



IPI POLICY FORUM

Monitoring Disaster Displacement in the Context of Climate Change

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Edward Luck: Good afternoon, everyone. Wow it works. We don't actually expect things to work here, but welcome everyone. I think it's quite an interesting topic and quite an interesting little report we have to discuss today. It is, as always, a pleasure to work with the Norwegian Refugee Council. In fact, I think we had a joint meeting in Kigali about 10-12 days ago on internal displacement with the new African convention on IDPs and it's nice to actually convene with you in New York as opposed to Kigali and we always enjoy working with OCHA, and I would say that even if the two of them were not within reach. The question of how to monitor and measure displacement with climate change, I think, is quite fascinating. Just looking over this little paper over the weekend, made me think of a number of things that I probably should have thought of before, but really hadn't; for example, the number of people displaced by conflict versus those by natural disasters, with the latter being so much larger in numbers. And there's a lot of talk about climate change and its affect on security, but rarely do you see an effort to

actually come up with numbers that would give us a better sense of this and, as we all know around the UN community, we're rather good with adjectives and adverbs, sometimes not so good with numbers and more authoritative accounts of things, so I think this is a very helpful little study. We have four speakers. All are quite distinguished and all, I'm sure, will be happy not to have a long introduction, because we do want to hear what they have to say and get into discussion. I've asked them each to limit their remarks to about 10 or 12 minutes so there will be enough time for exchange, and we will begin with John Holmes who is, of course, the Emergency Relief Coordinator at the UN and Under-Secretary-General and the head of OCHA and with that, let me turn it to you, Sir John, thank you.

John Holmes:

Thank you very much, indeed, and good afternoon everybody. It's a great pleasure to be here for this panel discussion today and thank you to you, Ed, and to IPI for hosting and to Elisabeth, Simon, and his Excellency, Jeem Lippwe for also being with us and I also look forward to a good discussion once we've had the initial presentations. I'm not going to describe the report. Elisabeth will do that, but let me just say that I think it is a groundbreaking report for the reasons that Ed gives by the Norwegian Refugee Council, the Internal Displacement Monitoring Center, and OCHA. And it's particularly good, precisely, because it does lend scientific weight to what we, in the humanitarian community have known anecdotally, if you like, from a long time from our work on the front lines -- that natural disasters do have huge consequences in terms of displacement and, in particular, that climate change has profound displacement implications and those implications are increasingly making themselves felt.

The problem is that too often this reality and the associated need for adaptation to this new dangerous reality of more frequent and more intense natural disasters, too often it's forgotten or neglected as the world focuses, understandably, on reducing greenhouse gas emissions, especially the run-up to Copenhagen. But the truth is that displacement, prompted by natural disasters and other impacts of climate change such as food and water shortages, scarcities, this threatens to be one of the greatest, if not the greatest challenge, which many countries will face in the years to come. And thanks to this study that we now have, we can say, definitively, that natural disasters are the primary cause of displacement globally. And the new African Union Convention, which Ed referred to just now, which was agreed in Uganda two weeks ago, does actually recognize that natural disasters are a specific cause of displacement in a very explicit and new way. I think the study also

makes the first steps towards tracking disaster-related displacement systematically, even if, and I think the report makes this clear, we still have a long way to go to establish some of the fundamentals a bit more clearly, for example, how long disaster-related displacements actually last and that's a key question. In any case, on with this report, I hope we can make a much stronger case for further work to understand the magnitude and nature of displacement and migration as a result of all types of climate change processes and, of course, that includes the slow onset disasters such as drought and sea level rise. Because that will allow us to find the right kind of effective responses and, again, ensure that work on adaptation for those already feeling the effects of climate change, is treated with the same urgency and sense of innovation as reducing emissions, themselves. Let me just make a couple of more general remarks. First of all, about the magnitude of the challenges we face in years to come as a result of climate change and then, second, some of the steps I think we need to take to ensure that this study leads to the right kind of results and moves us ahead in understanding the phenomenon. First of all, the profound ways in which the effects of climate change are increasing vulnerability and shaping the humanitarian landscape we're dealing with. And this, a lot of this may be obvious, but I think it still bears repeating, because not only is climate change increasing the frequency and intensity of extreme natural hazards events—floods, storms, and droughts, in particular—but where these hazard events are allowed to become disasters, over the past decade; on average they're causing more damage and displacing more people year on year. The number of recorded disasters has increased from about 200- a- year to around 400- a- year over the last 20 years. Now, better reporting may have something to do with this, but I think the important point, in a sense, is that three-quarters of all natural disasters are now climate- related compared with only a half [what it was] a decade ago. And natural disasters, as I say, are only one of the drivers of displacement in the context of climate change. Climate change is already, and this is a current phenomenon not a future threat, is already redrawing the world maps of population, wealth, and resources, and changing where people are able to live their lives and how they are able to live their lives. Sea level rise, environmental degradation, more insidious impacts on water availability and agricultural production -- these are already beginning to make some areas virtually uninhabitable. And all the scientific evidence suggest that these processes are going to accelerate in the coming decades whatever may be decided in Copenhagen because that will have no effect for decades to come, as we know.

