WWF

REPORT

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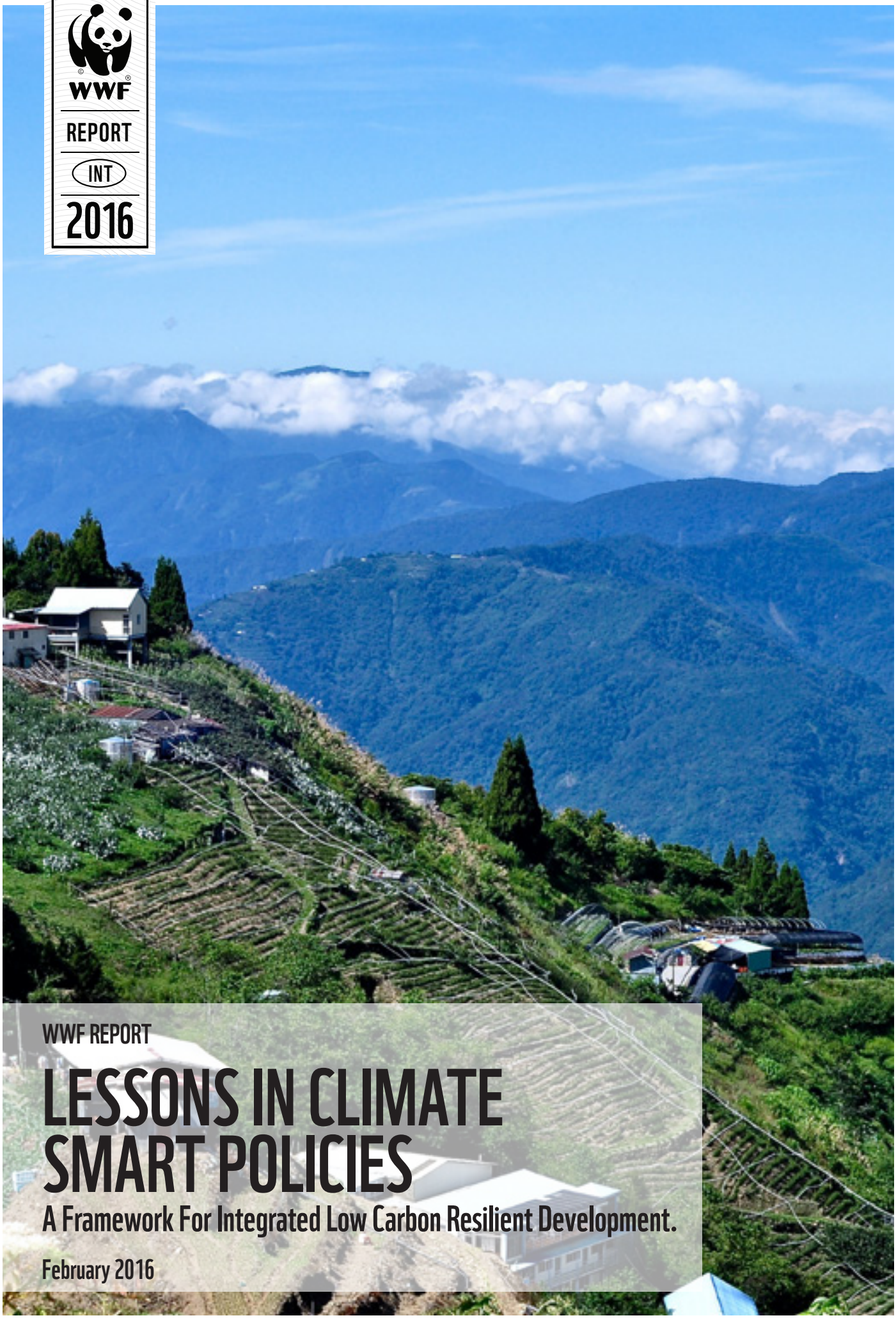

WWF REPORT

LESSONS IN CLIMATE SMART POLICIES

A Framework For Integrated Low Carbon Resilient Development.

February 2016

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PREFACE

The climate change threat has forced us to have a relook at our current growth and development models and requires us to rethink our approaches to ensure that we create flourishing, low carbon, climate resilient societies. In the face of the significant threats from climate change, new strategies are required if countries are to continue to achieve economically, socially and ecologically sustainable development. Many countries plan for economic development, climate change adaptation and climate change mitigation but only a few are approaching these in an integrated manner and within integrated policy frameworks.

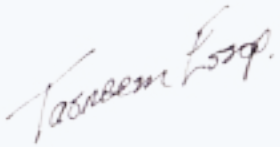
In the many countries where WWF works, it is our experience that policies and solutions are not necessarily appropriate or directly transferable between countries. Due to varying social, economic and political conditions in many countries and regions, there is no single policy blueprint that will work in all contexts. However, we have seen that lessons learned and conceptual approaches can be shared across boundaries to great effect.

In this report WWF provides an overview of experiences in integrating adaptation into low carbon frameworks. The report critically evaluates the hypothesis that an integrated approach to development, climate change adaptation and mitigation is an effective and feasible choice. It explores the interlinkages and overlaps, synergies or contradictions, potential benefits, trade-offs and lessons learnt from an integrated approach by drawing on current practice in eleven countries. Case studies from China, Ethiopia, the European Union and Mexico are particularly insightful as these countries already pursue integrated approaches to low carbon development and climate change adaptation policies.

Based on these examples, as well as the lessons learned in other countries, we offer an overview of existing approaches as well as an initial proposed framework and a set of guiding principles for effectively integrating adaptation into low carbon development policies.

We believe this report will assist all stakeholders and decision makers to see climate change adaptation, climate change mitigation and developmental objectives as interrelated policy spheres that must be considered in a synergistic and integrated manner. The research findings caution us against pursuing policy integration at all cost, but it also points to the many instances where co-benefits and synergies can be unlocked in order to allow citizens to prosper in a low carbon, climate resilient future.

We believe this report will add value to your ongoing efforts to address the climate threat and critical developmental objectives.



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1. INTRODUCTION

Evidence is clear that climate change is happening. It is already harming vulnerable people and places, disrupting natural systems and endangering species. The impacts of climate change threaten to derail development and conservation gains of many years. They are damaging infrastructure, threatening coastal cities, depressing crop yields, changing our oceans and jeopardizing fish stocks. It has impacted every continent and all oceans. Key development sectors, such as agriculture, water and energy are all affected by climate change and can contribute to its impacts.

A COMPREHENSIVE RESPONSE TO CLIMATE CHANGE REQUIRES ADAPTING AND BUILDING RESILIENCE TO A CHANGING CLIMATE, WHILE ALSO CONTRIBUTING TO THE GLOBAL MITIGATION EFFORT.

A comprehensive response to climate change requires adapting and building resilience to a changing climate, while also contributing to the global greenhouse mitigation effort. As articulated clearly in the latest IPCC report, climate change calls for new approaches to sustainable development that take into account complex interactions between climate and social and ecological systems. They highlight the need for 'climate-resilient pathways'- development trajectories that combine adaptation and mitigation to realize the goal of sustainable development.[1] Following a climate resilient pathway suggests the need for an integrated approach to climate change and development. Understanding how to enhance positive feedbacks between mitigation, adaptation, and sustainable development (e.g. win-win and triple win interventions) while minimizing potential trade-offs between them is an essential part of planning for and pursuing such pathways.[2] One means to facilitate this could be the development and use of an integrated 'low carbon climate resilient development framework'.

Low carbon climate resilient development is emerging as a dynamic policy area, notably in Least Developed Countries (LDCs), where it brings together three traditionally separate goals: reducing greenhouse gas emissions (mitigation), resilience to climate change (the adaptation side of climate change policy) and economic and social development.[3] It has been driven by the necessity to adapt and address the challenges of climate change and by political foresight to leapfrog dirty stages of development and become part of the new green economy – both aspects have been encouraged by international policy and donor and climate finance. Integrated approaches are also seen in developed and middle income countries, including for reasons linked to competiveness and security.

A Low Carbon Climate Resilient Development Framework (LCCRF), understood here as an integrated approach, is relevant to both developed and developing economies. It is a policy tool for specific action to coherently achieve sustainable development and maximize mitigation and adaptation.

[1] IPCC WGII AR5 Chapter 20 Climate-Resilient Pathways: Adaptation, Mitigation, and Sustainable Development
[2] Ibid. [IPCC WGII AR5 Chapter 20 Climate-Resilient Pathways: Adaptation, Mitigation, and Sustainable Development]
[3] Low-carbon resilient development in the Least Developed Countries, Suzanne Fisher,IIED Briefing, November 2013 (http://pubs.iied.org/17177IIED)
[4] NAMA (Nationally appropriate mitigation actions), NAPA (National adaptation programmes of action) and NAPs (National Adaptation Plans)

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2. THE CONTEXT: WHY INTEGRATE?

