# Mainstreaming climate and environmental considerations into exisiting development programmes

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*05 February 2019*

## Question

*How have environmental and climate change considerations been mainstreamed into existing development programmes/sectors (particularly urban, infrastructure, livelihoods and energy)? How have climate and environmental (co-)benefits from development interventions been measured or documented?*

## Contents

# 1. Summary

Given the broad scope and multi-faceted entry points for mainstreaming it is acknowledged there is no "blueprint" approach for mainstreaming climate considerations into such diverse areas as national policy-making, sectoral planning, or project development (GIZ, 2013). There is no agreed upon definition of climate change mainstreaming or widely accepted consensus about what mainstreaming is to achieve (i.e. when it is effective and how this could be measured), adding to the complexity and limiting the ability of this review to fully answer the research questions.

There are several options for operationalising the concept, depending on how mainstreaming is interpreted, and what the target of planning is. Climate policy integration (CPI), environmental policy integration (EPI) and mainstreaming are all connected, but multifaceted, concepts, and accordingly this review has included literature that looks at all three. Although mainstreaming has been adopted internationally as a key approach to promoting climate change adaptation and environmental concerns in national strategies and sectoral plans, there have been few studies that have done thorough investigations into how mainstreaming materialises, especially in relation to mainstreaming into existing development programmes (Rauken et al., 2015; De Roeck et al., 2018). In particular, studies that have systematically assessed mainstreaming achievements are lacking (Runhaar et al., 2018) and literature on its practical application and the factors that obstruct its local operationalisation are also limited (Cuevas et al., 2015). Research gaps on what is effective and what enables/facilitates uptake of recommendations/guidelines is lacking. Additionally, much of the literature that explores effectiveness and operationalisation of mainstreaming focusses on developed countries, especially the European Union. There is also debate around what weight should be given to mainstreaming in view of the need for deep societal transformation to achieve the ambitious environmental objectives of the Paris Agreement and the Sustainable Development Goals, however, this review does not explore this in detail given its limited timeframe. Gender was not considered in the majority of literature reviewed and the evidence was largely "gender-blind".

The first section in this review briefly explores the complexities around mainstreaming and emphasises the gaps in empirical research around the implementation, effectiveness and reporting of mainstreaming experiences. This section then highlights a number of mainstreaming frameworks and issues, using case studies to illustrate these where available. The next section presents some lessons learned, success factors and barriers to mainstreaming highlighted in the literature and important for consideration when developing mainstreaming strategies. The case studies in this review explore mainstreaming experiences from both development cooperation/donors and from national efforts.

# 2. Key issues in mainstreaming

## Complexities of mainstreaming

Given the crosscutting, multi-sectoral impact of climate change, mainstreaming climate change adaptation into existing policy has been gaining traction in recent years, to ensure cooperation across sectors on adaptation issues. There are a number of expected benefits from mainstreaming, such as increased coherence among policies, reduced chances of duplications and contradictions in policies, and increased resource-efficiency (Rauken et al., 2015, p. 409). However, Runhaar et al. (2018, p.1202) highlight that "mainstreaming as a policy strategy has

also been critiqued, particularly because of the risks of diminishing issue visibility and attention (Persson et al. 2016) and policy "dilution" (Liberatore 1997), when compared with a dedicated approach that relies on highly specialised institutional responsibilities, dedicated funds and a clear legal framework".

Mainstreaming of climate change adaptation requires targeted strategies and action. However, given the broad scope and multi-faceted entry points for mainstreaming it is acknowledged there is no "blueprint" approach for mainstreaming climate considerations into such diverse areas as national policy-making, sectoral planning, or project development (GIZ, 2013, p. 2). There are several options for operationalising the concept, depending on how mainstreaming is interpreted, and what the target of planning is (i.e. "development" as international development investments vs national development planning strategies and budgets) (Ayers et al., 2014, p. 303). Furthermore, climate change adaptation mainstreaming has no agreed-upon definition, and can have a number of different meanings, assumptions and objectives associated with it in the literature and in practice (see Runhaar et al., 2018, p.1202 for a discussion on different types of mainstreaming). Runhaar et al. (2018, p.1202) also point out that "there is also no widely accepted agreement about what mainstreaming is to achieve, i.e. when it is effective, and how this could be measured", highlighting knowledge gaps that need further research. This report does not limit its definition of mainstreaming in order to capture a broad swath of literature.

## Gaps in knowledge of effective mainstreaming

A number of mainstreaming frameworks have been developed, which alongside the various "how to" guides, aim to help guide understanding of some of the activities that mainstreaming entails (see European Commission, 2016a,b; 2017a,b,c; GIZ, 2013; UNDP-UNEP PEI, 2017). Although there is a growing literature on environmental policy integration, climate policy integration, and mainstreaming has been adopted internationally as a key approach to promoting climate and environmental concerns in national strategies and sectoral plans, empirical evidence regarding their implementation and influencing factors remains scarce (De Roeck et al., 2018; Rauken et al., 2015). In depth explorations of the interactions between climate change adaptation and mitigation in climate policy integration are also limited (Di Gregorio et al., 2016). Nunan et al. (2012) point to the lack of reflection on organisational arrangements associated with mainstreaming and suggest that an analysis of these could help clarify some of the reasons for inadequate implementation. Chu et al. (2017) highlighted that there is also little understanding of the extent to which adaptation mainstreaming processes in cities can promote more equitable forms of development, and that equity and justice are important parameters for assessing adaptation outcomes due to the uneven distribution of power in current development processes.

