UN thematic consultation on Sustainable Environment

Submitted by Climate Action Network International and Beyond 2015

Introduction

Climate Action Network International is the world's largest network of civil society organizations working together to promote government action to address the climate crisis, with more than 700 member organizations in over 90 countries.

Beyond 2015 is a global civil society campaign, pushing for a strong and legitimate successor framework to the Millennium Development Goals. The campaign brings together more than 570 organizations from 95 countries. Whilst participating organisations have a range of views regarding the content of a post-2015 framework, the campaign unites behind one vision:

- *That a global overarching cross-thematic framework succeeds the Millennium Development Goals, reflecting Beyond 2015's policy positions.*
- *That the process of developing this framework is participatory, inclusive and responsive to voices of those directly affected by poverty and injustice.*

"I have asked my High-level Panel to prepare a bold yet practical development vision to present to Member States next year. I look forward to the Panel's recommendations on a global post-2015 agenda with shared responsibilities for all countries and with the fight against poverty and sustainable development at its core."

Ban Ki-Moon, UN Secretary General, 2012

"The currently observed changes to the Earth System are unprecedented in human history. […] As human pressures on the Earth System accelerate, several critical global, regional and local thresholds are close or have been exceeded. Once these have been passed, abrupt and possibly irreversible changes to the life-support functions of the planet are likely to occur, with significant adverse implications for human well-being"

UNEP Global Environmental Outlook 2012[i]

This paper is a response by international civil society, represented by CAN-International and Beyond 2015, to the thematic consultation on Sustainable Environment launched by the UN in relation to the work of the UN High Level Panel of Eminent Persons.

We want to note that the siloed approach to the 11 thematic consultations, while understandable for practical reasons, should be re-considered by the UN. One of the greatest challenges and opportunities for the post-2015 development framework is precisely to break down the fragmented approach of the MDGs to fully capture the cross-cutting synergies between and among the different themes. In order for the consultations to be effective, we need to move to a holistic, sustainable, approach and advance one global development agenda that is people-centered, inclusive, and sustainable.

SECTION A

1. The environmental sustainability and poverty nexus

Sustainable and equitable development

In order for the post-2015 agenda to advance progress in human development and tackle inequality it must fully embrace the centrality of environmental sustainability. Truly sustainable and resilient development in a resource and carbon-constrained world is development which results in"improved human well-being and social equity while significantly reducing environmental risks and ecological scarcities."[ii]

Our current development pathway is unsustainable and inequitable. We urgently need to achieve sustainable and inclusive development that keeps us within planetary boundaries and ensures all people have the resources they need – such as water, shelter, health care, energy, food, education, decent work. Current unsustainable use of the planet's resources is pushing the earth's systems – through climate change, biodiversity loss, and threats to the water cycle – in a direction that severely threatens human health and wellbeing.

Over-consumption of resources by the wealthy and middle classes is driving environmental degradation. The wealthiest 20% of people account for 80% of global consumption of natural resources and, on current trends, this imbalance will only intensify[iii]. The poorest and most marginalized groups, including women and persons with disabilities, who contributed the least to environmental degradation, are most vulnerable to the impacts of climate change.

The UN Task Team Report on the Post-2015 UN Development Agenda offers a vision for "transformative change towards inclusive, people-centered, sustainable development".[iv] The Report sees environmental sustainability as one of the three core pillars, a concept we strongly support.

Ecosystems, climate change and poverty

We all depend on natural services and systems but the poorest and most vulnerable people often depend directly on natural services and systems for their livelihoods. The environment plays a significant role in the livelihoods of approximately three quarters of people living on less than $2 a day[v] globally but over 62% of ecosystem services are already degraded.[vi] Protecting and managing the natural resource base in a sustainable, productive, and accessible way will promote inclusive and equitable development, increase resilience and raise basic living standards, while maintaining the health of the planet. .

Climate change is the greatest threat to poverty reduction. It is also symptomatic of a fundamental developmental and economic crisis. It is a 'threat multiplier', amplifying existing social, political, and resource stresses. The impacts of crossing 'planetary boundaries', especially climate change, hit people living in poverty first and hardest, as they often depend directly on natural resources for their livelihoods[vii] and have the least resources available to undertake adaptive action. Building long-term resilience to climate change and other environmental threats must be a central pillar of future development. The impact of disasters, which are increasing in frequency due to climate change can obliterate the hard won gains of development and exacerbate poverty.

Resilient Development

By 2030, the world will have drastically changed. There will be between 8 and 9 billion people on the planet, most of whom will be living in urban areas. We need resilient development that enables us all, particularly the poorest, to live well in spite of unavoidable environmental degradation but we need a model of development that does not exacerbate further degradation. We also need to be planning for a possible 3 degrees+ of global warming, with parts of the tropics and poles warming more than the global average. A future inclusive development framework needs to be able to deliver long-term

poverty reduction in a world with more people, weak environmental governance, dwindling natural resources, and increasing impacts of climate change.

Natural resources and ecosystems have a vital role to play in building resilience; natural environments are best able to support the poor when they are healthy, and have functioning ecosystem services, and species diversity and abundance.[viii] Secure land tenure, adaptive capacity, and healthy ecosystems reduce the vulnerability of people living in poverty to the effects of climate change and other resource shocks.