Different countries, driven by different national priorities and external demands, are tackling the climate change challenge in diverse ways – often either focusing on mitigation or adaptation, or both but with differing priorities and ambition according to national circumstances and need. National climate change policy has often evolved in response to national development priorities (for example, agriculture or energy) or different international expectations and incentives (for example NAMAs, NAPAs and NAPs)[4]. Responding to this, adaptation and mitigation have often been addressed separately, in separate plans and strategies, rather than integrated into an overarching economy wide development strategy. In addition, it has been suggested that a conceptual divide between mitigation and adaptation, in so much as they have been considered separately in both climate change science and policy, has hindered progress towards the achievement of the fundamental sustainable development challenges of climate change.[5]

INTERLINKAGES AND OVERLAPS: SYNERGIES OR CONTRADICTIONS

In reality, climate change and development policies inevitably interlink and overlap, and in some cases can contradict each other. Separate responses to adaptation and mitigation, whilst valuable and possibly the only option for a country at a given time, may miss important opportunities for synergy and win-wins, as well as for understanding trade-offs. They may miss the importance and opportunities of ensuring low carbon development measures are robust in the face of climate change (i.e. the links between mitigation and adaptation), and ensuring adaptation doesn't inadvertently contribute to greenhouse gas emissions (i.e. through maladaptation). In addition to this, opportunities for synergies and co-benefits between mitigation, adaptation and development can be time-sensitive and delayed action may limit options for future climate-resilient pathways.

BOX 1 : RECOGNITION OF THE VALUE OF INTEGRATION IN THE IPCC'S FIFTH ASSESSMENT REPORT

"The integration of adaptation and mitigation responses can in some cases generate mutual benefits, as well as introduce co-benefits with development policies. (moderately high confidence; medium high agreement, medium evidence)."
(IPCC AR5, Climate Change 2014: Impacts, Adaptation, and Vulnerability, Climate-resilient pathways: adaptation, mitigation, and sustainable development p1104)

"Significant co-benefits, synergies, and trade-offs exist between mitigation and adaptation and among different adaptation responses; interactions occur both within and across regions (very high confidence). Increasing efforts to mitigate and adapt to climate change imply an increasing complexity of interactions, particularly at the intersections among water, energy, land use, and biodiversity, but tools to understand and manage these interactions remain limited. Examples of actions with co-benefits include (i) improved energy efficiency and cleaner energy sources, leading to reduced emissions of health-damaging climate-altering air pollutants; (ii) reduced energy and water consumption in urban areas through greening cities and recycling water; (iii) sustainable agriculture and forestry; and (iv) protection of ecosystems for carbon storage and other ecosystem services." (IPCC AR5, Summary for Policy Makers, p.27)

The relationship between mitigation, adaptation and development is not always synergistic or complimentary, however (see box 2). Interactions can physically constrain the ways mitigation and adaptation actions can be combined. In such cases, trade-offs between mitigation and adaptation occur and appropriate decisions should be made in the broader climate change policy context. Where synergies are not possible, it is vitally important that there is a process in place to identify potential tradeoffs and minimize them, or respond to them through other means. For example, using multi-stakeholder processes to navigate the complexities and to facilitate and negotiate decisions based on a good understanding of the different trade-offs and how they affect different stakeholders. Planning processes 'in silos' could fail to recognize negative trade-offs and inadvertently exacerbate climate impacts or greenhouse gas emissions.

[5] The Value of Linking Mitigation and Adaptation: A Case Study of Bangladesh, Jessica M. Ayers and Saleemul Huq, Environmental Management, Springer Science + Business Media, LLC 2008

BOX 2 : RISKS OF NOT TAKING AN INTEGRATED APPROACH [6]

MITIGATION WITHOUT ADAPTATION – fails to ensure mitigation efforts are robust to climate impacts, fails to prepare and protect vulnerable groups from unavoidable consequences of climate change and may divert action or attention away from existing and near-term adaptation deficits. E.g.: Hydropower energy infrastructure, often a long term investment, may not continue to function well with climate change affecting precipitation (amount and patterns) and siltation..

ADAPTATION WITHOUT MITIGATION – could contribute to more climate change, and thereby increase impacts and adaptation required. E.g.: Installation of air conditioning to combat heat waves increases electricity use and can thus increase greenhouse gas emissions from fossil fuel based power plants.

DEVELOPMENT WITHOUT MITIGATION AND ADAPTATION – may be short-lived as climate impacts and mitigation undermine progress, it may also miss opportunities for leadership in the green economy. E.g.: Agricultural expansion may fail as agriculture is highly exposed to climate change (farming activities directly depend on climatic conditions); expansion may also contribute to the release of greenhouse gases to the atmosphere.

MITIGATION AND ADAPTATION WITHOUT CONSIDERING DEVELOPMENT GAINS - can conflict with development goals and compromise the vulnerable; it may also miss opportunities for win wins and synergies. E.g.: The development of biofuels to reduce reliance on fossil fuels may compete with food production and may have negative effects on the health of ecosystems that communities depend on for food and livelihoods and that may provide climate resilience through, for example providing flood buffers in riparian zones.

EQUAL PRIORITY NEEDED FOR ADAPTATION AND MITIGATION

Historically, policy priority has been given to mitigation, driven from the international level through the UNFCCC negotiations and this priority generally mirrored at national levels. Adaptation has risen up the political agenda in recent years, championed by least developed countries and other vulnerable developing countries. However, WWF's experience in some countries has been that adaptation is still often given less priority at national levels than mitigation, despite many countries having large populations of poor and vulnerable people dependent on climate vulnerable sectors (e.g. agriculture and forestry).

IT IS IMPORTANT THAT MITIGATION AND ADAPTATION ARE GIVEN EQUAL PRIORITY

As recognized by Parties to the UNFCCC under the Cancun Agreements, it is important that mitigation and adaptation are given equal priority.[7] The rationale underpinning this is straightforward: Even the most stringent mitigation efforts cannot avoid further impacts of climate change in the next few decades, which makes adaptation unavoidable. However, without mitigation, the magnitude of climate change that is likely to be reached makes adaptation impossible for some natural systems, while for most human systems it would involve very high social and economic costs.[8,9]

Despite this, the planning processes behind mitigation are often more strategic, comprehensive and better coordinated country wide compared to adaptation. Adaptation is often treated on a decentralized basis, with experts much more focused on the ground than at a strategic policy level. This can in part be linked to initiatives for mitigation tending to stem from international agreements and ensuing national public policies (sometimes supplemented by community-based or private-sector initiatives), whereas the bulk of adaptation actions have historically been motivated by affected communities or the self-interest of affected private actors, possibly facilitated by public policies.[10]

BEING CLIMATE SMART

Being climate smart means fully taking account of climate change (i.e. considering, preparing for and addressing climate risks; reflecting the needs and concerns of vulnerable ecosystems and sectors of society; and limiting/avoiding emissions that contribute to climate change). Climate-

[6] Adapted, with examples added, from unpublished report "Climate Resilient Low Carbon Frameworks: Integrating Adaptation into Low Carbon Development" written for WWF by INTASAVE (Rebecca Nadin, Sophie Lashford, Iliana Cardenes Trujillo, Yingqi lu and Roger Street), 2014.

[7] FCCC/CP/2010/7/Add.1 paragraph 2(b), Decision 1/CP.16 The Cancun Agreements: Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention, Cancun, Mexico, 2010 (COP 16/ CMP 6).

[8] Klein, R.J.T., S. Huq, F. Denton, T.E. Downing, R.G. Richels, J.B. Robinson, F.L. Toth, 2007: Inter-relationships between adaptation and mitigation. Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson, Eds., Cambridge University Press, Cambridge, UK, 745-777.

[9] Into Unknown Territory – the limits to adaptation and reality of loss and damage from Climate Impacts. Action Aid, CARE, GermanWatch and WWF (2012) (http://www.wwf.org.uk/wwf_articles.cfm?unewsid=6188)

[10] IPCC 4th Assessment Report (2007) Working Group II: Impacts, Adaptation and Vulnerability, Chapter 18 Inter-Relationships Between Adaptation and Mitigation, 18.1.2 Differences, similarities and complementarities between adaptation and mitigation.

smart agriculture for example, has been defined in the FAO as agriculture that sustainably increases productivity, resilience (adaptation), reduces/removes greenhouse gases (mitigation), and enhances achievement of national food security and development goals. [11]

THE IPCC HIGHLIGHTS AN OPPORTUNITY FOR CLIMATE SMART INFRASTRUCTURE PLANNING THAT CONSIDERS HOW TO COMBINE PRO-POOR DEVELOPMENT AND CLIMATE CHANGE ADAPTATION AND MITIGATION.

