# Editorial

# We are all Vulnerable: Perspectives on Climate Change and Health

Tyler Law

*In 2002, ETHsustainability, a founding partner of the Alliance for Global Sustainability (AGS), created the concept for the "Youth Encounter on Sustainability-YES" course, with the aim of developing the leadership capacity necessary for a viable future. In March, 2008, the course was held in Tokyo, Japan, attracting a highly diverse group of students to discuss global challenges and opportunities for sustainable development.*

In Tokyo, a group of 40 young people from around the world gather to try to understand and address the mammoth problem of climate change. The irony of the carbon dioxide expended in air travel is not lost on them. Many study environmental science; I stand out as one of two who are studying health. For the first few days, we talk about the effects that climate change will have on the world. There is global warming that, by changing average temperatures only a few degrees, will make it difficult for certain species of plant life to grow. Melting ice caps will cause flooding and destroy fertile land. Animals will be unable to find food, weather conditions will be extreme and unpredictable, and entire species will die out. It is a rather bleak picture. It will happen gradually, but relentlessly and with great difficulty of reversal.

It takes no one by surprise that developing countries will suffer first, and hardest. Many lie near the equator, where global warming will have its most profound effects. Not to mention that many already face a food crisis – how can they cope with further loss of crops? The misfortunes seem to spiral in on each other. As worldwide energy demand grows, energy prices will soar, forcing countries without sufficient resources out of the market. Loss of food and energy could lead to a severe state of insecurity, and a breakdown of infrastructure – police and emergency medical teams will be heavily restricted. In developed countries, with well defined infrastructure and response networks, the damage will not immediately be as rapid or critical, but in developing countries, the human cost of a changing climate will be keenly felt.

> "Just as human health research is most effective when anticipating problems yet to occur, climate change research will be most effective with solutions designed with an eye for sustainability"

We turn to solutions, and become passionate in discussion. How can these problems be stopped, before it is too late? Renewable energy is quickly mentioned, particularly solar and wind- they do not generate emissions, are not limited by quantity, and have a low environmental impact. This can go part way to reducing the energy demand that causes so much carbon dioxide to be released through power generation. A carbon trading system is also an interesting method of reducing emissions. The idea of using a market-based solution to protect the environment is a somewhat strange reversal. And of course, engineering solutions seem the most promising – be they hybrid cars, high yield crops, or hydrogen fuel cells. With these, the future offers a glimmer of hope; we can shrink our environmental footprint, perhaps with little loss of personal convenience.

But something is wrong with this language, and I note carefully the use of 'part way', 'reduce', and 'shrink'. The words are chosen carefully to avoid the use of absolutes, and stop simply at mitigation

of the problem. Can solar panels and wind farms really provide enough power to pry us from our dependence on fossil fuels? Can a carbon trading system effectively operate when meaningful environmental impact could have devastating economic consequences? Can advancing technologies really shrink our environmental impact enough to accommodate the breakneck pace of development? It strikes me that these solutions may help, but their practical limitations seem rather short sighted.

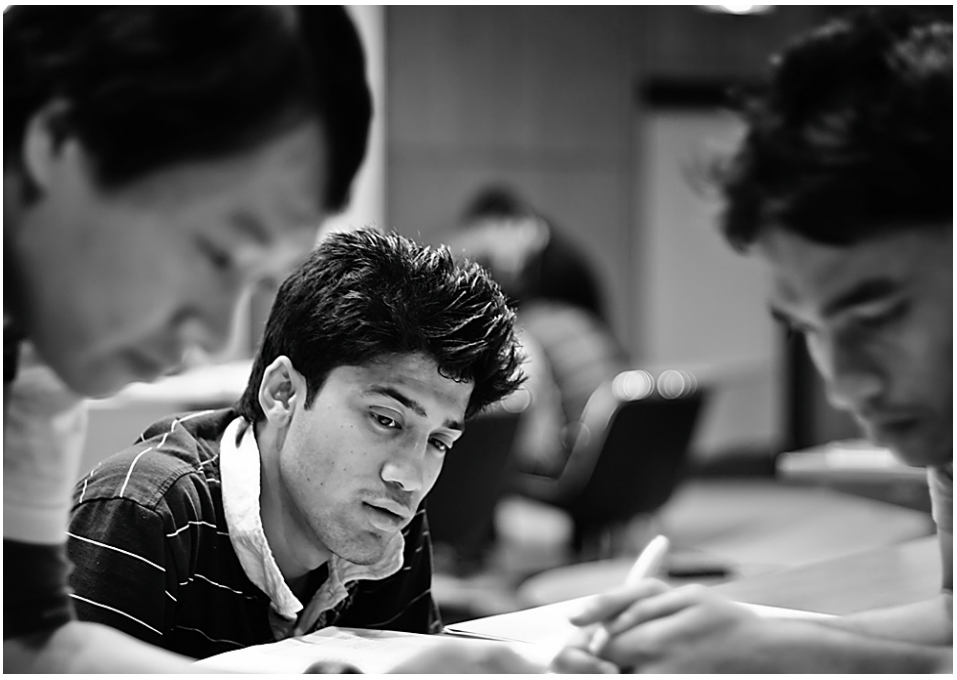
> "This is exactly the problem....climate change is not seen as an issue of human health "

In health research, this is less often the case, where a farsighted perspective is strongly valued. We do not simply search for better heart attack medications, but counsel dietary changes as well. While millions are poured into HIV vaccine research, money is also spent encouraging condom use and abstinence. The emphasis on vaccination of infectious diseases like malaria, and not simply on treatment, is a testament to the value of farsighted thinking in health research. In short, health interventions are highly valued (and highly effective) if they promote persistent lifestyle changes. This is exactly the difference between health research and climate research – and exactly the problem. Climate change is not seen as an issue of human health.

