



Transcript

Food Security and Climate Change

Richard Choularton

Senior Policy Officer, Climate Change and Disaster Risk Reduction, World Food Programme

Tim Gore

Climate Change Policy Advisor, Oxfam

Tom MacMillan

Executive Director, Food Ethics Council

Chair: Jaakko Kooroshy

Research Fellow, Energy, Environment and Development Programme, Chatham House

27 July 2011

The views expressed in this document are the sole responsibility of the author(s) and do not necessarily reflect the view of Chatham House, its staff, associates or Council. Chatham House is independent and owes no allegiance to any government or to any political body. It does not take institutional positions on policy issues. This document is issued on the understanding that if any extract is used, the author(s)/ speaker(s) and Chatham House should be credited, preferably with the date of the publication or details of the event. Where this document refers to or reports statements made by speakers at an event every effort has been made to provide a fair representation of their views and opinions, but the ultimate responsibility for accuracy lies with this document's author(s). The published text of speeches and presentations may differ from delivery.

Jaakko Kooroshy:

Ladies and gentlemen, welcome to this event tonight of the Under 35's Chatham House Forum which has been organised together with the Young Professionals of the United Nations Association (UNA) of Great Britain. I would like to extend a particularly warm welcome to those members who are part of UNA's Young Professionals tonight.

My name is Jaakko Kooroshy. I'm a Research Fellow here at Chatham House at the Energy, Environment and Resource Governance Programme and I'm going to be the Chair tonight.

Tonight we're here to discuss climate change and food security and I could hardly think of a more timely topic for tonight. Climate change has played a key role in redefining the global food equation after, I would say, the food crisis of 2008. We are now, in 2011, again in the middle of a food crisis. The last time I checked the FAO Food Price Index it was only marginally below its all time high in February. And of course how acute these issues are in today's world can also be seen of course in Eastern Africa and Somalia where there's just been a famine declared and millions of people are being affected.

Understanding and managing these complex links between climate change on the one hand and food security on the other hand is one of the key policy issues in a globalizing world today.

We have today with us three excellent speakers on the panel and each of them will provide a very short 10 minute presentation on what their views are on these issues. Unfortunately there's no time for a Q&A between the speakers so please save your questions. After the first half an hour we'll have about half an hour for your questions.

I first would like to introduce Richard Choullarton who is with us from the World Food Programme. Richard is a Senior Policy Officer for Climate Change and Disaster Risk Reduction. In this position he's an expert on risk and risk management related to climate change, disasters and humanitarian crises. He has held a number of senior positions both in the World Food Programme and other NGOs dealing with food insecurity and humanitarian assistance.

The next speaker will be Tim Gore who is the Climate Change Policy Advisor from Oxfam. He basically leads Oxfam's research and advocacy on climate change and has been actively involved in global climate change negotiations.

Last but not least we're very happy to have Tom MacMillan with us here. Tom's the Executive Director of the Food Ethics Council, a charity that

provides independent research and advice on food and farming and he has, next to many other things, also advised the Cabinet Office on matters of food policy.

Richard Choularton:

It's a pleasure to be here. Already from the conversations upstairs I'm really looking forward more to the questions and discussion afterwards than my own presentation.

For those of you who don't know the United Nations World Food Programme, we're the world's largest humanitarian organization fighting hunger and we assist over 100 million people each year in 80 countries. Half of our operations today either are in a response to natural disasters or aimed at reducing the risk of natural disasters, so the issue of climate change is a very important issue for us because fundamentally it means more floods, droughts and storms, more weather variability and more stress on the poorest and most vulnerable people.

There are a billion people who are food insecure today. Some estimates indicate that climate change could increase this by 10-20 percent over the next 30-50 years. 200 million people a year are affected by climate disasters today. Countries like Bangladesh are particularly vulnerable to floods which destroy crops, houses and livelihoods. With rising sea levels, decreased glacial run-off, Bangladesh could face more disasters in the future. In Africa alone 90 percent of the damage from natural disaster comes from droughts and floods.

The link between climate change and food security and climate risk when you start to look at it is really strong. This is a map that we did that correlates current hunger with climate risk. On the map you see little green people. The size of the people indicates the proportion of the population of those countries who are currently under-nourished. The colours of the countries indicate the current level of risk from climate hazards to those people. And what you see is in the world where you have the highest levels of climate risk, you also have the highest levels of under-nutrition and food insecurity.

And the impact of climate risk and climate change goes beyond agricultural production. There's a lot of discussion about climate change impact on agriculture, on crop yields, on crop production, but climate affects much more than that. In fact it affects all areas of food insecurity.

Food insecurity for technical people generally consists of four main things. You have to have availability of food production of food. People have to have

access to food; most people buy food, they don't produce it to be able to access food. You have to have stability of access to food. It's fine if you have food after your harvest but if 3 or 4 months later you run out of food you're food insecure.

Lastly, you have to be able to use the food that you have. In other words, you have to be able to consume food in a healthy way, absorb the nutrients in order to have a healthy life. If you're malnourished, if you have parasites, if your water's not clean then you can't use that food and you're not food secure.

