Learning Materials:
Leaving No-one Behind in the Climate and Environment context

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Contents

List of Figures

List of Tables

List of Case Studies

About these Learning Materials

In September 2015, the governments of 193 countries came together and agreed on 'Agenda 2030', a charter of 17 Sustainable Development Goals (the SDGs), and made a commitment to **'leaving no-one behind'**. This commitment is to ensure that everyone is able to benefit from sustainable development processes and that no goal is deemed to be met unless met for all.

The UK Government is committed to endorsing and embedding this ambition to "put the last first" and to 'include, target and help the most vulnerable and extreme poor to reach their full potential' as part of the UK Aid Strategy (2015), the Prime Minister's Promise, and DFID's soon to be published Leave No-One Behind strategy and framework. DFID's climate-smart development narrative has also laid down inclusive growth, resilience and stewardship of natural resources, particularly among the most vulnerable and marginalised, as core tenets of its sustainable economic growth and poverty reduction agenda.

These commitments by the UK Government to lead the world in implementing the 'Leave No-One Behind' pledge, and in catalysing inclusive approaches to climate-smart development need firstly a demystification of the concept itself of 'leaving no-one-behind'. We need to understand what it really means for UKAid programming and policy interventions, particularly in the context of climate change, and of environmental change in the form of environmental degradation and decline.

The purpose of these learning materials on 'leaving no-one behind' (LNB) is to summarise the discourse on the concept, unpack its meaning, and examine its practical implications in the context of DFID's climate and environmental (C&E) policy and programming.
The **Learning Materials** are structured as follows:

- **Section 1** provides an introduction to the Materials and sets out the context for LNB.
- **Section 2** frames emergent evidence around the most relevant socio-economic groups and what makes them marginalised and/or extreme poor.
- **Section 3** investigates the specific vulnerabilities and capacities of the socially excluded and extreme poor groups in the context of climate and environmental change.
- **Section 4** then provides indicative entry points and recommendations on how DFID's C&E work could better engage with, integrate and empower these groups in the context of the 'Leave No-one Behind' framework.

The concepts introduced in each section are illustrated throughout by case studies, and **Further Reading** boxes at the end of each section provide a short list of suggested texts to help think further on the issues discussed.

Key points noted in each section are summarised below:

Evidence discussed in **Section 1** shows that there are four key structural drivers which underpin the marginalisation of the extreme poor and excluded groups, and which work in combination to reinforce and exacerbate their vulnerabilities:
1. An inadequate asset base (natural, physical, financial, human, social and cultural).
2. Poor access to services and infrastructure (health, energy, water, transport, markets).
3. Weak political voice, empowerment and representation in institutional governance.
4. Identity-based discrimination, social norms and intersecting inequalities

This fourth structural driver of marginalisation, associated with identity-based exclusion and social norms, is in essence the *underlying* driver, often leading groups to suffer from inadequate assets, poor services or weak political voice (the first three drivers), thereby impeding their ability to lift themselves out of poverty.

As a result of these drivers - and the multiple disadvantages which they entail - extreme poor and excluded groups are often predisposed to be vulnerable to climate risks, to suffer through environmental degradation and to face adverse impacts of poorly designed climate and environmental change interventions. Climate and environmental change therefore act as a risk multiplier, exacerbating the marginalisation of the most vulnerable and causing them to get stuck in a vicious cycle of poverty and exclusion.

In **Section 2**, we discuss some particularly pertinent affected groups that need to be considered carefully in the context of inclusive and equitable climate and environment programmes. These include:
- women and girls
- people with disabilities
- older people
- children
- youth (including adolescents)
- minority groups based on ethnicity, faith or caste
- sexual orientation and gender identity
- displaced persons

It is important to note that these groups are not mutually exclusive, but rather may overlap, and a number of affected people may face multiple forms of marginalisation through, for example gender, race, age and disability. In addition, poverty and exclusion are extremely context specific. Drivers of poverty and also opportunities to alleviate poverty depend very much contextual factors such geography, institutional setting, the rural/urban and socio-economics so groups need to be examined carefully for each intervention.

Considering the DFID climate-smart development objectives and the wider remit of Climate and Environment (C&E) policy and programming interventions, the last part of Section 2 investigate three core themes, and examine their potential relevance for linking LNB and C&E. In probing these themes further in **Section 3**, we take a twin-track approach, both reviewing the role of C&E change as a risk multiplier, and exploring the potential opportunities that C&E programming presents to reach and empower the poorest and most marginalised people.

The three core themes that we use to focus our discussion are:

- **Building climate resilience:** for example,
    - enhancing adaptive capacities of marginalised groups to prepare for, cope with, respond to and recover from climate shocks and extreme weather events;
    - supporting appropriately targeted and timed social protection interventions (both short-term cash transfers and long-term safety net programmes) that can help to build or protect assets and livelihoods, and build resilience far more cost effectively than responding to crises after the event.

- **Realising low carbon development:** for example,
    - enabling access to modern, clean and affordable small scale renewable energy solutions;

- o ensuring the provision of reliable and affordable climate-resilient services and infrastructure to the urban poor;
- o supporting climate resilient livelihoods through green jobs and climate-smart agriculture, thereby coupling emissions reduction with poverty reduction and economic growth.

- **Supporting environmental stewardship:** for example
  - o supporting and enhancing the agency of the extreme poor and marginalised groups so that they can play an active role as environmental stewards or guardians, contribute towards restoration of natural resource bases and ecosystems services, and help reverse processes of environmental degradation through sustainable use of land, water and forest reserves.
  - o supporting land and property rights as a fundamental building block of better natural resource management.

Over recent years, there have been varying degrees of attention paid to the need to anchor the vulnerabilities, needs and capacities of extreme poor and excluded groups across each of the three key themes above. While there has been some notable effort to overcome the barriers that block access to and progress of those who are most marginalised and harder to reach, and catalyse their equitable participation in sustainable development processes, a lot still needs to be done. As illustrated in some of the case studies in Section 3 and related examples in Section 4, silo-ed interventions and examples focusing on one or more marginalised groups exist, but there is a paucity of evidence of 'inclusive' and effective climate and environment programmes at scale using integrated, multi-disciplinary and holistic approaches. There is therefore an urgent need for cohesive policies that are based on comprehensive contextual analysis, and which consider multiple discriminations. These should clearly demarcate the roles and added value of the various actors such as governments, donors, civil society, private sector, media and academia in supporting inclusive and equitable climate-compatible development.

A clear message coming out of these Materials is that the extreme poor and marginalised groups are much more than just victims; they are actors with enormous potential and untapped capacities, driving transformational changes within their communities. Women and girls deserve a particular mention as their roles cut across all three themes of climate resilience, low carbon development and environmental stewardship and they are represented across the targeted groups. Besides the important role of gender, there are also a number of clear cases showing how children, adolescents and youth are driving climate-sensitive approaches across interventions, ranging from awareness-raising to sustainable forestry to supporting renewable energy initiatives. Indigenous communities with their traditional skills and knowledge have been particularly noted as a resource for identifying more locally suitable low carbon and climate resilient solutions.

Section 4 continues to build on the evidence presented in the previous chapters to provide recommendations on how LNB can be integrated across C&E programmes and on the 'who', 'what' and 'how' of doing things differently. We discuss the common barriers and challenges for embedding LNB in C&E policies and programmes of different sizes, sectors and scope alongside the opportunities to address them. The challenges include issues such as data, scale, heterogeneity, communication and physical access. Opportunities are based on contextualising DFID's forthcoming LNB strategy and framework in C&E terms, as it sets out a robust three-pillar approach to positively embrace the role of extreme poor and excluded groups as future agents of change, requiring those designing and delivering programmes to:

1. Understand for action (build on data, context and evidence)
2. Empower for change (enable voice, empowerment and accountability)
3. Include for Opportunity (catalyse inclusive growth, institutions and services)

These three principles provide an excellent foundation for inclusive policies and programmes providing better value for money, enhanced impacts on poverty alleviation and sustainable development whilst harnessing the full potential of the most vulnerable and marginalised.

Leave no-one behind is undoubtedly a formidable goal - but it is by no means unachievable. Given that the narrative on LNB is still evolving, and examples of convergence of LNB and C&E policies and programming are still being discussed across communities of practice both in DFID and externally, these Learning Materials are intended more as a 'start of a process' than a 'final' product. They serve as a live and 'editable' resource — to inspire ideas and stimulate discussions and engagement with DFID advisers - as the thinking, challenges and good practice on the LNB topic, and particularly its interface with C&E, becomes more crystallised and grounded.

Through a concerted and collaborative effort on understanding, empowering and including for change, DFID and its development partners can integrate LNB across climate and environmental programming and policy interventions, whilst at the same time helping to mainstream C&E into wider sustainable development actions and initiatives to further progress on the SDGs. Only then can we make progress towards delivering equitable sustainable development.

SECTION 1

Introduction

1.1 Objectives

These Learning Materials aim to help DFID advisers understand the concept of 'leave no-one behind' (LNB), and how climate and environment interventions can contribute to this objective. They place LNB in the context of the Sustainable Development Goals (SDGs) and provide DFID advisers with:

- a review of the available evidence on LNB, and of relevant social and economic groups, examining the underlying drivers of the vulnerabilities, marginalisation and inequalities affecting them;
- a review of evidence on how climate and environmental change exacerbates the pre-existing vulnerabilities of these extreme poor and excluded groups;
- a synthesis of examples on how climate and environmental programming and policy interventions have embedded, or could potentially embed LNB principles;
- practical advice on how DFID's interventions across climate resilience, low carbon development and environmental stewardship themes could effectively engage with, integrate and maximise the potential of the most vulnerable and excluded groups.

Research into LNB in the context of climate and environmental change is an emerging field of enquiry. The Learning Materials are based on peer-reviewed papers, as well as grey sources such as material from think tanks and civil society. They are a 'live' resource, to which case studies and lessons can be added, as the thinking on LNB and its linkages with C&E develops over time.

- This Section 1 provides an introduction which sets out the context for LNB.
- Section 2 frames the most relevant socio-economic groups and what makes them marginalised and/or extreme poor.
- Section 3 investigates the specific vulnerabilities and capacities of the LNB groups in the context of climate and environmental change.
- Section 4 then provides recommendations on how DFID climate and environmental policy and programming interventions could better engage, integrate and empower these groups.

The concepts introduced in each section are illustrated throughout by case studies and backed by Annexes 1-4. The annexures include:

- a conceptual framework to aid the thinking and conceptualisation of LNB (Annex 1)
- an analytical framework and C&E thematic scope used to research and frame the evidence presented in the Learning Materials (Annex 2 and Annex 3)
- a glossary of key definitions (Annex 4)

1.2. Setting the context of LNB

MDGs to the SDGs

The Millennium Development Goals (MDGs) represented an important step forward for the international community, serving as a platform for all development actors to align themselves around shared priorities and providing some valuable learning.

Nevertheless, despite some notable successes, extreme poverty and inequalities continue to persist in the post-MDG era and most public policies aimed at addressing these issues have not been able to alleviate them (Arauco, 2014). In many cases, this was because local context and realities were not faithfully represented in planning interventions, and some specific issues of relevance such as environment were given inadequate attention. There was too little focus on balancing development pathways with climate resilient livelihoods.

A significant shortcoming of the MDGs was that the achievement of the Goals was benchmarked against global averages, and the improvements were not spread evenly across and within countries. The focus on progress at the national average level towards the targets meant that aggregate numbers were given precedence over specific sections of society such as marginalised or vulnerable groups.

MDGs were therefore not universally achieved for the poorest and most excluded, who are harder to reach and suffer entrenched and multidimensional poverty. (Melamed, Putting inequality in the post-2015 picture, 2012; ATD Fourth World, 2015). Thus, in essence, MDGs left some people behind. The SDGs have been designed to 'finish the job' and are different, in as far as the goals and targets must be met by all social and economic groups.

In September 2015, 193 country governments came together and agreed on 'Agenda 2030'. This comprises 17 global SDGs. The SDG framework is broad, universal and emphasises inter-linkages and synergies across the goals. The SDGs are premised around fulfilling a universal agenda – one applicable to all countries and LNB – with sustainable development at their core. LNB is the foundational equity principle enshrined in the post-2015 framework (Melamed & Samman, 2013) and affirms that *'Every person counts and deserves a fair chance in life, no matter who they are or where they live* (Eldis, n.d.).The LNB principle builds on and complements SDG 1 on *'ending poverty in all forms, everywhere'.*

Relevance of LNB to UKAid Commitments and Policy

The Leave No-One Behind principle has clearly received international attention, and is garnering strong political legitimacy and support in the UK as well.

The UK Government is committed to endorsing and embedding this ambition to '*put the last first*' and to '*include, target and help the most vulnerable and extreme poor to reach their full potential*' as part of the UKAid Strategy, the Prime Minister's Promise, and the soon to be published DFID Leave No-One Behind strategy and framework.

The [UKAid Strategy](#) published in November 2015 is centred on core strategic objectives (SOs) that include:
- SO1: Strengthening global peace, security and governance
- SO2: Strengthening resilience and response to crisis
- SO3: Promoting global prosperity
- SO4: Tackling extreme poverty and helping the world's most vulnerable.   (DFID 2015c)

Building on these four strategic objectives and especially SO4, the UK Government has committed '*to prioritise work that targets the most vulnerable and disadvantaged, the most excluded, those caught in crises and those most at risk of violence and discrimination.'* The

Government has committed to eliminate extreme poverty by 2030, and support the world's poorest people to ensure that every person has access to basic needs, including prioritising the rights of girls and women.

Reinforcing the momentum generated by the SDGs, the UKAid strategy has also outlined the ambition of the UK Government to '*lead the world in implementing the Leave No One Behind Promise*' and integrate LNB across policy and practice. The [Prime Minister's promise](#) (DFID, 2015b) reinforces the UKAid commitments and affirms that '*we believe that … no one should be unfairly burdened by disaster or a changing climate, and...it is in all of our interest to leave no one behind and to ensure a fair opportunity for all, now and for the future'*.

DFID, as the UK's primary channel for aid, has a number of years of solid track record in supporting research and programming towards poverty alleviation. However, there is an acknowledgement that greater emphasis is needed on reaching the extreme poor and addressing exclusion. In a sense, this does not mean focusing on a completely new agenda per se, but rather a move away from business as usual. A new way of thinking about vulnerability and exclusion is needed, which involves inclusive policy and planning, better targeting and reaching the hard to reach, and helps to realise the full potential of poverty alleviation approaches and interventions especially in a fast changing global context. This is where the concept of 'Leave No-one Behind' comes in. DFID is in the process of publishing its LNB policy approach paper and strategy which set out three pillars as a framework to discuss the role of extreme poor and excluded groups as future agents of change:

1. Understand for action (build on data, context and evidence)
2. Empower for change (enable voice, empowerment and accountability)
3. Include for Opportunity (catalyse inclusive growth, institutions and services)

Participation and agency, as well as partnerships and accountability are cross-cutting dimensions that cut across the three pillars.

Figure 1: DFID LNB Strategy and Framework

(DFID, forthcoming)

1.3 LNB: what it means

Having established the context of the political ambition and commitment to 'leave no-one behind', let us now investigate what LNB really means, and its origin in conceptual terms.

The core rationale underpinning a focus on LNB in DFID's work is to reduce extreme poverty and support inclusive and sustainable development, thereby helping to implement the SDGs, particularly emphasising Goal 1 (Ending poverty in all forms, everywhere) and Goal 10 (Reducing inequalities within and in between countries). To better understand the origin of 'leave no-one behind', let us take a deeper dive into the two key words: 'poverty' and 'inequalities'.

Poverty

There are a number of different definitions of poverty, with no single, universally accepted meaning. However, broadly there is agreement that poverty is characterised by an inability to fulfil basic needs, a lack of capacity to participate effectively in society and to respond to opportunities to better one's life. Poverty is influenced by a range of economic, social and political factors that impact different groups and individuals in society in different ways, providing opportunities to some while marginalising others.

Poor populations face multiple deprivations alongside income poverty and material deprivation. Multi-dimensional poverty, as its often called, manifests itself also in physical and psychological distress or illness, lack of access to basic services, social marginalisation and exclusion, as well as lack of participation and agency in decision-making, resulting in disempowerment (UNDP, n.d.).

Inequalities

Much has been written on inequalities in the context of social and economic justice, as well as equity discourses. In the context of LNB, the two dimensions of inequality that are most relevant are extreme poverty and social exclusion. These two are linked, but it important to understand the difference between the two concepts and their relationship. A third concept should be highlighted here as well, though it is not the same as either poverty or social exclusion – this is the concept of vulnerability. We will now unpack these dimensions of inequality - extreme poverty, social exclusion and vulnerability - in a bit more detail:

- Extreme Poverty (deprivation based on lack of a broad range of assets i.e. not just income) that causes inequality among people within countries and globally.
  Despite substantial progress globally, an estimated 1.2 billion people remain in extreme poverty (under$1.25 day). An estimated 93% of people living in extreme poverty are in countries that are either fragile or environmentally vulnerable or both (UNHCR 2015). The concept of extreme poverty is closely related to the concept of inequality. Extreme poverty is seen to be especially dominant in harder to reach populations facing specific barriers associated with socioeconomic status, gender, ethnicity, and geography. Extreme poverty is therefore both an outcome and a cause of the processes of social marginalisation and inequality.

- Social Exclusion (systematic discrimination against people or groups based on their social identity) causes inequalities among social groups, due to ascribed characteristics such as race, gender and age (Melamed & Samman, 2013).
  Social exclusion is *'the process through which individuals or groups are wholly or partially excluded from full participation in the society in which they live' (Kabeer, 2010).* Kabeer noted that one needs to account for group-based disadvantages (or 'horizontal' inequalities) to understand and address inequalities within poor

populations. Group-based disadvantages are *'products of social hierarchies which define certain groups as inferior to others on the basis of their identity. Such hierarchies are created through cultural norms and practices which serve to disparage, stereotype, exclude, ridicule and demean certain social groups, denying them full personhood and equal rights to participate in the economic, social and political life of their society'*

- Vulnerability: (insecurity and exposure to risk, shocks and stresses). Vulnerabilities often stem from existing structural causes of poverty and marginalisation.
  As Olsson (2014) outlines, some individuals or social groups are particularly marginalised or socially excluded in communities, which makes them particularly susceptible to climatic shocks and stresses, and prevents them from accessing and utilising resources and opportunities that can empower them to break the poverty-vulnerability cycle. They are over-represented across several indicators of deprivation such as lack of education, inadequate living standards, poor health and lower life expectancy, lack of income, poor quality of work and threat of violence (OECD; Granoff, 2015) (DFID, 2016).

It is important to note that these groups experiencing extreme poverty, social exclusion and vulnerability are far from homogenous and individuals or households here do not neatly fit into one category. Populations experiencing extreme poverty face overlapping forms of marginalisation or intersecting inequalities that often become causes or outcomes of each other. On one hand, extreme poverty precludes socially excluded communities from access to resources and opportunities for survival, security and quality of life. Economic, social and political institutions shape access to resources, opportunities, agency and voice of the extreme poor. On the other hand, socially excluded groups are unable to reap fully the benefits of economic progress and are confronted with extreme poverty and deprivation.

