

INDIAN INSTITUTE OF TECHNOLOGY GUWAHATI

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Ecology and Society

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Well in this lecture we would be looking at the some of the debates and controversy regarding shifting cultivation, a being the partly mentioning about shifting cultivation time and gain. But we have not really looked at the historical background and the kind of debate which involves among academics, policy methods, and the different kinds of perspective may be even within the disciplines of social sciences.

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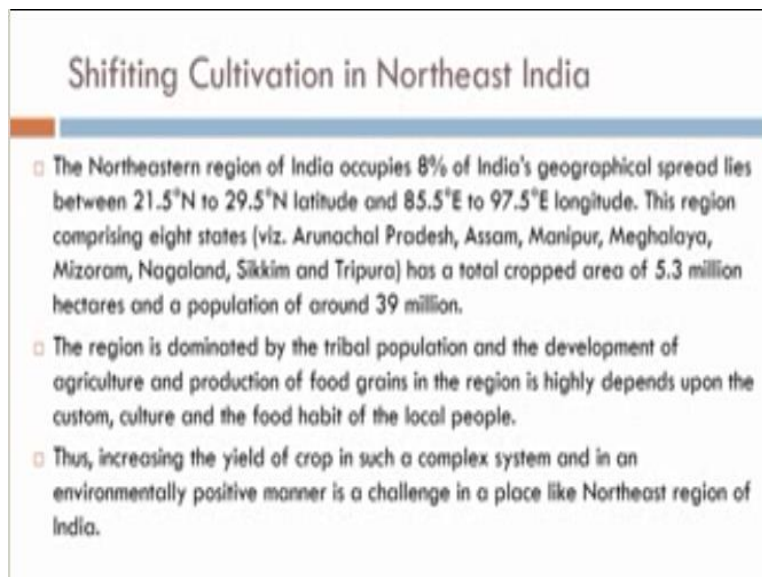
For instance, like the economies or ecologists or maybe the sociologists or anthropologist they have different view point depending on their kind of research engagement. Therefore, it is

important to look at how shifting cultivation has been perceived across different point of time and it would be good to look at the historical background of how this controversy or debate in a way has arisen.

And one very important reason why we are looking at the theme of shifting cultivation is, because mostly among the tribal communities it is partly the measure or dominant part of the natural resource management. So policy matters or if not the ecologists and environmentalists have been always questioning that is shifting cultivation, the best form of sustainable resource managements.

So keeping in mind these particular questions we will try to look and engage in delving upon the debates of shifting cultivation.

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Shifting Cultivation in Northeast India

- The Northeastern region of India occupies 8% of India's geographical spread lies between 21.5°N to 29.5°N latitude and 85.5°E to 97.5°E longitude. This region comprising eight states (viz. Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura) has a total cropped area of 5.3 million hectares and a population of around 39 million.
- The region is dominated by the tribal population and the development of agriculture and production of food grains in the region is highly depends upon the custom, culture and the food habit of the local people.
- Thus, increasing the yield of crop in such a complex system and in an environmentally positive manner is a challenge in a place like Northeast region of India.

Now for instance, to begin with if you look at the scenario of north east India. Of course, this shifting cultivation is being practiced across India and even if you look at the global scenario mostly in Latin America and South Asia and East Asia like Philippines, Vietnam so and so forth.

They have been practicing these for generations. Now there I am highlighting the context of knowledge, because I am familiar with it.

And then its communities have different names given in the local context, but in general problems it is understood as jhumming. Now if you look at the context of northeast and mostly the topographical and the geographical areas it is mostly a valley which is being surrounded by the hills. So the hill areas in a way make up most of the geographical landscape.

And the question is to what extent the ecological or geographical landscape in a way PFA or is suitable for the practice of these forms of agriculture practices. Now as we all know northeast in a way comprises of eight states and namely Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura. And which has a total crop of 5.3 million hectares and a population of around 39 million.

And at least 70% or 80% are still predominantly dependent on agriculture and when we talk about agriculture it is not purely based on zooming or shifting cultivation per se, but also there are people who practices the terrace or wet rice cultivation. So we will also try to engage and looking at the pros and cons of practicing, shifting cultivation and the wet rice cultivation.

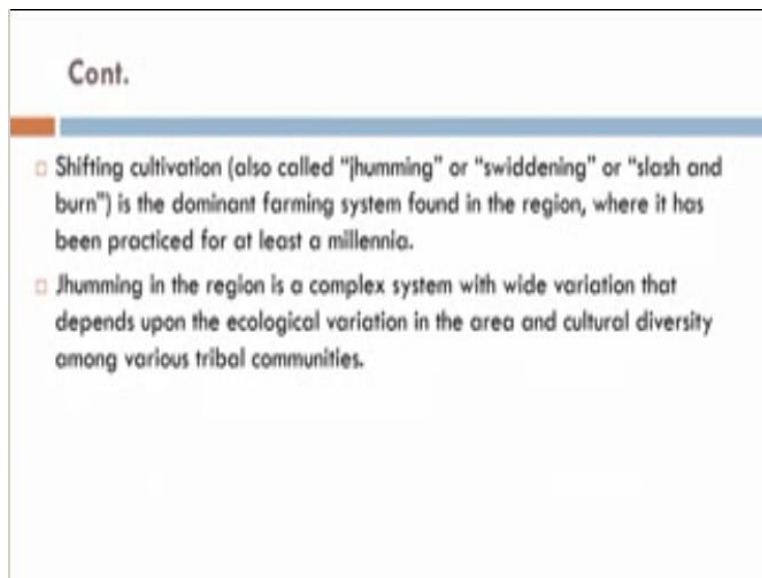
And then, to what extent the kind of policy which is being espoused by the government is being effective or not. Now again this reason normally I mean the eight states is again dominated by the tribal populations, and the development of agriculture and production of food grains in the region is highly depends upon the custom culture, and the food habit of the local people.

So therefore, shifting cultivation in this region is not necessarily confined or evolved around the idea of this economic practices. But also a lot of custom culture and traditions are embedded and in the process it has become not just an economic aspect, but a way of life for them. And the kind of challenges which is being witnessed in the past few decades is, as a result of the decreasing availability of land areas equally, because of the process of urbanization, the growth of populations.

So the kind of space which is being required to practice this agriculture practices in a way is still pretty much in questions. Therefore, the challenges arise not just in terms of space, but also the question of this environmental sustainability is being raised. Now I am not going to, in this lecture I am not going to delve into the in-depth analysis of how this shifting cultivation is being practices or the kind of socio-cultural practices embedded in it.

But for you to have a general idea of to what extent people are dependent and in which particular regions the shifting cultivation is predominantly practice.

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The slide is titled "Cont." and features a blue horizontal bar with an orange square on the left. Below the bar, there are two bullet points:

- Shifting cultivation (also called "jhumming" or "swiddening" or "slash and burn") is the dominant farming system found in the region, where it has been practiced for at least a millennia.
- Jhumming in the region is a complex system with wide variation that depends upon the ecological variation in the area and cultural diversity among various tribal communities.

So that you are familiar with it and then we move on to the, you know what shifting cultivation is and the kind of debates which revolves around this practice. Now shifting cultivation is understood differently in different region across the world. Now mostly as we, as I pointed out in the northeast region it is popularly known as jhumming, and whereas in the places like Philippines, Vietnam and Laos Cambodia it is known as Sweden agriculture or Sweden.

And also it is known as slash and burn, and which perhaps has been practiced by these communities mostly for more than millennia. And then even though in many of the literature you would come across that these practices are being done since time immemorial. So jhumming in a way, in the context of northeast region is a complex system with wide variation that depends upon the kind of ecological variation in the area and culture diversity among various tribal communities.

The region being that each and every communities have not just followed the calendar, but so is the socio culture practices which revolves around this agriculture calendar. And also maybe depending on the topographical landscape, they have no other option, but to practice this. Now without must said to I will try to look at the concepts, and meanings, and methods which involve in shifting cultivation.

Now how is shifting cultivation being, practically being done in the land, shifting cultivation in a way is a system in which maybe a patch of forest or land is being cleared, and once those dry branches and leaves are usually being burnt before the onset of the rainy season, that is the monsoon season.