Recognising that "knowledge on what makes mainstreaming effective is scarce and fragmented", Runhaar et al. (2018, p. 1201) aimed to assess and identify the critical factors for effective climate change adaptation mainstreaming by reviewing peer-reviewed empirical analyses. They identified an "implementation gap" between policy outputs and outcomes, and that this is most strongly seen in developing countries. Furthermore, they found that practitioners do seem to have the knowledge about potential adaptation measures but are experiencing trouble putting them into practice within existing structures. They conclude that "more explicit definitions and unified frameworks for adaptation mainstreaming research are required to allow for future research syntheses and well-informed policy recommendations" (Runhaar et al., 2018, p. 1201).

De Roeck et al. (2018, p. 37) highlight that in general, to answer the question "what works where, when and how?" for mainstreaming requires a detailed knowledge of the initial normative

commitment to mainstreaming, the institutional setup, the available policy tools and their usage among policy makers. Thus, tracing mainstreaming efforts throughout the policy cycle is the best approach to find out what can be considered "effective" policy interventions, and this analysis of the policy cycle is reflected in much of the literature.

**Measuring and reporting climate change interventions and mainstreaming**

There is no scientific or political consensus over what successful adaptation is and how the success of adaptation interventions should best be measured (Christiansen et al., 2016, p.3). Cuevas et al. (2015, p. 1) highlighted that the "absence of metrics to measure adaptation progress and its effectiveness is a source of difficulty for [climate change adaptation] practitioners". While Vallejo (2017, p. 5) underlined that "relatively few countries to date have designed and implemented a national system for adaptation monitoring and evaluation, [although] many more have indicated in their Nationally Determined Contributions (NDCs) that they are either developing one or plan to do so". Although there is growing interest in national adaptation monitoring and evaluation, it is a relatively recent activity and there is hence limited experience with mid-term and end-term evaluations of adaptation policies at the national level. There is more experience in devising and implementing adaptation monitoring and evaluation systems at the project and programme level, but there is still a lack of a well-established standard of "best practice" monitoring and evaluation (M&E) methodology and indicators for adaptation interventions (Christiansen et al., 2016, p. 5). Most adaptation monitoring and evaluation systems address one or both of two purposes, broadly categorised between learning (to improve effectiveness and efficiency) and accountability (to demonstrate that actions have taken place and led to a result). Vallejo (2017, p. 5) highlighted that many monitoring and evaluation systems rely on a combination of indicators which: provide information on climate hazards; impacts of climate change, exposure, or adaptive capacity; adaptation processes and outcomes. While adaptation processes are most commonly monitored, adaptation outcome indicators are among the least used and most difficult to produce. Christiansen et al. (2016, p. 14) in their summary note on M&E for climate change adaptation highlighted that due to the complexity of adaptation activities, the M&E system must be able to accommodate these complexities, which often entails increased costs of M&E activities and a high degree of flexibility in the M&E system.

Runhaar et al. (2018, p. 1203) highlighted that there are no standard measurements of mainstreaming effectiveness. In their review of empirical evidence, Runhaar et al. (2018) defined effectiveness of adaptation mainstreaming in terms of policy outputs and policy outcomes:

- Policy outputs refer to: the adoption of formal adaptation goals in sectoral policies, procedural instruments (e.g. formal reporting requirements, cooperation), and changes in institutional structures (e.g. creation of new inter-sectoral working groups).
- Policy outcomes refer to: development and implementation of concrete local and national adaptation measures, as a response to policy outputs.

They stressed that evaluating these outputs and outcomes is challenging. In their literature review they found that "in most of the cases, it was reported that mainstreaming had led to policy outputs, whereas policy outcomes were reported in only half of the cases" (Runhaar et al., 2018, p. 1206). In scoring the reviewed papers, the authors found that "mainstreaming has been more successful in producing effective policy outputs than effective outcomes" (Runhaar et al., 2018,

p. 1206). Hence, there seems to be an implementation gap in translating mainstreamed sectoral policies into concrete adaptation on the ground.

Furthermore, Runhaar et al.'s (2018, p. 1206) results suggested that effective outputs were mainly reported when several mainstreaming strategies were employed simultaneously and when higher-level changes were operationalised at local level. However, the number of papers in which single strategies were reported was too small for an analysis of relative effectiveness of mainstreaming strategies. In particular, the majority of success cases exhibited a combination of managerial, intra- and inter-organisational and regulatory mainstreaming. Directed mainstreaming would seem a powerful strategy to promote climate change adaptation mainstreaming, but is less prevalent in cases with effective policy outputs. Effective outcomes are low in numbers across all the studies. Finally, the relatively high frequency of partly effective outcomes across all country groups (developed or developing) suggested that crossing the threshold between pilot projects and institutionalisation of practices is difficult, no matter what region or context (Runhaar et al., 2018, p. 1206).

## Entry point concept

GIZ (2013) in a note on mainstreaming adaptation highlighted that adaptation-oriented policy guidance such as the OECD's 2009 'Integrating Climate Change Adaptation into Development Co-operation'[1] pursues the so-called "entry point concept", i.e. that systematic integration of adaptation might happen at different levels and steps of planning and decision-making. Examples of important (but broad) entry points for adaptation are:

- Integration of adaptation into national/overall plans, investments, programmes and policies;
- Integration of adaptation into a specific sector programme/plan;
- Integration of adaptation into project planning and implementation;
- Integration of adaptation into community level development, community level projects;
- Mainstreaming of adaptation into decision-making in an organisation;
- Adaptation-oriented portfolio screening of development interventions.

Other important aspects for each of these entry points include timing and concrete procedures.

**Case study: Failure to integrate climate resilience through opportune entry points in new urban development schemes in India**

Sharma and Singh (2016) discuss the potential of instituting environmental sustainability and climate resilience into the governance process of new urban development schemes in India with the announcement of schemes by the Government of India such as the 'Smart Cities' scheme, the Atal Mission for Rejuvenation and Urban Transformation (AMRUT) scheme, and The Housing for All scheme. They found that "While there have been clear entry points in the governance system and policy making through which the climate resilience agenda could have been integrated into urban development planning in Indian cities, it has not yet been done,

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[1] See http://www.oecd.org/env/cc/44887764.pdf

largely due to the lack of realization of this very need among India's decision makers" (Sharma & Singh, 2016, p. 90).

