during the medieval period there was nothing as such the relationship between men and nature was pretty much you know or deals and there's no much of you know a binary which exists in terms of relationship with men and nature but as a result of this I mean intrusion of the Judeo-Christian worldview men tends to you know be guided by this anthropocentric ideas of looking at nature.

That is men perceive themselves to be you know at the center of the old great creations and how they are you know being at the middle and they have that kind of overriding powers again other creations now this sort of you know anthropocentric ideas in a way is responsible for because it allows the humans to have a certain kind of you know overriding power against.

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Others pieces and also we have discusses the certain precepts which come under the Buddhist teaching in terms of the bio biodiversity conservation I mean at ethics and Buddhism now in Buddhism the Buddhist teachings because it has different ideas of how forest should be you know conserved because forests are homes to you know the early Buddhist priests and all the monks now therefore one should you know like here and nature.

The forest because they are home to the human aspect and also to so certain kinds of kindness and you know caring towards the animals and plants and also he does not admit to plants and animals but also to the water bodies because water should be kept clean so there are different teachings which was discussed between the Buddhist precepts and teachings and how Buddhism in a way is you know to be seen in the context of the conservation of nature and even within the Hinduism that is this which is influenced by the doctrine of this him shower non-violence that the animals and plants should not be in or harm so perhaps we also looked at the idea of how the nature is to be perceived and we had also discussed the Bishnals community which against was influenced by this idea of non-violence and then the business communities are perhaps.

The first you know to sort of in the contemporary India that they tends to succeed in conserving a forest so these are something which are again guided by their strong commitment and their perception towards nature in a way is enabling them you know conserve and preserve the nature.

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Now we have discussed three meant ethics within the environment or the environmental ethics or their mental philosophy and some of the debates which hover around in a discussion was the idea of these wild earnest thinking or the kind of binaries which exists among the preservationist or biasentary against the Imperial utilitarian or anthropocentric now this idea of this scientific in this prism in a way has allow the philosopher like our line age to come up with a deep ecological thinking and to establish or bring out you know what could perhaps be the alternative in trying to address the environmental problems which we are in away witnessing now therefore our hardiness come up with this kind of a new form of philosophy called eco or eco philosophy.

Now in that what he says is it the first and foremost is to have you know a critical or and in-depth awareness about oneself or self-realization is perhaps the starting point now only by understanding oneself then you can in a way address or relate yourself to the environment now

Deep Ecology again is guided by this idea of biocentrism that is human is you know part of the ecosystem that is human is not seen as you know above nature.

But they are thus part and parcel of the you know the ecosystem therefore it is against his idea of seller ecology now for example the idea of is for example pollution in the insular ecology pollution is seen as you know which in a way is harmful to the health and science of problems for humans these are more or less an elitist or the Norden idea of or the wasted motion of understanding pollution but pollution again should be addressed and understood by not just addressing the problems.

But perhaps what are the causes of these policies so one needs to you know restructure and tries to reconfigure by trying to look at what this idea of this understanding of me I mean the ecology is now we had also talked about how Ness was influenced by this Gandhi and ethics of ahimsa and the kind of how humans I mean should be dependent and on the available resources now NASA in a way has also talked about the catch you know jog I mean the term I mean France which he come across.

I mean in his the interview that simple in and simple in means and rich and ends also to some extent talks about what Gandhi in a way always strongly talked about for instance the world has enough resources to meet the needs of humans but not the grades of what but not their grids so in a way people should be increasingly and gates in trying to their basic needs rather than trying to accumulate and exploit the resources in order to you know accumulate or this idea of market.

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Or capitalism should be sent now he has in a way strongly talked about the you know exploring about the simplicity of life now social ecology again is addressing about the ecological problems and in this more books in again tries to locate the human nature because humans in a way is perhaps responsible for this the environmental changes with which in a way is produces by man now this domination of nature also should be seen in the context of you know.

