**NPTEL ONLINE CERTIFICATION COURSE**

**ECOLOGY AND ENVIRONMENT**

**Development Frameworks of Action: Ethics – Part 2**

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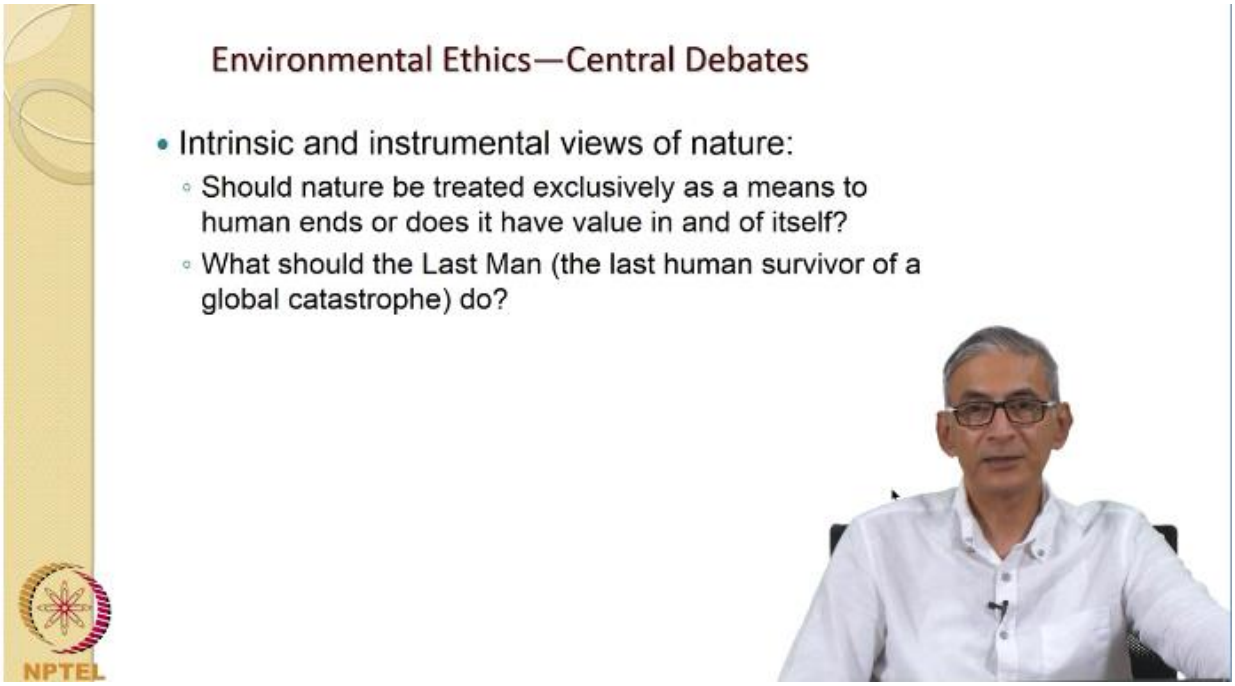
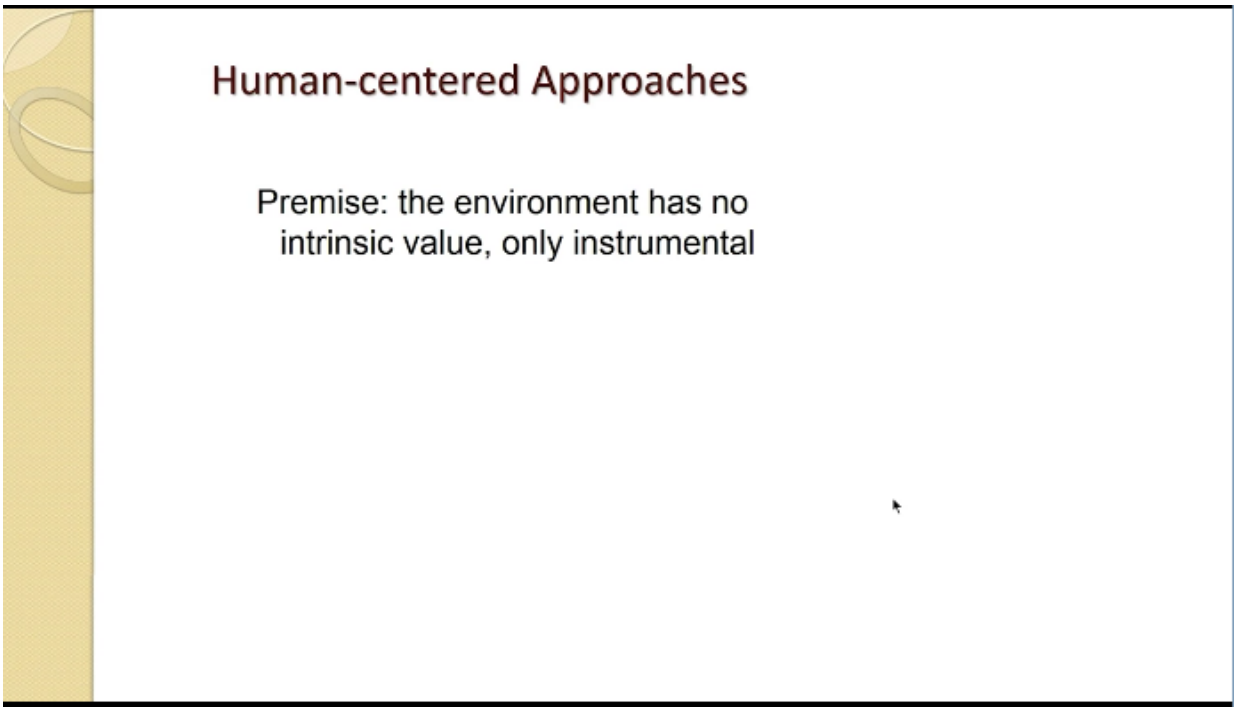
So, within environmental ethics, there are some key debates, key questions, and these have to do with different ways in which nature itself is viewed.



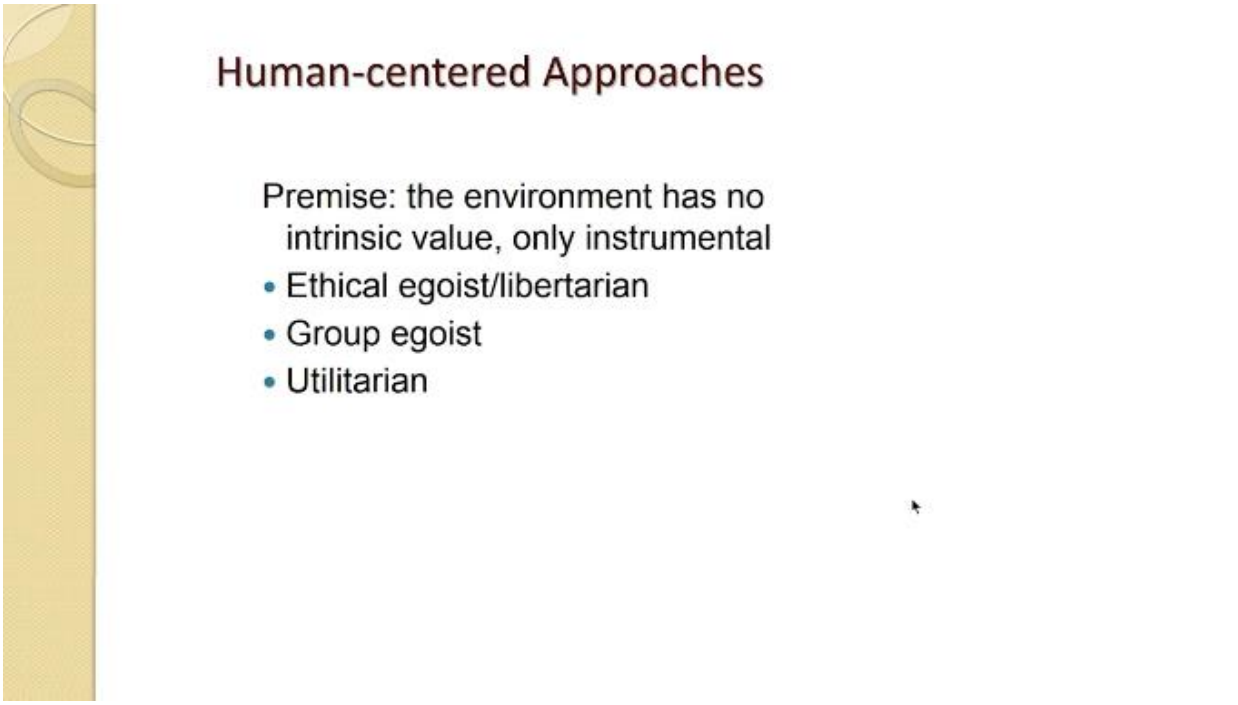

So, if nature were used as instrumental that is as a means to an end, means to human ends, then that leads to certain ways in which ethical questions might be framed.