And climate change affects all of these things. Agricultural production we know about. It could also affect food prices. It could also result for the poorest people in loss of labour, particularly agricultural labour but other labour as well, so that they don't have enough income to buy food. The poorest people buy anywhere between 50-80 percent of their food; they don't produce it.

Stability of supply could be affected. Just last year the heat-wave in Russia, and floods in Pakistan, affected the world wheat market, affected the world supply of wheat quite significantly. That kind of disruption to supply is a problem.

And lastly utilization. High temperatures reduce the nutrient content of cereals. More malaria and other disease caused by changing temperature patterns affects peoples' ability to use food and poor water quality affects peoples' nutrition as well. Some estimates show that as a result of climate change there will be an increase of 10-20 percent in child malnutrition as well. Here's a graph that shows you current malnutrition in Sub-Saharan Africa, 33 million children. Without climate change things are improving but because of population growth the overall number grows, but with climate change you see an even worse picture.

And that's really important. In Kenya, if you're born in a drought-prone area, you're 50 percent more likely to be stunted, in other words not grow to your full potential, be shorter than you should be, and 71 percent are likely to be severely stunted. As a child, particularly in the first 1,000 days of life from conception through 1,000 days, if you're not well-nourished during that time, you have irreversible damage physiologically particularly in terms of brain development.

More extreme events, more droughts, have a generational impact, not just an impact in terms of short-term malnutrition.

650 million people in Africa alone depend on environments that are suffering currently from water scarcity, land degradation, recurring droughts and erratic weather – there's over a billion people on dry lands globally – and these are the environments, the most fragile environments, that are going to be the most affected by climate change and the impact of a drought or a flood on people in those areas can be multiplied several times by a degraded ecosystem.

One thing that I think everyone wants to talk about is the current situation in the Horn of Africa – is it a climate crisis or not? – and it's very complicated. The fact is, bad governance or no governance, conflict and many other factors are driving the crisis in the Horn today but in a way it's emblematic of what could become our future. If you look at it in the short-term you say yes, there's a drought - this is a satellite image showing the drought conditions using standard measures and you see there's a lot of red in Ethiopia, Somalia and Kenya showing the current drought. It's also the driest year in 60 years.

This graph shows you key areas of Kenya, Ethiopia, the comparison of this last year's rainfall versus the last 60 years, and the red diamonds on the bottom are this year and the full line for each of those areas represents the rains; the driest year in 60 years.

If the climate change science is correct, this kind of climate will be more frequent and the current social conditions, conflict and poor governance will still be there unless something significant changes in many of those countries, and so there's a fairly significant set of issues to deal with and I look forward to talking during the discussion about that more.

There are some significant challenges that we deal with on a daily basis. There are gaps in understanding information and research. Climate science doesn't always agree... it's sparse, it's global. Particularly when you're trying to deal with a local problem at a national or community level, the climate science isn't really good enough to provide a basis for decision-making. We need more of that.

There are often differing priorities between immediate humanitarian needs and longer term development. We spend a lot of our time responding to emergencies but all the time we're trying to do things that build resilience and reduce the risk of future disasters, but we need to do more of that.

There are different institutional and policy frameworks that we deal with. Climate change is dealt with with one set of institutional frameworks – Ministries of Environment, the UNFCCC climate negotiations. Food security is dealt with by Ministries of Agriculture, by the Food and Agricultural

Organization (FAO) and the global food system. Bringing these frameworks together is a challenge – at the country level, and at the global level – and that's something we need to deal with.

And there's no one-size-fits-all solution. The climate and livelihoods and culture and society in every place is different and so trying to do things at the local level which makes sense in those places, in the context of a science which is global, is a challenge.

There are some things that we can do though despite this uncertainty and I just want to spend a minute talking about those. The first is we focus on building resilience and improving climate risk management, in other words working with communities to reduce their risk. In the previous slide you saw a community in Rwanda which was building terraces and restoring a degraded environment. Now, those terraces will improve agricultural production and that's their primary function, but they also reduce the risk of floods and of drought. So if it rains more or it rains less because of climate change, those terraces will help those communities.

Lastly, we can do a lot more to understand the impacts of climate change on people. Climate change has been very much a natural science-focused effort and we need to go much further than that and really look at how climate links with people's livelihoods, their economies, their communities and understand how we can support those communities better to overcome those challenges. Thanks very much.

Tim Gore:

I'm Tim Gore from Oxfam where I lead our climate change work.

There are three things I'm going to talk about, a little bit about Oxfam's new GROW campaign, I'm going to mention three particular ways in which climate change impacts on food security and then I'm going to try and say something about the links between climate change and the current drought in the Horn of Africa.

The GROW campaign from Oxfam is our new campaign. It's the biggest thing that we've ever attempted. We launched it on 1 June in 40 countries around the world. It's going to run for 4 years or more. It's a campaign for food justice in a resource constrained world, how do we grow enough food to avoid hunger in the context of increasing natural resource constraints. And there are at least four areas that we're looking at in this campaign, some work on land and water grabs, and those of you in the UK will hear a lot more about

that in September. We're still campaigning for a global deal on climate change to boost investment in smallholders and other small scale food producers, especially women, and to better manage global food price volatility.