Three quick examples, again, familiar to many of you, but I think these things bear repeating, not least in the run-up to Copenhagen. First, for many small island states, sea level rise means not only that people's lives and homes are vulnerable to high tides and storm surges and also that water supplies and agricultural production are threatened by changes in rainfall patterns and salination of water supplies but that the other impacts are much more fundamental. These are places which are going to have to relocate. Kiribati in the Pacific is already following in the footsteps in the Maldives by preparing for relocation for its people on a permanent basis as rising sea level threats to submerge it. The permanent relocation of 2,500 inhabitants of the Cataret and Mortlock Islands off Papua New Guinea is already underway. Secondly, Bangladesh; sea level rise of half a meter over the last 100 years has already eroded hundreds of square kilometers of land from the Ganges Delta and studies suggest that the number of people displaced by that is in the order of, already this is, tens of thousands a year. But if we get, as is almost inevitable, further significant rises in sea level, then the entire coastal area will eventually be inundated and the displacement caused by that will be tens of millions of people, not tens of thousands, not to mention the billions of dollars in losses in GDP and, of course, the huge problems of livelihood possibilities for those people who stay in the area one way or the other. Thirdly, across Sub-Saharan Africa, the latest estimate suggests that a third of African people already live in drought-prone areas and that around 220 million people are already annually exposed to drought and that's a fairly extraordinary figure in itself. But by 2020, rain-fed agricultures expected to reduce by half because of these shifting rainfall patterns caused by climate change with the inevitable impact of scattering millions of people across the continent in the search for new livelihoods. As we are aware, the Horn of Africa is already extremely vulnerable, but the area of that part of Eastern Africa affected by drought is expected to double by the end of this century and, again, you can imagine the kind of consequences that we're talking about. It's also clear that, to put it no more strongly than this, climate change is going to increase the potential for conflicts over more and more scarce natural resources. And even if environmental factors are rarely, if ever, the sole cause of these conflicts, the research does suggest that a number of conflicts, and Darfur has often been mentioned in this context, do have as contributing factors, conflict about access to resources such as fertile land and water, particularly where the community's involved or already lost its ability to cope, its traditional coping mechanisms.

The second challenge we face is how to translate the insights in this report into preparedness for this more challenging future and I see three main areas of focus from a humanitarian perspective. First of all, while we are focused, today, rightly on the displacement which comes about as a result of these natural hazards, we should not let population movements come to be regarded as an evitable result of these disasters and of the consequences of climate change. On the contrary, we need to do everything we possibly can to reduce and manage the risk from these extreme weather events precisely in order to prevent climate-related displacement from occurring as far as we can. Otherwise, the changes we're talking about will result in displacement on an almost unimaginable scale, which would easily overwhelm the capacities of state authorities, but even of the international community to tackle in any meaningful way. The first line of response here obviously has to be at national level, through government, civil society, local communities. If the right disaster risk reduction measures are taken, and if communities are adequately prepared for disasters, their vulnerability and, therefore, their likelihood of displacement can be reduced. We know that and we know what to do. And if people are displaced in the short term, if those measures have been taken, if they are prepared, then the length of their displacement can also be minimized because they'll be more quickly able to rebuild their lives afterwards or find alternative livelihoods. So, that's a crucial point, to make sure those disaster risk reduction measures are in place wherever climate change threatens to reduce the level of displacement. Now, the other part of the solution to this, obviously, is in the international level with negotiators who will be talking about the global climate change deal in Copenhagen. We need to ensure that the successor agreement to the Kyoto protocol takes full account or we would be making a huge effort on this score all through this year, takes full account of the consequences – the humanitarian consequences of climate change, including things like displacement in migration. We need to have strength in mechanisms for disaster risk reduction in risk management and, above all, adequate funds to reduce and manage the impacts of disasters in these most vulnerable countries because I think we're all aware, again, that although climate change affects everyone, it's the most vulnerable groups in these countries that have the least to do with causing the climate change that are going to suffer their most severe effects and, therefore, there is a responsibility on the rest of the world to make sure that adaptation funding is there in order to help them cope with these consequences.

We also have to look at new ways to share risk. In low income countries, for example, only four percent of weather-related losses

are currently covered by some kind of insurance. Insurance isn't the answer to everything, but we need to keep on looking at new and innovative mechanisms for protecting people through collective systems of finance, of insurance, microfinance, social funds, catastrophe bonds, whatever it might be. There are various possibilities in mind. We need to keep on looking at those to see where they can help, even as I say, they're not going to be the answer to everything. Secondly, we have to recognize that, despite all these efforts, which I think are fundamental, we will not be able to prevent all displacement by these natural disasters. So, we are going to need the kind of humanitarian response programs, which donors are going to have to support, to be able to help in the short term, those are who displaced, those millions of people we expect to be displaced by droughts, floods, and storms. The demand for that kind of response is also bound to rise rapidly. It's already rising rapidly. It's bound to rise more rapidly in the future. And while I think our ability to manage those kinds of challenges has improved in the last few years through reform in the humanitarian sector and elsewhere, we still have a lot of financial organizational and political, political, I mean, access, for example, hurdles to overcome if we're going to meet these challenges successfully. And mobilizing the resources for this is going to be a particular issue even if the global sums we're talking about--a few billion dollars is after all what we're talking about here in terms of response -- they're chicken feed compared with recent financial bailouts or stimulus packages but, frankly, they're still going to be hard to raise.

And, thirdly, we need to start looking more intensively into how, in the longer term, we actually handle forced displacement of migration resulting from climate change, whether it's within countries or whether it's people crossing international borders and there are two aspects of this. There are legal issues and there are operational issues. First of all, we need to factor into our norms and our legal instruments, our international legal instruments, dealing with displacement of migration, the unique challenges posed by climate change. A particular conundrum here is what we're going to do about disappearing states and nonviable homelands where populations may require permanent resettlement. What will the legal status of those people be in the future? We need to consider the dilemma of those who do move, because their living conditions are deteriorating in an irrevocable and irreversible way. Under current systems, they'd probably be defined as voluntary economic migrants and, therefore, their special needs would not really be recognized in the way that they need to be. So, we need to ask national/international institutions who have the job of protecting the

basic rights of displaced persons, to look at these legal issues as well as the operational ones. They're already, in many cases, underfunded; they're over stretched, they need to be strengthened because climate change will add to their strain. But we need to begin those substantial discussions about how to protect displaced persons and migrants under this – the conditions of this new reality of increasing disasters and radical environmental change. So, to conclude, my overall point is that the scale of the challenges we face actually cannot be overestimated. We have to work a lot harder than we have done so far to understand the effects of climate change on human mobility and we have to strengthen our national and international systems to protect those who are going to be forced to move in the future and, indeed, are already being forced to move by these developments. So, I think that's the importance of the study. It's a vital contribution towards understanding this, towards helping develop our responses, and I hope the study and the discussion, which I hope will follow today, are going to make us better prepared to deal with this coming challenge and this coming reality. Thank you very much.