On the other hand, nature can be viewed as something that has intrinsic value, and if nature has intrinsic value, then that changes the way in which one might want to address environmental concerns. For instance, a classic question is what should the last man, that is the last human survivor of a global catastrophe, what should that person do? In other words, if there is a chance that the earth could, the earth's ecosystems other than humans could survive should that person,

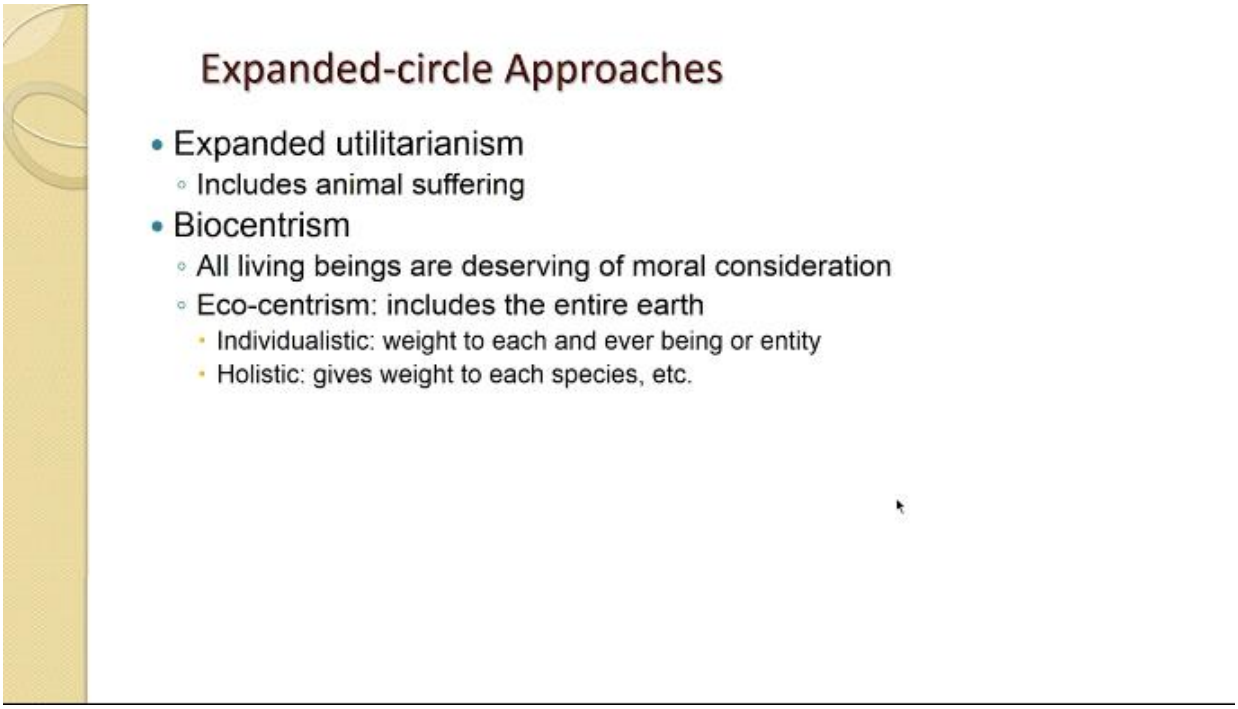
does a person have a responsibility to make sure that those ecosystems survive. These are not easy questions to address, but how one answers those questions depends on whether one uses an intrinsic or instrumental approach to nature.



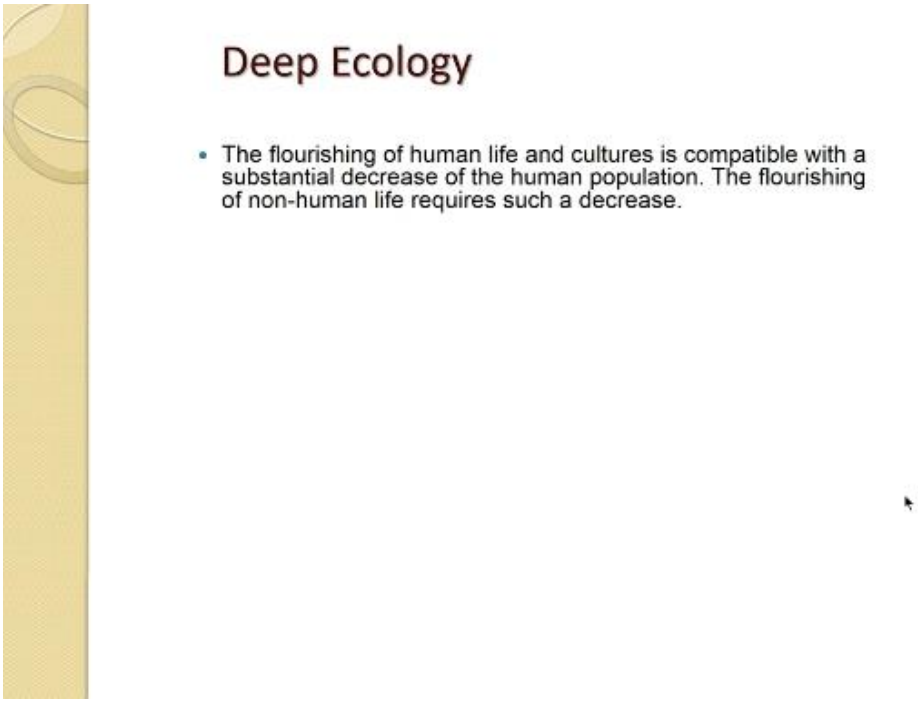

Now human-centered approaches are based on the premise that the environment itself has no intrinsic value, so it is an instrumental view of nature, and there you can have the type of person the ethical agent could be an egoist or libertarian, could be egoist around groups of humans or utilitarian, utilitarian meaning again you are thinking in terms of the net costs and benefits of human action.



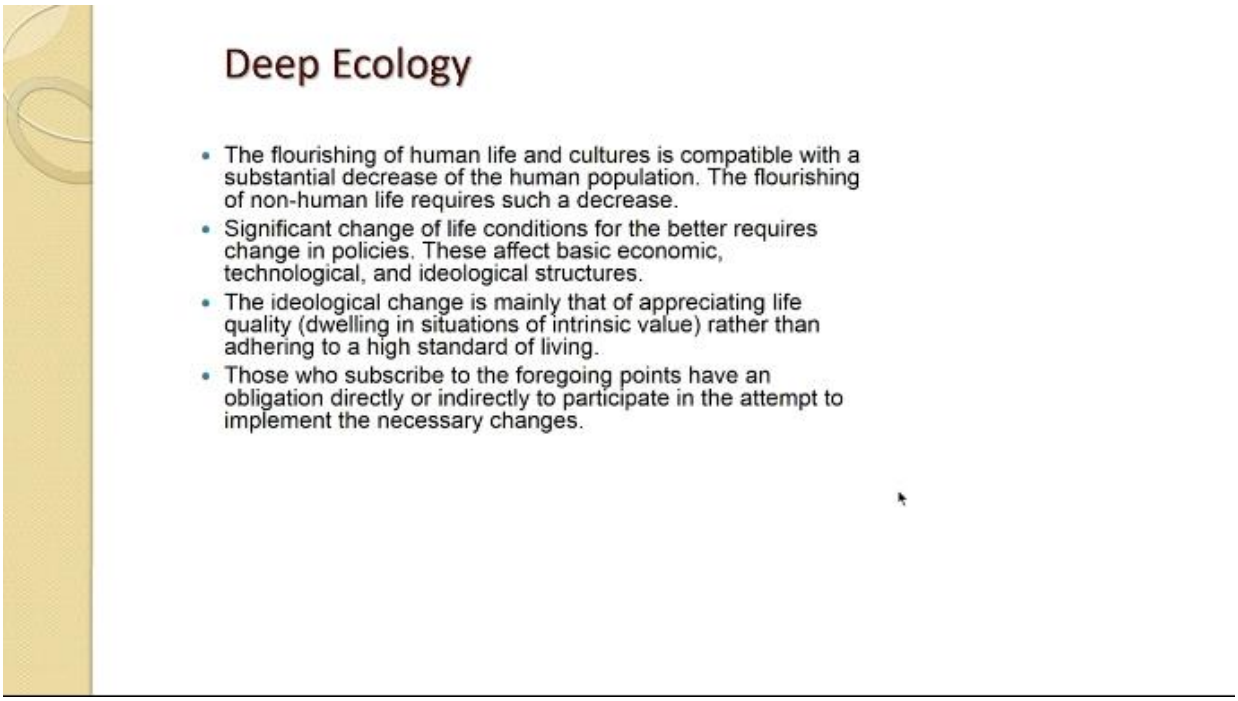
There are also what are known as expanded circle approaches, and expanded utilitarianism is an example of that where one is considering not just this pain and or happiness of humans but also of all sentient beings, so animals suffering, for instance, would also be included in expanded utilitarianism, Peter Singer is a good example of an expanded utilitarian philosopher.



