MAINSTREAMING CLIMATE ACTION INTO THE DEVELOPMENT AGENDA

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Abstract

The year 2015 brought major progress in the field of international environmental governance through the adoption of the Paris Agreement and the Sustainable Development Goals (SDGs). While this can be seen as a diplomatic success, the implementation of both agendas is a completely new challenge. In order to contribute to a successful implementation, this research aims at providing a better understanding of the relationship between climate action and development using the concept of mainstreaming. Using the literature on mainstreaming it is established that scientists agree upon the need for integrating climate action and development, but that the practice of mainstreaming is challenging and varies among practitioners. This research provides three analyses focused on the operationalization and conceptualization of mainstreaming: (1) how the relationship between climate action and development is conceptualized in international environmental agreements, (2) to what extent Nationally Determined Contributions (NDCs) cover the SDGs, and (3) how the NDCs are integrated in national sectorial development plans in the cases of Cambodia and Kenya. These analyses show that climate action and development are inextricably linked, but that integrated action of both is not a natural process and also politically sensitive. While the international agreements emphasize the interlinkages between climate action and development, just as the NDCs cover the SDGs extensively, in the case studies of Kenya and Cambodia the process of mainstreaming is largely invisible. All together this gives a mixed picture about the way implementation and the practice of mainstreaming will move forward in the future, but it clearly shows that climate action and development cannot be pursued in silos.

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CCCA	Cambodia Climate Change Alliance
CCCSP	Cambodia Climate Change Strategic Plan 2014 – 2023
CCD	Climate Change Department
CCTT	Climate Change Technical Team
CDM	Clean Development Mechanism
COP	Conference of Parties
FDI	Foreign Direct Investments
GDP	Gross Domestic Product
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GNI	Gross National Income
GSSD	Secretariat of the NCSD
INDC	Intended Nationally Determined Contribution
IPCC	Intergovernmental Panel on Climate Change
LDC	Least Developed Country
LULUCF	Land use, land use change and forestry
MoE	Cambodia's Ministry of Environment
NAP	National Adaptation Plan
NAPA	National Adaptation Programme of Action
NC	National Communication
NCCAP	Kenya's National Climate Change Action Plan
NCCC	National Climate Change Committee
NCCS	National Climate Change Secretariat
NCSD	National Council for Sustainable Development
NDC	Nationally Determined Contribution
NGO	Non-governmental organization
ODA	Official Development Assistance
OECD	Organisation for Economic Cooperation and Development
OOF	Other Official Flows
PPCR	Pilot Programme on Climate Resilience
REDD	Reducing emissions from Deforestation and Forest Degradation
SDGs	Sustainable Development Goals
SIDS	Small island developing states
SMTP	Second Medium Term Plan 2013 - 2017
UN	United Nations
UNDP	United Nations Development Programme
UNEP	United Nations Environmental Programme
UNFCCC	United Framework Convention on Climate Change
USAID	United States Agency for International Development
WB	World Bank

1. Introduction

This research aims to provide a better understanding of the relationship between climate action and development. While this has been extensively studied in the past already, this research will, with the use of the concept of mainstreaming, build upon the existing literature. The adoption of the Paris Agreement and the Sustainable Development Goals (SDGs) provided new opportunities to examine the relationship between climate action and development, just as a better comprehension of both is required to implement both agendas adequately. Moreover, the issues of climate action and development have often been approached in a manner that focused more on their trade-offs rather than synergies: this research will show through different analyses how interrelated the two areas are. This will be done through an analysis of international climate agreements and the SDGs, an investigation of how the Nationally Determined Contributions (NDCs) relate to sustainable development, and country case studies of Cambodia and Kenya to examine the integration of NDCs in national sectorial policies. The results of these analyses will be shown in separate chapters, but will all be supported by an analytical framework this research established through the use of the literature on mainstreaming. This analytical framework consists of various types of mainstreaming, defined by multiple characteristics, and was used to further support the three analyses described above to better understand the conceptualization and operationalization of mainstreaming in policy documents. Based on these analyses, this research will show that for the implementation of climate action and development objectives still various ways are possible, but that there is no doubt the issues are closely interlinked.

1.1. Setting the scene

The year 2015 brought major progress in taking climate action and pursuing sustainable development at the international level. Under different branches of the United Nations (UN) countries agreed upon new pathways that aim for a paradigm shift in global development. For example, new agreements were made for development assistance during the United Nations Financing for Development conference in Addis Ababa (Ethiopia) and nations adopted the Sendai Framework for Disaster Risk Reduction 2015-2030, which aims at substantially reducing the impacts of disasters, outlines responsibilities for states and emphasizes the importance of including non-state stakeholders. However, most attention was on the establishment of two major agendas: the SDGs and the Paris Agreement. Both had been negotiated for many years as difficult political hurdles had to be overcome. Especially around the negotiations for the Paris Agreement there was an atmosphere of tension and hope, as many saw it as the last opportunity for countries to reach a universal agreement on climate change after multiple failures in the past. With the adoption of both agendas, the world emphasized the importance of sustainable development and urgent climate action, just as the agendas show that action needs to be taken by all. As the Paris Agreement and the SDGs form the origin of this research, it is useful to understand the main points of these agendas.

The Paris Agreement is the first comprehensive, international agreement on climate change that requires action from all Parties under the United Framework Convention on Climate Change (UNFCCC), adopted on 12 December 2015. Kinley (2016) explains the major elements of the agreement: a long-term temperature goal, a future goal of balancing sinks and emissions, five-year cycles analyzing progress being made, a more nuanced difference between developing and developed countries, the inclusion of loss and damage, a more prominent place for adaptation, and inclusions on finance and market mechanisms. Additionally, he mentions the shift of focus from top-down to national actions. This is an essential point, as at the core of the agreement lie the Intended

Nationally Determined Contributions (INDCs), now referred to as Nationally Determined Contributions (NDCs) when countries ratify the Paris Agreement, which outline the (voluntary) climate actions each Party plans to take. Despite (justified) criticism from many that all these plans together fail to reach the outlined temperature goals of 1.5 and 2°C, the NDCs show that countries have more faith in a bottom-up process to limit the impacts of climate change than setting targets in a top-down fashion, as was done in the Kyoto Protocol. Kinley (2016) also highlights four main reasons the Paris Agreement came about: economic realities enable the possibility to move towards a low-carbon society, all governments were determined to reach an agreement, effective diplomatic leadership from the host country France, and the common understanding that everybody has to contribute to limit the effects of climate change. Analyzing the reasons behind the agreement and the actual contents of the agreement, it is clear that countries see the urgency of the climate change problem, that action must be taken by all and that climate change is a multi-faceted problem.

In comparison to the Paris Agreement, which is focused on the single (although interdisciplinary) issue of climate change, the SDGs provide a comprehensive agenda for sustainable development. The SDGs, which are part of the broader 2030 Agenda, consist of 17 goals and 169 accompanying targets and were adopted at the United Nations General Assembly on 25 September 2015. The SDGs have a timeframe from 2015 to 2030 and are the successors of the Millennium Development Goals (MDGs), which lasted from 2000 to 2015. While the SDGs and the MDGs have overlapping themes such as eradicating poverty, gender equality and global partnerships, there are a couple of fundamental differences in their design. First of all, the MDGs focused on development, while the SDGs explicitly focus on sustainable development. Secondly, the MDGs were designed for developing countries predominantly while the SDGs form an agenda that considers all countries. Thirdly, the number of topics (and therefore also the amount goals and targets) covered is much larger in the SDGs than the MDGs. For example, in the SDGs there are explicit mentions of reducing inequalities, the need for sustainable cities and pursuing sustainable consumption and production, while these topics are not covered at all in the MDGs. Additionally, the major topic of this research, climate change, was also not mentioned in any of the goals or targets of the MDGs. Hence, the SDGs show that the main areas of interest have changed among countries and there is now a demand for a more comprehensive and inclusive agenda for the future, just as is visible in the Paris Agreement.

1.2. High-level political attention for climate change and development

While the adoption of the Paris Agreement and the SDGs can be seen as a diplomatic success, the implementation of both agendas is a completely new challenge. Both the SDGs and the Paris Agreement show clear directions for development which countries deem important, but the language in both often remains abstract and needs to be translated into actual policies. As climate change and development are clearly linked (Ayers and Dodman, 2010; Janetos et al., 2012) and there are clear linkages between the Paris Agreement and the SDGs (CKDN, 2016; WWF, 2016), it seems logical to argue for a synergetic approach to implement both agendas on the national, regional and local levels. After the adoption of the agendas in 2015, there has been increasing high-level political attention focused on the implementation of the SDGs and the Paris Agreement. Moreover, this attention has come both from development and climate perspective, which shows that both issues are not aimed to be addressed in silos. Two of these high-level perspectives will be briefly discussed below, as these give interesting and different insights in the

implementation of both agendas: the views of the Executive Secretary of the UNFCCC secretariat, Patricia Espinosa, and the agenda that is set by Germany for the G20 of 2017.

1.2.1. Patricia Espinosa

After Conference of Parties (COP) 21, many high-level diplomats, like Laurent Fabius, Todd Stern, and Christiana Figueres, who were key to the success of the Paris Agreement, left the scene of the international climate negotiations. Christiana Figueres was the Executive Secretary of the UNFCCC, which is the responsible organ for the annual COP and is the so-called guardian of the Paris Agreement, but was replaced in July 2016 by Patricia Espinosa. Espinosa is a renowned diplomat and was the former Secretary of Foreign Affairs of Mexico and presided COP 16 in Cancún. As new Executive Secretary, she is also exemplary for the shift of focus of the UNFCCC: from reaching a comprehensive climate agreement to the actual implementation of this agreement. Interestingly, in many of her public appearances where she emphasizes the urgency of climate action and highlights the many actions that are already taken, she often stresses the linkages between climate change and development. There are many different examples of this: at a University of Bonn event on 28 October 2016 she states that "Climate action & the Paris Agreement are closely linked to the Sustainable Development Goals" (UN Climate Action, 2016); at a public event at the London School of Economics in February 2017, Espinosa emphasized that converting NDCs into the national development agenda was "the single most important work to be done" (Farand, 2017); and at the High-Level Event on the Climate Change and the Sustainable Development Agenda on 23 March 2017, she stated that "the sustainable development agenda and climate change agenda are inherently linked" and "must be addressed in an integrated manner because there is only one on-the-ground reality" (UNFCCC, 2017). During the last event she also publicly thanked the Secretary-General of the UN, António Guteres, as he called for an integrated approach to implement both the SDGs and the Paris Agreement. A more elaborate explanation on her views on this topic can be found in an op-ed she wrote for NDCi.global called 'Climate Action and Sustainable Development as One Agenda: Simple Truth, Complex Task', published in March 2017[1]. In this article, Espinosa clearly states that it necessary to see the SDGs and the Paris Agreement as one encompassing agenda, if these were to be implemented successfully. As an example she gives the position of women: the SDGs recognize under SDG 5 the need for gender equality, while women's role can also be very important for climate action. In explaining the role of the UNFCCC for the implementation of both agendas, Espinosa mentions the need for a good narrative linking climate change and development and she states that implementation is now a core objective, just as she emphasizes that the UNFCCC is an entity in the bigger picture of a unified development agenda. Despite highlighting the possibilities for integrating climate action and development, she still sees hurdles as well, by stating that the link between climate change and development is not always understood well enough in different layers of the society, just as it will not be easy to reach the goal of unified action on climate change and sustainable development. From all these comments, it is clear that Espinosa sees the need for an integrated approach towards climate change and development to implement both the SDGs and the Paris Agreement. The UNFCCC was originally focused on facilitating climate negotiations and safeguarding its convention, but with the Paris Agreement and the remarks from Espinosa it is clear a shift has occurred towards implementation and integrating climate action into the broader development agenda.

[1] See: http://ndci.global/climate-action-and-sustainable-development-as-one-agenda-simple-truth-complex-task/

1.2.2. The 2017 G20 Agenda

Another example which highlights the high-level political attention for climate action and development is the G20 agenda set by Germany in 2017. The G20 is a group of twenty member states, representing twenty major economies, that meets annually to (usually) discuss financial stability. Originating from the G7, which are the major developed economies defined by the International Monetary Fund, the G20 discusses topics related to economic development. While various other topics than financial stability have been discussed in the past, the G20 agenda of 2017 presented by Germany, as the country has the presidency in 2017, has a significant focus on sustainable development. In the document 'Priorities of the 2017 G20 Summit', the Germans outline the main priorities of the 2017 G20 Summit: building resilience, improving sustainability and assuming responsibility. While 'building resilience' mostly focuses on financial and economic resilience and 'assuming responsibility' on various issues such as migration, terrorism and corruption, the priority focused on 'improving sustainability' clear emphasizes the need for the implementation of the Paris Agreement and the 2030 Agenda. The document states that the G20 wishes "to make headway on ambitious implementation [of the Paris Agreement]" and "to link climate and energy policy more closely" (p. 8). For the 2030 Agenda, the G20 "will be resolute in its endeavors to ensure, both through individual and collective action, the rapid and comprehensive implementation of the 2030 Agenda" (p. 8). It clearly shows that the Germans value it to be important to address the implementation of these agendas within the high-level forum of the G20, rather than primarily focusing on finance and economic development as usually has been done. However, while the link between energy policy and climate change is drawn, no notice is made of the interlinked topics covered in the Paris Agreement and the SDGs, or even suggested that both must be implemented synergistically.

1.2.3. Comparison approaches Espinosa and G20

Logically, this high-level attention is not enough for the actual implementation of the SDGs and the Paris Agreement. Involvement of politicians at the highest level is a necessary condition for the implementation of both agendas, but with only rhetorics nothing will actually happen on the ground. Nevertheless, it is interesting to see that from two completely different institutions, the UNFCCC and the G20, high-level political attention is focused on the need for climate action and sustainable development. However, there also seems to be a key difference in approaches between the UNFCCC and the G20. While Espinosa focuses on the synergies between the SDGs and the Paris Agreement, the need for mainstreaming of NDCs and stating that both agendas must be integrated since 'there is only one on-the-ground reality', the 2017 G20 agenda does not explicitly focus on all of this. The 2017 G20 agenda only aims for the implementation of both the Paris Agreement and the 2030 Agenda, but not on their synergies or that these must be implemented in an integrated manner. Especially since the 2017 G20 agenda stresses the link between climate and energy policy, it seems to be intentional to keep both agendas separate. These two perspectives show that there is political commitment at the highest level to implement both agendas, but views differ to what extent both need to be integrated. This difference raises fundamental questions about the relationship between climate action and development. For example, how do the Paris Agreement and the SDGs actually link climate action and development? Do the (I)NDCs focus on climate action only or encompass a broader agenda? What would be (potential) barriers for the integration of both agendas? And, assuming that countries are not waiting for these international agendas in order to develop nationally, how are countries actually pursuing sustainable development and taking climate action already?

1.3. Research objective

Therefore, these fundamental questions provide the main rationale for this research. The analyses done here all aim to provide a better understand of the relationship between climate action and development to ultimately support the effective implementation of the Paris Agreement and the SDGs. Key in this research is the use of the concept of mainstreaming, which is understood in its most basic form as the integration of climate action into development objectives. This concept has been propagated by many scientists and policy makers due to the close linkages of climate action and development objectives and as it would increase efficiency at the implementation level. This research will use this concept to see how it is conceptualized and operationalized in multiple policy documents at various levels. Using this concept will provide more insights beyond other analyses performed and sheds a new light on relationship between climate action and development. It is obvious that this research will not be the final product written on this matter as understanding the relationship between climate action and development properly requires vast amount of research, just as it is also not a question that will be answered easily. However, it is nonetheless essential to understand which processes are currently going on in light of climate action and sustainable development to analyze the progress being made towards implementing the SDGs and the Paris Agreement. The adoption of both agendas also provided new opportunities for analyses, as these are only relatively recently adopted, and therefore this research also uses key features of these agendas. All in all, exploring the conceptualization and operationalization of mainstreaming in these new agendas will contribute to a better understanding of the relationship between climate action and development. Additionally, this research will add three new insights to the scientific community. First, a new analysis of the links between climate change and development in the Paris Agreement and the SDGs is made, just as how these focus on mainstreaming. Second, by examining the (I)NDCs, which are documents made to describe climate action, an innovative approach towards analyzing mainstreaming is shown because development is analyzed through a climate lens, while this is usually done the other way around. Third, the country analyses of Cambodia and Kenya add new case studies to the mainstreaming literature.

One of the underlying thoughts behind this research is the way the narrative of climate change and development is framed. For many years, climate change and development have been framed to be in conflict as many argued that mitigation actions burdened especially developing countries too much in their efforts to pursue development. At the heart of the international climate negotiations lies the idea of 'common but differentiated responsibilities and respective capabilities', which implied that not all countries bear the same responsibilities for the effects of climate change and also do not have the same capabilities to deal with the issue. Therefore, climate actions undertaken should be representative of this divide, making that developed countries should take the lead. While this idea was especially prevalent in the Kyoto Protocol with the division between 'Annex I' and 'Non-Annex I' countries, the SDGs and Paris Agreement now emphasize that action needs to be taken by all. This does not mean that the idea of common but differentiated responsibilities and respective capabilities is not present in today's negotiations, but the attitudes towards climate action and sustainable development have changed over the years. Due to the visible impacts, higher political will and improved economic conditions more and more people have a positive attitude towards climate action and sustainable development. Nevertheless, as stated in the introduction, Espinosa called for a better narrative to explain the linkages between climate action and development. This research will therefore also explore whether its findings of analyzing mainstreaming of climate action and development provide input for a different narrative.

1.3.1. Research questions

The following research questions have been formed to support this research objective:

1. How is mainstreaming of climate action into the development agenda being conceptualized at the international level?
2. How do the (I)NDCs relate to sustainable development?
3. In the cases of Cambodia and Kenya, to what extent is climate action mainstreamed in national sectorial policies?

These three research questions also relate to the three main analyses to understand the relationship between climate action and development better. In Figure 1 is shown what kind of level each of these analyses represent.

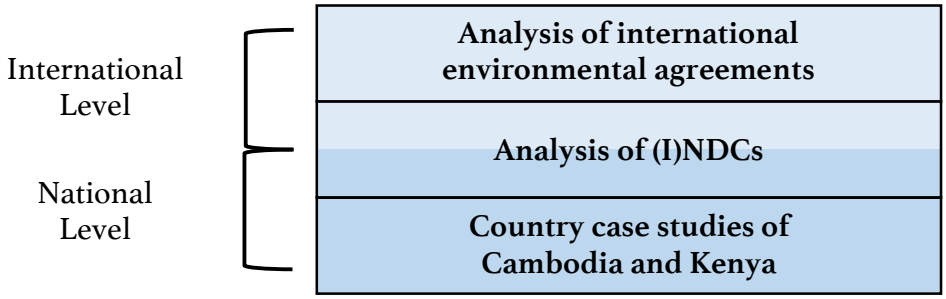

Figure 1. The three types of analyses divided into two layers: international and national level.

This research starts with analyzing mainstreaming at the international level through the analysis of international environmental agreements. The analysis of the (I)NDCs which follows next falls both under the international and the national level: they are a vital part of the Paris Agreement (international level) but are submitted by countries individually (national level). At last the country case studies of Cambodia and Kenya provide a more in-depth analysis of mainstreaming at the national level. These research questions together will show how mainstreaming is conceptualized and operationalized at these different levels and, through this lens of mainstreaming, provide insights in how the relationship between climate action and development is described in the various policy documents analyzed.

1.4. Roadmap

After this introduction, the next chapter will form the conceptual framework of this research. The first part of the conceptual framework focuses on the theoretical analysis of mainstreaming, i.e. how mainstreaming is being conceptualized. Here the main agreements and disagreements among scholars around the topic of mainstreaming will be outlined and the main gaps in the literature will be identified. Building upon this, the later sections will focus on how the concept is operationalized in existing literature. It will describe various models and policy guides that explain different mainstreaming approaches, discuss the country case studies of the Philippines and Bangladesh that are described in the literature and highlight the main barriers and needs for mainstreaming. The conceptual framework concludes with developing an analytical framework that will be used to analyze mainstreaming approaches in the country case studies selected. The following chapter, outlining the methodology of this research, will explain how this analytical framework will be used in analyzing mainstreaming in Cambodia and Kenya, outline how the (I)NDCs will be analyzed on their linkage with sustainable development and will sketch the limitations of this entire research.

After the foundation of this research is explained, the forthcoming chapters answer the formed research questions. The first focus is on analyzing synergies and mainstreaming in international environment agreements. For this, the international climate regime, the SDGs and the debate surrounding climate finance will be examined. An in-depth analysis of the (I)NDCs follows in the next chapter. The central point of the attention is the coverage of the SDGs in the (I)NDCs, but it also addresses how mainstreaming is conceptualized and operationalized in the (I)NDCs. After this, the country analyses of Cambodia and Kenya is done in two separate chapters. In these chapters, national sectorial policies are analyzed upon their linkages with the NDC to determine the type and degree of mainstreaming occurring. In the end, a conclusion will summarize the main findings of this research and will refer back to the research objective and the research questions. Additionally, it will shed a light on the future of the implementation of the Paris Agreement and the SDGs, values the insights from the mainstreaming literature and will examine what this all means for the narrative of climate action and sustainable development.

2. Conceptual analysis of mainstreaming

Mainstreaming climate action into the development agenda is not a new idea. Debates around this topic have already been going on for quite some years, although it is not directly clear when the debate was initiated and why it came about at a certain point. As a starting point, a necessary component of mainstreaming climate action into the development agenda at the national level is that climate change is seen as a priority; Srinivasan (2005) writes that this was not the case for policy makers in developing countries in Asia at the time he had done his research. Despite increasing amount of attention for climate change world-wide, it remains difficult to determine how countries value the importance of taking climate action today. Switching the focus to the history of mainstreaming, Ayers et al. (2014) state, by referring to Ross and Dovers (2008), that mainstreaming already "has a long history" (p. 295), although it only occurred recently for environmental issues. They explain that the idea of 'mainstreaming' can be applied to different topics, such as the well-known idea of gender mainstreaming, but the term is now often used when referring to the integration of climate adaptation into the development agenda. For the remainder of this research when using the phrase mainstreaming, it will imply the focus on mainstreaming climate action, not another issue.

One of the earliest researches focused on the links between climate change and development come from Swart (2003), Willbanks (2003) and Huq et al. (2006). Despite the fact that the idea of sustainable development has already gotten quite some traction especially after the publication of the well-known Brundtland Report 'Our Common Future' in 1987 and that the links between climate change and (sustainable) development are clear, Swart (2003) and Huq et al. (2006) explain that the two issues have actually been discussed in different fields, both in research and in policy. Swart (2003) explains this can be clearly seen in the focus of the Intergovernmental Panel on Climate Change (IPCC), the scientific organ of the United Nations focused on research on climate change, as their first reports were mostly based on the natural sciences and barely addressed socio-economic issues. Huq et al. (2006) adds to this that climate change was mostly seen as an environmental issue, which explains the focus on the natural sciences by the IPCC as outlined by Swart (2003), rather than seeing it as a development issue. The researches from Swart (2003) and Huq et al. (2006) strongly emphasized the linkages between climate change and development and the need for an integrated approach, as in their view it did not make sense to discuss and develop policies for these issues separately.

In the years after these researches have been published, one can see a growing amount of literature dedicated to mainstreaming and also a growing understanding for the need of mainstreaming: Swart (2008) writes about the increasing agreement on the usefulness of integration. However, it is clear that there are still issues with the actual implementation of mainstreaming. For example, Bizikova et al. (2007) explain how there is no clarity on how implementation of mainstreaming would actually look like. In this light, they identify five methodological challenges to advance the interconnections between climate action and sustainable development: (1) Enhance multidisciplinary assessments in developing complex polices; (2) Expand participatory integrated assessment to built models; (3) Elaborate the linkages between adaptation and mitigation capacities and actions; (4) Develop methodologies to assess trade-offs between adaptation and mitigation in respect of uncertainties within climate scenarios; (5) Promote two-way communication in defining projects and disseminating results in collaboration with stakeholders (p. 275). Another issue is, as raised by Lasco et al. (2009), the lack of research on mainstreaming in developing countries. Lasco et al. (2009) provide one of the only case studies described in the literature that focuses on mainstreaming in a specific country, in their case the

Philippines, and they emphasize the lack of research on whether mainstreaming is done in other countries and which factors contribute to successful mainstreaming in other countries. Some practical proof of the fact that mainstreaming is not yet happening also comes from Hedger et al. (2009), who show that mainstreaming climate adaptation action has not yet occurred within poverty reduction strategies. They emphasize that there is a clear need for this, as adaptation and poverty reduction go hand-in-hand at the local level. However, they also see the difficulties as the degree of adaptation is uncertain, due to the absence of an agreement how much climate change will be prevented.

One would expect that more recent research share a more positive light on the amount of mainstreaming happening, due to the increasing attention for the topic. To a certain extent this is true, as Fröde et al. (2013) emphasize that mainstreaming is seen as something increasingly important to do. Additionally, Furlow et al. (2011) add to this that in the past the focus for climate action was usually on mitigation, but the development community is now more aware of the threat climate change plays for development. The research from Ayers et al. (2014) also describe the case of Bangladesh, where mainstreaming is undertaken at various levels. Wright et al. (2014) state that there is now a significant amount of practical guidance for mainstreaming climate action into agricultural activities. However, on the contrary, Pinkse and Kolk (2012) are a bit more skeptical as they argue that climate change is still mostly seen as an environmental issue rather than a sustainable development issue. A more cautious approach is also seen in the remarks of Janetos et al. (2012) and Fröde et al. (2013), who notice that integration is only happening lately. It shows that it is not very clear what the exact status of mainstreaming is world-wide, although one can say that more mainstreaming is now being done than before. Nevertheless, it depends on the perspective one takes, by focusing on which sector, country or the degree of integration, whether one agrees if serious mainstreaming is occurring.

This brief timeline shows that mainstreaming is something increasingly important, but that many issues still remain. This chapter outlines the main debates and agreements regarding mainstreaming, how one can interpret mainstreaming and show the gaps or lack of focus in the literature. Moreover, it will discuss barriers and needs of mainstreaming, how various policy guides and models aim to implement mainstreaming and how mainstreaming looks like in the cases of Bangladesh and the Philippines, as described by Ayers et al. (2014) and Lasco et al. (2009). Together, the main points and key issues of debate from the literature will add to defining the analytical lens of this research, which will be referred back to when analyzing the international environmental agreements, the (I)NDCs and the country case studies.