2. Lessons from the MDGs and the shape of a future development framework

The UN Task Team report, "Realizing the future we want for all" [ix], provides a good assessment of the strengths and weaknesses of the Millennium Development Goals (MDGs), with useful guidance for the post-2015 UN development agenda, including the reality that "business as usual" is no longer an option. For example, climate change and sustainable development were not adequately integrated in the MDG framework but are essential to the post-2015 development agenda. Similarly, biodiversity was not adequately addressed in the MDGs and *"neither did the MDG framework account for vulnerability to natural hazards and other external shocks"*.[x] It was also a *"lost opportunity"* that the MDGs did not provide guidance on how to address the root causes of poverty and environmental degradation, such as inequality within and between countries.

We agree with this analysis and believe that the new development framework needs to better integrate environmental sustainability and equity.

3. Our vision for the world we want and the purpose of the framework

In the world we want, poverty has been eradicated and nature thrives; every woman, man, boy and girl, now and in the future can equally fulfil their rights and have sustainable, resilient, livelihoods that operate within planetary boundaries[1].

Meeting the food, water, energy, shelter, and health needs for a growing population in a way that does not compromise the Earth's ability to support us demands a radically different vision and approach to growth and development in the post-2015 period. Development needs to be socially and economically inclusive, including a focus on gender equality, and be environmentally resilient and sustainable. The central challenge is to reduce the impacts of consumption and production to maintain human wellbeing, while operating within the limits of sustainability, i.e. within the limits set by the planetary boundaries, and redistribute consumption towards the poorest[xi] and most marginalised.

The post-2015 framework needs to have environmentally sustainable development and resilience at its heart, alongside human rights and equity. The challenge is to simultaneously tackle inequalities within and between countries, while ensuring the protection and enhancement of the ecosystems services that support life. The main purpose of the post-2015 framework should be to meaningfully integrate poverty eradication and environmental sustainability into one comprehensive development framework that can build and support adaptive capacity in a complex and increasingly dynamic world.

4. Key principles underpinning the post-2015 framework

Integration – one process leading to one set of goals for sustainable development. The essence of sustainable development is to bring the social, economic, and environment spheres together. Therefore, the processes to develop Sustainable Development Goals (SDGs) should be wholly merged with post-2015 processes to agree on 'development goals' after September 2013.

Universality – all countries need to take action: To address the global challenges we face, all countries need to have responsibilities and ownership. Inspired by the principle of common but differentiated responsibility and respective capability, every country needs to take action but not necessarily the

[1] The nine boundaries are: climate change, stratospheric ozone, land use changes, freshwater use, biological diversity, ocean acidification, nitrogen and phosphorus inputs to the biosphere and to oceans, aerosol loading and chemical pollution. See Stockholm Resilience Centre (2009), 'Planetary Boundaries: Exploring the Safe Operating Space for Humanity' and 'Tipping Towards the Unknown'.

same precise action. This global action needs to improve the lives of people most affected by poverty and injustice, including the most vulnerable groups, while respecting environmental limitations and boundaries.

Cross-cutting – mainstreaming inclusive environmental sustainability throughout the framework: Environmental sustainability should be one of the core elements embedded across the post-2015 framework. The siloes of the MDG era have undermined the ability to address environmental sustainability in an integrated way. Moreover, the underlying drivers of poverty were not addressed. Therefore, the significance of environmental sustainability demands specific attention so it is fully recognized and effectively addressed.

Equality within and between countries – equal rights and equitable wellbeing: States need to acknowledge universal human rights as the basis for sustainable development, move towards greater equity in access to natural resources, and foster an inclusive, transparent, equitable and environmentally sustainable 'economy'; for example, by developing metrics beyond GDP to measure wellbeing.

5. Key issues, evidence and emerging thinking:

CAN and Beyond 2015 request the UN High Level Panel of Eminent Persons to prioritize the following issues when considering the development of the post-2015 framework:

- **Access to sustainable energy**: focused on reducing energy poverty with prioritization of low-carbon and decentralized solutions while ensuring access to energy for rural poor.
- **Climate change**: ensuring all goals aim to foster climate resilient lives and livelihoods, and contribute to a low-carbon future.
- **Reducing biodiversity loss and environmental degradation**: ensuring that the fundamental services upon which life on earth depends are protected and the basis for poor people's livelihoods and sustainable development is protected.

6. Supporting documents

As a response to the call for a thematic consultation on sustainable environment, CAN-International and Beyond 2015 are submitting four responses. This document is the first, supported by separate inputs on the following thematic areas:

- ***Energy Access***
- ***Climate change***
- ***Biodiversity***

7. Questions for phase 2 of the consultation

- How do we ensure climate change is fully integrated in the post 2015 development framework so that future development is climate resilient and contributes to a low-carbon future?
- How can the outcome of this consultation input to both the High Level Panel and Open Working Group on Sustainable Development Goals? What are appropriate metrics and measurements for sustainable development that go beyond GDP?
- How do we make growth sustainable so that it does not compromise planetary boundaries?
- What changes in behavior are necessary (public, government and private sector) to shift development onto a sustainable trajectory?