Edward Luck:

Terrific, John. Thank you for covering a lot of ground and doing it quite succinctly. I'm glad that you raised some of the issues of preparedness and prevention, but I think, as you point out, the report suggests that the numbers are going to be pretty sobering, in any case, and I should probably say the report, itself, doesn't have that sort of prescriptive side. I think it's more trying to get the numbers right so we understand the magnitude for our planning. But, obviously, policy implications have to flow rather quickly and I think it's something for all of to start thinking about now. Now, I'm very pleased to welcome Elisabeth Rasmusson, Secretary-General of the Norwegian Refugee Council, back to IPI, and given that this is a Trygve Lie Center, this is very appropriate to have the Norwegian Refugee Council here and, again, thank you for sponsoring this study and for giving us this opportunity. It's yours, Elisabeth.

Elisabeth Rasmusson: Well, thank you very much and good afternoon to all of you. It certainly is very, very good to be back here again and I'm very pleased to see so many people here today. I am to present and discuss the findings of IDMC's and OCHA's Joint Report on monitoring disaster displacement in the context of climate change. This is the report and I suppose that you have all grabbed a copy. There should be copies somewhere out there. It is certainly an honor for me to share with you the main findings of this report. But, first, I would like to thank the International Peace Institute for hosting this event and Dr. Luck for sharing the session and I would

also like to say a very warm thanks to John Holmes and OCHA for the support that both he and OCHA are always giving to the work on the Norwegian Refugee Council. So, this report we have produced together with OCHA, and it's the Internal Displacement Monitoring Center of the Norwegian Refugee Council located in Geneva that has written the report. The Internal Displacement Monitoring Center or IDMC was established in 1998 on the request of the United Nations and it's now the leading body on monitoring conflict-induced displacement, meaning displacement as the result of conflict and violence globally. So, the study that we are here to discuss today brought together the IDMC global monitoring expertise and OCHA's expertise on natural disasters. It provides a reliable estimate of the scale of forced displacement caused by sudden onset natural disasters in 2008 and it has a special focus on climate-related disasters. Our findings show that 36 million people were newly displaced by sudden onset natural disasters in 2008. Of these, 20 million were displaced by climate-related sudden onset disasters such as floods and storms. The remaining 16 million were displaced by geophysical events, primarily earthquakes, and they, of course, are not climate related. We can compare the 20 million people that were displaced in 2008 to the total number of people living in displacement because of conflict displacement and the total number of conflict displacement is 42 million by the end of 2008 if you add internally displaced people and refugees. And the number of newly displaced people because of conflict in 2008 was 4.6 million. So, we have 4.6 million displaced by conflict and 20 million displaced by natural disasters. It shows something about the balance here. In the study, we proposed a methodology that can be applied in the future to monitor disaster-related displacement, including climate-related disasters on an annual basis. The purpose of such monitoring is to identify trends in displacement in order to enhance disaster preparedness as well as disaster management and improve the protection of people that are displaced by disasters. The findings of the study can also play an essential role in informing ongoing climate change negotiations by confirming that a climate-related natural disaster causes forced displacement on a significant scale. By coming up with a reliable figure to disaster displacement, it provides a baseline against which to start monitoring trends and this is something that we have been doing together with our colleagues in OCHA and in the Red Cross family, in the interagency's standing committee with other NGOs. We have been feeding this information into the ongoing process leading up to the Copenhagen meeting later on this year.

The preliminary study does not aim at showing correlations. It is not explaining outcomes and it's also not predicting future levels of displacement.

The results show that Asia was the continent most affected with 17 of the 20 disasters, which caused most displacement. A total of 31 million displaced. America is the number two continent with 3.8 million displaced.

The monitoring of disaster displacement, which has started with this study, should continue on an annual basis. This would allow for proper analysis or trends or rapid onset climate and geophysical disaster displacement to be carried out. In parallel, the humanitarian community, together with national governments and civil society actors, needs to develop the capacity to monitor on the ground displacement systematically and also over a period of time. It is important that those who are forced to remain in situations of displacement and who face increasing protection needs as time passes, receive adequate protection and assistance during displacement and, of course, these also have to be the response capacities also has to be developed. In situations with long lasting impact, return may not be an option and other solutions to ending displacement such as local integration or resettlement has to be then found in line with the UN guiding principles on internal displacement in order to avoid situations or protracted displacement. The focus on monitoring and responses should not overshadow the importance of strong disaster risk reduction policies and practices to prevent displacement from taking place in the first place when this is possible. Thank you very much.

Edward Luck: Thank you very much, Elisabeth, for laying it out so clearly. I think, as you point out, this is a first study, it's not a final study, and I think the importance is that it documents the magnitude, in a rough sense, and the importance of this issue rather than its precision, per se, and, of course, it's looking backwards, not looking forwards; and the question of how one then projects 5, 10 years out for policy and preparedness is, obviously, a very big issue. We now have Dr. Simon Mason who's a research scientist and climate program leader at the International Research Institute for Climate and Society, which is part of the great conglomerate called the Earth Institute at Columbia University.

Simon Mason: Thank you very much. Distinguished guests, ladies and gentlemen, as a climatologist, I tend to classify natural disasters or natural hazards into two. The one is that those that we successfully predict and we can all think of examples, some of the most obvious ones

from recent years would be Cyclone Nargis that hit Burma in May of last year and it was a clear example of an extreme weather event that was forecast at least six days in advance, but there was very little action that was actually taken to prevent the damage. The other category of events, are those that take us by surprise; the events that we do not forecast so successfully. There are a few fellow British people in the audience, and the example that jumps to my mind most clearly is the hurricane of October 1987. I'm sure you can all think of very good failed weather forecasts from your own experience. The role of a climatologist/meteorologist, I feel, is to try and move most of these unpredicted events into the other category of events that we can provide advance warning for. However, I'm reminded of a quote from Aristotle's poetics that it's in the very nature of probability that improbable things will happen and I think that we have to acknowledge up front that however good our science becomes, we are always going to be taken by surprise, there are always going to be weather and climate events that we're not going to be able to forecast. We have much less excuse for not responding to the forecast, but I certainly can't sit here and promise that we will be able to give you advance notice of every single severe event.