Mitigation can tend to ignore the need to address climate risks and variability despite, for example, the need for continued viability of clean, renewable energy sources, many of which - such as hydropower, wind, and solar - are potentially sensitive to climate change. The long life span of many energy, irrigation or transport infrastructure projects, also makes them all the more vulnerable to climate variability.

A recent World Bank report suggests that Africa's massive program of infrastructure investment (PIDA [12]) is, by and large, being designed on the basis of the historical climate, despite a vast body of scientific evidence indicating that the climate of the future will be very different from that of the past. [13] As set out in the recent IPCC AR5 report, the U.S. National Climate Assessment effort has looked at the impacts of climate change on infrastructure, considering the water, land and energy nexus, as well as on a large number of industries. Such systemic cascades can have both direct and indirect economic impacts, which can extend from the built environment to urban public health.[14] The IPCC highlights this as "an opportunity for 'climate smart' infrastructure planning that considers how to combine pro-poor development and climate change adaptation and mitigation" both when designing new infrastructure and replacing old infrastructure. [15]

We should also ensure that adaptation does not contribute to climate change through maladaptation that could further contribute to greenhouse gas emissions.

MEETING INTERNATIONAL COMMITMENTS

An integrated economy wide framework can help government's meet their international climate change commitments and identify their adaptation needs. Through this, it can also help them determine, monitor and report comprehensively on 'intended nationally determined contributions' (INDCs), for both mitigation and adaptation.

SO WHY INTEGRATE ?

Developing an integrated approach can help address many of the issues described above. It can further progress sustainable development and identify win-wins and synergies for adaptation, mitigation and development where they exist (for example in land and water management and urban planning sectors), whilst also identifying possible trade-offs. It can also help different government departments and stakeholders better understand the importance and relevance of both adaptation and mitigation to their remits, helping with wider climate change capacity building and awareness. A clear, integrated, economy wide, approach to climate change can help ensure all sectors are addressing climate change impacts whilst maximising opportunities for climate change mitigation and sustainable development. It can also help ensure investments realise win-wins and support governments to manage trade-offs effectively.

Given the risks of not integrating (see Box 2), and many of the benefits identified above, taking an integrated approach to determine synergies, trade-offs or indeed complementarity seems a useful and worthwhile process - even if the end point is complementarity rather than win-wins. Stuart and Raes (2007) suggest that, generally, the global, regional and—in most countries—national potential of synergistic options to mitigate and adapt to climate change may be relatively low, and that both strategies could be considered as complementary.[16] On the other hand, and as highlighted in the IPCC's Fouth assessment, other analysts (e.g. Venema and Cisse, 2004; Goklany, 2007) see potential for creating synergies between adaptation and mitigation. [17] Recognition of integration in the IPCC's Fifth assessment (see Box 1) further endorses value in taking an integrated approach to adaptation, mitigation and development.

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[11] "Climate-Smart" Agriculture Policies, Practices and Financing for Food Security, Adaptation and Mitigation, Food and Agriculture Organization of the United Nations (FAO) 2010, footnote page ii.
[12] The Program for Infrastructure Development in Africa (PIDA), endorsed in 2012 by the continent's heads of state and government, lays out an ambitious longterm plan for closing Africa's infrastructure gap, including trough major increases in hydroelectric power generation and water storage capacity.
[13] See http://www.worldbank.org/en/region/afr/publication/planning-africas-infrastructure-uncertain-climate-future (note: full report not available for citation whilst book based on report is in production).
[14] IPCC 5 WGII Chapter 8 Urban areas (p557)
[15] Ibid
[16] Swart, R. and Raes, F., Making integration of adaptation and mitigation work: mainstreaming into sustainable development policies? Climate Policy, Vol. 7, Issue 4, 2007
[17] IPCC 4th Assessment Report (2007) Working Group II: Impacts, Adaptation and Vulnerability, Chapter 18 Inter-Relationships Between Adaptation and Mitigation, 18.1.1 Background and rationale.

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3. TAKING INTEGRATION FORWARD

Although countries may choose to pursue development and climate goals with separate policies, an increasing number are choosing to respond to them within a holistic policy, plan or framework which addresses both development and climate change, suggesting relevant opportunities, skills and knowledge for an integrated approach already exist today. This report draws from research looking at eleven countries where integration has happened to a greater or lesser extent.[18] It sets out lessons from instances where integrated approaches have been followed. Finally, the report provides a framework to facilitate taking an integrated approach for countries who may wish to follow a low carbon climate resilient development pathway.

Fundamentally, there are two core questions that countries/sectors/businesses need to ask themselves:

(1) Will your goal, strategy, policy or plan contribute to climate change in any way (i.e. increase greenhouse gas emissions)? How can this be prevented, minimised or reduced?

(2) Will your strategy, policy or plan be impacted by climate change in any way? How can this be minimised or reduced by adaptation and resilience building?

WILL YOUR GOAL, STRATEGY, POLICY OR PLAN CONTRIBUTE TO CLIMATE CHANGE IN ANY WAY?

A low carbon climate resilient development framework, as offered here, provides a more comprehensive approach to integrating adaptation, mitigation and development.

Swart and Raes (2007) suggest five pragmatic ways of broadening climate policy, while taking into account the linkages between adaptation and mitigation: (1) avoiding trade-offs—when designing policies for mitigation or adaptation, (2) identifying synergies, (3) enhancing response capacity, (4) developing institutional links between adaptation and mitigation—e.g. in national institutions and in international negotiations, and (5) mainstreaming adaptation and mitigation considerations into broader sustainable development policies. Developing and using a low carbon climate resilient development framework can help join up these five important elements in a systematic and structured way.

This report draws lessons on integration from developing and developed countries and from available literature, and then goes on to describe a low carbon climate resilient framework to support countries take an integrated approach to climate change, addressing mitigation and adaptation together in national planning. The report serves to answer the following questions:

- Understanding the concepts: how is climate-resilient development different from climate compatible development or low carbon development? Does it matter?
- What can be learnt from existing climate change strategies and approaches?
- What are the synergies and trade-offs?
- What could a low carbon climate-resilient development framework look like?

[18] Research undertaken by INTASAVE Team (Rebecca Nadin, Sophie Lashford, Iliana Cardenes Trujillo, Yingqi lu and Roger Street) for WWF. Report draws from unpublished report "Climate Resilient Low Carbon Frameworks: Integrating Adaptation into Low Carbon Development", INTASAVE, 2014. The eleven countries are: Cambodia, China, Colombia, Bangladesh, Ethipoia, The European Union, Laos, Mexico, Philippines, Rwanda and South Africa.

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4. UNDERSTANDING THE CONCEPTS

IN DEVELOPING A CLIMATE RESPONSE, IS ALSO IMPORTANT TO SET OUT WHAT IS MEANT BY LAW, POLICY, STRATEGY AND FRAMEWORK FOR ANY GIVEN CONTEXT SO THOSE READING AND USING IT KNOW ITS APPLICATION, LIMITATIONS AND POWER.

A new lexicon of climate change related terminology has emerged and is growing daily. It can be very confusing to the reader to know what is meant by 'low carbon climate resilient development', 'climate resilient low carbon development', 'climate compatible development', 'climate smart development', 'climate resilient pathways' etc.

There is no one clear definition for any of these concepts and every user has their own interpretation. What is clear and important is that whatever terms are being used in whatever context, it should be clearly defined in that context. This should include describing its scope in terms of addressing mitigation and/or adaptation, in terms of its reach (local to national) and sector engagement (individual sector, sector wide, whole economy), as well as in terms of participation and approach (participatory, multi-stakeholder and cross-sector).

The departure point of this report is that 'low carbon climate resilient development' should contain an integrated approach to climate change addressing mitigation, adaptation and development. 'Climate resilient low carbon development' is taken here to have a narrower context whereby low carbon or mitigation policies or actions are climate resilient, for example ensuring a renewable energy project that requires water will have enough supply given climate projections, or has provision to address periods of drought.

In developing a climate response, is also important to set out what is meant by law, policy, strategy and framework for any given context so those reading and using it know its application, limitations and power. It is also important to recognise that systems of governance vary from place to place, with different power imbalances and inequalities.

The relative power of different stakeholders can affect the outcome of a country's/region's climate response.

5. COUNTRY CASE STUDY EXAMPLES

This report draws learning and evidence from looking at the integrated climate change and development polices of 11 different countries, as well as from the wider literature base.[19]

The countries/regions considered were: Cambodia, China, Colombia, Bangladesh, Ethiopia, the European Union, Laos, Mexico, Philippines, Rwanda and South Africa.