SECTION B

Prioritizing universal access to clean, safe, affordable, and reliable energy for eradicating poverty

Access to clean, safe, affordable, and reliable energy services is vital for eradicating poverty and has often been described as the 'missing' Millennium Development Goal.[2] Environmental sustainability and poverty eradication should not be seen as contradictory but rather as two sides of the same coin: delivering access to clean, low-carbon energy services to the poor.

According to the International Energy Agency (IEA), 1.3 billion people across the world still lack access to electricity, while 2.7 billion continue to cook with traditional biomass[3] suffering the health consequences of smoke inhalation, including exposure to chronic respiratory and cardiovascular diseases which disproportionately impact women and their children.[4] More than 95% of the energy poor live in sub-Saharan Africa or developing Asia and 84% live in rural areas.[5] Centralized, fossil fuel-based systems are unlikely to deliver access to energy services for these communities. In order to eradicate poverty and deliver sustainable development, the world must prioritize access to clean, efficient, safe, affordable, and reliable energy, especially for those living in acute poverty.[6]

Moreover, in the face of ever-worsening climate impacts that will hit the poorest hardest, access to clean, safe, affordable, and reliable energy is also vital to enhancing the resilience of poor men and women to environmental shocks, including by protecting the vital ecosystems services and natural resources that poor people depend on[7] (**see Climate Change – section C**).

Delivering energy services to the poorest

Access to energy is an essential input for sustainable and dignified livelihoods. Delivering clean, safe, affordable, and reliable energy services to the poorest requires reversal of the supply driven process of energy provision to focus on the needs of communities who lack energy access. A demand-led approach must match needs to energy resources, taking into account socio-cultural contexts and environmental sustainability. Public and private investment must prioritize energy delivery models that best fit the needs and wants of those living in energy poverty.

A vital part of this approach is measuring energy access properly, i.e. measuring it in terms of what matters to those living in energy poverty (the energy services that are possible and development outcomes that result), rather than simply focusing on energy provision.[8] An approach that defines access simply in terms of per capita kilowatt hours (kWh) added to the grid, or number of homes electrified, could mask important social equity issues such as whether the electricity delivered is affordable for poor communities. A sustainable energy approach must also involve looking beyond basic household electricity provision towards addressing the total energy needs of communities, including clean cooking, mechanical and heat energy, for households, production, and community services, as outlined by the concept of *Total Energy Access.*[9] Sustainable energy investment can provide

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[2] IIASA, 2012. The *Global Energy Assessment 2012* shows the clear correlation between energy consumption and per capita GDP, the Human Development Index and other measures of development progress.

[3] IEA, 2011. *World Energy Outlook 2011: Energy for all*: financing

[4] Indoor smoke pollution causes 1.5 million deaths per year, largely of children from acute respiratory infection. World Health Organisation, Fuel for Life: Household Energy and Health, WHO, Geneva, 2006

[5] IEA, 2011. *WEO 2011*.

[6] Most people in acute poverty live in middle income countries with a lesser but substantial number in low income countries. This is true both by multidimensional acute poverty measures (see: http://www.ophi.org.uk/wp-content/uploads/OPHI-MPI-Brief-2011.pdf?cda6c1) and by dollar per day poverty lines (see: http://www.ids.ac.uk/idsproject/the-new-bottom-billion).

[7] Johnson and Lambe, 2009. *Energy Access, Climate and Development*, Commission on Climate Change and Development. See: http://www.sei-international.org/mediamanager/documents/Publications/Climate/ccd_energyaccessclimateanddev2009.pdf

[8] IIASA, 2012. *The Global Energy Assessment*.

[9] Practical Action, 2012. *Poor People's Energy Outlook*. See: http://practicalaction.org/media/download/16129

powerful co-benefits for climate and health; for example low emission stove technologies ('clean cook stoves') reduce CO_2 emissions and avert premature deaths, accelerating poverty reduction.[10]

Decentralized energy solutions

In urban and peri-urban areas, reliable grid electricity is extremely important. However, extending grid electricity to rural areas becomes more expensive and inefficient the further consumers are from the source of power generation. According to the IEA, to reach the goal of universal access, at least 55 per cent of all new electricity generating capacity will have to come from decentralized sources such as mini-grids or isolated units.[11] The World Bank's Independent Evaluation Group, among others, has also found mini-grids to be often the least-cost and most effective way to deliver energy access.[12]

Renewable energy sources such as wind, solar, sustainable amounts of biogas, and micro hydro can play a major role in extending energy access to the poor, while promoting environmental protection and protecting energy users from price hikes associated with fossil fuels, as well as being the least costly method of reaching people in rural areas. Decentralized approaches can also promote local, democratic ownership of the delivery system and contribute to local development by building skills and providing employment opportunities both directly and indirectly through increasing the provision of reliable and affordable energy for productive uses.

Promoting energy access for the poorest requires holistic and integrated development planning, including financing, capacity building and a framework of enabling policies, and recognition of the synergies energy shares with different dimensions of development. Financing and technical support is needed from developed countries while political leadership is needed from developing countries to ensure the integration and prioritization of sustainable energy access for the poorest into core development planning.