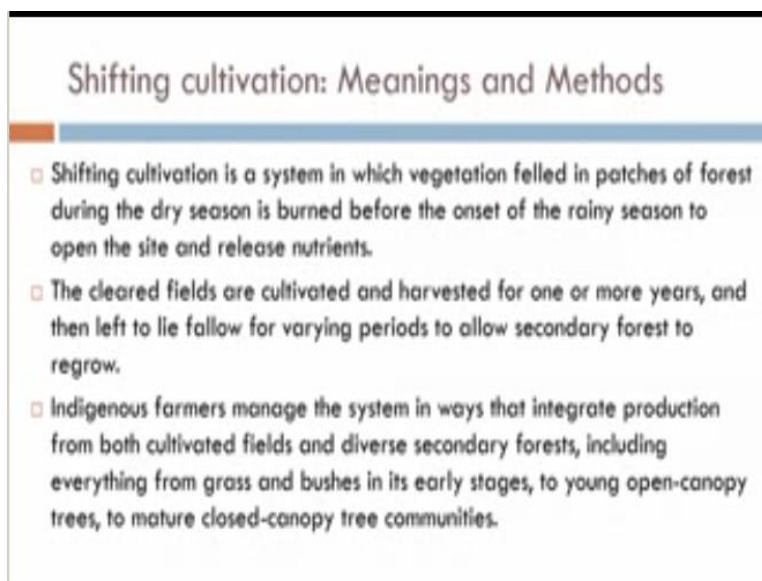
So that the site is being opened and for the release of the nutrients. Now the use of this fire that is the burning of those twigs and leaves in a way enhance the soils nutrients. And also it tends to destroy the other unwanted widths at the same time also different kinds of insects which are perhaps considered to be a threat to those crops. Now one of the reason why the primary thing which method which is involved in this shifting cultivation is burning.

So therefore, many people normally use the tongue word slash and burn that is filling the vegetation and also engage in bonding. Now different communities have different knowledge of this use of fire and from an outsiders point of view usually the use of this fire is considered to be a threat and which eventually lead to extensive deforestation.

But for those who practice it enhances the swells nutrients as a process of death. Now this clear fills or once the vegetations are in a way being burned it is with the onset of this monsoon, it allows to engage in dibbling or sowing of seeds. And once the monsoon commit it sort of germinates the seeds and after the harvesting season, these areas often is left behind and with which is left alive fellow for a very period that is normally maybe 10 to 20 years.

And then depending on the availability of plant it is being left. So that a secondary force is being allowed to recruit, now one very important thing which is being witness in the recent trends is with the change of the seasonal changes like the expectation of monsoon so and so forth. As we all know to some extent, because of the climatic changes.

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Shifting cultivation: Meanings and Methods

- Shifting cultivation is a system in which vegetation felled in patches of forest during the dry season is burned before the onset of the rainy season to open the site and release nutrients.
- The cleared fields are cultivated and harvested for one or more years, and then left to lie fallow for varying periods to allow secondary forest to regrow.
- Indigenous farmers manage the system in ways that integrate production from both cultivated fields and diverse secondary forests, including everything from grass and bushes in its early stages, to young open-canopy trees, to mature closed-canopy tree communities.

The adequate rainfall which is usually expected is normally not coping up to the kind of agriculture calendar which was normally followed. So therefore, it pulls some kind of a threat to those who practices this agriculture system. Now the in a way have tries to as we have discussed in the human policy and so and so forth, that perhaps human is the best to adapt or come up with a different kind of mechanism in any type of environment.

Now therefore, they have in a way switch to different forms of as timing at the same time farming practices. Now one of the reason why these practices is being for those who are in favor of these practices normally says that this practices in a way allows this agroforestry wherein a mixed cropping is being done at the same time it does not really hamper the forests or trees. Now in this agriculture basement main manage the system in a ways that not only integrate production from the cultivated fields and also the diverse secondary forests which also includes everything from grass and bushes in its early stages.

And also to the young open canopy trees to mature closed canopy three communities. So in a way it gives a space to left other tree grows. So therefore, this kind of practices to many of the ecologist and environmentally appears to be some sort of a kind of the agroforestry, as it allows them give space in accommodating the trees to grow.

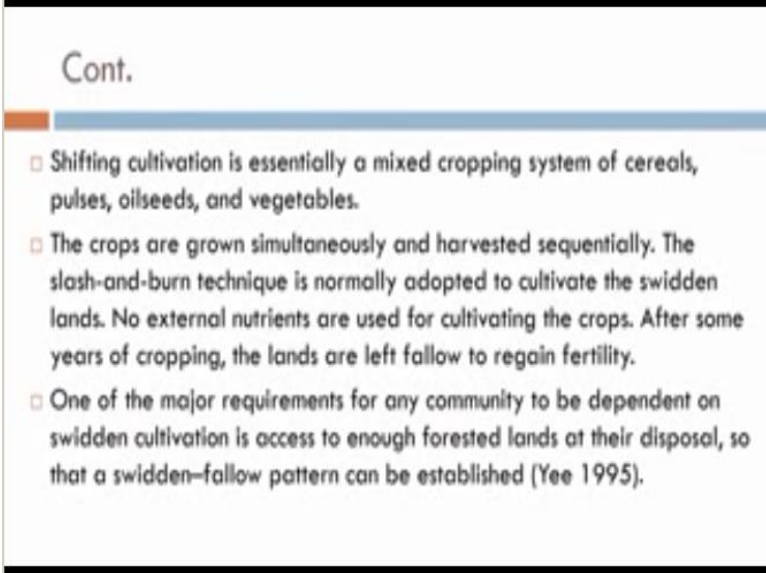
Now each and every successive States like maybe right from the clearing or slashing down of those vegetation, and then the process of this burning of those dry twigs and leaves is followed by swing of the seeds. And also the period of this removing the widths or weddings, and then the harvesting. So this sort of period or cycle in a way is something which is pretty much visible in the context of this shifting cultivations.

And now what are the kind of a coping systems which is normally followed, it usually follows these practices, this mixed cropping and then maybe different kinds of cereals, pulses, oil seeds, and vegetables to in a way are suffice the needs of the family. And then, if you look at the mostly in the markets maybe in the cities and so and so forth, many of the vegetables which in a way is available is mostly from those kinds of farming practices.

Now one of the beauty or the something which is evident from this mixed cropping system is the kind of strategy or that tactics behind this cropping system is when you plant different kinds of crops, so chances are there that some crops might feel, but whereas other might grow and then prosper. So therefore, in this mixed cropping systems even if as a result of the climatic changes and the short supply of this monsoon rainfall, there are still possibilities that it has the scope and

chances of being to go ahead with this kind of cultivation. So the crops normally which are grown here are simultaneously and harvested sequentially.

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- Shifting cultivation is essentially a mixed cropping system of cereals, pulses, oilseeds, and vegetables.
- The crops are grown simultaneously and harvested sequentially. The slash-and-burn technique is normally adopted to cultivate the swidden lands. No external nutrients are used for cultivating the crops. After some years of cropping, the lands are left fallow to regain fertility.
- One of the major requirements for any community to be dependent on swidden cultivation is access to enough forested lands at their disposal, so that a swidden-fallow pattern can be established (Yee 1995).

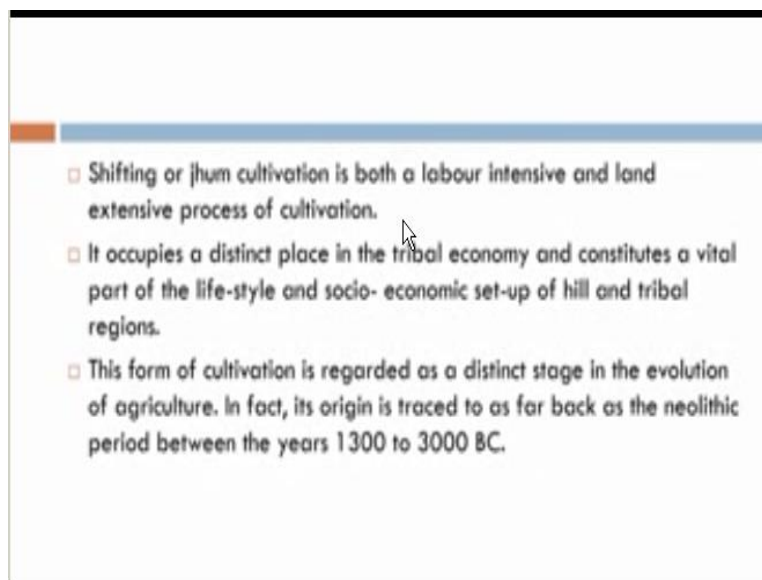
And the slash and burn technique is normally adopted to cultivate the Sweden lands. And the beauty of this particular cultivation is no external nutrients are being used for cultivating the crops. So which relies on the available soil nutrients of that ecological space. So therefore, what we call as organic farming or organic food which is very much, pretty much in demand in this present time is mostly a product of this sort of type of cultivation.