2.1. The links between climate change and development

Before examining the question how important it is to mainstream climate action into the development agenda, it is useful to outline the specific linkages between the two. Robinson and Herbert (2001) mention that there are clear linkages identifiable, but that these are definitely not simple. This becomes quite clear when focusing on what these linkages actually are. Ayers and Dodman (2010) and Janetos et al. (2012) both provide in-depth analyses of the exact links between climate change and development. These researches come up relatively similar linkages, albeit phrased differently. Basically, when combining their views, one can say climate change and development are linked in the following ways: (1) development pathways determine mitigation efforts and hence the magnitude of climate change, (2) development pathways determine adaptation efforts and hence the adaptive capacity and resilience of a society, (3) actions to limit climate change may conflict with other development goals, and (4) climate change can be a threat to

development. This clearly shows the complex relationship mentioned by Robinson and Herbert (2001) since there can be synergies but also trade-offs between climate action and pursuing development. Development pathways can contribute positively to limit and adapt to the effects of climate change when these are in synergy with appropriate mitigation and adaptation action, but when they are in conflict, trade-offs have to be made. If the choice falls on a development pathway that will not effectively limit the impacts of climate change, development can be hampered due to the adverse effects climate change will have. This basically forms the same conclusion as the Fourth Assessment Report of the Intergovernmental on Climate Change, as analyzed by Parry (2009), which stated that unsustainable development leads to climate change, while sustainable development is needed to limit climate change. However, it might be even more complex than this, as climate action could be synergetic with some development goals, but not all. Ideally, sustainable development will have no adverse impacts on any development goal at all, but whether this is realistic to assume is very questionable. This definition would likely leave very few options to what sustainable development could actually entail, if possible to pursue at all. However, rather than having an in-depth discussion about the definition of sustainable development and the role of both climate action and development pathways in this, the main conclusion here is that climate action and development are linked in complex, but nevertheless important ways. It does not seem to be possible to address both issues in a linear way, dealing with one after the other, but successful climate and development approaches need to develop a synergetic strategy to deal with the pros and cons of the linkages. In this light, Parry (2009) forms a conclusion which is simple but nevertheless essential to understand and will also come back frequently throughout this research: climate change is a development issue.

2.2. The need for mainstreaming

Understanding the complex but important linkages between climate action and development, many scholars acknowledge that it is not useful to act on climate change as a 'stand-alone challenge' (see i.a. Chevallier, 2010; Pinkse and Kolk, 2012). This also explains the broad consensus in the literature that it is needed to mainstream climate action into development planning (IPCC, 2007; Janetos et al., 2012; Ayers et al., 2014). However, not many scholars highlight both the positives and the negatives of mainstreaming, as mostly they derive the need from mainstreaming through arguing that as climate change and development are intrinsically interlinked, it is essential to mainstream. In this light, Gupta (2009) is one of the only ones providing a list of arguments in favor but also against mainstreaming. Her reasons to favor mainstreaming are: (1) there are clear linkages between climate change and development; (2) it is more cost-effective; (3) development agencies have experience in working in developing countries so mainstreaming could be effective for implementation; (4) it helps prioritizing climate change in developing countries; (5) climate and development sectors can learn from each other; (6) and integrating climate and development reports can be more efficient. The reasons Gupta (2009) provides against mainstreaming are: (1) sustainable development is a complex endeavor, especially for developing countries with the uncertainties of climate change, and therefore integration will be difficult; (2) fear of lack of funds when integrating climate finance and development assistance; (3) there is already a general shortage of development assistance (which emphasizes the previous point); (4) climate finance and development assistance address and provide benefits to different stakeholders; (5) only mainstreaming climate change in development cooperation will not be enough; (6) it will lead to new conditionality in development cooperation. In the end, Gupta (2009) states that mainstreaming will be needed, but that there also good arguments, as stated above, against mainstreaming due to political circumstances. It cannot really be determined whether

each scholar, when stating that mainstreaming is something important to be done, values are the pros and cons the same as Gupta (2009) does. When analyzing these pros and cons of mainstreaming, it seems there are very good theoretical and practical reasons to favor mainstreaming, but also good political arguments to not be too eager for it. Hence, it can depend on your perspective whether mainstreaming will actually be something beneficial or not. Analyzing the broad consensus among scholars it seems that often the main focus is on the theoretical arguments and sometimes on the practical ones, but not so much around the political issues. Consequently, there could potentially be a too optimistic picture of mainstreaming by scholars, with the political reality being different. Quite some of the arguments Gupta (2009) defines as issues against mainstreaming evolve around the topics of climate finance and development assistance: this debate will be further examined in the chapter on mainstreaming at the international level.

Nevertheless, the broad consensus on mainstreaming should not be disregarded. There are good and logical reasons why mainstreaming is important to do, as becomes clear from the linkages between climate change and development and the arguments in favor outlined by Gupta (2009). Importantly, mainstreaming would also enhance the implementation of the NDCs and the SDGs, as World Resources Institute (2015) states that integration of the INDCs and SDGs can lead to co-benefits, just as CKDN (2016) clearly argues that the Paris Agreement will not be reached if NDCs are not being mainstreamed. With these two international agendas currently present, arguments in favor of mainstreaming become stronger, as the agendas clearly have overlapping themes and both focus on mainstreaming as well. This will be further elaborated upon in the chapter on mainstreaming at the international level by explaining how both approach mainstreaming and to see the linkages between the two agendas.

2.3. Defining mainstreaming

Acknowledging the broad consensus on the importance of mainstreaming, the next question is what mainstreaming actually means. Naturally, it would be the most convenient if there was a general agreement on the concept of mainstreaming, but unsurprisingly, as Lasco et al. (2009) explain, there is no universal definition of mainstreaming. Fortunately, there is a basic definition of mainstreaming, as proposed by Persson and Klein (2008), which other scholars can often relate to. This definition of mainstreaming focuses on integrating climate action in development planning and sectorial decision making. If one analyzes this definition, a key feature that is missing is the degree of integration. One can argue that only partial integration should occur for the most relevant sectors or reason that only full integration is appropriate to address all the linkages. Interestingly, most scholars focus on the latter. Chevallier (2010) explains the importance to recognize climate variability in all development policies, Huq et al. (2003), Klein (2003) and Agrawala (2005) argue for the systematic integration of climate change in development planning at all levels and Fröde et al. (2013) emphasize that mainstreaming should be done early in the planning process. This shows that scholars find it important that full integration of climate action into the development agenda should occur and basically say, as stated by Parry (2009) at the start of this chapter, that climate change is a development issue.

Variations on the definition of Persson and Klein (2008) also exist, adding more depth to the meaning by showing that mainstreaming is not just a concept, but, importantly, also a process. Gupta and Van der Grijp (2010) phrase mainstreaming by defining it as the process of (re)designing, (re)organizing, and evaluating development plans from a climate perspective. Ayers et al. (2014), who base their definition on the one from Gupta and Van

der Grijp (2010), emphasize that mainstreaming should not only occur in external development assistance, but that it is essential this occurs in national and sub-national level processes. The focus on processes is a valuable addition when defining mainstreaming, as mainstreaming will always happen on a continuing basis. New policies, plans and strategies will be formed over time, thus the process of mainstreaming should therefore also occur in the same way. Additionally, based on the input of Ayers et al. (2014), it is good to emphasize that when full integration of climate action into the development agenda should occur, as argued for by quite some scholars, this would not only mean integration into external development assistance but in all the national development processes.

2.4. The question of 'adaptation plus development' or 'adaptation as development'

While there seems to be a large group of scholars arguing for a full integration of climate action into the development agenda, this only partially explains how mainstreaming can be defined and interpreted. A crucial debate lies around whether climate change is seen as an externality to development or as an integral part of development. Ayers and Dodman (2010) provide this interesting and important insight to this debate by explaining in their research how mainstreaming climate adaptation can be interpreted. It can be defined as 'stand-alone' adaptation to climate change only, by 'adaptation plus development', which treats adaptation as an externality to development, or 'adaptation as development', when adaptation is (an integral part of) development. As explained earlier, 'stand-alone' treatments to climate change are not seen as useful by many scholars, so this leaves the debate with the two latter options. As Ayers et al. (2014) explain, the choice also depends on the type view one chooses to take. They namely state, by also using the research from Klein (2010), that one can take a technology-based mainstreaming view, which treats climate change as an externality and provides technological solutions to climate change impacts, or a development-based mainstreaming view, which is a holistic approach aimed at addressing the drivers of vulnerability.

A wide range of scholars point out that treating adaptation as an externality is problematic and will not lead to improvements if vulnerabilities are not addressed. Schipper and Pelling (2006) emphasize the need for addressing structural causes of vulnerability rather than having sectorial approaches towards climate change, Cohen et al. (1998) state that reducing inequality, vulnerability and poverty are all important for sustainable development, and Klein (2010) argues that full mainstreaming implies addressing the underlying factors of vulnerability to climate change. Additionally, according to Parry (2009), it is not effective and also too costly to simply have mitigation and adaptation strategies within traditional development pathways: the development paradigm should change fundamentally. Brown (2011) agrees by concluding that the problem of climate change essentially requires to develop new development strategies. Ayers et al. (2014) also criticize the approach where development plans are 'climate-proofed'. This approach is usually focused on providing technological solutions to adapt to climate change, but fails to address "underlying drivers of vulnerability, [...] maladaptation, [...] the potential of development interventions to achieve climate resilience" (p. 295). However, in the end they also conclude that there is not one specific approach that works best for mainstreaming, as both climate-proofing and addressing vulnerabilities help to increase resilience, but they emphasize the need for mainstreaming in national and sub-national processes. Lasco et al. (2009) would agree here, as they emphasize the danger of seeing adaptation as an outcome, because mainstreaming will not be effective if the whole development process is not consistent with adaptation objectives. This is also much in line of the definitions of

mainstreaming as proposed by Gupta and van der Grijp (2010) and Ayers et al. (2014), who focus on mainstreaming as a process. Taking all this input from the scholars into account, it is clear that there are clear problems with treating adaptation as an externality. This approach fails to address underlying vulnerabilities, can be costlier, does not focus on mainstreaming as a process and fails to challenge current development paradigms.

However, as 'adaptation plus development' or climate-proofing is clearly criticized, 'adaptation as development' is also not preferred by everybody. Eriksen and O'Brien (2007) point out that not every adaptation measure is helpful to reduce poverty, just as every action towards poverty eradication will not help combating climate change. Also Ayers and Dodman (2010) argue that viewing that 'adaptation is development' can be dangerous as not all adaptation is development and vice versa, but they argue that it is essential adaptation actions "incorporate development priorities in the context of a changing climate" (p. 167). These arguments are logical to understand, especially as the poverty example from Eriksen and O'Brien (2007) easily and clearly shows that both do not have to be the same.

Combining critiques from both the 'adaptation plus development' and 'adaptation as development', it seems that both are insufficient to explain the direction the majority of scholars would like to see with mainstreaming. A better alternative would be to frame ideal mainstreaming as 'adaptation through development processes'. This definition implies that climate adaptation can only occur through development so it needs to address the vulnerabilities, just as it is not one activity but a continuous process. Additionally, it does not treat adaptation to climate change and development as exactly the same thing. Moreover, it shows the clear links between climate change and development and emphasizes that climate change is indeed a development issue.

2.5. The role of mitigation in mainstreaming

When analyzing the integration of climate action into development planning, the focus is almost always on climate adaptation, as can be seen in the discussion above. However, when analyzing the linkages early on in this chapter, it was clear that mitigation actions and development pathways are interlinked. For example, Swart (2008) mentions that mitigation actions could have a negative impact on development, especially on reaching the MDGs, as these could lead to reduced income, reduced resilience and potential trade-offs with food production. However, the role of mainstreaming is barely described in the mainstreaming literature and also the relationship between mitigation and development is hard to find. As Brown (2011) states, mitigation actions that are beneficial for the poor are largely undescribed, only some discussion unraveled around the Clean Development Mechanism (CDM), Reducing Emissions from Deforestation and Forest Degradation (REDD) and low carbon development. Nevertheless, there are scholars that emphasize the need for mainstreaming climate mitigation actions into the development agenda too (see Hulme and Neufeldt, 2009).

One of the reasons why there is more of a focus on adaptation, as explained by Gupta (2009) is that poverty reduction and adaptation are more synergetic than poverty reduction and mitigation, especially as the latter possibly involves trade-offs. However, one can easily think of synergetic examples between mitigation and development as well. For example, decentralized solar power can both help mitigate climate change but also increase possibilities and living conditions of local communities. The same counts for measures that enable climate-smart agriculture, which can both reduce emissions and increase crop productivity. Another probable explanation for the main focus on

adaptation is the close relation in research fields. Both adaptation and development have roots in the social sciences, while mitigation has usually been described in the natural sciences: this makes it easier to see the synergies between adaptation and development compared to mitigation and development. Additionally, mitigation has often been framed as something that limits development, while new (technological) developments clearly show that there are vast opportunities in this field as well. Therefore, it would be ideal to also include mitigation actions in mainstreaming approaches, especially when trying to achieve full integration of climate action into the development agenda. This also makes the previously opted term 'adaptation through development processes' insufficient: as mitigation is crucial part of the mainstreaming process, a better phrasing would be 'climate action through development processes' as this would include both climate adaptation and mitigation.

2.6. Barriers and needs

Despite the fact that many scholars argue that mainstreaming is essential, they also recognize that it is not an easy process due to various barriers that hinder the process. One of the barriers, as stated by Lasco et al. (2009), is that climate change is not seen as a priority. It is seen as a long term problem while other issues have more short term impacts and are therefore seen as more prominent, which creates conflict between policy makers and climate advocates. This problem of differences in timeframes is also recognized by Swart (2003), Huq et al. (2006) and OECD (2009). Chevallier (2010) provides evidence for this from the African countries, who are in her view more concerned with short term economic challenges rather than prioritizing climate adaptation. She adds that for most actors involved in decision making regarding adaptation, climate change is not their primary concern. Brown (2011) provides another argument why this difference in timescale is problematic: if no long term projects are undertaken, the synergies between climate change and poverty reduction are not clear. This is an important argument, as taking climate action can be primarily seen as cost rather than a good investment. If decision makers have no insight in how their proposed plans would effect development in the long term, climate action can easily be approached as something that only costs extra (monetary) resources. For this reason, it is crucial to outline the synergies climate action and development have, otherwise there is a risk that only short term trade-offs will be highlighted and decisions are taken solely on the basis of this type of information.

In addition to the difference in time scale, other researches also identify another difference in scales. Robinson and Herbert (2001) and Huq et al. (2006) argue that the difference in geographical scale is also important: development occurs at the regional scale predominantly, while climate change is a problem of global proportions. This would also explain the closer links between adaptation and development compared to mitigation and development: adaptation has more positive impacts locally, while mitigation mostly provides benefits globally. What makes the picture more complex, is the uncertainty about the direct impacts of climate change at the national level (Lasco et al., 2009), something about which Janetos et al. (2012) state that has to be researched more. This uncertainty can lead to delaying climate action as it would not be seen as priority, or in failure to design adequate climate actions that can deal with uncertainties. In theory decision makers could also design strategies that apply the precautionary principle and make limiting climate change impacts the upmost priority, but this seems unlikely due to the likely high costs of these actions in the short term.

Another barrier, as Le Blanc (2015) points out well, is that policy coherence is not a natural process, but requires integrated thinking in development work. This problem is also

recognized by many other scholars. Burch et al. (2014) see the lack of policy coherence and integrated thinking as a main barrier to change the practice of development. Nilsson et al. (2016) and PAGE (2016) point out that policy makers are often still operating within their own sectors only, and PAGE (2016) adds that policy coherence might be a new thing which also lacks proper coordination mechanisms. Robinson and Herbert (2001) mention how the complexity of the many bureaucratic process prevent effective integration. Not only coordination at the national level is important, but as Chevallier (2010) and Lasco et al. (2009) emphasize, policies on the national level are not always reflected with action on the ground. These arguments all show that policy coherence, which is essential to the idea of mainstreaming, requires integrated thinking and coordination on different levels and in different sectors. Coming back to the point of Le Blanc (2015) who states that this is not a natural process, the lack of integrated thinking and coordination can be a barrier to adequate mainstreaming.

While the politics of mainstreaming is often hinted upon by focusing on priorities and policy coherence, it is barely concretely described as a barrier to the application of mainstreaming: only the research from Gupta (2009) described earlier focuses elaborately on the topic. There seems to be a general lack of focus on the desirability and feasibility of mainstreaming, making one question whether this is not an issue at all or just something that is not being investigated. The latter seems to be more logical as one can easily think of political barriers hindering the mainstreaming process: fear of mainstreaming climate finance in international development funds, mainstreaming might not be a important topic with voters, lack of coordination and consensus among political actors about integrated climate and development actions, and general lack of knowledge among political actors on climate change. With these issues barely being described in the literature, it remains hard to determine the extent to which they are important. In the remainder of this research one of these political issues hindering the process of mainstreaming will be elaborately addressed: the debate around climate finance.

Moving from the barriers to the needs, many different needs can be identified for mainstreaming activities. A list with the most prominent needs, mentioned most frequently, is shown below:

- Political leadership (UNEP-UNDP, 2011; Burch et al., 2014; Pasquini et al., 2014; World Resources Institute, 2015; CKDN, 2016);
- Involvement of key actors on different levels (OECD, 2009; Chevallier, 2010; UNEP-UNDP, 2011);
- 'Whole-of-government-approach' (OECD, 2009; World Resource Institute, 2015);
- Considering synergies and trade-offs (Burch et al., 2014; World Resources Institute, 2015);
- Monitoring and evaluation/transparency framework (Burch et al., 2014; World Resources Institute, 2015);
- Participatory/inclusive governance (Burch et al., 2014; Wright et al., 2014);
- Practical guidance for integration (Chevallier, 2010). Note that Wright et al. (2014) mentioned that enough of this existed for the agricultural sector and many policy guides have been described above. However, it can still be questioned whether these policy guides are actually being used by the practitioners in question.

Combining the insights from the identified barriers and needs, one can see a couple of common themes. It seems clear that good governance and coordination is needed for mainstreaming. This includes involvement of actors on different levels, political leadership and adequate communication between the different actors involved, all leading

to the 'whole-of-government-approach' as mentioned by OECD (2009) and World Resources Institute (2015). Interesting are also the topics of trade-offs and synergies. As stated earlier, dealing with trade-offs is not a key issue in most of the models and policy guides, but this section shows the importance of it. Due to the imbalance in time scales a clear overview of trade-offs and synergies between climate action and development might not always be directly clear and this makes it problematic to see the benefits of mainstreaming or design an adequate mainstreaming process.

2.7. Mainstreaming in practice: models and policy guides

The previous sections predominantly focused on a theoretical analysis of mainstreaming. These sections gave interesting insights in the concept of mainstreaming and how it should be conceptualized, according to scholars. However, these sections did not provide much information on how mainstreaming is actually applied in practice. While this will be a major point of analysis in this thesis, already various lessons can be drawn from the literature in this regard. This section will provide a summary of various models of mainstreaming that are described in the literature together with different policy guides that exist on mainstreaming. Together these will give a better idea of how the concept of mainstreaming is actually operationalized when designing a model or policy guide for practitioners of mainstreaming. Despite the fact that these models and policy guides differ in multiple aspects, it is interesting to compare them on the type of mainstreaming each of these describe. Therefore, Table 1 below provides this overview, followed by an explanation of the classification: Annex III provides a more elaborate explanation on the characteristics of each of the models.

Models	Type of mainstreaming	Audience	Mainstreaming method	Other information
Huq and Ayers (2008)	'Climate action through development processes'	Scientists / Mainstreaming practitioners	Step-by-step model	Reviewed by Ayers et al. (2014)
Janetos et al. (2012)	n.a.	General decision makers	Step-by-step model	Not a specific focus on mainstreaming
Fröde et al. (2013)	'Adaptation plus development'	Development practitioners	Step-by-step model	Specially developed for GIZ
Policy Guides				
USAID (2007)	'Adaptation plus development'	Development practitioners	Step-by-step model	Aims to inform non-climate experts to include climate change in the development projects
OECD (2009)	'Climate action through development processes'	Mainstreaming practitioners	General guidelines per governance level	Provides priority areas for mainstreaming at the national, sectorial, project, and local level
UNDP-UNEP (2011)	'Climate action through development processes'	Development practitioners	Step-by-step model	Aims to stimulate partnerships of stakeholders with the same (mainstreaming) interest
UNDP (2012)	'Adaptation plus development'	Development practitioners	Step-by-step model	Guide to assist United Nations Country Teams that are tasked with integrating climate risks and opportunities in national development processes
CKDN (2016)	'Climate action through development processes'	Implementers of NDCs	General guidelines	Guide for policy makers on how to plan NDC implementation

Table I. Overview of models and policy guides focused on mainstreaming

Four elements are included in Table 1: 'type of mainstreaming', 'audience', 'mainstreaming method' and 'other information'. These four elements describe various aspects of mainstreaming: how mainstreaming is conceptualized ('type of mainstreaming'), for whom it is aimed ('audience') and how it is operationalized ('mainstreaming method'). Additionally, the column with additional information often provides insights in why this particular model or policy guide was developed. Albeit not fully inclusive, as the table does not show any information on potential barriers or describes who would benefit from this process, it gives an idea how different scholars and academics operationalize the concept of mainstreaming.

Comparing these different models and policy guides is not an easy task, especially as their audiences are slightly different. There are ones that are directly targeted at development practitioners (USAID 2007; UNEP-UNDP, 2011; UNDP, 2012; Fröde et al., 2013), some that provide an overview of the overall process of mainstreaming and give general guidance and steps (Huq and Ayers, 2008; OECD, 2009), and others that quite generally describe the link between climate and development (Janetos et al., 2012) or focus on mainstreaming of NDCs specifically (CKDN, 2016). The way the information is presented can also be different: most of the researches provide stepwise instructions on integrating climate risk or mainstreaming, only OEDC (2009) and CKDN (2016) provide more general guidelines. Additionally, some have been tested and reviewed in practice (Huq and Ayers, 2008; UNDP-UNEP, 2011; UNDP, 2012; Fröde et al., 2013), while others have not or is it not directly clear whether they have been (USAID, 2007; OECD, 2009; Janetos et al., 2012; CDKN, 2016). However, since they all have a focus on mainstreaming, it is interesting to compare the different approaches towards mainstreaming that are taken. The following sections will highlight the major differences in these approaches, by analyzing whether these can be linked to the forms of mainstreaming described in the chapter on the theoretical analysis of mainstreaming.

As described in the previous chapter, three main ways of mainstreaming were identified. There was 'adaptation plus development' and 'adaptation as development' as described by Ayers and Dodman (2010), just as this research suggested the phrase 'climate action through development processes'. Interestingly, the models and policy guides can broadly be divided into these categories, which shows the differences between them well. They can even be specified into two categories, as 'adaptation as development' was not really implied by any of these models since they all see climate action and development not as exactly the same endeavor at all times.

The first category, 'adaptation plus development', fits well with the descriptions of USAID (2007), UNDP (2012) and Fröde et al. (2013). What these all have in common is that the first steps focus on assessing the climate risk before integrating it into the development plans and do not have a specific focus on reducing vulnerabilities. The model from Fröde et al. (2013) is also explicitly called 'Climate Proofing for Development' which emphasizes the idea that climate change is treated as an externality to development. All three also focus on the development community as audience, which makes the idea of treating climate change as an externality not surprising. Where the three differ is on the focus of mainstreaming as a process or as a stand-alone activity: USAID (2007) focuses on mainstreaming in specific plans only, just as UNDP (2012) is focused on documents solely, while Fröde et al. (2013) stress the importance that climate-proofing should not be a stand-alone activity.

The second category, 'climate action through development processes', fits better with the models and policy guides from Huq and Ayers (2008), OECD (2009), UNDP-UNEP (2011)

and CKDN (2016). Despite this being a diverse group in its own, all these models and policy guides do not treat climate change as an externality explicitly. Additionally, they all have a more comprehensive approach towards mainstreaming rather than focusing on mainstreaming in one plan or document. They all focus on mainstreaming as a continuous process or envision mainstreaming as a long term process and emphasize that addressing structural causes, such as reducing vulnerabilities, is something vital to do. Huq and Ayers (2008) and UNDP-UNEP (2011) also describe very similar mainstreaming steps, by first focusing on raising awareness, then on mainstreaming in current policies or projects and end with a more structural approach for mainstreaming in different processes and sectors. OECD (2009) and CKDN (2016) do not have a step-by-step process but both describe priorities that show a more holistic approach towards mainstreaming. OECD (2009) for example emphasizes the need for a 'whole of governance' approach, just as it envisions the integration of climate risks in long term development visions. CKDN (2016) emphasizes the importance of integrating NDCs in the development agenda, which is done by ensuring that development plans and strategies are linked to the targets of the NDC. The NDC can be a stand-alone document, but development plans have to be linked on a continuous basis. All these documents mentioned here seem to approach mainstreaming in a more structural manner and address more fundamental issues within the development processes, rather than treating climate change just as an externality to the current development process as the 'adaptation plus development' group seems to prefer.

The model from Janetos et al. (2012) is a bit different from the others, as it does not really focus on mainstreaming, and is therefore hard to fit in Table I above. However, it does provide a very valuable input that other models and policy guides often neglect, because it focuses on trade-offs next to synergies. Although none of the models and policy guides would say that mainstreaming is an easy endeavor and that there are no challenges to overcome, only the model from Janetos et al. (2012) provide a method to deal with trade-offs explicitly. Dealing with trade-offs is something to not forget, as these will likely be present in many cases when implementing mainstreaming.

2.8. Mainstreaming in practice: Lessons from Bangladesh and Philippines

This section investigates two cases that have been described in the literature with regards to mainstreaming climate action into the development agenda: the cases of Bangladesh and the Philippines. All the information on the Bangladeshi case is a summary from the findings of Ayers et al. (2014). Something similar applies to the case of the Philippines, where all the information comes from Lasco et al. (2009). The reason to include these case studies is two-fold: to see whether mainstreaming actually occurs in practice and how the research is conducted. In the end it is vital to understand how mainstreaming is being implemented since valuable lessons can be learned about the implementation of mainstreaming that cannot be theorized.