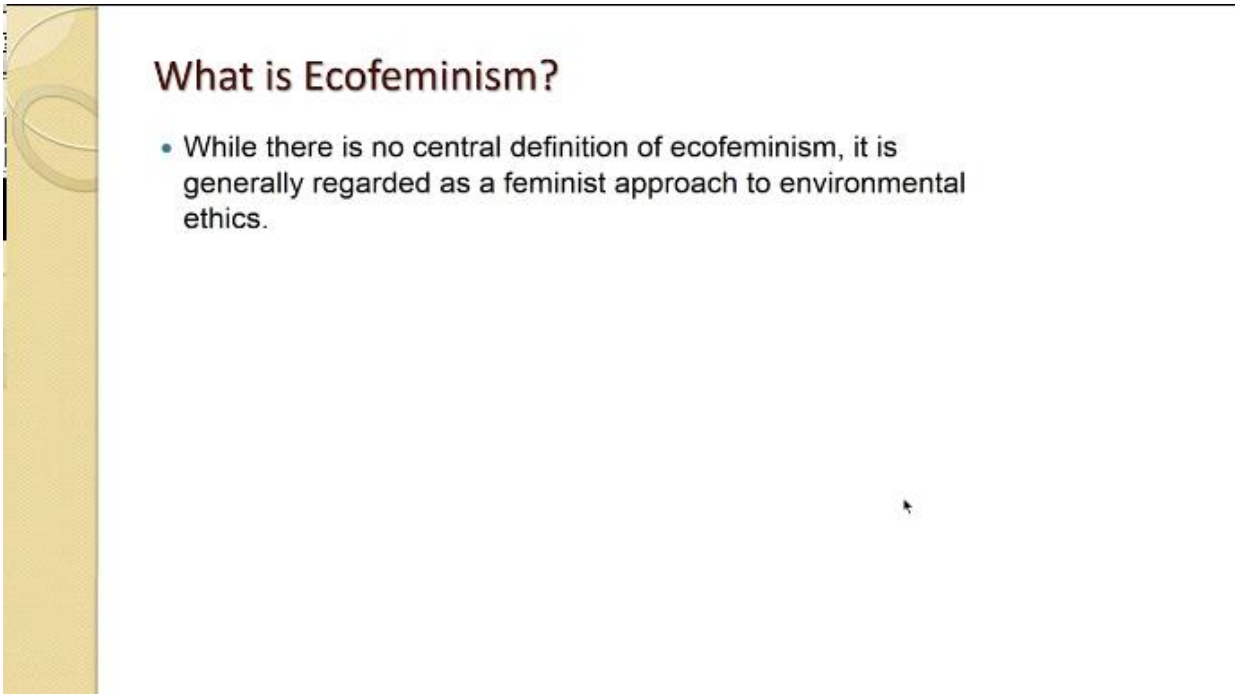

Biocentrism is yet another expanded circle approach, and here the idea is that all living beings are considering or deserving of moral consideration, and egocentrism is a sort of a version of that where the whole earth is also known as the Gaia hypothesis is seen as deserving moral consideration, and even here you have what are known as individualistic ethical theories versus holistic theories, and again these are variants of a fairly involved in complex set of ethical questions around the environment.

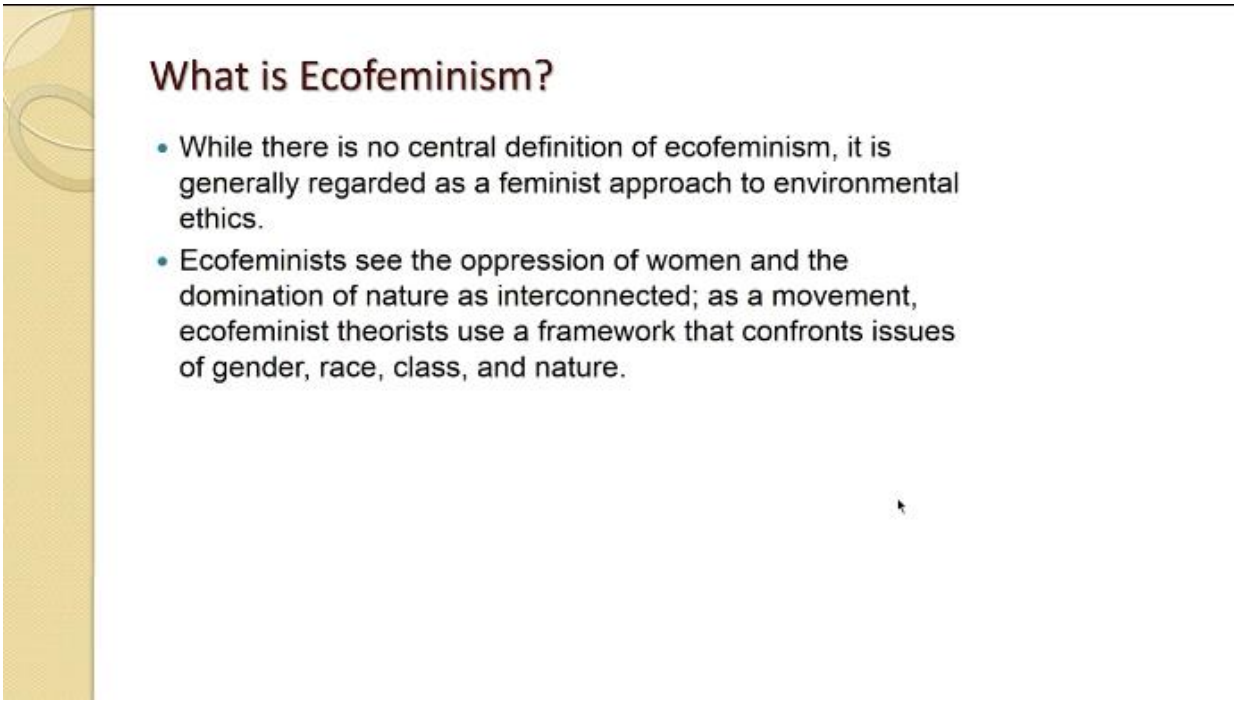



Now deep ecology is one of the expanded circle approaches, and it has really spawned a movement whose you know adherence are quite widespread around the world. The idea behind deep ecology is that the flourishing of human life and cultures is something that is compatible with a substantial decrease of the human population, that the human population is not the what one needs to be concerned about, but nature itself or all life on earth. The flourishing of non-human life requires such a decrease that is one of the considerations of deep ecology, also suggest that a significant change of life conditions for the better requires change in policies and these would affect economic technological and ideological structures. So, rather transformative change is what is proposed in deep ecology, and the ideological change would mainly be that of appreciating life quality dwelling in situations of intrinsic value rather than adhering to a high standard of living. So deep ecology has these principles formulated largely by this Norwegian philosopher called Arne Naess, and one of the other things he says is those who subscribe to these points have an obligation directly or indirectly to participate in the attempt to implement the necessary changes.