Energy access and climate change

From a climate justice perspective, greenhouse gas emissions savings should not be the standard by which access to energy services for the poorest is defined, given they are least responsible for causing dangerous climate change and are the hardest hit by its impacts.[13] Also, the IEA projects that achieving universal access by 2030 would increase CO_2 emissions by between 0.7%[14] and 2%.[15]

However, as above, decentralized, small-scale renewable energy sources and end-use energy efficiency could provide the majority of electricity required for universal access, and support the "greening" of economies in ways that results in "improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities".[16] Such an approach to delivering energy access

[10] Paul Wilkinson et al., Public health benefits of strategies to reduce greenhouse gas emissions: household energy, *Lancet* 2009; 374: 1917–29

[11] IEA, 2010. *World Energy Outlook*

[12] IEG. 2008. *The Welfare Impact of Rural Electrification: A Reassessment of the Costs and Benefits*. Washington D.C.: World Bank

[13] 2012. Researchers at Brown University's climate and development lab have estimated climate-related disasters such as droughts, extreme temperatures, floods, and hurricanes causing around 1.3 million deaths since 1980. Two-thirds of these deaths (over 909,000) occurred in the least developed countries (LDCs) which account for less than 1% of the emissions responsible for climate change. Cited in: "An open letter to Obama from the world's poorest countries", Letter from Pa Ousman Jarju, Chair of the Least Developed Countries group at the UNFCCC to President Obama, 8 November 2012. See: http://www.guardian.co.uk/environment/blog/2012/nov/08/obama-climate-change-poorest-countries.

[14] IEG. 2008. *The Welfare Impact of Rural Electrification: A Reassessment of the Costs and Benefits*. Washington D.C.: World Bank, p. 469.

[15] In the worst case scenario – using fossil fuels for 100% of electrification and 100% of cooking for the poor – the total increase in emissions would be around 2% of world emissions. Sanchez, T., 2010. *The hidden energy crisis : how policies are failing the world's poor.*

[16] UNEP, 2011. *Towards a Green Economy Pathways to Sustainable Development and Poverty Eradication – A Synthesis for Policy Makers*. As UNEP highlights, the concept of a 'green economy' should not replace sustainable development, but "there is now a growing recognition that achieving sustainability rests almost entirely on getting the economy right. Decades of

can contribute to leapfrogging high carbon development pathways and building resilience to climate shocks in poorer countries. Developed countries have a responsibility under the UNFCCC to deliver the finance and technology necessary to ensure this transition (**see Climate Change – Section C**).

Sustainable Energy for All: a more inclusive process

A renewed focus on tackling energy poverty is emerging through UN Secretary General Ban Ki-moon's *Sustainable Energy for All Initiative* (SE4All).[17] SE4All aims to achieve three objectives by 2030: ensuring universal energy access; doubling the share of renewables in the global energy mix; and doubling energy efficiency globally. If SE4All is to achieve the wholesale energy transformation needed to deliver sustainable development in a carbon-constrained world, it must address current weaknesses and gaps in its approach.

- Develop a definition of universal energy access, which focuses on delivery of energy services to poor men and women and ensure the equal inclusion and participation of people who are marginalized as a result of age, gender, disability, geography and ethnicity in development.
- The initiative cannot remain technology-neutral. Clean, i.e. low-carbon, efficient, technologies must be privileged, especially for large-scale plans for generating grid electricity. Conversely, socially and environmentally-harmful technologies such as coal, nuclear, large-scale hydro, and industrial biofuels should not qualify as 'sustainable' energy sources.
- Civil society is one of the three pillars of SE4All along with government and private sector. SE4All must ensure the energy poor and civil society can participate fully in design and delivery of national action plans and in SE4All's international governance.
- Delivery models that focus on linking the poorest to energy products and service markets must be prioritized.[18] This requires the substantial involvement of governments, donor agencies, NGOs, and social enterprises.

Ensuring genuinely pro-poor, energy access means understanding that environmental sustainability and poverty eradication are two sides of the same coin. Creating low carbon energy policies at the national level that can deliver social, economic and environmental benefits requires a holistic approach and a deep understanding of the complex relationship between environmental sustainability and poverty reduction. Central to this is genuine participation of all stakeholders, in particular, men and women, including marginalized groups living in energy poverty and civil society actors.

creating new wealth through a 'brown [i.e. fossil fuel-based] economy' model have not substantially addressed social marginalization and resource depletion, and we are still far from delivering the Millennium Development Goals."

[17] See: http://www.sustainableenergyforall.org/
[18] IIED *Linking Worlds*, forthcoming.

SECTION C

Climate change: Adaptation and Mitigation

International development is happening in the context of an environmental crisis. The World Bank report, *Turn Down the Heat: Why a 4°C Warmer World Must be Avoided*, predicts more than 3°C of global warming by the end of this century on current global policy[19]. With this degree of warming, a high level of climate unpredictability, constraints on water resources, and increased extreme weather are all inevitable. As the World Bank report suggests, the adverse effects of global warming are "tilted against many of the world's poorest regions" and likely to not only undermine or even reverse development efforts and goals, but threaten the very survival of nations and populations.

Actions taken today shall determine living conditions and options for future generations. The actions of developed countries to reduce their fossil fuel dependency and shift to balanced carbon economies is critical if the threat of climate change is to be reversed. The impacts of climate change are already significantly affecting food prices, human settlement, water access, health, and lives.