Now one of the major requirements for any community to be dependent on these jhumming is access to enough forested lands at their disposal to let a Sweden follow the pattern to be established. Now as I was saying one of the main threats and challenges being encounter is how to get access to these forested lands. Now different kinds of forest policies are being enacted time and again.

And many of these policies are in a way restricting the use or access to this forested land to many of those indigenous communities who are pretty much dependent on this kind of cultivation for millennia. Now the question arises if they are being restricted in using or having access to this forested land what are the available or possible alternative which the government in a way has formulated.

So these are some very pertinent questions which allow us to look into the kind of the politics if not the political ecology of these agriculture practices.

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- Shifting or jhum cultivation is both a labour intensive and land extensive process of cultivation.
 - It occupies a distinct place in the tribal economy and constitutes a vital part of the life-style and socio- economic set-up of hill and tribal regions.
 - This form of cultivation is regarded as a distinct stage in the evolution of agriculture. In fact, its origin is traced to as far back as the neolithic period between the years 1300 to 3000 BC.

Now if you look at the kind of labour which involves in this kind of cultivation it to compare with the, maybe the terrorists or any kind of mono cropping, or any kills crop plantations, this sort of cultivations perhaps seems to be much more labour intensive. And usually from an economic perspective it tends to, is considered to be sort of unproductive and unremunerative possibly when you are calculating the amount of labour which is being employed and then the kind of production.

So therefore, the input and output is usually being measured and many have come to the conclusion that it is level intensive and the return is slow. So therefore, it apparently it is an

economical and then not really supported by this idea of the utility turn if not you can say the commodification of resources. Now even then this jhumming or shifting cultivation happens to occupy a distinct place in the tribal economy and constitute a vital part of the lifestyle and socio-economic setup of field and tribal reasons. And mostly as I was talking about the Northeast region.

Now every state has their own policies of controlling and then how this idea of stopping these practices are being initiated by the forest department in every state, but so far it appears that it seems to be unsuccessful in this. And this form of cultivation is regarded as distinct stages in the evolution of agriculture. In fact its origins is traced to as far back as the Neolithic period between the years 1300 to 3000 BC.

So beginning from Neolithic period this sort of cultivation has its origin. Now why is it that which has this existence for millennia in a way being increasingly posing a threat or the sudden realizations of these practices being seen to be attracted environment, and an economy. Now for that to have this and share we will come to the later part of discussion.

Now despite its engine roots and the kind of predominance among the Hilton tribal religion and regions showing shifting cultivation has been you know a subject to several critics in primarily from the perspective of ecology our sustainability. Because it is considered to be ecologically destructive with the kind of mess it created or to the loss of these forested land. Now as I said it is it is not just confined to a single region, but across different parts of India.

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- Despite its ancient roots and popularity in the hill and tribal regions, shifting cultivation has been subject to severe criticism, primarily on ecological grounds – considered by many to be ecologically destructive.
- Shifting cultivation has been practised in India by tribal communities and hill people from time immemorial.
- A UN study in 1971-75 observed that there were slightly less than 3 million people primarily or partially dependent on shifting cultivation in India and the estimated area on which this type of farming was practised for a year was less than one million hectares.

And if you look at the report of a UN study in 1971-75 and observed that there was slightly less than 3 million people primarily or partially dependent on these modes of cultivation, and an estimate area of which was practiced a year was less than 1 million hectares. Now from an economic point of view if you look at this the cultivation which is spoiling an area 1 million hectares and which does not have much of a turnout is seen to be a waste and which is often seen to be an evil practice by many policy makers and also beginning from the colonial period.

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Anti-jhum discourse: the background

- Verrier Elwin (anthropologist) propogates that "modern science should help the tribal economy without destroying it".
- Elwin sowed the first seed of contradiction: How could modern science fit in with a local knowledge system that has been deeply entrenched in the artefacts, socio-cultural and the tribal way of life?
- Academics and policy-makers (concerns of environment with issues of development) tried to combine arguments for improvements in the 'jhumias' "quality of life" with a concern for the "quality of the environment" for sustainable growth. [The research in this direction aimed at informing state policy and influencing government action through development model]

Now how is this the opposition's or ideas of discontinuing this jhumming in margins or the discourses within which this idea emerges is to be released back to the historical period that is very elegant and eminent topologies and perhaps one of the best friend of the late Prime Minister Jawaharlal Nehru and who have been engaged in framing defend tribal policies have been in a way instrumental in trying to look at the kind of engagement of how tribal's are innovatively rehabilitate or if not what kind of process processes needs to be inculcated in terms of bringing them in the mainstream.

Of course, they do follow this idea of isolationist, but then one of the main problems of principles which guided as a result of this Alvin's initiative is that modern science in a way should be able to help the tribal economy, and without destroying their socio-cultural practices and of course, the Germany practices.

Now perhaps this was the first kind of steps within a way contradicts to the kind of practices these people has followed. Now the question remains how could these modern science fit in with a local knowledge system that has been deeply entrenched in the artifact socio-cultural and tribal way of life.

Now in the previous lectures I have been talking at length about what indigenous knowledge is what traditional ecological knowledge is, and to what extent this knowledge system is part and parcel of the indigenous people's way of life. And we have also pointed out the differences between the scientific and the traditional knowledge, and what are the discourses in the way in which this knowledge system are being perceived.

Now for quite some time the academics and policymakers who are concerned with environment and the issue of this development try to combine arguments for improvement in the jhumia that is those who practice jhumming quality of life with a concern for the quality of environment for sustainable growth.

Now this research aim at informing a state policy and influencing the government actions through development model. Now the idea is how does one perceive these practices by the developmental model or the state lead development. And then based on this perceptions or maybe let us say with the kind of stereotypes they have against the tribal's they tends to frame certain kinds of policy and then try to impose rather than trying to unearth the kind of connectivity or the socio cultural backgrounds of those who practices.

Now within this discourse as I am sure you are familiar with already familiar with the indigenous knowledge, traditional knowledge and will it be feasible to replace these practices, or what would be the possible outcome or consequences if one wants to replace these kind of practices.

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- The policy to create an alternative land-use and agrarian system and subsequently to rehabilitate the jhumias have developed an anti-jhum discourse ['Jhumming' has attracted lot of criticism from agronomist, economist, policy-makers and even geographers].
- Perhaps, this is also because there is little understanding of the complex system that jhum supports – the jhum calendar, the practice of collective work and collective ownership (community owned land that maintains the egalitarian structure of society), mixed cropping that diversified foodgrain choice and most importantly, self-sufficiency.
- Shifting cultivation has based on the Asiatic mode of production where the concept of surplus and private property do not arise. [The whole economy revolving around jhum is based on self-subsistence]

These are some questions which suit in a way be taken into account. Now the policy to create an alternative land-use and agrarian systems and subsequently to the rehabilitation of jhumias has developed an anti-jhum discourse that is jhumming is perceived to be you know something which is and as I said unremunerative practices, or something which is seen to be evil in the context of environment and development growth a bit.

Now one needs to contextualize in depth environment and development growth, because that is perhaps the starting point where jhumming has been widely criticizes from different practitioners like the agronomist, economies policymakers, and even the geographies. Now I would say this is this misconception or criticisms arises as they are not really well versed within the affinity or the kind of attachment they share with these practices.

Because one tends to evaluate things from its, the external or the facial perspective rather than trying to unearth the intrinsic order esoteric things which is pretty much embedded in it. Perhaps this is also, because there is a little understanding of the complex system that jhum supports that is the idea of this jhum calendar that is agricultural calendar the practice of the collective work

and collective ownership that is primarily based on community land that maintains the egalitarian structure of society.

And also as we had discussed the method this involves mixed cropping that diversified food grain choice and most importantly the self-sufficiency that is self-sustaining. Now this idea of the social structure in a way is also having a lot of impact on these practices. If you would recall the idea of social equality which was propounded by Maria books in talks about the environmental problems which needs to be located within the context of the social structure.

The hierarchy which exists between or among different kinds of societies. So it is this hierarchy which in a way has to be eliminated if the environmental problems has to be sold. So therefore, they have these communities who practices of jhum cultivation in a way has a collective ownership that is the lands are being community are communally own and then it is being here and nurtured by the collective.