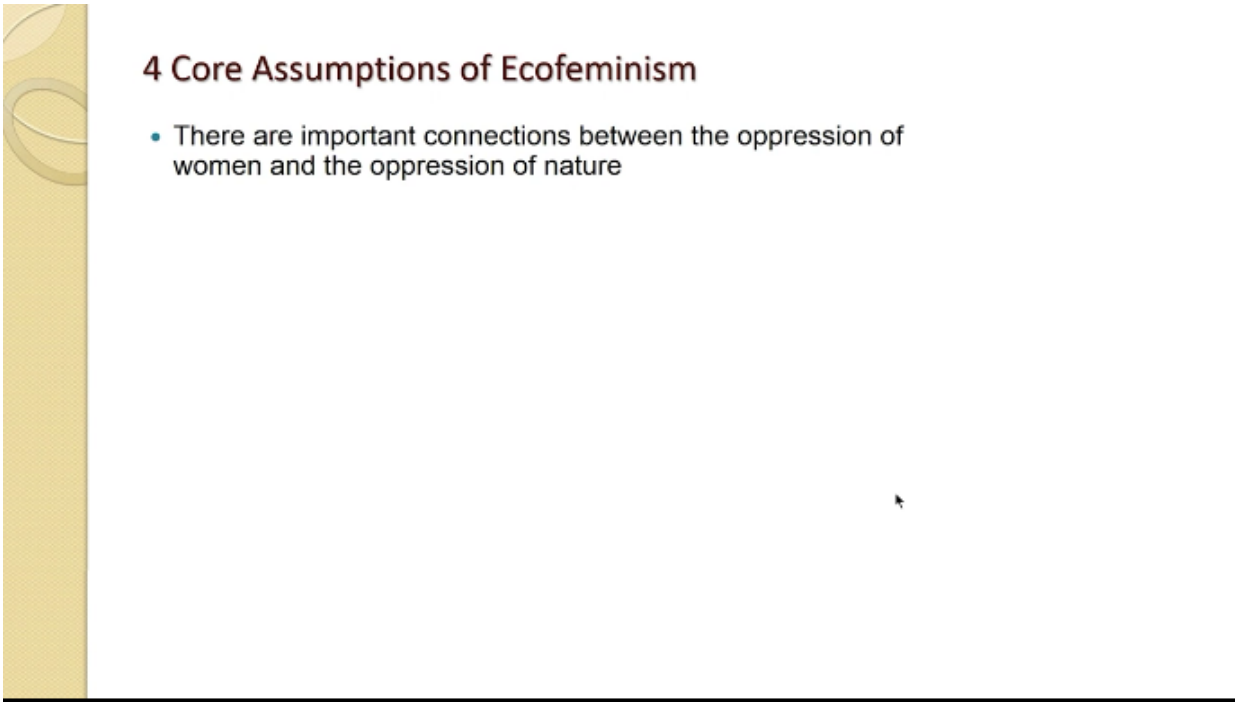



Another variant of environmental ethics is ecofeminism, and ecofeminism again these are all very broadly portrayed, there are lots of variants within these the strains, ecofeminism argues that while there is no central way in which this can be eco-feminist theories can be formulated, the large, the central idea there is that it is a feminist approach to environmental ethics, eco-feminists broadly see the oppression of women and the domination of nature as being interconnected.



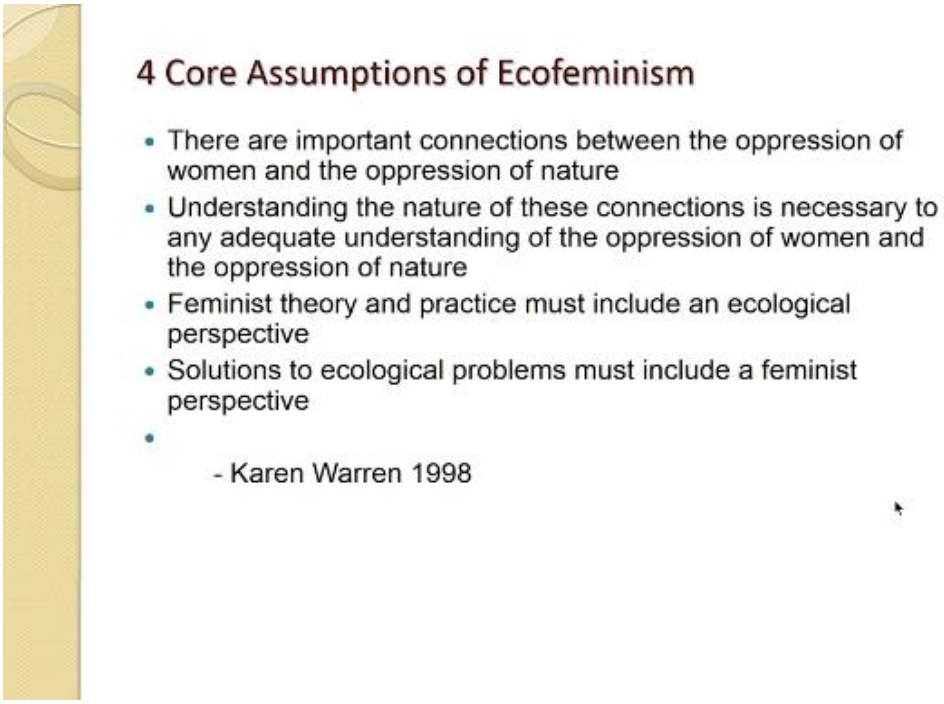



And as a movement ecofeminist theorists use a framework that confronts issues of gender, race, class, and nature. So ecofeminists are also see themselves as being sympathetic to a view that is also called intersectionality that is trying to see oppression everywhere of nature, of human beings, in general, and so on.



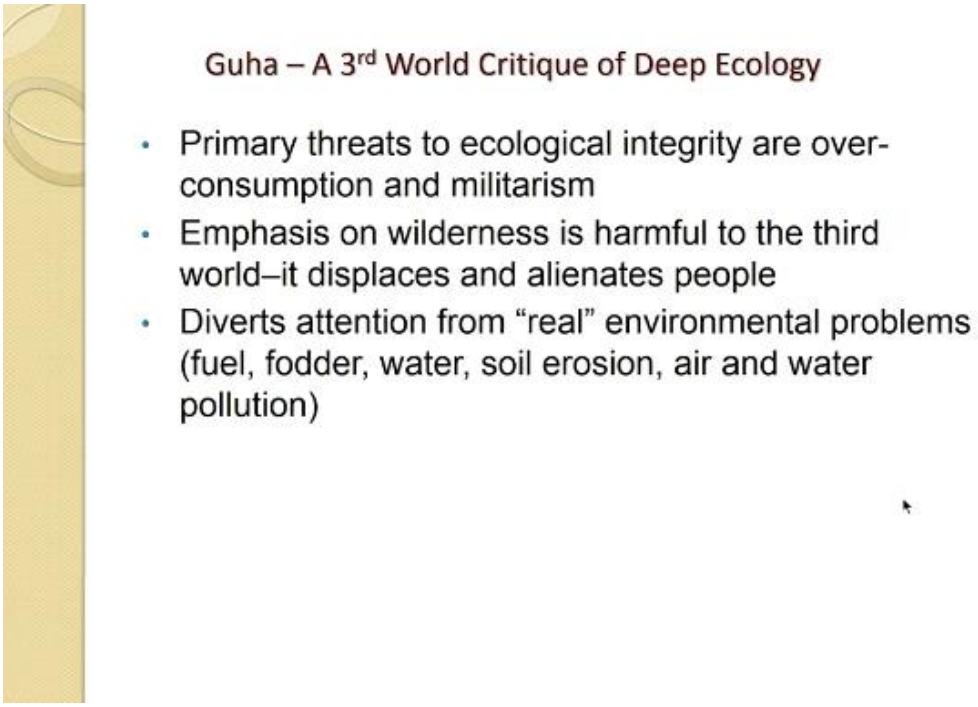

Now here are some assumptions in ecofeminism, so first of all as I mentioned there are important connections between the oppression of women and the oppression of nature, it is not

accidental that patriarchy exists side by side, the domination of nature. They also assume that understanding these connections is important in order to have a better understanding of the oppression of women and the oppression of nature. And feminist theory and practice must include an ecological perspective that is not enough to argue against patriarchy, but one should also think about the domination of nature as feminists and that solutions to ecological problems must, therefore, include a feminist perspective.