But this is what it's really all about and Richard touched on this. The number of people going hungry every night after decades of slow but steady progress in the right direction suddenly shot up in recent years – peaking, passing the one billion mark for the first time in 2008 – and as Richard was saying that's really for a range of factors, poor land tenure, under-investment in smallholders, increasing food price volatility etcetera, but climate change is an additional burden. It's exacerbating the vulnerabilities which are already there to make people hungry.

I'm going to look at 3 ways in which that happens. The first is through climate change acting as a break on the growth of yields of key crops. So in a context in which we're going to need to be able to grow more foods in the years and decades ahead, the FAO, the Food and Agriculture Organization, estimates that demand for food will increase by 70 percent by 2050. We need to grow more food. There's increasing pressures on our use of land, so we're going to need to get more food out of the land that we're already using, and yet in that context climate change is acting as a break on the yields for key crops. I won't go through all of these but there's a number of studies, as Richard was also alluding to out there, pointing at the impact of climate on yields.

Just the first one as an example, for every 1°C rise in night-time temperatures in the growing period in the growing season, rice yields may decline by 10 percent. Those are the sorts of impacts that we have to take into account as we plan to avoid food security, to avoid hunger and create food security in the years and decades ahead.

This is a map of Africa which I find quite frightening. It shows the decline or the impact on the length of growing period by 2090 in a world which is warmed by 4°C, and the dark grey colours indicate a decline in the length of the growing period of 20 percent or more and you see these big dark bands across southern Africa, south-eastern Africa and across the Sahel with just a few little dots of green which indicate some sort of increase in the length of growing period. That's the context that we're facing.

And as Richard was saying, these impacts on the yields of key crops are going to have an impact on food prices. There's an important paper I think already out this year from David Lobell at the University of Stamford and they attempted for the first time to estimate what impact climate change has had,

not in the future but in the past, over the past 30 years and they estimate that there's been a global decline of the maize crop by 4percent, of the wheat crop by 2 percentor 3 percent– that's a global aggregate – as a result of climate change.

Now, it's important to note that's a global aggregate because on a regional basis those numbers are very different – in Russia much higher numbers, 15 percentdecline in wheat for example – and then in other areas like the United States 'corn belt' which so far have escaped any kind of decline as a result of rising temperatures.

But those declines alone they estimate have been responsible for around a 6 percentincrease in world food prices over the past 30 years. 6 percentmay not sound that much at the moment but that's already equivalent to around an additional \$50 billion that the world is spending every year on food as a result of climate change.

That's looking over the past 30 years and as part of the launch of the GROW campaign, Oxfam commissioned the Institute of Development Studies at the University of Sussex to project what impact climate change would have on food prices over the next 20 years to 2030.

These are some of the results. Of course maize is particularly susceptible to a rise in temperatures and we see declines in maize productivity in Southern Africa of up to 35 percent but really devastating impacts across Africa and domestic output therefore is going to fall, the Brazilian wheat crop perhaps to fall by around 20 percent compared to a scenario without climate change, maize of course in Africa or the rice crop in China and East and South-East Asia.

This is what the model's projected that would mean for food prices. The green bars indicate the rises that we can expect even in the absence of any kind of climate change.

Anyway, food prices are going to increase over the coming 10-20 years but when we factor in the additional impact of climate change, those food prices rocket even higher. We can say more or less that food prices might double in the next 20 years and around half of that increase may be driven by climate change.

It's not necessarily all bad news. That doesn't have to be inevitable and part of the modelling also looked at what would happen to food prices if we had targeted adaptation investments in particular regions and this shows that although we may still face, even with adaptation, higher food prices than in a

scenario without climate change, we can still lessen the impact of those rising prices with the right adaptation interventions.

It's important to say that all of those numbers so far are only modelled, are only based on declines in yields as a result principally of rising temperatures and some changes in rainfall patterns. They don't even take into account the extreme weather events which, as Richard was saying, is projected to be one of the major impacts of climate change. We've looked in a study this year which we published at the trend of reported extreme weather events in poor countries and found a clear trend to suggest that that's been increasing over the past 20-30 years and the UNCTAD study which came out just before the Cancun Climate Conference last year suggested that in the past decade there has been a five-fold increase in the number of extreme weather events affecting the least developed countries compared to the 1970s. So this is a trend and climate change suggests that these sorts of events will become more frequent and more severe in the future.

This is a photo from the Pakistan floods. Those kinds of events can wipe out entire harvests at a stroke and that's really what happened in Pakistan.

The other way in which we see an impact of climate change already in the communities that Oxfam's working with is through an increase in the unpredictability of seasons. Farmers are telling us that seasons are already shifting, they're starting at different times. We may still have the same average annual rainfall, but perhaps the rains are coming at different periods or they're falling in sudden downpours in intense spells rather than spread out across a rainy period and for farmers that are reliant on 1 or 2 cropping seasons per year, knowing when to plant your crops is probably the most critical decision that you'll make in terms of your livelihood for that year. So that unpredictability poses really new risks to livelihoods.