2.8.1. Bangladesh

As acknowledged by many, Bangladesh is very vulnerable to the effects of climate change, which makes it not surprising they aim to mainstream climate action into the development agenda. It was one of the first countries to develop a National Adaptation Programmes of Action (NAPA), although this was a stand-alone document and was produced due to international preference rather than national will. Afterwards, with the help of several development agencies, Bangladesh developed the Bangladesh Climate Change Strategy and Action Plan, which is still the main document on climate change today. The plan consists of climate-proofing measures, but also has an integrated focus and outlines how to

build resilience in the long term in different sectors. The main development objectives are outlined in the National Perspective Plan, Vision 2012 and corresponding 5 Year Plans. These documents all have specific chapters on climate change and aim for sustainable development. Additionally, climate change is also integrated in sectorial programmes such as the National Agricultural Policy, National Water Management Plan and coastal zone management programmes. Hence, Bangladesh now approaches mainstreaming from two sides: addressing development issues in climate change plans and integrating climate risk into development planning.

Ayers et al. (2014) see that Bangladesh has made significant progress with all the four steps described in the framework from Huq and Ayers (2008) and that a much more integrated approached is taken than before. As a final conclusion they suggest to use the framework together with other policy guides, but also to expand it by including how policy makers at sub-national levels can include adaptation in development planning.

2.8.2. Philippines

While Bangladesh is a relatively successful case with regards to mainstreaming, Lasco et al. (2009) describe a very different experience with the Philippines. Their main conclusion is that there is no mainstreaming occurring in the Philippines. Using the MDG agenda, they researched development plans but they only found a few references to climate change and no specific goals. If there were references to climate change, these were mostly oriented towards mitigation actions. However, there is already a focus on adaptation in the form of direct responses to extreme weather events. The Philippines is much vulnerable to extreme weather events such as tropical cyclones and policies are already in place that deal with the effects of these events. Therefore, strong commitments to limit the impacts of extreme weather events could be "a viable entry point for mainstreaming" (p. 139). The main reasons Lasco et al. (2009) point out that prevent mainstreaming are the lack of knowledge around climate change and, as other issues require a more short-term response, climate change is not seen as a priority.

2.8.3. Comparison cases Bangladesh and Philippines

The differences between the two case studies are striking and simple to observe. The cases of Bangladesh and the Philippines describe two completely opposite cases with regards to the status of mainstreaming. However, one should only keep in mind the difference in years these researches took place (2014 vs. 2009): the situation in the Philippines might be different now. Nevertheless, they remain interesting cases to compare, with the current knowledge available, especially considering the fact that both are clearly vulnerable to the effects of climate change but choose different ways to deal with this. Bangladesh approaches mainstreaming both through development and climate plans, having a mix of climate-proofing approaches and more systematic integration of climate vulnerabilities in sectorial plans. However, the Philippines does neither, but only adapts to the impacts of climate change on an ad-hoc basis. The Philippines approach therefore does not qualify as climate-proofing development, because this implies an assessment of climate risks when preparing a development plan at the start.

The approaches Ayers et al. (2014) and Lasco et al. (2009) take in doing their research are quite similar. In their analysis, Ayers et al. (2014) state that the main purpose of their paper is to review the model developed by Huq and Ayers (2008). At the time the model was developed, mainstreaming was not being done at a large scale yet, and the Bangladeshi case provided a good opportunity to review the model with lessons learned from practice. Ayers et al. (2014) mostly performed a literature research together with interviews with

government officials, non-governmental organizations and donors to analyze the way mainstreaming occurs in Bangladesh. Lasco et al. (2009) did not use a model, but qualified successful mainstreaming on the basis of the definition of Persson and Klein (2008): 'integration of policies and measures that address climate change into development planning and sectorial decision-making'. For this, they reviewed several plans and conducted interviews with relevant experts. Just as Ayers et al. (2014), they interviewed officials from both the government and non-governmental organizations, only not from donor organizations.

2.9. Conclusion

When analyzing all the different conceptual elements of mainstreaming discussed in this chapter, an interesting picture arises. To make it easy, there are actually quite a number of things a major part of the scholars agrees upon: (1) there are clear, albeit complex, linkages between climate change and development; (2) mainstreaming can be defined as, in broad terms, the integration of climate action into the development agenda; (3) full integration of climate action into the development agenda is needed to address underlying vulnerabilities; (4) therefore, treating climate change as an externality to development will not be sufficient; (5) main focus is upon mainstreaming adaptation, rather than mitigation. Additionally, although less has been written about this and therefore one has to be a bit more cautious here, there also does not seem to be disagreement about the idea that mainstreaming should be treated as a process rather than an outcome and the idea that adaptation and development are not the same thing per se. The opted phrase 'adaptation through development processes' could be a better explanation for the general agreement in the literature, since both 'adaptation plus development' and 'adaptation as development' are problematic. This phrase could be further optimized by including mitigation in in too: therefore, 'climate action through development processes' makes the most sense in the end. Despite the fact there is not much focus on mitigation in the literature, the linkages between mitigation and development are clear and if full mainstreaming is tried to be aimed for, the inclusion of mitigation is logical.

However, the analysis of mainstreaming in practice gives a slightly different picture. When analyzing the different models and policy guides, the division made between 'adaptation plus development' and 'climate action through development processes' can actually be applied to the various models and policy guides made. The models and policy guides do show clear differences in their approaches towards mainstreaming by having a more climate-proofing approach or a more comprehensive development approach. The cases of Bangladesh and the Philippines also show new and different ways of climate action and development: a combination of climate-proofing and a more systematic integration of climate vulnerabilities in sectorial plans (Bangladesh) or ad-hoc responses to climate change events (the Philippines). Therefore, while the scholars seem to argue for a more structural approach for mainstreaming, which this research labeled as 'climate action through development processes', this is not always implied by the implementation methods described in this chapter.

This all adds to the fact that challenges remain for mainstreaming in practice. As outlined earlier, the differences in time and geographical scale for climate action and development, just as the fact that policy coherence is not a natural process, make that the mainstreaming process is not an easy endeavor. Necessary focal areas, such as good governance and coordination and analyzing the synergies and trade-offs between climate action and development remain essential for adequate implementation. These factors show that systematic integration of climate action into the development agenda, as argued for by

many scholars, might be very difficult to achieve. The need for good governance and coordination also puts more emphasis on the governmental difficulties around the concept of mainstreaming.

One must also be cautious with this general agreement in the literature about the need for mainstreaming. As stated in one of the earlier paragraphs, there is not much attention on the politics of mainstreaming in a large part of the literature. This could be a crucial issue hindering mainstreaming as political will is necessary to integrate climate action into the development agenda. Additionally, something as simple as climate change not being a priority could hinder mainstreaming happening on the ground as well. Most of the literature described here focus on the theoretical and (partly) practical linkages between climate and development, rather than on the political reality. While it does not make much sense to debate the synergies between climate change and development, the politics of mainstreaming is worth examining. Therefore, this will be done more thoroughly in the chapter on mainstreaming at the international level in the section focused on climate finance.

2.10. Analytical framework

In previous sections, various types of mainstreaming have been described. However, it might not be instantly clear how these approaches differ. Therefore, Table 2 provides an overview of the main characteristics of each type of mainstreaming. As one can see, five different types of mainstreaming are listed: 'no mainstreaming', 'ad-hoc responses', 'climate-proofing development', 'climate action through development processes' and 'climate action as development'. Three of these types were directly taken from the literature: 'ad-hoc responses' is based on the mainstreaming approach the Philippines takes as described by Lasco et al. (2009), while 'climate-proofing development' and 'climate action as development' are (predominantly) described by Ayers and Dodman (2010). One new category added, and simple to understand, is 'no mainstreaming'. This category is very similar to 'ad-hoc responses' as it does not aim for a systematic integration of climate action in the development agenda. Where the two differ is that 'ad-hoc responses' clearly address climate change after an event caused by climate change, while with 'no mainstreaming' this might happen, but only indirectly and not on purpose.

Characteristic	'No mainstreaming'	'Ad-hoc responses'	'Climate-proofing development'	'Climate action through development processes'	'Climate action as development'
Understands links between climate change and development	Maybe	Maybe	Yes	Yes	Yes
Addresses climate change impacts	Maybe	Yes	Yes	Yes	Yes
Integrates climate action into development	No	No	Yes	Yes	Yes
Assesses climate risks beforehand	No	No	Yes	Yes	Yes
Climate change is seen as a priority	No	No	Maybe	Yes	Yes
Sees mainstreaming as a process	No	No	Maybe	Yes	Yes
Mainstreaming in international development only, not in national development	No	No	Maybe	No	No
Addresses underlying vulnerabilities	No	No	No	Yes	Yes
Has a long term focus	No	No	No	Yes	Yes
Approaches climate action and development as the same	No	No	No	No	Yes

Table 2. Framework of types of mainstreaming, categorized by most important characteristics

The second new category is 'climate action through development processes', which is a category designed to fit the most preferred form of mainstreaming as described by the majority of scholars. It combines critiques from both the 'climate-proofing development' and 'adaptation as development' approaches, as it seems that both are insufficient to explain the direction the majority of scholars would like to see with mainstreaming. 'Climate-proofing development' lacks the need to address underlying vulnerabilities and the idea that mainstreaming should be seen as a process, while 'adaptation as development' suggests that climate action and development are always the same endeavor, which scholars do not agree upon. Additionally, both fail to include mitigation in their approaches, while this should be a crucial part of the mainstreaming process. Therefore, the phrase 'climate action through development processes' seems to combine most of the critiques of the scholars and be the most appropriate fit. This term shows the clear links between climate change and development and emphasizes that climate change is indeed a development issue, just as it addresses the idea that mainstreaming is a process and includes both climate mitigation and adaptation.

Importantly, while many scholars would favor the idea of 'climate action through development processes' this analytical framework does not judge one approach of mainstreaming to be better than others. It merely provides insights in the degree and methods of mainstreaming. The reason for this, as Ayers et al. (2014) point out, is that many approaches can work (together) and there is no single best approach to mainstreaming, as all can increase resilience to climate change. Within a country there are multiple processes going on in which climate action needs to be integrated and one approach fits better than the other in different cases. For example, for some actions climate action and development might actually be the same, while on the other hand addressing underlying vulnerabilities might not always be needed if a comprehensive system is already in place for this. Therefore, also taking into account that countries are in various stages of development, the characteristics listed merely function as identification of a type of mainstreaming rather than being a scale from 'worst' to 'best'. Moreover, the analytical framework must not be seen as something rigid, but merely as an indication of the degree of mainstreaming a country pursues: using this analytical framework should always be supported by a more open contextual analysis of the method of mainstreaming described.

The analytical framework will be used in this research to help understanding the conceptualization of mainstreaming in policy documents. The focus will be on how mainstreaming is described and how one can interpret this. However, the analytical framework does not help in answering some of the fundamental questions about mainstreaming. For example, it does not help in determining why mainstreaming occurs or who will benefit from the process. It rather focuses on what type of mainstreaming occurs and how this is conceptualized. Answering these other fundamental questions is essential for an adequate understanding of mainstreaming, but is beyond the scope of this research. Some speculations can be made to answer these questions, but to give a more comprehensive answer, in-depth country case studies need to be undertaken.

In the remainder of this research the identified characteristics will be used to define in each of the three analyses how mainstreaming is conceptualized. The descriptions of mainstreaming in each of these analyses will be examined in order to determine how it fits in one of the categories, if appropriate. While the characteristics form the basis of this classification, other analyses might apply as contexts can differ among these analyses. These analyses will give a more comprehensive picture on how mainstreaming is

conceptualized at various levels and by different countries. This will all contribute to a better understanding of the relationship between climate action and development through the lens of mainstreaming, as with these characteristics described, more can be said about this relationship rather than looking at the specific phrasings only. It provides more context on this relationship and it provides a framework to which the different conceptualizations and operationalizations of mainstreaming can be compared to.

3. Methodology

The previous chapter gave valuable insights in the theory and implementation of mainstreaming, resulting in the creation of an analytical framework. This analytical framework will be used to support the three analyses this research will undertake: (1) analysis of mainstreaming in international environmental agreements, (2) analysis of the coverage of the SDGs in the (I)NDCs, and (3) country case studies of Cambodia and Kenya to determine to what extent climate action is mainstreamed in sectorial development policies. For these analyses the analytical framework will be used to indicate the type of mainstreaming described, but this will not be the only type of research undertaken. In order to better understand the relationship between climate change and development a more thorough analysis is needed. Therefore, the follow sections highlight the main other types of research undertaken and which methods are used to achieve this, just as explaining what limitations each analysis has.

3.1. Mainstreaming in international environmental agreements

The primary method of analyzing mainstreaming in international environmental agreements is via document analyses. The official international climate agreements (UNFCCC, Kyoto Protocol and the Paris Agreement) are investigated upon their references to mainstreaming and sustainable development, while for the SDGs the focus is on mainstreaming and climate action. In all documents a keyword search is performed to find these linkages and analyzed in their context accordingly. Based on the phrasings in these international documents, an analysis is made on how mainstreaming and synergies between climate action and development are addressed at the international level. In addition, a literature review is performed to have a more complete picture of these documents together. For the discussion on climate finance, the analysis is primarily based on a literature review. As the international discussions around climate finance form a key barrier to mainstreaming, the key elements of this debate will be highlighted.

One key element is missing in such an analysis, namely the discussions which have lead to the creation of these international agreement. In discussions leading up to the creation of these documents often many topics are being negotiated and the final document could therefore also not include specific topics for various reasons. For example, some topics can be politically disputed or not being found relevant enough for a number of countries and hence not being included in the final document. Moreover, if the topic is included, it is not always easy to determine how the exact phrasing has been formed and therefore also missing out key elements in the negotiation. With an analysis solely focusing on the phrasings in these documents, one leaves out the full negotiation process lying behind this. However, it is beyond the scope of this research to fully investigate all these processes and therefore the main focus lies on the final statements in the international agreements.

3.2. (I)NDCs analysis

The (I)NDCs are analyzed upon their relation with the SDGs. There are 17 SDGs and 169 corresponding targets, but the focus will be on the themes of the 17 SDGs. The main reason for this is that most (I)NDCs were written before the SDGs were finalized and accepted, thus the two agendas will often not be explicitly linked in the (I)NDCs. Moreover, the (I)NDCs are written in a different manner and therefore will not address the SDGs in similar ways: if one would use specific keywords, there is a large chance something will be missed. Nevertheless, based on the targets and the goals a list with keywords was formed to understand when a Party covers an SDG or not: Annex I shows a detailed list of when an (I)NDC covers an SDG or not, while the list with keywords can be found in Annex II.

Taking into account the earlier comment, it is important to note is that these keywords were analyzed in context of the (I)NDC by reading all the documents. Keywords searches are also performed to look for mentioning of the MDGs, SDG and mainstreaming efforts.

However, this approach also has various flaws. First of all, if a country only describes an action in one sentence while another country has a full page dedicated to a certain sector, the database does not distinguish between this. Both countries count as having covered the specific SDG, while one has a more elaborate plan in place than the other. This also relates to a second flaw, as no difference is made between the degree of actions. One country could have an adaptation plan in place addressing a certain sector while another has a very concrete action including quantified targets: both count as the same type of coverage. Therefore, 'coverage' in this research is broadly interpreted. Further analyses could be done to distinguish between various types of coverage, but this is beyond the scope of this research. These further analyses should also be done with caution, as one should take into account that this is only information coming from the (I)NDCs in the end. An action could be very brief in the INDC but being backed by a complete set of other action plans, while a more elaborately explained action in the INDC could also not be backed by any sectorial plans. This is also one of the reasons, next to time constraints, that this research does not distinguish further but just focuses on actions as forming the sole basis of determining the coverage of SDGs in the (I)NDCs.

Using the analysis described in the first paragraph of this section, a database was created, basically showing a matrix of 162[2] (I)NDCs by 17 SDGs. This database formed the basis of further analyses of which the results are shown in this research. A first analysis focused on the general coverage of all the SDGs by all the countries that submitted an (I)NDC. Secondly, the countries were divided based on geographical region, income group and (non-)Annex I countries and the results among the different groups were compared. Thirdly, an analysis of the major topics covered per SDG was made. This analysis focused on defining the major topics covered under each SDG and analyzing how these aligned to the targets of the SDGs. Unfortunately, an extensive target analysis is beyond the scope of this research and therefore this analysis focused on whether the target was covered by a majority of countries or not. The fourth and final type of analysis is determining the relationship between the number of SDGs covered in the (I)NDCs and how mainstreaming is described.

3.3. Country case studies

The countries that have been selected for case study analysis are Cambodia and Kenya. As the main idea behind this case study analysis is to compare types of mainstreaming, the selection was based on finding countries that are relatively similar and both aim to mainstream climate action into the development agenda. To do this, the countries were selected through various phases. First, as the goal is to compare mainstreaming approaches, countries were selected upon two criteria: high SDG coverage in the NDCs (at least 15 out of 17 SDGs covered) and explicitly mentioning the aim to mainstream climate action into the development agenda. There are a 100 countries (out of 162) that mention mainstreaming and 32 that have coverage of 15 or higher: combining these together leaves a group of 29 countries. The second round of selection was more practically oriented.

[2] Three INDCs are not analyzed. The INDC from Iraq could be not translated from Arabic, just as the INDCs from Uzbekistan and Timor-Leste were submitted after the database was finalized to start making the various analyses for this research.

Firstly, the Philippines was excluded as this case had already been described by Lasco et al. (2009). Secondly, countries were excluded on basis of the language the (I)NDC was written in or the official languages of the country: if this was French of Spanish these countries were excluded from. At the end of the second round, these were the 17 countries left: Cambodia, Eritrea, Gambia, India, Indonesia, Jordan, Kenya, Malawi, Myanmar, Nigeria, Saint Vincent and the Grenadines, Somalia, South Africa, South Sudan, Viet Nam, Namibia, and Zambia.

The third round of selection was based on common characteristics. As this research solely focuses on analyzing mainstreaming and synergies between climate action and development at the national level, it is ideal if other variables are roughly the same. This is also based on the 'most similar method' as described by Seawright and Gering (2008), as they state that with this method ideally all independent variables are similar, except the independent variable of interest. The 17 countries were compared on the following criteria: income group/GDP per capita, populations size, net ODA received as percentage of GNI and CO_2 emissions per capita (all based on data from the World Bank), and climate vulnerability as defined by the Global Climate Risk Index 2017 made by German Watch. Based on this analysis, there were two countries that had very similar scores on these criteria for four out of five categories: Cambodia and Kenya. Therefore, these two countries were selected for the case study analysis of this research.

In the analysis of the case studies the main focus is on alignment of the NDC with sectorial strategies, plans and policies. This is a more in-depth research of the information that is presented in both the NDCs as both countries have a high SDG coverage and mention explicitly that mainstreaming will be pursued. Therefore, this research focuses on analyzing whether the goals outlined in the NDC compare with the goals outlined in the overall development strategies and sectorial strategies, how the process of mainstreaming is organized in the country and what type of mainstreaming is being pursued, using the framework outlined at the end of the conceptual framework. The relevant national climate and development strategies, plans and policies were selected from various sources: official country documents submitted to the UNFCCC, government websites, and development policies listed in the database from FAOLEX (http://www.fao.org/faolex/en/), the Graham Research Institute on Climate Change and the Environment of the London School of Economics and Political Science (http://www.lse.ac.uk/GranthamInstitute/research-theme/governance-and-legislation/), and the Climate Policy Database developed by the NewClimate Institute (http://www.climatepolicydatabase.org/).

Nevertheless, this approach also has limitations. Most importantly, this does not give a full overview of the process of mainstreaming in both countries. The focus lies on alignment of sectorial strategies with the NDCs, while the process is obviously much broader. This is just the start of an analysis on mainstreaming in these countries and in order to get a complete overview country visits and interviews with relevant actors would be necessary. However, that is beyond the scope of this research. Additionally, the current analysis only focuses on national policies and not on sub-national or local policies or even the implementation of these policies. Therefore, only careful conclusions can be drawn from the case studies as something stated on paper does not imply it would also be implemented. Lastly, not all relevant policies are accessible for the case studies in both countries in order to get a complete overview of the sectorial alignment with the NDCs. Despite all these limitations the policy analyses still give an insight in the complexities of mainstreaming, both content wise and procedural, as the alignment of the sectorial

strategies do show whether mainstreaming is only something said to be done or actually occurring within the various ministries.

Finally, an overall limitation of this research lies in the fact that it primarily focuses on policy analyses. While a diverse set of international and national policies are examined, these documents do not always represent an accurate view of reality. One of the major drawbacks by focusing on policy analyses predominantly is the lack of focus on trade-offs. Usually policies only shed a light on the positives and benefits of actions and barely address the potential challenges and trade-offs of them. Other research would be needed to complement this research to get a more comprehensive picture. Additionally, as earlier stated when describing the analytical framework, not all aspects of mainstreaming will be addressed. The focus of this research is on the conceptualization and operationalization of mainstreaming, rather than on its feasibility and desirability. While the latter two are definitely important, due to the setup of this research, only limited information can be provided to adequately answer the questions of feasibility and desirability of mainstreaming.

4. Mainstreaming in international environmental agreements

As described in the introduction, 2015 was a milestone for international environmental governance. The adoption of the Paris Agreement and the SDGs both provide clear indications that climate action is urgently required and that it is also needed to pursue sustainable development. However, while both agendas emphasize this, it is not immediately clear to what extent these agendas focus on mainstreaming and describe the interrelation of climate action and development. To have a better understanding of the relationship of these two concepts, this chapter will make an analysis of how both are conceptualized at the international level.

To do this, this chapter is divided into three parts. The first part focuses on the international climate regime. It focuses on how the UNFCCC, Kyoto Protocol and the Paris Agreement highlight mainstreaming and relate to (sustainable) development, but it also explains the interesting case of the National Adaptation Programmes of Action (NAPAs). The second part focuses on the international development agenda. This part will predominantly analyze the integration of climate change in the different SDGs and their corresponding targets and see how this is different compared to the MDGs. The third part focuses on the important debate around climate finance and official development assistance (ODA), which is crucial to understand the (political) criticisms around mainstreaming. Together these sections provide valuable insights for the concept of mainstreaming and how at the international level climate action and development are related.

4.1. Mainstreaming and synergies in international climate agreements

The international climate regime originates from around the late 1980s. From 1995 onwards, there have been annual meetings in the form of the COPs which are the official climate change negotiations under the UNFCCC. The UNFCCC was signed in 1992 and came into effect in 1994, and provides the international framework for climate action. At this point in time, the relationship between climate change and development was already discussed, most notably by the well-known Brundtland Report 'Our Common Future'. Therefore, it is not surprising the UNFCCC emphasizes on this connection in multiple ways. First, it mentions the principle of common but differentiated responsibilities and respective capabilities in the preamble and acknowledges that emissions in developing countries will still grow to meet their development needs. Second, the famous Article 2 ("stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system") states that this stabilization would inter alia enable economic development in a sustainable manner. Third, Articles 3.4 and 3.5 make explicit references to sustainable development and both mention that this should be promoted. In the light of mainstreaming, the UNFCCC already made several references related to the integration of climate change into development planning. It states that "responses to climate change should be coordinated with social and economic development in an integrated manner with a view to avoiding adverse impacts on the latter" (preamble, p. 6) and that "policies and measures to protect the climate system against human-induced change [...] should be integrated with national development programmes" (Article 3.4, p. 10). From all this together, it is clear that the UNFCCC sees the synergies between climate change and development, but it (implicitly) also shows the complex relationship between the two. On the one hand it acknowledges that developing countries' emissions will grow in their efforts to pursue development, but on the other hand it states that dangerous levels of greenhouse emissions should be prevented to enable economic development. This reasoning is in line with Roman et al. (2012), who refer specifically to the convention by confirming the link between

development and climate change, but they also emphasize the conflict between the two and the lack of practical linkages: the last argument, however, is not the most relevant, as the UNFCCC must be seen as a fundament on which action plans are ought to be build upon, not as a clear action agenda. Next to making the linkages explicitly clear, the UNFCCC also states in clear language the need for mainstreaming. Hence, both the relationship between climate change and development and mainstreaming are well-addressed in the UNFCCC.

To extent upon the UNFCCC and provide more specific mitigation targets, the Kyoto Protocol was negotiated. However, while the UNFCCC quite clearly states the need for integration, the Kyoto Protocol is not so explicit about this. There is nothing specific on mainstreaming: the only thing that comes close is the reference to the formulation of adaptation plans for different sectors, written down in Article 10.b. There are references to sustainable development, by for example reaffirming the principle of common but differentiated responsibilities. Moreover, it is also mentioned in two articles, but these only relate to Annex I countries: Article 2 elaborates on different sectorial strategies for Annex I countries that can be pursued to reach their set targets but also to promote sustainable development, and Article 12 explains how the Clean Development Mechanism can help achieve sustainable development for Annex I countries. Hence, one can see a difference in target group here, as the Kyoto Protocol is clearly more aimed at actions for developed countries only than the UNFCCC.

In the years after the Kyoto Protocol got adopted, occasional references were made during the COPs that relate to mainstreaming. The Delhi Declaration, produced at COP 8 in India and which focused on climate change and sustainable development, states that climate policies need to be integrated with national development programmes (Huq et al., 2006). The Bali Action Plan (2007) mentions "means to incentivize the implementation of adaptation actions on the basis of sustainable development policies" (p.5) and while the Copenhagen Accord (2009) does not mention mainstreaming, the issue was much debated during its negotiations (Klein, 2010). Unfortunately, the Copenhagen (COP 15) negotiations were unsuccessful and the future prospects of global international climate agreement looked gloomy directly after this conference. However, at COP 16 in Cancun countries agreed upon to continue to negotiate within the international forum under the UNFCCC. This also lead to the decision adopted by the countries at COP 17 in Durban, which stated that there should be a universal legal agreement on climate change no later than 2015. This came in form of the most important agreement of the climate change regime today, agreed upon at COP 21: The Paris Agreement.

Clear references to sustainable development are made in several parts of the Paris Agreement. To highlight a few: In the preamble the agreement emphasizes "the intrinsic relationship that climate change actions, responses and impacts have with equitable access to sustainable development and eradication of poverty" (p. 1), Article 2.1 focuses on the implementation of the UNFCCC "in context of sustainable development", and Article 4.a states that all Parties should aim "to promote the mitigation of greenhouse gas emissions while fostering sustainable development". Compared to the UNFCCC and the Kyoto Protocol, the Paris Agreement makes the most frequent and most explicit linkages to sustainable development. Interestingly, it does not make any references to the SDGs, despite these being adopted a couple of months before the Paris Agreement was negotiated, so there was the opportunity to link both agendas. With regards to mainstreaming, only Article 7.5 makes a reference to this. It states that Parties should have a "view to integrating adaptation into relevant socioeconomic and environmental policies

and actions, where appropriate". While this is a more explicit mentioning than in the Kyoto Protocol, it is less strongly phrased than in the UNFCCC; on mainstreaming, the Paris Agreement writes about a "view to integrating" and "where appropriate", while the UNFCCC states "should be integrated". This might only seem as a small difference, but in legal terms this is significant and often these seemingly minor differences to the outside world can be debated heavily internally.