Karen Warren is one of the proponents of this eco-feminist position, now Ramchandra Guha has developed a third world, what he calls as a third world critique of deep ecology and he argues that the deep ecology perspective is flawed for a variety of reasons, because the primary threats to ecological integrity around the world are actually have to do with overconsumption and militarism. So it is not overpopulation that needs to be targeted, but it is really the way in which there is a skew and the distribution of resources and the greater militarization of the world. So, he also suggest that simply emphasizing wilderness is harmful to third-world people because in the third world in developing countries people live among in the wilderness, the wilderness is not a vast uninhabited area, and so focusing and putting in placing too much emphasis on preserving ecological zones would be harmful to people because it would displace and alienate people.

And third point he makes is that the deep ecological approach diverts attention from real, what he calls a real environmental problems having to do with access to fuel, fodder, and the challenges of water and soil erosion, water quality, water quantity, soil erosion and pollution.




And a stronger part of his argument suggests that deep ecology is not really that radical at all, it just wants wilderness areas for aesthetic appreciation and as an antidote to our modern society and it really is a kind of perversely an extension of our own consumer society. It is not really concerned with equity issues and local community-driven environmental issues, and therefore he suggests that we should lose this distinction between anthropocentric and bio-centric views.

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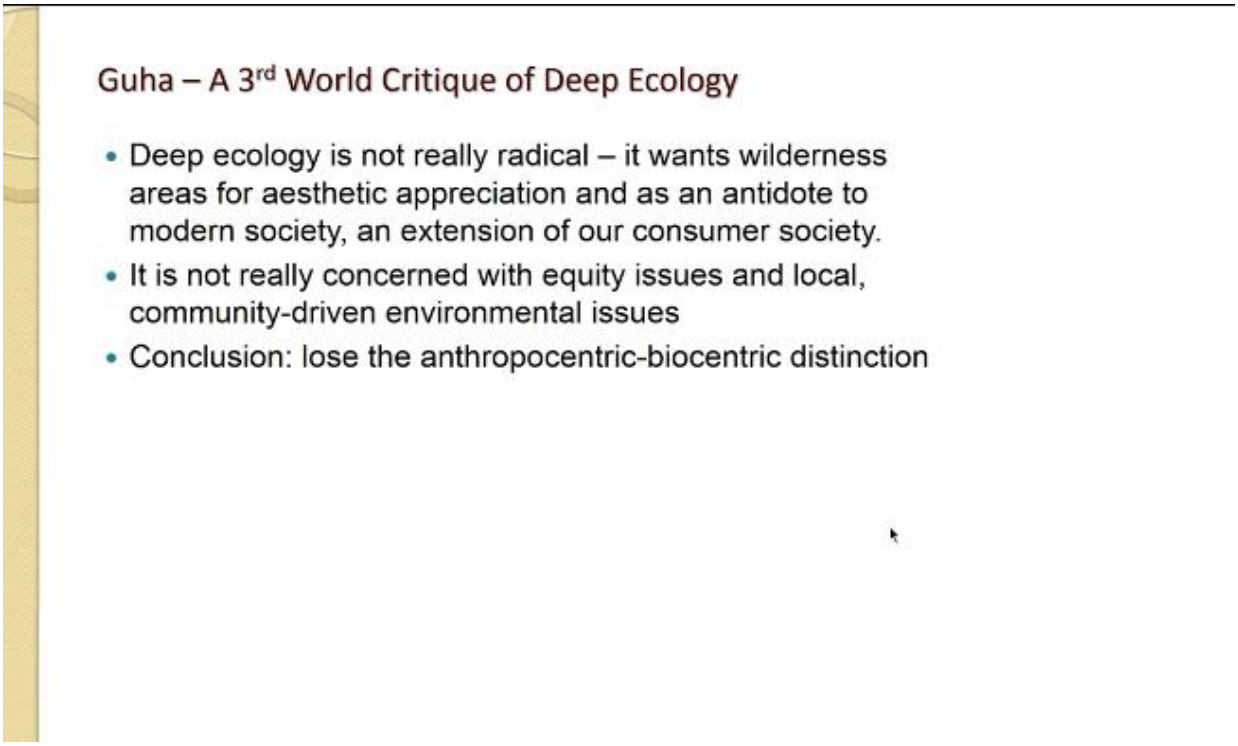
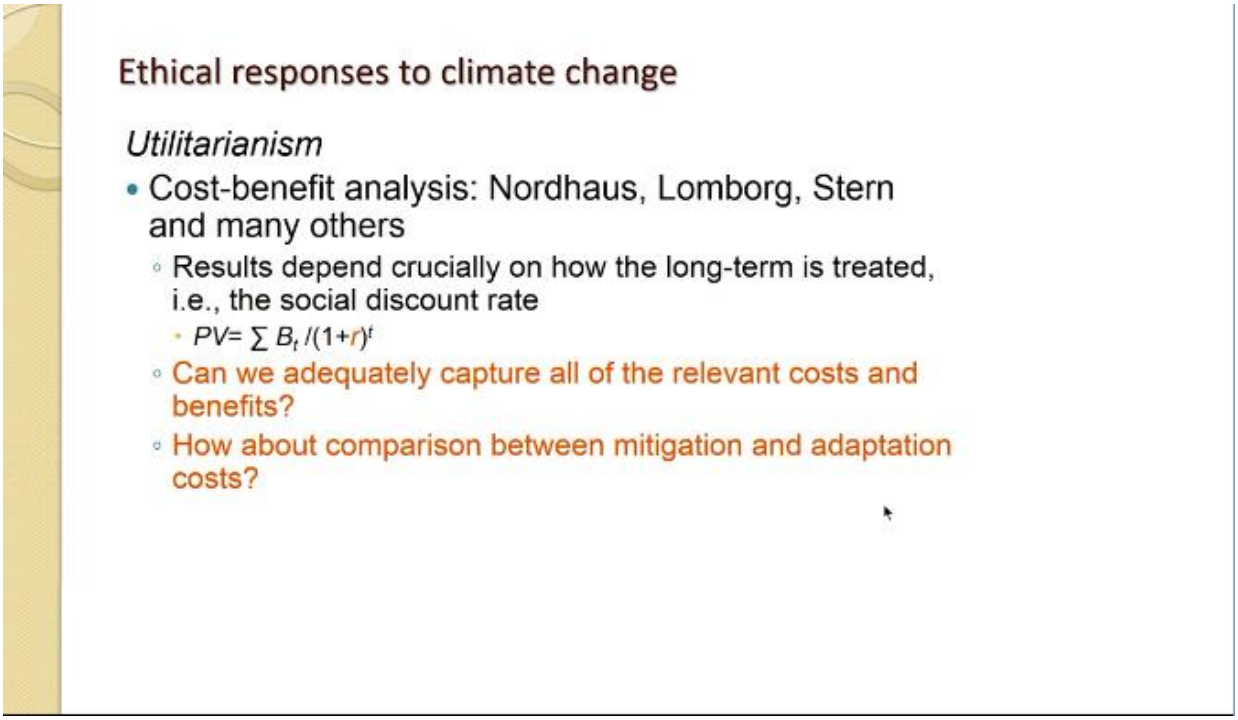
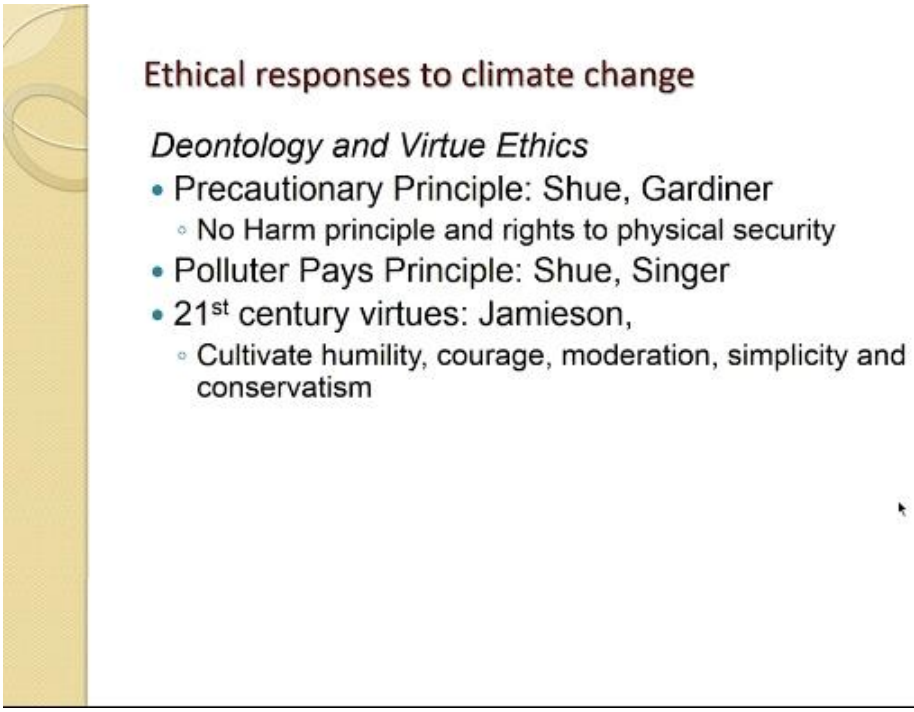