I want to comment on our ability to predict these events, though, at different time scales, because it's one thing to be able to provide a warning in advance, but it's another thing to be able to prepare in time to be able to take corrective action. And, so, although as we've seen, and it's very clear from some of the graphics in this report, that most disasters are weather and climate related. Even when we can predict them, we can't necessarily forecast them in time for sufficient action to be taken and we can't necessarily forecast them with sufficient accuracy for sensible decisions to be made. So, looking at the weather time scale, I will focus primarily on the climate time scale, but looking at the weather time scale, there have been major improvements in our ability to forecast the weather, notwithstanding the common perception that the way the forecasts are rather hopeless but we're improving our forecast of predicting the weather at the rate of about one day per decade, which essentially means, that what we're able to predict now successfully with three days notice is as good as what we were able to predict with only two days notice about 10 years ago. So, if we go back to, say, the late 1970s, 1980s, we can now predict six days in advance with the same level of accuracy as we could predict about three days in advance. The problem with these weather forecasts, though, is they're only useful if you already have the resources virtually immediately at hand to be able to respond to the warning and the other problem is that the ability to predict these

events of the weather time scale is much better in the middle and high latitudes where most of the richer countries are located and tends to be much poorer in the tropical latitudes where we have a lot more vulnerability. I'm not going to go into the reasons why that is true. It's very much a theoretical result of the way the atmosphere works. And so really we need to be looking at longer term predictions in order to be able to take any useful advanced action especially for some of the poorer countries and here we need to look at the emerging field of seasonal prediction where we're providing forecasts of weather and climate out to about three to six months in advance. There are some successful examples that I can quote of accurate and useful seasonal forecasts where action has been taken to prevent harm, but we have to acknowledge, up front, that in most cases our ability to predict the weather and climate at seasonal time scales tends to be more useful for the slow onset disasters such as droughts than the rapid onset disasters and the report clearly shows that it's the rapid onset disasters, the floods and the storms, which are causing much more displacement than things like droughts, the slow onset disasters. So, I'd like to move on to the climate change time scale where somewhat paradoxically we're actually able to make what I think are more useful predictions about possible changes in these rapid onset disasters.

Some predictions of climate change, I do have to acknowledge, sound a little bit like the Delphic oracle. You may remember the warning that was given to Croesus, that if he marches against the Persians, a great army will be destroyed, but there was no indication of which of the two armies that was. We seem to have exactly the same problem with climate change predictions in that aren't we covering all bases when we say that there were going to be more floods and more droughts, more heat waves, and more blizzards? It sounds as though we're just covering our bases to make sure that we don't get the predictions wrong. Which is it? Are we going to get more droughts or are we going to get more floods? Okay? Which is it? Are we going to get more heat waves or are we going to get more cold snaps? Of course, theoretically, it's possible that both are true, but it does sound as though the climatologists are just making sure that they don't get criticized for not successfully forecasting a change in the climate. A second problem is that even if one can distill an unequivocal and well founded prediction; does it actually provide the information needed to make an informed decision? Most climate change scenarios are, I should add, not specifically predictions, but let's ignore that semantic distinction for now. Most of these climate change scenarios provide information about expected climate conditions for the end of this century. But most planners and even fewer politicians care very

little about anything beyond about 20 years hence, which takes us no further than about 2030. Over the shorter time spans of one to two decades, it is quite feasible for climate to drift for natural reasons in completely the opposite direction to the longer term global warming trends. The lack of global warming that was observed between the 1950s and the 1970s is a case in point and more recently there's been, I think it's becoming quite well advertised now, there's been very, very little global warming at all since the end of the last century. 2008 was actually one of the coldest years for quite a number of years. So, how does one plan sensibly for a changing climate when the longer term predictions may be completely wrong for shorter term decision making? [It may be] simply because of different planning horizons, not specifically because the predictions themselves were inherently flawed. Unfortunately, the politicization of the climate change debate and the competition for funding has tainted the scientist's message and sifting the truth from the sensationalism is becoming increasingly difficult even for the climate expert.

I think the first place to start is with the very phrase global warming, two words, both of which have been very carefully chosen. The first, global, i.e.: not regional nor national or anything smaller. We don't tend to talk about New York warming and we certainly don't tend to talk about First Avenue warming and this is for good reason. The state of the science really does not allow us, currently, to make detailed predictions for precise locations. The second word, warming, says nothing about rainfall and yet the first question that many people ask about global warming is whether it will mean more floods or droughts and, as we've seen, it's really the rainfall events and the storms that we need to be worried about. There are not many places in the world that scientists can even agree upon the most likely sign of the change in rainfall i.e. whether it's going to get wetter or drier as the result of global warming, let alone the amount. And even where scientists are agreed on the sign of the change, this change is unlikely to be statistically detectable for at least about 50 years. Most weather and climate-related natural disasters are related to precipitation in some form rather than temperature and so is there any useful information that climatologists can provide to help in better preparedness?