Thus the extreme poor and excluded groups often face a number of structural barriers that reinforce their vulnerabilities. The cumulative disadvantages experienced by these groups means that they find it hard to break the poverty trap, especially in the face of shocks and stresses. As such inequalities get reinforced over people's lifetimes, and over generations (Melamed & Samman, 2013). The LNB principle embodies this notion of addressing extreme poverty and social exclusion thereby helping to reduce the vulnerabilities, and empowering and engaging with those who are the most marginalised.

1.4   Structural drivers of poverty and marginalisation

So what does a focus on 'leaving no-one behind' really entail in practical terms? What are those structural barriers and intersecting inequalities that confront groups experiencing entrenched social marginalisation and poverty?

Based on the synthesis of evidence gathered, we outline four structural drivers that underpin the marginalisation of the extreme poor and excluded groups, and work in combination to reinforce and exacerbate their vulnerabilities. (Refer to Box 1 below to see how these structural barriers have been conceptualised):

- Inadequate asset base (natural, physical, financial, human, social and cultural)
- Poor access to services and infrastructure (health, energy, water, transport, markets)
- Weak political voice, empowerment and institutional governance
- Identity-based exclusion and social norms

It should be noted that the first three structural drivers (assets, services and voice) are actually enablers and it is when people do not have access and control over these, that they

become barriers. The fourth structural driver of marginalisation – 'Identity-based exclusion and social norms' - is in fact the underlying driver that can often cause populations to suffer from inadequate assets, poor services or weak political voice, thereby impeding their ability to lift themselves out of poverty.

It is this identity-based exclusion that Kabeer (2010) noted in the context of group-based disadvantages and horizontal inequalities referred to in section 1.3 above. Kabeer (2010) notes that the groups which often get left out of development progress are the groups in the population whose culturally devalued identities and lack of political representation interact or intersect with their economic impoverishment and locational disadvantages (Kabeer, 2006). The term 'Intersecting inequalities' captures the compound quality of this form of disadvantage, with different forms of inequality (economic, social, spatial and political) reinforcing and exacerbating each other and perpetuating the social exclusion experienced by certain groups over time (Arauco, 2014).

It is apparent that groups who are disparaged or stereotyped into specific identities due to prevalent social norms are those who are facing exclusion, and therefore face multiple deprivations in terms of access to assets, services or voice.

The 'leave no-one behind principle' is underpinned by an assumption that addressing these structural barriers and bridging these intersecting inequalities through effective strategies and policies is vital. This will allow the extreme poor and socially excluded groups to benefit equally from sustainable development processes, and to realise their full potential for agents of change.

Box 1 Structural drivers of marginalisation

#1 Assets (natural, physical, financial, human, social and cultural): DFID's Sustainable Livelihoods Framework (DFID, 1999) identified five types of capital, both tangible (natural, physical and financial) as well as intangible (human and social), upon which livelihoods are built. Lack of access to one or more of these assets can be a driver for the marginalisation of extreme poor and excluded groups. These include:
- *natural assets* such as rivers, lakes, and fish stocks, access to and ownership of agricultural land, availability of and access to non-timber forest products and medicinal plants as well as livestock in case of agro-pastoral and mixed crop-livestock livelihoods or coastal land;
- *physical assets* such as homes, water, sanitation and drainage systems, grain storage facilities, terraces, orchards, roads, and stream embankments;
- *financial assets* such as jobs, incomes, credit and disposable income for education, health spends or other daily survival needs;
- *human assets* such as food security and nutrition levels, health levels which affect the ability to work and productivity levels, and education levels and skill base which determine access to and ability to take advantage of income-earning opportunities;
- *social and cultural assets* such as informal social networks of the poorest, elderly, women, and indigenous households, that allow mobilization of labour and reciprocal gifts as well as formal social networks, including social assistance programs

#2 Access to services and infrastructure (health, energy, water, transport, markets): While access to services and infrastructure is to some degree included within physical assets above, we have included this as a specific structural barrier given its implications and relevance, especially in the context of climate-resilient low-carbon pathways for the poor. This includes: access to health services and infrastructure, clean and affordable renewable energy solutions such as cooking stoves or mini grids, adequate and safe drinking water or water for farm use, access to markets and supporting technical and

financial services for the promotion of micro-enterprises and local trade, as well as road and transport infrastructure for mobility and wider access to markets and to allow economic migration or migration in response to disasters.

#3 Political voice, empowerment and institutional governance: Political voice is important at the individual, household, community and national level. This captures the extent to which a country's citizens are able to participate in decisions that affect their life, support local decision making processes, are able to select their government, freedom of expression and media. It includes people's perceptions of the overall accountability of the government, as well as the degree to which they feel empowered to actively inform or participate in the political and institutional decision making processes, and are listened to in programme design and implementation. It also includes the overall institutional environment and the degree to which it facilitates and incentivises inclusive, equitable and climate-sensitive policies, plans and processes.

#4 Identity-based exclusion and social norms: Braun and Thorat (2014) state identity based exclusion can be due to *''race, colour, ethnicity, religion, social origin (such as caste), gender, occupation, region, nationality, and other group characteristics''*. They identify that such group exclusion requires group specific policies in addition to general poverty reduction policies to ensure the people affected are not facing negative social and economic outcomes (ibid).

According to an ODI study on social and gender norms, a number of different definitions of social norms exist, but all of them emphasise the importance of shared expectations or informal rules among a group of people as to how people should behave. The study highlights that social norms may be developed for various reasons and may fulfil various functions. Some of these functions are closely linked to identity, including functions which express cultural or religious values (for example norms that prevent girls from freedom of movement are often linked cultural or religious believers of communities) or uphold the social order (for example reinforcing inequalities of power through gender discrimination and fear of differences such as stigma related to disability). Norms can also be used as a method for coordinating action, such as mechanisms for sustainable use of forestry and ways for preventing disease spread (ODI, 2015).

1.5 Climate and environmental change as a risk multiplier

'Mounting inequality is not just a side effect of weather and climate but of the interaction of related impacts with multiple deprivations at the context-specific intersections of gender, age, race, class, caste, indigeneity, and (dis)ability' (Olsson, 2014, p. 807)

The preceding sections have established the origins and contours of the LNB concept. In this section, we build on this to discuss why it may be prudent to understand the risks and opportunities that climate and environmental change presents to the LNB agenda.

DFID's climate-smart development narrative (DFID, 2016) has laid down inclusive growth, resilience and stewardship of natural resources, particularly among the most vulnerable and marginalised, as core tenets of its sustainable economic growth and poverty reduction agenda. There is a shared consensus that climate and environmental change is a significant barrier and challenge to achieving the aims of the UKAid strategy. It has the potential to reverse the equity gains and the progress achieved so far in the delivery of the MDGs, and threatens the anticipated outcomes in the context of the SDGs, particularly in the context of 'leaving no-on-one behind'. Climate change and environmental change can expose vulnerable groups to new risks and worsen existing vulnerabilities resulting in deeper marginalisation, poverty and inequalities. At the same time, C&E policy and programming

offers a significant opportunity to reach and empower the poorest and most marginalised people.

Given the imperative of integrating the LNB principle in the context of the overall DFID policy and programming framework, and the relevance of climate and environmental change to this process, it is therefore vital to consider how LNB can be mainstreamed within DFID's climate and environmental portfolio of work and support the fulfilment of DFID's sustainable development ambition and strategy.

Climate change and environmental change are not synonymous, though they do feed in to and feed off each other. Climate change acts as a risk multiplier, accelerating the pace of environmental change in the form of decline and degradation of natural resource environments in both rural and urban contexts. It poses a threat to the full enjoyment of human rights and has a disproportionate impact on the poor, and particularly those who have the weakest or fewest coping mechanisms and high dependence on natural resources.

The High-Level Panel of Eminent Persons on the Post-2015 Development Agenda (UN, 2015.) has reiterated that the lives of the poor are often inextricably linked to the natural environment. They may depend on it for food, fuel, medicine, shelter and livelihoods, and are therefore especially threatened by environmental change, degradation and resource depletion. *'Of the 24 most important ways the poor depend on natural resources, 15 are in serious decline, including: more than 40% of global fisheries that have crashed or are overfished; loss of 130 million hectares of forests in the last decade; loss of 20% of mangrove forests since 1980; threats to 75% of the world's coral reefs, mostly in small island developing states where dependence on reefs is high.'*(ibid.)

The dynamic interactions between environmental change and existing socio-economic structures governing resource access and use means that it is the already marginalised communities who are the most at-risk of being stuck in a vicious cycle of poverty and exclusion (Adger, 2005).

Climate change impacts, similarly, affect the extreme poor disproportionately, compounding the pre-existing vulnerabilities and drivers of marginalisation – in fact, estimates suggest that up to 720 million people are at risk of facing extreme poverty from climate impacts between 2030 and 2050 (Granoff, 2015). The capacity of extreme poor communities to recover from climatic shocks and stresses is hindered by their limited financial and social resources to protect themselves, respond to and recover from climate shocks and stresses, as well as the extent of their dependencies on natural resources. Thus, disasters tend to have enormous impacts on their lives in terms of asset or livelihood loss. Some people in extreme poverty reside in remote zones that are often neglected due to a lack of connectivity and inaccessibility, and are thus particularly vulnerable to the effects of climate change. Such extreme poor often do not have sufficient finances and support to move to safer areas, and hence are in need of further support.

Among the extreme poor, socially excluded or marginalised groups are particularly susceptible to the threats of climate and environmental change. The Intergovernmental Panel on Climate Change (IPCC) confirms that: *"People who are socially, economically, culturally, politically, institutionally, or otherwise marginalized are especially vulnerable to climate change and also to some adaptation and mitigation. […] Differences in vulnerability and exposure arise from non-climatic factors and from multidimensional inequalities often produced by uneven development processes"* (IPCC, Fith Assessment Report (AR5): Impacts, Adaptation, and Vulnerability, 2014).

Further, poorly designed and implemented climate and environmental interventions can themselves exacerbate inequality and increase poverty and exclusion. For instance, a C&E

intervention that provides support to better-off or male farmers may increase the marginalisation and relative poverty of those not reached. The benefits of the interventions may be captured by elites and the poorest and most vulnerable groups may be displaced, increasing inequalities. Moreover, the constellations of multiple disadvantages that extreme poor and excluded groups face predisposes them to be even more vulnerable to external shocks, or suffer from the adverse impacts of poorly designed climate and environmental change interventions*.*

On a more positive note, C&E interventions are a significant opportunity to reduce inequality and empower the poor and excluded. They can help to address the underlying structural drivers and deliver climate resilient, low carbon development pathways to ensure we 'leave no-one behind'. This can be mutually beneficial for achieving both C&E and sustainable development objectives. Importantly, we must emphasise that the focus on LNB within the climate and environmental context is not about seeing the extreme poor and socially excluded as a problem. In fact, a focus on the drivers of poverty and marginalisation can be mutually beneficial, and deliver a range of positive outcomes such as value for money, empowerment, inclusive and sustainable development and more effective outcomes from climate and environmental interventions. (Please refer to Figure 1 in Annex 1 giving a conceptual framework for thinking about and framing Leave No-One Behind)

Further reading

- Leaving no one behind: Our promise (DFID). Available at: https://www.gov.uk/government/publications/leaving-no-one-behind-our-promise/leaving-no-one-behind-our-promise
- Social norms, gender norms and adolescent girls: a brief guide (ODI). Available at: https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/9818.pdf
- Leaving no one behind: Putting marginalised people at the forefront of the Sustainable Development (Bond). Available at: https://www.bond.org.uk/sites/default/files/resource-documents/leaving-no-one-behind-0516.pdf
- Keeping the multiple dimensions of poverty at the heart of development (OECD). Available at: https://www.oecd.org/dac/POST-2015%20multidimensional%20poverty.pdf

SECTION 2

Characterising LNB: the WHO, WHAT and WHERE?

Section 1 has provided us an introduction and context to the Leave No-One Behind concept. The focus of Section 2 is to discuss and investigate:

- **who** are the most relevant socially excluded and extreme poor groups that need to be considered in the context of more inclusive approaches to C&E (Section 2.1);
- **what** are the potential overlapping forms of marginalisation and intersecting inequalities that makes these groups particularly vulnerable in the context of C&E (Section 2.2); and
- **where** can we find the most pertinent examples of C&E programmes and policies that integrate the vulnerabilities, needs and capacities of these target groups and have the potential to empower them as agents of change (Section 2.3).

2.1   Extreme poor and excluded groups

In taking a deeper diver into the question of 'Who', context analysis, needless to say, is a prerequisite for the identification of the groups and design of appropriate interventions to support them. As a starting point, we need to identify the core drivers of poverty and exclusion and how these could be addressed, as well as undertake political economy analysis to identify barriers within different institutions for different actors.

For illustrative purposes, we outline here some particularly important groups, but these would need to be examined carefully for each context, as poverty and exclusion can be very localised:

- women and girls
- people with disabilities
- older people
- children
- youth (including adolescents),
- minority groups based on ethnicity, faith or caste
- sexual orientation and gender identity
- displaced persons

Women and Girls
- Gender unequal social norms often underpin, justify and help to create exclusion and lack of access to resources as discussed in Section 1 (1.4). Women and girls may be excluded from relevant decision making and often housework duties and care roles may exacerbate the situation by reducing the time women and girls have for productive activities, or networking.
- The International Development (Gender Equality) Act of 2014 makes it a legal requirement for DFID to have regard for how development assistance will contribute to reducing gender inequality before the provision of development assistance

People with disabilities
- An individual who is born with a disability or who becomes disabled is often socially marginalised and has significantly less chance of accessing health care, education, or employment, resulting in poverty.

- DFID has committed to ensuring all its programmes are accessible to and inclusive of people with disability, to ensure no one is left behind. DFID's 2015 [Disability Framework](#) outlines the UK's ambition to ensure that people with disability can benefit equitably from DFID's work and includes basic principles of disability inclusion.

Older people
- Older people can be vulnerable to poverty because of their decreased capacity to work and earn a livelihood. They may also suffer from physical disabilities and ill health.

Children (<13 age)
- Children, both infants (0-5) and older children, depend on adults for their survival, development, nutrition, education, health care and protection needs. Their still-evolving development also puts them at higher risk of contracting diseases.
- DFID's work and Manifesto commitments support a range of child rights overseas including interventions to promote child survival, development and protection, which contribute to the UK Government's obligations under the [UN Convention on the Rights of the Child](#).

Youth (10-24 age including the period of adolescence)
- Adolescents, given their transitional stage of physical and psychological human development, face particular vulnerabilities, and need special attention.
- Adolescents and youth are vulnerable due to limited access to resources such as employment, to productive and reproductive roles among young women and lack of political voice.
- The DFID [Youth Strategy](#) emphasises the importance of including this specific group in the development agenda.

Minority groups based on ethnicity, faith or caste
- Indigenous groups. 'Indigenous peoples' are considered the 'first people' to inhabit a territory. (Baired, 2008). They are important in the climate and environment context because of their often deep understanding of the local natural environment. Land rights may have a particular importance for these groups, among others.
- Ethnic minorities and faith based groups. 'Minorities' are defined as those groups that are numerically smaller within a population, and who share a common religious, ethnic, or linguistic identity.
- DFID's [Faith Partnership Principles Paper](#) aims to help strengthen the contribution of faith groups to poverty reduction and build relationships with faith groups

Sexual orientation and gender identity
- Lesbian, gay, bisexual and transgender (LGBT) people are often marginalised and socially excluded from development processes. In some countries, homosexuality is still criminalised. Cultural and legal injustice can contribute towards economic injustice and undermines their fundamental right for health and well-being (LGBTnet, n.d.).
- DFID is committed to LGBT equality and fighting discrimination. A new [approach](#) to work on LGBT issues was approved in 2016.

Displaced persons
- This includes people who are forcibly displaced within their country (internally displaced persons) and/or outside their home country (refugees) as a consequence of violent conflict, or human rights violations, and people who return to their country or community of origin following a peace agreement or settlement (returnees). In addition, this includes other displaced population groups, such as people expelled or displaced by natural disasters.

- DFID is committed to work with agencies like the ICRC, the United Nations High Commissioner for Refugees (UNHCR) and OHCHR to address peacekeeping, protection and helping to build the resilience of affected populations (Ashdown, 2011).

Whilst each of the groups described above faced context-specific vulnerabilities, as well as, differentiated climate and environmental impacts, evidence suggests that the groups do not experience vulnerabilities independent of each other. To ensure that development and climate and environment interventions can be most effective and achieve the most beneficial outcomes, one should move away from a list of key groups (which covers a vast proportion of the world's population) to focus on intersectionalities or overlapping forms of marginalisation discussed in section 2.2.

2.2 Overlapping forms of marginalisation and intersecting inequalities

Kabeer (2010) has noted that groups who are disparaged or stereotyped due to prevalent social norms face multiple deprivations in terms of access to assets, services or voice and suffer from overlapping forms of marginalisation or intersecting inequalities. The underpinning principle of LNB is understanding and acknowledging that these intersectionalities exist.

Integral to this discussion of intersectionalities is the sense that the identities of each of the groups illustrated in section 2.1 are not necessarily static or mutually exclusive and there are dynamic interactions at play between the groups that need to be considered. Such overlap across different forms of marginalisation is particularly unjust, as the identity-based drivers of marginalisation are often beyond the individual's control, resulting in formal or informal institutions discriminating against particular groups. This can lead to inequality of both opportunities and outcomes (iisd, n.d.). When different forms of marginalisation combine each other, a group (facing multiple disadvantages) can become particularly vulnerable to climate and environmental change.

Gender presents a good example of a dimension which cross-cuts other specific dimensions such as race, age, disability to give rise to such intersectionalities. Whether one considers elderly or disabled women, or adolescent girls, or women from indigenous or ethnic minority communities, there is evidence demonstrating disproportionate climate vulnerabilities and impacts.

Table 1 sets out a number of examples, using Venn diagrams to help visualise the intersectionalities in the extreme poor and excluded groups revealed through the evidence.

