31st March 2014

Briefing

Ten environmental injustices - the impacts from climate change

Extracts from the IPCC Working Group 2 Summary for Policy Makers report

Working Group 2 of the Intergovernmental Panel on Climate Change published its report on the latest scientific understanding of climate change impacts on March 31st. This short briefing draws on the key findings published within the Summary for Policy Makers (SPM)[i].

It is clear from the SPM that climate change is an environmental justice issue - climate change will hit the poorest people and the countries hardest, despite these being least responsible for causing it.

This briefing outlines ten reasons why climate change is an environmental justice issue, drawing directly from the SPM. It also identifies some of the risks to ecosystems highlighted in the SPM.

The Summary for Policy Makers states, not surprisingly that *"The overall risks of climate change impacts can be reduced by limiting the rate and magnitude of climate change"*. This will require rapid and significant reductions in emissions from the wealthiest people across the world and from the wealthiest countries. It will also require significant financial and technical assistance to poorer countries to adapt and develop low-carbon economies.

Ten environmental injustices

1. **Those suffering inequalities are most vulnerable** – *"People who are socially, economically, culturally, politically, institutionally, or otherwise marginalized are especially vulnerable to climate change…This heightened vulnerability is rarely due to a single cause. Rather, it is the product of intersecting social processes that result in inequalities in socioeconomic status and income, as well as in exposure."*

2. **The poorest are already most affected** – *"Climate-related hazards affect poor people's lives directly through impacts on livelihoods, reductions in crop yields, or destruction of homes and indirectly through, for example, increased food prices and food insecurity."*

3. **Extreme weather and poverty** – *"Impacts from recent climate-related extremes, such as heat waves, droughts, floods, cyclones, and wildfires, reveal significant vulnerability and exposure of some ecosystems and many human systems to current climate variability"* and "*Heat stress, extreme precipitation, inland and coastal flooding, landslides, air pollution, drought, and water scarcity pose risks in urban areas for people, assets, economies, and ecosystems. Risks are amplified for those lacking essential infrastructure and services or living in poor-quality housing and exposed areas."* And *"climate-change-related risks from extreme events, such as heat waves, extreme precipitation, and coastal flooding, are already moderate and high with 1°C additional warming [1.8 °C above pre-industrial]. Risks are unevenly distributed and are generally greater for disadvantaged people and communities in countries at all levels of development."*

4. **Future food security** – already *"climate change has negatively affected wheat and maize yields for many regions and in the global aggregate"* whilst further climate change brings *"risk of food insecurity and the breakdown of food systems linked to warming, drought, flooding, and precipitation variability and extremes, particularly for poorer populations in urban and rural settings"*. And *"For the major crops (wheat, rice, and maize) in tropical and temperate regions, climate change without adaptation is projected to negatively impact production for local temperature increases of 2°C or more above late-20th-century levels, although individual locations may benefit."*

5. **Risks for rural communities** – further climate change brings *"risk of loss of rural livelihoods and income due to insufficient access to drinking and irrigation water and reduced agricultural productivity, particularly for farmers and pastoralists with minimal capital in semi-arid regions."*

6. **Health impacts** – *"Until mid-century, projected climate change will impact human health mainly by exacerbating health problems that already exist. Throughout the 21st century, climate change is expected to lead to increases in ill-health in many regions and especially in developing countries with low income, as compared to a baseline without climate change"*

7. **Fishing communities** – further climate change brings *"Risk of loss of marine and coastal ecosystems, biodiversity, and the ecosystem goods, functions, and services they provide for coastal livelihoods, especially for fishing communities in the tropics and the Arctic" and "Open-ocean net primary production is projected to redistribute and, by 2100, fall globally".*

8. **Sea-level rise** – *"Risk of death, injury, ill-health, or disrupted livelihoods in low-lying coastal zones and small island developing states and other small islands, due to storm surges, coastal flooding, and sea-level rise."*

9. **Extreme heat** – *"Risk of mortality and morbidity during periods of extreme heat, particularly for vulnerable urban populations and those working outdoors in urban or rural areas."*

10. **Set back poverty reduction** – *"Throughout the 21st century, climate-change impacts are projected to slow down economic growth, make poverty reduction more difficult, further erode food security, and prolong existing and create new poverty traps, the latter particularly in urban areas and emerging hotspots of hunger."*

Ecosystems

In addition to these impacts it is clear ecosystems that we all rely on are under severe threat:

- **Extinctions** – *"global climate change at rates slower than current anthropogenic climate change caused significant ecosystem shifts and species extinctions during the past millions of years"* and *"a large fraction of both terrestrial and freshwater species faces increased extinction risk under projected climate change during and beyond the 21st century, especially as climate change interacts with other stressors, such as habitat modification, over-exploitation, pollution, and invasive species"*.
- **Ecosystems** – "*Some unique and threatened systems, including ecosystems and cultures, are already at risk from climate change. The number of such systems at risk of severe consequences is higher with additional warming of around 1°C [1.8 °C above preindustrial]. Many species and systems with limited adaptive capacity are subject to very high risks with additional warming of 2°C, particularly Arctic-sea-ice and coral-reef systems*."
- **Forests** – *"Increased tree mortality and associated forest dieback is projected to occur in many regions over the 21st century, due to increased temperatures and drought. Forest dieback poses risks for carbon storage, biodiversity, wood production, water quality, amenity, and economic activity"*.

Conclusions

The impacts of climate change are already being felt, particularly by the poorest. Further climate change brings substantial risks to human wellbeing, again particularly the poorest, as well as to ecosystems. As the IPCC says, *"The overall risks of climate change impacts can be reduced by limiting the rate and magnitude of climate change"*. But this alone is not enough. It addition to rapid and significant reductions in emissions from the wealthiest people across the world and from the wealthiest countries, plus significant financial and technical assistance to poorer countries to adapt and develop low-carbon economies, there is a need to reduce vulnerability to climate change by reducing inequalities between and within countries.

[i] A more detailed briefing which draws on the detailed chapters of the report will be published at a later date