What does that mean then for poor people? As Richard was saying, the poorest people are spending at least 50 percent of their incomes on food and actually even in this country we're seeing the proportion that people are spending on food increasing. If you spend 50 percent of your income on food, any increase in food prices of course becomes really devastating. But also what we're finding already is that when there's a decline in agricultural production or productivity, men are leaving rural areas to search for work in urban centres and that leaves women behind with really the fewest resources to cope – to adapt – to a changing climate and without adequate incomes, access to healthcare, other forms of social protection, they're forced at times of crisis into short-term coping strategies, so that can be going without food,

selling off critical assets like livestock or taking their children out of school to work – and, as Richard was saying, it's these short-term coping strategies which can have really long-term impacts spanning generations. We see that, for example, in the way that malnourished women tend to give birth to small birth weight babies and in that the way the cycle of deprivation and poverty continues.

The final slide is on the links between climate change and the Horn. As Richard was saying, this is a really difficult area and we're going to publish a short briefing paper on this very topic in the next day or two, so look out for that on the Oxfam website.

I think the headline is very clearly that climate change is going to make the current bad situation for food security in the region very much worse in the future. We can't say at the moment whether this current drought has been made more likely as a result of climate change and there's only really a few studies out there at the moment which attempt to make that kind of estimation but what it does show us of course is the extreme vulnerability of poor people in the region to climate variability.

In terms of the trends, we can see clearly that temperatures in the region have increased in the past decades and we can have real confidence that they're going to continue to increase even higher in the decades to come. Rainfall patterns are a little bit less certain. At the time of the IPCC Fourth Assessment Report, the consensus was that there's no statistically significant trend in the rainfall, but then there are new studies out there now which suggest that actually this region has been becoming ever more dry in recent years. But consequently, projecting forward on rainfall patterns is also a little bit uncertain for this region because of the complexity of the local climate.

So it's difficult then to say whether climate change will mean more droughts in this particular region – although globally of course we know that it will increase the likelihood of droughts – but in this region it's difficult to say that at the moment. But almost irrespective of whether there are more droughts, we know that climate change is going to worsen the food security situation in that region, principally as a result of the declines in yields that we were looking at earlier.

The final slide is just to say that in terms of our response to the famine in the Horn of Africa, we need both to address of course the urgent humanitarian needs on the ground but also to address the long-term drivers of vulnerability, and it's important to bear in mind that while the drought is a natural phenomena, it's been caused by a lack of rainfall.

The disaster is very much man-made and it's no coincidence that the worst affected areas are those which have people who are the most marginalized, have received the least investment over a period of decades. They are far and away the most vulnerable people and that's as a result of political decisions, poor governance, as much as of the weather.

In terms of our response, we need clearly to boost the productive capacity of those people of those particular affected communities, including their capacity to adapt to climate change and as Richard was saying, that means we need much better data on what climate change impacts are going to mean in the future at a much more local level than we have at the moment.

But ultimately I think it means as well that we need to slash our greenhouse gas emissions because ultimately when we look ahead at the food security challenges of this century there's a range of factors that need to be addressed but unless we get to grips with greenhouse gas emissions the impact in terms of rising temperatures are going to have a really devastating impact on the capacity of poor people to grow enough food to eat.

That's where I'll end. Just to say unless we tackle that problem, a lot of the other issues that we're talking about in the here and now will be irrelevant by the end of this century. Thanks.

Tom MacMillan:

I'm going to pick up pretty much where Tim just left off.

We've heard about how climate change will affect food security and the crucial need for adaptation. I'm going to talk about how food production in the UK contributes to climate change and the politics of what we can do about that.

Our role at the Food Ethics Council is to focus on UK policy and particularly to find a way through controversies and this issue has certainly proved quite controversial. I should also mention, in light of Tim talking about the GROW campaign and food justice, we've also done some broader work on food justice and there are some copies of a report about that over there and if they run out I've got a few more in my bag. This work I'm going to talk about tonight is much more focused work on climate change we've been doing with WWF-UK.

Food accounts for around a fifth of the UK's greenhouse gas emissions. That's about 120 million tonnes of carbon dioxide equivalent per year. Almost

half of those emissions have arisen before the food leaves the farm, from fertilizer releasing nitrous oxide and also from animals burping methane. The next biggest share after that comes not from any particular bit of the supply chain but from households, from things like travelling to the shops, from cooking and from refrigeration; the rest comes from manufacturing and retail and food transport.

Those are the emissions produced from growing and manufacturing and consuming food within this country, so the activities within this country, but we import just under half of the food that we eat. Taking account of net trade of the difference in greenhouse gas emissions between what we import and what we export, adds an extra whole third to our greenhouse gas account. So instead of 120 million tonnes, when you take into account those imports, the figure rises to 160 million tonnes of CO₂ equivalent.

And that's an under-estimate because it doesn't take into account the emissions from transport overseas, nor from land-use change which is an absolutely huge area of emissions, very difficult to calculate. But agricultural expansion is one of the major causes of land-use change and emissions from ploughing up grassland and from deforestation.

There we have two separate accounts of the emissions from our food system, one of them pretty big and the other one very big.

Our production account, the smaller of the two, is the one that we're obliged to report on under the UN Framework Convention on Climate Change and the Kyoto Protocol and the one that the UK government's own climate change targets relate to. Our consumption account is bigger and it's off the books. We don't have to answer for that. In effect we're getting 33 percent extra emissions free.