**Case study: Insufficient mainstreaming of climate and environmental considerations despite comprehensive EC guidelines**

The European Commission (EC) updated their guidelines on *Integrating the environment and climate change into EU international cooperation and development: Towards sustainable development*[2] in 2016 to provide staff with practical guidance and tools on how to mainstream environmental and climate change considerations into the different phases of the European Union (EU) programme and project cycle (European Commission, 2016a). The EC defines mainstreaming as "the process of systematically integrating a selected value/theme/idea into all domains of development cooperation to promote specific as well as general development outcomes" (European Commission, 2016b, p. 1).

The guidelines recommend that "there are opportunities for mainstreaming environment and climate change throughout the programme cycle, under both project and budget support modalities", and that mainstreaming should become an inherent part of management from programming to evaluation (European Commission, 2016a, p. 4). For each phase of the programme/project cycle, they emphasise key entry points (European Commission, 2016a, p. 4; European Commission, 2016b, pp. 13-32):

- *Policy dialogue* occurs at all phases as an ongoing process. Policy dialogue at the programming stage — and throughout the programme and project cycle — provides an opportunity for mainstreaming. It also ensures that environment and climate change are considered in the definition of focal sectors and sector support strategies and in subsequent identification, formulation, implementation and evaluation.

- *Programming phase:* Mainstreaming at the programming phase is particularly critical, as it influences all subsequent phases in the cycle of operations. A country situation analysis is the first entry point for mainstreaming in the programming phase. A country-level environmental or climate change assessment is a key tool for this analysis. A second key entry point is drafting the programming documents, a number of specific environment / climate change assessment tools can assist in this such as a Strategic Environmental Assessment (applicable to budget support and programmes/projects that provide strategic-level support), an Environmental Impact Assessment (EIA) (applicable to projects or specific investments), or a Climate Risk Assessment (applicable to projects).

- *Identification and formulation phase:* Identification and formulation need to consider environment and climate change from the start. Important potential entry points include the problem and stakeholder analysis; environmental and climate change risk screenings and assessments to assess how sensitive a programme or action is; development of appropriate objectives, activities, indicators and the necessary budget allocation for effective integration of climate change issues; budget support assessment framework (as budget support provides a powerful means for mainstreaming); and policy dialogue.

- *Implementation phase:* Significant opportunities exist during the implementation phase to enhance a programme/project's environmental and climate change performance. Entry

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[2] For full guidelines see European Commission, 2016b

points include preparation of contractual documents; monitoring and evaluation and steering mechanisms; and policy dialogue.

- *Evaluation phase:* In the evaluation phase, the environmental and climate change performance of programmes and projects can be assessed and lessons drawn for future operations. Entry points include mid-term and final evaluations, and policy dialogue of evaluation results.

The EC guidelines were complemented by a number of sector specific notes, which provide a number of recommendations, brief case studies, and further resources (see European Commission, 2017a,b,c). The notes recognised that options still exist for enhancing environmental and climate performance in ongoing programmes/projects where environment and climate change were not integrated at all or sufficiently into the design. Existing activities can be assessed to identify opportunities for improving their environmental and climate change performance, and activities reoriented or complemented accordingly (European Commission, 2017b, p. 16). The following are examples of mainstreaming opportunities in an ongoing sectoral programme/project suggested in the sector notes:

- *Agriculture sector (including food security and rural development):* ● Promote policy dialogue or exchange of experiences among stakeholders on policies in sustainable agriculture, food security and rural development. ● Screen agricultural practices and inputs for their environmental performance and select those with a lower environmental and carbon footprint. ● Adopt a green procurement policy. ● Raise awareness and promote energy efficiency and sustainable consumption and production. ● Promote supply of goods and services from the local community/train community members to be able to deliver quality goods and services (European Commission, 2017a, p. 15).

- *Energy sector:* ● Promote policy dialogue and exchange of experience among stakeholders. ● Support institutional reforms that contribute to improved ability to achieve sustainable energy systems and services, such as the establishment of a dedicated energy efficiency and/or renewable energy agency with a clear cross-sectoral mandate. ● Promote the integration of the energy-related component of the INDC into energy and other relevant sector and national strategies and plans (as a step towards their operationalisation). ● Screen options for enhancing access to energy, developing renewable energies and improving energy efficiency, identifying and promoting those with a lower environmental and carbon footprint or which are likely to generate climate change adaptation benefits. ● Consider adjusting the nature or modalities of some originally planned activities, but ensure the new or adjusted activities contribute to the intervention's objectives and expected results; and that changes can be justified by improvements in relevance, effectiveness, efficiency or sustainability. ● Build the capacities of energy sector and energy-consuming stakeholders with regard to the identification, assessment (technical, economic, environmental, social), budgeting, implementation and monitoring of options and measures for improving the environmental and climate-related performance of energy generation and use. ● Support awareness raising about the benefits associated with access to sustainable energy, the development of renewable energies and improvements in energy efficiency. ● Adopt a green procurement policy. ● Promote supply of goods and services from the local community and train community members to be able to deliver quality goods and services (European Commission, 2017b, p. 16).