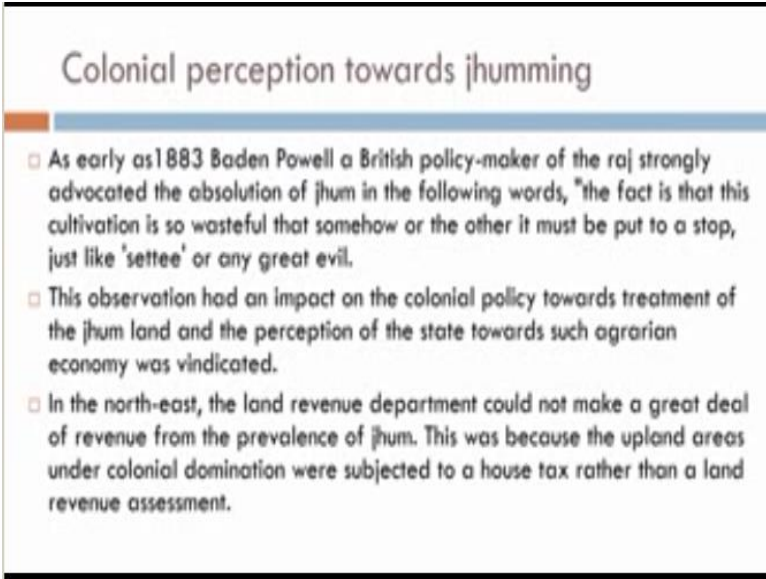
So therefore, this idea of is a egalitarian was pretty much prevalent in the social structure at the same time the kind of economic structure. So because they do not have this idea of surplus if not owning an individual property. Now therefore, the idea of producing a surplus does not really arise. So therefore, people are being much sufficient and they tends to produce things which are adequate to them and with self-sufficient for the consumption or basic needs.

Now they are not being guided by this idea of a capitalist mode of production nor any market oriented production. Now shifting cultivation has been primarily based on what Marx considered a society mode of production where there is the idea of the surplus and private property does not arise. Now and the whole economy in away is based on self subsistence or subsistence economy. Now therefore, this cyclic mode of production which is inherent in the shifting cultivation is again antithetical to the market if not the capitalist mode of production.

Now who are the ones in a propagating or trying to push this sort of profit oriented if most capitalist mode of production, it is normally being put forward by the spirit. Now we will also

come to the historicity of how these shifting cultivators or jhumias or one James escot as Tom has jhumias are in a way a state evading people, because in this kind of practices since the government in a way considered to be a waste and there is no turn out, since there is no surplus it is sort of a loss to the state, because it is not kind of produce any revenue, because the source of revenue is absent in this kind of practices.

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The slide is titled "Colonial perception towards jhumming" and contains three bullet points. The first bullet point states that as early as 1883, Baden Powell, a British policy-maker of the Raj, strongly advocated the abolition of jhum, calling it wasteful and something that must be put to a stop, like 'settee' or any great evil. The second bullet point notes that this observation had an impact on colonial policy, leading to the vindication of the perception of the state towards such agrarian economies. The third bullet point explains that in the north-east, the land revenue department could not generate much revenue from jhum because upland areas under colonial rule were taxed with a house tax instead of a land revenue assessment.

Now what are the kind of colonial perception towards these practices, because many of our policies with our being and shrine maybe, it may be with the forest policies, it may be the kind of conservation, preservation and so forth, is again something which is being borrowed from the our colonial master. And India has been as we all know, for more than 200 years being colonized and apparently this idea of colonial hang over is still very much embedded and then seen in the kind of how our policies are being framed.

Now if you look at the history that as early as 1883 Baden Powell a British policy-maker has in away strongly advocate the abolition of this jhum in this manner and he made a remark that. The fact is that this cultivation that is jhumming is so wasteful that somehow or the other it must

be put to a stop just like city or any great evil. Now it is seen to be evil perhaps because of the output, because it does not have really you know anything to enhance the state revenue.

And it is seem to be unproductive from the perspective of the civilizational point of view that is the colonial perspective. Now this observation had a wider impact on the colonial policy towards the treatment of jhumias or the jhum land and the perceptions of the state towards such agriculture economy was indicated.

Now this perception or I would see the stereotype tactical of stereotyping of these practices in a way has guided the state late policies, since then. Now similarly, in the northeast region the land revenue department could not make a great deal of revenue from the privilege of jhum. Now this was because the upland areas under colonial domination were subjected to a house tax rather than a land revenue assessment.

Now if you tends to look at the literature mostly among the tribal communities in the northeast region it will come across that many of them simply pay house tax and then they do not pay land revenue, because many of the upland areas are still not being serviced by the state. And then it does not come under the clause of the land revenue department.

Therefore, it in a way is considered to be a loss to the state if this kind of agriculture practices continue. So this sort of idea has evolved and then been pretty much influenced by the colonial perception towards German practices.

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Forest Policy: Continuing the Colonial Legacy

- This official policy of the British raj was carried forward after independence by the Indian state without taking into account the relevance of jhum in the hill economy of the tribal communities.
- The government after independence through various five-year plans has embarked on a policy to commercialise Indian agriculture that would weed out all forms of self-subsistence farming including jhumming.
- The ecologists and demographers on the other hand have developed an anti-jhum discourse on the presupposition that short jhum cycle has led to loss of sustainable agriculture in the hills. They blamed the burgeoning population of the tribes-practising jhumming, and their so-called primitive practice of "slash and burn", for making them vulnerable to survive on it.

Now as I had said if once try to look at the forest policies, I would still say that it is a continuation of the colonial legacy, why because, this optional policy of the British raj was in a way carried forward even after almost 70 years after independence by the Indian state. We do not take into account the relevance of jhum in a hill economy of the tribal communities. Perhaps because they tends to overlook the kind of factors which played around or which is embedded in this agricultural practices.

Because as I said it should not be seen from a narrow or isolated practices of in terms of the economy or agriculture rather, but one needs to take into account the kind of other factors which are also inherent in these practices like the socio-cultural factors, the attachment with the land and how it is being a question of survival and identity of the people concerning in that region.

Now the government after independence tends to come up with various five years plans and also primarily embark on a policy to commercialize Indian agriculture that would whether all forms of these self subsistence farming which also include the jhumming practices. Now why is the state moving towards no commercializing the resources rather, is because by and by we tends to

mimic and then if the Europeans or the colonialist mindset or policies in terms of raising the state GDP or so and so forth.

So perhaps all these in a way influence the state policies. Now the ecologist and demographers on the other hand have developed an Anti-jhum discourse as a result of this, and on the presupposition that as a result of the sort jhum cycle it has led to a loss of this sustainable agriculture in the hills. Now this idea or the debate of sustainability comes in to question as a result of the recent trends of the laws of vegetations forested lands on so forth.

Now therefore, one needs to look at the social and economic history of these who practices, because we cannot afford to evaluate or come to a conclusion by merely observing the present frame. And then perhaps there could be other factors much less primarily jhumming cultivation. Now one tends to overlook the kind of the timber extractions or maybe any other kind of day let us say mining and so and so forth.

And perhaps the blame always goes to those the marginalized or those indigenous communities. So therefore, one needs to look at the political ecology of how ones tend to perceive these shifting cultivation. Now many of these ecologists or demographers or the state policymakers tend to blame these communities who practice this jhumming by branding them or allowing them as a primitive practice or making putting them in a very disadvantaged and vulnerable position to even survive.

Now sometimes from civilizational discourse which is being proposed by the British colonists and then at the same time carried forward by the state. As if these communities who practices jhumming meets sort of a rehabilitation and then, because they need to be mainstreamed and they should engage in a civilized agriculture practices, which in a way is something which has not just marginalized them, but also the question of survival or their identity is being abstract.

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- From the government perspective, the issue of shifting cultivation is related to forestry and forest management.
 - Forest policies in most third world countries continue or closely follow those they had under their colonial rulers. India is no exception to this.
 - In the recent years, the environmental cost has raised important questions on government policy outcomes. Along with this, the rise in population has caused further misery and uncertainty to many indigenous natives living close to nature.
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As a result of all these assumptions and then the perception from the state. Now from the government of the state perspective the issue of this shifting cultivation is also related to forestry and forest management. Now forest policies in most of the developing world third world countries are in a way they mostly followed those they had under the colonial rules and India is not exception to this as I pointed out.