By means of example, table 1 provides four country case studies (from developed, developing and rapidly emerging economies around the world) showing types and levels of integration, alongside key rationale for climate change action and priorities for low carbon development and adaptation.

Other case studies are listed in Annex 1.

[19] Extracted from unpublished report written for WWF by INTASAVE "Climate Resilient Low Carbon Frameworks: Integrating Adaptation into Low Carbon Development", Rebecca Nadin, Sophie Lashford, Iliana Cardenes Trujillo, Yingqi lu and Roger Street, INTASAVE, 2014

TABLE 1

COUNTRY	TYPE OF INTEGRATION	KEY RATIONALES FOR CLIMATE ACTION	PRIORITIES FOR LOW CARBON DEVELOPMENT	PRIORITIES FOR ADAPTATION	LEVEL OF INTEGRATION
China's 12th Five-Year-Plan, 2011-2015[20]	National economic development framework to mainstream mitigation and adaptation	• Transformation of development model • Energy security • Air pollution • Potential climate change impacts • Commitment to sustainable development • International commitments to reduce carbon intensity • Strategic emerging industries (e.g. renewable energy, electric vehicles)	• Energy supply decarbonization • Efficiency in energy use and industrial process • Agriculture • Forestry • Municipal waste	• Infrastructure • Agriculture • Water • Coast and ecosystem management • Public health • Tourism	• The 12th FYP mandating the mainstreaming of mitigation and adaptation into national development framework, after the National Climate Change Programme noted the imperative of doing so [21] • Separate mitigation and adaptation policy documents have been published during the 12th FYP to set out China's strategy, principles, targets and key tasks for carbon reduction and climate resilience • Key mitigation and adaptation provisions integrated into sectoral planning and policies • Institutional arrangement – e.g. National Leading Group to Address Climate Change to formulate and coordinate climate change policies
Ethiopia's Climate-Resilient Green Economy Strategy, 2011[22]	Integration of adaptation into the low carbon development framework	• Avoidance of the foreseeable problems of high-carbon development pathway • Recognition of the potential co-benefits of low carbon development and adaptation • Potential climate change impacts	• Reduce carbon emissions at reasonable costs • Agriculture • Protect and re-establish forests • Increase renewable energy generation • Promote energy efficiency technologies in transport, industry and buildings	• Agriculture - Increase food yields • Health • Water and Energy • Buildings • Transport • Forestry and Ecosystem Management (see also low carbon priorities)	• Climate-Resilient Green Economy Strategy (CRGE) to integrate the strategies and agenda for low carbon development and adaptation in a single policy document • CRGE Strategy to guide sectoral, regional and urban climate change strategies that assess and prioritize actions based on the impacts on mitigation, adaptation and development • Institutional arrangement – e.g. CRGE Ministerial Steering Committee for overall direction and specific initiatives • CRGE Facility as an integrated funding mechanism to support low carbon development and adaptation measures

[20] China State Council, 2011.
[21] China National Development and Reform Commission, 2007.
[22] Ethiopia Environmental Protection Agency, 2011a.

EU's 2020 Strategy, 2030 Framework for Climate and Energy, EU Budget	Specific mitigation and adaptation provisions and considerations within the central economic planning document (Europe 2020)	• Development of a more competitive, secure and sustainable economy [23]	• A 20% reduction in EU greenhouse gas emissions from 1990 levels • Raising the share of EU energy consumption produced from renewable resources to 20% • A 20% improvement in the EU's energy efficiency [24] • These are the 2020 targets, the 2030 targets are currently going through the EU Decision Making Process	• Promoting action by Member States • 'Climate-proofing´ action at EU level • Better informed decision-making for adaptation [25]	• Institutional arrangement – e.g. integration happens at a supra national level, due to the EU being a region • Policy objectives – e.g. mainstreaming of climate change in the EU has meant that it has been brought to all aspects of the EU agenda and is at the highest level • Mainstreaming into the budget is unique and cross-cutting • Includes time-bound goals, a strong funding mechanism that cuts across all economic areas, institutional support, and a reporting mechanism for climate spending across all areas • Includes integration into agricultural policy, cohesion policy (through energy efficiency targets), research and innovation and infrastructure developments • The new proposed Europe 2030 framework for climate and energy policies will include higher greenhouse gas reduction targets, renewable energy targets, energy efficiency, and a stronger governance system amongst others. This new policy framework aims to supplement the climate and energy targets already implemented in the Europe 2020 strategy[26]
Mexico's General Climate Change Law (GCCL), 2012 [27]	Legal and policy documents which have the aim and tools in place to integrate mitigation and adaptation into the central (or sectoral) economic development planning documents	• Sustainable growth and equitable management of natural resources • Use of clean and renewable energy for low-emission development • To develop a prosperous, competitive, socially inclusive economy, generating enough well paid jobs for its population, particularly the most vulnerable • A socially equitable nation with a green economy resilient to climate change	• Mitigation targets for 2020 and 2050 •NGenerating at least 35% of electricity from renewables by 2024 • Accelerate the energy transition towards clean energy sources • Reduce energy intensity through efficiency and responsible consumption schemes • Shift towards models of sustainable cities • Promote best practices in agriculture and forestry to increase and preserve natural carbon sinks • Reduce emissions of Short-Lived Climate Pollutants (SLCPs), and promote co-benefits in health and wellbeing	• Reduce the vulnerability and increase the resilience of the social sector • Reduce the vulnerability and increase the resilience of strategic infrastructure and production systems • Conserve and use ecosystems sustainably and maintain the ecosystem services they provide	• The first developing country to pass a climate change law • Policy objectives – Mexico sets itself a goal to become a low-emissions, resilient economy by 2050 • Integration of mitigation and adaptation has been mandated by the law to take place across all economic sectors • It is included in the main National Development Plan for Mexico, requiring all municipalities, states and federal government ministries to mainstream climate into their activities through climate plans (Climate Action Plans at State and Municipal Levels, and the Special Climate Change Programme at a Federal Level) • Goals are supported by time-bound objectives, a complete planning, financing and evaluation framework. • Policy builds on previous separate mitigation and adaptation documents; 2010's Low Emissions Development Strategy and the 2010 Adaptation to Climate Change in Mexico: Vision, Elements, and Criteria for Decision Making and brings them together in one focused strategy

[23] European Commission, 2006.
[24] European Commission, 2014ª.
[25] European Commission, 2014b.
[26] European Commission, 2014c.
[27] General Law on Climate Change, 2012.

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6. LESSONS LEARNED FROM CLIMATE CHANGE APPROACHES

Lessons have been drawn from research looking at different approaches to climate change policy taken by these 11 countries, specifically their approaches to integration (i.e. how climate resilience and low carbon development have been addressed and integrated into national planning).[28] In particular, lessons were drawn from China, Ethiopia, the European Union and Mexico, whose frameworks were more developed than those of other countries that were investigated.

The different approaches taken by the various countries considered highlight three broad ways of integrating climate change adaptation, mitigation and development:

- Incorporating specific mitigation and adaptation provisions and considerations within a central economic planning document (such as China's 12th Five Year Plan and the EU 2020 Strategy);
- Drafting a dedicated low carbon development policy that includes adaptation provisions (such as Colombia's Low Emissions Development Strategy);
- Creating a climate policy document with the tools to integrate mitigation and adaptation into the central (or sectoral) economic development planning documents (like Mexico's General Climate Change Law).

MANY LEAST DEVELOPED COUNTRIES HAVE TAKEN AN ADAPTATION FIRST APPROACH

In addition, many least developed countries have taken an adaptation first approach, building from their NAPAs to take a more strategic planning approach, and broadening it to include mitigation where funding supports this (for example, Bangladesh).

These three categories should not be viewed as comprehensive or the only avenues to a Low Carbon Climate Resilient Development Framework, but they provide a helpful starting point for learning.

Twenty-four important lessons have been drawn out from the research. The lessons highlighted below should be considered by countries embarking on an integrated approach to climate change and development. They may help countries strengthen their planning and assist them to identify and overcome challenges faced by others.

KEY LESSONS:

A. OVERALL

(1) **Making development and climate change policy in isolation of each other will not be the most effective course of action**. If mitigation, adaptation and development are considered together, it avoids the undermining of each agenda, can create co-benefits, can build capacity to deliver societal benefits, and can allow for short and longer term gains.

(2) **There is no 'one size fits all' approach or single blueprint** to address climate change effectively, in part due to the varying social, economic and political conditions across countries and regions. Countries are starting from different stages of development with different priorities, and with different approaches to climate change mitigation and/or adaptation already in place. However, useful lessons can be learnt from others and general principles for integration can be usefully applied.

(3) It is possible to take **previously separate mitigation and adaptation policies** and bring them together in one strategy. This allows for a more coordinated and focused effort, as has been seen in Mexico.