What's been happening in the past couple of decades, not just in the food sector but overall, is that we've succeeded in cutting our production related emissions but at the expense of higher emissions in the countries that we're importing from. So our overall consumption footprint has gone up – that's often called emissions leakage or off-shoring – and this isn't just a problem for the UK. Globally the level of leakage from those countries that report under Kyoto to those that don't report under Kyoto, so in effect the emissions that have been written off the books in terms of global climate change agreements, they exceed the total emission reductions that have achieved under Kyoto. So it looks like the Kyoto countries like the UK are cutting our emissions but actually we're just making those emissions elsewhere.

Now leakage can be good from a development perspective because at one level it's simply a side effect of trade. Indeed, that's part of the logic for leaving poorer countries out of Kyoto in the first place, but the benefits depend on how that trade takes place, with whom, and I think few people would claim that this huge haemorrhaging of greenhouse gases has been a boon for global justice. So that's the problem.

What can we do about it? The UK government and the food and farming industries here are focused on technical abatement measures that will cut greenhouse gas emissions in the future and in agriculture. So the measures they are promoting include better fertilizer application, using different animal breeds, changing the feeds that's given to animals and adopting some lower input production systems. Some of those measures complement other priorities besides climate change like biodiversity and animal welfare but some of those measures clash with those other priorities. Some of those measures save money for farmers and there's an economic incentive for them to adopt, some of them carry a cost and the more of the kind of tools in the box we use up, the more likely those remaining are to carry a cost.

Crucially though, none of these measures do anything about that leakage problem. Indeed, where they do push up UK production costs they may simply push the problem elsewhere.

That's why we believe that it's also crucial in addition to this technical abatement stuff to look at consumption behaviour as well as trying to get those efficiencies in production, and while there are a whole lot of ways we can change what we eat to reduce our greenhouse gas footprint and also tackling the problem of food waste, one of the biggest and certainly one of the most controversial is the suggestion that we eat less meat and dairy which both those two areas of food consumption account for a third of food related greenhouse gas emissions. Understandably perhaps the suggestion that people should eat less meat and dairy hasn't been very popular with British farmers. They're concerned not only about the unintended consequences in terms of their own incomes – that it might burn a hole in their pocket – but also the unintended consequences for the environment and for animal welfare.

For instance, if in practice people were to eat less meat but at the same time eat cheaper meat which is what happens during a recession in general – people are currently eating a bit less meat than they were a few years ago but they're generally eating cheaper meat as well – then that is an outcome that's likely to penalise the very producers who are investing most in sustainable

production. So there is genuine scope for unintended consequences from efforts to try and encourage people to reduce their greenhouse gas emissions by changing what they eat.

With WWF we've been working with farmers' organizations to try and address these concerns. As we saw it the farmers had a point, yet they were also scaring government off from getting involved in this issue and government needs to play a part if we're to encourage sustainable eating habits without all those sorts of unwanted side effects that the farmers were concerned about. So there's a bit of a Catch 22 there; something of a stalemate.

What have we been doing, recommending in practice to get past this stalemate? Well certainly not billboards telling people that they shouldn't eat so much meat. Rather it's about changing the features of the food system that already shape what we consume.

One step's to make sure that the £2 billion a year the public sector spends on food is spent sustainably. That includes making sure weekly menus in schools, hospitals and government canteens serve portions of meat, dairy and other livestock products and other foods that the climate can sustain and the government's just introduced new buying standards but only for its own government departments and it doesn't include this sort of menu aspect; this is about how the food is produced.

Another area is to make sure that farm policy, including the common agricultural policy, helps producers to invest in animal housing and processing systems that will be viable in a future where people were eating less meat and dairy but valuing it more. At the present, the policy signals all point in the opposite direction. They're pointing towards investment in large scale units that depend on high volumes of low value production in order to be profitable.

The third suggestion is to help farmers pass the environmental costs of production along to retailers and then retailers to consumers and this calls for changes amongst other things in the implementation of competition law, increasing the bargaining power that farmers have with retailers but also allowing retailers to collaborate in passing the environmental costs of production to consumers.

Those are just 3 out of a whole handful of steps we've been suggesting. Our essential message to British farmers has been that they share a stake in encouraging sustainable consumption. After all, that's precisely about tackling the leakage that is a direct threat to their business; so instead of seeing this

agenda as a threat, we're encouraging them to see it as complementary to their interests.

Our message to government has been that they do have a mandate to tackle this sensitive issue, not only from the public but also from farmers, and that mandate's there as long as they tread carefully. Unless they face up to this challenge and help us to change how we eat, we will continue changing climate through the backdoor, as we are writing those emissions off at the moment, and damaging global food security. Thanks.

Jaakko Kooroshy:

I would like to thank our excellent speakers. I think Richard and Tim, both of you pointed out the severe impacts that climate change have on food security, especially in Africa I believe, and you also both stressed the importance of adaptation measures. But Tim, I think it was very helpful that you ended up your talk with saying adaptation is not enough, we also have to go further in trying to combat climate change and I think this was great where Tom came in and made some real concrete suggestions how we could do this in the food sector in the UK.

Before I take questions, I would like to give Phil Mulligan the short opportunity to make a few comments about what we heard from the panel. Phil is the Executive Director of the United Nations Association and we are particularly pleased that he could make it tonight to this event.