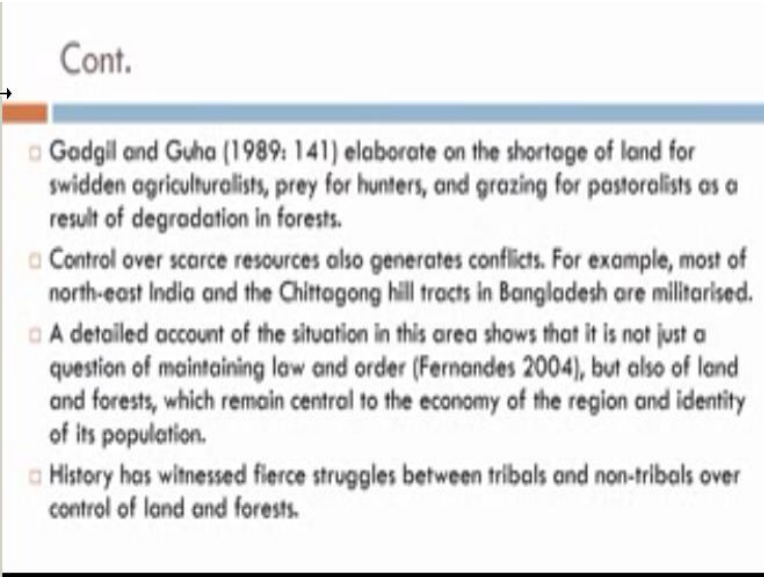
Now therefore, one needs to in a reframe and restructure. Now if you remember in the previous lectures when I was talking about how these ecological problems or around the problems are to be addressed and located, because one needs to also look at the kind of the human nature relationship which is prevalent in the developed countries, and in the underdeveloped or third world countries.

Now mostly Ramachandra go in a way tends to divide this as the north and South divide, because the protections or conservation of environment to the north and the southern countries is different, because ecology to the south is a matter of their survival and subsistence rather to the modern developed countries it is a question of protecting the environment for their own health

and also altogether there is a different perceptions which revolves around the psyche of the affluence communities.

Now in recent years this environmental cost has raised important questions on the government policy outcomes. Now along with this the demographers in away maintains that the rise in population has caused a former misery and uncertainty to many indigenous natives living close to me. So even then they tend to overlook the kind of connections and attachments that these societies or communities share that harmonious relationship between nature. It is, they tends to perceive from the productive if not the output usually from these practices.

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Cont.

- Gadgil and Guha (1989: 141) elaborate on the shortage of land for swidden agriculturalists, prey for hunters, and grazing for pastoralists as a result of degradation in forests.
- Control over scarce resources also generates conflicts. For example, most of north-east India and the Chittagong hill tracts in Bangladesh are militarised.
- A detailed account of the situation in this area shows that it is not just a question of maintaining law and order (Fernandes 2004), but also of land and forests, which remain central to the economy of the region and identity of its population.
- History has witnessed fierce struggles between tribals and non-tribals over control of land and forests.

So therefore, one is to questions are the kind of perceptions with the state or the state follows what kind of ideas that this perhaps needs to be in away deconstruct. Now we look at the work of these word of Godgil and runs in the Guha they elaborate that the sort is of land for the Sweden agriculture or maybe a prey for hunters and grazing for pastoralists as a result of degradation in forests.

Now control over these scarce resources also in a way generate certain kinds of conflicts among different groups and communities or maybe people like inhabiting different kinds of geographical space. For example, most of northeast India and the Chittagong Hill tracts in Bangladesh are in a way militarized. Now a detailed account of the situations in this area shows that it is not just a question of maintaining law and order, but also of land and forests which remain central to the economy of the region and identity of its population.

Now if you browse through the net I have written a piece of paper on the, how the indigenous community perceives the idea of development through dam, and I give a title called encloses of colonization infinity, and development. Now in that I argue that many of the state mostly because my study is confined in Manipur, so I give a critical look at how the developed state lead development agendas by building a dam is being pushed forward.

Now if you look at the geographical space of Manipur 90% of the state is hill areas which are dominated by the tribal communities and 10% or less than 10% is the valley which is mostly dominated by the non-tribal. So in that if you look at many of the dams like maybe the Mapithel dam which I was conducting the field work it appears that the state wants to push forward that kind of development practices.

So that in the periphery those communities are now being displaced and those areas are being controlled by the state. And this sort of forceful intrusion or displacement is again being initiated under the image of peace maintaining law and order, because as I said the idea of this military agent and I am sure you all are familiar with the OP spot that is armed forces special for activities pretty much in the deployed in northeast region of India.

And then parts of Kashmir, so in order to maintain this law and order and under this particular policy the state in a way tends to use misuse their power and then intrude or tries to colonize the indigenous peoples land by pushing forward this state development agendas like building a dam. Now therefore, one also needs to look at the politics behind of how the indigenous people's our land are being put within the frame work of the state.

And therefore, one needs to look at the history and then depending on the kind of reason you talk about maybe the Chittagong Hill tracts and other areas. The history in a way it has witnessed this kind of contestations and struggles between the tribal's and non-tribal's over the control of land and forest. Now again let me add one particular point in the context of Manipur that in 2004 they have come up with a new land use policy which is in a way adopted from the state of Missouri.

Now in this new land use policy it has been pointed out that the jhumming practice of deep shifting cultivation is a wasteful practices. So the state government should come up with you know a new land use policy by surveying or putting all those land under the revenue department and they should monitor in such a way that the people who are being I mean the practicing shifting cultivation should be stopped and an alternative ways of means of livelihood should be inculcated.

Now the problem arises here that in the state of Missouri like majority of them are tribal, so it is not much of a problem to them, but the context of manipulate majority of the non tribal's who are confined in the valley, and the hill areas. So since the land revenue and land records are not prevalent in the hill areas, so to push forward these new land use policy is something which also have a politics behind again intruding or colonizing the indigenous people's habitat areas or forest land.

Now therefore, one needs to locate and tries to understand the politics behind how these policies are being pushed forward and to what extent the state is being guided by this idea of sincere rehabilitation alternatives to these communities.

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- The forest policy of the government of India, which has continued with the colonial legacy (Guha 1983; Gadgil and Guha 1989: 144), and how this has directly affected the Reang tribe in Tripura.
- The colonial rulers were interested in generating revenue from agricultural expansion and this was the sole reason for economic exploitation of the forest areas in the subcontinent (Gadgil and Guha 1989: 144).

Now again from the works of Guha and Godgil this the forest policy of the government of India which has continued with the colonial legacy, and how this has directly affected the rains ripe in Tripura. I have given this in the reference maybe you can have further understanding of how the implications of seeking cultivation and the cheaper estate policies is being witness or in the context of the Reang tribe.

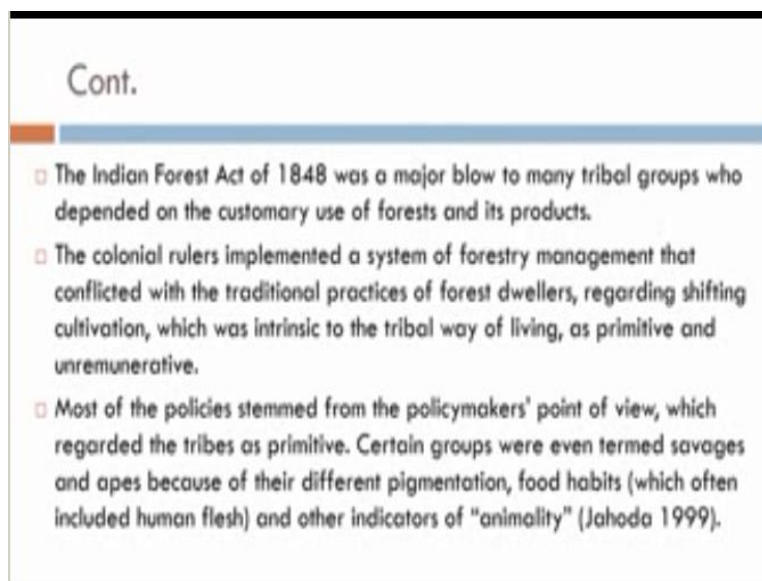
How the state is trying to put forward the alternatives or the feasibility of now trying to push forward the forest policy of the government of India by restricting or limiting the access and use of the forest land. Now the colonial rulers were in a way guide by this idea of generating revenue from the agriculture expansion, and this was the sole reason for economic exploitation of the forest area and the subcontinent.

Again if you look back at the history of the tea plantations, or the coffee plantations which is predominant in the valley of Assam, if you look at, these are some of the initiatives are being taken by the colonists, because they are in a way able to generate much more revenue to the state rather than these practices with or the wasteful practices of jhumming cultivation.

Now these are something which the environmental history and all are also arguing about that how the these colonial rulers in away have initiated the kind of agriculture practices, the kind of plantations or the kind of forest policies which they have initiated where carried forward to satisfy their economic needs or rather the generating of this revenue. Now if one wants to look at the forest policy for instance the Indian forest act of 1848 it happens to be a major blow to many of the tribal communities who are dependent on the customary use of forest and its products.