It shows that multiple layers of disadvantages and exclusion can often make it very difficult for members of certain groups to participate in, and benefit from, development initiatives and enjoy equitable dividends of economic growth, sustainable development or improved quality of life.

adolescent / displaced / girl	Evidence from Ethiopia and Bangladesh suggests that: ''*Many girls work for cash during difficult periods of drought. School girls, some as young as 11 years old, ended up working as domestic labourers in the local town, where they are exposed to abuse and exploitation. This has impact on their education.* *Girls in desperate circumstances may also be forced to resort to prostitution for food and survival, which together with trauma and social exclusion can lead to risks of sexually transmitted infections including HIV*'' (Plan, 2011, p. 11).
elderly / woman / displaced	The UNHCR recognises older displaced people as among the most at-risk individuals, characterising them as "persons with special needs", as they will face specific challenges at each stage of the displacement cycle – the flight, the duration of displacement and the process of return, resettlement or local integration. Older women require specific attention, as they tend to outnumber men due to their longer life expectancy and therefore more likely to be living alone. In addition, in many Internally Displaced People (IDP) and refugee camps, older women take on the responsibility of supporting children whose parents have died or migrated elsewhere (WUNRN, 2015). In Pakistan, following the devastating floods in 2010 and 2011, rapid common humanitarian assessment undertaken revealed that if an older woman is alone or widowed, she may be less likely to receive aid or less assistance than others within their families, based on decisions of male heads of household who had been charged with distribution by external aid providers. (Help Age, n.d.) Older disabled women living among displaced populations are particularly vulnerable as they may be may be abandoned or neglected by family members who can no longer care for them; may not be able to physically access water points, food distribution points, health clinics or bathing facilities; and may be exposed to sexual violence and physical assault (Reilly, 2010).
children / extreme poor / ethnic minority	'Mountainous communities in Vietnam are relatively isolated from services and markets, have limited natural resources in terms of topography and hydrology and are exposed to growing climatic extremes. ''*The impacts on child labour are particularly indicative of the specific vulnerabilities of children: participation of children in household labour is considered to be 10-40% in the area. This concerns not only on- and off-farm activities, but also non-farm labour, which could in turn be associated with migration, trafficking and sexual exploitation (Jasparro and Taylor, 2008) and have direct consequences for the protection and wellbeing of girls and boys*'' (Walker, 2012, p. 6)
women / indigenous / girls	Adivasi or tribal women "*suffer from multiple discriminations both as women and as indigenous individuals – they are subjected to extreme poverty, trafficking, illiteracy, lack of access to ancestral lands, non- existent or poor health care, and to violence in the within society and growing vulnerability over the private and public sphere*" (Kelkar, 2009, p. 8) A respondent from Rajastan reported "*Rainfall is erratic — it is sometimes less and sometimes more. So the crop is not good and the food is not sufficient. To earn more, men have to work at the factory and we (women) have to work very hard both in the house and the fields. Our daughter passed 9th class but we made her leave school to help us work in the fields, get water and do the housework.*" (Kelkar, 2009, p. 11)

Table 1: Framing the LNB analysis in the context of climate and environmental themes

2.3 Climate and environmental thematic linkages

Given pre-existing vulnerabilities, and other structural barriers such as their geographical locations, the extreme poor and excluded groups are highly susceptible to climate extremes as well as ongoing climate variability. In line with the programmatic priorities outlined in DFID's over-arching climate-smart development narrative, these Materials review LNB in the context of the three themes of climate resilience, low carbon development and environmental stewardship. A long list of themes and sub-themes, used to guide the evidence search, is included in Annex 3 (See also Figure 2 in Annex 1 for a step-by-step approach to frame the evidence on LNB in these Learning Materials). However, in order to keep the scope of this introductory Learning Materials manageable we have prioritised few sub-themes within each of the three headlines, as presented below. Some of these sub-themes are crosscutting and apply to more than one headline theme (irrespective of where they are classified in the table below), whereas others are stand-alone.

Climate resilience	Low carbon development	Environmental stewardship
• Climate change adaptation • Social protection • Disaster risk reduction and disaster management	• Energy access • Green jobs • Low-carbon and climate-resilient cities • Low emissions climate-smart agriculture	• Water security • Natural resource governance (including forestry) • Sustainable land use

Table 2: Framing the LNB analysis in the context of climate and environmental themes

Climate resilience

Climate change adaptation, social protection and disaster risk management
Poor and marginalised communities, engaged in climate sensitive livelihoods in, for example, high mountain environments, drylands, coastal regions, the Arctic, and in informal urban settlements, can be pushed into chronic poverty due to changes in absolute (and/or seasonality of) rainfall, temperature and wind patterns. They usually lack access to basic services, credit, insurance and information on climate forecasts, do not have the ability to effectively participation in decision-making and governance, and lack effective response options, such as diversifying their assets and livelihood strategies. Further, recurring extreme events, such as floods, droughts, and heat waves can significantly erode assets of the rural and urban poor and further undermine their livelihoods, housing, infrastructure, food security and social networks (Olsson, 2014). Supporting **climate change adaptation** and building adaptive capacities (ODI, 2010) for such marginalised groups is especially key to enable them to have fully functional and productive livelihoods and quality of life.

Lovell and le Masson (2014, p3) state ''*people who are marginalised and face a denial of their rights are often discriminated against on the basis of their gender, age, ethnicity, culture, religion, race, caste, disability, living with HIV or AIDS and so on. Consequently this makes them even more vulnerable to natural hazards''*. Research show that building adaptive capacity and resilience to climate and environmental change should consider social and cultural (as well as ecological and economic) factors and therefore addressing all these factors are essential in climate change adaptation, social protection and disaster risk management. Lovell and le Masson (2014) further highlight that the disproportionate

vulnerabilities of the socially excluded groups need to be taken into consideration to bridge the gap in recognition and support received by these groups, but it is also important to ensure that the capacities of the socially excluded groups are identified. Particularly in **disaster risk management**, their knowledge and roles within their households and societies should be recognised to include them as active agents of change to build resilience effectively and equitably. (Lovell & le Masson, 2014)

Climate and environment related events and their impacts, coupled with natural resource scarcity can also lead to conflicts over depleting resources, causing forced evictions, triggering population movements and displacements making such groups vulnerable to abuse and exploitation. Such climate disruption deepens pre-existing vulnerabilities of marginalised and excluded groups causing adverse impacts on health, food security and access to basic services, further undermining their ability to recover from shocks and stresses. For those who have been able to move out of poverty, progress is often temporary, with shocks and stresses such as climate change risk depleting their assets and reverse tracking them into poverty (World Bank, n.d.).

The role of **social protection** in LNB in ensuring that the extreme poor and vulnerable groups can escape the poverty trap is therefore key. GSDRC (2015) presents a conceptualisation drawing on other literature, which suggests social protection can provide four key relief functions: deprivation (protect), avert deprivation (prevent), enhance income and capabilities (promote) and contribute to social inclusion and empowerment (transform). The types of social protection interventions performing these functions can include social assistance (cash and in-kind transfers, social pensions, public works, school feeding), contributory social insurance, labour market interventions (minimum wage, subsidies and social care) and informal social protection (self-funded funeral insurance savings groups). The study also suggests that social protection-focused interventions also overlap with livelihood, human capital and food security interventions, and can be much more effective in building resilience than responding to humanitarian crisis after the fact.

Low carbon development

Globally, 1.2 billion people lack electricity access and 2.7 billion people still burn traditional fuels like wood, dung and coal inside homes (IEA, 2015). Lack of light hampers children from studying and learning, and women and girls can spend a great deal time gathering wood for fires. The use of traditional fuels indoors is toxic, causing illness and death resulting in 1.5 million deaths per year (UN, 2015.) many of whom are extreme poor. At the same time, extensive energy use, especially in high-income countries, is a cause of pollution and depletes non-renewable fossil fuels and emits greenhouse gases that exacerbate climate change, further deepening the vulnerabilities of affected populations.

Low carbon development covers key themes including but not limited to:
- **Low carbon energy access:** An estimated 1.2 billion people (17% of the global population) did not have access to electricity in 2013 (IEA, 2015) , and 95% of those living without electricity are in countries in sub-Saharan Africa and developing Asia, predominantly in rural area. Access to electricity is crucial for countries to achieve their development targets and access to affordable clean energy, particularly small scale renewable energy solutions can contribute to a triple win in the area of low carbon development, poverty reduction and climate resilience (AEA Technology, 2011).
  The Sustainable Energy for All (SEforALL) initiative's strategic framework for results makes the call for taking an 'inclusive, people centred approach', which will not leave ''workers or the most vulnerable behind'' or forget social responsibilities. The strategic focus of SEforALL is on approaches that make a concerted effort to target the very poorest who will not be reached by business-as-usual approaches. It is notes that most

of the poorest and marginalised communities often lack the disposable income to meet the upfront costs necessary to secure energy access. (Sustainable Energy for All, 2016)

- **Green jobs:** A study by AEA (2011) stated, ''the transition to a low carbon economy offers significant potential to increase productivity, and create green and decent jobs in developing countries, mainly in the renewable energy, sustainable agriculture, and forestry and waste management sectors'' (AEA Technology, 2011, p. 1). An article by Norton (2016) highlights that job creation is one of the key factors that contribute to measuring green growth and that a green growth approach needs to tackle poverty, inequality and exclusion to ensure both women's and men's aspirations, as well as wider societal support is realised. (Norton, 2016)
- **Low carbon climate resilient cities***:* Cities and towns across many low- and middle-income countries are experiencing severe environmental deterioration and high incidence of urban poverty. In 2009, 50% of the global population lived in urban areas (OECD 2012) this number is predicted to reach nearly 70% by 2050 (ibid). Extreme poor and excluded groups living in settlements in and around cities are exposed to a number of risks, often lack reliable basic services such as water and sanitation, and suffer from high degrees of socio-economic vulnerability (Satterthwaite and Mitlin 2013).
- **Climate-smart agriculture (CSA):** The Food and Agriculture Organisation of the United Nations (FAO) (2016) highlights, ''CSA aims to tackle three main objectives: sustainably increasing agricultural productivity and incomes; adapting and building resilience to climate change; and reducing and/or removing greenhouse gas emissions, where possible''. With large numbers of extreme poor and marginalised groups, especially women, continuing to depend on agriculture for their livelihoods, there is enormous potential for climate-smart agriculture to both reduce GHG emissions and provide climate resilient livelihoods, while ensuring stable food markets and prices for the food and nutrition security for the poorest households.

Environmental Stewardship

Environmental stewardship encompasses a broad range of sectors and themes linked to the planning and management of freshwater, land and marine resources that the extreme poor and marginalised groups depend upon. It should take into account social, economic and environmental factors which may constrain or influence the ability of populations to access and use these resources in an equitable and sustainable manner.

Supporting and enhancing the agency of the extreme poor and marginalised groups is essential, so that they have an active role to play as environmental stewards or guardians, and are able to contribute to efforts towards restoring natural resource bases and ecosystems services as well as reversing the process of ongoing environmental degradation. The key themes within environmental stewardship include:

- **Water security:** Water security is indispensable, as the most marginalised often lack access to basic services or public goods. Underpinning water security are the themes of integrated water and coastal resources management; and water supply, sanitation, and wastewater management.
- **Natural Resource Governance:** Forest ecosystems are critical as they provide food, medicine, timber, fuelwood, drinking and irrigation water, fodder, non-timber products, provide habitats, maintain watershed functions and biodiversity, and help build and protect soil against erosion. Estuaries, fisheries, coastal wetlands (marshes and mangroves), and near-shore environments are also very productive ecosystems that the extreme poor and marginalised groups depend upon and therefore natural resource governance is critical for the realization of human rights of all.
- **Sustainable land use** helps to address the issue of land degradation due to depletion of soil nutrients, salinization, agrochemical pollution, soil erosion, vegetative degradation

from overgrazing, and forest cutting for farmland, all of which reduce the productive capacity of land, a critical resource for the extreme poor and marginalised.

Further reading
- Disability Framework (DFID). Available at:
  https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/487924/DFID-Disability-Framework-2015a.pdf
- Youth Strategy (DFID). Available at:
  https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/515509/DFIDyouthagendaapproach1.pdf
- Faith Partnership Principles Paper (DFID). Available at:
  https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/67352/faith-partnership-principles.pdf
- DFID's approach on lesbian, gay, bisexual and transgender (LGB&T) rights (DFID). Available at:
  https://www.gov.uk/government/publications/dfids-approach-on-lesbian-gay-bisexual-and-transgender-lgbt-rights
- Equity and inclusion in disaster risk reduction: building resilience for all (CDKN and ODI), Available at: http://cdkn.org/wp-content/uploads/2014/11/CDKN-Equity-and-inclusion-in-disaster-risk-reduction-building-resilience-for-all1.pdf
- Going further, faster- together (SEforALL). Available at:
  http://www.se4all.org/sites/default/files/2016_EUSEW_LR.pdf
- Working for a Sustainable World -- Environmental Stewardship, Pt. II (IIP Digital). Available at: http://iipdigital.usembassy.gov/st/english/texttrans/2002/08/20020819153051jfuller@pd.state.gov0.2198755.html#axzz4AKdbR8yn

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SECTION 3

Evidence on LNB in the context of climate and environment

Having discussed the context of LNB and its characterisations in Sections 1 and 2, this section presents specific evidence on the linkages between LNB and climate and environmental change. (Please refer to Figure 2 in Annex 2 which provides an analytical framework used to research and frame the evidence on Leave No-One Behind in the context of C&E) Section 3.1 provides evidence on how climate and environmental change act as a risk multiplier for socially excluded groups, and the structural drivers that make them potentially vulnerable.

3.1 Evidence on climate and environmental change as a risk multiplier

Building on the climate and environmental context set out in Section 2, this section provides more in-depth evidence on how climate change acts as a risk multiplier for extreme poor and socially excluded groups. Whilst recognising that forms of marginalisation often overlap, this section identifies pre-existing vulnerabilities of each group and elaborates on how climate and environmental change might exacerbate inequalities by reinforcing structural drivers of marginalisation relating to: assets (natural, human, financial, physical, social and cultural capitals); access to services and infrastructure; and political voice, empowerment and institutional governance. Due to pre-existing vulnerabilities, groups who are facing identity based exclusion and social norms may have the least coping mechanisms, financial and social resources to protect themselves, and therefore limited ability to respond to and recover from climate and environmental shocks and stresses.

Women and girls

A World Bank study (World Bank, 2010, p. 133) states that *"where women and girls have less access to and control over resources (material, financial, and human), and have fewer capabilities than men, these impediments undermine their capacity to adapt to existing and predicted impacts of climate change, and to contribute important knowledge and insights to adaptation and mitigation decision-making processes. The situation is exacerbated by the fact that climate change also reinforces existing gender inequalities in the key dimensions that are most crucial for coping with climate-related change, including inequalities in access to wealth, new technologies, education, information, and other resources such as land"*.

Kratzer and Masson (2016) present some key findings of vulnerabilities of women living in India, Kenya and Peru, with the aim of helping policy-makers and practitioners to foster more inclusive climate and development interventions. The study presents some key findings specifically relating to the urban and rural contexts, and a summary of cultural, political and institutional and economic drivers that hinder progress towards gender inclusion in climate and development programs:

- Lack of adequate sanitation is a major aspect of urban dwellers' vulnerabilities, to which men and women adopt distinct coping strategies. A woman from India stated that as a coping strategy, women tend to eat and drink less, especially during floods and waterlogging conditions. This is likely to negatively impact their health.

- Climate change can cause men to migrate to find alternative livelihood in urban areas. This can cause changes in gender roles as women having to become fully responsible for taking care of the family's basic needs.
- Class and caste systems also act as impediments to women's participation. For instance ''upper class women are supposed to adhere to strict norms and rules laid down to maintain their perceived higher status. Compared to women in the so-called 'lower class' and 'lower caste' groups, they are not as free to participate in meetings, nor to leave their houses alone, and are required to observe religious rituals and customs (which are stricter for women than men)''.
- During waterlogged conditions the mobility of women can be restricted as they are expected not go out alone and to take care of children and family members who are sick.
- Women also face the threat of increasing violence. For instance in India, when men's income-generating possibilities are affected by weather events there can be tension and anxiety that can lead to men to use alcohol more often, and to increased violence in the home. Violence also limits women's capacity to respond to unexpected events, such as natural disasters, and isolates them from their social networks. According to a case study from India, men can inflict physical violence on women when they attend meetings and can be seen as overstepping of their perceived responsibilities. This can result in inhibiting women from participating in governance processes.
- Loss of livelihoods, impacts on food security, damage and loss of property has led to women having to take the responsibility for taking out and paying loans, borrowing from family, neighbours and friends, or sometimes pawning their jewellery particularly because men are not given financial loans (e.g. in India). Women have highlighted that this can build up tension and violence in their families when they are unable to return borrowed money.
- In Kenya, only 3% of the land was owned by women in 2011. Women are not able to make decisions on interventions such as improved housing, without consent from the men in their families.

Plan International (2011) further highlights that girls and young women often suffer more from the shortages of food and from a lack of privacy and safety of toilet and bathing facilities and sleeping arrangements in the aftermath of disaster. This is because boys tend to receive preferential treatment in rescue efforts. Moreover, in many countries, girls are discouraged from learning survival skills and can often lack of knowledge and skills to deal with climate risks.

In relation to other target groups, gender was the most well-documented in terms of its evident links to C&E. Further it is also evident that gender has cross-cutting relevance across each of the other groups. We have therefore considered the gender dimension and integrated within each the groups where possible.

People with disabilities
The estimated size of the global population living with disabilities is over one billion people or 15% of the world's population (WHO, 2016) with over 80% of the disabled population living in developing countries. (Internbational Disability Alliance, 2016)
DFID's Disability Framework (2015) highlights the some key pre-existing vulnerabilities people with a disability face:
- An estimated 38% of people over the age of 60 have an impairment/disability
- The World Report on disability suggests children with disabilities are less likely to start school and have lower rates of both staying in school and of transitioning to higher levels of education (WHO, 2011). Additionally an estimated 90% of children with disabilities in the developing world do not attend school. DFID (2015, p21) highlights that this is *''reducing their ability to participate, impacting on their learning achievements and holding back their independence and social inclusion''.*

- Adults with disability are 1.5 times more likely to experience violence and children with disabilities are almost four times more likely to experience violence than those who are without any disability.
- DFID's Disability Framework present outputs of a recent survey of people with serious mental health impairments, which show that between 76% and 85% in developing countries received no treatment. It further highlights that this is due to physical barriers, prohibitive costs, inadequate skills and knowledge of health workers, and limited availability of health services, including for example early identification and intervention programmes for children with disabilities. (DFID, 2015)
- It further notes that 80% of women with disabilities in rural areas of most Asia-Pacific countries have no independent means of livelihood and are totally dependent on others.
- People with disabilities often have less mobility and therefore less physical access to health care. When health care is available, it may be unaffordable and people with disabilities often encounter higher expenses in accessing such care. (National Council on Disability, 2009).

Due to pre-existing vulnerabilities and inequalities, people with disabilities face disproportionate impacts of climate change. For instance various reports highlight -
- Increasing displacement / migration or instance of necessary migration prevented due to disability in times of disasters. (GPDD, 2009)
- Human security and protection issues during disasters can increase difficulties of disabled people. (GPDD, 2009)
- Reduced access to infrastructure, shelter and basic services (CBM).
- According to the Women's Refugee Commission (2008), the potential for discrimination on the basis of disability is heightened at times of disasters due to resource scarcity. Women, children and elderly with disabilities may be abandoned and they may face difficulties in accessing health care, food and shelter.

Evidence also suggests that increasing natural disasters relating to climate change contributes to more disability. For instance, the World Disasters Report highlight that for every child killed by a natural disaster, three become impaired (ADD International, 2014). It is likely that climate and environmental change can affect food security. Decreasing food security and resulting malnutrition can lead to impairments, particularly as malnourished mothers give birth to low birthweight babies who in turn may become cognitively impaired, as well as physically stunted. (UNICEF, 2015) (UNICEF, 2009).

People with disabilities show in a mortality rate two to four times higher than that of the non-disabled population in many disaster situations. (Sagramola, Alexander, & Kelman).

Some organisations recognise the need for including people with disabilities during the planning, preparedness, and implementation stages of disaster management, while also focusing on empowering them to take control of personal emergency preparedness for themselves and their families. (GPDD, 2009).