The post-2015 development framework must enable outcomes which are both low-carbon and climate resilient and also deal with the situation of 'loss and damage'.[20] This will require a new development trajectory. All aspects of the development framework must pass three climate tests:

1. Does it progress towards a low-carbon global economy;
2. Does it maximize resilience in the face of uncertainty due to the changing climate; and
3. Is compensation and support provided, particularly to people living in poverty and vulnerability, who suffer loss and damage, when adaptation fails?

Poverty reduction and economic growth can only be sustainable if both respond to the climate risk. There is no conflict in achieving these outcomes together - with the right investment now, we can build a strong and sustainable economy that benefits the poorest people in the world and protects health and wellbeing. The low-carbon test should not enforce carbon targets on developing countries, but rather encourage developing countries to prioritize 'win-win' and 'co-benefit' opportunities for a low-carbon economy.

The post-2015 framework should not conflict with but work alongside the UNFCCC process in its development of a climate deal. In fact, a strong low-carbon and climate resilient development framework is necessary for a strong and effective 2015 global climate deal to be in force by 2020. Such an approach would greatly reduce the climate change risk for development investments. Pro-poor business can support the delivery of climate resilient communities and low-carbon infrastructure. "Sustainable diets", based on small-scale local agriculture and diverse farming systems, can deliver lower-carbon climate resilient food production and strengthen food security where it is most vulnerable.[21]

Concerted actions are needed for mitigation of climate change, disaster risk management, and adaptation to move towards climate resilient and sustainable development. Actions on all fronts are required together as they can be mutually supportive and complementary. This requires sectors and disciplines, such as environment and development, working together. In order to ensure long-term

[19] Turn Down the Heat: Why a 4°C Warmer World Must be Avoided, a Report for the World Bank by the Potsdam Institute for Climate Impact Research and Climate Analytics, November 2012. P23
http://climatechange.worldbank.org/sites/default/files/Turn_Down_the_heat_Why_a_4_degree_centrigrade_warmer_world_must_be_avoided.pdf

[20] Loss and damage to property, territory, lives and livelihoods result from both insufficient mitigation and when measures to prevent loss and damage, such as disaster risk reduction and adaptation measures, fail

[21] UN A/HRC/19/59, Report submitted by the UN Special Rapporteur on the Right to Food, Olivier de Schutter , 26 December 2011

progress and sustainable development, it is also key to consider the involvement and education of children with regard to climate change and disaster risk reduction.

Low-carbon development pathways

Mitigation related indicators that respect the principle of common but differentiated responsibility and respective capabilities must be added to the post-2015 framework to raise the ambition of all countries to ensure net global atmospheric carbon stays within the limits set by planetary boundaries.

Future *sustainable* economic development in the developing world will depend on providing modern and reliable power and transportation services for citizens and industry. However, this cannot be done at the expense of the climate and the degradation of the ecosystems on which poor people rely most. Sustainable energy sources provide an opportunity for many developing countries to leapfrog high carbon intensive pathways and deliver sustainable economic development through low-carbon technologies, in ways that also promote local democratic ownership of the energy system and create local employment. By reducing dependence on fossil fuel imports with volatile prices, countries can also enhance their energy security as well as addressing energy poverty[22]. This means a focus on reducing consumption and increasing efficiency of resource use, in particular, energy efficiency, and the adoption of renewable energy.

A low-carbon future also means a focus on low-carbon equitable, and humane agriculture and food systems, and a massive reduction in deforestation **(see Biodiversity Section D).**

Developing country actions on mitigation must be supported through finance and technology transfers from wealthier nations.

The outcomes of the UNFCCC climate change negotiations will have strong implications for international development. The level of future global warming will depend on the ambition of carbon cuts, which countries commit to in the next few years. This will require all countries to aim towards a new, fair, ambitious, and binding, climate agreement by 2015. For wealthy countries the challenge is to:

- Ensure they have appropriate ambitious targets for emissions reductions, climate finance, and technology transfer through the UNFCCC process.
- Reduce consumption and waste of high carbon good, and change methods of production – for food (particularly animal products)[23] and consumable goods – towards more sustainable, less carbon intensive methods.
- Phasing out of harmful practices such as subsidies for fossil fuels and high-input industrial agriculture (such as for large grain and soybean producers) that promotes the overproduction and overconsumption of meat and processed foods in high income countries and is increasing energy-dense diets, which are a major driver of obesity and NCDs worldwide.[24]

[22] Nigeria suffers acutely from over-reliance on imported fossil fuels, to the extent it stymies economic growth. Despite its abundance of hydrocarbon natural resources (crude oil and gas), the country still imports over 90% of its petrol to meet domestic consumption needs, providing massive direct ($8 billion/year) and indirect subsidies. Yet petroleum only contributes to about 10% of total domestic energy consumption, with more than 80% coming from traditional biomass. See Heinrich Boell Foundation (2012) 'Green Deal Nigeria, Chapter 6. http://www.boell.org/web/139-Green-Deal-Nigeria.html

[23] Pelletier N and Tyedmers P. 2010. Forecasting potential global environmental costs of livestock production 2000-2050. Proceedings of the National Academy of Sciences of the United States of America 107(43):18371-18374.