- *Water and sanitation sector:* ●Promote policy dialogue or exchange of experience among stakeholders. ● Introduce water-efficient technology options, and select those with a lower environmental and carbon footprint. ● Climate-proof ongoing and planned infrastructure development, and promote investment that supports increased resilience to climate change. ● Promote the integration of the water-related component of the (I)NDC into water and other relevant sector and national strategies (as a step towards their operationalisation). ● Build the capacities of water sector and water-consuming stakeholders with regard to options and measures for improving the environmental and climate-related performance of water supply, use and treatment. ● Support awareness raising (among policymakers and planners, water utilities, government and industrial water users, farmers and the public) about the benefits associated with sustainable water resources management and the need to charge a fair price for use of the resource. ● Adopt a green procurement policy. ● Promote supply of goods and services from the local community/train community members to be able to deliver quality goods and services (European Commission, 2017c, p. 16).

De Roeck et al. (2018, p. 36) aimed to provide a comprehensive analysis of "what works and what does not" in mainstreaming efforts of climate change adaptation in EU development cooperation for the 2014–2020 policy cycle through the construction of an analytical framework capable of tracing the level of mainstreaming throughout different phases of the policy cycle. This analytical framework distinguished between four phases of the policy cycle: agenda-setting, the policy process, policy output phase and implementation. Within every phase, they further differentiated between three "levels" of mainstreaming: coordination, harmonisation and prioritisation. As part of this review, De Roeck et al. (2018) considered the above EC guidelines and sector notes, and explored whether these procedural tools were actually used in practice. They concluded that although the EC provides tools that – if fully implemented – could instigate the prioritisation of adaptation in aid activities; their actual use in practice is low, as can be said for procedures linked to coordination (e.g. EIAs). Thus, they found that "Although the toolbox for mainstreaming allows for a prioritisation of [adaptation], the procedural approach is currently ineffective due to limited staff and mainstreaming fatigue" (De Roeck et al., 2018, p. 36).
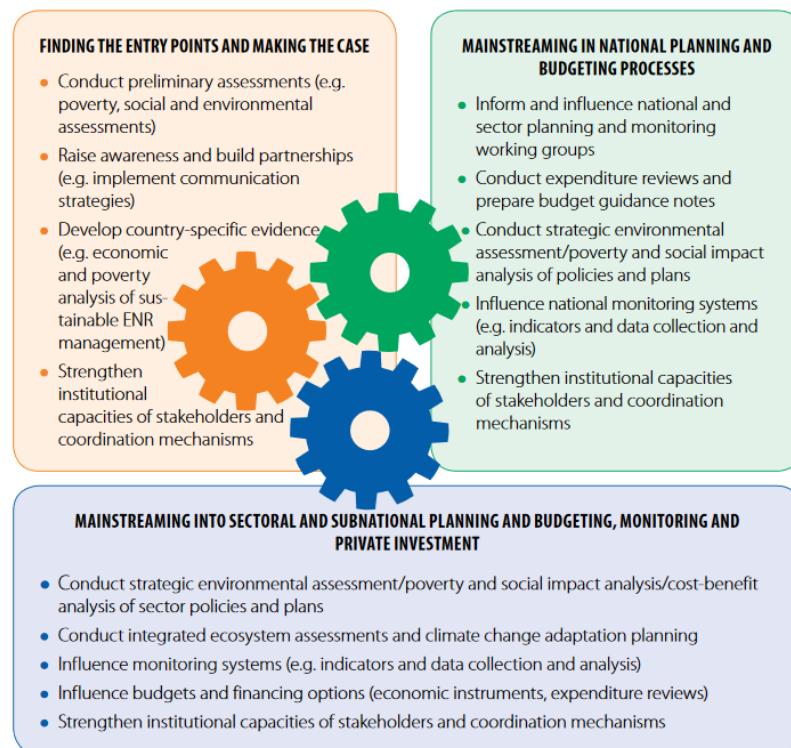
**Case Study: Some success in the UNDP-UNEP PEI approach to poverty-environment mainstreaming**

The UNDP-UNEP Poverty-Environment Initiative (UNDP-UNEP PEI)[3] developed a comprehensive methodology and toolbox on poverty-environment mainstreaming. This programmatic approach is described in Figure 1 and in a handbook to strengthen environmental and climate change integration in planning and budgeting processes (UNDP-UNEP PEI, 2017), which was updated in 2015 to reflect scale-up phase experiences. The key aim of poverty-environment mainstreaming is to reduce poverty and achieve other development goals through integrating pro-poor environment and natural resources sustainability objectives into the core policies and activities of government (UNDP- UNEP PEI, 2017, p. 19). UNDP- UNEP PEI (2017, p. 19) explain that the approach "is highly flexible, allowing practitioners a broad choice of

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[3] The UNDP-UNEP PEI supports country-led efforts to mainstream the nexus between poverty and environment into national and sub-national development planning. The PEI provides financial and technical assistance to government partners to set up institutional and capacity-strengthening programmes and implement measures to address the poverty-environment nexus (Tavera, 2016, p. 1).

activities, tactics, methodologies and tools to use in a particular country situation. To apply the programmatic approach requires a thorough understanding of national development planning and budgeting processes, institutions, decision-makers, political economy and poverty-environment issues". Increasingly, PEI has been addressing climate change adaptation as a strategy to manage the risks posed by climate change to sustainable development.