Older people
As Help Age International report, the health, status, social support networks and economic situation differ markedly for a person aged 62 than for a 92 year old. Older people can be confronted by poverty, discrimination and marginalisation. 26 million older people are affected by natural disasters every year, and their ill-health, disability, lack of mobility and sometimes limited social support networks affects their chances to adequately prepare for, respond to and recover from climate-related extreme events. Age International highlights that older people have specific vulnerabilities to disasters, shocks and stresses.

A report by the Pan American Health Organization (PAHO, 2012) looks at the vulnerabilities faced by the older population in the Caribbean. The study notes that old age itself is not a

vulnerability, but the problems that are common in old age (various individual health and social factors) can exacerbate vulnerability to climate change.

Access to assets and infrastructure among older people can be severely affected at times of climate and environmental change (PAHO, 2012), (Stuart, Samman, Avis, & Berliner, 2015) and (Help Age International, 2009):

- Only one in four older people in low-and middle-income countries receive a pension, and these often tend to be inadequate. Some 340 million older people are living without any secure income. Lack of income can increases vulnerability as older people may not be able to invest in measures to mitigate risks and prepare for disasters.
- Disasters often exacerbate well-controlled chronic diseases by interfering with their treatment and management. In addition, older people can face life-threatening health risks during increasingly common heat waves, and are at greater risk of malaria, and water-borne diseases.
- Pre-existing mental health problems tend to make the disruptions from disasters seem worse.
- Inability to access services and infrastructure can exacerbate the risks faced by older people which worsens their adaptive capacity. For instance, energy price rises could create a situation which causes old people to trade off food and heating choices.
- Decreased mobility can make it harder for elderly people to prepare for disasters, evacuate during disasters and to access basic needs such as water, shelter and food during disaster recovery.
- Limitations in vision and hearing can impact the ability to access information and may also be reluctant at times to leave their familiar surroundings.

Older people's vulnerabilities have adverse effects on other family members in the households including children and adolescents who may be pulled out of school to support household incomes or chores. This may be common in situations in households headed by older people. Migration of younger generations for jobs can result in older people, particularly women, staying behind to look after the land and their grandchildren. Older family members are often caring for children and/or orphans affected by HIV and AIDS. It is also important to note that older women have longer life expectancy than men, and may live more years of scarcity and strain. Older women may also undertake particularly onerous domestic work that is necessary to access basic services (Age International).

Children (< 13 age)
"Climate change threatens children's survival, development, nutrition, education, and access to health care – all of which are children's rights and enshrined in the Convention on the Rights of the Child (CRC)…The impacts of climate change will likely continue to worsen over the lifetime of today's children, and future generations. The decisions made now will have greatest impact on our children" (UNICEF, 2015, p. 11).

The World Health Organization (WHO) has estimated that 88% of climate change-related disease burden will be experienced by children under five years of age (UNICEF, 2013). UNICEF (2015) estimates that over 500 million children live in extremely high flood occurrence zones and as high as 160 million live in high or extremely high drought severity zones. There is therefore a high probability of flooding, drought and heat stress in some of the most dense child population areas globally. The study notes that overlapping crises, such as floods combined with conflict and/ or poverty can exacerbate the vulnerability of children.

Children are highly vulnerable to reductions in household incomes, asset losses and food insecurities resulting from droughts that can cause nutritional deprivations with immediate and lifelong impacts. Families in distress may choose coping strategies that can have short

and long-term consequences for children. Risks include, among others: school withdrawal, a significant rise in malnutrition rates, and an increased risk of being subjected to exploitative forms of labour, trafficking and transactional sex among children. Children also experience emotional distress, including fear of being separated from their families and mounting tensions and pressures within households.

The following vulnerabilities of children in the face of climate and environmental change have been identified in a study by UNICEF (2015):

- Children are at higher risk of lethal diseases, including malaria and dengue fever, food and water-borne diseases including diarrhoea, and other ailments such as cholera and meningococcal meningitis caused by stagnant water from increased rainfall, floods or extreme weather events that disrupt and contaminate water systems.
- As children need to consume more food and water per unit of body weight than adults, they are more vulnerable to severe acute malnutrition caused by deprivation of food and water.
- Children exposed to the direct effects of the El Niño disaster events posted 11%-21% lower test scores in language development, memory and visual spatial thinking than unaffected children of similar age, five years after the shocks. Negative physical effects included lower height (1-1.8 cm), higher propensity to stunting and lower weight for age (0.38kg) compared to the control groups.
- During heatwaves, infants and small children under 12 are particularly at risk to suffer from heatstroke or other fatalities as they may lack the ability to regulate their body temperature and control their surrounding environment.
- The physical dangers of extreme weather events (such as flooding, building collapse) pose further threats to young children and can have a detrimental impact on a child's early development – both physically and mentally.
- Household air pollution leads to 4.3 million deaths annually, and 13% (534,000) of these are deaths of children under five. Exposure to household air pollution can also have fatal consequences on pre-natal health including risk of low birthweight and stillbirth.
- In 2012, an estimated 3.7 million deaths worldwide were attributable to ambient air pollution; approximately 3% (127,000) of these deaths were children under the age of 5.

Youth (10-24 years, including the period of adolescence)

UNFPA (2009, p vi) states '*Young people between 10 and 24 years constitute over 1.5 billion people in the world, of which 70 percent live in developing countries. Thus, young people, especially young women, are particularly vulnerable to projected climate change impacts'*.

Within this group, the sub-group of adolescents (defined by UN as young people of the age 13-19) is significant to consider in the context of climate and environmental change. According to UNICEF, 9 out of 10 adolescents live in developing countries facing the brunt of climate change. Climate-related disruptions can compromise health and nutrition levels and interrupt the education of adolescent boys and girls (UNICEF, 2011).

A research study by ODI (Pereznieto, et al., 2011) highlights that there are overlaps across the dimensions of economic crisis and climate change with knock-on effects on employment, education, health and social well-being. The study identifies the following vulnerabilities and marginalisation faced by youth related to access to assets and services:

- Extreme weather events could reduce participation, especially of young women, in education since the burden of schooling costs becomes higher and the need for adolescents and young people to contribute economically to households becomes greater.
- Climate impacts can increase malnutrition among adolescents –through food shortages resulting from lower agricultural yields or loss in livelihoods opportunities - with

potentially long-term health consequences, such as complications with pregnancy, leading to increased levels of reported stress and increased exposure to water or vector-borne diseases.

- Unskilled migrants are often the first to lose jobs in times of crisis and are also vulnerable to impaired social capital and psycho-social development due to breakdown of family and social support, increasing their vulnerability to future shocks.

Section 2.2 on intersectional inequalities provided evidence of how <u>adolescent girls</u> may be particularly vulnerable in the context of climate and environmental change.

Other minority groups based on ethnicity, faith or caste

Some existing studies suggest that the often close relationship of some indigenous peoples and minorities with their natural environments makes them especially sensitive to the effects of climate and environmental change. For example, a briefing by Baird (Baird, 2008) suggests that minorities tend to live in areas which are more marginal and exposed to climate impacts. The IPCC 5th Assessment Report further recognises that disproportionate effects of climate change can occur based on racial identity and income status – for instance, Hurricane Katrina in the USA was proven to have more adverse impacts on low-income African American residents of New Orleans.

Case Study 1 presents an example from India on how minorities already facing the most severe climate impacts suffer even more as a result of neglects in aid distribution. Discrimination in accessing basic services needed for survival worsen their situation.

Case Study 1 Vulnerabilities of minorities: Dalits in India

Baired (2008) presented a case from an Indian minority group in India called the Dalits. Nearly 170 million Dalits in India are physically, socially and economically excluded from the rest of society, and during the monsoon floods in 2007, they were the worst hit along with two other minorities, Adivasis and Muslims.

The Dalits are specially exposed to climate impacts because they frequently live in rickety homes in flood-prone areas outside main villages. According to a survey 60% of those who died from the 2007 monsoon were Dalits, but none of the Dalit colonies attached to the main villages were visited by government relief officials. In many cases, relief did not reach these community groups because relief workers were unaware of the whereabouts of the Dalits outside the main villages or because dominant groups took control of distribution or were given priority.

An article by IFRC (IFRC, 2007) presents some experience of persistent discrimination against the Dalits, also known as the 'untouchable' in the Hindu caste system. They were forbidden by other castes from drinking water from the same water tanks. Those who survived the Tsunami were employed by the local authority to clean drains and toilets and some were also asked to pick up the dead bodies on the shore without any protective gloves or masks. The Tamil Nadu Government in India had attempted during the Tsunami relief missions to address this issue of discrimination against the Dalits by providing segregated facilities and camps for Dalit tsunami survivors. However, it is noted that not all Dalits affected were treated the same.

While this might have helped Dalits to access services during disaster recovery and act as an immediate solution that responds to marginalisation, this does not addresses drivers of marginalisation.

The IPCC 5th Assessment Report notes that Afro-Latinos, displaced indigenous groups in urban Latin America, and the indigenous peoples in the Russian North and the Andes are facing disproportionate climate impacts. Indigenous people are especially vulnerable to

climate change given their heavy reliance on natural resources. They tend to live close to nature and have intimate knowledge of local weather and plant and animal life. Their traditional skills and knowledge on crop patterns and hunting for food are now threatened by climate change (UN, 2008). For instance in Russia the Viliui Sakha have changed their conventional cow-keeping livelihoods due to seasonal changes in temperature, rainfall, and snow (IPCC, IPCC 5th Assessment Report: Livelihoods and Poverty, 2014). These discussions are further reiterated by the International Work Group for Indigenous Affairs (IWGIA), who state, *'' for indigenous peoples, climate change is not only an environmental issue but also a human rights issue and a question of cultural survival''*.

Sexual orientation and gender identity

Only a very limited number of research studies are available that link the specific vulnerabilities of sexual orientation/gender identity minority groups in the context of climate and environmental change. The [International Gay and Lesbian Human Rights Commission](#) (2011) presented the impacts of the 2010 earthquake in Haiti on LGBT people. Some of the key issues they face during the recovery and relief period are noted below:

- Increased violence related to sexual orientation and gender expression following the earthquake particularly within the Internally Displaced Peoples camps
- Being reluctant to receive food aid and other relief supply due to fear of being in crowded and volatile environments
- Religious beliefs viewing disasters as acts of God, which can incite violence against LGBT people.

Gorman-Murray, Mckinnon, & Dominey-Howes (2014) highlight heteronormative assumptions in policies and processes which result in marginalising LGBT people from receiving aid, *''sexual and gender minorities have been denied access to emergency shelters and aid (food, finance) as they could not be accommodated in relief policies that framed evacuees as "nuclear families," or as "male" and "female" individuals''.*

According to insights from (Sanz & Gaillard) from the Philippines, LGBT people are often tasked to do low-status chores at home and their parents sometimes consider them as a second priority for food and financial support in times of disasters. They are frequently discriminated against in evacuation centres.

There is also evidence suggesting that LGBT communities may face exclusion from decision-making processes, find it hard to access health services (and can suffer extreme violence). In the agricultural context, if people do not marry or enter into a relationship with someone of the opposite gender they may face issues around accessing land (especially women) and having enough labour to work that land (especially men).

Displaced persons

The 'Energy in emergency settings' issue of the journal Boiling Point highlights that *''the number of refugees and internally displaced people (IDPs) who have fled their homes due to war and conflict is nearly 59.5 million globally, and another 97 million people are estimated to have been affected by natural disasters''* (Grafham , Lahn, & Lehne, 2016).

These Learning Materials focus on the vulnerabilities and the inclusion of individuals or populations who are already displaced, and have found refuge and/ or migrated due to various reasons. Climate and environmental change is just one of the several drivers of displacement. Displaced people who are often forced to live in rather unstable and precarious environments may have their resilience decreased, worsening their ability to cope with future climate and environmental change.

UNHRC (Kolmannskog, 2009) has gathered evidence related to climate change, disaster, displacement and migration from Africa that corroborates how complex conflict, disasters and displacement can be. A case study from Somalia further reinforces this point:

'' Settlements and displacement and mass movement of people due to conflict, droughts and floods to an already resource-stressed area, may deplete the area of resources. There has been a massive and abnormal movement to areas that receive rains. Technology plays a role in this: today, people inform each other immediately about rainfall in an area through mobile phones, and the wealthier pastoralists transport huge numbers of livestock by trucks, creating a sudden and massive pressure on pastures. This, in turn, could make the area more prone to disaster, increase competition over scarce resources and conflict and trigger further displacement'' (ibid, p7).

The following exacerbated structural vulnerabilities are highlighted in several studies:
- A World Bank study (2015) notes that migrants who relocate in response to fast-onset disasters may experience subnational socioeconomic impoverishment and marginalisation and will have inequitable access to land and other resources.
- The case study from the refugee camp Dadaab in Kenya presents some of the noted vulnerabilities of residents:
    - the limited availability of water and trees for firewood and construction
    - increasing competition between the local population and the displaced people
    - greater risk of gender-based violence to women collecting firewood outside the camps
    - heavy rains triggering outbreaks of diseases such as cholera
- Migration into cities from rural areas is escalating in many developing countries. However, rapid and unplanned urbanisation can have severe impacts on the already scarce resources in urban settings. In Bangladesh, people in the low lying regions and the coasts are moving into urban settings mainly due to threats to their livelihoods, food security and infrastructure from climate change impacts. Such movements however do not necessarily make them less vulnerable. According to UN Habitat 60% of Dhaka's slums are prone to frequent flooding (IRIN, 2015).

Further reading
- **10 things to know: Gender Equality and achieving climate goals** (CDKN). Available at: http://cdkn.org/gender-equality-climate-compatible-development/?loclang=en_gb
- **Displacement and Home Loss in Natural Disaster Impact, Response, and Recovery** (Global Partnership for Disability and Development (GPDD)). Available at: http://www.asksource.info/resources/impact-climate-change-people-disabilities
- **Unless we act now: The impact of climate change on children** (UNICEF). Available at: http://www.unicef.org/publications/files/Unless_we_act_now_The_impact_of_climate_change_on_children.pdf
- Youth Vulnerabilities and Adaptation (ODI). Available at: https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/7175.pdf
- The Impact of Climate Change on Minorities and Indigenous Peoples (Minority Rights Group International (MRG)). Available at: http://www.ohchr.org/Documents/Issues/ClimateChange/Submissions/Minority_Rights_Group_International.pdf
- Why gender-sensitive disaster risk reduction should also include LGBTs. Available at: http://www.preventionweb.net/files/globalplatform/entry_presentation~16h00.pdf
- Moving Energy Initiative: Estimating the global energy use. Boiling Point Issue 68: Energy in Emergency Settings. Available at: http://www.hedon.info/BP68_MEIEnergyUseOfForciblyDisplacedPeople?bl=y

3.2 Evidence of LNB within climate and environment themes

The preceding section has described vulnerabilities of specific target groups specifically in the C&E context. This Section 3.2 builds on this to present further evidence on how climate and environment focused interventions can reach out and include these marginalised populations. Case studies are presented across the three themes: climate resilience, low carbon development and environmental stewardship. The focus here is on specific interventions with some indicative outcomes and impacts that have focused on integrating the needs and capacities of the extreme poor and the socially excluded groups.

3.2.1 Climate resilience

Building the climate resilience and enhancing the local adaptive capacity of the poorest and socially excluded groups is a core theme to consider in the context of LNB. Presented below are some case studies and evidence from literature to present a snapshot of interventions where the extreme poor and excluded groups have been integrated in practice within three sub-themes relevant to climate change resilience.

Climate change adaptation

Evidence show that there is an ongoing effort to include vulnerable groups in planning and implementing climate change adaptation. Adaptation practice in particular has provided an opportunity to identify and mobilise vulnerable groups as actors of change. Evidence related to some of the LNB groups identified in the research for these Learning Materials is presented below.

- A case study from CARE International in Vietnam presents how **women in ethnic minorities** can be empowered to adapt and build resilience to climate change. The project has provided support to remote ethnic minority women to help them learn about their rights and access finance for income generation activities. The project participants and partners were educated on climate change impacts and provided training on new climate resilient livelihood options (CARE , 2013).

- Pereznieto, et al. (2011) presents findings from field research conducted with **youth** respondents in Ghana and Vietnam on how youth can take part in adaptation strategies. The evidence show that with the right support in accessing knowledge, skills and resources, youth can achieve transformational change because they generally have the motivation to do so. Evidence from an intervention carried out by CARE show that youth should be particularly included in support for finding alternative local livelihood activities. A young women from the case study noted, '*Climate change has affected the decisions made by young people on migration and employment. The youth are taking training in batik and tie and dye as an alternative source of employment in the community*' (ibid, p58).

- Inclusion of **people with disability** in adaptation projects has been demonstrated in a project focusing on capacity building of local farmers on how to adapt to a changing climate with the use of alternate crops. The local partner National Disability and Development Forum (NDF) in Pakistan states that out of 100 farmers trained through this pilot project 13 were disabled. The NDF worked with rice and cotton farmers to introduce alternative crops in an area that had experienced severe floods at harvest time in the past three years. The damage of floods to these traditional cash crops resulted in farmers facing severe losses for three consecutive years. With inputs from the farmers, local government and key stakeholders adaptation plans were developed to introduce alternate crops that are harvested before the September floods. With the support

received, farmers now grow vegetables and mustard seeds and have reduced their dependency on cotton making them more resilient to increased rainfall and flooding. The president of the NDF highlighted; '*There will be more floods and monsoons, so we will need to continue adapting, but we need finance to support this and to ensure that people with disabilities are included*' (Wilson, 2014).

- **Indigenous communities** tend to respond to climate change in unique ways using their local knowledge. Their traditional knowledge in adaptation to climate change and food security provides good practice suitable for specific locations. The Ministry of Science, Technology and Environment in Nepal (MoSTE, 2015) identifies several approaches based on indigenous and local knowledge and practices that can help local communities adapt to climate change risk. Some of these include:
  - Local water management using farmer managed irrigation systems, community managed drinking water systems and traditional water mills; and
  - Indigenous and local forest and pasture management practices that have '*evolved from cultural norms, traditional values, contextual demand, collective behaviour, community based institutions and a good understanding of local ecosystems*' (MoSTE, 2015, p. vii).

The case study below presents an example of including youth in adaptation planning to drive change in their communities.

Case Study 2 Mobilising Kenyan youth for action on climate change (Living Earth, n.d.) and (InterClimate Network, n.d.)

DFID's 'Climate Action Teams: Mobilising Kenyan Youth for Action on Climate Change' project focused on outreach and entrepreneurship to support Kenyan youth in tackling the impacts of climate change. It also mobilised community action to influence local government responses and inform the uptake of Kenya's National Climate Change Action Plan.

The highlight of this project is the delivery of **strong youth driven outcomes** though the formation of Climate Action Teams (CATs) focusing primarily on entrepreneurship, community outreach and impacting policy:
- Youth coming from schools in 20 localities were mobilised to build their knowledge and skills to become valued stakeholders on climate change adaptation and sustainable development.
- Youth-led green business enterprises were catalysts for community action to improve livelihoods, enhance sustainable development and reduce poverty.
- Youth and community based organisations advocated to prioritise climate change adaptation.
- Youth led on positive local action to reduce vulnerabilities to climate change.
- Local/ national leaders saw youth as part of the solution.