So, that is a quick summary of some of the positions, some of the ways in which debates around environmental ethics have been construed, and as you can tell and again there is a lot of variance among these you know few archetypes that I have mentioned, and there are many other positions of course.




Now with respect to climate change in particular one can take multiple, ethical responses, it is common to take a utilitarian perspective largely because economists would tend to take on utilitarian political philosophy very seriously, have dominated the conversation, and among the economists who have looked at climate change from an ethical perspective the prominent ones are Nordhaus, Lomborg, and Stern, and they have very different positions but a lot of their argument really, principally is determined by how they treat the long term, how values in the long term might change or not. So in the case of William Nordhaus he assumes that in the future, the future in present terms is to be valued less than what it would be if one were living in the future, and whereas Nicholas Stern takes on the view that the future should not, the way we value the future in the present should be almost exactly is the way we would value it in the future, meaning the discount rate that he chooses for his, the social discount rate that he chooses in his assessment for is very, very low. Of course, there are multiple questions for all utilitarian responses to climate change, one is how do we think about costs and benefits, can we adequately capture all of them? And how do we make a comparison between approaches to try and reduce greenhouse gas emissions and approaches that simply focus on how we adapt to climate change, and how do we think about you know which takes priority, if everything is converted to the same monetary terms there may be some missing elements, so that is one of the ways in which people who are not utilitarians, non-economists might respond to the utilitarian approach to climate change.


Now surely there are also deontologists and virtue ethicists who speak to climate change and one of the most important ways in which they think about it is through the precautionary principle, and here Henry Shue and Stephen Gardner are proponents of this view, that the no harm principle and rights to physical security must be ensured and must be implemented. Henry Shue and Singer, Peter Singer who I mentioned, was actually utilitarian in some ways, but here he takes on a kind of a deontological approach, he also, both of them suggest that the polluter should pay and that polluter pays principle must be applied, meaning those who have emitted the most greenhouse emissions need to take that, make the deepest cuts in the way in which they respond to climate change.




Others who sort of try and take on a virtue ethicists approach suggest that it is important to sort of think about conservation, conservatism, simplicity, moderation and consumption and these other virtues humility and courage in terms of responding to climate change.

Now go a little deeper into this question of climate change, and you know what are the features of climate change that are relevant to ethicists of people concerned about ethics. The first feature is what one might call a disproportionate accumulation and this has to do with the fact that one set of groups around the world have used up overtime a disproportionate amount of the world's limited carbon budget, meaning there is only so much carbon one is allowed to emit in order to have a safe climate, and much of that carbon budget has already been, has been used up by the industrialized countries of the world.

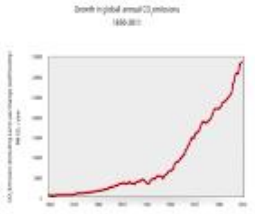
## Three Features of the Climate System Relevant to Ethics

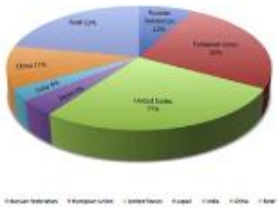
### Feature 1

- *Disproportionate Accumulation*

  One set of groups have used up a disproportionate amount of the world's limited carbon budget. A further complicating element of Disproportionate Accumulation is that *early emitters* of carbon dioxide have contributed more significantly to temperature increases compared with late emitters.

## Global CO2 emissions growth at about 2.8% per year, contributions to stock vary widely





Redrawn from cait.wri.org

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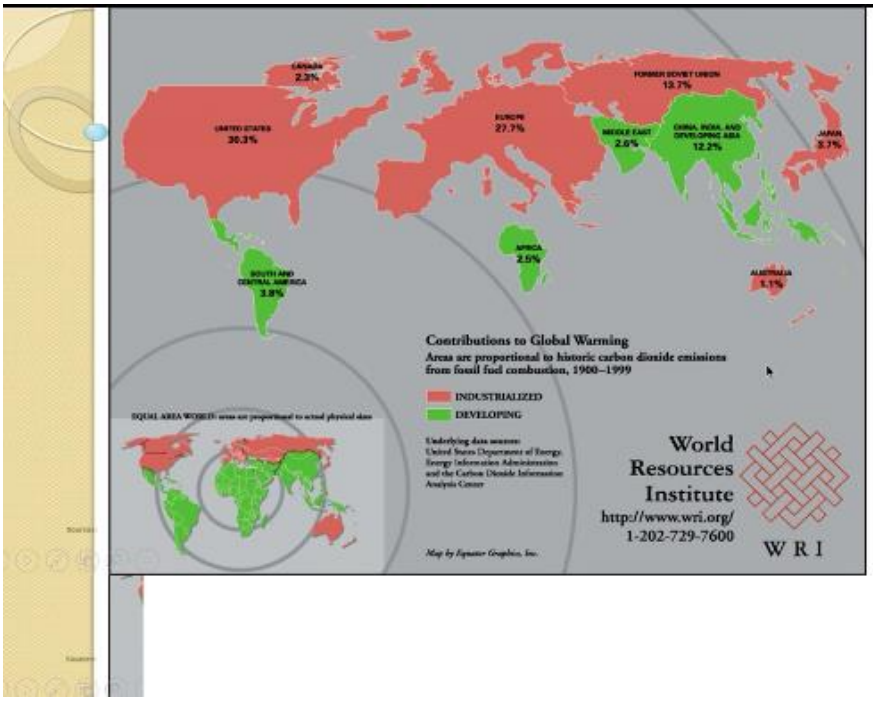
Further complicating element is that earlier emitters of carbon-dioxide have contributed more significantly to temperature increases compared to late emitters, and this has to do with a particular feature of the atmosphere which I would not go into right now, but if you look at global emissions growth over the years you can see that it is accelerated during the 20th century the second half of the 20th century, and these countries the United States, the European Union,

and the Russian Federation, Japan have really contributed more than half of the emissions that have accumulated in the atmosphere.




Another way of looking at it is through this map and where these countries in orange have, can be seen to occupy much greater area and that is the area is sort of proportional to the amount of emissions that they have contributed to the atmosphere over the 20th century, in the course of the 20th century.

Now you can see, the whole of Africa contributes only about 2.5% of these total emissions, and clearly, they are largely developing region, and they need more room to grow, and the same is true in Central America and to some extent the rest of Asia.


Redrawn from: http://www.rainwaterharvesting.org/cse/campaign/ew/art20001122_4.html

This cartoon seems to kind of depict this in pictorial terms, it is basically showing how the global South has been, has edged off the ecological space by the global North, in other words, whatever protection that the South might expect increasingly getting depleted because much of the atmospheric carbon budget has been used up by the global North, so that was disproportionate accumulation.

## Feature 2

- *Delayed Effects*

  The climate system itself is a slow moving beast, which means that it will take several decades, if not a century or longer, for the concentrations of greenhouse gases in the atmosphere to manifest themselves fully in terms of their impacts.