Analyzing all the documents together, it is clear that countries clearly see the link between climate action and sustainable development. Throughout the years, the UNFCCC, the Kyoto Protocol and the Paris Agreement all explicitly emphasize, albeit in different ways, how climate action can contribute to sustainable development. For mainstreaming, the case is a bit differently. The UNFCCC makes the clearest references to it, followed by the more vaguely formulated article in the Paris Agreement, to no statement in the Kyoto Protocol. Comparing the phrasings of mainstreaming in the UNFCCC and the Paris Agreement using the elements described in the analytical framework of this research, one can derive several conclusions. First, both agreements see the need for mainstreaming, but do not see climate action and development to be the same: the idea of 'climate action as development' is not implied by the UNFCCC and the Paris Agreement. Second, while the UNFCCC refers to 'responses to climate change', the Paris Agreement only mentions climate adaptation. This gives more weight to the idea of 'adaptation plus development', as described by Ayers and Dodman (2010) for the type of mainstreaming described in the Paris Agreement. The category of 'climate action through development processes' might be the best fit for the type of mainstreaming describe by UNFCCC as it explicitly focuses on integration in national development programmes, while the Paris Agreement is vaguer on this by only referring to 'policies and actions'. However, thirdly, the Paris Agreement does refer to 'relevant socioeconomic and environmental policies', while the UNFCCC only mentions 'social and economic development'. In this regard the Paris Agreement seems to take a more inclusive approach compared to the UNFCCC. Therefore, despite these three differences, it is difficult to categorize the types of mainstreaming described in both agreements. The phrasings are not much elaborated upon, which makes it hard to determine the type of mainstreaming aimed for. To what extent these differences matter will be elaborated upon later in this chapter, as the discussion on climate finance plays a vital role in the political sensitivity of the idea of mainstreaming.

Through the analysis of international climate agreement, one can say that countries do see the importance of mainstreaming, although they express it cautiously. Something to keep in mind when reading these documents, as outlined by Ayers and Dodman (2010), is the change of perspective on climate change throughout the years. When climate change was addressed for the first time by the UN General Assembly in 1988 and in the years that followed directly afterwards, the focus was mostly on mitigation and not on adaptation. The main reason for this was the belief that adaptation would conflict with mitigation: adaptation was not aimed at 'solving' the problem while mitigation was, the local focus of adaptation was not in line with the global focus of mitigation, and the perceived low costs of adaptation could prevent taking mitigation action. This changed over time as the effects of climate change became more visible and hence the need for adaptation became more urgent. Developing countries also put on pressure to focus on adaptation during the conferences, which is especially visible in the negotiations around the Copenhagen Accord. Therefore, it is also not surprising the Kyoto Protocol does not focus on mainstreaming, as the main international political attention in those years was on mitigation efforts. In the years afterwards, and especially in the negotiations up to Copenhagen (COP 15) it became a more prominent issue again since adaptation was higher

on the agenda too. The Paris Agreement now even has an article on loss and damage, which are the impacts of climate change not being prevented by mitigation or adaptation efforts, showing that the focus is not solely on mitigation anymore, but that the agenda has a much broader reach.

Case Study: NAPAs

In interesting case study when analyzing mainstreaming in the international climate regime comes from Hardee and Mutunga (2009). They analyzed to what extent the NAPAs are in line with national development strategies. NAPAs are plans developed by Least Developed Countries (LDCs) to show the country's urgent adaptation needs and are submitted to the UNFCCC secretariat. The (informal) guidelines for NAPAs clearly state the need for mainstreaming them into the development agenda (LEG, 2002). However, the analysis from Hardee and Mutunga (2009) shows that, although all NAPAs have a chapter on the link with development planning, they are often actually not aligned: 76% of the analyzed documents provide a vague linkage and only 24% provide a clear linkage. Based on their research, they provide two relevant recommendations: countries need to change the way of coordination between environment/climate change ministries and planning ministries and there needs to be a mix of long term strategies and short term adaptation projects. Burton and van Aalst (2004) give two reasons why mainstreaming did not occur using the NAPAs: mainstreaming guidelines where only provided in the annexes and there was limited funding to prepare the NAPAs. These researches are already several years old, so the situation regarding mainstreaming might now be more positive: in this light, an interesting contribution comes from Wright et al. (2014), who write that mainstreaming in agriculture now also occurs using these NAPAs. However, it is uncertain to what extent the percentages provided by Hardee and Mutunga (2009) have changed. This research shows that even with clear guidelines from international agreements, this does not mean mainstreaming will actually happen. Although this sounds obvious when understanding that these agreements are made by a consensus model, it is still important to highlight. The references made to mainstreaming in the several international climate agreements analyzed are valuable as they show countries collectively understand the linkage between climate change and development, but do not say anything about the implementation nationally. Therefore, the two case studies described later in this research will elaborate on these findings of Hardee and Mutunga (2009) and provide more insights into the national processes to have a better understanding about climate action and development endeavors.

4.2. Mainstreaming and synergies in the MDGs and SDGs

The MDGs were adopted in 2000, derived from the United Nations Millennium Declaration that outlined objectives for the new millennium. World leaders agreed upon a common agenda that addressed in their view the most pressing issues hindering development. However, despite the fact that the Kyoto Protocol was adopted a couple of years before the MDGs, Ayers and Dodman (2010) are correct by stating that there is no clear reference to climate change in the agenda. MDG 7, which focuses on environmental sustainability, comes closest to the topic of climate change but does not make an explicit reference to it. Importantly, Le Blanc (2015) points out that targets under MDG 7 have not been reached and progress towards other goals even hampered reaching it (Le Blanc, 2015). Target 7a does make an interesting (implicit) reference to mainstreaming, by stating to "integrate the principle of sustainable development into country policies and programs". When interpreted broadly, this would also count for climate action, despite the fact that climate action is not mentioned. Fankhauser and Schmidt-Traub (2011) critique the MDGs

because they assumed stable climate conditions in developing countries, causing that the costs to achieve them were underestimated. Based on this, inclusion of climate action in the MDGs could have lead to a better estimation of costs. Nevertheless, the fact that it was not included shows that much less political attention was put on climate change in the international development agenda than is today and other issues were seen as more urgent.

Global leaders knew that the MDGs should officially be reached by 2015, but it quickly became clear that a new global agenda would be needed for the period after 2015. Hák et al. (2016) state that we should keep in mind that the overall experience with the MDGs is positive, which is also one of the reasons a new global agenda in the form of the SDGs was initiated. Gore (2015) describes the actions of two people to be important in setting the scene for the SDGs: President Lula of Brazil called for a global conference on sustainable development in 2007 and Paula Cabellero Gomez, at the time the director of Colombia's Ministry of Foreign Affairs, provided concrete content for the SDGs in a preparatory meeting for the Rio+20 conference in Indonesia the year before. Griggs et al. (2014) write how the SDGs where agreed to be established at Rio+20 conference in 2012 and that these would be a universal agenda, building upon the MDGs. Moomaw et al. (2016) write that the adoption of the SDGs were a success diplomatically speaking, but that the implementation of the goals will be more challenging, especially as no official guidance on this exists.

The SDGs are quite different from the MDGs. The SDGs are more integrated than the MDGs, although some systemic linkages needed for long-term development are still missing (Le Blanc, 2015). Gore (2015) sees three changes with the form of the SDGs: change from human-centred to planet-centred agenda, development occurs not only nationally but also globally, and the re-design of international cooperation. However, he is also skeptical whether the SDGs can be a truly transformative agenda, as this requires a development paradigm shift in his view. He identifies four main issues with the SDGs: lack of policy coherence, lack of attention on integration with national processes, lack of attention on synergies and trade-offs between goals, and the new goals will need new rules. Similar weaknesses were identified by ICSU ISSU (2015), who also add the lack of non-quantified targets. Scheyvens et al. (2016) mention four areas to which the SDGs give more prominence to than the MDGs: "(i) environmental sustainability, (ii) economic development, with a focus on inclusive growth, (iii) proposed universal application to all countries and (iv) an increasing concern with non-material aspects of development" (p. 137). Moreover, they see a significant shift from the MDGs in the inclusion of the private sector. However, Pingeot (2016) criticize the process of inclusion of the private sector because only particular sectors were included and Western companies were dominating the SDG negotiations. Scheyvens et al. (2016) also mention that scholars appreciate the holistic approach and the focus on equity, inclusion and environmental governance in the agenda of the SDGs. Swart (2008) already wrote that the way climate actions are designed determines whether there will be trade-off or synergies between limiting climate change and reaching the MDGs. In essence this is, for climate change, also the difference between the MDGs and the SDGs: while the MDGs resulted in trade-offs between development and environmental protection, the SDGs try to, although implementation might turn out differently, focus on the synergies between the various sectors. Through the creation of a more comprehensive agenda, as many scholars identify, the main focus is not on poverty eradication in developing countries as was the case in the MDGs, but rather on a long-term pathway for sustainable development for all countries.

The SDGs consists of 17 goals and 169 corresponding targets. The goals focus on similar topics as the MDGs, such as education, poverty eradication, health and gender equality, but also introduce new topics like energy, cities, and peace. Within all these different goals and targets, the following targets explicitly relate to climate change:

- Goal 1 (No Poverty), target 1.5: "By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters."
- Goal 2 (Zero Hunger), target 2.4: "By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality."
- Goal 11 (Sustainable Cities and Communities), target 11.b: "By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015–2030, holistic disaster risk management at all levels."
- Logically, all targets under SDG 13 (Climate Action) explicitly relate to climate change. Interestingly, under the explanation of the targets of the SDGs, it clearly states that "climate change presents the single biggest threat to development" (Sustainable Development Knowledge Platform, 2017).

When not looking at the official language only, one can draw many (indirect) links from the different goals to climate change. Examples of this are:

- Goal 7 (Affordable and Clean Energy) focuses on increasing the share of renewable energy and improving energy efficiency, which has clear impacts on mitigation efforts of countries.
- Goal 9 (Industry, Innovation and Infrastructure) mentions the needs for resilient infrastructure and sustainable industrialization, which can be linked to both adaptation and mitigation respectively.
- Goal 14 (Life Below Water) states in target 14.3 that ocean acidification should be minimized. Since this is process caused by enhanced CO_2 uptake by the oceans and therefore directly connected to the amount of CO_2 emitted worldwide, a logical link with mitigation can be drawn.
- Goal 15 (Life On Land) raises the need for sustainable management of all types of forest under target 15.2: as forests are a carbon sink, this would contribute to mitigation efforts.

CKDN (2016) sees eleven direct and indirect linkages between the different SDGs and climate change. However, their methodology does not specify how they determined the relations, just as it is not mentioned which goals they see as linked to climate change. It remains up for debate how to interpret different the linkages, but it is clear that climate change is linked implicitly and explicitly in many goals. This is significantly different from the MDGs, where climate change played no role at all. The SDGs therefore definitely show the close relationship between climate change and development and this is quite different from the MDGs. Additionally, in the SDGs, there are two targets that refer to mainstreaming:

- Goal 13 (Climate Action), target 13.2: "Integrate climate change measures into national policies, strategies and planning."
- Goal 17 (Partnerships for the Goals), target 17.14: "Enhance policy coherence for sustainable development."

Hence, the SDGs mention in no uncertain phrases the need for mainstreaming. While target 17.14 is similar to 7a in the MDGs, target 13.2 clearly shows that mainstreaming is something valued at the international level. As there are only three targets under SDG 13 (Climate Action) it is interesting to see that mainstreaming has been included, together with strengthening adaptive capacities of countries (target 13.1) and the need for raising awareness (target 13.3). It shows that mainstreaming is an important topic at the highest political level in the international development regime and therefore making climate action an integral part of sustainable development. The wording in SDG 13 also closely resembles the characteristics of the idea of 'climate action through development processes', for several reasons. Firstly, the emphasis on 'climate change measures' show that the focus should not only be on climate adaptation, but also on climate mitigation. Second, the mentioning of policies, strategies and planning support the idea of a systematic integration of climate action into the development agenda. It is clear that this integration should not only occur in international development support programmes, but also at the national level. Moreover, using all three areas gives weight to the idea that mainstreaming should be seen as a process rather than a one-time activity. Fourth, with multiple direct and indirect links to climate change in the SDGs, it is clear that climate action should be seen as a priority for nations. Nevertheless, with still the explicit focus on integration, the idea of 'climate action as development' is not supported. Addressing underlying vulnerabilities is not covered directly by SDG 13, but with the inclusive agenda of the entire SDGs, it is logical to assume that these issues would be addressed in accordance.

4.3. Climate finance

One of the most crucial debates regarding mainstreaming at the international level evolves around the discussions of climate finance and ODA. As outlined in the chapter on the theory of mainstreaming, most arguments, as put forward by Gupta (2009) but also by for example Klein (2010), against mainstreaming evolve around the topic of climate finance. The main fears from developing countries are that climate finance will not be new and additional to ODA, that climate funding will be used for more general development projects rather than addressing direct climate impacts and that it would lead to new conditionalities. Smith et al. (2011) describes the position of the two sides: developing countries argue that climate finance should be new and additional since developed countries caused climate change, which is something that is not disagreed by developed countries per se, but developed countries argue that keeping the two separate leads to duplication and misallocation of resources. This makes that developing countries do not have a favorable opinion towards mainstreaming, as they fear this would lead to fewer financial resources for their climate action programmes. Despite the fact that environmental finance only has gotten a lot of attention recently compared to ODA (Eyckmans et al., 2015), it has been a major point of discussion in both the international climate negotiations and in academics.

In all the major international climate agreements it is stated that climate finance should be new and additional (Stadelmann et al., 2011)[3]: in the UNFCCC this is mentioned under Article 4.3 and the Kyoto Protocol refers to it in Article 11.a. The Paris Agreement makes multiple references to climate finance, two of which are the most notable: Article 2.1 states "making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development" and Article 9.3 describes that "developed country Parties should continue to take the lead in mobilizing climate finance from a wide variety of sources" and that "such mobilization of climate finance should represent a progression beyond previous efforts". However, one of the most important agreements on climate finance was actually the Copenhagen Accord of 2009. While many see the accord as a failure, it does include some important provisions on finance. It first of all emphasized the need for new and additional resources, but also includes a goal to raise $100 billion a year from 2020 onwards. This should come from a "a wide variety of sources, public and private, bilateral and multilateral, including alternative sources of finance" (UNFCCC, 2009): a similar phrasing was repeated in the Paris Agreement. Additionally, $30 billion should be provided by developed countries for the period 2010 to 2012. A new climate fund was established, the Copenhagen Green Climate Fund, through which a significant amount of the funding should flow. While it is unsure, and also disputed, whether developed countries will reach the $100 billion a year by 2020, the Green Climate Fund is up and running, although with difficulties, today. The references to climate finance in the agreements show that this is necessary component to reach the set goals and that developed countries have a responsibility in ensuring adequate financial flows are realized.

One of the main challenges remains, as explained by Roberts and Weikmans (2017), to have a proper system in places that defines, tracks and evaluates climate finance. Despite progress being made over the last decades, they state that current decisions taken under the UNFCCC do not provide enough transparency on finance, which they describe as a collective failure. Without having this system in place, all the countries' officials can have their own interpretations of their commitments. Here also lies the core of the problem: although countries agree in these international negotiations on the fact that climate finance should be new and additional to ODA, it has not been specified what this means. The question actually is whether one can distinguish between the two at all. Fankhauser and Schmidt-Traub (2011) namely state that the main problem lies with the fact that there is no analytical distinction between adaptation and development. Keane et al. (2009) follow this line of reasoning by emphasizing that adaptation and sustainable development endeavors can often not be separated at the operational level. Pickering (2009) provides a potential solution for this by defining two types 'additionality': additionality of resources, implying the provision of new resources, and additionality of action, which means providing a new good but not necessarily new resources. As actions cannot be separated, as shown by Fankhauser and Schmidt-Traub (2011) and Keane et al. (2009), one could argue for a sole focus on the additionality of resources. However, this is also problematic, as Brown et al. (2010) describe that it is difficult to measure the additionality of resources. Additionally, both Stadelmann et al. (2011) and Smith et al. (2011) state that it is not agreed upon what the baseline would be, which makes it impossible to decide when resources would be new and additional. Stadelmann et al. (2011) shows seven different ways of what the baseline can be and conclude that only two would fulfill the criteria of a good baseline. However, they also provide the option of each country declaring its own baseline, when

[3] This does not count for the Paris Agreement

agreeing upon a common baseline is politically unrealistic. Based on these complexities described in these researches, it seems unlikely that countries will agree upon both type of additionality of action and resources.

Hence, it seems that defining what 'new and additional' would actually entail is an impossible task to do. This disagreement also directly influences attitudes towards mainstreaming: if new and additional funding is not guaranteed, agreeing upon the idea of mainstreaming would be unwise to do from developing countries' perspective as there is a high risk of decreasing amount of total funds available. Moreover, there are also good reasons to argue for new and additional funding. Concluding from their literature review, Brown et al. (2010) state that the synergies between adaptation and development are clear, but more funds are needed to limit climate change specific impacts: ODA can increase the capacity of a country, while climate finance should address the new climate impacts. Therefore, they state that the additionality of climate finance is crucial. Brown et al. (2010) also provide an interesting diagram (shown in Figure 2) on development assistance and development finance, which they based on research from McGray et al. (2007) and Klein and Persson (2008).

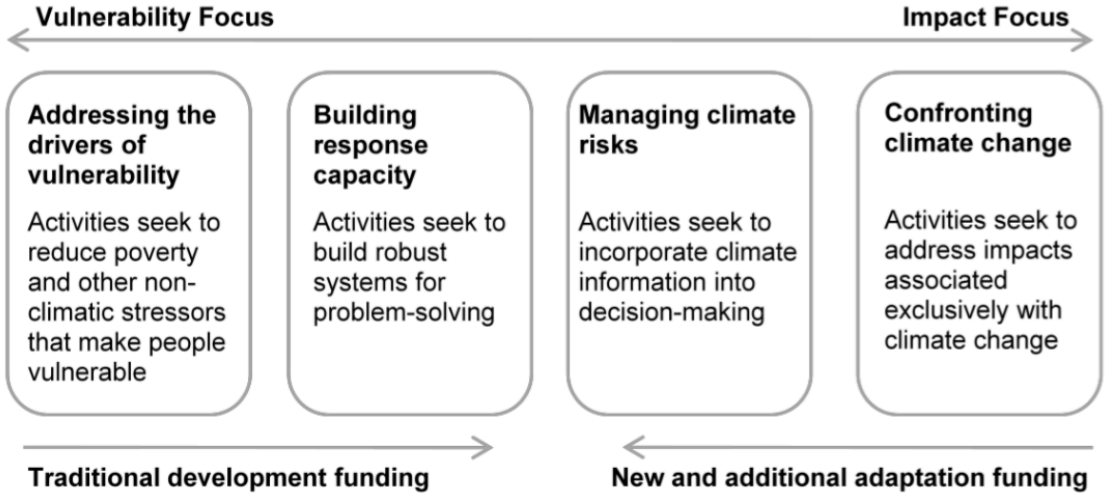

Figure 2. Diagram from Brown et al. (2010) on the difference of development and adaptation funding.

Firstly, the distinction between the aim of development and adaption funding is made quite clear here. Brown et al. (2010) explain that while adaptation and development clearly overlap in addressing vulnerabilities to climate change, this link is not always clear when adapting to uncertain climatic events, as adaption would not directly contribute to economic growth. Secondly, the lack of focus on mitigation is also interesting. Brown et al. (2010) later refer to an OECD study[4] that explains that adaption generally falls under ODA, but mitigation not, as promoting economic growth is not always the main activity of these actions. Brown et al. (2010) state that often in the debates of climate finance the focus is on the additional part, as highlighted in the right part of the diagram, but the vulnerabilities are often not addressed, while this is essential to do. Smith et al. (2011) agree, as they state that most estimates of adaptation funding focus on new infrastructure projects, rather than focusing on addressing underlying vulnerabilities. This also links to the idea of an adaptation deficit, which means that countries are not adapted enough to changes in the

[4] It is unclear which one since no citation could be found in the reference list.

current climate, besides preparing for future climate change. While one can debate if the distinction between adaptation and development funding can and should be made, the diagram of Brown et al. (2010) does show the need for additional and new funding. Increased risk and severity of climate impacts show the need to manage this risk directly and this requires new funding as traditional development funding would not fund this. Additionally, more funding would also be needed to address underlying vulnerabilities to increase adaptive capacity, as climate impacts request a higher level of resilience.

While it seems clear that more funding is needed, current ODA and climate finance endeavors can also be linked already. In this regard, an interesting study comes from Smith et al. (2011), who analyzed the NAPAs.[5] They categorized the NAPAs in three different categories based on their type of adaptation: climate proofing, vulnerability reduction and standalone adaptation. Although they emphasized their categorization was subjective, they came up with the following numbers: 45 fitted into the category of climate proofing, 119 for vulnerability reduction, and 41 for standalone adaptation.[6] Based on this, they concluded that there is a lot of overlap between development and adaptation funding, as development funding is used for around two-fifths on climate resilience, while three-fifth of adaptation funding is used for development. This is in line with Lasco et al. (2009) who write that mainstreaming actually already occurs within ODA, as donors take into account climate adaptation in their loan and grant making processes. Proof for this is also provided by Campillo (2016), who states that 18% of ODA in 2013-2014 was climate related. From this, 63% was for mitigation, 25% for adaptation and 12% for both. This all shows that current activities funded by ODA already have climate components. However, it remains a daunting task to determine whether this funding is new and additional or just 'original' funding being used for another purpose, in this case climate action. If the latter would be the case, this could mean that climate risks are managed, but underlying vulnerabilities are not addressed, while both are important in climate adaptation.

From this entire discussion it becomes clear that political acceptance at the international level from developing countries for the idea of mainstreaming is seriously hampered by the discussion on climate finance. The 'new and additional' phrase is not up for debate for developing countries (Smith et al., 2011), but specifying what it means seems as an impossible task to agree upon with all countries. Nevertheless, as climate impacts will increase in the future, it seems inevitable to increase climate funds if appropriate climate action is to be pursued. However, with the uncertain contemporary political developments in the United States, which is a major donor for both ODA and climate finance, it is highly doubtful whether this will occur. Nevertheless, climate finance can come from various sources, as Brown et al. (2010) mentions: ODA, CDM, Foreign Direct Investments (FDI), international debt, philanthropy, domestic government investment, domestic private investment and other official flows (OOF). With the high level political attention for climate change it should be possible to ensure additional funding, but it all depends on the commitments of countries. With regards to mainstreaming there might also be hope, as the idea of new and additional funding does not have to be in conflict with the idea of integrating climate action and development. Saleem Huq, as described by Furlow et al. (2011), explains a solution to the seemingly contradiction between mainstreaming and new and additional adaptation funding: climate action and development should be mainstreamed programmatically, while the adaptation funding should be monitored to

[5] They analyzed only NAPAs written in English.
[6] This is also an interesting finding in the light of the type of mainstreaming applied.

what extent it is new and additional, which is about accountability. This distinction is logical to make, as mainstreaming should be about improving efficiency and coordination in the policy making process, not about making climate change a less important issue. While it would still be a challenge to monitor the additional funding, distinguishing between the programmatic and accountability of mainstreaming is useful to do.

4.4. Conclusion

From analyzing the synergies between climate action and development at the international level it is clear that both issues cannot be separated. In the international climate agreements, the SDGs and in discussions around climate finance both issues are clearly interlinked. Especially, the discussions around climate finance show the close relations between the two, making that they sometimes cannot be distinguished from each other. Whether this will actually be needed is up for debate, but climate change will become an increasingly important risk that should be included in development endeavors and more funding would be need to address this. Mainstreaming could help to increase efficiency programmatically, although this is politically risky to aim for as this can endanger additional funding, despite the fact that these issues can be (theoretically) separated. Analyzing the international agreements, both the climate agreements and the SDGs address mainstreaming, albeit in different ways. Mainstreaming is more strongly phrased in the SDGs than in the Paris Agreement: one of the reasons for this could be that the SDGs are a non-binding agenda, while the Paris Agreement is partially legally binding. Another is that the discussion around climate finance are predominantly held in the climate regime, making that mainstreaming is approached with more caution here. These two reasons might explain the higher political sensitivity around the term mainstreaming and the fact that often other terms are used to describe relatively similar processes.

Using the elements of the analytical framework, it was established that the UNFCCC and the SDGs tend more towards seeing mainstreaming as 'climate action through development processes', while the Paris Agreement more refers to it as 'adaptation plus development'. Although these categories are up for debate as limited information on the type of mainstreaming described in these agreements is available, the analyses have shown that several characteristics listed in the analytical framework can be identified. Whether countries will truly adhere to these actions listed and how they will operationalize them at the national level cannot be determined from this analysis: the chapters on the analysis of the (I)NDCs and the country case studies will provide more insights in this. Analyzing the country level will also provide more insights in whether the texts of these agreements are merely politically agreed upon without being wished to be fully implemented or that countries completely support the contents of this agenda. Nevertheless, the use of the characteristics as defined in the analytical framework of this research provide a more complete understanding of the relationship between climate action and development in these agreements. It shows that the UNFCCC and the SDGs indicate the need for a comprehensive, systematic and integrated approach in dealing with climate action and development, while the Paris Agreement expresses more caution in the integration of both.

One can actually question the use of having two agendas, the SDGs and the Paris Agreement, as both focus on such interrelated topics and have clear overlaps with each other. For example, WWF and CARE (2016) clearly show the synergies between the SDGs and the Paris Agreement themselves. In their analysis they use different categories to compare both agreements and show that they cover similar themes synergistically, emphasizing that the SDGs and the Paris Agreement are interdependent. As an

illustration, they highlight inter alia how the topics of forests, energy and agriculture have common desired outcomes. CKDN (2016) also focuses on the overlaps between the SDGs and the Paris Agreement, which they find in several areas: global coverage, time frame, nationally determined targets, policy coherence and mainstreaming. Additionally, various remarks are also made emphasizing that NDC implementation leads to the achievement of the SDGs and that both have strong links. These researches show that not only within the SDGs and the Paris Agreement links are being made to climate action and development respectively, but both agendas also have clear synergies. This makes one question whether it is actually useful to have both agendas rather than one. Swart (2003) argues that the establishment of the two separate agendas actually made that climate change was solely addressed under the UNFCCC, rather than in the broader development regime. One of the key reasons the interests of two agenda converged again was the increasing focus on adaptation in the climate negotiations (Swart, 2003; Klein, 2010), which was mostly due to, according to Huq et al. (2006), pressure from NGOs in developing countries. Leaving climate change discussions solely under the UNFCCC decreases the attention needed, especially since it has such clear linkages with development. However, rather than seeing both agendas on the same level, Hammill and Price-Kelly (2017) state that the SDGs actually act as an umbrella for the (I)NDCs, which form the backbone of the Paris Agreement. They see the SDGs as the international agenda shaping the ambitions of the national development agenda and the (I)NDCs are supporting this development agenda. This is an approach to climate change that puts development at the center, but they state that this is not a new idea. Using this approach, it still makes sense to have both the SDGs and the Paris Agreement together, since they supplement each other.