Figure 1. UNDP-UNEP Poverty-Environment Initiative (PEI) Programmatic Approach for Poverty-Environment Mainstreaming



**FINDING THE ENTRY POINTS AND MAKING THE CASE**
- Conduct preliminary assessments (e.g. poverty, social and environmental assessments)
- Raise awareness and build partnerships (e.g. implement communication strategies)
- Develop country-specific evidence (e.g. economic and poverty analysis of sustainable ENR management)
- Strengthen institutional capacities of stakeholders and coordination mechanisms

**MAINSTREAMING IN NATIONAL PLANNING AND BUDGETING PROCESSES**
- Inform and influence national and sector planning and monitoring working groups
- Conduct expenditure reviews and prepare budget guidance notes
- Conduct strategic environmental assessment/poverty and social impact analysis of policies and plans
- Influence national monitoring systems (e.g. indicators and data collection and analysis)
- Strengthen institutional capacities of stakeholders and coordination mechanisms

**MAINSTREAMING INTO SECTORAL AND SUBNATIONAL PLANNING AND BUDGETING, MONITORING AND PRIVATE INVESTMENT**
- Conduct strategic environmental assessment/poverty and social impact analysis/cost-benefit analysis of sector policies and plans
- Conduct integrated ecosystem assessments and climate change adaptation planning
- Influence monitoring systems (e.g. indicators and data collection and analysis)
- Influence budgets and financing options (economic instruments, expenditure reviews)
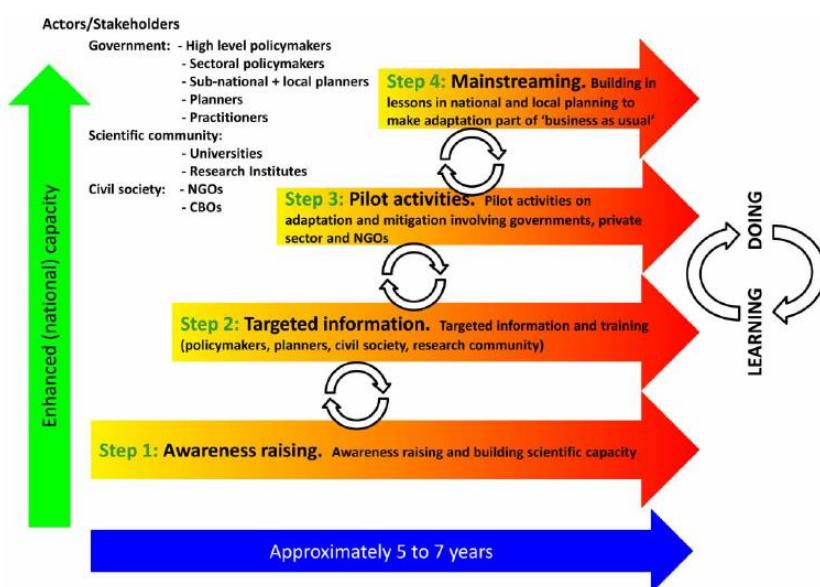- Strengthen institutional capacities of stakeholders and coordination mechanisms

Source: UNDP-UNEP PEI, 2017, p.19

Tavera et al. (2016) undertook an independent evaluation of the scale-up phase (2008-2013) of the UNDP-UNEP PEI. They found that the PEI's programmatic approach is sound, and is "a flexible model that has helped guide PEI's choice of tactics, methodologies, tools and activities, adapting to particular country situations" (Tavera et al., 2016, p. 3). Furthermore, the evaluation confirmed that PEI is highly relevant to the poverty reduction priorities of the countries it was supporting and more broadly to national development. It is accepted among practitioners that poverty-environment mainstreaming is a multi-stakeholder, iterative and long-term process that cannot be fast-tracked. The evaluators found "evidence that PEI is helping to change the mind-set of decision-makers and other influential people in programme countries, including development assistance partners and, in a few cases, that of the private sector. The strong role played by planning and finance ministries in PEI gives credibility to poverty-environment nexus mainstreaming and opens many doors that were closed before" (Tavera, 2016, p. 8). They further emphasised that "an important outcome of PEI's work and an essential driver for impact is strong national leadership for [poverty-environment nexus] mainstreaming at the highest levels, there is robust evidence that institutional and individual capacities have been enhanced significantly in every programme country" (Tavera et al., 2016, p. 9).

## Mainstreaming aimed at national and sub-national institutions

Ayers et al. (2014, p. 296) highlight that "only focusing on mainstreaming adaptation into external development assistance does not necessarily take into account the corresponding changes required in the wider national and local institutional environments to ensure that investments are sustainable". They propose that "focusing on developing country institutions and processes is likely to encourage a more holistic and integrated approach to adaptation mainstreaming, because by definition, the enabling environment of development investments is also taken into consideration" (Ayers et al., 2014, p. 296). Ayers et al. (2014, p. 297) revisit a previous framework for mainstreaming adaptation. This framework proposed a linear sequence of awareness and scientific capacity-building, targeted information and training of key stakeholders, which is followed up with pilot studies to inform policy-makers and generate incentives to incorporate lessons learnt into policy and planning. A revised version of the four-step framework was developed by Ayers et al. (2014) (see Figure 2) after reflecting on Bangladesh's experiences of mainstreaming and applying the proposed four-step framework to these experiences. In particular, the authors found that Bangladesh's experiences suggested that the process of mainstreaming is not linear, with each step building on the last, but it is being built up of a patchwork of processes, stakeholders and approaches. Furthermore, "the line between 'projects' and 'mainstreamed plans' is not distinct, as projects themselves can be mainstreamed into existing planning processes" (Ayers et al., 2014, p. 302).

Figure 2. Revised framework for building national capacity on climate change adaptation for mainstreaming



Source: Ayers et al., 2014, p. 302

From the analysis by Ayers et al. (2014, p. 303) they suggested that "for mainstreaming to be sustainable, the object of mainstreaming should be national and sub-national institutions and processes. It has also shown that there is no single 'best' approach to doing mainstreaming – mainstreaming emerges as a patchwork of climate-proofing and more integrated strategies that all contribute to building climate resilience in interconnected ways". They recommended the need for further research into the conditions that give rise to effective mainstreaming in different contexts, capturing the matrix of activity in different countries that builds the will, momentum, expertise and networks to achieve integrated planning is critical for informing future sustainable mainstreaming. However, this further research is still a burgeoning field.