Now if you single out jhumming cultivation it is primarily an agriculture practices. Now apart from that accessibility or using of the free use of this forest it is not just limited alone to agriculture.

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Cont.

- The Indian Forest Act of 1848 was a major blow to many tribal groups who depended on the customary use of forests and its products.
- The colonial rulers implemented a system of forestry management that conflicted with the traditional practices of forest dwellers, regarding shifting cultivation, which was intrinsic to the tribal way of living, as primitive and unremunerative.
- Most of the policies stemmed from the policymakers' point of view, which regarded the tribes as primitive. Certain groups were even termed savages and apes because of their different pigmentation, food habits (which often included human flesh) and other indicators of "animality" (Jahoda 1999).

But also people are dependent on the non-timber forest products like then gives in edible items of plants, roots, shrubs so and so forth. So and again many of these food items enhances to the cast or the case income of these people, because they rely on these food items being gathered from the forest and then being sold in the market. And then this enhances some sort of a security to the people.

Now if this kind of act is in a way fully implemented or being targeted to those people who are dependent on the customary use of forest and its products, it is not just only affects the means of livelihood, but the means of survival are at stake. Now the colonial rulers in a way implemented a system of skills forestry management that conflicted with the traditional practices of the forest dwellers for instance the shifting cultivation which was again intrinsic to the tribal way of living.

And this was considered as primitives and unremunerative. Now many of the policies in a way stemmed from this policymakers point of view which regarded these tribal communities as primitive and in certain groups were even come as services and apes, because of different pigmentation food habits which often included human flesh and others indicators of animality.

Now this sort of stereotyping and labeling a certain sections of community or group as uncivilized and primitive in a way is a ploy on the part of the policymakers to alter is not rehabilitate them from this evil practices. So these are some of the ideas which are pretty much embedded in the psyche of the policymakers. And perhaps these are all, because of the lacking of knowledge and the well-being of those communities.

So nobody really question or tends to understand how sustainably these communities that is those who practices jhumias for generations were able to harmoniously establish the kind of, in terms of managing their natural resources. So this perhaps is something which needs to be debated.

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- According to the National Forest Policy (1988) issued by the Government of India, one of the main reasons for the loss of forest cover in the hills is the spread of fire caused by jhum cultivation, which not only affects regeneration of catchments, but also wildlife species.
- Under this policy, new strategies for the development and rehabilitation of the tribal population and altering jhum practices. This is done in the name of preserving and restoring environmental stability, and jhum cultivation has been labelled a primitive process.
- What was evident was that the "creation of a social landscape legible to state authorities implied the destruction of informal non-state structure of trust and cooperation" (Scott 1999: 283).
- McDule-Ra (2011) in his analysis of north-east India highlights that mainstream Indian society has no hesitation in labelling upland communities primitive in contemporary politics and development.

Now again according to the national forest policy of 1988 which is issued by the government of India one of the main reasons of the loss of forest cover in the hills is, because of the spread of fire which is pretty much a part of the techniques and methods in jhum cultivations. It is not only affects regeneration of catchments, but also wildlife species.

So this sort of blaming, the blame game which is being branded upon this jhumias is something which again is being constrained in the national forest policy. Now under this policy new strategies for development and rehabilitation of the tribal populations in altering the jhumming practices are being initiated.

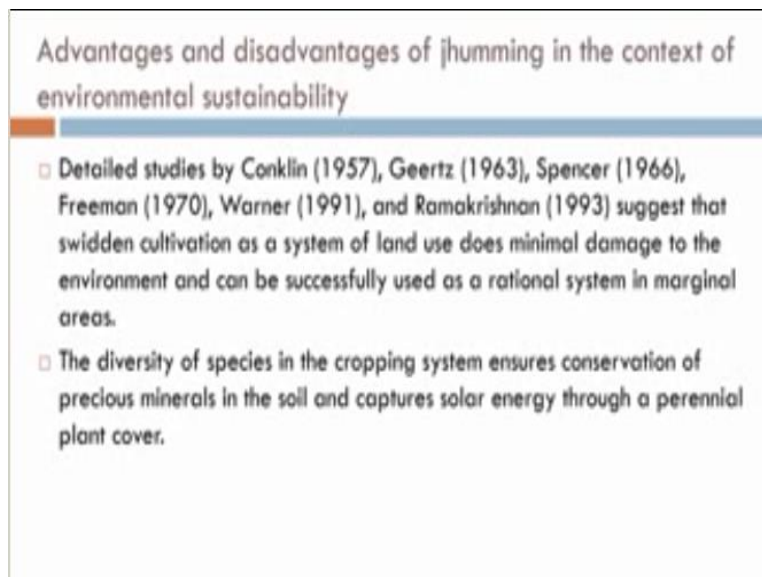
Now again this kind of policy is being done in the name of preserving and restoring the environment stability and jhum cultivation has been labeled as primitive practices. Now what was evident from this is that this creation of the social landscape that is legible to the state authority implied the destruction of the informal monster structure of trust and cooperation.

Now James have come up with this notion, because he in a way profound this idea of the civilization notion and then how these communities are in a way considered to be evading the

state, or not one thing to come under the rule of the state, because they do not want to conform in terms of generating the revenue.

Now Meg Dorva who have done an extensive today in notice in the recent years in his analysis of northeast India again highlights that the mainstream Indian society has no hesitation in labeling the upland communities as primitive in the contemporary politics and development.

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Advantages and disadvantages of jhumming in the context of environmental sustainability

- Detailed studies by Conklin (1957), Geertz (1963), Spencer (1966), Freeman (1970), Warner (1991), and Ramakrishnan (1993) suggest that swidden cultivation as a system of land use does minimal damage to the environment and can be successfully used as a rational system in marginal areas.
- The diversity of species in the cropping system ensures conservation of precious minerals in the soil and captures solar energy through a perennial plant cover.

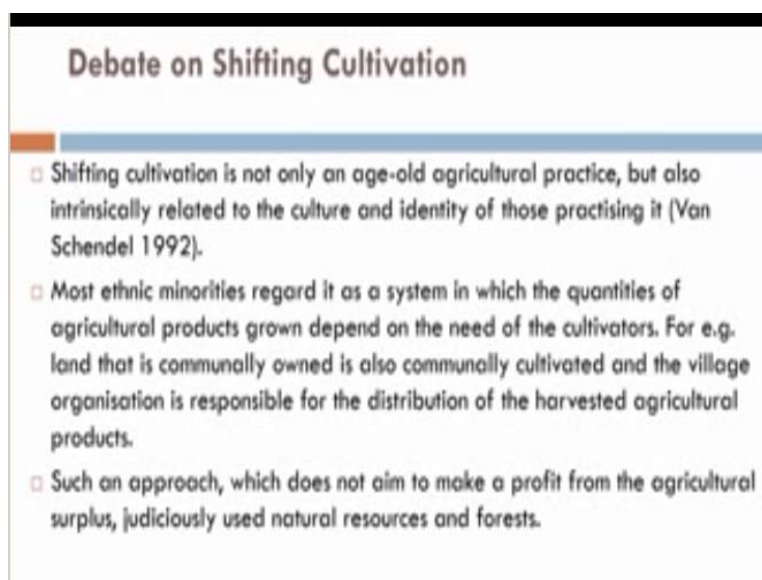
Now what are the advantages and disadvantages in the context of this environmental sustainability. Now if you look at the studies made by Conklin, Geertz and Spencer and also Freeman, Warner and Ramakrishnan and Conklin perhaps is the first to have studied shifting cultivation in a much more detailed analysis by trying to look at the different kinds of data and the amount of the food crops which are being planted so and so forth.

So perhaps the first credit of this cultivation, shifting cultivation goes to Conklin and other's followed. Now they suggest that Sweden cultivation as a system of land use does a minimal effect or damage to the environment and can be successfully used as a rational system in

marginal areas. Now as a result of the kind of the hill tarin or the steep areas those communities who practices the Sweden cultivation has no choice.

But they have to, because they do not have much of an access to the outside technology. Now and then in their detainer analysis and study they come up with the conclusion that it has a minimal damage to the environment. And it can have, it can be done as a rational system and perhaps maybe because of the diversity of species in the cropping system and also an huge conservation of precious minerals in the soil and capture solar energy through a perennial plant cover. So herein comes again this idea of the agroforestry.