[24] UN A/HRC/19/59, Report submitted by the UN Special Rapporteur on the Right to Food, Olivier de Schutter, 26 December 2011

Resilience and Disaster Risk Reduction

Natural hazards and climate linked extreme events are becoming more frequent and devastating. Land use decisions, infrastructure investments, public investments in maintenance, and public insurance coverage for the poor have a stronger developmental and financial justification. Support will be needed for scientists, and development and humanitarian actors in developing countries to work alongside affected communities to develop effective early warning and disaster response systems.

The post-2015 framework should support actions that build resilience of social and ecological systems. This should increase the ability of countries, communities, and households to anticipate, adapt to, and/or recover from the effects of potentially hazardous occurrences (climate change and natural disasters, economic instability, conflict, etc.) in a manner that protects livelihoods, accelerates and sustains recovery, and supports economic and social development as well as environmental sustainability.

The Hyogo Framework of Action with targets until 2015, needs to be renewed with measurable and comparable targets and integrated in the post-2015 Disaster Risk Reduction (DRR) framework.

Adaptation

Indicators for resilience and the sustainability of services and infrastructure created in the face of climate variability and climate change need to be integrated in the post-2015 framework. A renewed Hyogo Framework will also need to consider the importance of social considerations such as gender equality and child protection.

Adaptation is critical in order to cope with the impacts of climate change at a local level as well as the potential economic loss to countries' GDP. Therefore, approaches to adaptation must be integrated, connected at all scales, and should focus on the critical climate impacts experienced on the ground. Adaptation must respect existing local knowledge to ensure that strategies and actions are appropriate to the local context. They must address the specific needs of vulnerable communities and local ownership is critical if they are to be maintained long term. This will require national and local government recognition of the critical role local communities play in adaptation.

It is the world's poorest people who are hardest hit by devastating droughts, floods and other extreme weather events. Climate change provides a new threat as well as compounds existing threats and vulnerabilities, for example, affecting food security and health. Opportunities provided by adaptation could enable technological leap-frogging and transformative change in societies; such pro-poor and sustainable choices must be promoted.

The levels of public funding for adaptation to the impacts of climate change through the Green Climate Fund of the UNFCCC will play a significant part in determining how prepared developing countries are for responding to climate change. Funding for climate change adaptation has to be additional, new, from public sources and separate from ODA. The continuum between development actions and adaptive measures is an opportunity for multiple-benefits to be realised and must be capitalised upon, for example, through integrated national development and adaptation planning. All development must incorporate climate change in order to reduce the risk to development investments from climate variability and to increase the resilience of poor communities and ecosystems to climate change.

Loss and damage

Current emissions reduction commitments fall far short of what would be needed to prevent exceeding the critical 2°C threshold, which recent evidence indicates would itself be more damaging than previously thought. A trajectory to an increase of 4 or even 6°C would lead to devastating loss of and damage to land, property, ecosystems, and human life.

The first and foremost response must be to immediately and drastically cut emissions, and help vulnerable countries and ecosystems adapt to new climate realities. The post 2015 development framework must recognize that we are in a 'third era' of climate impacts and that a comprehensive international mechanism is required to address permanent loss and damage resulting from climate impacts.

Vision for the future

In the context of climate change and natural resource constraints, business-as-usual development is not an option. There are huge challenges ahead, for example, to provide food security, to deliver universal access to modern energy, and for pro-poor enterprise development.

Current food systems, with associated impacts of emissions from farming practices, forest clearance for farmland, and food transportation, are simply unsustainable. Animal agriculture is particularly damaging, responsible for nearly one-fifth of global emissions[25] and set to grow 39% by 2050 over year-2000 levels.[26] Climate change is already having a damaging effect on farming through droughts, floods, and unpredictable rainfall. Delivery of food security into the future should increasingly focus on sustainable supply, supporting small scale farmers to develop sustainable 'agro-ecological' methods of farming, and to adapt their farming practice to the future uncertainties of climate change.[27]

Questions for the consultation

1. How can we formulate low-carbon indicators, which are fair and effective?
   - For a universal goal, applied to all countries (developed and developing), what level of differentiation would be needed between countries?
   - What would the objective of 'making progress towards a low-carbon economy' mean at a national level?
     - How could this be measured at a national and global level so that it supports the achievement of UNFCCC and its processes (e.g. Nationally Appropriate Mitigation Actions and Low-carbon Action Plans)?
   - How can low-carbon indicators incorporate other dimensions of development, including health and wellbeing?

2. What would climate resilient development mean for the post-2015 development framework?
   - How would you define climate resilient development in a national context? Considering:
     - adaptation requirements and adaptive capacity;
     - disaster risk reduction and responses; and
     - livelihood resilience and social safety nets.
   - What specifically would progress towards climate resilient development look like at a global and national level?
   - Is there a way of measuring climate resilience that could hold governments to account?
   - What are the ways to ensure that climate change resilient development considers and responds to the different needs of all persons, including those in excluded or marginalized groups?
   - How do we effectively deal with the situation when risk reduction and adaptation fails and people suffer loss and damage?
3. These outcomes are dependent on finance and technology flows from developed to developing countries. How should rich countries be held to account on delivering this, considering the existing inadequate promises of 100 billion USD per year by 2020?