**Case study: Mainstreaming in Bangladesh**

Ayers et al. (2014, p. 303) concluded that in Bangladesh, "mainstreaming has emerged in a number of different guises, all involving a blend of information, capacity building, resource-mobilization and governance changes, underpinned by political will" and different stakeholders. The paper further concluded that while the framework is useful for considering some of the preconditions necessary for mainstreaming, experiences in Bangladesh reflect a much more complex patchwork of processes and stakeholders that need to be taken into consideration in further research.

**Case study: Watershed development in rainfed farming in India**

Chaudhari and Mishra (2016) reviewed the policy responses towards mainstreaming climate change adaptation through watershed development in rainfed farming systems of India, with reference to the multilevel governance structure from which they emerge. They found that "the multilevel structure of policy domains offer facilitations as well as obstacles for proposed mainstreaming" (Chaudhari & Mishra, 2016). Two forms of obstacles were observed: an incomplete process of policy integration across different levels of governance; and the already existing set of challenges before watershed development in India, such as governance fragmentation, equity concerns in participation, and capacity-building and intercommunication between the levels. Based on their policy analysis, the paper recommends that "the state's role need to be mutually clearer (for both the national and subnational levels) in the adaptation mainstreaming in the watershed governance. The present misfits of states' fiscal and policy-making capacities with the expectations from them at the national-level cause a policy and action disconnect" (Chaudhari & Mishra, 2016, p. 333). Secondly, they recommend that "the climate adaptation and mainstreaming innovations in watershed development that originate beyond the usual confines of state machinery, through collaborations with non-state organizations and civil society, ought to be considered as potential sources of policy learning" (Chaudhari & Mishra, 2016, p. 333).

**Case Study: Mainstreaming adaptation into city planning in Durban, South Africa**

Roberts and O'Donoghue (2013) reflect on the progress made in climate change adaptation in the city of Durban since the launch of the Municipal Climate Protection Programme in 2004. This includes the initial difficulties in getting the attention of key sectors within municipal government, and how this was addressed and  served by the more detailed understanding of the range of adaptation options and their cost-benefits. A multi-pronged approach has been used to mainstream the need for climate protection within municipal operations. These approaches included: institutional restructuring (i.e. the creation of the Climate Protection Branch in the Environmental Planning and Climate Protection Department, and the assigning of the mitigation function to the Energy Office); re-naming the then Environmental Management Department to acknowledge the new climate function within the municipality; the inclusion of the Municipal Climate Protection Programme as a deliverable in the city's key strategic planning document; aligning Municipal Adaptation Plan development with existing work streams; the development of large-scale reforestation initiatives as part of the FIFA World Cup greening programme; and starting the development of a combined adaptation and climate change mitigation strategy. Roberts and O'Donoghue (2013, p. 312) concluded that "In these ways, the early activism and catalytic interventions of the "founding" champions are being translated into new policies and on-the-ground implementation".

## Horizontal and vertical mainstreaming

Rauken et al. (2015, p. 408) explored mainstreaming climate change adaptation into existing policy domains in five Norwegian municipalities, and emphasised that because the majority of climate change adaptation work will have to take place at the local level, "this means also that the mainstreaming process needs to occur locally". They looked at different theories of mainstreaming and policy integration (looking at comprehensiveness, aggregation and consistency) and found that "policy development is slower, but perhaps more robust in the municipalities that have chosen a horizontal, cross-sectoral approach to mainstreaming than in the municipalities that have chosen a vertical sector approach to mainstreaming" (Rauken et al., 2015, p. 408).

Nunan et al. (2012) analysed environmental mainstreaming experiences from a range of southern countries. The review "found a mix of experience, with strong political commitment seeming to support a vertical approach to organisational integration, with a lead, overarching agency, as opposed to a more horizontal approach with the ministry responsible for the environment leading" (Nunan et al., 2012, p. 261). They suggested that "a more promising approach to facilitate effective mainstreaming might be to combine elements of vertical and horizontal arrangements, at least over the medium term, where there is strong central commitment and capacity for sustained implementation" (Nunan et al., 2012, p. 261).

Mounting evidence suggests that both dimensions of vertical and horizontal policy integration are needed for effective national climate/environmental policy integration, as well as an institutional mandate for a higher authority (parliamentary/governmental) providing management, monitoring and reporting requirements, and a coordinating body that facilitates joint management between institutions (Di Gregorio et al., 2016, p. 37; Nunan et al., 2012).

**Case study: Climate policy integration in the land-use sector in Indonesia**

Di Gregorio et al. (2016, p. 35) developed a new conceptual framework to analyse climate policy integration (CPI) that incorporates climate change mitigation with adaptation aims, in order to minimise trade-offs and exploit synergies. Based on the evidence reviewed, Di Gregorio et al. (2016, p. 41) argue that "effective CPI in the land use sector does not just need to ensure the mainstreaming of general climate change objectives into sectoral policies, but also the alignment of climate change mitigation and adaptation objectives with each other and their simultaneous consideration". Their analysis of CPI in the land-use sector in Indonesia suggests that in general effective CPI in the land use sector requires (Di Gregorio et al., 2016, p. 35):

i)      Internal climate policy coherence between mitigation and adaptation objectives and policies;

ii)     External climate policy coherence between climate change and development objectives;

iii)    Vertical policy integration to mainstream climate change into sectoral policies; and

iv)    Horizontal policy integration by overarching governance structures for cross-sectoral coordination.