(4) Effective integration depends on a high level of **communication, coordination and exchange** across sectors and also regional, national and sub-national levels. Without this

[28] Desk based research for WWF carried out in 2014 by INTASAVE team (Rebecca Nadin, Sophie Lashford, Iliana Cardenes Trujillo, Yingqi lu and Roger Street) looking at climate change frameworks in different countries.

kind of cross- multi-stakeholder engagement, there could be major negative trade-offs for climate policy and development on the ground.

(5) **There is a certain level of complexity in achieving integrated responses**. Successful integration of climate change into development will involve engaging different time frames, communities of interest, and decision-making responsibilities for development, mitigation and adaptation.[29] For example, mitigation decisions may involve major industrial stakeholders from the energy sector, while adaptation may involve more dispersed stakeholders at the local level and across sectors. [30]

OPPORTUNITIES EXIST FOR POLICYMAKERS TO IDENTIFY HOW CAPACITY-BUILDING ACTIVITIES CAN EMPOWER PEOPLE TO PURSUE BOTH LOW CARBON AND CLIMATE-RESILIENT ACTIONS

(6) At grassroots level, the **capacity to respond to climate change is often common (whilst limited) across mitigation and adaptation**. This creates opportunities for policymakers to identify how capacity-building activities can empower people to pursue both low carbon and climate-resilient actions, whilst meeting many of their developmental needs. At an institutional level, robust institutional arrangements, technical and funding support are essential for delivering this capacity.

B. INSTITUTIONAL ARRANGEMENTS AND APPROACH

(1) **Policy and political leadership** need to recognise the importance of both mitigation and adaptation actions for development. This is an important precondition for integration and includes recognising that a focus solely on adaptation or mitigation may miss out the opportunity of capturing co-benefits or putting in appropriate measures or safeguards to deal with their trade-offs. A clear example of this would be in agriculture, where producers could be affected negatively (or positively, depending on global location) by changes in temperature and rainfall, which would have an effect on agriculture-led development strategies.

(2) **Flexible, enabling institutional arrangements** are important for developing integrated climate responses that reflect the national (and in some cases, sub-national) context. Common institutional arrangements that support such action include cross-ministry mechanisms to coordinate work across sectors, such as Mexico's Inter-ministerial Commission on Climate Change. In addition, establishing technical bodies at a national level can provide expertise and information, take responsibility for emissions inventories, climate mapping, vulnerability assessments, climate models and other evidence needed for policy making, such as Ethiopia's Climate Resilient Green Economy (CRGE) Technical Committees.

(3) **Integration can help mobilize resources and political will** to address climate change. Moving responsibility for climate change policy making from the Ministry of Environment to National Planning Ministries, as has happened in Colombia and China, recognizes the wide ranging implications of climate change, as well as economic opportunities. It is the first step in moving towards a whole-of-government approach.

(4) Integrating adaptation and low carbon development through **high-level government plans**, such as Rwanda's Vision 2020, Vision for 2050 and Economic Development and Poverty Reduction Strategy (EDPRS), can provide strong mandates to develop more detailed strategies for responding to climate change. This high level approach also resulted in China's National Climate Change Adaptation Strategy.

(5) In understanding the opportunities for multiple benefits, **sectors with 'easy wins' (such as forestry and agriculture)** should be built on[31]. Given the crosscutting nature of climate change, there are many sectors where mitigation, adaptation and development paths interlink and synergies and trade-offs can be identified. Some countries have begun to consider further linkages between mitigation, adaptation and development. South Africa, for example, has begun a compatibility review process, to ensure the alignment of relevant sectoral policies and regulations with their Climate Change Response Strategy.

(6) **New institutional arrangements or programmes of action** (supported by enabling pillars like funding or technology mechanisms) can help integrate adaptation and low carbon development. These include the delegation of responsibility to a new dedicated body or a particular government department, preparing substantive Programmes of Action and mandating the drafting of sector specific or local Climate Change Action Plans.

(7) Climate change processes should be iterative, allowing policies to **reflect new developments in science and technology**, incorporate good practice from experience on the ground, and to raise the level of ambition. Examples of this include Bangladesh's Climate Change Strategy and Action Plan, updated in 2009 and the new Europe 2030 framework.

[29] Wilbanks, T.J. and Sathaye J. 2007.
[30] Ibid.
[31] This statement is based on their frequency and reoccurrence as examples and case studies in the literature.

These include proposals for higher greenhouse gas reduction targets, renewable energy targets, energy efficiency, as well as stronger governance systems.

(8) **Finances and funding are often not joined up**. In many cases, funding is committed to supporting either mitigation or adaptation actions. According to research on climate change financing in developing countries, there seems to be a lack of funding mechanisms designed to "harness synergies" or "avoid trade-offs" between mitigation and adaptation.[32] Further to this, traditional tools for economic assessment have significant limitations for assessing adaptation and mitigation, including ethical concerns about the distribution of benefits and understanding the non-economic costs of climate impacts and benefits of action.

C. SYNERGIES AND TRADE OFFS

(1) **To maximize synergies and minimize trade-offs between mitigation, adaptation and development, their identification needs to be an institutionalized part of the policy-making process.** Having an institutionalized process in place to identify synergies, co-benefits and tradeoffs can help to ensure that, as far as possible, development and climate policies and interventions are complementary and not competitive or contradictory.

(2) Opportunities for synergies and co-benefits between mitigation, adaptation and development are t**ime-sensitive and delayed action may limit options** for future climate-resilient pathways.

(3) The presence of a triple-win result for mitigation, adaptation and development **does not alone guarantee** it will be the most successful response to the challenges faced. Whilst there is great potential for triple-win programmes of action to be developed, significant evidence gathering and thoughtful design is needed to ensure this actually does happen. Focusing too much on creating or maximizing synergies may not result in the best policy or action.

(4) The effective implementation of an integrated approach requires policymakers to **understand the reasons behind the consequences, trade-offs and synergies** and what these mean in terms of the required policy, programmes, as well as in terms of supporting learning and enhancements. They can then be evaluated to make informed decisions.

INTEGRATION OF MITIGATION, ADAPTATION AND DEVELOPMENT PRIORITIES CAN OVERCOME DIFFERENT GEOGRAPHICAL AND TEMPORAL SCALES AND HIGHLIGHTS OPPORTUNITIES FOR WIN-WINS.

(5) Mitigation, adaptation and development priorities often involve **different geographical and temporal scales**. However, integration can overcome this and highlight opportunities for win-wins. These can provide short, medium and long term benefits realized at local, national and global scales, for example clean energy initiatives reducing emissions and black carbon, improving health and building resilience of local communities.

D. LIMITATIONS TO INTEGRATION

(1) **At the level of designing interventions, actions and programmes**, every intervention or programme will not be able to achieve development, mitigation and adaptation benefits simultaneously. In some cases, attempting to do this may water down or compromise the effectiveness of the intervention. It is crucial whether or not integration occurs, that effective environmental and social safeguards are put in place during design and implementation (e.g. environmental impact assessments, social safety nets etc)

E. LEARNING NEEDS

(1) There is a **need to invest in and support capacity building and the development and dissemination of learning and new knowledge,** from both research and implementation experience. For example, this research reveals the importance of enhanced capacities for monitoring and evaluation and the benefits of exchanges between countries. It also highlights the need for more research targeted towards policy and decision makers, in particular to build a much-needed base of empirical evidence.

(2) **Monitoring, reporting and verification of progress integrating low carbon and adaptation into development,** is currently sparse. It is, however, essential for moving forward, especially in supporting the creation of synergistic policy that maximizes co-benefits. This will require keeping track of goals and objectives, quantifying advances, and standardizing gauges for measuring mitigation, adaptation, integration and mainstreaming.

[32] Illman et al, 2013.

These results should then feed back into updating of climate goals and objectives, as well as inform an understanding on the barriers to development. This is a cyclical and iterative process to improve and transfer the lessons of climate policy from one area to another.

(3) There is a **lack of empirical evidence supporting integrated approaches.** This was recognized by the recent IPCC report AR5[33]. The policy sphere is relatively new, so research is just emerging and more is needed. However the policy work can't wait for research findings, integration needs to happen even though more research is required in parallel.

A FINAL AND IMPORTANT LESSON

(1) **Integration must not lead to focusing too much on creating or maximizing synergies at the expense of stand-alone wins. Establishing the most beneficial policy mix remains important.** It is important not to only pursue interventions that can achieve win-wins or triple wins. This could prevent carrying out large adaptation or mitigation measures that involve large 'single' wins as standalone measures (such as a very high increase in energy efficiency, or a large reduction in vulnerability) just because they may have little or no benefit for other policy areas. For example, introducing energy efficient light bulbs is a good win for mitigation, but has little adaptation benefit. The presence of a triple-win result for mitigation, adaptation and development on its own does not guarantee that the approach will be the most successful or efficient response to the challenges faced. Separate complementary policies with greater impact in building resilience, mitigating emissions or ensuring developmental gains may be more beneficial, especially where there are few trade-offs. Co-benefits and triple wins cannot become a "tick box" in policy-making.