The most relevant point to make, I think, is that extremes are much more sensitive to changes in climate than is the average. Thus even very small changes in climate can have major implications for changes in the frequency and severity of those weather and climate events that cause most harm. This is true both for temperature and rainfall. The implication is the climate change will be more

detectable in terms of the occurrence of extremes such as heat waves and cold spells or droughts and floods than it will in the changes in the average conditions. This sensitivity to extremes is perhaps most clearly demonstrable in connection with sea level. Sea level has been rising over the last few decades at the rate of about one inch per 10 years primarily because of the sea warming up, actually, rather than the ice melting but, anyway, much of the time a one inch rise per 10 years increase in sea level is going to be irrelevant if not completely undetectable, but it's during the storm surges and the very high tides that we really need to worry about even just very small increases in sea level. Another very clear example of the impact of climate change on extremes is in heat wave occurrence. The odds of the 2003 European summer heat wave have been estimated to be of the order of anything between one in 10 thousand and one in 10 million if we assume no climate change. In 2006, only three years later, we actually had another heat wave in Europe that was even more severe than the one in 2003. This one in 10 million year event. It was short-lived, but it was more intense. I think these two European heat waves are clear examples that climate change is most detectable in the really dangerous weather conditions. But back to rainfall, because that's ultimately the main parameter that we're interested in here rather than the temperature. While climatologists do not have a good idea of the likely changes in total rainfall, we have good reasons to believe that rainfall intensity will increase in most areas, even in those areas where the total rainfall is expected to decrease. This trend, basically, increases in the occurrence of very heavy rainfall is already observable, detectable over much of the globe. In simple terms, this means that heavy storms are becoming more frequent and this trend will likely continue even in areas where we think the total rainfall may actually decrease. At the same time, rainfall is becoming less frequent, which, to some extent, counteracts this trend in intensity. The two trends do not perfectly offset each other. However, heavier but less frequent rainfall generally results in more severe drought at the same time as more frequent flooding and it's for this reason that we're able to talk about predictions of increases in droughts and floods without looking as though we're covering both bases.

Most of the globe—with the notable exceptions of Southeast South America, Southeast North America, European Russia, and Scandinavia—is experiencing increased drought conditions. This trend is exacerbated by the warming trend, increased evaporation, but even more importantly things like decreased snow cover, which reduces the availability of runoff in the spring and the summer. In short, the rainfall falling over land gets back into the sea much more

quickly than it used to and so there's less fresh water available in the soil for use and there's much more water that's just running off very quickly in the form of floods. In summary I've provided a few examples of our ability to be able to provide predictions of severe weather and climate events at a range of different time scales. It's really the forecast of the longer range which, I think, we can take most advantage of because of the need for a sufficient time to take some action. I will certainly commit to try to move more and more of those extreme events from the unpredicted category into the predicted category but I think this is only one very, very small part of the problem, the work of actually taking action to prepare for these events is a much larger problem than my scientific one. Thank you.

Edward Luck: Thank you very much, Simon, for the clarity about this. I didn't realize, when you were invited, that we were getting both a scientist and a diplomat. I noticed that when you were talking about different disasters and whether preparations were made or not, you managed not to mention Katrina, which I thought was very kind of you, which we appreciate, and when you mentioned about whether, in fact, temperatures are rising along First Avenue, I was sure you were going to make some comment about all the hot air that's produced there and a little bit of that is sometimes on this issue, but whether that's rising or falling we have to ask some of our diplomatic colleagues.

Simon Mason: I leave you to read between the lines.

Edward Luck: Now we're very fortunate to actually have a real diplomat who represents people who actually are and could be quite severely affected by these developments. So, we have Jeem Lippwe, who's a Deputy Permanent Representative of the Federated States of Micronesia. So, he and his colleagues obviously see this up close and personal. So, Mr. Ambassador.

Jeem Lippwe: Thank you, moderator. I'm actually scared listening to our last presenter. Coming from small islands, the predictions are really scary. Today I speak on behalf of the Alliance of the Small Island States—AOSIS. Thank you. Thank you OCHA, the Norwegian Refugee Council and the International Peace Institute for organizing this event and for inviting a representative of AOSIS to be on the panel. The AOSIS members are amongst the most vulnerable countries in the world to the impacts of climate change. We are already experiencing disaster displacement related to climate change in our countries and the prospect for the future is particularly alarming for some of the low lying islands. Unless there

is urgent action on mitigation, the impacts of climate change will lead to not only forced displacement both internally and across international borders, but it may lead to the loss of entire island countries. For these reasons, we welcome this event and the opportunity to contribute to the discussion. In the small island states, there are several interrelated impacts of climate change that lead to displacement. Today, I will highlight some of the most severe impacts of climate change and how they lead to displacement in the AOSIS countries.

First, climate change is undermining water security in small island states. The IPCC technical report paper on climate change and water 2008 states that, and I quote, “observation of recurrence and climate projections provide abundant evidence that fresh water resources are vulnerable and have the potential to be strongly impacted by climate change with wide ranging consequences for human societies and ecosystems.” Salt water intrusion into fresh water supplies has already caused severe water shortages in a number of low lying islands. Reduction in precipitation is also impacting on fresh water availability. Without adequate mitigation, all small islands will be affected and many islands in the Caribbean and Pacific are likely to increase water stress as a result of declining projected summer rainfall. Secondly, climate change is undermining food security. All low lying island states face a high threat to agriculture from climate change due to increased inundations, erosions, and saltwater intrusions. Additionally, coral bleaching and ocean acidification is destroying the marine ecosystem which many islands depend on for vast majority of protein intake. Thirdly, not only will food and water security be diminished in many small island states but, overall, environmental security will be degraded. Mass loss of biodiversity and natural resources could strip the population of small island states of their natural resource base upon which they depend for subsistence, livelihood, development, and trade. Displacement is a well know response when available resources are insufficient for basic human needs. The OCHA and IDMC study identifies that further research into the scale of displacement from slow onset disasters, such as the loss of natural resources, security is needed in order to improve the response for the people displaced. Fourthly, sudden onset climate-related disasters as our defense are a major concern for small island states. We are distressed, although not surprised, at the finding in the OCHA and IDMC study that climate-related disasters were responsible for displacing approximately 20 million people in 2008, including in many small island states such as Papua New Guinea, Cuba, and Haiti. Storms have been identified as one of the major drivers of disaster-related displacements. In