Living Earth Foundation who are managing this project also planned to support the exchange of learning and ideas between youth, entrepreneurs and local government in Kenya, and their counterparts in Cameroon, Nigeria and Uganda.

Social Protection

According to a study by CARE International (CARE, 2015) the more projects integrate social protection, disaster risk reduction and climate change adaptation, the more they can improve the livelihoods of poor populations vulnerable to climate and environmental change. The study also presents several notable examples that show the inclusion of **women** in climate responsive social protection initiatives particularly those that focus on livelihood diversification:
- Green technology businesses in East Africa in the CARE wPOWER project included women engaged in farming and selling goods at the market to support diversifying their

livelihoods into non-climate sensitive areas. The project was built on existing Village Savings and Loans Associations (VSLA) structures as a mechanism for project engagement, training, a source for working capital and a platform for selling the products.

- A similar example is the microfinance for climate resilient livelihoods that provided a climate-resilient livelihood package through the Vietnam Women's Union. The packages were used by women to diversify their sources of income so that they could become more resilient to the increasingly changeable conditions in the Mekong Delta.

The international NGO Building Resources Across Communities (BRAC) led the 'Challenging the Frontiers of Poverty Reduction/Targeting the Ultra Poor' (CFPR/TUP) safety net programme in Bangladesh. The program has reached around 1.4 million **ultra-poor** through improved targeting and identification of the most climate vulnerable, through contextual analysis and periodic follow ups with the same beneficiary group, resulting in considerable decrease in chronic food insecurity especially among **women and children** (Montesquiou & Sheldon, 2014)**.**

Literature also points to the role that social protection services can play in mainstreaming the needs and voice or vulnerable groups such as **children, disabled and older people** into disaster preparedness and response plans. In the context of children, a Save the Children report highlights that social protection '*can work in the short and long term to guard people's assets by providing them with reliable and predictable support during difficult seasons or a disaster*' (Save the Children, 2008, p. 11). In particular, provision of security and knowledge that reliable, regular cash transfers will reach them can prevent families from selling off assets as a way of coping with the threat of imminent natural disasters. In the context of cash transfers a World Bank study has provided further evidence on why **gender-differentiated control** over different types and sources of income needs to be considered when determining the size and frequency of cash transfers (Guilbert & Pierotti , 2016). Given limited options for accumulating savings, it may be easier for women to invest a larger transfer than to progressively accumulate and save more frequent small transfers.

The use of innovative financing options that consider potential risks to health, nutrition, protection and education of **children from families than could go below the poverty line** or are hit by a major disaster, is yet another approach becoming successful in disaster-prone regions.

Disaster risk management

The extreme poor and excluded groups have unique vulnerabilities in times of disasters (some of these are noted in section 3.1) and can often be left behind in providing necessary support due to social exclusion, particularly those from ethnic and religious minorities, lower castes and different sexual orientation and gender identities. Whilst some isolated examples of success can be found, there is limited evidence on practical experience showing successful and systematic integration of these particular groups in humanitarian, preparedness, response and recovery programming.

Case Study 3 below presents an intervention where children with disability were included in building knowledge on disasters.

Case Study 3 Disaster risk reduction education for children with disabilities in Indonesia (ASB, 2012)

Arbeiter-Samariter-Bund (ASB), a German NGO, worked with Gunungkidul and Sleman district governments of Yogyakarta province in Indonesia on 'Building resilience for children with disabilities: strengthening DRR information delivery in Indonesia'.

The project targeted 919 children with disabilities outside of school in all of the districts' 230 villages. The project used a 'train the trainer' approach involving existing social workers engaged in data collection, community empowerment and community health on voluntary basis. Members of disabled people's organisations (DPOs) collaborated with them as 'role-model' trainers. Key questions addressed were 'Can disabled people access DRR information? Can they act upon the available information?

As a result, key adaptations to DRR education in relation to disability included focusing on providing family/ community support for children who may have difficulty acting on the information they receive; and considering children's ability to evacuate from a location. Reported benefits include changed attitudes towards disabled people in these communities, increased school attendance and self-esteem of children with disabilities.

Help Age International (2014) have conducted a study that identifies several case studies of inclusive approaches for older people in building resilience to disasters and in disaster preparedness and response:

- **Older people** taking up a leadership role in disaster risk reduction (DRR) in Bangladesh has shown some positive impact. Particularly, older religious leaders have played an active role in encouraging parents to send their children to participate in the assessments and other awareness-raising activities such as theatre shows on DRR, and convincing male heads of families to allow their wives to attend awareness sessions that discuss what families can do to prepare for a disaster.
- In Myanmar, HelpAge International has implemented inclusive DRR programs through a village disaster management committee (VDMC) model which allow **older people, female-headed households, pregnant women, children, people with disabilities,** and any other vulnerable groups play an active role in identifying hazards, developing disaster action plans, and voicing their needs.

A gender and community managed Disaster Risk Reduction (CMDRR) programme in Ethiopia sought to enable a population of 12,000 vulnerable men and women to prepare for and respond to risks such as water shortages, land degradation and a lack of DRR infrastructure. It also sought to specifically engage **women** in DRR activities to improve gender relations and empower women to play active leadership roles within their communities (Oxfam).

Further reading
- Indigenous and Local Knowledge and Practices for Climate Resilience in Nepal. Kathmandu (Ministry of Science, Technology and Environment, Nepal). Available at: https://www.cbd.int/financial/micro/nepal-resilience.pdf
- Social Protection: Handbook (GSDRC). Available at: http://www.gsdrc.org/docs/open/socialprotection.pdf
- Leave no-one behind: Disaster risk reduction education for children with disabilities in Indonesia (ASB). Available at: http://www.eenet.org.uk/resources/eenet_newsletter/eer1/page24.php

3.2.2 Low carbon development

Low carbon development (LCD) is seen as a move by developing countries toward balancing the aims of poverty reduction and economic growth and achieving enhancing well-being. Below are interventions undertaken with a specific inclusion of one or more of the extreme poor and marginalised groups within the LCD context.

Low carbon energy access

There is strong evidence on how access to energy has contributed to the wellbeing of poor and marginalised communities, and can act as a catalyst for improving access to livelihoods and social services such as education and health. While there are many initiatives that include **women and girls** in small-scale access to clean energy interventions, there are relatively fewer examples of how other extreme poor and marginalised groups have been integrated into these projects.

DFID's Sustainable Energy for Women and Girls (SEWG) aims to shift clean energy markets and delivery systems towards improving the health, safety and economic opportunities of low income girls and women in developing countries in Africa. The project includes three components to ensure that gender inclusive interventions are prioritised: universal adaptation on clean cooking solutions; energy for women and children's health; and co-ordination, facilitation and tracking. The program is piloting off-grid energy for rural health centres and advocated how off-grid has capacity to transform rural energy access. (DFID, 2014)

Case Study 4 below presents an initiative that focuses on **displaced people**. It is an innovative and impactful approach for providing low carbon energy access to some of the most vulnerable and marginalised populations.

Case Study 4 Moving Energy Initiative (MEI)

Out of the 16.7 million refugees in the world, 60% are refugees for five years and more, with an average length of exile of nearly 20 years and some are living in refugee camps that reach the size of small to medium-sized cities (Bellanca, 2014). The Moving Energy Initiative (MEI) aims to provide cleaner, cheaper and safer energy solutions for situations of forced displacement. A study by Lahn and Grafham (2015) under the MEI presents the first ever global estimates of energy use, costs and environmental impacts among forcibly displaced people that clearly identify the importance inclusion of refugees in low carbon development planning in countries where large populations are displaced in to environmentally and economically unstable areas:

- In 2014 household energy use among forcibly displaced people amounted to around 3.5 million tonnes of oil equivalent, predominantly in the form of firewood and charcoal.
- An estimated 64,700 acres of forest (equivalent to 49,000 football pitches) are burned each year by forcibly displaced families living in camps
- With increasing deforestation, families are forced go further in search of firewood making them more vulnerable to high costs and security risks

The study further identifies that the use of alternative, more sustainable energy technologies such as LPG cook stoves and PV mini grids for household energy services could save 11.38 million tonnes of CO_2 in emissions each year and bring greater human and environmental benefits.

- The IWGIA highlights that climate mitigation initiatives such as reforestation and renewable energy projects (bio-fuel plantations, wind power project and hydroelectric dams) can pose threat to land rights, livelihoods and economic wellbeing of **indigenous people**. It is hence crucial that an inclusive and participatory approach is used to ensure that their rights and traditional knowledge is taken into consideration.

- Sena (2015) highlights the need for private sector enterprises or energy companies to take up the responsibility to respect the rights of communities in project design and implementation. The study particularly focus on how renewable energy corporations should have embedded human rights policy statements which include international human rights standards (such as the UN guiding principal) to guide and support their efforts to address rights of indigenous people. Participatory approaches and consultations with indigenous rights experts should influence decision making processes.
- Castillo et al. (2012) of United National University provide similar examples from across the globe where large scale renewable energy projects have had negative impacts on indigenous people's lives. Smaller scale renewable energy technologies however have had direct positive impacts on indigenous communities. Castillo et al. present an example from the Arctic where the nomadic reindeer herders of the Chukchi Nation in Siberia collaborated with the Barefoot College in India to build capacity of solar technologies among **older women** in their communities.

Green jobs

While there is a large opportunity for generating jobs through the increasing progress in low carbon sectors, it is unclear if the poorest and the excluded groups will benefit from green jobs. Unless the jobs are developed with a specific focus that can address barriers such as lack of skills and social norms (particularly those related to gender, disability and caste), they are unlikely to lead to economic empowerment of the most vulnerable

Evidence on green jobs and economic opportunities gleaned across the literature is mostly centred on inclusion of youth and women in interventions that focused on empowerment.

To build the capacity of **young women and men** to develop creative and innovative solutions, SNV's 'Opportunities for Youth Employment' (OYE) program prioritises renewable energy focused training for the youth. The OYE program supports **young women** in particular to uptake entrepreneurial opportunities in the energy sector, which is generally perceived to be male dominated (SNV, n.d.). Case Study 5 below presents an initiative that focus on training youth and developing their skills in biogas.

Case Study 5 Biogas Youth Dreaming Big– Tanzania (SNV)

SNV's OYE, with Tanzania Domestic Biogas Programme, conducted technical training for youth in biogas and basic life skills in Longido district in Northern Tanzania. The Masai community in this district are traditionally nomadic pastoralists but have begun to settle down in small villages or 'manyattas' and utilize dry cattle dung for fuel. Under the program 16 youth from Moirouwa Youth Group underwent OYE training. The youth accessed finances through the Local Government Authority and are now operating a hardware store in their village. A 19 year old young man stated, *"this training was an opportunity that we never expected. We appreciated getting basic life skills because through these skills we could already picture us doing big things in Longido and having an impact in our lives and our society".*

Several other notable examples for empowering through low carbon energy solutions can be observed, particularly in the case of **women**:

- Training older women to be solar engineers by the Barefoot College in India (Remedios & Rao, 2013), (Bearfoot College, 2012).
- Grameen Shakti (GS) is one of the key players in promoting renewable energy in Bangladesh. GS has developed an integrated programme using an innovative micro credit model, which has the economic and social aim to successfully deliver Solar Home Systems (SHSs) and other renewable energy systems to rural Bangladesh. GS' approach includes training women to become entrepreneurs in this field to install,

maintain and repair SHSs. There is anecdotal evidence that the GS programme is challenging the current patriarchal norms concerning the role of women in Bangladeshi society by encouraging women to be part of the workforce.

- [Solar Sister](#) is a social enterprise which aims to help women create economic opportunities and increase energy access by generating profits from sales of solar products in their community network. It reaches out to remote communities providing them with access to clean energy technologies. Solar Sister has created a strong public-private partnership which is now continuing to grow, building a supply chain for off-grid clean energy technologies and bringing specific benefits for women. The specific gender focused benefits of Solar Sister range from income and skills development to social network expansion, better self-confidence and improved status in the family and community. Improved technologies also bring health and safety benefits for women. (Mackey, 2015), (Arc Finance, 2012).

These models not only empower women, but they are also effective models for delivering energy access furthest e.g. reaching the poorest or remote poor villages.

Low carbon and climate resilient cities

Evidence shows that a relationship is being drawn between participatory local governance (involving excluded communities) and social inclusion in the context of low carbon and climate resilient cities. For example, UN-Habitat's Governance Campaign is committed to "the inclusive city" on the grounds that local democracy and decentralization are interrelated and inclusiveness is a connecting thread between them (Beall, 2012).

Case Study 6 below presents an initiative in Brazil which developed a child-led digital mapping platform to support improved climate and disaster resilience, and the agency of children in cities.

Case Study 6 Child-led mapping in Rio de Janeiro – Brazil (CCC)

Children living in the favelas of Rio de Janeiro, Brazil, face significant climate and disaster risks such as floods and landslides, compounded by poor infrastructure and a lack of municipal services. UNICEF, MIT and the local government developed a child-led digital mapping project, which involved real-time data collection through web and mobile applications by children trained in the mapping technique. Children taking part in the project used mobile phones loaded with the mapping software to photograph problem areas they find in their communities – like blocked drains or congested evacuation routes. The photos are automatically tagged with GPS coordinates and uploaded to the web where researchers can assess them. Children also attached cameras to kites to gather aerial images to capture a different perspective and spot potential issues that may not be as visible at ground level.

The children then presented the maps generated through their photographs to local authorities. Based on their increased understanding of the climate and disaster risks and strategies to minimise impacts, the children successfully advocated for the repair of a local bridge to facilitate evacuation when required. They were also successful in mobilising their communities to clean accumulated garbage in high-risk areas, helping to prevent landslides and a variety of health hazards. The technique has since spread to other communities in Rio and to other countries, and children have also expanded the range of issues they map.

Evidence show cases where **children** have also been taken a role as community health monitors (Plan) in city slums in Delhi, taking charge of drains, water, cleanliness, sanitation and health issues in the neighbourhood to support urban environmental health and resilience. Working alongside the neighbourhood women committees these child health monitors organised awareness events and media clubs. Using mobile phones, these young investigators film any discrepancies in behaviour (including trash piles) which were presented at meetings for collective decisions.

Another dimension of low-carbon cities is buildings and infrastructure. The **indigenous** building technologies project in Central Asia and Afghanistan (UNESCO) has sought to engage with indigenous communities and promote the right to good climate-compatible housing and living conditions affordable especially to the extreme poor. It does so by building on indigenous community knowledge and promoting natural materials, using energy efficient construction and renewable energies, and earthquake proofing the buildings to reduce loss of life.

Climate-smart agriculture

The CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) and the Technical Centre for Agricultural and Rural Cooperation (CTA) present case studies that showcase the impact of climate smart agriculture in Africa. One example is the Anchor Farm Project, which helps smallholder farmers, both **men and women** in Malawi to increase their incomes by increasing their yields and providing access to formal markets and better prices. The project provides training in climate-smart agricultural practices focusing on improving food security with climate resilient farming techniques. These include training for soil fertility management (ISFM) technologies such as applying manure, composting, crop rotation and conservation farming using nitrogen fixing trees and shrubs in agroforestry systems. (Nyasimi, Amwata, Hove, Kinyangi , & Wamukoya, 2014)

An innovative approach for working with **women** in learning and research for climate smart agriculture has been carried out in Bangladesh. This aimed to increase visibility and voice for women in addressing agricultural development in Bangladesh, through developing local capacities for 'women-to-women' participatory video (PV) development and dissemination, involving 600 rural women. (Centre for Development Research, 2013).

The Climate Smart Agriculture Youth Network (CSAYN) provides an example which focuses on mainstreaming **youth** and **people with disabilities** into climate smart agriculture. CSAYN highlights, '*raising youth's awareness about CSA will not only make them conscious of the existing challenges related to agriculture and climate change, but it will also give them the necessary information needed to mitigate these threats and contribute to the adoption of smart practices and the enhancement of agricultural livelihoods. Building youth knowledge and skills in CSA will enable them to make a positive contribution to their communities and nations'*. The project aims to implement a week of mobilization and advocacy on the ZERO Hunger Campaign in schools, market places and hospitals to scale-up the eradication of malnutrition among youth and people living with disabilities, and conduct community based training for farmers on new climate smart agriculture.

Further reading
- Renewable Energy Projects and the Rights of Marginalised/Indigenous Communities in Kenya. (IWGIA), Available at: http://www.iwgia.org/publications/search-pubs?publication_id=725
- *Solar Sister: Why are women playing a key role in the value chain of renewable energy technologies? (GECCO)*. Available at: http://genderandenvironment.org/resource/solar-sister-why-are-women-playing-a-key-role-in-the-value-chain-of-renewable-energy-technologies/
- Globalization and social exclusion in cities: framing the debate with lessons from Africa and Asia. Available at: http://www.ucl.ac.uk/dpu-projects/drivers_urb_change/urb_society/pdf_social_emancip/IIED_Beall_Social_Exclusion.pdf
- Fostering women voices through videos in Bangladesh. Available at: https://forschung.boku.ac.at/fis/suchen.projekt_uebersicht?sprache_in=en&menue_id_in=300&id_in=7998

3.2.3 Environmental stewardship

Environmental stewardship, as a core realm of climate change and environmental policy, planning and programmes which helps to protect and conserve the air, land, water, forest resources and wildlife reserves that the lives of the extreme and marginalised poor depend upon, is central to leave no-one-behind discussion.

Water security

The UNDP Community Water Initiative (2010) presents several case studies where women and youth in particular were included in participatory initiatives that focus on water security.

- The rehabilitation of a micro-central hydroelectric installation in Guatemala included capacity building activities to foster **women**'s involvement in leading and organizing workshops on construction and maintenance of the facilities, as well as implementing conservation projects to protect the river's riparian zone.
- New wells and community development in the Zukpuri Traditional Area, Ghana, had 10 **young men and women** forming the Community Water Initiatives (CWI) of Zukpuri. Five of these people (three females and two males) were trained in well drilling, casing and screening, pump testing, water quality testing, hand pump installation, and community water management. The Zukpuri-CWI was also requested by other communities to help them dig wells and with support from the local government 30 young people have obtained jobs for well digging.

Evidence also shows that educating and involving **youth** on conservation activities can enable them to act as strong advocates and practitioners for environmental stewardship. Building partnerships with youth organisations provides opportunities to influence and engage with youth in an effective way. For example, the Friends of UNICEF youth voluntary group in Iraq aims to undertake awareness raising activities in their communities to change behaviours towards water conservation and hygiene practices in Iraq (Friends of UNICEF, 2015).

Natural resource governance (including sustainable land use)

The Kenyan women's NGO Green Belt Movement (GBM) works with **women** and their families to plant trees. They also work on empowering women by providing training in sustainable agriculture for diversifying their livelihoods and generating income. This training includes food production, processing and marketing, apiculture, and the planting and care of trees (Bäthge, 2010).