CO-BENEFITS AND TRIPLE WINS CANNOT BECOME A "TICK BOX" IN POLICY-MAKING

[33] IPCC AR 5, WGII Chapter 20 page 2

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7. A FRAMEWORK AND SET OF GUIDING PRINCIPLES FOR AN INTEGRATED APPROACH

Drawing from the research, a framework and set of guiding principles for taking an integrated approach climate change have been developed. The following section outlines what this may look like.

As climate change modifies our realities, existing strategies to deal with it may need to change. Strategies will need to encompass a broad number of endogenous and exogenous influences, which makes the move towards integration between climate change, development and economic agendas more of a priority and necessity. Also, as resources and funding are limited and as cost effectiveness is important, integrated approaches that help find synergies and win wins, as well as highlighting trade-offs, can help governments make financially, socially and environmentally sound decisions.

The Low Carbon Climate Resilient Development Framework proposed here is based on evidence from academic literature and an analysis of country experiences. It can act as a guide for policymakers and practitioners seeking to integrate adaptation, low carbon and development into a holistic framework. It proposes seven stages of thinking and core principles. The application of frameworks such as this should be country-driven and should include stakeholders from across society. It is designed to aid the review process, to be updated and refined as it is informed by learning from practice. There can be no single tool or framework that fits all contexts but based on experiences elsewhere a framework such as this could provide a useful basis for the construction of a country specific approach.

AS RESOURCES AND FUNDING ARE LIMITED AND AS COST EFFECTIVENESS IS IMPORTANT, INTEGRATED APPROACHES THAT HELP FIND SYNERGIES AND WIN-WINS, AS WELL AS HIGHLIGHTING TRADE-OFFS, CAN HELP GOVERNMENTS MAKE FINANCIALLY, SOCIALLY AND ENVIRONMENTALLY SOUND DECISIONS

OVERARCHING CONSIDERATIONS: CONTEXT AND GUIDING PRINCIPLES

SEVEN GUIDING PRINCIPLES:

(i) **Multi-dimensional, considering short and long term:** Any policy response must, at every stage, take into account global to local implications, as well short, medium and long term time scales.

(ii) **Country and context specific:** It must consider the socio-economic, political, cultural and environmental circumstances, the institutional and technological context, political will, resource availability and mobility, social and political awareness, and overall capacity of the country in question. Whilst weighing up potential policy approaches, it is critical to remember that there is not a single "perfect" approach, but the approach taken can be informed by principles of good practice and adapted based on specific circumstances and context.

(iii) **Cross-sector and participatory:** Integration requires a cross-government and cross-sector approach that can take advantage of synergies and address conflicts, including addressing trade-offs. Multi-stakeholder processes can support such an integrated approach in a way that is inclusive and participatory, working across society and interest groups.

(iv) **Socially and environmentally sound:** The importance of environmental sustainability and the rights, needs and concerns of poor and marginalized communities and vulnerable ecosystems should be recognised and addressed. Appropriate equitable and effective social and environmental safeguards should be applied to address climate change and wider environmental and social issues (for example using environmental and social impacts assessments).

(v) **Flexible and enabling institutional arrangements:** these are fundamental building blocks towards integration that need to reflect national and sub-national reality.

(vi) **Iterative, learning by doing:** Integrating adaptation, low carbon and development planning should be a learning process founded on monitoring, evaluating and adjusting – an iterative process that allows policies to reflect new development in science and technologies, as well as socio-economic and political developments.

(vii) **Sharing learning and learning from others:** underpinned by good communication, coordination and exchange, this is fundamental to improving climate change practice and building empirical evidence based on shared practices.

The guiding principles should support and build on those of the Cancun Adaptation Framework (see http://unfccc.int/adaptation/items/5852.php).

THE FRAMEWORK HAS SEVEN STAGES:

STAGE 1: Time-bound vision for low carbon climate resilient development

The vision gives a time specific description of the end-state to be realized. It should be based on relevant context and agreed scope and agreed across government (ideally across parties) with wide and inclusive stakeholder participation.

The purpose and value of a strong clear vision includes ensuring that all government departments and all stakeholders have a shared understanding of the eventual destination that they are working towards. It also provides non-government stakeholders and other partners with a clear indication of long-term policy direction and objectives in order to influence investment flows and social planning. In the case of developing countries a strong vision statement could help attract donors looking for long-term planning and stability.

The principles should be agreed (and updated where necessary) during this stage, and shared again with all stakeholders during all other stages.

SOME OF THE KEY QUESTIONS TO SUPPORT THE DEVELOPMENT OF A VISION:

1) Who needs to be involved? Vision should be relevant to all major government ministries, departments and its line agencies and the process should be inclusive and participatory.

2) What would success look like? Or what are the implications of failure?

3) What is needed to achieve this vision? Support from all government ministries, departments and its line agencies; resources (institutional, technical, technological, financial as well as human) to take integration process forward, etc.

4) Are the principles the right ones? Are there any gaps?

STAGE 2: Audit of existing development goals and strategies and ongoing review of new gaols and strategies as they are developed

All government ministries, departments and line agencies review existing goals and strategies and policies. All contributing goals, strategies and policies should be collated as part of the framework.

This process ensures that the low carbon climate resilient framework is grounded in existing policies where applicable and builds on existing capacity and experience. It also provides a review process to ensure existing goals, strategies and policies are climate smart – and flag any that are not and could be in contradiction to the framework's vision. A clear sense of the existing framework is also important as the basis for Stage 3.

ALL CONTRIBUTING GOALS, STRATEGIES AND POLICIES SHOULD BE COLLATED AS PART OF THE FRAMEWORK.

SOME OF THE KEY QUESTIONS TO SUPPORT AUDIT STAGE:

1) Do existing goals and strategies contribute to this vision?

2) Could they compromise it? (e.g. Do they increase greenhouse gas emissions? Are they robust in the face of current and future climate change?)

3) Are development plans climate smart? (e.g. Do they factor in future climate risks, reduction of greenhouse gas emissions, etc.)

4) Do mitigation goals and strategies consider, prepare for and address climate risks? Do they address the needs and concerns of vulnerable ecosystems and sectors of society?

5) Do adaptation goals and strategies reflect the needs and concerns of vulnerable ecosystems and sectors of society and do they limit/avoid emissions that contribute to climate change?

STAGE 3: **Gap analysis followed by setting of new goals, strategies and policies to deliver the vision.**

All government departments assess their role in contributing to the vision. Where departments have obvious links, e.g. through land use, this may be best done collaboratively. Ideally this would be coordinated by a high level body or department, including the department of finance, national planning institution and the Prime Minister/President's office.

Existing goals, strategies and policies are revised where necessary to ensure they are climate smart. New goals, strategies and policies are agreed to deliver on the Framework's vision.

SOME OF THE KEY QUESTIONS TO SUPPORT THE GAP ANALYSIS:

EXISTING GOALS, STRATEGIES AND POLICIES ARE REVISED WHERE NECESSARY TO ENSURE THEY ARE CLIMATE SMART.

1) What additional new goals, strategies or polices are needed to realise the vision?

2) Who needs to be involved in agreeing and delivering these?

STAGE 4: **Inter-linkages, synergies and trade-offs.**

The coordinating body or department should pull together existing and new goals, strategies and policies. These are reviewed against the vision for further gaps and then against each other to identify inter-linkages, synergies and trade-offs. The goals, strategies and policies should be revised and refined based on this analysis, to maximise synergies and win wins and to manage trade-offs.

Trade-offs should be managed in an open and transparent way, engaging all relevant stakeholders, noting that complementary policies with fewer trade-offs may be more appropriate than integrated ones with significant trade-offs. The most appropriate decision path needs to be agreed given short, medium and long term needs, implications and interactions.

KEY QUESTIONS TO SUPPORT IDENTIFICATION OF INTER-LINKAGES:

1) How do different goals, strategies and policies relate to one another?

2) Are different goals, strategies or policies competing or contradictory in any way?

3) Are there interactions of two or more areas that could produce a combined result greater than the sum of their separate results? (i.e. synergies)

4) Are there positive effects that a policy or measure aimed at one objective might have for other objectives? (i.e. co-benefits)

5) Are there compromises between two incompatible goals? (i.e. trade-offs)

6) Can/how should goals, strategies and policies be revised to address interlinkages, maximise synergies and win-wins and manage trade –offs. Are further new goals, strategies or policies needed to achieve this?