The idea of dominating nature which in a way emerges as a result of the social structure of the society which we are in now he also talked about the mill the idea of male domination this idea of this must masculinity that is how you know women are seen perceived to be you know a weaker sex and then they need to be you know protect or they need to be teamed so this sort of perceptions which develop in society in a way also has a foraging impact on the way we perceive nation that is how the domination of nature emerges now what Put in also talks about in the capitalist industrial capitalist class was the grow or die that is a deep thought kind of competition that is if one has to you know at all survive so which means they need to you know progress and move on.

So in a way those who do not progress should Paris and they do not have really a sea or a place in this the market-oriented kind of society now by saying so he tends to perceive this idea of colonialism so and so forth as something which is also responsible for the and wrongful crisis and books in a very developed this social ecology not just as you know to an art the problems but also it is a universal appeal not only for a moral regeneration but also for a certain kind of social reconstruction among alignment along the ecological lines.

Now similar to what we had discussed in social ecology that is this idea of domination of nature in ecological feminist philosophy we also look at the kind of connection which shares between feminism and environment that is the structure of domination.

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The which are being shared to the empirical and expert experience of ideas by different scholars and how this religion in a way you know can perhaps bring an answer to this idea from that is by recirculation of nature now me I mean human nature are also or the relationship between a church is also different in the Western context and in the Indian context and we had also discussed at length about the Chipko environment conservation movement.

Which perhaps was the first eco feminist movement in India now we had at length discussed how this idea of you know the male centric ideas are in a virus one symbol for these problems and Chipko feminists or the ecological feminist philosophy is guided by this to come out of this crux of this the rhetorical mindset.

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Now indigenous knowledge and traditional ecological knowledge tries to separate two different worldview that is of the bright color and scientists based on the work of Levi-Strauss that is the idea of concrete and science ends to look at what how does how perceiving I mean the position of this bright color is nothing but you know a differing attitudes or a different thought of you know possessing knowledge that is they are able to use the available resources a broccoli is you know often perceived to be a handyman.

That is which you know utilize the tool hand and it should not be you know perceive in such a way that those who have that kind of knowledge should be seen as savage or uncivilized but rather it happens to be at a different point of time or a different you know all together and then in which they have their own ways of making sense of you know or position of knowledge.

And which is being utilized in a different perspective and we had also discussed about the idea of life projects which is embedded in the social memory and history and how these knowledge are being you know embedded in the kind of the land forests and then world and in this context it is important to locate the discourse of this development in relationship with the indigenous people therefore this kind of relationship which is shared by the indigenous people is not just about the means of economic or practices but it also entails to the idea of you know cultural identity or how their identity is being you know establishes therefore in this knowledge has to be looked at in that local context or local from Isis.

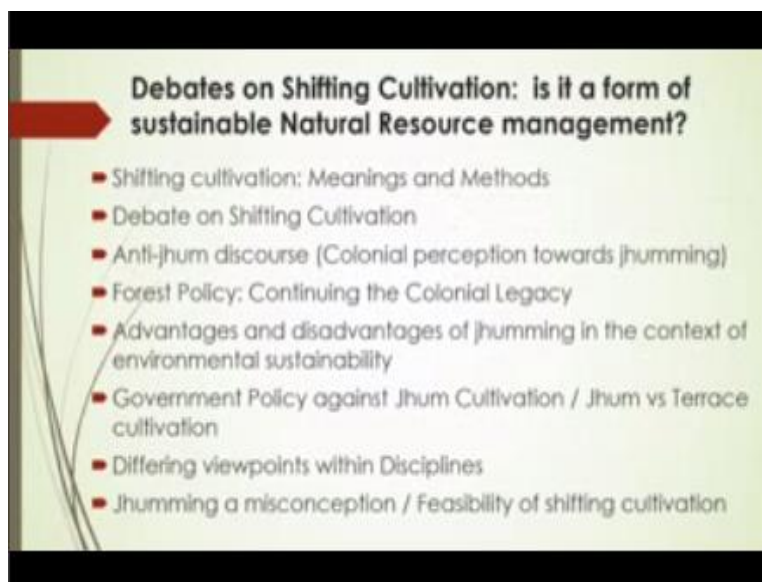
Now in traditional knowledge and natural resource management we had looked at the work of Pierce Ramakrishna in his seminal work on once and tools and ecological journey variant one has the traditional wisdom and one is guided by the formal knowledge that is of the scientists now the ecological Dorney is nothing but an evolving eco philosophy that is between the traditional knowledge and formal knowledge.