The World Wildlife Fund (WWF) has used an inclusive governance approach for actively engaging all stakeholders, including groups who are often excluded in decision making processes with respect to the access, use and management of water resources in the Great Ruaha River Catchment in Tanzania. These groups include **poorer rural women**, those **displaced** (downstream) when collective rice schemes were privatised, **pastoralists** and **youth**. The project use large-scale annual workshops, with the first day set aside for local people and those at risk of being left out. This provided communities who are often left behind time to clarify their concerns and demands before being joined by the diversity of formal stakeholders. WWF also engaged with various authorities (e.g. LGAs, Water Basin Office, Zonal Irrigation Units) for joint strategizing, planning and implementation, and in ensuring they are responding to the diversity of demands from their local constituents. This approach has allowed local communities to have a say in key decisions that affect their lives. (Bond, 2016)

Forestry

By creating an enabling environment for **women** to participate in committees including quotas and promoting women's participation in decision making at all levels through

leadership coaching and training, sustainable forestry initiatives such as the multi-stakeholder forestry programme example in Nepal (MSFP, n.d.) have increased gender parity in decision-making processes related to forestry. It has also helped to create a better awareness of the different roles and responsibilities of women and men and their differential access to strategic and practical resources.

The case study below presents an example of securing land rights and supporting forest and biodiversity conservation for ethnic minority groups.

Case Study 7 Land rights for vulnerable minority group in Cambodia (WCS, 2012)

The Seima Protection Forest in Cambodia is home to many indigenous ethnic minority groups who experience relatively high levels of poverty, They depend heavily on natural resources, including forest products. The traditional collective land ownership systems, along with poverty and marginal political status, make these communities vulnerable to land grabbing by powerful individuals and companies.

Since 2003, the Wildlife Conservation Society (WCS) and the Cambodian Government's Forestry Administration, with support from ILO and GIZ, worked to support the communities in Seima to obtain collective land titles. The project aims to strengthen community rights to manage their natural resources and enhance the conservation of endangered biodiversity. It is also part of a larger conservation program covering the Seima Protection Forest, one of the most important sites for biodiversity conservation in the region. The program has successfully transformed the site from a former logging concession into one of the most successful protected areas in the region.

Further reading
- UNDP Community Water Initiative: Fostering Water Security and Climate Change Adaptation and Mitigation. Available at: http://www.undp.org/content/dam/undp/library/Environment%20and%20Energy/Local%20Development/CWI_Fostering_Water_Security_and_Adaptation.pdf
- *Conservation Project Helps Secure Land Rights for Vulnerable Minority Group.* Availabe at: http://newsroom.wcs.org/News-Releases/articleType/ArticleView/articleId/4902/Conservation-Project-Helps-Secure-Land-Rights-for-Vulnerable-Minority-Group.aspx
- Leaving no one behind: Putting marginalised people at the forefront of the Sustainable Development (Bond). Available at: https://www.bond.org.uk/sites/default/files/resource-documents/leaving-no-one-behind-0516.pdf

3.3   Integrated and cross-cutting C&E approaches

Building on the evidence of focused C&E interventions, categorised by priority themes and target groups presented in the preceding section, in this sub-section we present cross-cutting dimensions and integrated approaches that have particularly emphasised or considered the LNB principle.

The majority of evidence reviewed is that of stand-alone examples of integration of one or more marginalised groups across the three priority themes of climate resilience, LCD and environmental stewardship. However, we also need to acknowledge C&E interventions especially in the policy realm that cut across multiple themes or target groups, and are more difficult to classify or demarcate neatly within one or the other category. Within these 'cross-cutting' approaches, there is a handful of multi-dimensional approaches that aspire to address the structural drivers, and tackle inclusion in a systematic way. Where such integrated or holistic C&E approaches have been tried or experimented with, the jury is still out if these have been successful in achieving their 'inclusion' objectives and really 'leaving

no-one behind', and to what degree. Further it is not entirely clear if the various trade-offs have been managed effectively and co-benefits optimised to ensure overall sustainable development outcomes.

Gender and its cross-cutting implications

The discussion on cross-cutting and integrating approaches would be incomplete without probing gender in a bit more detail. Across the target groups laid out in section 2.1, gender shares the most intersectionalities and overlaps with other excluded groups and has demonstrated greatest potential for integration within C&E programmes and interventions. In terms of coverage, relative to other excluded groups a focus on women and girls is more evident across interventions for each of the themes i.e. climate resilience, LCD and environmental stewardship.

There is comparatively more demonstrable evidence for promoting gender sensitivity and gender transformational approaches via implementation of climate resilience policies and programmes. This has taken the form, for example of supporting non-discriminatory access to and use of land resources, equitable participation in decision-making processes in the context of food security, and women adopting leadership positions (e.g. in natural disaster responses, post-disaster reconstruction, management of essential natural resources such as fresh water). Women have also played an active role as environmental stewards and integrating a gender-sensitive approach for the governance of the natural resources and sustainable land use approaches, that has led to visible wide-reaching benefits in some of the case studies discussed. This spans both formal institutions (legislation, land and tenure rights) and more informal institutions (such as social norms) at community, national and international level.

Gender-responsive low carbon policy design has had a comparatively slower start but is beginning to show how governments can effectively respond to questions such as who should decide on the consumption of energy at the household level, who prioritises sources of energy at the community and national level, who can access forestry products and on what terms.

Evidence has also shown that ensuring equitable benefits for women and girls has subsequent positive effects on socio-economic-environmental outcomes for families and generations. For example, research carried out in the municipality of Wao in the Philippines has identified the vital role and contribution of both men and women in forest management, and has also concluded that providing secure land rights to both can promote sustainable forest management as well as poverty alleviation. A key finding is that excluding women in the issuance of stewardship certificates or land titles can undermine any positive gains in sustainable land management, creating adverse impacts for women (Gurung, Kono, & Ganz, 2013). Equal access to and use of land resources is therefore vital and inequalities in assets and entitlements can widen the gaps between the have's and have-nots which adversely affects economic growth (Fort, 2007).

Integrated approaches across low-carbon development and climate resilience

In terms of integrated approaches spanning multiple themes, some useful examples can be found to across low-carbon development and climate resilience.

In terms of LCD, one can observe some good practice is emerging particularly in the context of national climate change policies. Nationally Appropriate Mitigation Actions (NAMAs) have been recognised as structures within low carbon development strategies and the primary vehicles for implementing them (UNEP, 2011). However, there is an increasing trend towards embedding the discussion of co-benefits and climate-resilient approaches into low carbon development (Mulugetta & Urban, 2010) and linking National Adaptation Plans (NAPs) to NAMAs. Therefore, climate resilience and LCD are increasingly linked agendas

being conceptualised and delivered in a coordinated, coherent and strategic manner as integrated national climate change and environmental policies. Mitigating climate change, improving energy security, and eliminating extreme poverty are increasingly seen by governments as going hand-in-hand and their overlap has been called by some as the energy-poverty-climate nexus (Casillas & Kammen, 2010).

As another case in point, the Global Green Growth Institute (2015) has helped the Government of Philippines develop the Climate Resilient Green Growth (CRGG) plan that positions itself as a systematic, participatory but flexible, approach to guide a transition to a climate resilient economy. The CRGG Framework bases itself on a working set of premises including strong, equitable, and sustainable economic growth, enhanced quality of life, gender equality, rational resource use, and provincial coordination, to ensure that environmental, social, and economic goals can be simultaneously addressed. There is an ambition at least on paper to mainstream poverty alleviation and social/gender equity in the CRGG Planning Framework through assessments that include social stratifications information based on poverty indices and gender indicators such as the Gender Development Index (GDI) and/or gender empowerment measures (GEM). Vulnerability and climate risk assessments are also designed on the basis of an inclusive and pro-poor approach that addresses the actual or potential climate change sensitivity of the poor, women/men, specific ethnic groups, and internally displaced groups within the wider aims of poverty alleviation and social/gender equity. (Global Green Growth Institute, 2015)

In terms of climate resilience, Ethiopia's long running social protection programme, the *Productive Safety Net Programme Phase 4 (PSNP4),* serves as a useful case in point. It is designed to take an inclusive approach to deliver climate change adaptation, low-carbon growth and mitigation. PSNP4 will provide regular transfers of cash or food (planned progression towards cash only) to 8.3m extremely poor and food insecure people, six months a year in exchange for participation in public works or attendance at nutrition/childcare training sessions, during the 'pre-harvest hunger season'. PSNP public works also strengthen community-wide adaptation over the long-term, addressing the root causes of climate vulnerability by reducing soil erosion, restoring groundwater levels and spring flow, and linking communities to markets and services by building roads, clinics and schools. Area enclosure, terracing and reforestation achieve results in large-scale carbon sequestration and create opportunities for Ethiopia to tap into climate markets to help finance its climate resilient-green economy (CRGE) development strategy.

Managing trade-offs and maximising benefits

The need to manage trade-offs effectively, maximising co-benefits and avoiding maladaptation is a key consideration, especially when considering interventions that cut across multiple themes such as environmental stewardship and low-carbon development. Learning can be drawn here from some approaches that may not have been wholly successful.

For instance, in Democratic Republic of Congo a Climate Investment Fund (CIF) funded project aimed to promote community-based natural resources management and private sector engagement to reduce forest degradation from wood fuel use. It provided improved cook stoves and promoting agro-forestry to reduce 'slash-and-burn' practices. However, critics claim that the 'slash-and-burn' practices are not exactly the underlying cause of the problem, rather are symptomatic of a wider issue of tenure insecurity. The practice is often carried out by people with no tenure security or who arrive from elsewhere seeking to exploit an area for short-term benefit. Addressing the root cause of the problem and providing security of tenure for long-standing local communities and migrants is expected to yield more sustainable outcomes (Kipalu, Koné, Bouchra, Vig, & Loyombo, 2016). Thus, in the absence of robust contextual understanding, C&E interventions and programmes despite well-intended goals can sometimes fail to achieve their intended impacts.

3.4 Summary of evidence

Table 2 below maps the evidence presented in this section in relation to specific groups identified in Section 2.1 against the priority themes and sub-themes within climate resilience, low carbon development and environmental stewardship.

Sectoral theme/ sub-theme	Women and girls	People with disability	Older people	Children (<13 age)	Youth (and adolescents)	Indigenous	Minority groups based on ethnicity, faith or caste	Sexual orientation and gender identity	Displaced
Climate resilience									
Climate change adaptation	X	X			X	X	X	X	X
Social protection	X						X		
Disaster risk management			X	X		X			
Low carbon development									
Low-carbon energy access	X				X	X	X		X
Green jobs	X				X				
Climate-smart and resilient cities	X			X	X	X			
Climate-smart and resilient agriculture	X				X	X			
Environmental stewardship									
Water security	X				X	X	X		
Natural resource governance	X					X	X		X
Forestry	X					X			X
Sustainable land use	X					X	X		

Table 3 Evidence mapping: Climate and environmental analysis for LNB

Within climate resilience, the sub theme 'disaster risk management' appears as the theme with maximum breadth of evidence. With the exception of clean and affordable energy access and its links to women and girls, displaced people and youth engagement, and engagement of women in climate-smart agriculture, the evidence of LNB integration within low carbon development, is relatively sparse. Within environmental stewardship themes the

role of indigenous communities, women and youth is evident particularly in natural resource governance and forestry related programmes. Most of the evidence is focused on small-scale and community focused interventions which had a specific focus on one or more of the target groups.

Some case studies also presented intersectionalities. The gender dimension appeared to be the most evident, cutting across all the different forms of marginalisation. For instance several interventions focused on displaced adolescent girls, displaced elderly women and indigenous women and girls and highlighted that they may be particularly susceptible to falling into the poverty trap. However, there is limited evidence as to how multiple discriminations play out in the context of climate and environmental change.

In relation to evidence on specific target groups, the understanding of climate and environmental vulnerabilities and specific interventions for support is least evident in the sexual orientation and gender identity. There was limited evidence on minority groups based on ethnicity, race and caste

Relative to other marginalised excluded groups, women and girls have fared slightly better, in terms of mainstreaming within programme design and implementation, across the themes of climate resilience, environmental stewardship and low carbon development. Further, there are also a number of evidently strong cases also on how children, adolescents and youth can be agents of change within their communities and support climate-sensitive approaches across a range of interventions from awareness raising to livelihoods. Indigenous communities with their traditional skills and knowledge have been particularly noted as a resource for identifying more locally suitable low carbon and climate resilient solutions.

Recommendations for integrating LNB into climate and environment

4.1 Opportunities and entry points for embedding LNB in climate and environment

Section 3 presents a range of evidence both on the vulnerabilities and capacities for extreme poor and excluded groups in the climate and environmental context, and specifically in the context of the priority themes of climate resilience, low carbon development and environmental stewardship. This Section 4, as the concluding section of the Learning Materials, builds on the preceding evidence to present opportunities for embedding LNB in the C&E context to promote sustainable development outcomes.

Whilst this section provides some recommendations on how LNB can be integrated across C&E programmes of varying size, sector, scope and scale, LNB is still an evolutionary discourse and some of these ideas need to be road-tested and further explored.

The entry points for integration of LNB within C&E can be categorised according to the three pillars of the DFID's LNB strategy and framework (soon to be published):

- <u>understanding</u> the context to plan and design right policies and programmes,
- <u>empowering</u> the extreme poor and excluded groups for change, and
- <u>including</u> the extreme poor and excluded groups to help them leverage opportunities and fulfil their potential.

These entry points reinforce one another to ensure that extreme poverty and social exclusion are addressed in an integrated manner in the environment and climate context, so that any adverse impacts are minimised, and the opportunities to leverage the full potential of the most vulnerable groups are maximised.

Below each entry point is discussed to demonstrate who can take action and how. Some examples are also presented to substantiate how the opportunities to integrate LNB within C&E interventions can be best leveraged.

Entry point 1: Understanding for action

What? Every programme, policy and action needs to be based on a solid understanding of the context and local situation. In addition to the key climate related information, programme designers need to understand the drivers of poverty, exclusion and marginalisation. Only through understanding the drivers, and which groups are disadvantaged and why, is there an opportunity to promote change. The analysis should draw on disaggregated data, and multidisciplinary and participatory evidence, including the use of indigenous and traditional knowledge where appropriate.

Who? Donors and Governments have a particular role in enhancing the use of **contextual analysis** to inform policies and programmes. Close collaboration is needed to improve national surveys and data to better reflect the social development and ethnic diversity of the country. To take an example, the Inter-American Development Bank (IADB) with the

Economic Commission (ECLAC) and the World Bank launched the Programme for the Improvement of Surveys and the Measurement of Living Conditions in Latin America and the Caribbean in 2001 (Kabeer, 2010) to improve survey and measurement tools to assess living conditions. As a result of these initiatives, most countries in the region now collect data on the indigenous population, and 9 out of 19 Latin American countries collect census data on Afro-descendants. Similarly, the Brazilian government in 2012 tasked teams to actively seek out people living in extreme poverty by conducting door to door surveys and helping them register in the national cadastre with their municipal institutions. Of the families registered through this active search process, 14% belonged to 'specific groups', including indigenous, quilombolas, squatters and people who are victims of intersecting exclusion (ODI, 2014).

Civil society can also play a role at different levels, such as gathering data and evidence, and engaging in research jointly with the poorest and the marginalised. For example:

Political economy analysis can bring further insight on interaction of political and economic processes, including the distribution of power and wealth between groups and individuals, and the barriers faced by different institutional actors in participation and decision making.

Participatory research and advocacy approaches where children are at the centre of community debates and decision-making have had positive impacts. For instance, in Cambodia children produced films on the impacts of floods and droughts on their lives which brought community members together to discuss critical issues such as adaptation priorities and the feasibility of different proposals which they have taken to local decision-makers (Polack, 2010).

Leveraging traditional knowledge possessed by indigenous groups can benefit national climate change programmes and policies. A report from the UN highlights that traditional knowledge on mitigation options such as fire management techniques and forest knowledge can benefit mitigation programs such as REDD+. Similarly, indigenous livelihood strategies can enhance resilience and food security via appropriate adaptation options. (IASG, 2014) Understanding of the context and listening to the local communities is also integral to **avoiding maladaptation** in climate and environmental interventions.

Donors and civil society organisations have developed an **array of tools to support contextual and political analysis** both generally and in the climate and environmental context. Just as an example, UNDP has developed institutional and context analysis guidance, IISD maintains CRisTAL, a **C**ommunity-based **R**isk **S**creening **T**ool for **A**daptation and **L**ivelihoods, and Oxfam has developed a practitioner's guide for **Participatory Capacity and Vulnerability Analysis**.

Entry point 2: Empower for change

What? The voice and agency of poor and excluded groups can be enhanced through ensuring their engagement in programme design, implementation and M&E. Addressing social norms and other barriers that prevent participation in decision making, formal labour markets and social interaction is crucial. The objective is to create an environment where marginalised groups are able to speak for themselves and influence decision making at all levels. For example, social norms and/or formal law may prevent women from inheriting or owning land. Reforms may be needed in legislation, policies and other institutional processes to guarantee that no group is being discriminated against in terms of their legal rights or institutional access, and that government institutions are accountable to them.

Who? Donors can increase the voice and choice of poor and excluded groups in their programmes and support government-led legislative and institutional reforms. Support to civil society organisations who are advocating for those left behind can be another effective opportunity to promote empowerment. The private sector could be an important stakeholder in labour market and other economic reforms and providing jobs and economic opportunities whereas media organisations can play a vital role in sharing information.

Civil society organisations can also support in holding governments to account where efforts to include the poorest and excluded may be culturally or politically challenging. For instance, Rwanda Red Cross took full advantage of local expertise on their project on addressing food insecurity by sharing out vulnerability and capacity analysis-led topics of discussion: the elderly worked on history, with emphasis on problems relating to food security, the women's representatives focused on the seasonal calendar and the daily routine and the young people produced a map of the sector showing community development achievements (IFRC, 2007).

Evidence suggests that institutions which are active in climate change and disaster related interventions in developing countries may not always have the knowledge, skills or capacity necessary for identifying and appropriately reaching out to those who are from the marginalise groups within the communities they work in.

For instance, the International Gay and Lesbian Human Rights Commission highlighted that relief organizations distributing aid and managing camps for Displaced Persons need a better understanding of the challenges and issues of LGBT groups. LGBT organisers and community leaders should be enrolled in courses and training on disaster management to empower them and enable them to function effectively in crisis situations. Foundations, civil society organisations and human rights groups should build strong LGBT movements and organisations before disaster occurs, so that they are capable of providing emergency support to their members. Governments should influence key actors such as the police, military, and security forces to ensure that LGBT people are not stigmatised in the course of responding to a disaster. Donors and international agencies should issue relief and emergency guidelines that ensure LGBT organisations are included when planning responses to future disasters and during the course of responding to a disaster. With adequate support, evidence shows LGBTs can overcome the discrimination they face and play a crucial role in providing support to the most vulnerable people in evacuation centres.

With regards to empowering older people, HelpAge recommends that programmes and policies should include building resilience among older people by consulting with them on programme design and finance. HelpAge further notes that governments and civil society should invite older people's groups to take on an equal and active role in relevant national forums, financing bodies and decision-making processes on climate change. Older people could be included as key stakeholders in disaster risk reduction, climate change adaptation and capacity-building programmes. These approaches can lead to strengthening health systems to respond to the health requirements of ageing populations, identifying social protection programmes that reach older people and their dependants, and implementing adaptation strategies to secure their livelihoods and access to services such as water, energy and food. (Help Age International, 2009)

Entry point3: Include for opportunity

What? Economic opportunities are the key to lift people from poverty. Therefore, the promotion of inclusive and sustainable growth should also be considered in the context of climate and environment. Natural resources are key determinants of wealth in many developing countries hence access to and distribution of natural resources is important.

