

TO RULE THE FUTURE

Consequences of Climate Change

Mark Lubelle has a Ph. D in Political Science from SDNY Stony Brook and studied Environmental policy with a focus on cooperation problems and natural resource management. He believes climate change happens to be one of the largest cooperation problems that we are facing.

IAJ: What are Collective Action Problems?

ML: Collective action is sort of a technical term to describe any natural resource management problem where cooperation is necessary to solve it.

Do a majority of scientists now support the idea of Climate Change?

Only recently has there become consent among the science community, and that has mostly been due to the intergovernmental panel on climate change. The intergovernmental Panel on climate change, which is a panel of international scientists, did all sorts of serious reports that have been really influential in documenting changes – changing temperatures, changing sea levels, snow pack, the uncertainty about the impact of these changes is pretty large, but there seems to be a fairly good consensus around the idea.

What are the likely consequences of Climate Change?

A rise in temperatures, loss of snow pack, and the rise of sea levels are three of the big things you will see on the panel's first graphs that they put together – they are the best ones to look at.

What would you say is the biggest contributor to these environmental changes?

Carbon dioxide emissions is the big one.

How are carbon dioxide emissions trends expected to change in the future?

In the short term it will continue to get worse because the population is growing, and we are not taking massive steps to reduce green house emissions.

Are recent extreme weather phenomena, such as hurricanes, and flooding going to increase?

I think that the increase is probably the most controversial environmental consequence in terms of what people think is going on there, in terms of weather. I think there is a lot less consensus among some of the other phenomena.

So some scientists hold a sort of apocalyptic view of what is going on?

There are some scientists out there that think like that, but a good scientist is a bit more objective, more even-headed about it. To just



Photo Courtesy of Mark Lubelle

think about what the climate models predict, and how global temperature relates to extreme weather events...there are a heck of a lot of intervening variables there. People don't really know exactly what the processes are, and people don't know the variations in the models. The variations emerged later, and it is not as strong as the temperature stuff in my opinion. There is definitely a disagreement on that.

What is and what is not known about the certainty of climate change? Is there still the notion that this could be happening naturally?

There is a lot of uncertainty about what the responses of ecosystems are going to be. It is unfair to characterize any of this as known with 100 percent certainty. The most certain is temperature rise and emissions, but once you try to figure out what the effects are, there is a lot less agreement among scientists. For ecosystems, change is in a range of biodiversity effects, such as changes in the range of habitats and loss of species. Currently, ecologists are interested in whether or not a species can adjust its range quickly enough in terms of how fast it can move to keep up with climate change, and if it can at all. If it can't, then the extinction rates will begin to go up. One of the predictions is that the extinction rates will go up on the ecosystem level, as snow pack is likely to go down which means there is less water and more chance of drought. That one is actually pretty well agreed upon. Though in some places rainfall will actually increase – that is an interesting one because it is not a uniform drying across the globe. There is a lot of variance across different regions and ecosystem types.

What geographic locations and countries produce the most carbon dioxide and greenhouse emissions?

There is pretty good data about greenhouse emissions and there is really two things to be considered in respect to greenhouse gases; what is the per capita emissions, and what is the total emissions.

Per capita emissions represent how intensively each person uses resources on a particular issue, and the United States is really high in this respect, as well as some other rich nations. I have 2004 government data that states that the United States emits 5.61 tons of Carbon dioxide per capita, but it is higher than that now. It is one of the highest. The other nations that are really high are the small, rich countries of the Middle East that do a lot of driving and have a lot of air conditioning. The United States is very high, Canada is very high. Although China, which is the one that people talk about most often, is pretty low on the per capita basis traditionally because it has been a “developing” country. For this 2004 example, China emitted 1.05 tons of Carbon per capita. In the total aggregate, the United States is number one, but the China is right behind, competing for first or second because it has a huge population. Both China and India have large populations, so the population makes the per capita carbon emission look a bit better than it actually is for the respective countries.

A lot of people believe that China is going to surpass the United States in the future as far as emissions are concerned, do you agree with this?

Predictions agree with this because China’s per capita is increasing, and if you add the per capita with the total aggregate, that is where you get the big hits.

Let’s shift to international affairs for a second: What is the Kyoto to protocol, why did the Bush Administration refuse to ratify it in 2001?

The specifics of Kyoto top the UN climate change protocol, a framework on international climate change. There have been a series of protocols, Kyoto is one piece of it, and the reason it is the most famous is because it really puts specific limits and targets on greenhouse gas emissions among the countries that agrees to it. The general limits for “developed” countries are by 2012, a 5% decrease from 1990 levels of greenhouse gas emissions. Few have met that goal, but not every country, like China and India for example, were subject to those numerical limitations. They have actually signed the treaty, but they are not subject to the same numerical limits. So the bottom line issues are, are these numerical limitations mandatory or voluntary? The United States, especially the Republicans, does not think it should be subject to limitations that other countries are not subject to. This is a typical Republican view on the matter. They don’t want mandatory; they want voluntary. When the democrats come in it might be a different story, because there are all these negotiations going on to start involvement in moving on to the next phase of the Kyoto

Protocol, and so they are revamping the some of the terms of contained within.

How would you rate the world’s efforts to stop climate change thus far?

Not very much, I would have to drag out some data to tell you which countries have reduced their emissions. The overall problem has not gone away, and I think the overall problem is largely that international treaties have a very hard time enforcing their goals. There is really no organization that is out there that has the governing power to punish a nation, so international organizations are always going to have to require some level of voluntary action. Even if you put small sanctions in the treaties they are still going to be symbolic sanctions. You really can’t force anyone, so it is really an issue of cooperation. Some countries have made some progress and more countries might continue to make progress

What can the average citizen do to help reduce climate change?

The average citizen can move along three dimensions: one, to make it a topic of discussion that can affect policy, because at least in the U.S., it is pretty clear that public opinion shapes public policy. That is one thing that democracy tends to do – sometimes for the good, sometimes for the worst. Second, citizens can participate in politics; join organizations that have climate change as part of the agenda. Participating in politics also means learning about the issue; look at the UN climate change materials, they are pretty well documented on the web with data; get through the data, cut through the debates instead of listening to B.S. which generally comes from one side or the other, and vote for the people who you think are going to be in favor of climate change policies. There are lots of other ways, like going to meetings and writing on environmental documents – all of these ways are ways to participate in the political process other than voting. Third, changing your resource use behavior. This is where it becomes really difficult as a problem of cooperation because any individual citizen is a tiny drop in the bucket – so why should you take the time to recycle and go through the effort to make a difference in climate change when your efforts are not shared by everybody else? You are likely to be participating in an altruistic act, but you have to ask yourself, is it worth it? Anything that is going to reduce your use of oil, gas, and any other carbon producing activity [would help]; drive less, walk more, bike, eat local food, plant trees. There are also carbon markets where you can pay to offset your carbon emissions. There are a range of different things.

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