STAGE 5: **Consultation, adjustment and prioritisation**

The coordinating body or department should release the framework and its supporting goals, strategies and policies for wider stakeholder engagement and review. This should be inclusive, involving individuals, groups and sectors from across society (public and private) to ensure fair and equitable outcomes and benefits from the strategies and policies.

The process should include a prioritisation and sequencing exercise to identify most pressing and urgent goals, etc. These should not necessarily be those with win-wins or synergies only, but also those that deliver the most benefit to achieving the vision and goals. The goals, strategies and policies and their prioritisation (and ultimate resourcing) should be refined based on the consultation outcomes.

KEY QUESTIONS TO SUPPORT CONSULTATION:

1) How can this process of engagement best be managed?

2) How can different interests and knowledge bases best be managed and engaged?

3) Are the goals, strategies and policies the right ones? Are there any gaps?

4) Are there any missing linkages, synergies or trade-offs? How can trade-offs best be managed?

5) How can the sequencing of priorities be managed? What goals, strategies and policies are the most pressing? For whom and why?

STAGE 6: **Implementation**

The coordinating body or department provides oversight and support, while implementation is carried out by the most appropriate body/ies with the allocation of necessary resources (i.e. resources include institutional, technical, technological, financial as well as human). Capacity should be built across all areas and sectors, using internal and external support as required. Structured communication within and between different departments should be supported to ensure effective multi and cross-departmental working. This should include sharing knowledge of impacts, both positive and negative. This can be facilitated by the early deployment of a monitoring and evaluation programme.

KEY QUESTIONS TO SUPPORT IMPLEMENTATION:

1) Which departments or bodies need to work collaboratively?

2) What capacity building and resourcing is necessary?

3) How can good communication and multi/cross departmental working be best facilitated?

4) How can positive and negative impacts be shared and used to inform future practice?

STAGE 7: **Monitoring, evaluation and learning (MEL)**

Actions taken should be part of a transparent iterative process, with revisions based on outcomes, learning and new knowledge. A monitoring and evaluation system should be deployed across the lifetime of the framework. This should address any unintended negative consequences, including with respect to other policy objectives. A robust monitoring and evaluation system that captures what has worked and what needs refinement, creates the space for continuous improvement. It will also allow policymakers to identify changes in circumstance that may positively or negatively affect synergies and conflicts. These results should then feed back into an updating of climate and development goals and objectives, as well as informing an understanding of the barriers to development. This is a cyclical and iterative process; learning lessons and improving policy.

KEY QUESTIONS TO SUPPORT MEL:

1) How can measures within the framework and outside of it best be measured and evaluated to ensure they deliver and not impede the vision.

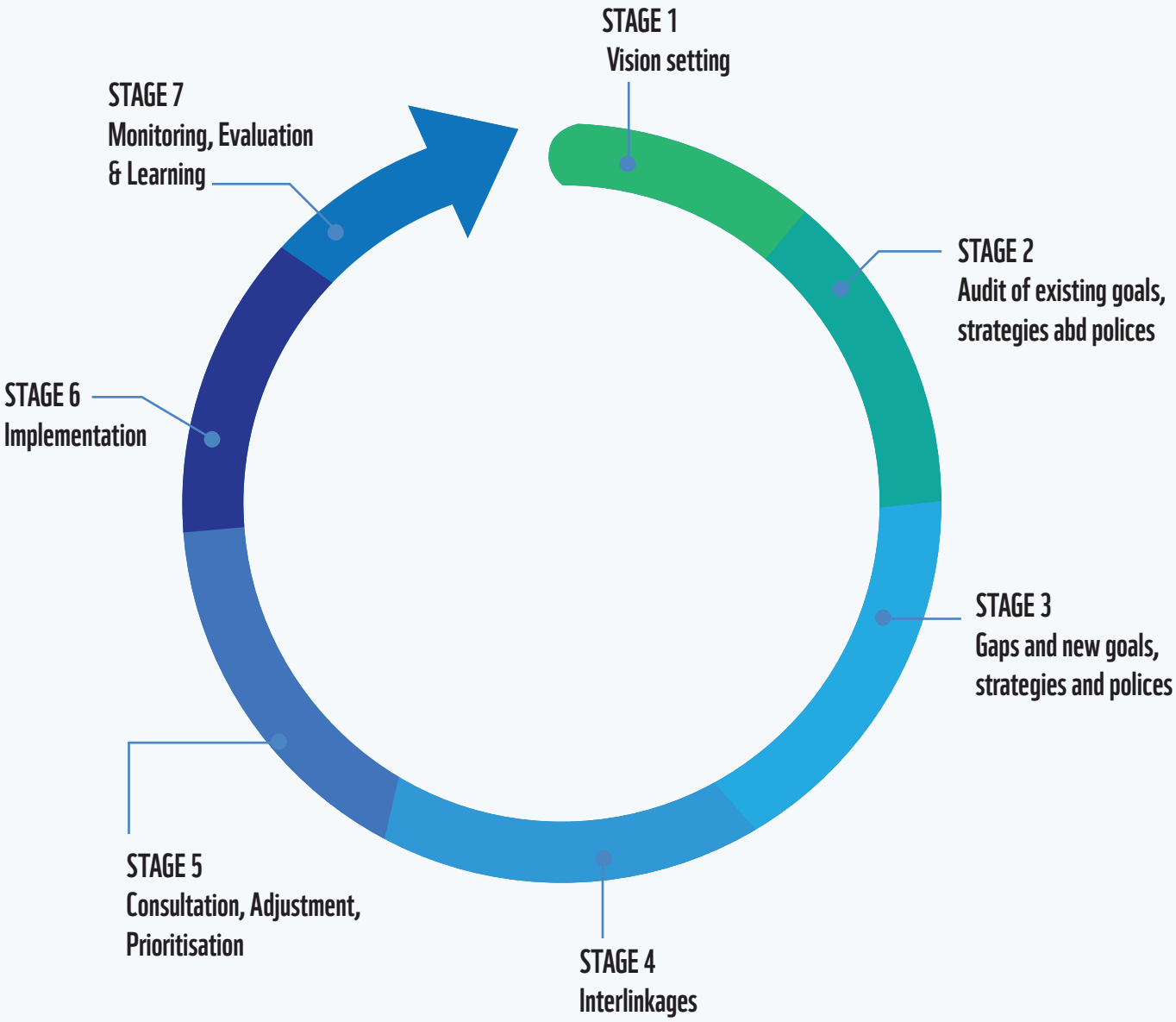
2) How can this best be reported?

3) How can lessons learned be applied to ensure ongoing improvement and effective delivery?

This framework process is a continuous cycle. Any new goals, strategies and policies from any department should go through key parts the framework process (specifically stages 2, 4 and 5) to assess their contribution to (or contradiction with) the vision. They should be reviewed and adjusted accordingly. Monitoring, evaluation and learning (MEL) is shown at the end of the cycle. This should be an ongoing process reviewing the overall framework as well as all contributing goals, strategies and policies.

HOW CAN LESSONS LEARNED BE APPLIED TO ENSURE ONGOING IMPROVEMENT AND EFFECTIVE DELIVERY?

DIAGRAM 1: SCHEMATIC FRAMEWORK FOR AN INTEGRATED APPROACH TO 'LOW CARBON CLIMATE RESILIENT DEVELOPMENT'



8. SUMMARY AND CONCLUSION

The IPCC's Fifth assessment report endorses value in taking an integrated approach to adaptation, mitigation and development. Integrated approaches can progress sustainable development and identify win-wins and synergies for adaptation, mitigation and development, whilst also identifying possible trade-offs. They can also help different government departments and stakeholders better understand the importance and relevance of both adaptation and mitigation to their remits, helping with wider climate change capacity building and awareness.

A clear, integrated, economy wide, approach to climate change can help ensure all sectors are addressing climate change impacts whilst maximizing opportunities for climate change mitigation and sustainable development, and can help ensure that investments realise their full potential.

Given the manifold risks of not integrating, and the many benefits of doing so as identified in this report, taking an integrated approach to determine synergies, trade-offs or indeed complementarity is clearly a useful and important approach.

This report offers an outline framework and set of guiding principles for taking an integrated approach to climate change and development. This framework is not prescriptive and should be adapted to suit country circumstances. It aims to provide a cyclical, iterative process with key components and stages that can help ensure low carbon climate resilient development. Through effective monitoring and evaluation, it may also help countries to determine and report on their 'intended nationally determined contributions' (INDCs).

