



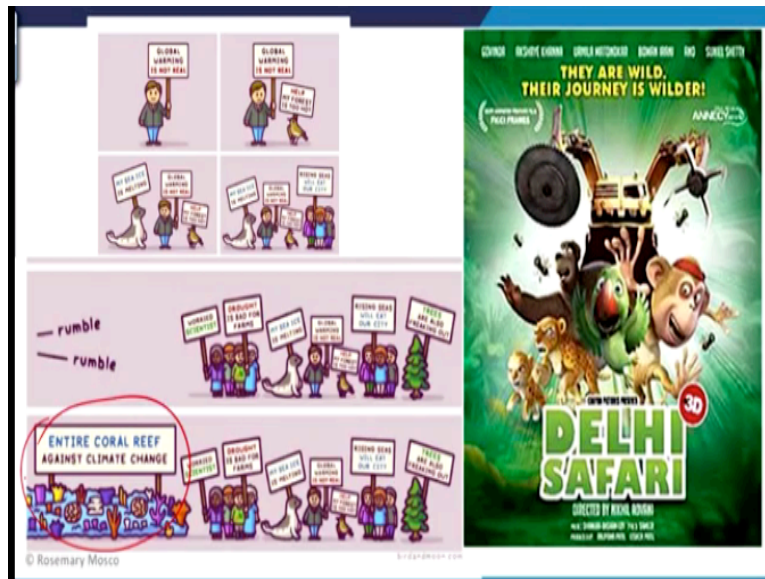
And this is where we talk about the climate change shuffle, as a bird and moon story you know so, they said that it is a nature, it is a very complex phenomenon to understand nature because each and everything is linked with another thing, it is not individual, it is not an isolated aspect. So, now these butterflies you know it is heading from north so, maybe certain conditions are now in the colder areas are no more cold now, they are getting warmer.

So, the migratory species now, in fact if you ever go to Pulicat lake and now, the number of species have come down which are migrated from Canada and similarly, in Rajasthan the migratory birds which are coming down so, the number of birds are coming down so because the water resources are diminishing so, this is how the impact is also caused on the animals and the birds movements and flora and fauna patterns.

If someone is not consuming something, the production it will have an impact on the production aspect as well, and the mountain creatures like squirrels and all, they are all climbing to escape the heat, and different parts of the climate have affect the creatures differently, it is not the same way, a 2 birds will be affected, they affect in a different way because of the nature of the biological nature.

And it also can alter the relationships you know, so when we talk about the Darwin's theory and all these things, as the climate change happens even the colour of a particular species also changes, the nature like we talk about giraffe and how it has changed, today the long neck giraffe how it has emerged so, which means these are all some of the evidences of that times climate change and today what we are seeing as a species is not the original one.

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And it also can cause conflicts you know so, this is how a big cycle of system is there, also want to see that you know many scientists have been advocating that global warming is real, but some have been arguing, there is no evidence to prove it that it is not real, but then the thing is you have different evidences, one is the sea is melting, the forest is becoming too hot because, on one side the deforestation is also happening, because they were either improving the farming techniques or they are going for the real estate ventures or the land use aspects of it.

So that has becoming that is killing the forest and the seas have been raising that is eating out the city, and in that way, the coral reefs against thy are also damaged because of various industrial pollution which is happening within water and that is affecting the aquatic system.

So, the scientists were worried about it, the communities were worried about it, the politicians were worried about it so, there is a big institutional set up which is now concerned about this climate change but it is not a very drastic thing but it is coming in a very gradual process long when we say about drought it is not just today it is happening, it is coming from years and years you know, and there is one interesting film when the Indian film it is called Delhi Safari.

They talked about how animals show their you know concerns about the climate change and how they want to actually give their voice of their habitat, and you know how to safeguard themselves with the city encroachments, so this is all very interesting what you can see is this

the proclaims and all the crimes which are actually taking the deforestation, they are cutting down the trees, and then the animals were worried, and they start going to the Delhi, the capital, and they are making some kind of agitation. In that way, these are some concerns through various films and people are also now becoming aware of what is going to be our future.

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And not only that it will also how it will affect an architect or a builder, it will affect because the ocean is rising and it will have some disastrous effects, and it may also affect the markets; the real estate markets, it will also affect the financial markets so, there has been it is not just only about affecting the human habitat but the whole system, the economic system also is affected, the market system is also affected.

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Climate mitigation is any action taken to permanently eliminate or reduce the long-term risk and hazards of climate change to human life, property.

The Inter-governmental Panel on Climate Change (IPCC) defines mitigation as: "An anthropogenic intervention to reduce the sources or enhance the sinks of greenhouse gases."

And this is where now we are talking about 2 aspects; one is the mitigation, and adaptation when we talk about mitigation, it is any action taken to permanently eliminate or reduce the long-term risks and hazards of climate change to human life and property. So, the IPCC which is the Intergovernmental Panel on Climate Change defines mitigation as an anthropogenic intervention to reduce the sources or enhance the sinks of greenhouse gases.