[25] Steinfeld H, Gerber P, Wassenaar T, Castel V, Rosales M, and de Haan C. 2006. Livestock's long shadow: environmental issues and options. Food and Agriculture Organization of the United Nations, p. xxi.
[26] Pelletier N and Tyedmers P. 2010. Forecasting potential global environmental costs of livestock production 2000-2050. Proceedings of the National Academy of Sciences of the United States of America 107(43):18371-18374.
[27] Healthy Harvests, - the benefits of sustainable agriculture in Africa and Asia Christian Aid, 2011. http://www.christianaid.org.uk/images/Healthy-Harvests-Report.pdf

SECTION D

Biodiversity: Reducing biodiversity loss and environmental degradation

The Millennium Ecosystem Assessment found that over 60% of ecosystem services are degraded, with major implications for human wellbeing.[xii] The Living Planet Index shows a 28 per cent global decline in biodiversity health since 1970, and in the tropics this decline is more than 60%.[xiii] Governments around the globe have been prioritizing economic growth over sustainable development without consideration of the limits of natural resources and the biosphere stability. Ecosystems on land and sea provide food, climate protection, water, and clean air for all. Yet, ancient forests are being demolished, oceans are being depleted of fish, and agricultural biodiversity is in meltdown from modern industrial farming. The impacts of climate change are causing irreversible damage to ecosystems and habitats, and the rate at which species are becoming extinct is higher than at any time in the Earth's history. The planet is reaching crucial tipping points for a number of important ecosystems, such as coral reefs and forests. We are harming the very source of our health, livelihoods and prosperity.

Three examples show the links between human wellbeing and biodiversity:

1. **Agriculture:** biodiversity and natural systems provide the platform for agricultural production, supplying the genetic material for crops and livestock, and other vital services such as pollination, water regulation, pest control and soil fertility.[xiv] The decline in ecosystem services has implications for the productive capacity, sustainability and resilience of agricultural systems.[xv] Biodiversity provides the genetic stock for crop and livestock breeds as well as for many other products (such as timber, medicines, fisheries, textiles). Biodiversity loss is disrupting agriculture and decreasing the availability of fish stocks, both vital food supplies. It is estimated that about three-quarters of the genetic diversity found in agricultural crops have been lost in the last century alone.[xvi]
2. **Forests:** Forests play a major role in regulating the Planet's climate. They also protect against floods, landslides, avalanches, ocean surges, and desertification; support the provision of clean water, medicines, crops, fish and fiber; and provide space for recreation and exercise and places sacred to the world's various faiths. 1.6 billion people are supported by forests, with 300 million living in forests including 60 million indigenous peoples.[xvii] The full potential of forests will only be realized, however, if we halt deforestation and forest degradation: while temperate forests in much of the northern hemisphere are expanding, tropical forests are shrinking. Redressing these trends will require ending policies, subsidies and corruption that drive deforestation, and funding a transition to a zero-net deforestation and degradation approach which also meets the needs and respects the rights of indigenous peoples, women and local communities.
3. **Oceans:** Oceans are the main highway for international trade and the primary stabilizer of the world's climate. They supply a major source of protein for billions of people, as well as seaweed and marine plants for the manufacture of food, chemicals, energy and construction materials. Coastal habitats form critical buffers against storms and tsunamis and store significant quantities of carbon while some support booming tourism industries. Wind, waves and currents offer considerable potential as sustainable energy supplies. The diversity and ecosystem health of oceans and coasts, however, are at risk from escalating overexploitation, pollution, habitat degradation and climate change – risks that can also operate cumulatively or synergistically. Addressing these threats and reversing current trends, so that oceans can fulfill their full potential to support sustainable development, requires an integrated approach to ocean uses. It also requires much stronger governance and resource management, including among other measures, ensuring equitable access to resources, fighting transnational organized crime, and better institutional coordination.

Recognizing the importance of biodiversity and healthy, intact ecosystems for people, particularly those in poverty and vulnerability, is vital. The Post-2015 framework must recognize and support the CBD Strategic Plan and the 20 Aichi biodiversity targets to help halt biodiversity loss. In particular,

working in partnership with national institutions, local organizations and the private sector, prioritisation must be given to reducing and reversing the destructive impacts of human activities that are the drivers of biodiversity loss. At the same time, measures to increase the resilience of ecosystems (such as protected areas and marine reserves) must be implemented without delay.

Two key cross-cutting issues that need to be addressed when considering biodiversity in a post 2015 development framework are how we better value biodiversity and ecosystems, and the interlinkages between climate change and biodiversity.

Valuing Biodiversity and Ecosystems

Our economies are based on natural resources and the loss of biodiversity and ecosystems is a "threat to the functioning of our planet, our economy and human society".[xviii] Ecosystem services and biodiversity are undervalued by decision makers. Biodiversity and ecosystem services are not 'accounted' for in the markets, meaning that the benefits we derive from these goods (often public in nature) are usually neglected or undervalued in decision-making[xix]. This leads to ecosystem degradation, destruction or pollution.