Global investment for example in renewable energy reached USD 286billion in 2015 supporting 8.1 million jobs. This calls for the policy makers and donors to consider the distribution of these benefits (i.e. groups/people that are able benefit from renewable energy investments) in the target countries.

In addition, poverty and lack of economic opportunities are often correlated with poor access to services such as health and education, infrastructure and technology. There are opportunities in climate resilience programmes to incorporate inclusive access to basic services, and for programmes to be delivered in remote areas and reach the most vulnerable. In addition, low carbon development such as clean energy programmes can be catalysed to promote inclusive access to technologies and services.

Who? The knowledge of civil society organisations and not-for-profit organisations can add value in terms of reaching out to the poor and excluded groups and their specific needs. The examples discussed in section 2 on engaging disabled women in Lao PDR and training older women to be solar engineers demonstrate how inclusion for opportunities such as jobs can promote both poverty alleviation and sustainable development. An FAO publication (FAO, 2013) focusing on agriculture, natural resources and rural development for youth in Africa included several articles that highlighted the opportunities for engaging youth in agriculture sector:

- Using vocational training such as the Junior Farmer Field and Life Schools (JFFLS) to promote employment opportunities for rural youth in agriculture
- Promoting practical experience of entrepreneurship in universities
- Engaging youth in agriculture using ICT
- Expanding the workforce and involving young women (e.g. USAID funded Value Girls, Kenya project and Yes Youth Can! Kenya and IFAD's Young women with different abilities (PWDA) in Sierra Leone)
- Addressing challenges related to land rights, gender equality and rural development

The private sector can make a significant contribution to inclusive and sustainable growth due its role in jobs provision, investments and development and diffusion of new technologies. Donors and governments should work together with the private sector to create the right incentives for the adoption of inclusive polices, both when hiring new people and when reaching out to potential customers, for example in the energy and agriculture sectors. The role of the private sector is traditionally more pronounced in low carbon development rather than climate change resilience. However, due to the needs and finance gap in climate change adaptation and resilience, donors are calling for a better mobilisation of private sector financing for adaptation. (UNEP, 2016)

The private sector can also play a vital role in incorporating and implementing standards and regulations related to equal opportunities in employment. For example, Itaipu Binacional (IB) (UN Women, 2015), a Brazilian-Paraguayan company that runs a large hydroelectric power plant, has been a pioneer in supporting the advancement of gender equality. Through internal consultation IB compiled a list of concerns and suggestions on how to improve gender equity resulting in an internal diversity strategy that was more sensitive to women's needs, bringing a better work/life balance (such as flexible working hours and special logistical conditions during pregnancy). The company has also established a leadership programme, promoting women's career advancement through training, workshops and educational campaigns. As a result, women's representation in management positions has increased from 10% in 2003 to 22% in 2015.

When developed and tailored for specific needs of communities, technologies and services can have a large impact on their lives in a sustainable manner. As an example, CAFOD

worked together with a private company to implement a four-year community-based project to address the lack of access to sustainable, affordable, reliable and safe energy services. The project targeted people living in poverty and marginalisation, including women and girls, in eight districts of the most vulnerable arid and semi-arid regions of Kenya (Bond, 2016). Similarly, Gunning (2014) has presented opportunities for providing improved access to sustainable energy for displaced populations and concludes that energy solutions in camps should not be treated in isolation but as a part of wider camp systems linking particularly to waste management and water. The technologies should be cost effective and have reduced operational costs to support camp financing. Technology options that include significant energy efficiency measures, stand-alone products and mini-grid options can be beneficial options for energy provision for displaced populations.

4.2 Overcoming barriers and challenges in embedding LNB

The rationale for integrating the needs, capacities and vulnerabilities of the extreme poor and excluded groups within the climate and environmental context is clear. The preceding section reflects on entry points and examples of how this integration could happen by drawing on case studies from successful programmes, and assessing the roles which various actors such as donors, governments and civil society can play in this process.

Studies point to challenges and trade-offs of mainstreaming the LNB concept successfully at an operational level. The challenges as inferred from the literature review have been outlined below and categorised as 'cross-cutting' or 'sector or theme-specific'. Using the information provided in previous sections, we also observe that these challenges are not insurmountable and there is an array of potential solutions that exist to overcome these barriers.

	Theme	Challenges or Trade-off	Potential solutions
Cross-cutting			
1	Data	The availability of accurate, consistent and up-to-date disaggregated data on the array of axes (age, gender, ethnicity, faith, sexual identity, displacement status) required to be able to plan, design and expand targeted interventions at different scales (local, city, sub-national, national) is a challenge.	• encourage and support improved disaggregation of national and other climate and environment data sets • improve disaggregation in project results frameworks, to help understand impact on different groups and build capacity of partners to collect this data • undertake inclusive participatory context analysis in intervention design and in M&E
2	Scale	The issue of scale is an important one as there are a number of small projects that have successfully benefitted excluded groups at the micro-level, but given that the needs and vulnerabilities of such marginalised groups are highly context-dependent, these projects are often harder to replicate, scale up or scale out.	• Rigorous context analysis to plan and design right policies and programmes • Informed decisions on the objectives of the programme (who it should benefit and how)

3.	Heterogeneity	There is no one-size-fits-all approach here and each of the target groups whether it be the elderly, disabled, women, children, youth, indigenous, faith-based and sexual minorities, are themselves large heterogeneous groups with nuanced and differentiated needs vulnerabilities and capacities, which means generalised approaches do not always work. The relative impacts and vulnerabilities of each of these groups may also differ widely from country to country and dependent about whether fast-onset, slow-onset disaster or climate extreme contexts are being addressed, or whether we are looking at rural or urban geographies.	• Rigorous context analysis (as noted above) • There are some common underlying structural drives such as inadequate assets base, poor access to services, weak political voice and identity based discrimination that should be analysed and addressed when designing and implementing policies and programmes
5.	Communication	Linguistic and cultural barriers can impede participation of hard to reach groups who may not speak the language of the researchers (Community Care, 2008) especially in the case of indigenous, ethnic minority groups or displaced populations, and complex group dynamics may be involved. Text-based methods of communication may not be accessible to all as they may not read the language that they speak. Community leaders may often provide some interfacing support but cannot substitute for engaging with people directly.	• Using communication tools that are effective in the local context (e.g. Information in appropriate visual formats, use of interpreters and face-to-face engagement is often required) • Budgeting adequate resources in the programme design phase to ensure that the information reaches also the extreme poor/marginalised groups. • Longer timeframes may be needed to ensure that communication barriers have been broken down and an environment of mutual trust and open communication has been created. • Promoting community information sharing networks
6.	Physical access	People living in remote locations which can be extremely difficult to access, not only in disaster and conflict situations, but also otherwise due to infrastructural constraints (e.g. no road access).	• Inclusion of a plan to reach-out also to the remote locations from the outset of the programme design • Appropriate modes of

		Disabled groups with restricted mobility or sight, may be harder to reach as they may not be able to access community centres or other public places with ease. (Buckinghamshire County Council).	transport may be required to enable the participation of disabled groups • Using service providers who have experience in working in remote locations and/or with disabled people; and bringing their experience already in the programme design phase
Sector or Theme-specific			
7.	Environmental stewardship and climate resilience *Land Tenure for provision of basic services (e.g. water and sanitation)*	Security of tenure is often mistakenly understood as the legal right of ownership – most urban slum dwellings therefore lack security of tenure, which means that the inhabitants – the urban poor men, women, youth and children (extreme poor and excluded groups) are at a constant threat of evictions, thus inhibiting them from participating or investing in upgrading homes, contribute to the cost and maintenance of communal facilities such as water and sanitation services. This also disincentivises market actors as well as non-government organisations from working on supporting upgrade for access to such basic services needed for environmental health and well-being, or helping residents to disaster-proof their homes (Parry, 2015).	• Context analysis to understand the groups who are lacking legal entitlements and why, and to understand the implications in terms of access to basic services • Supporting legal land tenure for excluded groups and/or ensuring the provision of basic services despite the lack of legal tenure rights • Inclusion of women from the outset as their daily routines and productivity is often linked closely to the availability and access to water and sanitation related services
8.	Low carbon development *Subsidies / financing access for renewable technology access*	In Nepal, investment in renewable energy technologies is constrained by the lack of rural banking services, collateral or personal co-financing inability of the poorest and marginalised individuals, households or communities who are unable to access the finance they need to invest in new technologies (Steinbach, et al., 2015). Subsidies account for only 30%–50% of the cost of renewable energy technologies and even where these are available, such	• Context analysis to understand the financial constraints of the poor and the solutions that may be effective in addressing the constraints • Learning from community initiatives such as Barefoot College whose objective is to transform communities to self-sufficient and self-reliant, solar-electrified villages • Building capacities of financial intermediary institutions who can

		subsidies are often mis-targeted to meet subsidy delivery quotes instead of being targeted at the poorest and most vulnerable. Banks have opted to deliver finance to rural areas through existing microfinance and cooperative institutions which often lack the financial management and human resource capacity to manage and deliver these funds.	manage and deliver rural financing.
9.	Low carbon development *Technology innovation vs. affordability for the poorest customers*	The Planning Commission of India notes some of the trade-offs of low carbon development on poverty and inclusion of extreme poor and excluded groups for some of its policies (Planning Commission Government of India, 2014): • The National Wind Energy Mission and Solar Mission may have negative impacts on inclusion in the short-to-medium-term as renewable energy sources are currently more expensive than other sources but the creation of a decentralised energy industry may have a positive impact over the longer-term. • Better Urban Public and non-motorised transport would improve mobility for the poor but may involve paying for more expensive public transportation options initially. • Advanced coal technologies may have neutral or mildly negative impacts if power costs increase and are passed on to low income extreme poor and excluded groups.	• Ensuring that cost-efficiencies, grassroots-based innovation and scalability are a core design principle for small-scale renewable programmes. • Learning from community initiatives such as Barefoot College whose objective is to transform communities to self-sufficient and self-reliant, solar-electrified villages • Build in flexibility in programmes so that short term trade-offs or negative impacts such as price increases to vulnerable consumers can be offset
10.	Environmental stewardship and climate resilience Land-use planning: afforestation vs.	Afforestation projects may involve forced displacement or loss of livelihood for the poor and marginalised, resulting in a neutral or negative impact on the most vulnerable as has been noted in a study by the Planning	• Robust analysis of the benefits, trade-offs and the risks of afforestation projects and how best to engage with and support the lives and livelihoods of groups that are potentially

	displacement	Commission of India (Planning Commission Government of India, 2014).		affected • All projects should have a social safeguards policy to minimise any adverse impacts
11.	Low carbon development Poor functioning markets for the poor:	Poor-functioning markets for the poor have traditionally precluded access to services such as mobile telephony, vocational training and finance which means the most marginalised would have the least capacity to take advantage of opportunities. Absence of information - especially in relation to prices, trends, contacts – has been a key constraint for the poor who typically have less 'know-how' and 'know-who' than those with more resources, and therefore have less ability to innovate or diversify livelihoods (SDC, 2008).		• Consider the inclusion of access to information and markets in the design of low carbon development programmes
12	Institutional capacities and coordination for social safety net programmes	World Bank (2014) indicates that social safety nets are reaching only a quarter of the extreme poor in low and middle income countries. Besides ineffective targeting, poor institutional coordination across sectors and ministries resulting in high overheads and administrative costs for delivering services to the most marginalised and poor have constrained large social safety net programmes (World Bank, 2014).		• Institutional capacity building to improve timely service delivery and effective targeting of poor communities through learning from the Public Expenditure Tracking Surveys (PETS) among others • Improve institutional coordination and accountability mechanisms including those of donors, private sector and civil society partners and delivery partners

Table 4 Challenges, trade-offs and potential solutions

The barriers outlined above suggest that it is unlikely that benefits of 'conventional' and 'business as usual' programmes will trickle down to the extreme and marginalised poor. Policies and programmes especially in the evolving and challenging climate and environmental context need to be carefully designed, and contextual analysis is crucial to ensure that interventions deliver the intended results for those who are the most vulnerable. Notwithstanding the various challenges presented, the examples and case studies

discussed in the preceding sections illustrate that effective interventions are possible, and the barriers can be successfully overcome.

> **Further reading**
> - 10 things to know: **Gender Equality and achieving climate goals** Available at: http://cdkn.org/gender-equality-climate-compatible-development/?loclang=en_gb
> - Oxfam: **Participatory Capacity and Vulnerability Analysis**: A practitioner's guide. Available at: http://policy-practice.oxfam.org.uk/publications/participatory-capacity-and-vulnerability-analysis-a-practitioners-guide-232411
> - **Community-based Risk Screening Tool for Adaptation and Livelihoods** (CRiSTAL), available at: https://www.iisd.org/cristaltool/
> - Global Green Growth Institute: **Climate Resilient Green Growth (CRGG) Planning Framework**. Available at: http://gggi.org/wp-content/uploads/2015/11/000_GRGG_ALL_2015-11-10_PDF-Version.pdf

4.3   Concluding remarks

The integration of the poor and excluded people into the UKAid portfolio on climate and environmental programmes is crucial to deliver UK's commitment to addressing extreme poverty and helping the world's most vulnerable populations. In doing so, programmes and policies need to tackle both extreme poverty that causes inequality among people within countries and globally, and exclusion that causes inequalities among social groups, due to characteristics such as race, gender, age, migratory status and health.

The accumulation of multiple disadvantages (lack of access to assets, infrastructure and services, and limited political voice) that extreme poor and excluded groups face, predisposes them to be even more vulnerable to climate change, or suffer from the adverse impacts of poorly designed climate and environmental change interventions. A summary of the key findings in relation to the poor and excluded groups and how these map against the core themes within climate and environment programmes is presented in section 3.4.

Further work is needed to understand the unique and differentiated roles that various actors such as donors, civil society, the private sector, governments and the beneficiary populations themselves can play, and the mechanisms they can use to incorporate inclusive approaches. Data disaggregation to inform evidence based policy and practice, institutional capacity, information access, skill development, partnerships and accountability mechanisms are just some of the approaches that can be instrumental in this process, and deliver simultaneous social-economic-environmental gains.

On the whole, it appears that literature often emphasises the adverse impacts of marginalisation and a wider attitudinal shift is required. Conventionally the concept of inclusion has been seen as a moral imperative and often an end in itself. However, a paradigm shift is required whereby policies to reduce inequalities between groups and 'leave no-one behind' should not only be pursued to improve social outcomes, and simply to promote the equity agenda, but also to <u>improve the long-term economic and environmental prospects for all</u>. Extreme poor and marginalised groups are much more than victims, they are actors with enormous potential and untapped capacities, driving transformational changes within their communities.

We need to get better at articulating and recognising the positive impacts resulting from inclusive policies and programmes such as better value for money, enhanced impacts on poverty alleviation and sustainable development. Inclusive climate and environmental programmes are likely to deliver better value for money. Poor people often depend on natural resources in terms of food, water, shelter, income generation and medicines (Bond,

2016). Therefore, incorporating the needs of the extreme poor and including their voice in programme design will lead to an improved and protected natural environment for everyone, not just the marginalised groups.

On the whole, inclusive low-carbon and climate-resilient policies that engage with the whole society and population are likely to have a positive impact on equality - and increases in equality in turn are positively correlated with economic growth (Cingano, 2014). This is because increased income disparities depress skills development among individuals with poorer parental educational background, thus constraining the economic growth prospects of the country. Economic growth can in turn lead to better poverty reduction outcomes in more equitable economies.

Despite a wide acknowledgement of the need and rationale, there is limited evidence of 'inclusive' climate and environment programmes integrating the needs and capacities of extreme poor and excluded groups at scale and effectively. Whilst there are silo-ed interventions and examples focusing on one or more groups, less evidence is available on integrated, multi-disciplinary and holistic approaches. There is also a need for cohesive policies that are based on comprehensive contextual analysis and empowerment of the poor and marginalised groups, and which consider multiple discriminations and inclusion.

It is only through a concerted and collaborative effort on understanding, empowering and including for change, can we hope to realise the leave no one behind objective across the environment and climate portfolio, and deliver sustainable development for all.

4.4   Limitations and Further research

These Learning Materials provide a snapshot of environmental, climate change and governance issues faced by extreme poor and excluded groups, and entry points for integration of the LNB concept into climate and environment programmes and policies, to provide key strategic recommendations for the DFID advisors. However, these issues are complex and multi-layered, each having a number of stand-alone and cross-cutting themes and different scales and levels of impact.

This study has therefore only managed to scratch the surface. The broad scope of the study has meant that the focus of the authors has been on breadth as opposed to depth of detail on groups, themes and sectors. Another factor that has constrained the study has been the inability to probe the nuances of the multiple discriminations for each of the extreme poor and excluded groups in the timeframes of the study. Whilst the Materials cover a cross-section of extreme poor and excluded groups, the coverage of projects or evidence consulted may not be representative of the entire vulnerable or marginalised target population or encompass all relevant sectors or examples.

Furthermore, the varying degrees of reliability, consistency and accuracy of the evidence gathered through secondary research posed an additional challenge. Consistent trends and analysis for all the climate and environment sectors and themes, as well as extreme poor and excluded groups were also not available. While some evidence was academically strong, other sources were more qualified as they represented the wider grey literature published by think tanks and civil society organisations.

While the authors have tried their best to capture as reliable and updated information as possible, it needs to be acknowledged that 'leaving no-one behind' in the context of climate and environment is a relatively new topic, meaning not all the evidence is available in the public domain and therefore could not be consulted in depth for the writing of there Materials.

Finally, given that the narrative on 'Leave No-one Behind' is still evolving, and examples of convergence of LNB and C&E policies and programming are still being discussed across communities of practice both within DFID and externally, the Learning Materials are intended more as the 'start of a process' as opposed to being a 'final' product. It is the understanding and intent of the authors that these materials serve as a live and 'editable' resource — to inspire ideas and stimulate discussions and engagement by DFID advisers, as the thinking, challenges and good practice on the 'leave no-one behind' topic, and particularly its interface with C&E, becomes more crystallised and grounded.