The second feature of the climate system is called delayed effects, and delayed effects means that the climate system itself is a slow-moving beast. And so it will take several decades if not

essentially a longer for the concentration of greenhouse gases in the atmosphere to manifest themselves fully in terms of their impacts. So we are still waiting for the worst impacts of the emissions that are already there in the atmosphere to manifest themselves, and this is something that cruel prospect if you think about it., So no matter what we do now it seems likely that the earth will warm by another degree Celsius by the end of the 21st century that means we could easily cross or be close to 2 degrees of warming by the end of the century, and this means that already committed to experiencing further warming due to historical emissions.

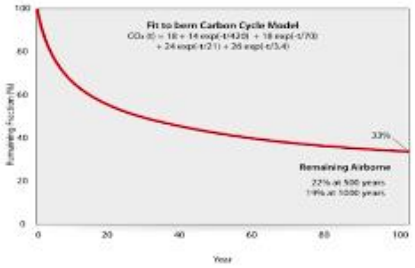
## Feature 2

- *Delayed Effects*

  The climate system itself is a slow moving beast, which means that it will take several decades, if not a century or longer, for the concentrations of greenhouse gases in the atmosphere to manifest themselves fully in terms of their impacts.

  Indeed, no matter what we do now, it seems likely that the earth will warm by at least another degree Celsius by the end of the century, which is to say that we are already "committed" to experiencing further warming due to historic emissions.

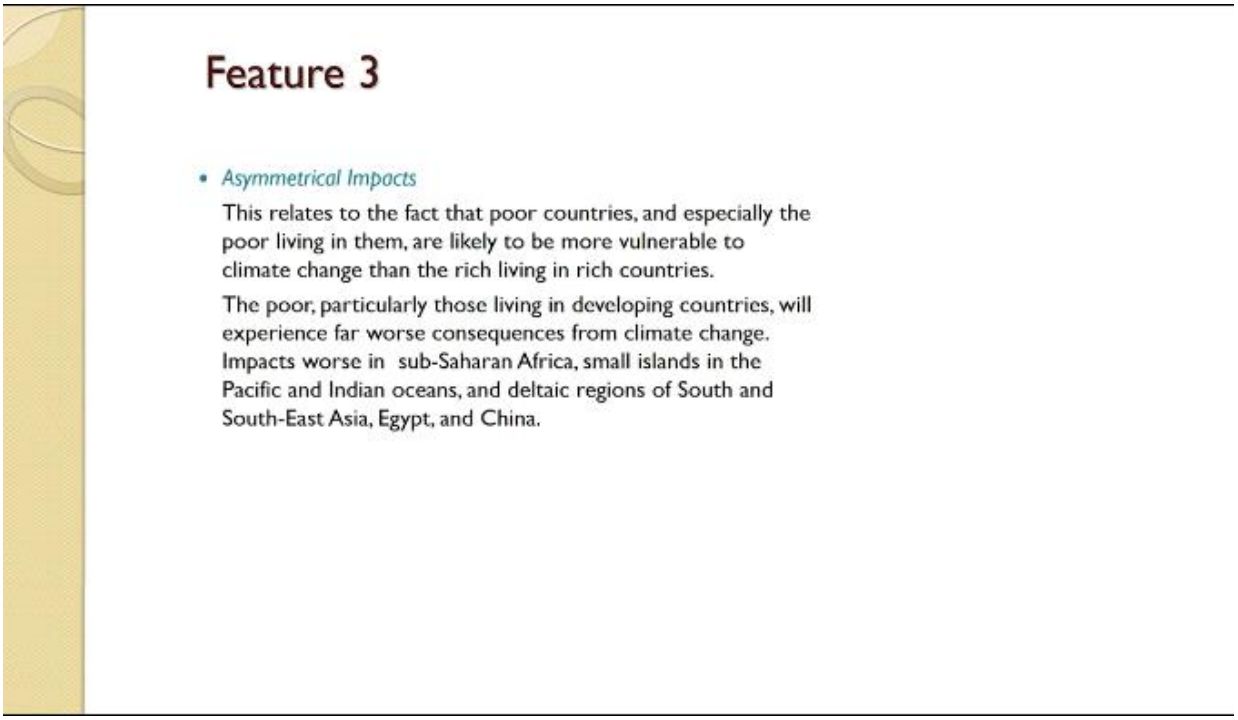
## CO2 Residence Time in the Atmosphere



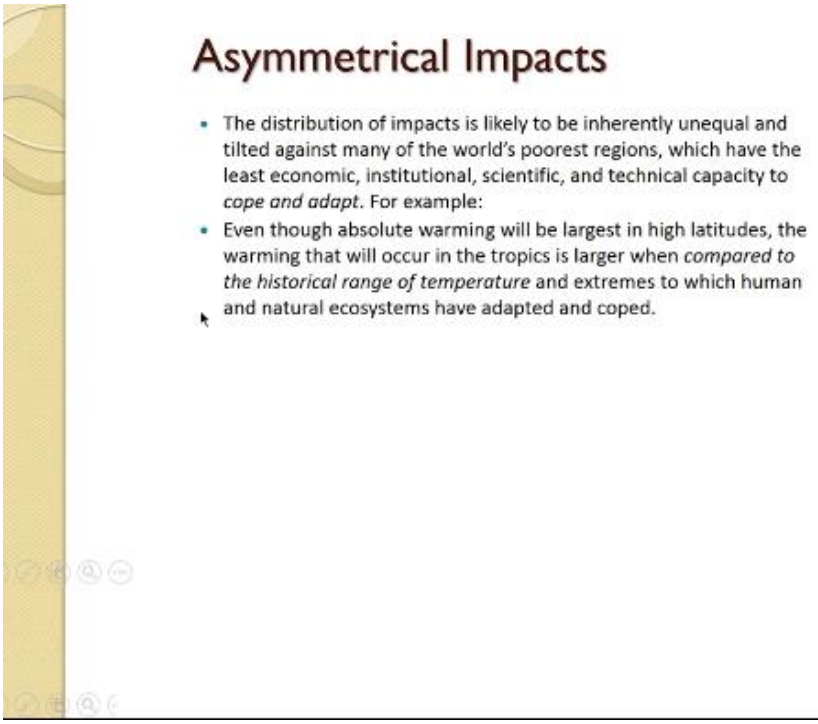

Redrawn from : Hansen, James, et al.(2007)

This shows us that $CO_2$ emissions reside in the atmosphere for a long time, so the emissions that, emissions from close to a century ago you know about a 100 years ago, some of them are still there in the atmosphere, and there is evidence to show that, you know, about one fifth of the emissions that were emitted a century ago or are being emitted now will stay on for another thousand years in the atmosphere.

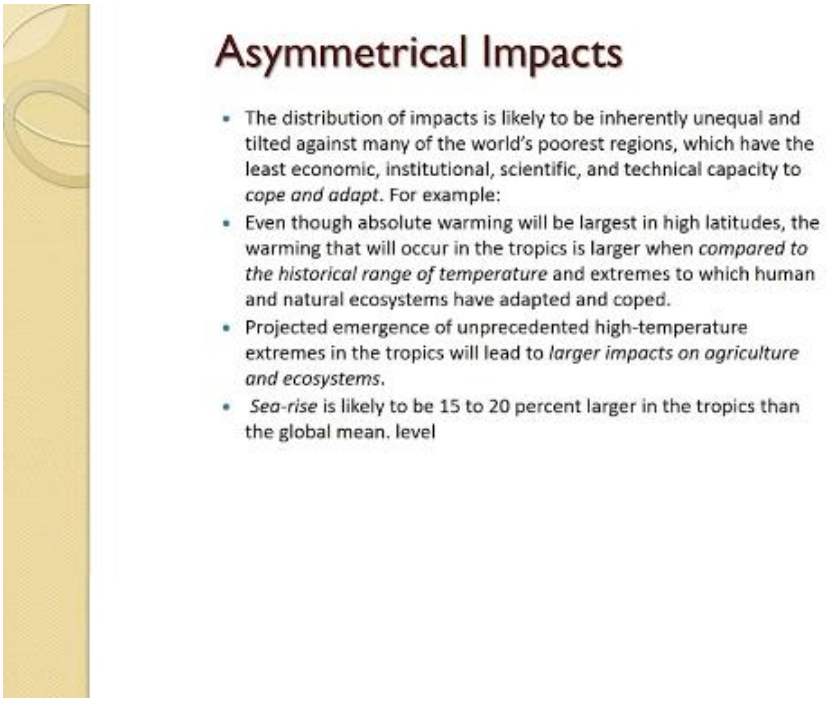
The third feature of climate change has to do with asymmetrical impacts, and this has to do with the fact that poor countries and especially the poor, living in poor countries are likely to be much more vulnerable to climate change than those who are wealthy and who live in rich countries. This is, so the impacts are far worse in Sub-Saharan Africa, small islands in the Pacific, deltaic regions of South and South-East Asia and so on.