If we aim to achieve sustainable development, governments must also commit themselves to ensure the continued wealth of global biodiversity, through incorporating the multiple values of biodiversity and ecosystem services into policy and management decisions. Only once accounting systems go "beyond GDP" to properly reflect the environmental costs and benefits of natural resource use and services, will we understand the true costs of natural capital losses, as well as gain a much better understanding of the huge social and economic return in investing in biodiversity protection.

Climate Change and Biodiversity

Climate change is an increasing threat to biodiversity. Furthermore, the way that people adapt to the changing climate may put further pressure on the environment. Some species and ecosystems are showing some capacity for natural adaptation, but others are already showing negative impacts even under current levels of global warming. Aquatic freshwater habitats and wetlands, mangroves, coral reefs, Arctic and alpine ecosystems, and cloud forests are particularly. Continued climate change will have predominantly adverse and often irreversible impacts on many ecosystems and their services, with significant negative social, cultural and economic consequences.

A recent World Bank report provides a stark warning: *"in a 4°C world climate change seems likely to become the dominant driver of ecosystem shifts, surpassing habitat destruction as the greatest threat to biodiversity. Recent research suggests that large-scale loss of biodiversity is likely to occur in a 4°C world, with climate change and high CO2 concentration driving a transition of the Earth´s ecosystems into a state unknown in human experience. Ecosystem damage would be expected to dramatically reduce the provision of ecosystem services on which society depends."*

Questions for the consultation

- How do we ensure ecosystems and biodiversity are valued by decision makers? For example what economic tools or instruments should we utilize?
- How do we make sure the post 2015 development framework links effectively to other Multilateral processes e.g. the CBD and UNFCCC?
- How do we ensure environmental sustainability including biodiversity are cross cutting issues in the post 2015 framework while also ensuring the inclusion of specific goals, targets or indicators related to ecosystems and biodiversity?

[i] Global Environmental Outlook, GEO5, 2012, unep.org/geo/

[ii] UNEP, 'Towards a Green Economy Pathways to Sustainable Development and Poverty.

[iii] UNEP (2011) Decoupling natural resource use and environmental impacts from economic growth, A Report of the Working Group on Decoupling to the International Resource Panel. Fischer-Kowalski, M., Swilling, M., von Weizsäcker, E.U., Ren, Y., Moriguchi, Y., Crane, W., Krausmann, F., Eisenmenger, N., Giljum, S., Hennicke, P., Romero Lankao, P., Siriban Manalang, A., Sewerin, S.

[iv] The UN Task Team report can be found at http://www.undp.org/content/dam/undp/library/Poverty%20Reduction/Realizing%20the%20future%20we%20want.pdf

[v] World Resources Institute (2008) Roots of Resilience-Growing the Wealth of the Poor. Washington, DC. http://pdf.wri.org/world_resources_2008_roots_of_resilience.pdf

[vi] Millennium Ecosystem Assessment (2005) Ecosystems and Human Well-being: Synthesis. Island Press, Washington, DC, USA. http://www.millenniumassessment.org/documents/document.765.aspx.pdf

[vii] Oxfam (2012) A safe and just space for humanity http://www.oxfam.org/sites/www.oxfam.org/files/dp-a-safe-and-just-space-for-humanity-130212-en.pdf

[viii] Reid, H. and K. Swiderska (2008) Biodiversity, climate change and poverty: exploring the links, IIED www.iied.org/pubs/display.php?o=17034IIED and World Resources Institute (2008) Roots of Resilience-Growing the Wealth of the Poor. Washington, DC. http://pdf.wri.org/world_resources_2008_roots_of_resilience.pdf

[ix] The UN Task Team report can be found at http://www.undp.org/content/dam/undp/library/Poverty%20Reduction/Realizing%20the%20future%20we%20want.pdf

[x] Ibid

[xi] See www.oxfam.org/grow.

[xii] Millennium Ecosystem Assessment (2005) Ecosystems and Human Well-being: Synthesis. Island Press, Washington, DC, USA. http://www.millenniumassessment.org/documents/document.765.aspx.pdf

[xiii] WWF (2012) Living Planet Report http://awsassets.panda.org/downloads/lpr_2012_summary_booklet_final.pdf

[xiv] UNEP (2009) The environmental food crisis – The environment's role in averting future food crises. A UNEP rapid response assessment http://www.unep.org/pdf/FoodCrisis_lores.pdf; WWF International (2010) Hot House Brief on Biodiversity and Agriculture

[xv] IAASTD (2009) Agriculture at the cross roads, International Assessment of Agricultural Knowledge, Science and Technology for Development http://www.agassessment.org/reports/IAASTD/EN/Agriculture%20at%20a%20Crossroads_Global%20Report%20(English).pdf

[xvi] FAO 2004 cited in WWF International (2010) Hot House Brief on Biodiversity and Agriculture

[xvii] WWF 2011, Living Forests Report: Chapter one.

[xviii] http://www.teebweb.org/wp-content/uploads/Study%20and%20Reports/Additional%20Reports/Interim%20report/TEEB%20Interim%20Report_English.pdf

[xix] TEEB (2009) The Economics of Ecosystems and Biodiversity for National and International Policy Makers –Summary: Responding to the Value of Nature.