Phil Mulligan:

I won't comment so much on what we've heard. I think I'd like to hear what everyone here has to say to that. I would like to though just spend a moment thanking the excellent speakers for the presentations you've given and for the chairing, to also thank Chatham House for allowing the UN Association and your impressionable network to put this event on jointly. I'd particularly like to thank Madeleine [inaudible] from the UN Association for all her hard work in putting this event on.

The audience here is around 50-50 in terms of those of you who've come through the UN Young Professionals network and through Chatham House which shows there's obviously a lot of overlap and common ground.

I guess I'm now speaking for the next few seconds to the 50 percent who haven't come through the Young Professionals network, just to say; do consider joining the UNA. There are a lot of meetings and events such as these. There are also branch meetings to attend and national events. You

would receive a 'New World' – there's plenty of copies here, so do take away one.

This is the UK's leading source of independent analysis and comment on the UN and there are a number of career enhancing and interesting opportunities as well within the United Nations Association. We're currently looking for young professional members to represent our Association in Bonn in September at the UN's annual NGO seminar and conference on sustainable cities and responsible citizens. So that's a blatant plug. Membership would cost you only about the same as a sustainable ethical vegetarian UK grown meal so I'll leave it at that. Thank you.

Question 1:

My question is primarily to Richard and Tim as UN and NGO.

First of all as a comment, I'm really pleased to hear about what you Richard said about you're focusing on building resilience and then Tim, what you said about adaptation and I just wondered whether you could just give us an example of what challenges and successes you've had in implementing those two in any particular area, Rwanda or wherever else.

Richard Choularton:

There are many challenges really in building resilience, not the least of which is frequent and recurring climate hazards and what we're really focusing on trying to do now is use community-based approaches and work with communities to build their capacity to build their livelihoods in a sustainable way at the same time as they're able to manage risks more effectively, and so there's a number of examples of programmes that we have that try to do those two together.

We actually have a partnership with Oxfam that we've been developing for the last year or two where we're trying to combine community-based disaster risk reduction which focuses on things like helping communities do soil conservation and build irrigation systems to help drought-proof them with supports through credit and savings to allow community members to take prudent risks to invest in their future but sometimes the problem with that kind of approach is that you start the process, then there's a drought or a flood, the assets that have been built over a few years are destroyed and you're back to square one, and so we're now integrating insurance into the system so that when there's a drought or a flood the community members receive an insurance payout which allows them to protect the assets that they've gained.

And because poor households don't have a lot of cash and it's hard for them to buy insurance, we're allowing them to use labour to pay for their insurance, so they work extra days during the year in exchange for an insurance policy.

So these type of really community-based approach that combines trying to build sustainable livelihoods and better risk management really is something that we're seeing as a good approach to building resilience.

Tim Gore:

Well just a few thoughts about success and challenges.

Perhaps first just to give some ideas of what these interventions look like and as Richard said, they look very different all around the world but can be about diversifying crops or other livestock or other livelihood options or investing in drought tolerant or flood tolerant seeds for example.

One of the greatest successes or one of the most interesting recent successes I think for Oxfam has been a project in Bangladesh working with one of the big telecommunications companies to help get local fisher folk information about incoming typhoons and other extreme weather events via their mobile phones in good time so that they can get out of the way. So that's the sort of innovative approach that we're looking at but they look different all around the world.

Some of the challenges: I think the biggest challenge really is getting better data about what impacts we're likely to see from climate change at a much more local level. At the moment we have enough confidence to talk about impacts of climate change globally, we have reasonable confidence talking about impacts at a continent level or a regional level and perhaps even at a country level, but to actually help individual communities we need that level and sophistication of data and of projection right down at the local community level. That's probably the biggest challenge.

The whole problem or the difficulty when you're dealing with adaptation to climate change is that you are in your very nature dealing with uncertainty and therefore we need to invest in trial and error often. We need to get things wrong because this is the whole nature of it. This is an uncertain environment. That's difficult to sell to governments of course – the idea that they might lose out on money – but that's what they need to do.

I think your challenge is how to measure success. We haven't yet developed really strong resilience base lines if you like to be able to measure how

resilient is a community or is a household at the moment and therefore are we increasing, are we improving, their resilience? That's a challenge.

But the biggest challenge by far at the global level is where is the money coming from to invest in adaptation and certainly at the UNFCCC negotiations that's one of the critical issues that we're campaigning for and lobbying governments for. We didn't talk about scale of need for adaptation in any of the presentations but rest assured, it's in the tens, hundreds of billions of dollars per year which are needed to meet the scale of need and at the moment we don't have that money coming through the system. So probably the biggest challenge is where the money is coming from to invest in all of this.

Question 2:

My question actually picks from the last point which Tim mentioned about money.

As a company we do face increasing the higher charges of carbon like the UK government has said that they will be taking £12 a tonne of carbon from us as a part of carbon reduction commitment scheme, which then gets reinvested into renewable energy projects and subsidising renewable energy.