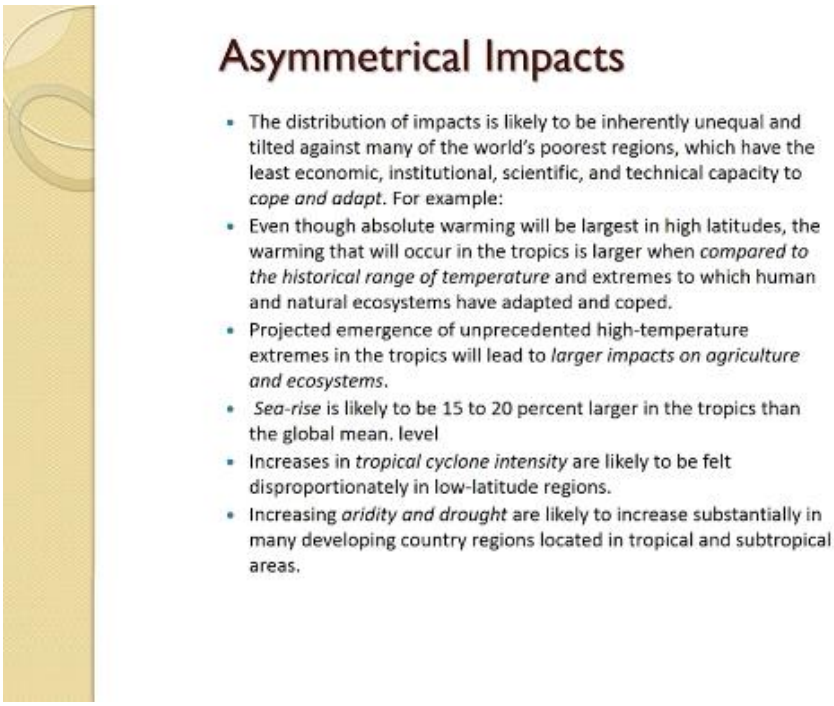

And this has to do with multiple reasons one of the facts, one of the reasons being that in poor countries, poor countries already lie within climate sensitive parts of the world, and the second is poor countries do not have the resources to do very much about these impacts. So, this is, of course, one of them has to do with what I have mentioned was, inherently unequal features relating to, was geography and so on, and second, of course, the lack of institutional scientific and technical capacity to adapt.




So, even though absolute warming will be largest in the high latitudes in the temperate regions of the world, the warming that will occur in the tropics is larger when compared to the historical range of temperature and extremes to which human and natural ecosystems have adapted and coped. So, the challenges in the global South are going to be quite severe, and this is true across the globe certainly South-Asia, China, Pacific Islands, Africa, Sub-Saharan Africa, and Latin America are likely to be perhaps worse affected than many countries in the global North.

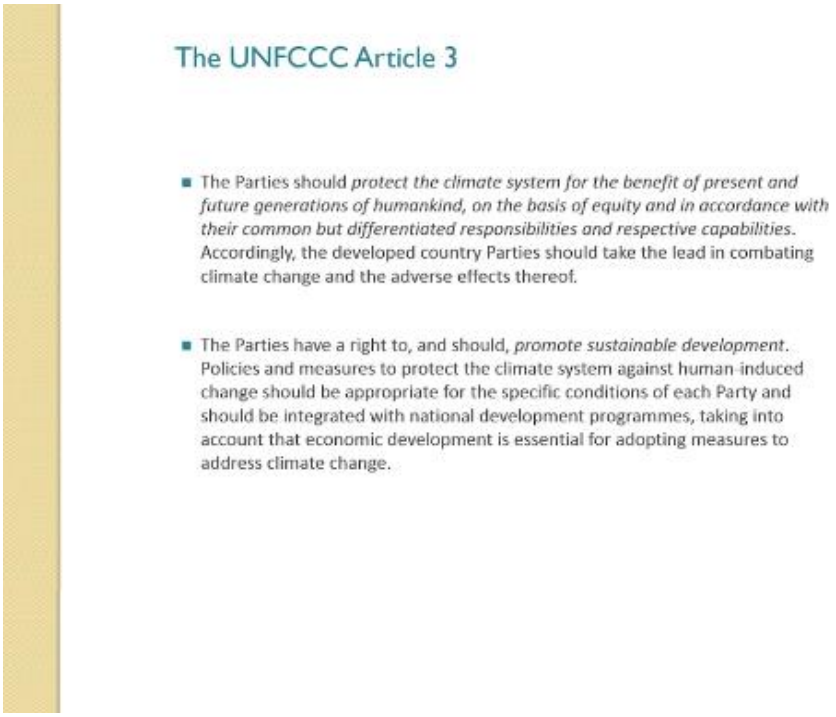



And in terms of agriculture to these impacts are going to be quite severe, sea level rise is likely to be 15 to 20% larger in the tropics than global means sea level, and this again has to do with the rotation of the earth and the fact that you know there is going to be greater increase in sea levels near towards the equator. Also, tropical cyclones intensity is going to be felt disproportionately higher in the low latitude regions.




So, and also aridity and drought, so clearly these ethical challenges have been recognized by the global community and the United Nations framework convention on climate change article 3 of the convention it takes cognizance of these particularly asymmetrical impacts and

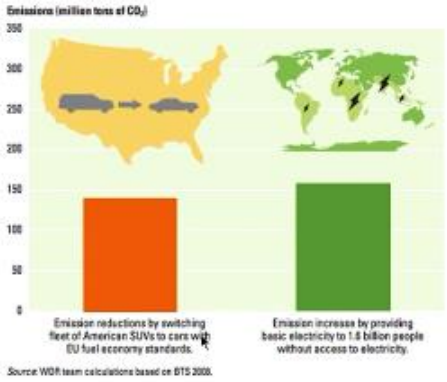
disproportionately accumulation, and it says that the party should protect the climate system for the benefit of present and future generations of humankind on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities.




Accordingly, developing country party should take the lead in combating climate change in the adverse effects there off, so that is article 3.1 and then also mentions parties have a right to and should promote sustainable development, parties and measures to protect the climate system against human-induced change should be appropriate for the specific conditions of each party and should be integrated with national development programs taking into account that economic development is essential for adopting measures to address climate change.

So, the UNFCCC has taken into account these ethical challenges and has proposed an adequate response, but the politics of climate change negotiations has been such that many of these, at least these two principals have not been fully implemented.

**Illustration of a value choice:** Switching from SUVs to fuel-efficient passenger cars in the US alone would nearly offset the emissions generated in providing electricity to 1.6 billion more people




Source: World Development Report, 2010. Overview Fig 2

Now the importance of making the right value choice you know to achieve emissions reductions is also illustrated in the kinds of priorities that the global community might want to make, so right now the large number of SUVs in the United States whose emissions are certainly much higher than those of regular cars and this particular graphic illustrates that if in the United States alone the standards for SUVs, the emission standards for SUVs were the same as those as of smaller vehicles the net reductions in emissions from that policy change would be sufficient to offset the increase in emissions one might have in the developing world by simply providing basic electricity access to 1.6 billion people. So, you see how these value choice placed or described in these kinds of ways sort of start to make sense about for policymakers as to which choices ought to be made.


Cheong Gye Cheon, Seoul. Dr. Gyeng Chul Kim, Korea Transport Institute

Source: http://blogs.worldbank.org/endpovertyinsouthasia/can-we-build-dhaka-out-traffic-congestion

There is also a whole series of other considerations, this map shows an example from South Korea where a freeway on the left was replaced by a river that used to exist, so a river was restored and so you have less emissions, fewer cars on the stretch but you also have greater recreational facilities and better aesthetics in the city. So, these are in some ways choices that require information but also require an ethical stance in order to make these choices.


Now, unfortunately, the whole question of equity in climate change negotiations as this cartoon shows has been more or less disregarded. Equity is not a big consideration in the climate dialogue not withstanding article 3.1 in the UNFCCC, and so these questions of taking ethics into account has not been a priority. Thank you