ANNEX 1: LISTS OF OTHER COUNTRY CASE STUDY EXAMPLES[34]

COUNTRY	TYPE OF INTEGRATION	KEY RATIONALES FOR CLIMATE ACTION	PRIORITIES FOR LOW CARBON DEVELOPMENT	PRIORITIES FOR ADAPTATION	LEVEL OF INTEGRATION
Colombia's Low Emissions Development Strategy (LEDS, or LCDF) [35]	A dedicated low carbon development policy with adaptation provisions therein	• Decoupling GHG growth from economic development • Becoming a climate-resilient nation	• Low carbon development supported by national studies and focus on different sectors. As the Low-Emissions Strategy is currently being developed, Colombia has not, as of yet, published its specific mitigation goals, but the priorities for establishing them have already been published as the government develops the strategy, and include: building GHG emission scenarios until 2040, identification of mitigation actions by sector, assessment of costs and abatement potential for mitigation measures identified and the evaluation by industry experts of the co-benefits of mitigation measures identified	• Strengthen integrated management plans for coastal areas. • Restrict the spread of agricultural activities in high mountain areas. • Strengthen health services in vulnerable areas • Reduce the sensitivity of producers to changes in water	• Short, medium and long term planning • Institutional arrangement – e.g. action on Climate Change is taking place at the highest governmental level in Colombia. In order to achieve this, the institutional structure addressing climate change underwent a major overhaul in 2011 • This reform moved the Climate Change Mitigation Group (CCMG) —Colombia's main body for coordinating and articulating the nation's climate actions —from the Ministry of the Environment (MOE) to the National Planning Department (NPD). The move had wide ranging implications for the authority of Colombia's climate initiatives, and indicated the government's stance that an effective climate change strategy should involve a whole- of-government approach
Rwanda's Green Growth and Climate Resilience: National Strategy for Climate Change and Low Carbon Development, 2011 [36]	Climate change strategy plan to mainstream low carbon development and adaptation into key economic sectors	• Low carbon pathway to support sustainable development • Energy security Potential climate change impacts	• Geothermal power generation • Integrated soil fertility management • High density walkable cities to reduce the need for energy-intensive transport	• Irrigation infrastructure • Resilient road network • Centre for Climate Knowledge for Development to enhance climate change research • Agroforestry	•• Vision 2050 and Economic Development and Poverty Reduction Strategy (EDPRS) to set out strategies and objectives for economic development • National Strategy for Climate Change and Low Carbon Development to integrate low carbon development and adaptation into the development framework as set by Vision 2050 and EDPRS. This is done by identifying 14 Programmes of Action and considering how well they can capture the triple-wins or co-benefits between mitigation, adaptation and development • Specific enabling pillars include the National Fund for Climate and Environment (FONERWA), integrated planning and data management (e.g. monitoring and reporting), and the integrated institutional framework (e.g. Technical Coordinating Committee that comprises senior officials from relevant government departments and aims to facilitate knowledge flow across organisations)

[34] : Extracted from unpublished report written for WWF by INTASAVE "Climate Resilient Low Carbon Frameworks: Integrating Adaptation into Low Carbon Development", Rebecca Nadin, Sophie Lashford, Iliana Cardenes Trujillo, Yingqi lu and Roger Street, INTASAVE, 2014.
[35] Mendieta, 2009.
[36] Republic of Rwanda, 2011.

Cambodia's Climate Change Strategic Plan, 2014-2023 [37]	Climate change strategic plan to mainstream mitigation and adaptation into national economic development framework	• Commitment to sustainable development • Potential climate change impacts	• Promoting low carbon planning and technologies to support sustainable development	•Improving food, water and energy security • Reducing sectoral, regional and gender vulnerability and health risks • Enhance climate resilience of critical ecosystems, biodiversity, protected areas and cultural heritage sites • Promoting adaptive social protection and participatory approaches in reducing climate change damage	• Cambodia's Climate Change Strategic Plan (CCCSP) to provide structure and approach to integrate mitigation and adaptation into national development framework as set out in the National Strategic Development Plan 2009-2013 • Climate Change Action Plans (CCAP) to be prepared to establish key actions to operationalize CCCSP • Alongside the CCCSP, Sectoral Climate Change Strategic Plans (SCCSP) have been developed by line ministries to mainstream climate change into the sectoral planning. Sectoral Climate Change Action Plans to be established to operationalize SCCSP • Institutional arrangements – e.g. National Climate Change Committee (NCCC) to monitor and coordinate climate policies; inter-ministerial Climate Change Technical Team (CCTT) to support NCCC
South Africa Climate Change Response Strategy Green Paper, 2011 [38]	Climate change strategy policy to mainstream mitigation and adaptation into national, provincial and local planning	• International commitments to reduce carbon emissions • Potential climate change impacts	• Energy • Industry • Transport	• Water resources • Agriculture • Public health	• Climate Change Response Strategy Green Paper to guide the integration of mitigation and adaptation into development • Requirement of reviewing and ensuring the alignment of relevant sectoral policies and regulations with the Climate Change Response Strategy Green Paper by 2014 • Sets out principles and policy objectives for a balanced approach towards mitigation and adaptation in terms of prioritization, focus, action and resource allocation • Institutional arrangement – e.g. Inter-Ministerial Committee on Climate Change to oversee and coordinate climate change policies
Philippines' National Climate Action Plan, 2011-2028 [39]	Climate change strategy policy to mainstream mitigation and adaptation into development	• Commitment to sustainable development • Potential climate change impacts	• Climate-friendly industries and services – e.g. sustainable consumption and production, sustainable cities • Sustainable energy – e.g. energy efficiency, conservation, renewable energy, sustainable transport	• Food security • Water sufficiency • Environmental and ecological stability • Human security against climate disasters • Sustainable energy –e.g. climate-proofing energy infrastructure	• Institutional arrangement – e.g. the Climate Change Commission has the legal mandate, which is set by the Climate Change Act of 2009, to mainstream climate risk reduction into national, sectoral and local development plans and programmes • National Framework Strategy on Climate Change (NFSCC) in 2010 to establish the risk-based approach for climate policies and the 'anchoring' role of adaptation actions in the context of sustainable development objectives

[37] Cambodia National Climate Change Committee, 2013.
[38] South Africa National Climate Change Response, 2011.
[39] Philippines Climate Change Commission, 2011.

Bangladesh Climate Change Strategy and Action Plan, 2009 [40]	Climate change strategy and action plan to mainstream climate change into the development framework	• Commitment to sustainable development • Potential climate change impacts	• Implementing low carbon development options - e.g. renewable energy, energy efficiency in appliance and transport, forestry programme, clean coal and other technologies	• Food security, social protection and health • Disaster management • Infrastructure	• Bangladesh Climate Change Strategy and Action Plan (BCCSAP), originally released in 2008 and updated in 2009, provides a framework and blueprint for integrating climate change agenda into the mainstream development planning • BCCSAP is integrated into the national development goals, policies and programmes (e.g. Vision 2021, the 6th Five-Year-Plan) [41] • BCCSAP identifies six themes and 44 programmes for adaptation and mitigation actions • Institutional arrangement – e.g. National Steering Committee on Climate Change to coordinate and facilitate climate actions • Line ministries to mainstream climate change into sectoral planning and activities
Laos' 7th National Socioeconomic Development Plan, 2011-2015 [42]	National economic development framework to mainstream mitigation and adaptation	• Commitment to sustainable development • Potential climate change impacts	• Agricultural production • Land use and forestry • Energy supply decarbonization • Energy efficiency • Urban development	• Agriculture and food security • Forestry management • Water resources • Transport an infrastructure • Urban development • Public health	• Strategy on Climate Change of Laos in 2010 aims to mainstream climate change the vision for climate resilience into the 7th National Socioeconomic Development Plan (NSEDP), strategies, programmes and projects at all levels of government, institutions, businesses and local communities within the sustainable development framework • The 7th NSEDP requires cross-sectoral efforts to assess mitigation and adaptation needs and strategies, and to integrate these strategies into the Five-Year Plan, sectoral planning and poverty reduction strategy

[40] MoEF, 2009.
[41] Bangladesh GED, 2011.
[42] Laos Ministry of Planning and Investment, 2011.

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About WWF
WWF's mission is to stop the degradation of the Earth's natural environment and to build a future in which people live in harmony with nature. The Global Climate & Energy Initiative is WWF's global programme addressing climate change through promoting renewable and sustainable energy, scaling up green finance, engaging the private sector and working nationally and internationally on implementing low-carbon, climate-resilient development.

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Framework for integrated low carbon resilient development.

STAGE 1

Time-bound vision for low carbon climate resilient development

STAGE 2

Audit of existing development goals and strategies and ongoing review of new gaols and strategies as they are developed

STAGE 7

Monitoring, evaluation and learning (MEL)

STAGE 3

Gap analysis followed by setting of new goals, strategies and policies to deliver the vision.

STAGE 6

Implementation

STAGE 5

Consultation, adjustment and prioritisation

STAGE 4

Inter-linkages, synergies and trade-offs.

Why we are here

To stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature.

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