5. Approaching development from a climate perspective: analysis of the (I)NDCs

Up to now, based on the literature review and the analysis of the international level, there seems to be no doubt about the close relationship between climate change and development. However, both these analyses are often based on outsiders' perspectives and do not show how countries actually plan to take climate action and pursue development. This is essential to understand as the theory and agreements made at the international level may not reflect how countries take action on the ground. While future chapters will be dedicated at in-depth analyses of Cambodia and Kenya, this chapter will analyze all countries. This will be done through an analysis of all the (I)NDCs, which are the national climate plans and form the core of the Paris Agreement. The main focus will be on, as throughout this entire research, how these plans focus on the relationship between climate action and development and approach mainstreaming.

Something that is unique about this approach, analyzing all the (I)NDCs, is that this an innovative way to investigate mainstreaming. As outlined earlier, mainstreaming is mostly defined as integrating climate action into the development agenda. However, the (I)NDCs are national climate plans and this analysis will focus on how development is actually being approached from a climate perspective. Rather than focusing on integrating climate action into the development agenda, the focus will be on how climate action relates to development topics. To do this, the (I)NDCs will be analyzed how well they cover the themes of the seventeen SDGs. As will be shown later in this chapter, the (I)NDCs largely cover the different goals, which clearly shows that climate change is a development issue. Next to the fact that almost every country has submitted an (I)NDC, which makes it possible to do a fair cross-country analysis, other characteristics of the (I)NDCs also make them attractive to use for the analysis of this research. All contributions are generated from a bottom-up process, as there are no mandatory guidelines an (I)NDC should adhere to. This makes that a country is free to write whatever it deems appropriate to include, creating that the priorities of countries are clearly visible. Therefore, the (I)NDCs provide an excellent opportunity to analyze the interrelation between climate action and development, especially as they are important in both national and international contexts.

To make this analysis, this chapter is divided into two parts. The first part focuses on explaining the origin, status and positives and drawbacks of the (I)NDCs. This is useful to understand as this gives a better insight in the content of the (I)NDCs. After this, the analysis of how these (I)NDCs relate to the themes of the SDGs is presented. Various topics will be touched upon, such as the difference in coverage between countries, what sub-themes within the themes of the SDGs are covered frequently and how these (I)NDCs focus on mainstreaming. Together, this gives a good overview of how the synergies between climate action and development are addressed, just as how the idea of mainstreaming fits into this picture. A concluding section will shed a light on the usefulness of the findings presented in this chapter, just as it explains how this relates to the other findings of this research so far.

5.1. An introduction to the (I)NDCs

After countries realized the Kyoto Protocol was unsuccessful in significantly reducing emissions, they started to focus on new approaches to reach a global climate deal. Rather than focusing on a top-down method, which was present in the Kyoto Protocol, in the years after the (other) failure of Copenhagen at COP 15, they opted for a more bottom-up process to deal with the common responsibility of limiting climate change, but taking into

account the differentiated responsibilities and respective capacities. After countries agreed at COP 17 that a new global legal agreement must be reached before the end of 2015, decisions taken at COP 19 advanced this new bottom-up initiative. At COP 19, in decision 1/CP. 19, all Parties[7] were invited "to initiate or intensify domestic preparations for their intended nationally determined contributions" and "to communicate them well in advance of the twenty-first session of the Conference of the Parties". This was further elaborated upon in the decision of COP 20 (1/CP.20) in Lima. First of all, 1/CP.20 reiterated the idea that each Party was invited to submit their INDC well ahead of COP 21. Second, it stated a special provision for LDCs and small island developing states (SIDS) to report on their strategies, plans and actions for low greenhouse gas emissions development to reflect their unique situation. Third, the contribution submitted should go further than current actions in place. Fourth, it included several provisions what the INDC may include: an adaption component, a reference point for emissions, time frame, scope and coverage, assumptions and methodological approaches, how the INDC is fair and ambitious and how it contributes to reaching the objectives of the UNFCCC (as stated in Article 2).

Something to keep in mind when reading these decisions is that these are all heavily negotiated. The term 'intended nationally determined contribution' is a good example of this. Höhne et al. (2014) explain how 'contribution' was a compromise between 'commitment', which was in the past used for developed countries, and 'nationally appropriate mitigation actions', which was a term agreed upon in COP 18 for developing countries to define how they will reduce emissions. Additionally, as a new global agreement still was to be negotiated, the contributions were still only 'intended'. The inclusion of the phrase 'nationally determined' also shows that the ownership of the contribution lies with the countries and emphasizes the bottom-up process. This is also visible in the decision of COP 20 on the elements the INDCs 'may' include. Rather than having a fixed framework all the INDCs should adhere to, the items mentioned earlier were not mandatory to include as countries could not agree upon that. As Mbeva and Pauw (2016) and Yeo (2015) describe, some developed countries argued that the INDCs should only include mitigation components, while developing countries insisted that the INDCs should cover more than mitigation only and that mitigation and adaptation should even be treated as equally important. Mbeva and Pauw (2016) also argue that, although the INDCs are a bottom-up process, the guidelines do provide subtle top-down elements. They write about how the LDCs and SIDS have different guidelines for the INDCs, Parties are given different timelines for submissions and that there were differentiations between countries in the preparation and submission processes.

Gradually throughout 2015 many Parties submitted their INDC to the UNFCCC secretariat. Various analyses were made by different actors to analyze what the total effect would be if the contributions were all added up. This was essential to do as throughout the years countries often reiterated the pledge to not let global temperatures rise with more than 2 degrees centigrade. From various sides there was already critique that a bottom-up process would not be sufficient to reach these goals and that only top-down targets would be sufficient to stay on the 2 degrees' pathway. However, others argued that the Kyoto

[7] Note the difference between 'countries' and 'Parties' here. In official UNFCCC language, Parties is right term to use when referring to the (I)NDCs, as its about Parties to the UNFCCC. In reality, the categories Parties and countries largely overlap: the only difference is that some countries (like Taiwan) are not an official Party to the UNFCCC, just the European Union is a Party to the UNFCCC, while the individual EU member states are not. The EU also submitted a collective (I)NDC for all the member states, although ratification must still be done by individual member states too, in addition to ratification at the EU level.

Protocol clearly showed that agreeing upon these specific reduction targets is a huge challenge, especially if these would count for developing countries too, and that it was not guaranteed that countries would actually adhere to the set targets as they could opt out of the Kyoto Protocol (like Canada did) or not ratify the deal in the end (like the United States). Nevertheless, the different reports are still valuable in order to have an overview of how the INDCs add up together. Two of these reports will be explained here: the mandated synthesis report of the UNFCCC (UNCCC, 2016) and the research from Höhne et al. (2016).

The UNFCCC synthesis report was mandated in decision 1/CP.20 and provides an update on the aggregate effect of the INDCs. The report includes the 161 INDCs submitted by April 2016, in total covering 99% of the emissions of the Parties to the UNFCCC. Of these Parties, all included a mitigation component and 83% had sections on adaptation. Most Parties also related to the items the INDC may include, as outlined in decision 1/CP.20, despite their structure and contents often being vastly different. The synthesis report explains how the total commitments would reduce emissions compared to pre-INDC commitments with, in the average scenario, 2.8 Gt CO_2 in 20215 and 3.3 Gt CO_2 in 2030. However, this would not be sufficient to stay within the 1.5 or 2 degrees' scenarios outlined in the Fifth Assessment Report of the IPCC. Interesting for this research is that the synthesis reports also elaborates upon synergies and the alignment with development policies, although without specifically referring to the SDGs. The report notes that several Parties describe the synergies between mitigation and adaptation actions at various levels, just as some Parties highlight the synergies between climate action and development. It also describes how most INDCs are related to existing laws, strategies and policies, which makes that they are not stand-alone documents. There are some details provided for both these topics: usually the phrases 'some', 'several', or 'most' are used to describe how many Parties write about this, just as occasional references are given to sectors that are examples of the synergies between climate action and development. However, it seems that rough estimations are made for these sectors, rather than looking in-depth at each sector as this research does.

The main conclusion from the research from Höhne et al. (2016) is that the combined efforts of the INDCs are not sufficient for either the 1.5 or the 2 degrees' pathway outlined in the Paris Agreement. They explain how several countries would actually already reach the emission reduction targets outlined in their INDC without extra efforts in place, or that even the target in the INDC is higher than the current projected trend. However, they understand that countries were cautious when submitting their INDCs, as most of these were submitted before the Paris Agreement was negotiated, which made there was uncertainty about especially the legal nature of the agreement. Additionally, as the Paris Agreement states that the commitments need to be enhanced in ambition every five years, there is ample of room for improvement here. An interesting addition is the survey they conducted among government officials how the INDC process influenced climate change perspectives. The respondents replied that it increased the urgency of climate action and made it into a higher priority, just as it helped to start processes to develop climate planning or improve them. These positives of the INDC approach are important to highlight, as they are often less visible and their impact is hard to measure. Nevertheless, they are vital to note, as in the end countries must take climate action themselves at the national level, and therefore this survey showed that the INDCs do stimulate enhanced climate action.

With the entry into force of the Paris Agreement, the threshold of 55 Parties covering at least 55% of total emissions was reached on 5 October 2016. On the 1st of May 2017, 144 out of 197 countries had ratified the Paris Agreement (UNFCCC, 2017a). Through this, the total commitments in the INDCs became the key indicator of how much emissions reductions will occur in the future. The INDCs also transformed to NDCs, so removing the 'intended' phrase, when countries ratified the Paris Agreement. There is the option to update the NDC when ratifying, but most countries opted for to just resubmit the NDC again. However, as outlined earlier, the Paris Agreement does state that commitments have to be updated and improved in a five-year cycle. In 2018, with the so-called facilitative dialogue, the first global stocktaking will take place to analyze progress made towards each NDC, and in 2023 a new cycle of NDCs are ought to be presented.

The introduction of the NDCs is an innovative approach in international environmental governance, but it remains to be seen how effective it is to reach the objective to limit dangerous anthropogenic climate change, as outlined in Article 2 of the UNFCCC. Together with the Paris Agreement the NDCs form a hybrid structure: long-term, top-down goals outlined in the Paris Agreement combined with specific, bottom-up contributions from individual countries. It is relatively easy to see the biggest advantage and disadvantage of this hybrid approach: on the one hand, combined commitments are unlikely to keep global temperatures within the 1.5 or 2 degrees' pathways, but on the other hand it does commit every country to take action, something that has never occurred before. Additionally, as will be shown in the next section, it will give interesting insights in what type of actions countries deem important to take to mitigate and adapt to the impacts of climate change.

5.2. Analysis of SDG coverage in the (I)NDCs

As outlined earlier, the idea of what should be included in the (I)NDCs was disputed among developed and developing countries. However, when reading the (I)NDCs now, it is clear that these do not solely focus on mitigation actions, but a wide range of topics are addressed. Important to understand for this analysis is that the (I)NDCs were not meant to take into account the SDGs when being written. As stated above, the (I)NDCs only have voluntary guidelines and these do also not mention the need for inclusion of the SDGs.[8] Additionally, most of the (I)NDCs were written before the SDGs were adopted. Therefore, it would not be logical to assume they would incorporate these in the (I)NDCs. When analyzing the (I)NDCs on whether they mention the SDGs, only fourteen countries do that explicitly: Bolivia, Cuba, Egypt, Guatemala, Indonesia, Jordan, Morocco, Nepal, Pakistan, Sri Lanka, Sudan, Swaziland, Thailand, and Uganda. This is also less than countries which refer to the MDGs, as these are twenty-one countries: Afghanistan, Bahamas, Benin, Burkina Faso, Comoros, Cuba, Djibouti, Equatorial Guinea, Grenada, Guinea, Guinea-Bissau, Guyana, Kiribati, Lesotho, Myanmar, Saint Vincent and the Grenadines, Solomon Islands, Sudan, Thailand, Togo, and Vanuatu. Interesting observations from these groups are that they are all developing countries and that Cuba and Thailand refer as only countries to both the MDGs and the SDGs. As only a few countries mention the SDGs (14 out of 162), and often this is just a relatively minor remark, drawing the relationship between the (I)NDCs and the SDGs is an artificial one. Hence, the idea of this analysis is also not to blame countries that do not cover the SDGs, but rather to show the vast amount of synergies there actually are between climate action and development.

[8] Which would also not be really possible since the decision was taken before the adoption of the SDGs.

In the next sections, three main topics will be touched upon. At first, the total coverage of the SDGs is shown, just as how this different when taking into account the welfare and geographical region of a country. After that, the results of a more in-depth analysis of each of the SDGs will be presented, just as the question to what extent they focus on the targets of the SDGs is explored. Lastly the operationalization of the concept of mainstreaming in the (I)NDCs will be discussed and it will be analyzed how this relates to the with the SDG coverage described in the previous sections.

5.2.1. Coverage of SDGs

As there are 162 (I)NDCs analyzed upon their coverage of the 17 SDGs, the total amount of coverage can be visualized. This is shown in Figure 3[9] below. The corresponding numbers and percentages are shown in Table 3.

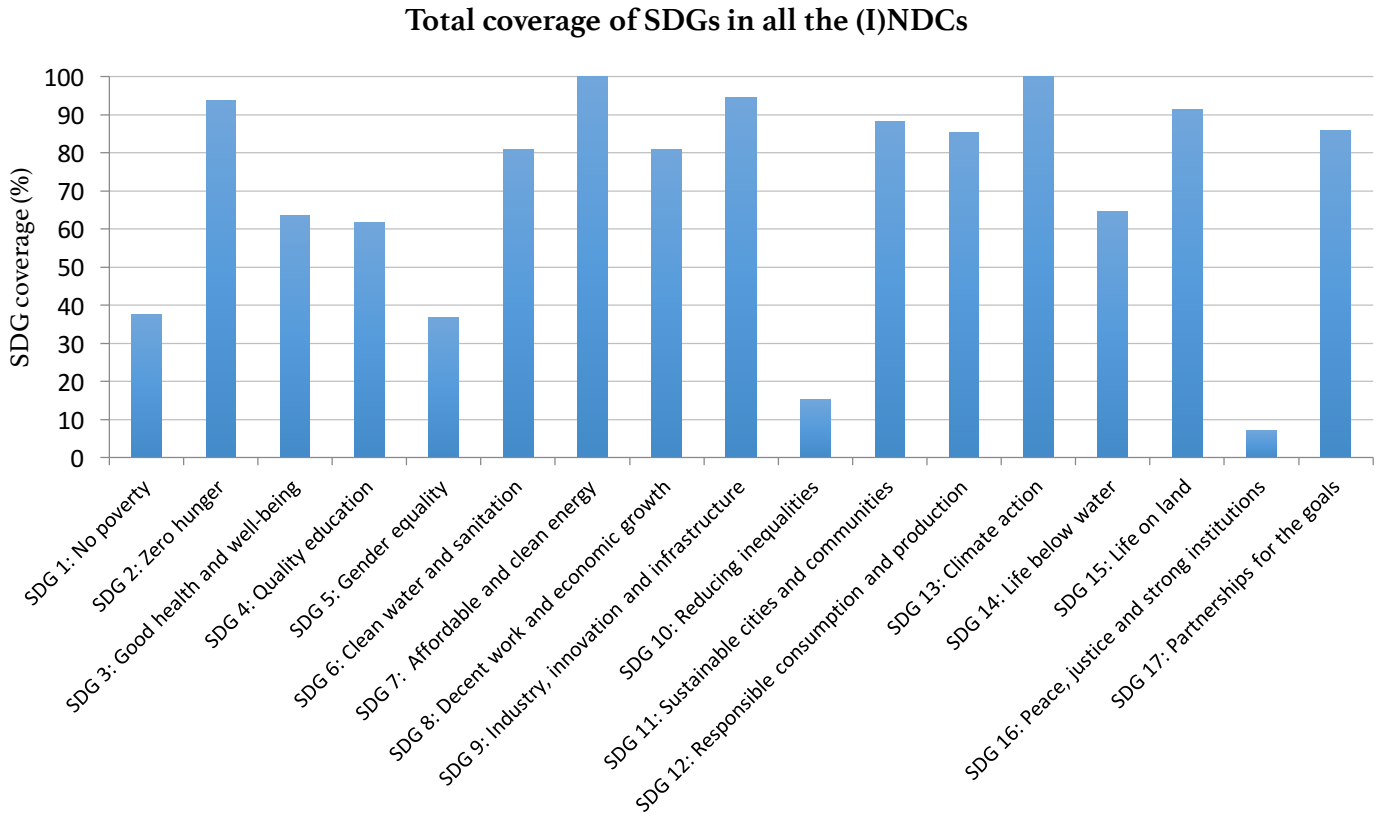

Figure 3. Total coverage of SDGs in the (I)NDCs, expressed in a percentage of the total number of (I)NDCs.

No. Countries	SDG 1	SDG 2	SDG 3	SDG 4	SDG 5	SDG 6	SDG 7	SDG 8	SDG 9	SDG 10	SDG 11	SDG 12	SDG 13	SDG 14	SDG 15	SDG 16	SDG 17
Yes	61	152	103	100	60	131	162	131	153	25	143	138	162	105	148	12	139
No	101	10	59	62	102	31	0	31	9	137	19	24	0	57	14	150	23
Coverage (%)	38	94	64	62	37	81	100	81	94	15	88	85	100	65	91	7	86

Table 3. Number of countries covering each SDG, expressed in total amounts and percentages.

[9] This figure also occurs in UN EOSG & UNFCCC (2017): both are based on the same database.

While many things can be read from Figure 3 and Table 3, the following results are interesting to highlight:

- Two SDGs standout with a 100% coverage, SDG 13 (Climate Action) and SDG 7 (Affordable and Clean Energy). For SDG 13 (Climate Action) this is a very unsurprising result, since the (I)NDCs are about climate action. The complete coverage for SDG 7 (Affordable and Clean Energy) is also not a big astonishment, as debates around mitigation actions have often concerned energy policies.
- However, not all SDGs have a high coverage. Especially SDG 16 (Peace, Justice and Strong Institutions) (7%), SDG 10 (Reducing Inequalities) (15%), SDG 5 (Gender Equality) (37%) and SDG 1 (No Poverty) (38%) have a particular low coverage compared to the rest of the SDGs.
- Nevertheless, on the average the coverage is high. Calculating the average of the entire coverage results gives a result of 70%.
- Analyzing the balance between coverage in mitigation and adaptation related sectors, there is a higher coverage for mitigation. SDGs that are closely related to mitigation actions such as SDG 7 (covering energy), SDG 9 (industry), SDG 11 (transport) SDG 12 (waste), SDG 15 (forestry) all have coverage of at least 85%. Other SDGs are often more related to adaptation actions and tend to be not covered by all the countries.

While Figure 3 and Table 3 show a categorization based on SDGs, one can also look at how many SDGs each country covers. This is shown in Figure 4.

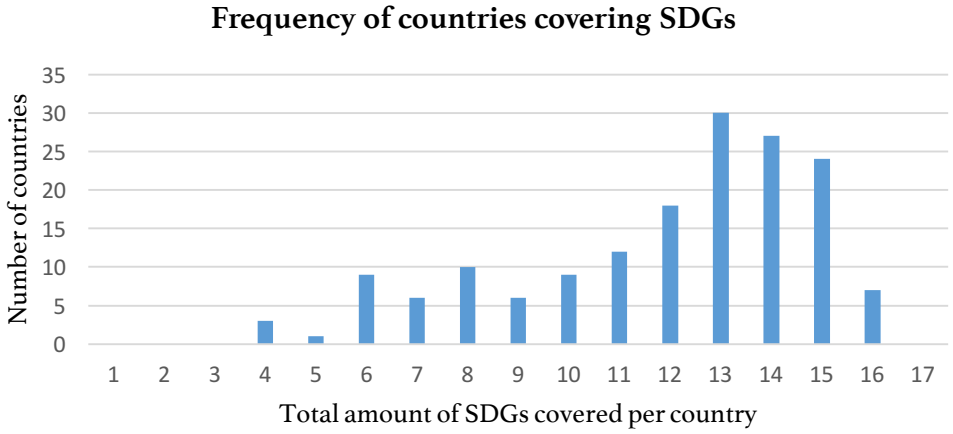

Figure 4. Frequency of countries covering each amount of SDGs.

Figure 4 shows that a majority of the countries (99 out of 162) has a coverage between twelve and fifteen SDGs. Additionally, none of the countries have a coverage of three SDGs or lower or covers all the SDGs. This results are logically in line with the statistics from Figure 3 and Table 3, which already showed a high SDG coverage in total. Despite these results, Figure 3 and Figure 4 do not show the differences well between countries. As all countries are combined together, it gives a skewed picture of how coverage differs between countries. Therefore, in the following figures the coverage will be further distinguished based on three categories: income group[10], geographical region[11], and (non-)Annex I countries[12]. The figures will be similar to Figure 3, as they show the total coverage as a percentage of the respective group.

[10] Based on categorization from the World Bank
[11] Based on the geographical regions as outlined in the United Nations Regional Groups
[12] Based on UNFCCC list of (Non-)Annex I Parties to the Convention

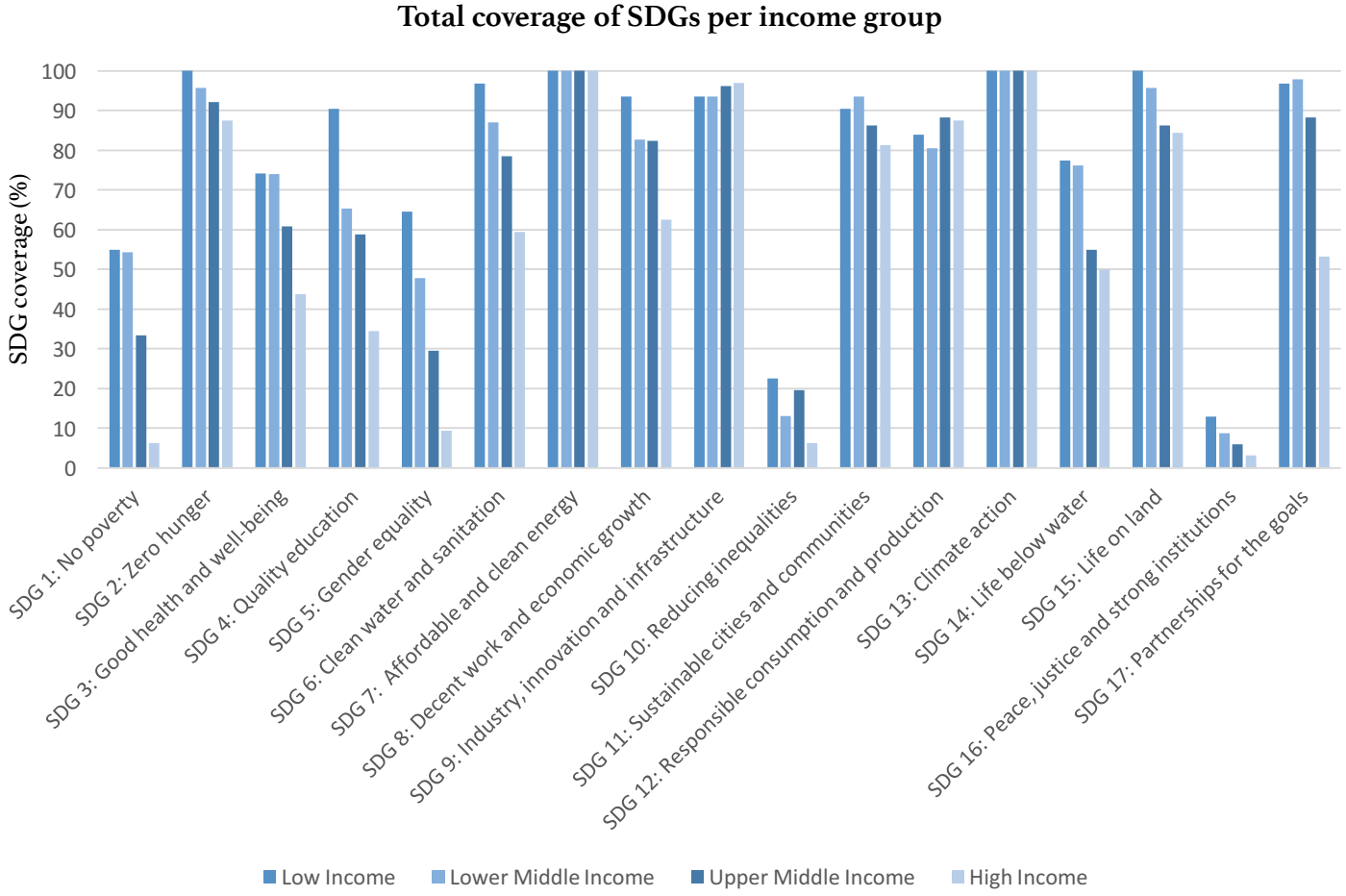

Figure 5. Total coverage of SDGs in the (I)NDCs per income group, expressed in a percentage of the total number of (I)NDCs per income group.

Looking at Figure 5, the differences between the income groups can be divided into three categories: no difference between SDGs 7 and 13; relatively small differences (0-15%) between SDGs 2, 9, 11, 12, 16; and substantial differences (>15%) between SDGs 1, 3, 4, 5, 6, 7, 10, 14, 15, and 17. It also shows that for many of the SDGs there is a downward trend: the higher the income group, the lower the SDG coverage. For some SDGs this is not very surprising, as these focus on topics that often require more improvements in lower income countries than in higher income countries. For example, it is not strange that SDG 1 (No Poverty) is barely addressed by high income countries, as this is a more prominent issue for lower income groups. Nonetheless for other (common) issues, such as SDG 14 (Life Below Water) and SDG 15 (Life On Land) significant differences are identifiable, while these are issues that would still require attention from all income groups. However, something that is important to take into account when analyzing these graphs, is that this is information coming from the (I)NDCs only. When certain countries have a low coverage, it does not mean they do not cover the SDGs in their national development agenda: the only thing that can be said from this data is that they have not addressed it in their (I)NDC. One can argue that these countries therefore do not see the link between climate action and this area of development, but this conclusion should be drawn with caution, as in the end this is only data from the (I)NDCs. A good example to highlight is the (I)NDC of the EU. While the EU only covers SDGs 2, 7, 9, 12, 13, and 15 in their (I)NDC, it is illogical to argue that this means the EU does not do anything about gender equality (SDG 5), economic growth (SDG 8) or peace and justice (SDG 16).