Di Gregorio et al. (2016, p. 41) demonstrate that the analysis of these four characteristics in specific country contexts can help to disentangle and identify different climate policy

architectures, detect their strengths and weaknesses and assess how they evolve over time. Specifically for Indonesia, they found that

> "adaptation actors and policies are the main advocates of internal policy coherence. External policy coherence between mitigation and development planning is called for, but remains to be operationalized. Bureaucratic politics has in turn undermined vertical and horizontal policy integration. Under these circumstances it is unlikely that the Indonesian bureaucracy can deliver strong coordinated action addressing climate change in the land use sector, unless sectoral ministries internalize a strong mandate on internal and external climate policy coherence and find ways to coordinate policy action effectively." (Di Gregorio et al., 2016, p. 35)

# 3. Lessons learned, success factors and barriers to mainstreaming

## Lessons learned from Environmental Policy Integration

Persson and Runhaar (2018), in their conclusion paper for the special issue of *Environmental Science & Policy* on 'Environmental Policy Integration: Taking stock of policy practice in different contexts',[4] take stock of the main lessons learned regarding "what works" in environmental policy integration. Persson and Runhaar (2018, p. 141) define Environmental Policy Integration (EPI) as "the incorporation of environmental objectives in non-environmental policy sectors, such as agriculture and transport, rather than pursuing environmental protection through specialised environmental policies and legislation and by environmental institutions". They explain that "EPI aims to target the underlying driving forces, rather than symptoms, of environmental degradation, and complements specialised environmental policies" (Persson and Runhaar, 2018, p. 141). Whilst acknowledging that it is a simplified representation, they distinguish between two stages of the policy cycle:

1. Policy development – i.e. making the initial case for the need for EPI during agenda-setting, problem framing, policy preparation and ultimately decision-making in sectoral policy sectors; and
2. Policy implementation – i.e. how policies, and their integrated environmental objectives, are implemented in 'downstream' planning and project design on the ground.
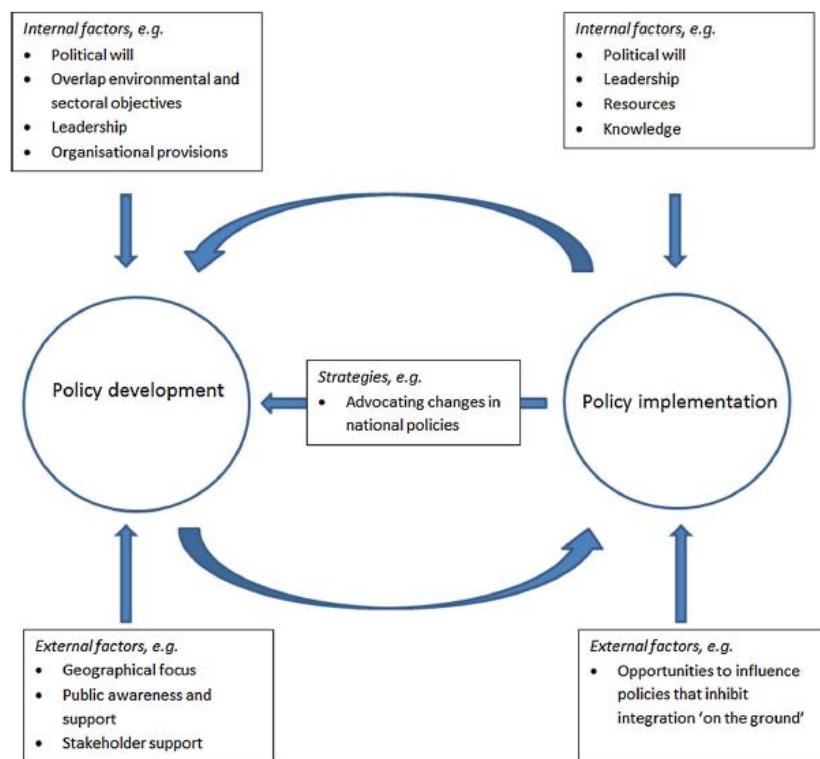
Using these two stages, they visualised the key factors that affect the performance of EPI practices and categorise them into "internal" (i.e. those that can be actively addressed and changed by the agents responsible for integration) and "external factors" (i.e. those that are beyond the direct control of the policy integration process in question) (see Figure 3).

Persson & Runhaar (2018, p. 142) highlight that "most of the papers [in the special issue] have a primary focus on the policy development stage". The external factors found to be conducive to EPI included the geographical focus or context of key actors, high-income level, public awareness and support, stakeholder and interest group support, support by other governmental actors, and compatibility with pre-existing sectoral policy frames. Significant internal factors for the performance of EPI included: political will, overlap with sectoral objectives, urgency of the

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issue to be integrated, norms promoting integration expressed through overarching policy frameworks, organisational provisions for inter-sectoral cooperation, leadership and resources (Persson & Runhaar, 2018, p. 142). Papers that looked at the implementation stage found that "important internal factors there include political will, leadership, resources, guidance and knowledge. Only one explicit external factor was mentioned, namely opportunities for creatively dealing with or even influencing external policies so as to achieve policy integration" (Persson & Runhaar, 2018, p. 42). Other important external factors highlighted by literature include (a lack of) coordination and cooperation between departments or/and (a lack of) financial resources.

Figure 3. Factors affecting environmental policy integration (EPI) along the policy cycle



Source: Persson and Runhaar, 2018, p. 144

## Success factors

In an information note, GIZ (2013, pp. 2-3) highlighted the following lessons/success factors as being key for consideration when designing a mainstreaming process:

- *Exact entry points and target group:* When designing a comprehensive mainstreaming process, it is useful to thoroughly analyse exactly where changes have to take place and who must make these changes in order to allow for climate smart decisions. Are there processes the mainstreaming can build upon? What are the crucial steps in the decision-making process? Who makes or prepares the decisions?
- *Information:* Adaptation decisions, and therefore mainstreaming as well, have to be based on climate change information. A lack of information is often used as an excuse for not anticipating climate change in decision-making.
- *Method:* For a comprehensive approach to mainstreaming adaptation, a mix of tools (such as environmental impact assessments etc) should be used. These tools have to be

chosen well, based on the needs of the target group of the mainstreaming process and – if necessary – modified in accordance to their demands. Ideally, the tools are (further) developed in a participatory process. The choice of methods should be as simple as possible, but this is always a trade-off with the level of detail.