North Atlantic and Western North Pacific, tropical storms, storm lifetime, and intensity have significantly increased since 1970. This has caused considerable damage in the Pacific and Caribbean and is only said to continue under a business as usual scenario with catastrophic consequences for people living on small islands. In assessing the impacts of climate change on low lying island states, the UN High Commissioner for Refugees has commented that, and I quote, "Low-lying island states are thus very likely to be entirely uninhabitable long before their full submersion, causing entire population and the governments to be extremely displaced." Finally, the impact most people think of when discussing small island states is sea level rise. The IPCC has confirmed that rising sea levels are unavoidable. The fourth assessment report predicted sea levels to rise by about half a meter by the end of this century under a business as usual scenario. However, this forecast did not take into account the melting of the Greenland and Antarctic ice sheets. Experts now consider that a rise of one meter by 2100 is likely with a multi meter rise not out of the question. Such a result will be devastating for all small island states. More than 50 percent of the population in the Pacific and Caribbeans live within 1.5 kilometers of the shore. In almost all of the small islands in the Indian and Pacific Oceans and the Caribbean, international airports, roads, and capital cities are sited along the coast or on tiny coral islands. Sea level rise will exacerbate inundation, erosion, and other coastal hazards threatening vital infrastructure, settlements, and facilities and, thus, compromise the socio-economic wellbeing of island communities and states. The IPCC has indicated that rapid sea level rise that inundates islands and coastal settlements is likely to limit adaptation possibilities with potential options being limited to mitigation. The low-lying countries are threatened with total submergence. In the Maldives, 80 percent of the island is one meter above sea level and could be submerged in the next 30 years. The Carteret Islands in the Pacific in Papua New Guinea could be submerged as early as 2015. The possibility of total inundation resulting in the loss of territory, lack of clarity in relations to the [unintelligible 1:23:38] countries, and the risk of statelessness is one of the greatest security threats caused by the impact of climate change. Security threats from the impact of climate change will, however, arise before total inundation of islands. The reduction of territorial land caused by sea level rise, inundation, and erosions, combined with loss of natural resources is recognized as a common denominator for conflict, including violent conflict. Such tensions are only augmented by the displacement of peoples both internally and externally.

All available evidence lead to the conclusions that the number of people displaced by the impacts of climate change is likely to increase and the scale of displacement could be high, potentially affecting the lives of millions of people in devastating ways. There are, of course, a number of uncertainties in relation to forced displacement cause by climate change. Particularly, in relation to the scale of future displacement, the IPCC figure that is often cited is that by 2050, as many as 150 million people may be displaced as the result of the impacts of climate change, predominantly the effects of coastal flooding, shoreline erosion, and agricultural disruptions. The Stern Review cited a much higher estimate of 200 million people displaced by 2050. While recognizing the limitations of the estimate, the Stern Report concluded that this estimate, and I quote, “remains in line with the evidence presented through this chapter that climate change will lead to hundreds of millions more people without sufficient water or food to survive or threatened by dangerous floods and increased disease.” If the IPCC worst case scenario transpires, then the numbers could be even higher. The limitations of the science in projecting the exact number of future displacement should not be used as an excuse for inaction on this issue. The obvious truth is that climate change will impact on the capacity of small island states to provide the basic means of subsistence for our people leading to forced displacement on a scale potentially never seen before by the world community. Further, climate change displacement is already a reality for people in small island states. International relocation linked to climate change have already occurred in some of the small islands. For example, in the settlement of Lantau, in the Northern Province of Toroba in Vanuatu, had to be relocated because of rising sea levels. Further relocations related to climate change have happened in my own country for the great states of Micronesia, Papua New Guinea, Tuvalu and the Solomon Islands. The international community must recognize this reality and appropriately respond now.

How to respond to what is an extraordinarily complex issue is, of course, the crucial question. Currently, there is no international legal protection, specifically, for climate displaced persons across international borders. The 1951 convention of the status of refugees pertains only to persons persecuted for reasons of race, religion, nationality, membership of a particular social group, or political opinion. According to an analysis by the UN High Commissioner for Refugees, some people displaced in relation to the impact of climate change may be covered by the Refugee Convention whereas others will not be protected. There is little appetite for expanding the Refugee Convention to explicitly cover

those displaced by climate change, given the that risks lowering the protection, currently, afforded all refugees. In relation to internal climate change displacement, affected people may qualify as internally displaced persons under the 1998 guiding principles of internal displacement. Yet, while we welcome the work of the special representative of the Secretary General on the human rights of internally displaced persons in recognizing climate change induced displacement, the guiding principles may not be the most appropriate model in relation to the small island states and climate change displacement. Climate change-induced displacement can be prevented if the international community finds the political will to uphold the basic human rights of all people and agree to cutting GHG emissions. Climate change-induced displacement is, of course, predominantly caused by the GHG emissions of developed countries and the victims of the displacement will be in those countries least responsible for the cost. This is the context that must shape the discussion on how to protect people forced to leave their homes through the impact of climate change. Additionally, the discussion must be driven by the people affected. Developed countries have created a global crisis based on a flawed system of values. There is no reason we should be forced to accept a solution informed by the same system for urban communities [under which we] have been marginalized in international discussions of great import through history. This needs to be changed.

However, in considering how to respond to increased displacement caused by impacts of climate change, we should not rush to create any new agreements. We must, first and foremost, focus our efforts on preventing such forced migration and providing people of the small island states the necessary resources to protect the territorial integrity of our island homes, our ability to provide for our own means of subsistence, and to protect our uni-cultural identity, which is shaped by our environment. The totality of consequences of forced migration onto people of small island states is a devastating prospect. Climate displacement cannot be seen as a safety fault for a failure in political will but, rather, an option of last resort available only after all good faith efforts at mitigation and adaptation have failed. Our survival is not negotiable. At AOSIS, we have already articulated our position for what is needed for mitigation and adaptation. Greenhouse gas emissions must be reduced by 45 percent by 2020 and 85 percent by 2050 from 1990 levels, so the atmospheric concentrations return to 350 parts per million carbon dioxide equivalent as quickly as possible. Only then will we have a realistic chance of keeping global temperatures from rising more than 1.5 degrees Centigrade above pre-industrial levels. These figures are based on what the science concludes is necessary to

protect our island homes. Anything less will fail the most vulnerable countries and shame the international community. Finally, I want to reiterate that climate change is not an act of God like an earthquake or tsunami. It is a crisis of human origin. Responding to climate change induced displacement is not about seeking the charity of developed countries. Rather, we demand recompensation for the damage that the economic activity of developed countries has caused to our homes. Developed countries have an obligation to act and they have no right to dictate the terms of our salvation. Any discussion on climate change displacement must be underpinned by this fundamental principle. Thank you.