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Debate on Shifting Cultivation

- Shifting cultivation is not only an age-old agricultural practice, but also intrinsically related to the culture and identity of those practising it (Van Schendel 1992).
- Most ethnic minorities regard it as a system in which the quantities of agricultural products grown depend on the need of the cultivators. For e.g. land that is communally owned is also communally cultivated and the village organisation is responsible for the distribution of the harvested agricultural products.
- Such an approach, which does not aim to make a profit from the agricultural surplus, judiciously used natural resources and forests.

Now the debate again is on how to situate seeking cultivation which is not only an age-old agriculture practices, but also which is intrinsically related to the culture and identity of those practicing it. Now most ethnic minorities which are regarded with as a system in which the quantities of agriculture products grown depends on the needs of the cultivators that is maybe the family the community so and so forth.

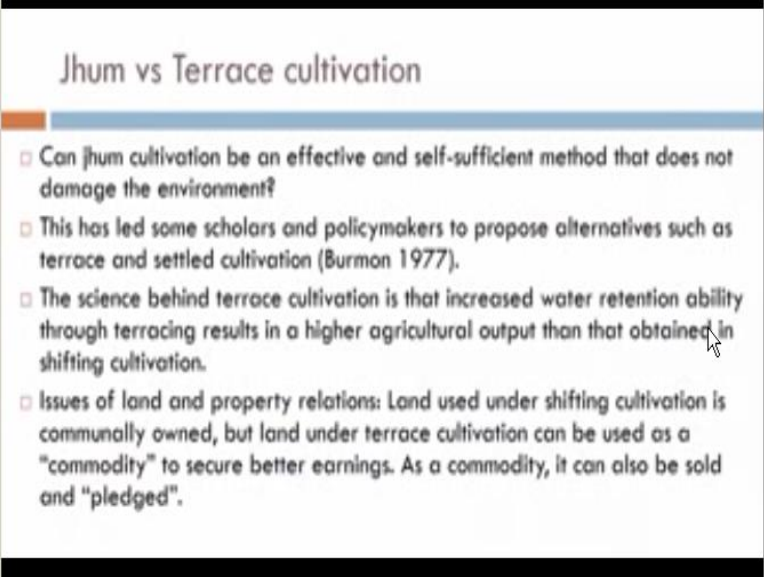
For example, land is commonly owned is also commonly cultivated and the local organization is responsible for the distribution of the harvested agriculture products. So herein comes the cohesion of the idea of community religion and egalitarianism, because the idea of hierarchy class divisions or maybe the idea of surplus does not arise. Now such an approach which does not intermit profit from the agriculture surplus tends to judiciously use natural resources and force.

So in a way they tends to rely on the forest for their own basic needs, and they have that guided by the ecological philosophy of causing a minimal harm to the resources, because they tends to generate only their basic needs. Now the local practices to do with ecosystem and resource management give this indigenous group the experience to deal with uncertainty and unpredictability intrinsic to all ecosystems.

So therefore, this idea of environmental determinism or the environmental possibilism both in a way tends to in or play among these or in these local practices. Now however, the emphasis on these modern methods of cultivation that is which is being pushed forward by the government policymakers have not only led to labeling the shifting cultivation as primitive used by the indigenous people.

But also is regarding this traditional knowledge systems and their capacity of improving the existing methods, these are something which also we have come across while discussing the indigenous knowledge and traditional ecological knowledge. So I am just merely trying to bring up with those concepts.

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Jhum vs Terrace cultivation

- Can jhum cultivation be an effective and self-sufficient method that does not damage the environment?
- This has led some scholars and policymakers to propose alternatives such as terrace and settled cultivation (Burmon 1977).
- The science behind terrace cultivation is that increased water retention ability through terracing results in a higher agricultural output than that obtained in shifting cultivation.
- Issues of land and property relations: Land used under shifting cultivation is communally owned, but land under terrace cultivation can be used as a "commodity" to secure better earnings. As a commodity, it can also be sold and "pledged".

And if you look at most government policies tensely in operation the feasibility of shifting cultivation and arts many of those communities to undertake the terrace cultivation. Now the idea or differences between the terrace cultivation which is much more stabled and permanent has to be in a way being an option or optional to those jhumias. Now the question is can jhum cultivation be an effective and self self-sufficient method that does not damage the environment.

Perhaps this question has slipped scholars and policymakers to propose alternatives such as terrace and settle cultivation and one of the policy behind terrace cultivation is that it increased water retention and ability through terracing regions in a higher agriculture output that obtained then that obtained in the shifting cultivation, because shifting cultivation is seem to be much more neighbor extensive and the output is slow.

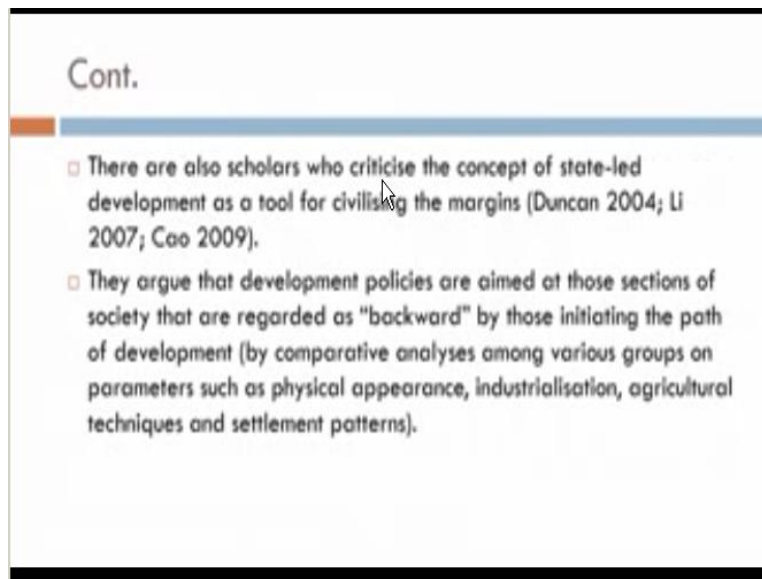
So that sort of comparison between the two has made a conclusion or propagated by the state policymakers to hope for terrace cultivation. Now the issues of these land and property relations and land use under this shifting cultivation is commonly owned, but land under terrace cultivation can be used as a commodity, because it can be owned individually. Now therefore, one needs to look at the idea of this ownership.

Because once these terrace cultivations comes into practice or being adopted the idea of this commodity that is which can be sold and played. So this idea of individualism emerges and the idea of this communitarian or egalitarian in a way will become redundant. Now the concept of jhumias if you look at the historical account which is given by Scott this jhumia is a term which is coined by William Von Schendel.

And what he talks about is that why most ethnic communities in the hilled regions of Thailand, Cambodia, India, and China are in a way and raising in this sort of evading the state. He argues that an estimate of roughly about 100 million people who live in this region have fled into the hills to avoid taxation that is the revenue which is still much coming to practice right, from the colonial period.

And also they want to avoid the slavery indentured liberal war and other negative corollaries of the state including famines and epidemics, they remain the world's largest refugee population that lies in the centre of the state which does not come under the purview of the state governance. Now the measures to contain this jhum cultivation in a way have created economic uncertainties for these ethnic minorities and settled cultivation has forced them to assimilate into the national economy or the state economy which in a way can be avoid certain kind of revenues.

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Cont.

- There are also scholars who criticise the concept of state-led development as a tool for civilising the margins (Duncan 2004; Li 2007; Cao 2009).
- They argue that development policies are aimed at those sections of society that are regarded as "backward" by those initiating the path of development (by comparative analyses among various groups on parameters such as physical appearance, industrialisation, agricultural techniques and settlement patterns).

Now there are also scholars who criticize the concept the state-led development as a tool for civilizing the margins. Now this group of scholars or school of thought has argued that the development policies are aimed at those sections of society that are regarded as uncivilized backward primitive, savages and by those initiating the part of development by comparative analysis among various groups and parameters such as the physical appearance in this realization agriculture techniques and settlement patterns.

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Government Policy against Jhum Cultivation

- ❑ The government initiative on terrace cultivation in the jhum control programme has failed to provide adequate income to the jhumias (that are widening the gap between the rich and the poor).
- ❑ Unlike settled and/or terrace cultivation, jhum cultivation is diversified and produces mixed crops.
- ❑ Settled cultivation as an alternative to jhum cultivation does not seem to be very efficient – it has disrupted the egalitarian tribal society of the jhumias and it has no clear advantage because it requires large capital investment.
- ❑ The basic reason why jhum cultivation has been rejected by policymakers is the declining land-man ratio and reductions in the jhum fallow cycle.