What I am asking is, do you guys as a panel or one of you individually thinks that money can act as a strong [inaudible] and who should control this money first in terms of government imposing duties on carbon footprint and then that filtering through to something like dinner on our table and how much we are paying for something which is imported from other parts of the world and second, how much financial markets have a role to play in terms of basic commodities like food supply, like maize or corn, being traded on the financial market and that making it difficult for a farmer to feed his family when it is fed to an animal which is being eaten by a family somewhere else?

Tom MacMillan:

I think overall there are obviously a lot of steps being taken in many countries, including in the UK, to put some kind of price on carbon and other greenhouse gases in some cases.

The effect that that has on domestic agricultural production, leaving aside the questions about rainforest disruption and those sorts of things which do relate to feed production for feeding animals and so on in this country, but in terms of domestic production one of the biggest direct impacts is through energy

prices than affecting particularly fertilizer costs and then feeding through the chain.

There are great challenges in having similar schemes for direct emissions for agriculture partly because the nature of agriculture as an industry is very dispersed. It's very hard to measure some of the sources of emissions to do with land-use change and to do with soil emissions and even the use of, for example, fertilizers from manure and so on. It's very complicated. Like in some of these other situations there are real sort of knowledge gaps and data handling gaps in terms of how you'd actually translate that into some kind of tariff.

The second issue which picks up a little bit on the point I alluded to about competition policy is that even if you can get those tariffs or additional costs somehow brought into the system at the production end which is most of the emissions are in agriculture, then there's very little guarantee that they'll get passed along the chain and influence behaviour because the farmers in general, including in this country but internationally, are in a very weak bargaining position in relation to retailers and consumers. One of the likely effects is that you effectively penalise farmers in jurisdictions where they are facing such charges and they aren't able to pass those costs on so you don't influence consumer behaviour accordingly and the upshot is kind of yes, but there are a lot of challenges to making it work.

Question 3:

My question is to Tim. One of the first points you had up there was around land grabs and I was just wondering, to me it seemed you were critical of that. I was wondering if you could qualify that statement because given what you just mentioned around the enormity of the challenges, the lack of condensing what's available given where western deficits are and the uncomfortable-ness of governments taking risk and being able to manage those risks. If you could just clarify what your opposition around land grabs and that capital transfer is, that would be very helpful. Thank you.

Question 4:

A quick follow-up on adaptation finance: You used the Pakistan example, Tim, of in effect as it relates to food prices and food vulnerability. It's quite an interesting point in that Pakistan in particular is lobbying for an expanded definition of what countries should receive adaptation finance first and my question on that is how do you factor food security into this? Does that lead you to redefine vulnerability?

Tim Gore:

I'm not going to say a lot on land grabbing because we'll be launching a paper in September. I think it should be quite a big hit. It's something that we're going to push quite hard, so there'll be certainly a lot more to come on this later.

Just to say that clearly Oxfam is not against getting new investment into land and that's one of the critical issues. The question is what type of investment, what quality of investment and is it going to reach smallholders or is it going to undermine the livelihoods of smallholders? So when we talk about land grabbing, we're talking about instances, and we're going to document some of those in September where we see irresponsible investment on a huge scale into land in a way which is undermining the livelihoods of smallholders and women in particular. So those are the instances and perhaps we can always talk offline or have a look at the stuff that's going to be coming out in September on that.

On Pakistan I think what you touch on is one of the most difficult debates actually between developing countries in the climate negotiations which is the question of who is the most vulnerable to climate change, which country is most in need of those adaptation resources, and this is an incredibly damaging debate which takes a lot of time of developing country negotiators to wrangle between themselves, frankly, instead of keeping the pressure on developed countries to provide the resources which are needed.

And actually Oxfam's take on this – we might look at this a bit more closely next year – is that it's of course not possible and not helpful to talk about any one country as being the most vulnerable. One thing that is clear is that all countries are vulnerable to climate change, all people are vulnerable to climate change. Developing countries are particularly vulnerable and certain communities within them are particularly vulnerable – are highly vulnerable – but to have some sort of index that tries to rate or rank the vulnerability we don't think is a helpful way ahead.

So at the moment we're mostly focussed on trying to get more money out of the global system for adaptation and then there's a separate discussion about how do you allocate those resources, but doing that shouldn't be on the basis of a ranking system of any one country being more or less vulnerable than the other.

Question 5:

I've just spent a week on the Ethiopia-Somalia border watching roughly 2,000 people crossing everyday from Somalia, and of course across that whole region whether it's into Ethiopia or into Kenya, within Somalia itself huge numbers of people are on the move at the moment.

Do you think that we will see an ever increasing number of people on the move essentially because of lack of food and the people I spoke to, all of them I think said they have no intention of going back to where they came from partly a little bit because of the conflict but also very much because of the increasingly recurrent drought and problems in producing food?

Do you think we will see more and more movement of that kind and if that's the case, how much strategic thinking is there going into dealing with that changing food landscape as a result of all that movement, and what sort of changes in production and food security may be required?

Question 6:

My question is: what is the impact of global markets upon the security of food given the fact that some farmers find it so hard to compete with imported goods? Whether you think there should be an international system that could protect such countries?

Question 7:

My question is also for Tim and builds somewhat on the previous question and relates to one of your points on the GROW campaign and that was to better manage global food price volatility. I'd be interested in hearing your opinion on the impacts of the rise of securitized agricultural products as an investment asset and the impacts that has had specifically on global food prices.