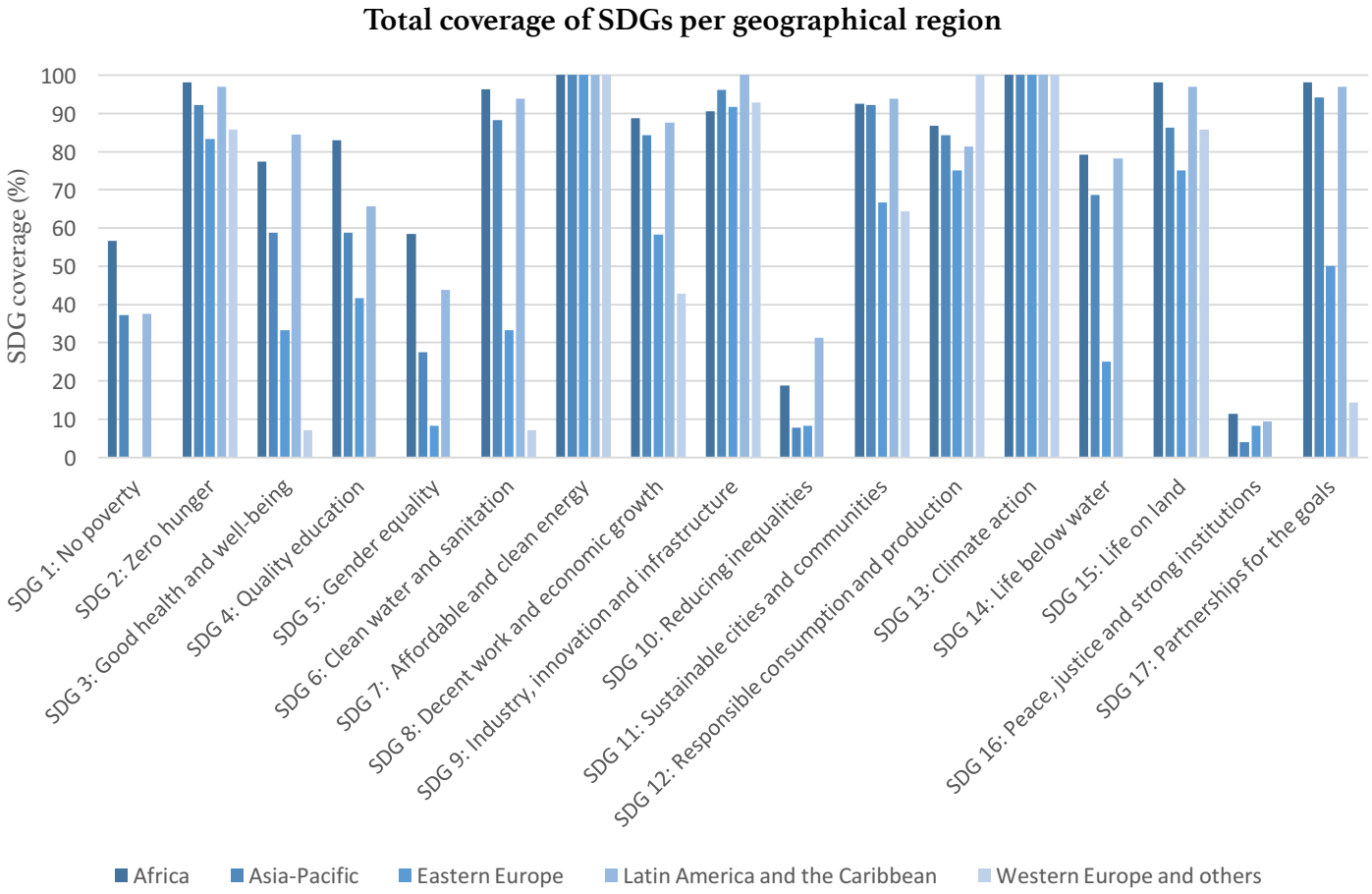

Figure 6. Total coverage of SDGs in the (I)NDCs per geographical region, expressed in a percentage of the total number of (I)NDCs per geographical region.

Comparing Figure 5 and Figure 6, one can see that the differences between the regional groups are often larger than identified for the income groups. Only SDGs 7 (Affordable and Clean Energy) and 13 (Climate Action) have no differences, and SDG 9 (Industry, Innovation and Infrastructure) minor variations, but all the other SDGs have substantial other heights of coverage. Especially countries belonging to the Eastern Europe and Western Europe and others groups have low SDG coverages. However, these two groups also have the lowest amount of member nations: 12 for Eastern Europe and 14 for Western Europe and others, compared to 32 for Latin America and the Caribbean, 52 for Asia-Pacific and 53 for Africa. Therefore, these groups are in their average coverage more influenced by low outliers than the larger groups: i.e. Andorra, Albania and Norway are all in the bottom four with countries with the lowest coverage.

When studying the differences between developing countries, for all the SDGs except SDG 3 (Good Health and Well-Being), 9 (Industry, Innovation and Infrastructure), and 11 (Sustainable Cities and Communities), African countries have the highest coverage. Latin American and the Caribbean countries often also have higher coverage than Asian-Pacific countries for most of the SDGs. However, the differences for many SDGs are not very large: between 0-15% for SDGs 2, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, and 17, and >15% for SDGs 1, 3, 4 and 5. It shows that generally speaking, similar topics are addressed by countries that can geographically be far apart. Far larger differences are visible between the Africa, Asia-Pacific and Latin American and the Caribbean groups and the Eastern Europe and Western Europe and others groups. This is even clearer visible when distinguishing them between Annex and Non-Annex I countries, which is done in Figure 7.

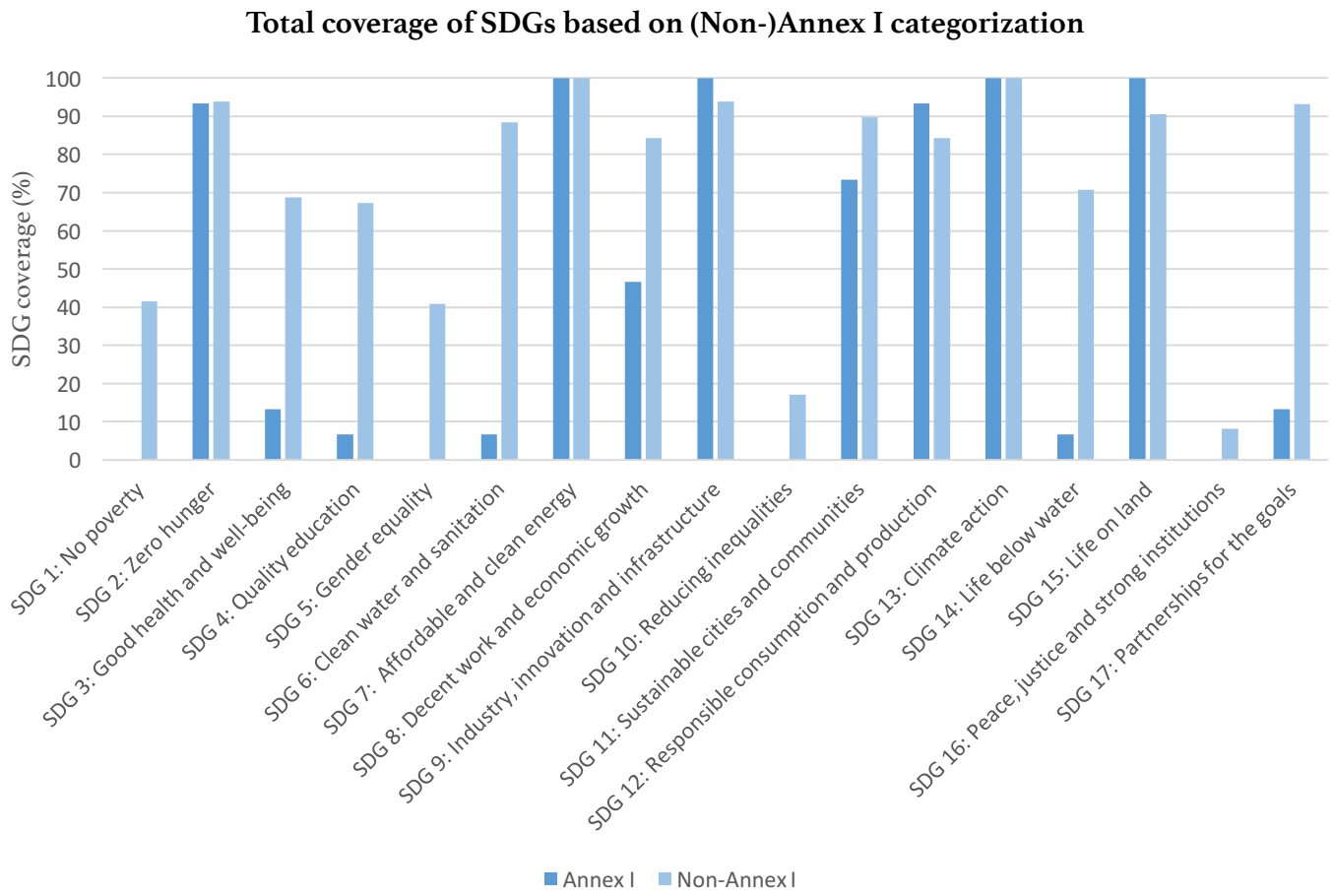

Figure 7. Total coverage of SDGs in the (I)NDCs based on (Non-)Annex I categorization, expressed in a percentage of the total number of (I)NDCs per (Non-)Annex I category.

Compared to Figures 5 and 6, Figure 7 shows the biggest differences among the groups analyzed. Figure 7 shows the difference between Annex I and Non-Annex I countries, but the two groups are also often referred to as developing (Non-Annex I) and developed (Annex I) countries. While such a distinction is always disputed, and very good arguments can be made against this distinction as Singapore and the Republic of Korea belong to Non-Annex I countries, for this research this distinction is chosen. Figure 7 shows that for many SDGs the variations are large: only for SDGs 2, 7, 9, 12, 13, 15 the differences are within 15% of each other. Additionally, when there are differences, these are often much larger than with the previous two categorizations shown in Figure 5 and Figure 6. Non-Annex I countries do not cover SDGs 1 (No Poverty), 5 (Gender Equality), 10 (Reducing Inequalities) and 16 (Peace, Justice and Strong Institutions) at all and have a coverage below 15% for SDGs 3 (Good Health and Well-Being), 4 (Quality Education), 6 (Clean Water and Sanitation), 14 (Life Below Water), and 17 (Partnerships for the Goals). This is exemplary for the different approaches both groups of countries take when writing their (I)NDCs. As stated earlier, developed countries wanted that (I)NDCs primarily focused on mitigation actions, while developing countries opted for a broader approach including adaptation. In Figure 7 it is clearly visible that the SDGs that are covered by developed countries, primarily SDG 2, 7, 9, 11, 12, 13, and 15, all relate to mitigation actions and the other SDGs focused on more adaptation actions are barely covered at all. Only SDG 8, which is actually neither focused on mitigation or adaptation, is covered by almost 50% of the developed countries. Another reason for this could be that adaptation actions are also seen as more urgent in developing countries than developed countries, as the impacts of climate change will be most felt in developing countries with high vulnerabilities in the short term (and probably also in the long term).

From these figures together, several general observations can be made: (1) a vast majority of the countries (99 out of 162) have a high amount (at least 12 out of 17) of SDGs covered; (2) SDG topics more closely related to mitigation are covered more often than adaptation issues; (3) developing and developed countries give different interpretations to their (I)NDCs, as developing countries relate to other development areas much more than developed countries; (4) for most of the SDGs, the lower the income group, the higher the SDG coverage; and (5) differences among developing countries in SDG coverage are not large for most of the SDGs, when looking at geographical regions. These figures give interesting insights in especially the differences among groups, but do not say much about the actual contents. As many of the SDG topics are very broad, a more in-depth analysis of the SDGs is required to examine what the countries state. Therefore, the next section will provide the results of this analysis per SDG theme.

5.2.2. Thematic analysis

Up to now, coverage of an SDG is the only information shown on the contents of the (I)NDCs. However, most SDG experts focus on the targets to find more specific information on the SDGs. In Annex IV is shown which topics within each SDG are covered, which is based on the information from the corresponding targets. Nevertheless, these topics do not always overlap with the information that is presented in the (I)NDCs. Table 4 shows the type of information that shows up the most often for each (I)NDC. Note that these are only highlighting the topics covered most frequently and do not go in-depth on what each country states.

SDG	(I)NDC information
1. No poverty	Large majority of countries focuses on eradication of poverty only, without many more specifications. Sometimes references are made that this needs to happen in context of economic development, food production, social development, security, or energy access. Only a few countries relate to eradicating extreme poverty.
2. Zero hunger	Almost all actions relate to agriculture, although there are also some related to silvopasture, livestock or general food security. Within agriculture the focus is on industrialization and intensification of production processes, diversification of crops or increasing general resilience of agriculture. Other topics that are addressed are land and soil management, the use of fertilizers or combating diseases.
3. Good health and well-being	All actions aim to improve health conditions. These can relate to access to health care, combating (specific) diseases or increasing resilience. Additionally, actions can often be placed in three categories related to health: prevention, monitoring and control.
4. Quality education	Three categories are addressed for this SDG: improving education, raising awareness and trainings. Note that almost all relate to climate change (in)directly and the actions are usually not focused on improving general education.
5. Gender equality	As for SDG 1, most countries relate to this SDG by simply aiming to achieve gender equality, without providing any further details.
6. Clean water and sanitation	Actions all relate to water, although different types of water. Often they focus on water management, such as integrated water resources management or water security. Other topics are access to (clean) drinking water, water efficiency, irrigation and management of water bodies.

7.	Affordable and clean energy	Most of the actions relate to fossil fuels, sustainable energy sources and energy efficiency. As this SDG is covered by all countries, the actions can often be very specific: i.e. mentioning specific actions for types of energies or areas suitable for energy efficiency measures. Other topics that are also covered are energy consumption, financial mechanisms and labelling and standards.
8.	Decent work and economic growth	Three topics are covered in the (I)NDCs for this SDG: economic/sustainable growth, jobs and tourism. The majority focuses on actions related to economic growth; frequent terms seen are low-emission economy, sustainable development, green economy or reducing carbon intensity of the economy.
9.	Industry, innovation and infrastructure	The main topics for this SDG are industries and infrastructure. For industries the biggest focus is on mitigation actions, while for infrastructure the emphasis lies on increasing resilience. Other (related) topics covered are energy efficiency and research.
10.	Reducing inequalities	Often only broad references to reducing inequalities are made, without many details provided. Occasional references to social inclusion, resilience and human rights are made.
11.	Sustainable cities and communities	Although the name of this SDG focuses on cities, almost all (I)NDC actions relate to transport. They address both private and public transport, with often specify the vehicle or mode of transport. Other topics that are addressed are: housing/buildings, urbanization and disaster risk management, with early warning systems also being mentioned by numerous countries.
12.	Responsible consumption and production	Just as with SDG 11, the main focus of the actions is not in the name of this SDG: basically all actions relate to waste management. Different types of waste are mentioned, just as waste-to-energy is a topic frequently covered. Other topics are the management of natural resources and sustainable consumption and production.
13.	Climate action	All actions are related to climate change, including both mitigation and adaptation actions.
14.	Life below water	A vast majority of the actions relate to coastal management, some to fisheries and only a few to oceans. Within coastal management, countries refer to integrated coastal zone management planning, infrastructure, coastal rehabilitation, mangroves or general resilience.
15.	Life of land	Many topics are covered under this SDG, but most of these can be categorized under forestry, ecosystems, biodiversity, natural disasters, land management, species and carbon sequestration. Often a lot of detail is provided by countries to define their actions in these areas.
16.	Peace, justice and strong institutions	Only a couple of countries focus on this topic and these refer to peace, institutions or public access to information.
17.	Partnership for the goals	Countries that cover this SDG often request financial support (127 out of 162 countries), technology transfer (107) or capacity building (102). Additionally, some countries refer to North-South or South-South cooperation, but often there are no specific references to global partnerships.

Table 4. Indication of most important information that is included in the NDCs per SDG.

Important to understand is the degree of specificity of these actions. Below one can find five different examples of actions that countries aim to undertake, which shows that there can be a big difference in how specific the action is:

- Saint Lucia: "Adaptation Implementation: 4. Food Security" (p.10) (covers SDG 2 'Zero Hunger')
- Guinea: "Take account of gender issues in all development programmes and projects" (p.13) (covers SDG 5 'Gender Equality')
- Uganda: "Promote and enhance climate change education, public awareness and capacity development through communication, training, information and knowledge management" (p. 15) (covers SDG 4 'Quality Education')
- Bhutan: "Increase resilience to the impacts of climate change on water security through Integrated Water Resource Management (IWRM) approaches including:
    - Water resources monitoring, assessment, and mapping;
    - Adoption and diffusion of appropriate technologies for water harvesting and efficient use;
    - Climate proofing water distribution systems;
    - Integrated watershed and wetland management" (p.5) (covers SDG 6 'Clean Water and Sanitation')
- Ecuador: "Through the National Forestry Restoration Program, Ecuador plans to restore 500,000 additional hectares until 2017 and increase this total by 100,000 hectares per year until 2025, counteracting deforestation in the country, contributing to the recuperation of the forest cover and combatting climate change" (p.8) (covers SDG 15 'Life on Land')

Ranked from a low (Saint Lucia) to a high (Ecuador) specificity of actions, these actions can also be ranked on being only a plan (Saint Lucia), to a broad idea of action (Guinea, Uganda), to a more specified set of actions (Bhutan), to an action including specific targets (Ecuador). With these only being examples, more variations on these types of actions occur throughout all the (I)NDCs. However, important to take into account here is that there are countries with very brief descriptions, like the Saint Lucia example, but have other policies linked to this action which are not referred to in the (I)NDC. Hence, from this data cannot be determined how specific each country's mitigation and adaptation actions in reality are: much better indications can be found in the National Communications submitted to the UNFCCC secretariat. It does show that how coverage is described in this research not implies that a country has a fully implemented plan ready to reach all the targets of the SDGs. It merely shows that a country sees close synergies in this area of development when implementing its climate actions.

From this, a logical step would be to compare this with the targets of the SDGs. A first attempt at this has been done by Northrop et al. (2016). Their analysis consists of two parts: climate actions were compared to targets of the SDGs and an in-depth analysis of the (I)NDCs of Colombia and Uganda was made to compare these two countries' climate actions to all targets. They claim that "across the INDCs examined, we found climate actions that were aligned with 154 of the 169 SDG targets" (p.2). However, this is a very skewed conclusion if one analyses how this research is done. In the research from Northrop et al. (2016), to align with the targets, only one action in one INDC had to relate to a target. This means that, by imaginary example, if only the European Union would address target 3.4 ('reduce premature mortality from non-communicable disease'), this target was addressed by climate actions. This gives a false interpretation of how the targets are covered in the (I)NDCs since it does not say anything about the number of countries focusing on these targets. Another difficulty is that perfect alignment with the targets is

hard to determine, as this depends on how broadly one interprets both the climate action and the target. Often the targets include several actions or thematic areas and it is an arbitrary exercise, more than determining the coverage of the SDGs, to determine whether each target is covered in the (I)NDCs. Nevertheless, it is understandable that Northrop et al. (2016) tried to do this analysis, as the targets to provide more in-depth information on what the countries actually write in their (I)NDC.

Acknowledging the fact that targets do provide more insights in the actions, but also taking into account the flaws of the research from Northrop et al. (2016), this research provides a new analysis of how the targets are covered in all the (I)NDCs. To provide a more representative view of the coverage of the targets, all countries have been taken into account. The results of such an analysis can be found in Table 5; Annex V provides a more elaborate table by showing if each target is covered by the majority of countries or not. The analysis for Table 5 is based on the following criteria:

- Very weak. A majority of the countries covers 0-20% of the targets per SDG.
- Weak. A majority of the countries covers 21-40% of the targets per SDG.
- Medium. A majority of the countries covers 41-60% of the targets per SDG.
- Strong. A majority of the countries covers 61-80% of the targets per SDG.
- Very strong. A majority of the countries covers 81-100% of the targets per SDG.

SDG	Coverage of targets
1. No poverty	Weak
2. Zero hunger	Weak
3. Good health and well-being	Very weak
4. Quality education	Very weak
5. Gender equality	Very weak
6. Clean water and sanitation	Medium
7. Affordable and clean energy	Very strong
8. Decent work and economic growth	Very weak
9. Industry, innovation and infrastructure	Medium
10. Reducing inequalities	Very weak
11. Sustainable cities and communities	Weak
12. Responsible consumption and production	Weak
13. Climate action	Very strong
14. Life below water	Very weak
15. Life of land	Medium
16. Peace, justice and strong institutions	Very weak
17. Partnership for the goals	Weak

Table 5. Coverage of targets in the (I)NDCs per SDG.

Table 5 shows that for a majority of the SDGs (12 out of 17) the coverage of targets is either weak or very weak. Only for a couple there is a medium coverage (SDGs 6 'Clean Water and Sanitation', 9 'Industry, Innovation and Infrastructure' and 15 'Life on Land') and only two (SDGs 7 'Affordable and Clean Energy' and 13 'Climate Action') have a very strong coverage. This shows that although the various topics of the SDGs are addressed in the (I)NDCs, the relationship between the exact SDG agenda and the (I)NDCs is not very strong. This is can be assigned to several reasons: (1) countries often do not elaborate much upon their plan of action and therefore the relationship to the targets cannot be made or determined; (2) actions are often climate oriented and do no necessarily focus on all the development issues described in the targets; (3) some targets are very specific and have no

close relation to climate change at all. However, as this analysis is only based on a majority of the countries, it does not show that some countries do have elaborate actions in areas addressing the SDG targets. There are big differences between the (I)NDCs in the degree of specificity, but Table 5 shows that most countries have not elaborated much upon their action beyond covering specific themes. Hence, one must also be critical if concluding that climate action and development are approached in an integrated manner: as actions are not further specified, this can mean that for the actual implementation a different strategy is chosen. In the end these are all just plans on paper and do not provide insights on what is actually happening on the ground.

Something that is also striking is the difference in results between this analysis and the statement from Northrop et al. (2016). When examining their paper better one understands they often only found one action per target[13] and that therefore their conclusion can be questioned. It is true that many of these targets are addressed when analyzing all the SDGs, although this can be still debated as this is much based on interpretation, but Table 5 shows that when analyzing all the targets, their coverage is rather weak.

5.3. Mainstreaming in the (I)NDCs

From this chapter it has become clear that the SDGs and (I)NDCs have close synergies, especially in areas focused on mitigation efforts. However, the main topic of this research is mainstreaming climate action into the development agenda. One can convincingly argue that the SDG coverage described earlier in this chapter would actually account for a type of mainstreaming: integrating development objectives into climate plans is a type of mainstreaming, although the reverse of the often described integration of climate actions into the development agenda. It is not easy to fit this type of mainstreaming in the analytical framework designed for this thesis, although the idea of 'adaptation/mitigation as development' might be the type most fitting. On the other hand, the idea of integrating climate action into the development agenda is still crucial to examine in the (I)NDCs, as in the end the different development sectors often outline the key ways forward for a country, including climate mitigation and adaptation pathways. Therefore, it is also interesting to examine how the (I)NDCs describe this type of mainstreaming.

Analyzing the (I)NDCs upon referring to mainstreaming or integrating climate action into the development agenda, the following statistics can be derived:

- 100 countries wish to or stated to have already mainstreamed climate action into the national development agenda and sectorial strategies;
- 17 countries only mention partial mainstreaming. For example, a country can state something along the lines of: 'We aim to mainstream climate risks in the health sector'. Since this is action does focus on mainstreaming but not for the entire development agenda, this is classified as partial mainstreaming;
- 45 countries have no reference to mainstreaming or integrating climate action into the development agenda.

Using the characteristics of the analytical framework of this research, one can place the 162 countries into the different established categories. The results for this can be seen in Table 6.

[13] In Annex I they provided for some targets multiple mentions per country. However, this is by far not all the countries that submitted an (I)NDC. Additionally, the actions mentioned in the working paper are often stronger than those shown in Annex I.

Type of mainstreaming	Number of countries
'No mainstreaming'	45
'Ad-hoc responses'	0
'Climate-proofing development'	28
'Climate action through development processes'	85
'Climate action as development'	4

Table 6. Categorization of all countries references to mainstreaming based on information from the (I)NDCs.

The categorization in Table 6 is based on the following aspects:

- 'No mainstreaming': No references to mainstreaming can be found in the (I)NDC.
- 'Ad-hoc responses': As this is in this case hard to distinguish from the 'no mainstreaming' category, none of the countries fitted this description.
- 'Climate-proofing development': Countries that only partly mainstream climate action into the development agenda, clearly focus on adaptation only or distinctly treat climate change as an externality to development.
- 'Climate action through development processes': Countries that aim for reducing underlying vulnerabilities, aim for long term climate-friendly development or integrate climate action in all sectors of decision-making.
- 'Climate action as development': countries that do not refer to mainstreaming explicitly but make it clear that climate action and development should be undertaken in the same endeavor.

The categorization shows that a majority of the countries that submitted an (I)NDC aim for a mainstreaming process along the lines of 'climate action through development processes'. These countries see the need for having a long-term vision, addressing underlying vulnerabilities and integrate climate action in (almost) all sectors of government. Only four countries aim for a sustainable development approach that includes both climate action and development objectives through the same actions, without specifying the need for mainstreaming. However, many others do explicitly state the need for mainstreaming, which underlines the idea that both issues are not (yet) pursued in an integrated manner. Next to these two groups, 28 countries take a more development orientated approach towards mainstreaming. These countries either see climate change as an externality to development, or aim for integration of climate action in some sectors. Together, this gives a mixed view of how mainstreaming is wished to be pursued by countries. Although one can make an interesting observation that a majority of countries would aim for an approach in line with the ideas of scholars, also still almost half of the countries do not pursue this type of mainstreaming.