So that is where we are now talking about various frameworks, various conventions, various agendas, we talk about UNFCCC framework for climate change convention and agenda 21, Kyoto protocol, so there are a lot of strategies which is actually working out as a global level as well.

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Climate adaptation refers to the ability of a system to adjust to climate change (including climate variability and extremes) to moderate potential damage, to take advantage of opportunities, or to cope with the consequences.

And climate adaptation; it refers to the abilities of a system to adjust to a climate change including climate variability and extremes to moderate potential damage, to take advantage of opportunities, or to cope up with the consequences. See, why do we need to adapt? Now, can we stop climate change just as of now? We cannot! Because it is a law of nature, as per the law of nature, everyone is born, and everyone is bound to die.

Every simple thing will give a birth, and it will die, but in certain philosophies, it also talks about the rebirth, okay but in a different form or in a different way so, if you do not die, it is against the law of nature, if the thing is not dying it is against the law of nature, so what we are trying to do is in the name of a sustainable development agendas or whatever it is, we are trying to prolong that life you know, we are trying to live little longer.

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The IPCC defines adaptation as the, "adjustment in natural or human systems to a new or changing environment. Adaptation to climate change refers to adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities. Various types of adaptation can be distinguished, including anticipatory and reactive adaptation, private and public adaptation, and autonomous and planned adaptation."

We are trying to make our earth live longer, little longer so, this is where the abilities you know that is where we are talking, in order to adapt with the situations you know, in order to adapt and cope with the changing situations, we are talking about the climate change adaptation. The IPCC tells about the adjustment in natural or human systems to a new or changing environment.

And adaptation to climate change; it refers to adjustment in natural human systems in response to actual or expected climatic stimuli or their effects which moderates harm or exploits beneficial opportunities. So, various types of adaptation can be distinguished including anticipatory and reactive adaptation, private and public adaptation and autonomous planned adaptation. So, this is a kind of generic definition which IPCC talks about.

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## Mitigation Strategies

In the United Nations Framework Convention on Climate Change (UNFCCC) three conditions are made explicit when working towards the goal of greenhouse gas stabilization in the atmosphere:

1. That it should take place within a time-frame sufficient to allow ecosystems to adapt naturally to climate change;
2. That food production is not threatened and;
3. That economic development should proceed in a sustainable manner.

And what are the strategies and in 1992, in Rio de Janeiro, United Nations Framework Convention on Climate Change has been held, and it takes 3 conditions which has been made explicit towards the goal of greenhouse gas stabilization in the atmosphere. When we talk about the greenhouse gas emissions in the 1980's, it was mostly as a scientist concerns, but as we moved on from 90's, it has also moved towards the social; the social concern as well and the political concern.

But now, when we are today we are talking a little more of a legal concern as well so, the number 1 condition that it should take place within a time frame sufficient to allow ecosystems to adapt naturally to climate change, this is where the time dimension. So that the food production is not threatened. So, now you have to understand that certain species now I do not know how many of you know but in the last 2 years even a state like MP which is producing the wheat, the production was not sufficient, and they were getting the wheat from Australia or in different parts of the world so which means, we are depending on the production, there is not a self - sustained production. That economic development should proceed in a sustainable manner. So, everything is an economic aspect; the economic management has to proceed in a sustainable.

So, there is a 3 things; one is how it can naturally the ecosystem should adopt, the second is the food production should know, so that is why the Denmark, they started with the seed bank, how we can store the seed bank even in India we have in Ladakh area where there is a seed bank so, how we can store the species of seeds, so that in the time of crisis how we can regenerate it further. Today, we are talking about stem cells protection, so similarly the seed protection is also an important.

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## Adaptation Strategies

Article 4.1(f):

All Parties shall "Take climate change considerations into account, to the extent feasible, in their relevant social, economic and environmental policies and actions, and employ appropriate methods, for example impact assessments, formulated and determined nationally, with a view to minimizing adverse effects on the economy, on public health and on the quality of the environment, of projects or measures undertaken by them to mitigate or adapt to climate change."

Adaptation strategies; when we talk about all parties in article 4 in UNFCCC document; take climate change considerations into account to the extent feasible in their relevant social, economic and environmental policies and actions and employ appropriate methods. So, as per the given political condition, given social economics feasibilities one has to take care of this and assess the all relevant methods you know where the possibilities.

And make impact assessments formulated and determined nationally with a view to minimizing adverse effects on the economy, public health and quality of environment of projects or measures undertaken by them or adapt to the climate change so, this is where all parties has to work within all their capabilities and feasibilities, they have to take some measures and work accordingly.

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## The case of DHAKA

- <https://www.youtube.com/watch?v=60bmZOokli4>