- *Institutional dimension:* Mainstreaming of climate change adaptation normally concerns a diverse range of actors and institutions, and always entails an institutional change process. It will be necessary to make use of or – if necessary – to design an appropriate institutional set-up that promotes the mainstreaming objective. The allocation of tasks is a very important aspect here. It is not possible for every sectoral expert/ decision-maker/ planner to become a climate change expert. Mainstreaming requires a careful balance of providing predefined options, additional external climate change expertise (e.g. from a university), and enabling different sectors and others to do assessments themselves.

- *Leadership & Resources:* The buy-in of an institution's high-level management can be decisive. A clear commitment on the need for mainstreaming adaptation can be very supportive, and this also holds true for the financial and human resources made available for this process.

- *Dealing with resistance:* In many contexts, there is an overload of crosscutting issues and therefore a mainstreaming fatigue. Mainstreaming causes additional costs and potential trade-offs with other priorities. When designing a mainstreaming adaptation process, it is therefore crucial to create the minimum amount of additional processes / structures / work load required for this purpose. Less is often more.

- *Evidence:* An evidence base is important to showcase the benefit of mainstreaming adaptation.

- *Capacity/Awareness:* Institutionalisation of mainstreaming adaptation is not enough. The target group of the mainstreaming process should have the conviction as well as the capacity to include adaptation considerations in their decision-making processes. Therefore, the mainstreaming process should be accompanied by capacity building and awareness campaigns.

## Barriers to mainstreaming

Cuevas et al. (2015, p.2) based on their review of the mainstreaming literature classified the challenges to adaptation mainstreaming into three capacity groupings: institutional, information and resource capacities. They defined institutional capacity as relating to rules, social structures, and organisations in the mainstreaming process; information capacity is concerned with the capability of a system to integrate climate change information into land use data; and resource capacity centres on the financial and human resources engaged in the integration process. Specifically to Albay, Philippines, the authors found that the *institutional issues* indicator was the primary barrier in mainstreaming, followed by the *availability of* and *access to information* as second-level barriers. Meanwhile, several indicators were evaluated as "opportunities for mainstreaming [adaptation], including—*credibility and reliability of information*, *local government prioritization*, *institutional incentive*, and *stability of funds*" (Cuevas et al., 2015, p. 15). They concluded that "these assessments suggest that barriers can be overcome to transcend into opportunities for mainstreaming adaptation" (Cuevas et al., 2015, p. 15). For example, due to the "existence of a climate change champion in Albay, the *leadership* indicator was evaluated as an opportunity that helped transform the other challenges (i.e., *local government prioritization, commitment to adaptation, institutional incentive, knowledge and awareness, community*

*support*) from potential barriers into opportunities for mainstreaming adaptation" (Cuevas et al., 2015, p. 15).

Runhaar et al. (2018) summarise a number of factors that act as barriers to effective adaptation mainstreaming and that typically come up in the literature. They identified the following (Runhaar et al., 2018, p. 1203):[5]

- *Political factors:* interests that align or conflict with adaptation goals, level of political commitment to adaptation, level of public awareness of or support for adaptation, policy (in)consistency across policy levels, flexibility of legislative and policy context, and level of political stability;
- *Organisational factors:* factors within particular organisations as well as inter-organisational factors;
- *Cognitive factors:* level of awareness, level of uncertainty, sense of urgency, and degree of social learning;
- *Resources:* available staff, financial resources, subsidies from higher levels of government, information and guidance, and availability of and access to knowledge and expertise;
- *Characteristics of the adaptation problem at issue:* the way in which the adaptation objective is framed and linked to sectoral objectives, level of detail in which adaptation objectives are defined and compatibility of time scales;
- *Timing:* waiting and sustaining momentum for climate change adaptation, focussing events, and windows of opportunity such as urban renewal.

However, they also highlight that this "barrier-focused" type of research has been increasingly criticised since it oversimplifies adaptation planning and decision-making processes (Runhaar et al., 2018).

## Mainstreaming strategies

Given their above criticisms of barrier focused research, Runhaar et al. (2018) provided a more nuanced study by analysing mainstreaming as a specific approach to adaptation planning, including distinctive strategies as well as achievements in terms of policy outputs and outcomes. Runhaar et al. (2018, p. 1205) found the following strategies:

- *Regulatory mainstreaming*: was the most frequently reported strategy and ranges from including climate change adaptation as an objective in sectoral policy documents to changes in strategic planning and legislative tools.
- *Managerial and intra-/inter-organisational:* were reported with less frequency and suggest that more practical approaches are still lacking, i.e. how to achieve a stated policy aspiration or requirement in practice.
- *Directed mainstreaming*: was the least reported strategy and includes higher-level support to redirect focus to aspects related to mainstreaming adaptation by e.g., providing topic-specific funding, promoting new projects, supporting staff education, or directing responsibilities. This suggests that mainstreaming is often a rather informal

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[5] See Runhaar et al., 2018, p. 1203 for a deeper discussion of each factor and further references.

activity that is pushed by local needs and bottom-up processes rather than pushed by higher-level authorities.

Through their literature review Runhaar et al. (2018, p. 1209) found that "so-called directed mainstreaming, that is higher-level support for mainstreaming and/or higher-level mainstreaming requirements, are among the least reported strategies for promoting mainstreaming, rendering mainstreaming a rather voluntary activity that is faced with numerous implementation barriers". Furthermore, they expect that "more strict requirements for mainstreaming, set at the national or international level, will provide an important impetus for policy-makers and planners in non-climate policy sectors and at lower tiers of government to climate proof the sectors they bear responsibility for" (Runhaar et al., 2018, p. 1209).

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## Acknowledgements

## Suggested citation

## About this report