Moreover, this categorization should not be treated as a definitive result for mainstreaming, because it is hard to determine the type of mainstreaming solely based on the information in the (I)NDC. Often only a few sentences are dedicated to describing mainstreaming which makes it difficult to categorize accordingly, resulting in that multiple categories could potentially apply. Additionally, there is also a difference in countries that aim to mainstream, see the lack of mainstreaming as one the main barriers or already have a complete mainstreaming process in place. This gives less weight to strong phrasings regarding mainstreaming, as countries might not have started the process yet. This is also the reason this research looks more in-depth at two countries, to see whether the actions in the (I)NDC actually align with national sectorial policies. Finally, the next section will deal with the question to what extent the SDG coverage described earlier and the type of mainstreaming analyzed here relate to each other.

5.3.1. Mainstreaming and coverage of SDGs

One can make two hypotheses about the relationship between the explicit mentioning of mainstreaming and SDG coverage in the (I)NDCs. The first one would be that mainstreaming and SDG coverage should be highly correlated, as coverage of both topics shows that countries clearly see the link between climate action and development and the need for integration. However, another hypothesis would be that if a country covers development related topics in their (I)NDC, there would be no need for mainstreaming as they see that climate action and development just form one and the same agenda. While both can be argued for with quite good reasons, the (I)NDCs do provide information to test both hypotheses. The results are seen in figure 8.

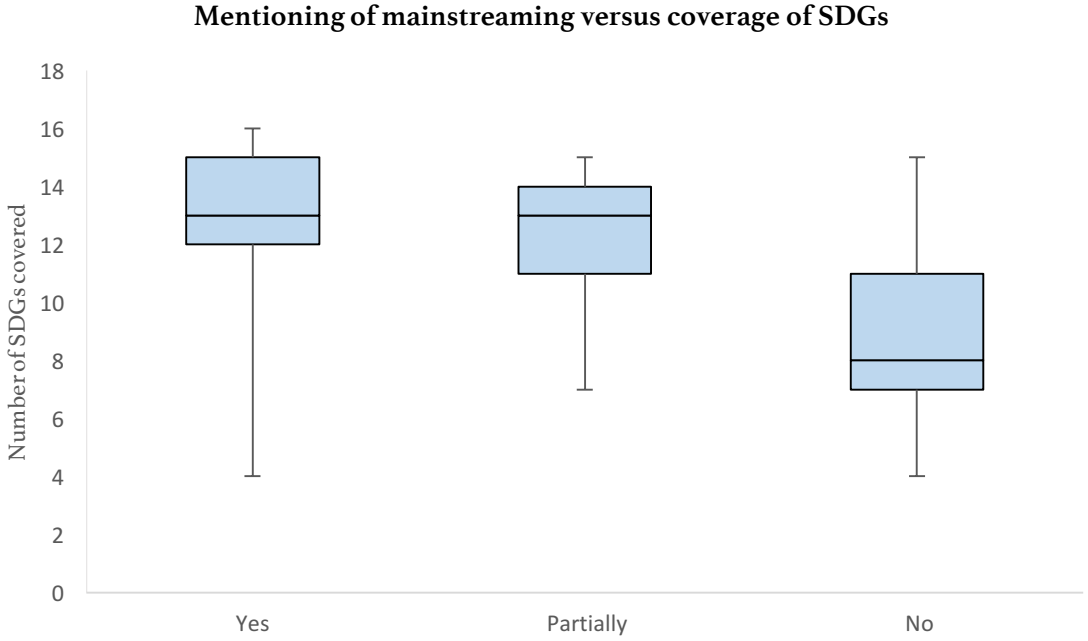

Figure 8. Graph showing the relationship between mainstreaming and coverage of SDGs. On the x-axis the three different categories of mainstreaming are shown, the y-axis shows the amount of SDGs covered. The horizontal lines show each median, the box the interquartile range and the whiskers the distance to the minima and maxima. The means are the following for each category: Yes (13.20), Partially (12.11), No (8.87).

Based on Figure 8, the first stated hypothesis seems more credible. Both the 'Yes' and 'Partially' groups include countries that have a high SDG coverage, while the 'No' group's average is quite lower. Although the variance between the maxima and minima is quite big in all the groups, the average and medians give a good indication how the majority of the countries within each group cover the SDGs. Based on this graph, it seems that countries see the close relationship between climate action and development, but that climate actions still need to be integrated more into the development agenda. The idea that already one agenda has been formed at the national level including both climate action and development is less likely based on the findings shown in Figure 8. This could also be an additional explanation for the weak coverage of targets as shown in Table 5: while the countries do see the synergies between climate action and development, their plans do not form one agenda or are not closely integrated yet. One can also see the high SDG coverage in the (I)NDCs as a first step into this mainstreaming process as the integration of development objectives into climate plans seems present and that the next step would be to integrate climate actions into the development agenda. To provide more insight on this, the two country case studies of this research will see whether the actions of the NDC can be found in sectorial development policies.

5.4. Conclusion

The results presented in this chapter from the analysis of the (I)NDCs clearly show the synergies between climate action and development. With an average SDG coverage of 70% and a majority of countries covering at least 12 out of 17 SDGs, there is not much doubt about the linkages of both agendas. Despite having criticism on the target analysis of Northrop et al. (2016) and providing a new figure on the amount of targets covered in the (I)NDCs, this research agrees with their message that the close relationship between the SDGs and the Paris Agreement provide significant opportunities for both agendas to be implemented in an integrated and synergetic manner. While Le Blanc (2015) has explained the interconnectedness of the SDGs (as his analysis shows that some SDGs have many direct relationships with others SDGs: four SDGs even relate to at least ten other SDGs), Northrop et al. (2016) and this research show the direct connections between climate action and development. Yet, both the SDGs and the (I)NDCs are not closely aligned at this point in time. Only a few countries explicitly mention the SDGs in their (I)NDCs and its targets are not well addressed. Moreover, the themes of the SDGs are frequently covered in the (I)NDCs, but the information provided on these themes is different from the contents of the SDGs, just as there is a large difference between developing and developed countries. If one sees both agendas as inseparable it is also striking that some SDGs focusing on fundamental issues, such as reducing poverty or inequalities, are barely addressed in the (I)NDCs. It could be that these are potentially covered in actions under other SDGs, but it seems that these underlying factors are currently not addressed in the (I)NDCs. Despite all this, one should not forget that most of the (I)NDCs were written before the SDGs were adopted: this makes the high coverage of SDGs in the (I)NDCs more surprising than the not complete alignment of both agendas. Moreover, one of the most essential things to not forget, is that current action do not fulfil the objective of the Paris Agreement to stay below 1.5 or 2 degrees rise in global temperatures. Therefore, in the coming years there is the chance for countries to update, revise and increase the ambition of the NDCs to align the plans more with the Paris Agreement. This would also give the countries the possibility to better align the NDCs with the SDGs. Combining both agendas does give the opportunity for the synergetic implementation of climate action and development objectives, it only remains the question to what extent countries prefer to do this within their NDC. Likely these debates will continue in the coming years within the COP negotiations and also within the international development forums.

One item that is important to understand, and has not been discussed up to now, is the question of who writes these (I)NDCs. While this is hard to determine as no data is available that fully answers this question, there a couple of noteworthy things that can be said about it. A peculiarity is that, if one adds up the needs for mitigation and adaptation finance expressed by developing countries to implement their (I)NDC, there is a much higher need expressed for mitigation finance than adaptation finance. This does not seem completely logical as developing countries are often much more vulnerable to the impacts of climate change and have a smaller share of emissions per capita: it would make more sense that the priorities lied on increasing resilience and adaptive capacity of the country than trying to reduce emissions, especially as adaptation provides national and local benefits while mitigation predominantly gives global benefits. One of the key explanations why there is more focus on mitigation finance could be that the (I)NDC are often written by an environmental ministry rather than a development ministry or an integrated effort between different ministries. Using data from the World Bank's NDC Platform one can see that under the category 'Political decision of adoption of INDC' frequently only environmental ministries were involved. Agrawala (2005) states that knowledge of development is often concentrated in the economic or development ministries, while

knowledge of climate change is often housed in the environmental and meteorological departments, which could explain the focus on mitigation in the INDCs rather than on adaptation. However, the data from the World Bank also shows that for some countries the political decisions include several ministries or a committee specifically dedicated to climate change. In the INDCs themselves some countries also refer to how the INDC process came about and who was consulted in drafting the plan, but this is definitely not the case for all the countries. As this data does not give a definitive insight in who writes the (I)NDCs, especially as frequently countries are missing in the World Bank database, it shows that this is a topic which requires more research.

Concluding from this (I)NDC analysis, another important element to highlight is the degree of integration of the (I)NDC in the national development agenda. Having a high SDG coverage does not say whether the country actually has an integrated policy making framework, as it could also be that the environment ministries see the importance of an integrated approached but that an in-country coordination mechanism does not yet exist to have a synergetic approach towards climate action and development. Nevertheless, CKDN (2016) writes that almost all NDCs are based upon existing policies already, although these are often climate change related strategies. Additionally, they state that NDCs can be perfectly stand-alone documents, but they need to be related to and integrated with other existing policies. Based on the mainstreaming analysis of this chapter, many countries do express the wish for this integration, both explicitly and implicitly via high SDG coverage. Although phrased in different statements, a majority of the countries opt for a mainstreaming approach this research labelled as 'climate action through development processes'. Despite the fact that one should approach this classification with caution as limited information is available in the (I)NDCs on mainstreaming, this classification is in line with the views of the majority of the scholars. Therefore, while (I)NDC are commonly known as national climate plans, the countries do underline that climate change is a much broader issue than just reducing emissions. Some countries even mention that a paradigm shift in development endeavors is needed to meet the climate targets, which shows the vastness of the issue. Nevertheless, the intentions stated on paper do not have to reflect the reality on the ground in countries. As many stated the request for technology transfer, capacity building and financial support for the implementation of the (I)NDC, it is unlikely that the countries will all be able to achieve a successful mainstreaming process on its own. To make a start with determining to what extent mainstreaming is happening, the the next two chapters are dedicated to the case studies of Kenya and Cambodia to see how the actions of the NDC relate to actions in national sectorial policies.

6. Country Case Study: Cambodia

In its communications, the Cambodian government is quite clear about the threat climate change poses to development. In all the major documents published, the threat of climate change is highlighted. The NDC unequivocally states that Cambodia is "one of the most climate vulnerable countries in the world" (p. 3). It explains how the increased frequency of extreme weather events such as floods, droughts and windstorms threatens economic development and causes hundreds of millions US$ in damage. Important to understand, as explained in the 'National Strategy for Food Security and Nutrition 2014 – 2018', is that Cambodia's vulnerability to climate change is not mainly caused by its high exposure to extreme weather events, but predominantly because it lacks adaptive capacities. Structural factors explained for this are that many people still live in poverty, have low education levels and are not protected by social safety nets. Moreover, the economy does not rely on a diverse range of sectors, but mostly on four main sectors: garment, tourism, construction and agriculture (CCCSP, 2013).[14] The different development and climate change documents highlight how climate change impacts various sectors, some of which are highlighted below:

Agriculture

- Agricultural systems are influenced by variations in local climate and monsoon regimes (NDC; Cambodia's Second National Communication)
- Agriculture is heavily impacted by various numbers of natural hazards (Plan of Action for Disaster Risk Reduction in Agriculture 2014-2018)
- There is a high correlation between losses in crop production and floods and droughts (Cambodia's Second National Communication)

Forestry

- Forests will be exposed to longer periods of droughts; hence these will experience larger water deficits (NDC)

Health

- Climate change both causes indirect (i.a. diseases, malnutrition, hunger) and direct (i.a. death, injury, psychological disorders) impacts to human health (NDC)
- Cambodia is vulnerable to tropical diseases such as malaria and dengue fever (Cambodia's Second National Communication)

Infrastructure

- Increased frequency of floods leads to higher costs and maintenance for road and irrigation infrastructure (NDC)
- Road infrastructure has been seriously impacted by water erosion, which is caused by flooding damages (Climate Change Strategic Plan for Rural Infrastructure)

Coastal zones

- Climate change adds new pressures on existing problems in coastal zones through sea level rise, less fertile land and drinking water deficits (NDC)
- Coastline and Mekong River flood plain could be severely impacted by climate change (Cambodia's Second National Communication)

[14] For an overview similar key statistics of Cambodia, Annex VI has highlighted these.

In this chapter these various national development and climate change documents will be further analyzed to see how both are integrated at the national level. This will be done in several steps. First, the national structure on climate action in Cambodia will be described. This will give an overview of the major institutions involved and how the various plans produced are linked to each other. Second, three key documents will be discussed: the NDC, the Cambodia Climate Change Strategic Plan 2014 – 2023 and the National Strategic Development Plan 2014 – 2018. As third follows a section analyzing how well the different sectorial strategies align with the actions outlined in the NDC. After that the process of mainstreaming in Cambodia will be explained and the type of mainstreaming will be determined using all information analyzed. At last a concluding section will sum up the main insights from this chapter and analyze what the case of Cambodia shows about mainstreaming and the synergies between climate action and development.

6.1. National structure on climate action

Before analyzing how mainstreaming is occurring in Cambodia, the main structure around climate action will be explained. The starting point for any actions related to climate change is the Ministry of Environment. This ministry has lead the production of climate change strategies, but also addresses other environmental issues. In the past, as is explained in the Cambodia Climate Change Strategic Plan 2014 – 2023 (CCCSP), the central focus for climate action was the National Climate Change Committee (NCCC). This committee was responsible for monitoring and implementing Cambodia's climate change plans, programs and strategies, and also wrote the CCCSP. The secretariat of the NCCC was hosted by the Climate Change Department (CCD), situated within the Ministry of Environment. However, since May 2015 the situation changed, as is explained on the website of the Cambodian Department of Climate Change. The main focal point now is the National Council for Sustainable Development (NCSD). This council still falls under the Ministry of Environment as its secretariat is located there. Members of the NCSD include all different high-level representatives from various ministries, making it an inter-ministerial body. The secretariat of the NCSD, abbreviated GSSD, leads over five departments in the Ministry of Environment: Department of Administration, Planning and Finance, Department of Climate Change, Department of Green Economy, Department of Sciences and Technologies, and Department of Biodiversity. The main tasks of the GSSD include monitoring, coordinating and managing the budget of the NCSD. In comparison to the NCCC, the NCSD now has a broader focus as all actions should contribute towards sustainable development and not only climate change. Its responsibilities inter alia include the development of plans, fostering partnerships, and promoting research. Importantly, its responsibilities also clearly include the process of mainstreaming sustainable development in other policies. To do this, the Climate Change Technical Team (CCTT) coordinates with the other ministries.

6.2. Nationally Determined Contribution (NDC)

The NDC of Cambodia is produced by the NCSD, together with the INDC Preparation Team. In the NDC is written, despite the fact that Cambodia is an LDC, that the country aims to reduce emissions compared to a business as usual scenario in 2030. This is done in two broadly defined categories:

- Energy industries, manufacturing industries, transport and others sectors. In these sectors Cambodia aims to achieve a reduction of 3,100 Gg CO_2eq. Within each of these sectors the plan identifies several actions, such as: increasing renewable energy generation, promoting energy efficiency, promoting public transport and reducing emissions from waste.

- Land use, land use change and forestry (LULUCF). In these sectors Cambodia aims to achieve a reduction of 7,897 $GgCO_2$ in 2030. This is mainly done through increasing forest cover to 60% (which is 3% more than today) of national land by 2030 via reclassification of forest areas to avoid deforestation, increasing protected areas, and protecting forests and community forests.

For adaptation, thirteen priority actions are identified. These focus on ecosystem resilience, management of protected areas, early warning systems, flood protection dykes, mobile water pumping stations, climate-resilient agriculture, crop diversification, resilient aquaculture systems, road infrastructure, national programmes for diseases, and increasing technical and institutional capacities. Moreover, it emphasizes that mainstreaming is something important to be done and that these actions require a multi-sector approach. Combining all these actions together and categorizing them according to the themes of the SDG coverage, Cambodia covers in their NDC 15 out of 17 SDGs.

The NDC highlights the CCCSP as the main way to implement its targets. Additionally, four strategic priorities are highlighted: (1) development of sectorial climate change strategic plans, (2) mainstreaming adaptation into development planning, (3) using the National Adaptation Process (NAP) to strengthen adaptation actions, and (4) implementation of forestry actions under the national REDD+ framework. The implementation of the NDC also requires support in the form of capacity building, technology transfer and finance. The needs for capacity building are outlined in sectorial climate action plans, while a detailed technological needs assessment will be done in the implementation phase of the NDC. In total Cambodia requires an additional US$1.27 billion to support the implementation.

6.3. Cambodia Climate Change Strategic Plan 2014 – 2023 (CCCSP)

The Cambodia Climate Change Strategy Plan 2014 – 2034 (CCCSP) provides the overall national framework for climate change (Am et al., 2013). It is the first comprehensive document on climate change and functions as the main strategy for climate action in Cambodia. It includes eight strategic objectives, as outlined on page xvii: (1) promote climate resilience through improving food, water and energy securities, (2) reduce sectorial, regional, gender vulnerability and health risks to climate change impacts, (3) ensure climate resilience of critical ecosystems biodiversity, protected areas and cultural heritage, (4) promote low-carbon planning and technologies to support sustainable development of the country, (5) improve capacities, knowledge and awareness for climate change response, (6) promote adaptive social protection and participatory approaches in reducing loss and damage due to climate change, (7) strengthen institutions and coordination frameworks for national climate change responses, and (8) strengthen collaboration and active participation in regional and global climate change processes. In Annex I of the CCCSP, these strategic objectives are also defined for each sector. For each of the strategic objectives outlined, it is explained what each specific line ministry's objectives are. These are based on the sectorial strategies for climate change each line ministry developed. These objectives all contribute to three main goals: reducing vulnerability, moving towards a low-carbon economy, and promoting awareness and participation.

One of the most insightful parts of the document is the section where is analyzed what the strengths, weaknesses, opportunities, and threats (SWOT analysis) are of Cambodia's responses to climate change. Among the strengths, the plan for example states that there is increased awareness on climate change and there is support for climate solutions from the

government, NGOs and civil society. For the weaknesses, next to the frequently mentioned lack of (financial) resources and capacity, it mentions that climate change planning is not a common practice and that the integration of climate change into the development agenda lacks a clear procedure. An interesting remark in the opportunities section is that there is political commitment to take climate action. However, the threats state that there is still a low understanding of climate responses and there are other policies and priorities competing with climate responses. The SWOT analysis is not further elaborated upon, but from these insights a complex pictures arises. It shows that there is increasing support and awareness on climate change, although the level of awareness might not yet be high enough. Additionally, while the integration of climate action into the development agenda is frequently mentioned throughout the document, there are still hurdles to overcome in this process.

The implementation of the CCCSP is further elaborated upon in the 'Climate Change Action Plan 2016 – 2018' developed by the Ministry of Environment. With this action plan, the Ministry of Environment expects four impacts: (1) greater awareness on climate change, (2) increased institutional capacity and mainstreaming, (3) increased community resilience, (4) and greater GHG emission reductions. These are to be achieved through the seventeen action outlined in the CCCSP and Annex I of the action plan provides an even more detailed list of actions elaborating upon the objectives of the CCCSP.

6.4. National Strategic Development Plan 2014-2018 (NSDP)

Multiple development strategies exist for Cambodia, of which various focus on green growth[15]. One of these is the National Green Growth Roadmap (2009). This roadmap focuses on seven topics: renewable energy, land use, mobility, water, food security, finance and information. Actions were identified for these different sectors, although not supported with quantified targets. The roadmap already emphasized the need for mainstreaming the green growth strategy in the overall development agenda of Cambodia. The National Policy on Green Growth (2013) is much shorter than the roadmap and it is also unclear whether it functions as follow up for the National Green Growth Roadmap. It also has very few references to climate change: the only remark on climate change states how communities have to adapt to increase resilience. However, the main strategy concerning development is the National Strategic Development Plan 2014-2018 (NSDP).

The NDSP outlines four main development objectives: (1) ensure average economic growth of 7%; (2) create more jobs; (3) achieve a poverty reduction rate of higher than 1% annually; and (4) increase institutional capacity at national and sub-national level. In the entire document multiple references to climate change are made with regards to different sectors: agriculture, fisheries, water, food, health, soil and land management, forests, road infrastructure, aviation, and gender. Other sectors described in the NDSP (land reform and de-mining, energy, ICT, tourism, financial, education) do not have any statements on climate change. Nevertheless, for the sectors that do highlight the dangers of climate change, these often only describe climate change very broadly and no specific actions are mentioned. There is a chapter on environmental sustainability that clearly states the effects of climate change should be taken into account, but the actions listed there are still much less specific than general sectorial actions described in the NDSP. Despite the relatively weak linkages to climate change, the plan does state that one of the objectives is

[15] The NDSP refers to the National Policy on Green Development and National Strategic Plan on Green Development 2013 – 2030, but these could not be accessed.

to fully implement the CCCSP. However, while this is the aim, it also outlines challenges for the Ministry of Environment for their climate action efforts: lack of action plans, limited inter-ministerial coordination, and lack of data.

6.5. Sectorial approaches

Next to the broad strategies outlined in the CCCSP and the NSDP, each line ministry ought to come up with its own sectorial climate change strategic plan (Ministry of Environment Japan, 2015). Many ministries have done this and these sectorial climate change strategies were published around 2013.[16] In this section, the information of these sectorial plans will be compared to their alignment with the information coming from the NDC. This will be done for various sectors: biodiversity & ecosystems, education & raising awareness, energy, food production, forests, gender equality, health, industry, infrastructure, transport, waste and water. If available, regular development strategies of the different ministries are also taken into account. Cambodia also has a NAPA, but this plan has not been taken into account in this analysis since it dates back to 2006 and includes actions that are not completely relevant anymore or have been changed into new policies.

6.5.1. Biodiversity & Ecosystems

The NDC states that Cambodia aims to restore natural ecology systems to increase adaptive capacities of communities and implement management measures for protected areas. More elaborated actions on biodiversity and ecosystems can be found in the 'National Biodiversity Strategy and Action Plan', published by the National Council for Sustainable Development in February 2016. Via multiple remarks it is clear that climate change is taken into account in this strategy, despite the fact that the four main strategic objectives do not directly relate to climate change and no direct alignment with the CCCSP is mentioned, only with the Green Growth Map and the NDSP. Planned actions include: to highlight success stories on climate adaptation, the protection of vulnerable habitats and ecosystems, how indigenous people's knowledge can contribute to ecosystem resilience and describe trends in species that are vulnerable to climate change. However, it is also mentioned that the measures do not aim to address the current state of biodiversity (like protected areas) but also focus on the underlying vulnerabilities of biodiversity loss. Moreover, one of the twenty-four outlined themes specifically focuses on how to deal with the relationship between climate change and biodiversity. Three actions are described in this light: assess climate change impacts on biodiversity and ecosystems, estimate how biodiversity can support climate action, minimize human impact on ecosystems. Additionally, target 15 focuses solely on significantly reducing anthropogenic impact on ecosystems.

Alignment. The sectorial climate change strategy and the NDC are not particularly well aligned. The actions described in the NDC are rather broad and not specifically referred to in the National Biodiversity Strategy and Action Plan. Especially the action related to protected areas is different: while this a specific aim in the NDC, the sectorial climate change strategy explicitly states that this should not be the sole focus. Nevertheless, the

[16] Ministries that are not considered relevant to climate action have been excluded from this analysis, just as the Ministry of Environment has been, as its main strategy is the CCCSP. The following ministries have been considered, but no (readable) sectorial (climate change) strategies could be found: Ministry of Economy and Finance, Ministry of Land Management, Urban Planning & Construction, Ministry of Tourism.

sectorial strategy does provide more elaborate actions than the NDC does, showing that climate change is taken into account for the management of biodiversity and ecosystems.

6.5.2. Education & Raising awareness

The NDC of Cambodia only refers to education and increasing awareness in very general terms on page 13, by referring to one of the strategic objectives of the CCCSP: "'Improve capacities, knowledge and awareness for climate change responses". However, the Ministry of Education, Youth and Sport has outlined multiple objectives in its sectorial climate change plan. It aims to increase the adaptive capacity within education through increasing the resilience of educational infrastructure and to increase awareness about food and health at schools. For mitigation efforts, although the emissions from educational facilities are small, the objectives are to increase energy efficiency, promote public transport and rely on renewable energy for local power supply. Additionally, within the curriculum of schools more emphasis is put on raising awareness on climate change, vocational training should increase capacities to respond to climate change and potentially post-graduate courses on climate action could be developed. To increase awareness about climate change, the Ministry of Education, Youth, and Sport has also outlined several priority areas to increase knowledge and skills, such as discussing the impacts of climate change on various sectors and improving quality and access to climate change education. Moreover, there are five strategic priority areas environmental education should focus on: improve educational policy, planning, research and analyses for climate change, improve teaching quality, conduct trainings on climate adaptation, increase climate change awareness in non-formal educational programs, and build schools at the right locations to increase climate resilience. All these objectives elaborate on the statement in the NDC regarding increasing awareness and provide more in-depth information in the planned action undertaken.

However, in two documents not directly aimed at climate change, 'Policy on Higher Education Vision 2030' and 'Education Strategic Plan 2014 – 2018', very limited references to climate change are made by the Ministry of Education, Youth, and Sport. While none can be found in the 'Policy on Higher Education Vision 2030', only two references are made in the 'Education Strategic Plan 2014 – 2018'. The first focuses on training teachers, students and stakeholders on preventive measures for disasters, which includes climate change. The second focuses on increasing awareness on climate change by teachers.

Alignment. The actions stated in the sectorial climate change strategy for education elaborate on the action mentioned in the NDC. However, as the action mentioned in the NDC is very broad and also comes directly from the CCCSP, it is questionable to make this link. Nevertheless, the education sectorial climate change strategy does contain multiple actions on climate change for both mitigation and adaptation. The only question that remains is how important this sectorial climate change strategy is when reading the overall strategy on education. As very few references to climate change are made in the vision and strategic plan on education, it cannot be determined whether the actions mentioned in the sectorial climate change strategy will actually be applied in practise.