A lot of academics point to Rouwenhorst's 2005 paper from Yale which argues that investment in commodity futures is less risky than investment in equity and actually has positive inflation correlation, so in the current environment the investment in commodity futures is only going to rise.

And that's created a lot of interest in the buy-side hedge fund community and I guess linking that to your commentary on climate change, the net impact of that is going to be reduced demand but we're going to see both increasing consumer demand and increasing demand from the investment community, so it sounds like it's going to be a bit of bad [inaudible].

Richard Choularton:

The migration question is a really important one, both because migration can be a negative coping strategy but also because it can be a positive one and in many ways has to be part of the adaptation solution.

In the Horn of African pastoral areas you've seen for the last 15 years or so in key pastoral areas of Somalia, Kenya, Ethiopia and Eritrea 70-80 percent in some cases of rainy seasons being below the required level for minimum viable pasture, which is generally considered about 300 millimetres a year in those areas. And so for the last decade you've seen this process where – whether climate change or not is not really the issue – but where you've had this successive drought periods over a decade which has undermined the livelihood system of pastoralists and because of that and a whole series of other processes pastoralists move – that's how they deal with the climate – but because of population growth and encroachment of agriculturalists into marginal lands the areas that they have to move to have been diminished over the past century, so they have less area to move and therefore less ability to deal with drought when it happens where they are. They are also generally politically disenfranchised and have less political voice in those countries.

And so the combination of those things has resulted in a livelihoods crisis and you see it in the Horn of Africa with the number of pastoral drop-outs, people who have lost all their animals because of successive droughts, who have moved to towns and who now are destitute and the current crisis is in a way the ultimate expansion of that problem, into a very very serious crisis and expanding famine.

That could happen elsewhere I'm sure. We're looking for example now in West Africa at the impact of climate trends on livelihoods and you seen in the band below the Sahara Desert, where agriculture is still viable but marginally viable. In the Sahelian zone closest to the desert you get one out of three years of viable harvest now, whereas 30 years ago you got three out of three years of viable harvest.

And so you still have a viable livelihood there but it's deteriorating and asset bases of households have deteriorated over the last 30 years and we don't know what's going to happen to the climate there but if it does continue to decline what will those people do?

And there are places around the world, hot-spots like that, that we really need to think hard about. How do you first of all try and reverse the environmental

change or find another way for them to cope with the climate that they have or support their migration elsewhere?

Tim Gore:

One thing on the forced migration: I think it clearly will be a major issue this century. One report which came out recently through the FAO, Food and Agriculture Organization, looked at the links between climate change, water scarcity and food security which is a really important study and I think if you think about particular water systems like the Ganges Delta, which are fed by the Himalayan glaciers which are in retreat, there are millions, if not billions, of people in that region that are dependent on that water source and as that dries and the water scarcity there becomes ever more severe, those people are going to move, and we can map hot-spots all around the world that are similar to that.

In terms of what's the level of strategic thinking that's currently going on, it's happening in some of the most unlikely places. In the CIA, in the Pentagon, they are looking far more closely than any other decision-maker in the US Administration at the security implications of this and there was a debate in the UN Security Council, the second time that there's been an attempt to have a debate about climate change in the UN Security Council just last week under the German presidency. So you're starting to see this issue, seeing climate change as a security issue linked very much to the volatility of movements of people starting to come through.

Now, about the markets. There was a question about whether we need a global system to better manage global food price volatility and I think Oxfam says yes, we absolutely do and it's very much on the agenda of the G20 this year under the French presidency. A number of issues have already been discussed and others are on the table for agreement by the leaders' summit in November.

One of the issues for example has to be about increasing transparency. Actually we know very little about the global food market – how much food is out there, where it is. Is it the traders that are holding onto it? Is it stored in particular countries? We know very little and we need to have better transparency of the market so that the prices better respond to market dynamics.

There's questions about the use of strategic reserves and Oxfam has published papers on that which I can direct you to but I think one of the key nub issues perhaps is about the role of speculation in all of this and if there's

an increase in the role of speculation and whether that is having an impact on food prices and I'm not going to jump in to that debate here. It's really difficult clearly but one thing that we know is that until we get better transparency, it's very difficult to even determine whether or not speculation is having an impact on prices.

So that's perhaps a first step and then we need to think about what precautionary measures we need to put in place. Certainly what we know of course is that there is a coincidental, if nothing else, increase in food price volatility which tracks an increase in the sorts of investments that the colleague was talking about, so if nothing else, we need to improve the transparency to get a better handle on the impacts of that kind of financial investment may be having.

Tom MacMillan:

To echo Tim's point on precaution, there are debates running currently both in the US and in Europe about potential restrictions on particular kinds of financial activity that maybe associated with price volatility. You can back to and fro the evidence and it's very difficult to resolve the argument because they're very complex systems and one way of addressing that is to say actually perhaps we need to shift the burden of proof.

At the moment the burden of proof rests on those advocating restrictions and regulation of new financial activities and arguably a more sensible approach to it from a food security point of view would be to actually shift the burden of proof onto those arguing for a deregulated approach so that there is more of a burden on advocates of new financial instruments to demonstrate social value and low risk of harm.