Edward Luck: Thank you very much for that eloquent testimony to the magnitude of the problem. Clearly for many states, this is the ultimate security problem -- a truly existential policy challenge.

Kiyo Akasaka: Thank you. Thanks to the speakers for the excellent presentation. My question is about the linkage between your communities, the environmental communities, and humanitarian-assisted communities, and development communities. There has been an important study done by the OACD that developing communities have not taken into account the climate change effects or protections and the development of airports or seaports or railways, highways, housing, very little conservation has been taken into account in developing assistance. My question is that yes, fine, your studies are very well taken, but how far do you think that you have been effective in getting the development community to take ODA into climate change with aid projects? Why do you insist that ODA should be new and additional while existing ODA has not been used for climate change with aid projects? Why do you encourage the ODA, existing ODA, plus additional ODA be used for the climate change project. Those are the questions I'd like to pose. Thank you.

Edward Luck: Good. Thank you very much. I saw many hands, but I'll just take one more that I saw next and then we do part of the panel and then go back. So, Erik, over here? Please, right here.

Erik Hoeg Thank you very much. I'm Erik Hoeg from the Mission of Denmark with a brief comment on the question of Kiyo Akasaka on the interrelationship between climate change and development that a number of countries' institutions are looking at this. The whole issue of climate proving is very much at the fore of agendas of development ministers. So, I think, this is a trend that we will see continue in the coming years. I don't know if I'm trying not to be scientific, but I still had a question to clarify some of the data. As far

as I understood it, the report states that 20 million people will be displaced due to sudden onset of disasters. As far as I understand, that means that all kind of displacement on a longer term, due to trends in rain patterns and so on, where people have to migrate because their livelihoods are threatened, not as an immediate onset, but a longer term change and the possibility of maintaining a livelihood are not included in the 20 million figure which, I guess then, if you take total kind of climate refugees in the broader sense, it would be much higher. And then another question. You mentioned, I think, it was Mrs. Rasmusson, that beside the 20 million displaced due to climate change, there will be 4.6 displaced due to conflict and, I think, also there seems to be growing evidence that there is, also as mentioned by John Holmes, interrelationship because a number of the conflicts have climate change as a catalyst at the very least, like Sudan and others. So, I think it would be fair to say that even among the 4.6 million, a part of them would be indirectly related to climate change. Thank you very much.

Edward Luck: Good. Thank you. I think we'll go to the panel in the order that they presented. If anyone wants to pass they're welcome to, but it's a pretty broad set of questions. So, John, go first.

John Holmes: On the point made by Kiyoko Akasaka, I think is right that existing ODA, but it's not just ODA, it's development projects, whether they be national projects or international projects, should have these issues factored into them from the start. So, climate change is not just something bolted on afterwards or a completely new category and that's a point we make particularly and I'm not entitled to talk about development so I won't, but it's a point very strongly made, often in the case of disaster risk reduction measures, they're not a separate set of measures very often, it's simply a question of making sure disaster risk reduction is built into whatever you're doing. Whether you're building roads or bridges or hospitals or schools or water embankments or whatever it might be, you build in the disaster risk reduction when you're doing it and then the extra cost is not that significant, but its part of the deal. So, I think, existing ODA, obviously, can be used in that way and should be being used in that way already.

The problem I've had with South Korea, the numbers are easily bandied around, you know, scary scenarios are out there and people talk about 50 million, 100 million, 200 million, 500 million, why not? The truth is we don't know. None of these figures are really very scientific. They're extrapolations and they're guesses and in a usual way when somebody says something in some report

every time somebody looks it up on the internet, they find this figure and they reproduce it and somehow these things become an urban myth, which is not to say they're wrong, but it's just that the real scientific base on them is inadequate for the moment. So, that's one of the reasons why, for example, UNHCR and the Institute of Migration are working together to do some more serious study of this to produce a bit of a better basis for these figures even if, you know, predictions are never going to be 100 percent accurate. I think we do need to have a bit better basis. We're all just throwing these numbers around in a fairly casual way. I think you probably can do something about trying to distinguish between the different causes of displacement, as you mentioned, but there are, as somebody else suggested, there are many occasions, already, where it's a combination of different trends and different events which is causing displacement and not one. So, it's climate change, it's environment degradation, it's urbanization, it's population growth. You put all those together and then you produce a humanitarian crisis with displacement, but there's not one simple trigger you can easily point to, so it is a rather complicated issue.

Elisabeth Rasmussen: Well, thank you. I would like to respond to the question or the comment from the representative from Denmark because I think the other questions have been very well responded by the emergency relief coordinator. When it comes to the numbers, you're absolutely right. We have, in this report, and this is not a number that's just been taken out of the open, we have really, in the report, been able to confirm that 20 million were displaced because of sudden onset natural disasters in one year. Mainly floods and rains. Now, the conflict-induced displacement, the 4.6, is also a number that I feel very comfortable saying that this is not a number taken out of the open because we have the expertise to monitor conflict-induced displacement. Those two numbers are not overlapping. The 4.6 and the 20 million are not overlapping figures. Now, in addition to those figures, we do have those displaced by slow onset natural disasters. We don't have any numbers for that because we don't have the methodology to study that yet. This is a step which would be one of the next steps we want to take. But when it comes to – we know that natural disasters lead to drought and drought leads to displacement. Those numbers we don't have yet. Drought also leads to conflict. That displacement is included in the 4.6 for one year, for last year. So, I think, you know, we, as the Norwegian Refugee Council, and in cooperation with the other humanitarian partners, what we are focusing on is one aspect of climate change. It's the humanitarian aspect. And of the humanitarian aspect, we're trying to understand the displacement aspect, which is very often the most dramatic because that is where you have to respond

legally and operationally and by doing this study, we're trying to take a step in the right direction to simply understand and to, as a point of departure, quantify, but then the next step would be to qualify the displacement phenomena. Thank you.