How to different you know viewpoints or two different sets of worldview is being framed and within that it is important to look at the interconnectivity between the ecology and social system how this agriculture practices are not simply economic but also it is a socio-cultural and a way of life by those who are practicing it because it has a strong us belief system which are into interwar into it and so is their idea of this conservation of forests which are being based on the traditional farming system.

Now in this it is important to see that how this traditional farming system are in a way you know able to bring in this idea of agro forestry which Ramakrishna astronomer strongly pointed out and then in which he sees that in fact these communities are the one who have conserved the nature in a way in a much more better way now we had also dealt upon in the debates on shifting cultivation and with the question such as is it a form of sustainable natural resource management we had also discusses this meanings and methods which are involved in shifting cultivation and the various debates beginning from the colonial period and trying to look at how the present forest policies are still being influenced by these the colonists perception towards nature and how their idea of I mean are being guided by this instrumental.

If not intelligent perspective of looking at or addressing the issues of problems of zooming which in a way is seen to be you know responsible for deforestation or if not the environmental problems now therefore there are differing viewpoints and even between social sciences like the economies and others have a different viewpoint worst metropolis and the socialist has different viewpoints wherein the insect the socio the practices. Which are pretty much embedded in this idea of zooming practices therefore?

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One needs to you know come out of this misconception and tries to look at the feasibility of shifting cultivation because the imposition of changes or finding an alternative way by simply uprooting of by simply moving from you know like the zooming to the terrace orbit rice cultivation perhaps seems to be you know not really a viable option or not you know sustainable in the long term or it is not really. You know an insert this therefore one needs to reframe this idea of misconceptions.

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Now finally we had also talked about the kind of ecological knowledge the idea of subsistence and livelihood practices in the context of the indigenous Kukis people's which are largely you know concentrated in north northeast India and then my study looks at how the social history of these particular people in terms of the relationship with land and the kind of farming practices they have involved the kind of worldview they have the kind of ratios and ceremonies.

Which say practices in terms of you know establishing certain kind of connections and their relationship with their environment and their connections to their land by the practices of rituals which are usually performed in agriculture practices like zooming now the question is how these people before the advent of the for the shift of their religion that is to Christianity I mean the way back and let 19th century and early 20th century.

Their perception towards nature and then the connections to the Lenin forest or an environment has take a dramatic shift but my idea or my study over here is based on the rechristened beliefs and practices therefore one can in a way establish that they were in a way at certain point of time where engage in you know a sustainable mode of you know subsistence or me or sustainable in terms of the environmental issue.

Now therefore we have discussed at length beginning from you know the various concepts and meanings of nature culture the debates around the kind of you know contradictions myths and also how religion in a way plays an important role in the life of human communities and also the kind of unwanted philosophies which are developed by a certain kind of scholars and also looking at the historicity of shifting cultivation and looking at the context of the indigenous kuki people we are in able to you know in a way address.

Or looked at the kind of the various trends the challenges the problems which are being you know addressed in the pores ecology and society I have just given a brief summary of the course on ecology and society and we have roughly touched upon different night around 19 teams within this and I am sure I am able to you know like briefly summarize it is an every content I might not be very in-depth to that extent but for us to have a glimpse of what we have you know discusses in this lecture series and with this we come to the end of this course and I am hopeful that you will have much more wider understanding about the ecology and society its challenges the problems and the kind of ideas.

Which are or theories or approaches which are embedded within it by saying so I am not saying that this one particular approach might be sufficient for this course but it is just only one part and primarily from ecological in tropical point-of-view and sociological point of view, thank you.

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