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ANNEXES

Annex 1

Figure 1: Conceptual Framework for how to think about Leave No-One Behind on the context of C&E
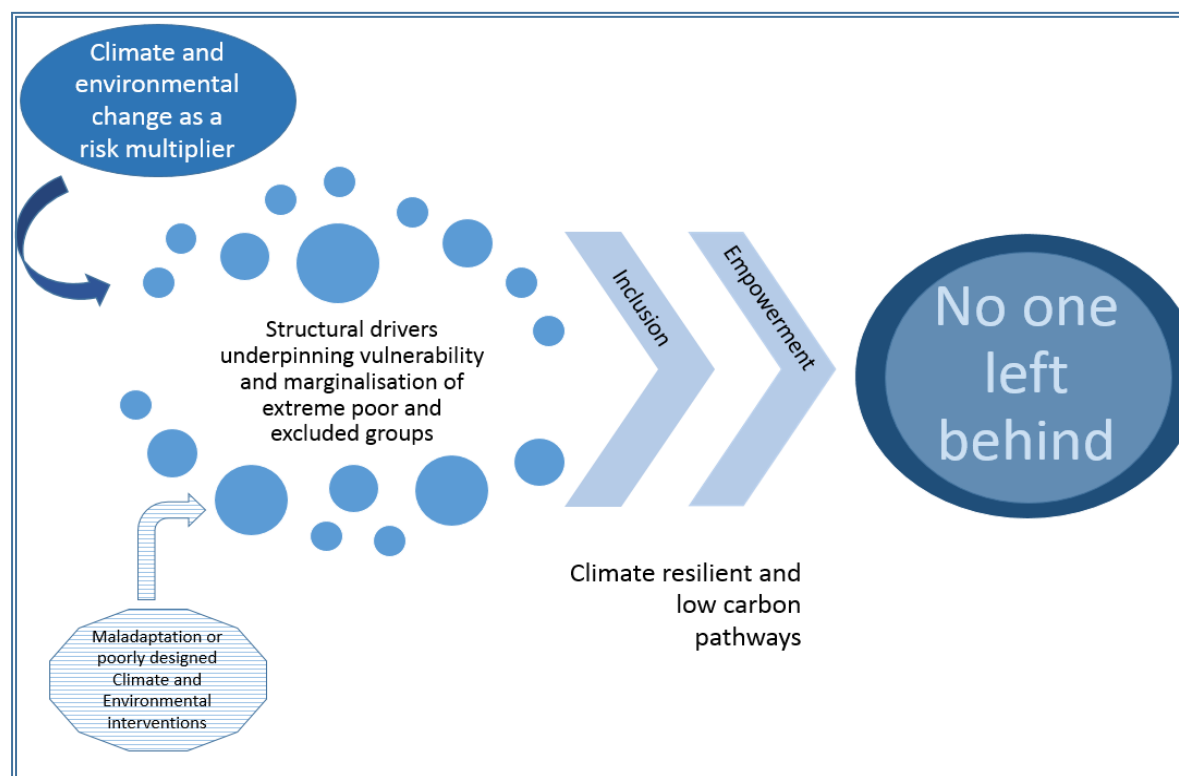
Annex 2

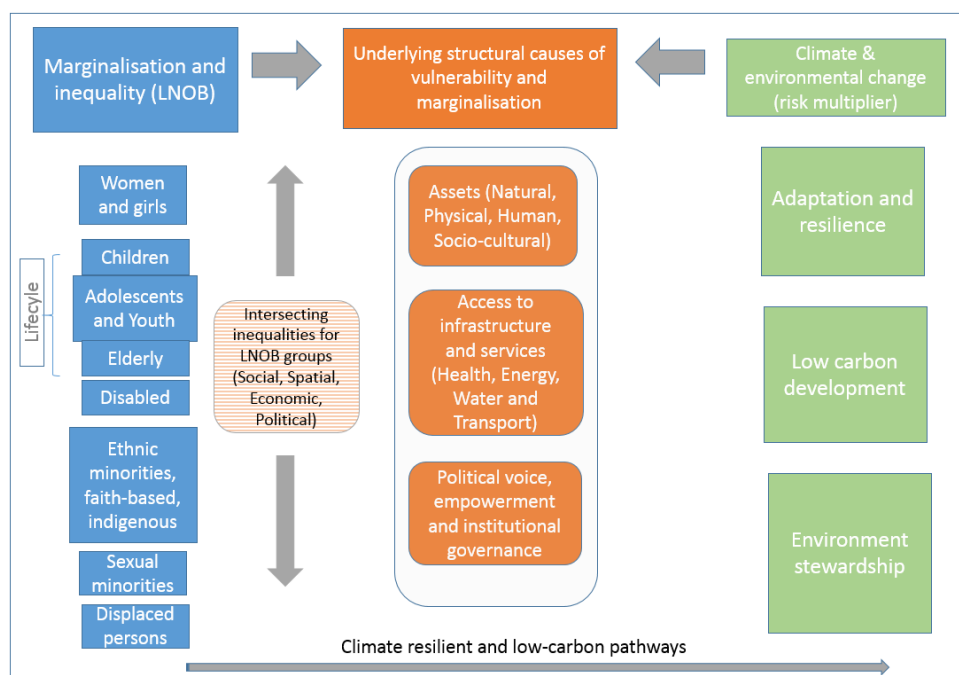**Figure 2: LNB in Climate and Environmental context**

Figure 2 above represents a draft analytical framework that we have used to guide the collation and synthesis of the evidence required for the LNB Learning Materials.

The framework is based on a step-by-step approach whereby we:
1. Identify and confirm the target groups who would fall within the purview of the LNB;
2. Investigate and probe literature to understand deeper the core drivers of marginalisation, poverty and vulnerability faced by these groups and other intersecting inequalities and how they relate to climate and environmental change;
3. Map the relevance of each of these group together with the vulnerabilities and capacities against the identified climate and environmental themes and sub-themes (based on the core premise that climate and environmental change can often exacerbate or worsen these pre-existing conditions and vulnerabilities and/or introduce new risks);
4. Capture and record any evidence on climate and environment programmes and/or policies that could help these extreme poor and excluded groups break their status quo and progress on low-carbon and climate-resilience pathways;
5. Synthesise and analyse any context specific or wider cross-cutting evidence to support further analysis of barriers and challenges and present recommendations.

Annex 3

List of Themes and sub-themes (to guide key word searches)

Climate Resilience[1]	Low Carbon Development[2]	Environmental Stewardship
1. Community services and infrastructure	1. Small scale renewable energy	1. Water efficiency, conservation and resource management
2. Early warning and climate information	2. Large scale renewable energy	2. Solid waste management
3. Safety nets and cash transfers)	3. Energy conservation and efficiency	3. Managing indoor air quality
4. Food security, income and livelihoods	4. Household cooking solutions	4. Vehicle fleet management and management of use of chemicals
5. Urban infrastructure and resilience	5. REDD	5. Sustainable use and conservation of seas, oceans and marine resources
6. Market-based mechanisms and risk transfer	6. Sustainable transport	6. Ecosystem services
7. Climate-resilient Institutions, Planning and Governance	7. Waste to energy	7. Biodiversity, forestry and wildlife management
8. Emergency and Disaster response, management and rehabilitation	8. Green jobs	8. Carbon stock resilience
	9. Low-carbon cities	

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[1] Drawn based on :
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/319570/Assessing-impact-ICF-programmes.pdf ; and BRACED programme lessons learnt within the interim Fund Management project (internal)
[2] https://www.ids.ac.uk/files/dmfile/LowCarbon_BridgingPaper.pdf

Annex 4

Glossary of definitions of key terms

These Learning Materials draw on IPCC AR5[3] as their primary source for the definitions of key terms as these have been scientifically peer reviewed and agreed upon by the international climate change community, and offer consistency and standardisation in their contextualisation.

However the authors appreciate that the IPCC definitions may not capture all the social dimensions of climate change. Given that these Learning Materials have a cross-cutting scope and aims to bring together ecological and social approaches, we have also included social development variances of the IPCC definitions, that been used and peer reviewed internally within DFID across key briefings and papers.

Adaptation

IPCC definition: Adjustment in natural or *human systems* in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.

Adaptive capacity (in relation to climate change impacts)

IPCC definition: The ability of a system to adjust to *climate change* (including *climate variability* and extremes) to moderate potential damages, to take advantage of opportunities, or to cope with the consequences.

Resilience

(Please also see Evidence on Demand Resilience Resources for wide-ranging discussion of definitions and applications of the concept of resilience) https://prezi.com/2ocytgalfqn7/gateway-to-resilience-resources/

IPCC definition: The capacity of a social-ecological system to cope with a hazardous event or disturbance, responding or reorganizing in ways that maintain its essential function, identity, and structure, while also maintaining the capacity for adaptation, learning, and transformation (Arctic Council, 2013).

DFID definition[4]: DFID defines (disaster) resilience as the ability to manage change, by maintaining or transforming living standards in the face of shocks or stresses, while continuing to develop and without compromising long terms prospects.

A social protection and climate resilience guidance note from DFID[5], further expands that in the context of climate change, shock and stress include increasing temperatures, changes in precipitation including drought, intense rainfall that results in floods or damage of assets (including crops), tropical storms, sea level rise, water acidification and salinization of soil. We are, therefore, primarily concerned with *covariate* shocks, affecting a large number of people/communities at once.[6] However it should be recognised that *idiosyncratic* shocks, such as the death of the main income earner in a household, could reduce a household's ability to respond to covariate shocks. The distinction between shocks (events that cause an immediate damaging impact) and stresses (less severe but often longer-term trends that undermine existing systems over time) is also useful. It should be recognised that many shocks are caused by long term or recurrent stresses that over time cause a system to reach

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[3] https://www.ipcc.ch/pdf/assessment-report/ar5/wg2/WGIIAR5-AnnexII_FINAL.pdf
[4] DFID resilience approach paper (DFID 2011)
[5] Social protection and climate resilience guiding note (Rachael Freeth, DFID, 2015)
[6] Oxford Policy Management (2015) "Working Paper 1: Conceptualising Shock Responsive Social Protection"

‘breaking point’.[7] To build resilience to climate change we need to anticipate shocks and stresses, understand the different impacts on different groups and individuals and support people and systems to respond effectively to both, drawing on local and contextual as well as scientific knowledge.

Vulnerability
IPCC definition: The propensity or predisposition to be adversely affected. Vulnerability encompasses a variety of concepts including sensitivity or susceptibility to harm and lack of capacity to cope and adapt. See also contextual vulnerability and Outcome vulnerability.

In order to better explain the interactions between the *wider contextual (social, economic and environmental) dimensions for vulnerability relevant in context of LNB, we have referred to a DFID guidance note on social protection and climate resilience that notes the factors and processes that underpin vulnerability.*

DFID definition[8]: The vulnerability and resilience of a group or individual to a climate induced stress or shock is dependent on:
- ***exposure***, particularly physical location and infrastructure
- ***sensitivity*** to the effects, dependent on factors such as: livelihood strategies; socioeconomic characteristics including income, asset base, gender, age and disability status; and broader wellbeing including physical and mental health
- ability to make changes or adapt in a way that delivers positive outcomes in the long term or ***adaptive capacity***, dependent on factors such as: access to assets (physical, financial, social, human, environmental) and services that can support this change; personal circumstance and characteristics, including socioeconomic, debt, wellbeing and also ability to innovate and take risk; and external economic and institutional factors that can enable or restrict the actions people can take and the opportunities available to them

Poverty
IPCC definition: Poverty is a complex concept with several definitions stemming from different schools of thought. It can refer to material circumstances (such as need, pattern of deprivation, or limited resources), economic conditions (such as standard of living, inequality, or economic position), and/or social relationships (such as social class, dependency, exclusion, lack of basic security, or lack of entitlement).
IPCC Chapter 13 on Livelihoods and Poverty[9] further elaborates that:
'Despite different approaches emphasizing distinct aspects of poverty at the individual or collective level—such as income, capabilities, and quality of life —poverty is recognized as multidimensional. It is influenced by social, economic, institutional, political, and cultural drivers; its reversal requires efforts in multiple domains that promote opportunities and empowerment, and enhance security. In addition to material deprivation, multidimensional conceptions of poverty consider a sense of belonging socio-cultural heritage, identity, and agency, or "the culturally constrained capacity to act".

Extreme Poverty
IPCC definition: The IPCC AR5 Working Group II report, Chapter 13, *refers to the* International Poverty Line (IPL) set at $1.25 per day.

World Bank definition: Extreme poverty is widely referred to earning below the international poverty line of $1.25/day (in 2005 prices), set by the World Bank. In October,

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[7] Oxford Policy Management (2015) "Working Paper 1: Conceptualising Shock Responsive Social Protection"
[8] Social protection and climate resilience guiding note (Rachael Freeth, DFID, 2015)
[9] http://ar5-syr.ipcc.ch/resources/htmlpdf/WGIIAR5-Chap13_FINAL/

2015, the World Bank updated the international poverty line to US$1.90 a day, from US$1.25 a day[10]. The poverty line was revised to incorporate new information on differences in the cost of living across countries.

Disadvantaged populations
IPCC definition: Sectors of a society that are marginalized, often because of low socioeconomic status, low income, lack of access to basic services such as health or education, lack of power, race, gender, religion, or poor access to communication technologies.

Poverty trap
IPCC definition: Poverty trap is understood differently across disciplines. In the social sciences, the concept, primarily employed at the individual, household, or community level, describes a situation in which escaping poverty becomes impossible due to unproductive or inflexible resources. A poverty trap can also be seen as a critical minimum asset threshold, below which families are unable to successfully educate their children, build up their productive assets, and get out of poverty. Extreme poverty is itself a poverty trap, since poor persons lack the means to participate meaningfully in society. In economics, the term poverty trap is often used at national scales, referring to a self-perpetuating condition where an economy, caught in a vicious cycle, suffers from persistent underdevelopment (Matsuyama, 2008). Many proposed models of poverty traps are found in the literature.

Social protection
IPCC definition: In the context of development aid and climate policy, social protection usually describes public and private initiatives that provide income or consumption transfers to the poor, protect the vulnerable against livelihood risks, and enhance the social status and rights of the marginalized, with the overall objective of reducing the economic and social vulnerability of poor, vulnerable, and marginalized groups (Devereux and Sabates-Wheeler, 2004). In other contexts, social protection may be used synonymously with social policy and can be described as all public and private initiatives that provide access to services, such as health, education, or housing, or income and consumption transfers to people. Social protection policies protect the poor and vulnerable against livelihood risks and enhance the social status and rights of the marginalized, as well as prevent vulnerable people from falling into poverty.

In order to better explain the typology and diversity of interventions included within social protection *relevant in context of LNB, we have referred to a DFID guidance note on social protection and climate resilience[11]:*

'Social protection can serve to provide relief from deprivation (protect), avert deprivation (prevent), enhance income and capabilities (promote) and contribute to social inclusion and empowerment (transform).[12] A diversity of interventions fall under social protection, including cash and in-kind transfers, social pensions, public works, school feeding, contributory social insurance, labour market interventions such as minimum wage, subsidies and social care. There is significant overlap and complementarity between social protection and livelihood, human capital and food security interventions.'[13]

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[10]http://sd.iisd.org/news/world-bank-changes-extreme-poverty-definition/
[11]Social protection and climate resilience guiding note (Rachael Freeth, DFID, 2015)
[12] Devereux and Sabates-Wheeler (2004) cited in Brown, E (2015) "Social Protection Handbook" GSDRC, University of Birmingham
[13] Brown, E (2015) "Social Protection Handbook" GSDRC, University of Birmingham

Intersecting inequalities

IPCC AR5 recognises that *'poverty and persistent inequality are the "most salient of the conditions that shape climate-related vulnerability….Recognizing how inequality and marginalization perpetuate poverty is a prerequisite for climate-resilient development pathways'.*

[14]**IDS definition**: The approach 'intersecting inequalities' captures the combination of multiple disadvantages that affect certain categories of people – those whose very identity is subject to deep inequalities. This is the case with the forms of identity that are ascribed from birth and are relatively immutable; such as race, caste, ethnicity and gender. A person can have more than one of these identity 'markers' and any or all of them can imply some form of disadvantage (e.g. an indigenous woman living in a remote rural location). These combined disadvantages leave some individuals and groups more constrained in their life chances than others, and more likely to suffer magnified deprivation.

Kabeer (2010) notedfour different forms of inequality (economic, social, spatial and political) that reinforce and exacerbate each other resulting in entrenched social exclusion experienced by certain groups[15,16]. **Social inequalities***are the* most persistent forms of inequalities that endure across generations are often identity-based and ascribed from birth; such as race, ethnicity and caste, as well as, religious beliefs when they are in a minority. Gender is another such process of cultural devaluation which cuts across these inherited identities, with women seen as subordinate to men in most groups. **Economic inequalities:** Social and identity-based exclusion intersect with economic disadvantages such as barriers to accessing or owning land, assets, resources or securing employment. Such economic inequalities diminish the life chances and opportunities of minority groups or socially excluded populations further. **Spatial inequalities:**Culturally devalued and economically impoverished groups are often forced to inhabit adverse locations and deprived physical spaces such as remote and difficult to reach rural areas, ecological vulnerable and lower productivity natural resource sites, or underserved and overcrowded urban slums with poor levels of service, infrastructure and physical security. **Political inequalities:** Socially excluded groups are often minorities who are faced with differential and uneven access to basic services such as health and education, denied access to public institutions and opportunities for voice in policy decisions that affect their lives and have minimal grievance redressal mechanisms. This undermines their fundamental rights as citizens and lowers their confidence in the accountability and integrity of governance systems and structures, provoking civil conflicts and social unrest.

Disaster risk management, disaster risk reduction and disaster management
IPCC definition: Disaster Risk Management can be divided to comprise two related but discrete subareas or components: disaster risk reduction and disastermanagement[17].

Disaster risk reduction denotes both a policy goal or objective, and the strategic and instrumental measures employed for anticipating future disaster risk, reducing existing exposure, hazard, or vulnerability, improving resilience. This includes lessening the vulnerability of, livelihoods, and assets and ensuring the appropriate sustainable management of land, water, and other components of the environment**.**

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[14]Can the MDGs provide a pathway to social justice? The challenges of intersecting inequalities, IDS and MDG Achievement Fund, 2010
[15]https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/9213.pdf
[16]https://www.ids.ac.uk/files/dmfile/MDGreportwebsiteu2WC.pdf
[17]https://www.ipcc.ch/pdf/special-reports/srex/SREX-Chap1_FINAL.pdf

Disaster management refers to social processes for designing, implementing, and evaluating strategies, policies, and measures that promote and improve disaster preparedness, response, and recovery practices at different organizational and societal levels. Disaster management processes are enacted once the immediacy of the disaster has become evident and resources and capacities are put in place with which to respond prior to and following impact. These include the activation of early warning systems, contingency planning, emergency response (immediate post-impact support to satisfy critical human needs under conditions of severe stress), and, eventually, recovery.

Low carbon development

Low carbon development to many has implied 'using less carbon for growth' (DFID 2009). Climate Action Network (CAN)[18] has defined low carbon development (LCD) strategies as a *strategic plan based on the socio-economic and development priorities of the country to assist the country in shifting its development path to a low carbon and climate resilient economy and achieving sustainable development. It has a long term vision and a short and medium term specific actions to get onto a low carbon, resilient pathways*.

Climate-smart agriculture (CSA)

CGIAR definition: Climate-smart agriculture as an integrative approach to address the interlinked challenges of food security and climate change aiming to: sustainably increasing agricultural productivity, to support equitable increases in farm incomes, food security and development; adapting and building resilience of agricultural and food security systems to climate change at multiple levels; and reducing greenhouse gas emissions from agriculture (including crops, livestock and fisheries)[19]

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[18] http://www.climatenetwork.org/sites/default/files/10556-20140221.pdf
[19] https://ccafs.cgiar.org/climate-smart-agriculture-0#.V2gM9fkrKUk