Three changes are needed. The first is a shift in perspective, to more closely realize the effects of climate change on human health. Altering perspective to view climate change not just as an environmental issue, but as one of the fundamental health challenges today, will bring the resources of the health research world to bear on this pressing problem. Our discussions in Japan were fixed around the impact of humans on the environment, and I was amazed that the impact of the environment on human life was so lightly touched upon. Sustainability is a buzzword in environmental circles, but not often linked to health. Climate change needs to be framed to reflect the magnitude of the human cost that will be seen worldwide.

The second change requires focusing research efforts on solutions that have effects far into the future – solutions that not only mitigate the problem, but address the root causes as well. Just as human health research is most effective when anticipating problems yet to occur, climate change research will be most effective with solutions designed with an eye for sustainability. Framed as a health problem, climate change solutions need not be so concerned with preserving our current style of life. It is necessary to admit to ourselves that strong, perhaps radical changes are necessary; a reorganization of priorities we should not be afraid of. The solutions we find easily palatable are simply insufficient. Just as a diabetic does not have the luxury of monitoring their blood glucose only on some days, neither can we maintain a sustainable society without some permanent lifestyle changes.

Third, research must lead to the implementation of evidence-based policies. As environmental issues have been recently capturing greater public attention, no political party can be without some 'green' platform elements. Yet these platforms, and the debates about them, are often not framed using health or environmentally-relevant arguments. The question should not be "which of the environmental platforms is most economically acceptable?", but "which environmental platform makes the most environmental sense?" – the economic argument is subordinate to the priority of evidence. For these policies to be effective, they must first be empowered by evidence, and not judged by arguments from other domains. We can help, as citizens and constituents, by questioning parties on the evidence behind their platforms, emphasizing



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the language of science for what are fundamentally scientific questions.

Being more immediately at risk, developing countries have a vested interest in climate research as a means of protecting the health of their population. The biggest challenge to climate research in developing countries is, unsurprisingly, resources. However, by framing climate change as a health problem, these countries can bring to bear a whole different set of governmental machinery, and garner support from academic and research institutions both nationally and worldwide. In health research, there is often a gap between what is known and what is acted upon – for climate research, this gap is even larger. Researchers should focus on how to effectively communicate information to those in government. Framing climate change as a health issue will make policymakers' ears more receptive to the credible climate research already extant. A question we asked repeatedly in Tokyo was, 'When is it too late?' It is probable that some effects cannot now be avoided. Researchers, with the ear of policymakers, should invest in public health projects that lessen the health consequences of climate change – such as response strategies to extreme weather conditions, programs to ensure equitable access to underserviced areas in times of crisis, even methods to control population sizes in areas with limited resources.

The threats of climate change do not discriminate based on income, and developed countries also have an interest in addressing environmental problems. In fact, they have a responsibility to lead the way in taking action on climate change, given that it is the products of their societies that contribute the majority of the problem. Those of us in Tokyo from developed countries were sharply aware of this responsibility, especially in the company of colleagues from developing countries, but this responsibility fails to register on a national scale. Climate change requires long term solutions, but impoverished citizens of developing countries often have more immediate health concerns. It is imperative that countries with adequate research resources allocate them wisely.

While in Japan, I noticed that the group had a tendency to falter over solutions they felt would not be accepted by society. This kind of thinking plagues environmental research. We should determine what needs to be done, and then find ways to do it. We should not determine what we are willing to do, and then rest content. Researchers should stop being so careful to preserve the convenience of modern life. They should not be so concerned with how to make cars emit less pollution, but with how to have fewer people drive cars. It is not necessarily a question of how to create higher yield crops, but how to distribute food more equitably. These are indeed difficult research proposals, but they should not be shied from. Only this kind of radical, farsighted solution will address the root causes of health threats we could soon face.

When it comes to climate change, countries would do well to remember that all populations are vulnerable. Whether it is a cyclone in Myanmar, a hurricane in New Orleans, or a tsunami in Indonesia, the effects of climate change are evident. Even after two weeks of discussion in Japan, I wondered if it would be enough to spur change in me as an individual, because it is too easy to lose that sense of responsibility. Yet when seeing tragedy on television or disasters in the news, one wishes one could help.

But we can – if we acknowledge the connection between our changing climate and human health. And we have to – if we wish to preserve our health in the future.