Now what are the kind of policy which is being witnessed against jhum cultivation. The government has time and again initiated that terrace cultivation in the jhum control program in a way has fail to provide adequate income to the jhumias. This is also purposed in the context of the ways in the Tripura state. And partly because the state initiative has failed that it has in a way resulted the widening gap between the rich and the poor.

Because the part as in terrace cultivation it is individually owned and it is sort of a private property which can be in a way sold. So the one who has a much more upper hand in terms of gas or power has, and unlimited way of expansion of their agricultural land. And so is the accumulation of wealth, because it relies on surplus. Now unlike to settled or this terrace cultivation, jhum cultivation again is pretty much diversified and produced mixed crops, and which we talk about the self subsistence.

Now settle cultivation again is seen as an alternative to the jhum cultivation does not seem to have to be very efficient it has in a way disrupted the egalitarian tribal society of jhumias, and it has no clear advantage, because it requires a large capital investment, because you have to rely

on external agencies like the technology, maybe tractors, and fertilizer and so forth. So it is sort of a huge investment for those who are switching over to the satellite culture.

And the basic reason why jhum cultivation has been rejected by the policymaker is the declining land man ratio and reduction in the jhum follow cycled. And the one of the differences between these terrace and the jhum cultivation is that while one engages the former engages in the commercialized agriculture and the later centers on self sustenance or self conjunction to have an adequate supply for the basic needs.

Now the human labour and seeds are the only two investment in jhum cultivation and it is apt that jhum grows crops for self functions. Now apart from human labour and seeds just no other investment which is required, but on the contrary in settler cultivation it requires a capital and money capital investment, such investment options may not be available to the jhumias which in a way compel them to borrow money from the organized and unorganized sectors for workers labours or informs. This reduces their self-sufficiency, but also pose and economic burden to them because they have to borrow money and how the local money lenders operate and how they are personalized.

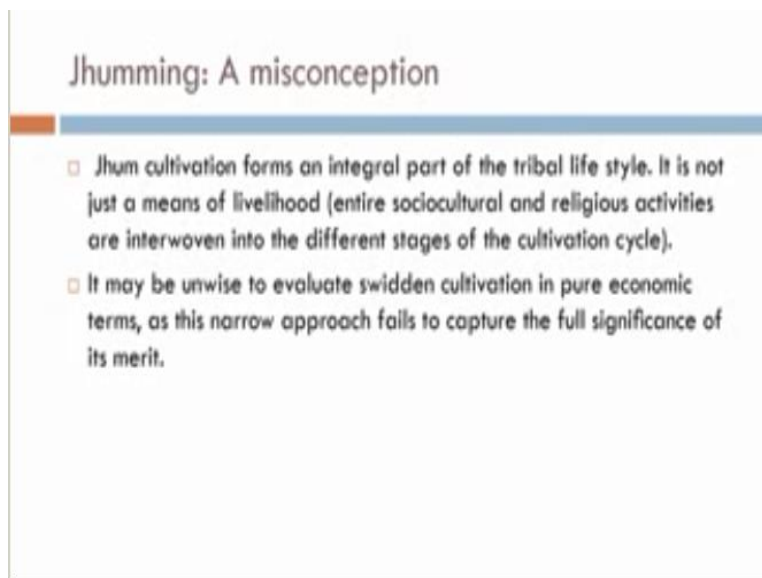
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- The only difference between the two (settled and jhum cultivation) is that while one engages in commercialised agriculture, the other caters for self-consumption.
- Human labour and seeds are the only two investments in jhum cultivation and it is apt that the jhumias grow crops for self-consumption.
- Settled cultivation requires capital and non-capital investments. Such investment options may not be available to the jhumias, forcing them to borrow money from the organised and unorganised sectors or work as labourers on farms. This reduces their self-sufficiency.

Because the local farmers tend to accumulate or borrowed money and with interest it goes on. So eventually when a time for this harvesting comes they have to bore the brunt of those the interest and the capitals.

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The slide features a title 'Jhumming: A misconception' at the top, followed by two bullet points. The first bullet point states that Jhum cultivation is an integral part of tribal life, not just a livelihood, as it involves sociocultural and religious activities. The second bullet point warns against evaluating it in purely economic terms, as this fails to capture its full significance.

So there is nothing really left at the end, because all the products are being sold off to pay off their debt. So they become sort of adaptive, now jhumming is in a way considered to be a misconception, because jhumming cultivation forms an integral part of the tribal lifestyle it is not just a means of livelihood, but also the entire socio-cultural religious activities are interwoven into the different stages of cultivation or the entire culture cycle.

It may be therefore unwise to evaluate Jhum cultivation in merely a pure economic terms as this narrow approach fails to capture the full significance of its practice. And most of the government policy initiatives are based on the economic evaluations of Jhum culture have in a way been geared towards distorting its practices. Now opposing shifting cultivation is merely based on this kind of this misconception.

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Feasibility of shifting cultivation

□ The broad discussion on the falls into either of two main categories.

First, there are those who argue that shifting cultivation is primitive in nature and has to be stringently dealt with. Here, the arguments range from agro-engineering problems, pollution and soil degradation (Gupta 2000: 605) to the loss of forest cover (Govind 1989: 429), low productivity (Burman 1977: 61; Peterson, Gafur and Borggaard 2003: 118; Nunthara 1981: 1237), and the low market value of the crops (most of which are generally for the consumption of the community and not for generation of revenue).

Most of the writers in this group blame the indigenous people for their adherence to primitive and inefficient methods of cultivation.

Now you can perhaps look at the feasibility of shifting cultivation.

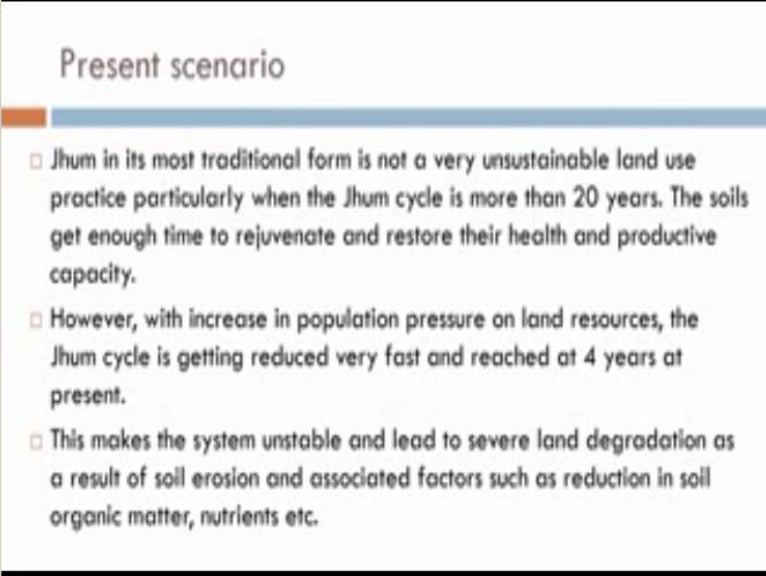
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- There are also those who acknowledge the importance of shifting cultivation in the past (in areas where land was available and the population was not large), but reject it in today's circumstances (Webb 1966).
- There are others such as Gupta who do not criticise the method of cultivation, but the cultivators for using "non-traditional forms of jhumming" (2000: 605). He holds that these methods have resulted in degrading and harming biodiversity in the present condition.

What are the kind of the defend disciplines have different ideas and opinions regarding this and scholars have opposing ideas and their own perspective. So the best way to looked at jhumming in much more the feasibility is to also take into account the socio-cultural background of those who are practicing. It should not be merely based on the idea of the economic perspective, but different sorts of needs to be taken care of.

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Present scenario

- Jhum in its most traditional form is not a very unsustainable land use practice particularly when the Jhum cycle is more than 20 years. The soils get enough time to rejuvenate and restore their health and productive capacity.
- However, with increase in population pressure on land resources, the Jhum cycle is getting reduced very fast and reached at 4 years at present.
- This makes the system unstable and lead to severe land degradation as a result of soil erosion and associated factors such as reduction in soil organic matter, nutrients etc.

Now maybe this is the present scenario of how these traditional formal practices is seem to be unsustainable by the policymakers and different practitioners. Now maybe if you look at the some of these references you can have much more wide understanding of how shifting cultivation the kind of debate which emerges and the controversies.

And perhaps one way of looking at is trying to trace the historical background of how the policies are being framed, and the advantages and disadvantages and the debates of how shifting cultivation has can be contextualized and situated by taken into account the socio-cultural background of those communities practicing it. Thank you.

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