Edward Luck: Thanks very much. John.

John Holmes: Just one very quick comment on that. I have to disagree with what Simon was saying about the difference between floods and drought for displacement. I think drought is a much more serious cause of displacement than floods. Floods probably causes more displacement, we don't know the figures for drought as Elisabeth said, but a lot of it is quite short term. Drought is a driver of long-term displacement. One of the things we need to look at, in the next phase of this process, is how long are these displacements for caused by a climate change and natural disasters. We don't really have that information at the moment. Probably a lot of it is quite short term, but droughts will be a long-term drier of long-term displacement in the way that floods, perhaps, will not.

Edward Luck: Of course, one can say if you can't get away through displacement and you have drought, you're condemned to the suffering. So, it may be a different issue, but it's not particularly a relief to know that you can't escape because the drought is so broad. Simon, you have a chance to refute the refutation?

Simon Mason: Very quickly. I mean we have a similar kind of question raised about causes of, you know, specific weather events, can we attribute them to climate change? Katrina is the one that's quoted most often. Would Katrina have happened if we had not had global warming? And it's one of those impossible questions to answer. The analogy I like to use is imagine your favorite football team is playing against their arch rivals and the arch rivals have three or four players injured, three or four of their key players injured, your team ends up winning. Did you win because the other team had missing players? You can't attribute any of the goals or whatever you do in football in this country – you can't attribute your scoring to the specific absences of the other team's key players and it's really exactly the same with the climate question is we're going to have extreme weather and climate events even if we don't have climate change and any that do occur, you cannot sort of put into this clean box of being either specifically caused by global warming or not. The two contributions are completely inseparable.

Jeem Lippwe: Thank you. I'll just quickly try to respond to the question from the gentleman in the middle. On the ODA issue. We believe that, in a

sense, the ODA comes from the developed countries. And as the main polluters, I think, developed countries have a responsibility to provide more, additional resources. Many times countries pledge, but those pledges take time to come. And I think the gentleman from Denmark raised a very good issue on the, what is it, climate proofing, because I think that is one way to go with new projects, we should try to incorporate that idea into projects for development. Thank you.

Claude Heller: Yes, thank you very much. I don't want to minimize at all all what has been said. But my question comes more from a historical perspective. Don't we need more to look to the past, what has happened in the past in the sense how climate change, illness, demographic trends have been changed by all these phenomenon because I have sometimes the impression that we don't know exactly what comes from climate change, but from more natural evolution. We have spoken about scarcity of resources. We know very well that in Sudan the tribal conflict in South Sudan comes a lot from the scarcity of resources, no? So, don't we need a little more historical perspective? Thank you.

Simon Mason: Maybe a quick response to the first question and that is to what extent we should be looking at past climate variability. Clearly we're doing this in research just to understand the causes of natural variability because even if you look just at the last hundred years, there's quite a major amount of natural variability that's superimposed upon the detectable and variability. But I think I have a couple of issues to raise. The one is that what we're seeing now in terms of the accumulation of greenhouse gases is absolutely we have seen stronger levels of CO2 in the atmosphere in the past, but we've never seen it accumulate at this rate before. And the other, I think, the other point I'd raise is that even if the earth has been much warmer than it is now in the past, that has no bearing, really, on the ethical issue of whether or not we are culpable for causing warming now, just because, for example, your house may have been flooded once in the past for purely natural reasons, doesn't reduce the culpability of a dam manager perhaps further upstream for suddenly releasing a massive amount of water that wipes your house out. Just because something can occur naturally doesn't mean that if it occurs for more direct human reasons, that doesn't take the responsibility away from us.

Edward Luck: John, you have the last word.

John Holmes:

On the question of historical perspective and whether it's climate change or not, I mean, in a sense, it doesn't matter. It matters for the Copenhagen negotiations about greenhouse gas emissions. It doesn't matter for our purposes because the consequences are the same; what we're seeing. And what we're seeing is, of course, you know, as Simon said, you can't link any particular event to climate change and say that's a result of climate change. Trends are rather easier to say, well, there's something happening here which we haven't seen before and, you know, almost every day I see someone in my office who says, from Africa or Asia, we have never seen things like this before. We have always had droughts and floods, but not like this and it's the sheer unpredictability of it that makes it so difficult and is causing such dramatic consequences in a sense and that's simply intensifying and to go back to your point, Ed, it doesn't matter what's agreed in Copenhagen, this won't change anything. This is going to get worse for the next 50 years, inevitably, probably longer, even if the agreement in Copenhagen is wonderful. So, these are real problems we have to grapple with. Almost whatever happens. On the point about the inverse correlation, I mean, it should be the other way around in a sense. In some circumstances, if people are displaced by intense floods, there has to be a question asked; are people living in the wrong place? And sometimes they are. They're living on the edge of rivers, they're living in areas of cities which were never designed to be lived in because they're illegally settled areas. So, there has to be some very difficult decisions taken about whether you put people back there afterwards. So, we need to make sure you build back better in that sense and don't put people back in to face the same risk, which is going to happen. You don't know whether it's the next year or in five years time, but it definitely will happen. So, that's one point and I think that's the more serious point, in a way, than the opposite way around is are they moving into more disaster-prone areas when they are displaced.

Edward Luck:

Terrific. Again, I recommend this study. There are copies out there and God knows there are copies in cyberspace and it's short and very readable and to the point. Now, let me thank all four panelists for excellent presentations and for giving us the opportunity to share their findings with you and thank you, everyone, for coming and for your interest. So, hope to see you soon. Thanks very much.