6.5.3. Energy

One of the key sectors for climate action in the NDC is energy. Through various actions Cambodia aims to reduce energy related emissions with 3,100 GG CO_2eq compared to baseline emissions of 11,600 Gg CO_2eq by 2030. A reduction of 1,800 Gg of CO_2eq (16% reduction compared to the baseline) is achieved through promoting energy efficiency by end users, increasing renewable energy generation in the national grid and more off-grid

renewable energy installations. More reductions, although this (partly) contributes to a much lower amount (i.e. 155 Gg of CO_2eq), is achieved through energy efficiency measures in buildings and cook stoves and using renewable energy in irrigation and solar lamps. More energy related measures are mentioned in the climate change sectorial strategy of the Ministry of Industry, Mines and Energy. However, only very limited references are made with regards to energy policy, as the actions are more focused on the industrial sector. The strategy outlines general principles of the Cambodian government, which focuses on increasing energy development, diversification of energy, private investments, energy businesses and energy security. Within the sectorial strategy three other areas are highlighted: rural energy electrification, solar energy for households, and hydropower and renewable energy stations. For these areas only brief elaborations are provided and no quantified targets are mentioned. In another part of the strategy multiple challenges in the energy sector are mentioned: high energy prices, lack of awareness and policies on energy efficiency, lack of finance, limited capacity with both government and private sector officials, limited data on CO_2 emissions. In addition to these energy specific policies, the strategy also has a broad set of objectives for both the manufacturing and energy sector, such as: increase capacities, foster materials and equipment, strengthen communications, identify GHG hotspots, knowledge sharing, create data systems, mobilize funds for R&D, and implement legislations on technical standards.

Alignment. While the NDC has quite elaborate actions on energy, especially compared to other sectors, the sectorial climate change strategy hardly elaborates on this. In this strategy energy production is not the main focus and only brief remarks are made, just as the reduction target is also not mentioned anywhere. The actions listed in the NDC are sometimes even more elaborate than those in the sectorial climate change strategy. Therefore, the two documents are not very well aligned.

6.5.4. Food production (agriculture and fisheries)

The NDC recognizes that agriculture is a key sector threatened by the effects of climate change. Hence, it is unsurprising it lists three priority actions related to agriculture: developing climate-proof agriculture to respond to changes in water supply, promoting climate resilient agriculture in coastal areas and developing crop varieties suitable to Agro-Ecological Zones. Additionally, it describes the priority action of promoting resilient aquaculture production systems.

The main strategy produced by the Ministry of Agriculture, Forestry and Fisheries is the 'Agricultural Sector Strategic Development Plan 2014-2018', published in May 2015. Analyzing the entire document, it is clear that climate change is seen as a major issue. Various sub-programs highlight the need to take into account the impacts of climate change, such as for rubber production, land management, horticultural crop productivity, machinery and fisheries. In addition to multiple references in various parts of the strategy, the most elaborate climate actions are described in the specific chapter on a strategic framework for climate change in agriculture. The strategic framework has five main objectives: increase human and institutional capacities for technologies in multiple sectors, increase technological capacities of farmers, reduce GHG emissions from forest loss and degradation, increase effectiveness of fisheries and strengthen capacity development in various food production related sectors. Additionally, for five different sectors (agriculture, rubber, livestock, forestry and fisheries) more detailed actions are specified. Often these relate to increasing technical capacities, increasing productivity, reducing GHG emissions and capacity building. Through these actions it also becomes clear that still significant more financial and technical support is needed to achieve the actions outlined. Another

interesting point is the fact that the strategy states that it is aligned with the NSDP, but that no specific reference is made to the CCCSP.

The Ministry of Agriculture, Forestry and Fisheries also produced a plan specifically focused on reducing risks from disasters in agriculture. It outlines five main priority actions, as stated on page iv: (1) strengthening institutional and technical capacity for disaster risk reduction, climate change adaptation, and sustainable land management in agriculture; (2) enhancing early warning systems; (3) improving knowledge management, awareness raising and education on disaster risk reduction and climate change adaptation; (4) reducing underlying vulnerabilities by improving technical options in agriculture; and (5) strengthening preparedness capacities for effective emergency response and rehabilitation and integration of disaster risk reduction and climate change adaptation interventions. The plan also specifically mentions that is has to be integrated with sustainable agriculture planning. For all of these actions, Annex I of the document shows a detailed table which specifies the actions even more. Frequently these include quantified targets, but it also shows the years in which it needs to be implemented just as the ministry which is responsible for the implementation.

The National Strategy for Food Security and Nutrition (2014 – 2018), developed by the Council for Agricultural and Rural Development and a document not specifically focused on climate change in contradiction to the other sectorial plans analyzed in this section, also has multiple mentions of the risk climate change plays for food security. While its long term vision and the key objectives do not specify the need for climate action or resilience in the food supply, under one of the objectives it is mentioned that disaster preparedness, mitigation and increasing resilience towards climate change is needed. Additionally, the strategy recognizes that climate change affects household food security and states that progress has been made through the NAPA and CCCSP. However, problems that still remain to deal with this challenge are the lack of sufficient capacity, and, interestingly, the lack of mainstreaming climate resilience and the insufficient integration of disaster risk reduction, food security and climate adaptation. From this strategy it is very clear that increasing climate resilience remains a key challenge in the food sector.

Another policy is the 'Agricultural Extension Policy in Cambodia' dating from 2015 and also written by the Ministry of Agriculture, Forestry and Fisheries. There are a couple of small remarks on climate change, but there is not an extensive focus on it. For example, in the development of special district policies for agriculture it is mentioned that these will be created with the support of climate change officials. Additionally, there are actions focused on R&D and climate change, just as is remarked that ICT plays an important role in climate change adaptation.

Alignment. The food production sectors, especially agriculture, has the most elaborate actions on climate change of all sectors. It is clear that climate change is large threat to food production and measures to combat it are well integrated in the various strategies. Nevertheless, the actions outlined in the NDC are not particularly covered by the sectorial strategies. For example, no mention is made of the Agro-Ecological Zones while this is a clear action in the NDC. The other actions in the NDC are a bit broader and covered by various actions in the sectorial strategies, although not with the same phrasings.

6.5.5. Forests

One of the most elaborate sectors described in the NDC is forestry. The main goal is to increase forest cover to 60% of the total land area by 2013, compared to a 57% estimate in 2010. This is aimed to be achieved through several actions: reclassification of forests, protected areas (2.8 million hectares), protected forests (3 million hectares), and community forests (2 million hectares). Moreover, it also refers to a plan to combat illegal logging. Analyzing the strategies published by the various ministries, there are two that focus on forestry. The 'National Biodiversity Strategy and Action Plan', published by the National Council for Sustainable Development in February 2016 has a theme (theme 9) on sustainable forestry. This theme outlines several actions: the protection of species, strengthening law enforcement to prevent illegal logging, involvement of local communities, promote environmentally forest practices, and monitor forest cover and resources. Additionally, the plan contains a detailed list of actions focused on four broad strategic objectives, which can be summarized around the themes of increasing awareness, describing factors influencing forest resources, increasing positive forest actions, and strengthening the environment for implementation of planned actions. In the 'Agricultural Sector Strategic Development Plan 2014-2018' the goal of 60% forest cover is repeated, although it is stated that it will be very challenging to meet it. Next to references to REDD+ and sub-programs on capacity building, increasing knowledge on technology, and doing more research, four strategic measures for the forestry sector are described: (1) increase efficiency in forest management, (2) forest conservation and reforestation including land mapping, increasing awareness of forest fires, supporting minorities, biodiversity protection, restoration of forest and enact forestry law, (3) research & development and extension programme on climate action and technical capacities, (4) increase technical capacity of staff and increase resources, and (5) increase awareness about climate change adaptation.

Alignment. Although the quantified targets of the NDC are not repeated in the sectorial strategy, the type of actions are similar in the sectorial strategy. Both focus on the management of various types of forests and relate to the target of 60% forest cover. The sectorial strategy also includes more actions on forest management than covered in the NDC, such as raising awareness, capacity building and supporting minorities.

6.5.6. Gender equality

Only in Annex I of the NDC, which outlines the objectives of the CCCSP, the NDC states an action related to gender equality: "Reduce sectorial, regional, gender vulnerability and health risks to climate change impacts". The Ministry of Women Affairs has elaborated actions described in the 'Climate Change Strategic Plan for Gender and Climate Change (2013-2023)'. A basic principle is the equal participation of all, with a special emphasis on the position of vulnerable women. One of the main approaches is the process of gender mainstreaming, which has to ensure the participation of women in decision making processes and using their insights to create adequate climate actions. The Gender and Climate Change Committee is responsible for creating awareness and promoting gender and climate change issues across the various ministries. More elaborate actions include increasing the capacities of the Ministry of Women Affairs, targeted interventions to address specific needs of vulnerable women, increasing research and development and showcasing best practices on gender issues.

Alignment. The NDC only describes gender equality in very broad terms, just as the sectorial climate change strategy does not contain very detailed actions. The actions in the sectorial climate change strategy are more elaborate than in the NDC, but still mostly

describe actions towards more gender equality in general terms without any quantified targets.

6.5.7. Health

Actions in the NDC related to health focus on the responses towards diseases. The NDC describes how action should be taken to up-scale the Malaria Control Program and national programs addressing acute respiratory infection, diarrheal disease and cholera. Additionally, this includes surveillance and research on water-borne and food-borne diseases. These diseases are also referred to in the sectorial climate change strategy of the Ministry of Health, although not the same wording is used. The sectorial climate change strategy is also more elaborate than the actions outlined in the NDC, based on three main objectives as stated on page 4: (1) to improve health care infrastructure and capacity of health personnel to cope with vector-borne and water-borne diseases in the context of climate change; (2) to enhance emergency preparedness and response to cope with extreme weather and climate change related disasters; and (3) to improve knowledge and research capacity on health impacts and vulnerability to climate change as an information base for mainstreaming climate change in the health strategic planning of the Ministry of Health and other sector planning.

Alignment. The sectorial climate change strategy and the NDC both focus on the same type of diseases, with the sectorial climate change strategy providing more detailed descriptions on the type of actions pursued. However, while the NDC explicitly mentions the Malaria Control Program, this is not described in the sectorial climate change strategy. Therefore, the alignment of both plans is not so strong, as not clearly the same type of action is pursued, despite similar topics being covered.

6.5.8. Industry

In the NDC, there is one action mentioned that focuses on reducing emissions in the industry sector, namely the promotion of renewable energies and energy efficiencies in garment factories, rice mills and brick kilns. This should bring a reduction in emissions of 727 Gg of CO_2eq compared to the baseline scenario. In the sectorial climate change strategy of the Ministry of Industry, Mines and Energy four elements are highlighted with regards to climate action in the industrial sector: energy efficiency, green industry, the use of environmental friendly technologies and chemical management. For promoting energy efficiency, the same industries are mentioned as in the NDC, while the food sector and the paper industry are additionally mentioned in the sectorial climate change strategy. To make the industry greener, the focus is on three actions: improving production efficiency, enhancing environmental performance and minimizing the risk with chemicals.

Alignment. The NDC contains one specific action related to industry (increasing renewable energy and energy efficiency) which is also directly stated in the sectorial climate change strategy: it is even elaborated upon by the inclusion of more types of industries. Moreover, it includes other strategies to make the industry 'greener', although these are not very detailed and do not contain quantified targets.

6.5.9. Infrastructure

With regards to infrastructure, the NDC identifies two priority actions. One focuses on the the development and rehabilitation of flood protection dykes, while another on repairing and rehabilitating road infrastructure. References to infrastructure in sectorial strategies can be found in the climate strategy for rural development infrastructure, developed by the Ministry of Rural Development. The strategy has four priority areas, as stated on page

2: (1) development of policies and regulations which relate to upgrading rural infrastructure quality and rural adaptation; (2) creation of rural business opportunities for savings and improved rural livelihoods; (3) provision of upgraded rural infrastructure projects as demonstrated in some areas; (4) provision of capacity building on climate change adaptation and rural health care awareness to communities. All the actions aim to increase resilience of rural infrastructure, which is the general goal of the plan. In the second part of the document, the priority areas have been further elaborated upon with specific actions. These also include multiple quantified targets and costs a total amount of 323 million USD. The plan also acknowledges that there is still room for improvement to collaborate with the Cambodia Climate Change Alliance (CCCA) and the Ministry of Environment (MoE).

Alignment. The actions described in the NDC on infrastructure are quite specific compared to other sectors and these are also not covered in the sectorial climate change strategy on rural development. However, the action focused on road infrastructure, as will be shown below in the transport section, is explicitly covered in the sectorial climate change strategy on transport. The sectorial climate change strategy does contain quantified targets, as one of the only strategies analyzed.

6.5.10. Transport

In the NDC two specific actions are mentioned on page 6 for mitigation actions in the transport sector, which should reduce emissions with 3% compared to the baseline scenario in 2030, with 390 Gg of CO_2eq: (1) promoting mass public transport; (2) improving operation and maintenance of vehicles through motor vehicle inspection and eco-driving, and the increased use of hybrid cars, electric vehicles and bicycles. While the NDC only focuses on mitigation actions for the transport sectors, the Ministry of Public Works and Transport outlines in the 'Climate Change Strategic Plan For For Climate Change Adaptation And Greenhouse Gas Mitigation In Transport Sector' various objectives for both mitigation and adaptation. All these objectives have more elaborate proposed actions, although none of these are supported with quantifiable targets. For adaptation, the following objectives are stated on page vii: (1) repair and rehabilitate the existing road infrastructure and ensure effective operation and maintenance system; (2) design and construct a road drainage system to meet changing conditions expected with climate change; (3) enhance adaptation capacity of road networks to extreme climate events; (4) capacity building and institutional strengthening. More objectives are outlined for mitigation: (1) raise public awareness about climate change caused by greenhouse gas emissions from the transport sector; (2) enhance inspection and maintenance of vehicles; (3) promote public transport in major cities; (4) mitigation and low carbon development; (5) capital-intensive urban transport infrastructure development and planning; (6) efficient and proven transport technology; (7) improve petroleum-based fuel; (8) shift long distance freight movement from trucks to trains; (9) enhance traffic management; (10) promote efficient driving (p. vii). In another transport policy, The National Road Safety Policy, written by the National Road Safety Committee and approved in February 2014, no references to climate change are made.

Alignment. Objective 1 of the adaptation actions in the sectorial climate change strategy on transport clearly overlaps with the action in the NDC on road infrastructure. Moreover, the other actions mentioned for the transport sector in the NDC are also covered in the sectorial climate change strategy. Therefore, the alignment with the NDC is strong. As the sectorial climate change strategy focuses on both mitigation and adaptation, climate change seems to be well considered for transport. However, there are no quantifiable

targets mentioned in the strategy, which makes the integration slightly less strong as it does not indicate clear actions being taken.

6.5.11. Waste

In the NDC there is a very short reference on reducing emissions using waste management, through the use of bio digesters and water filters. This partly contributes to reducing 155 Gg of CO_2eq emissions, which shows this is only a very minor action. As also no sectorial strategy on waste could be found, it seems like this is not a priority area for Cambodia yet.

6.5.12. Water

Two priority actions are mentioned in the NDC that relate to water. One focuses on increasing the amount of mobile pumping stations and promoting ground research, the other on developing climate-proof agriculture to respond to changes in water supply. Unfortunately, it cannot be determined whether these actions align with the sectorial climate strategy developed by the Ministry of Water Resources and Meteorology: while this strategy is available, it is only published in Khmer.

6.5.13. Comparison among sectors

Table 7 summarizes the information from the above paragraphs on the different sectors. One of the key conclusions one can draw from Table 7 is that the actions described in the NDC are more or less covered in the sectorial climate change strategies, although usually not very explicitly. The NDC and the sectorial climate change strategies are not made in collaboration, but they do address very similar topics. For some sectors, such as forestry and transport, the alignment is strong as both plans indicate very similar actions, while for sectors such as biodiversity & ecosystems and energy the actions differ quite significantly. Nevertheless, it can be sometimes difficult to determine the alignment between the NDC and the sectorial strategies, as the NDC for some sectors describes very broadly interpretable actions, which makes alignment easier, while for other sectors these are more specific, making alignment more challenging.

Nevertheless, the sectorial climate change strategies do show that the process of mainstreaming is occurring in Cambodia. All the sectors do address the dangers climate change pose to each different sectors, but in many cases these actions are still very broad without quantified targets. Therefore, the integration of climate action in these development areas can still be improved. Only for the agricultural sector a broad set of quantifiable targets are stated, making the integration is in a more advanced state for this sector already. Something that should also be taken into account is the alignment of sectorial climate change strategies with general sectorial strategies. For the sectors that had available general sectorial strategies, the actions outlined did usually not related well with the sectorial climate change strategies. Therefore, it remains the question whether these action outlined in sectorial climate change strategies will actually be pursued in these sectors.

Sector	Accessible sectorial strategy	Relates to actions from NDC	Elaborates on measures from NDC	Describes new climate related actions	Quantified targets	Sectorial alignment with NDC	Climate action integrated in sectorial strategy
Biodiversity & ecosystems	Yes	No	No	Yes	No	Weak	Weak/Medium
Education & raising awareness	Yes	Yes	Yes	Yes	No	Medium	Medium
Energy	Yes	No	Not really	A few	No	Weak	Weak
Food production	Yes	Partially	Yes	Yes	Yes	Medium	Strong
Forests	Yes	Yes	Yes	Yes	No	Medium	Medium
Gender equality	Yes	Yes	Yes	Yes	No	Medium	Weak/Medium
Health	Yes	Partially	Yes	Yes	No	Medium/Strong	Medium
Industry	Yes	Yes	Yes	Yes	No	Medium/Strong	Medium
Infrastructure	Yes	Partially	Yes	Yes	Yes	Medium	Medium/Strong
Transport	Yes	Yes	Yes	Yes	No	Strong	Medium/Strong
Waste	No	-	-	-	-	No	No
Water	No	-	-	-	-	Unknown	Unknown

Table 7. Comparison of alignment of sectorial strategies with information coming from the NDC. The second to right column ('Sectorial alignment with NDC') qualitatively estimates the alignment of the different sectorial actions with those in the NDC. The determination of this alignment is largely based on the analysis done for each sector, not a sum of the categories mentioned in this table. The rightest column ('Climate action integrated in sectorial strategy') shows to what extent climate actions are integrated in the sectorial strategies, which is also an interpretation of the analyses made per sector.

6.6. Type of mainstreaming

In the introduction of the CCCSP it is written that the development of the plan is a significant step forward towards the integration of climate change into the development agenda. The plan also mentions that it has consulted various documents to ensure alignment. These documents range from development strategies to UNFCCC submissions, from sectorial policies to vision documents. Furthermore, it emphasizes that close links with strategies of other ministries are essential, due to the cross-cutting nature of climate change. Under strategic objective 7 of the CCCSP several actions related to mainstreaming are outlined: mainstreaming has to occur in sub-national planning, the national institutional framework and inter-ministerial coordination have to improve, capacities climate change secretariat have to increase, a monitoring and evaluation framework has to be developed and the line ministries need to develop sectorial climate change strategies.

Ministry of Environment Japan (2015) describes how mainstreaming climate adaptation in Cambodia is organized. While the primary focus of the document is on how the process of national adaptation planning (NAP) is organized, it gives good insights in the process of mainstreaming too. The foundation of this process is the CCCSP and this plan is also fully integrated in the NSDP. In figure 9, figure 1-2-1 in Ministry of Environment Japan (2015), the relationship between the different documents is well outlined. It shows how the different documents complement each other and it differentiates between policies, strategic plans and actions plans. A key document missing from this figure is the NDC, but it is unclear whether the NDC was not generated at the time of designing this diagram or that it is just not considered.

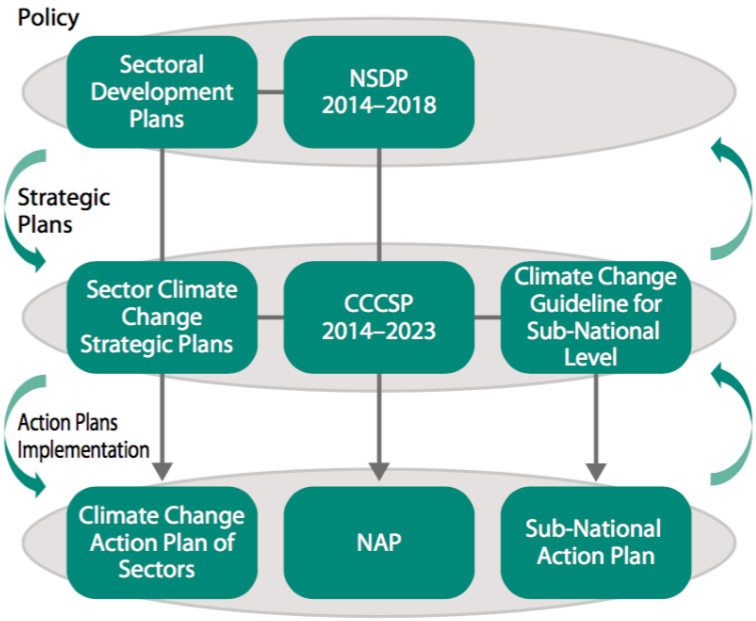

Figure 9. Relationship between the various policies, strategic plans and action plans in Cambodia, with at the heart of the figure the CCCSP. Adopted from Ministry of Environment Japan (2015).

Ministry of Environment Japan (2015) writes that climate action is not yet fully mainstreamed in the development agenda and budget planning. It explains how several policy frameworks are now in place, such as the CCCSP and the sectorial climate change strategies, but that still more needs to be done to integrate climate action in planning and budgeting processes. This not only counts for decision making at the national level, but also for sub-national and community levels. This is in line with the information from the NDC, which states that progress towards integration has been made, but that there is still ongoing work to do to strengthen these processes. Cambodia's Second National Communication also highlights that still more integration needs to occur at sub-national levels.

Another institution useful to highlight is the Cambodia Climate Change Alliance (CCCA). This institution falls under the NCSD and is a multi-stakeholder alliance, including donor partners.[17] Its main tasks include capacity building, the implementation of Cambodia's

[17] According to the website of the UNDP (http://www.kh.undp.org/content/cambodia/en/home/operations/projects/environment_and_energy/cambodia-climate-change-alliance.html) international donors include Sweden, the EU and UNDP itself.

climate change plans and providing policy, technical and financial support. Another key program is the Pilot Programme on Climate Resilience (PPCR). This program is specifically focused on the integration of climate action into the development agenda and is active in various countries, including Cambodia. Key institutions involved here are the World Bank, the Asian Development Bank and the International Finance Corporation.

When analyzing the type of mainstreaming using the five categories defined in the literature review (see Table 2), three categories can easily be determined as not relevant for Cambodia: 'no mainstreaming', 'ad-hoc responses' and 'climate action as development'. The first two categories are not relevant as climate action is being integrated in the development agenda, albeit weakly in several sectors. Moreover, mainstreaming is clearly seen as process in Cambodia, which both of these categories do no aim at. The third category, 'climate action as development', is also not relevant for a simple reason: development in Cambodia is not equal to climate action. In the strategies analyzed either climate change is not being integrated yet or there is still a clear need for mainstreaming. Therefore, two categories remain for Cambodia: 'climate-proofing development' and 'climate action through development processes'. Distinguishing between the two is a bit harder in the case of Cambodia. While mainstreaming is seen as process and climate change is a priority in Cambodia, it is questionable to what extent the current actions address underlying vulnerabilities and whether these have a specific long term focus. Taking into account that mainstreaming occurs in the national development process and not only in international aid programs, together with the fact that climate change is clearly seen as a priority, the most fitting category is 'climate action through development processes'.

6.7. Conclusion

The analysis in this chapter shows that climate change is clearly a factor considered in development strategies in Cambodia. The NDC is not the only document that is dedicated to climate change: the creation of the CCCSP, the inclusion of climate change in the NDSP and the development of sectorial climate change strategies clearly shows there is increasing attention on the dangers climate change plays on development. Nevertheless, although often frequently mentioned in documents, the process of mainstreaming is only partially visible when considering how well these documents are aligned. While the development of climate change sectorial strategies are a sign the process of mainstreaming is taking place, the policies all together are not well aligned. For example, the three main strategies considered here (the NDC, CCCSP and NDSP) only partially align. The NDC contains the main strategic objectives of the CCCSP and the NDSP states that the CCCSP should be fully implemented, but the actual actions outlined in these documents do not align well with each other: the topics covered are similar, but not the actions. Am et al. (2013) state the CCCSP and NDSP are well aligned: however, while multiple references to the CCCSP are made in the NDSP, the actual targets do not match. Moreover, one of the key elements of the NDC, the specific emission reduction targets, does not show up in any other document. This is especially striking since the NDC explicitly states that the delivery of the NDC comes via the CCCSP. A similar analysis can be made for the alignment of the NDC with the sectorial climate change strategies, as these frequently cover similar topics in relation to climate change, but there is a lack of direct alignment between these all. Additionally, these sectorial climate change strategies do not necessarily align with the general sectorial strategy, which makes it even more questionable to what extent mainstreaming is truly occurring. It gives the impression that these sectorial climate change strategies are developed just for the idea of mainstreaming, rather than that climate action is an integral part of the sectorial development strategy. A final remark on

this topic is the lack of quantified targets. In many of the documents, despite the numerous references to climate change, the actual planned actions are often very broad and/or lack quantified targets. This makes it hard to define whether these targets will actually be reached and how these will be implemented. The actions in the NDC are sometimes more specific than those mentioned in the sectorial strategies, which shows that there is room for more precisely defined actions.

However, there a couple of things to take into account in this analysis. First of all, Cambodia is an LDC with limited capacities, data and financial resources, which makes taking climate action difficult. In many documents these limitations are highlighted and it is often emphasized this needs to improve, but this is logically not an easy process. Considering the fact that LDCs had a special provision in designing their INDCs, which allowed them to not include mitigation actions per se, Cambodia might actually be one of the frontrunners in this group of countries as it already started the process of mainstreaming. Additionally, this analysis has just focused on the policies that were available online in English: Inclusion of every strategy, plan and policies together with an in-depth investigation of Cambodian politics would likely give a better picture on the status of mainstreaming, but that is beyond the scope of this research.

One the questions that also arises from this analysis is the importance of the NDC. The case of Cambodia shows that the NDC is not very well aligned with the sectorial development strategies. However, the NDC explicitly mentions that the CCCSP would be the main document for implementation, but it only refers to its targets in an annex. From this analysis it seems that the CCCSP is the main document to focus on for climate action, rather than the NDC. This also raises questions about the implementation of both the Paris Agreement and the SDGs. The NDC form the main contribution for the Paris Agreement, but it does not adequately capture all the activities that are being pursued in Cambodia with regards to climate action. However, it is the only document that contains quantified emission reduction targets as this is not mentioned in the CCCSP. For the SDGs, no coherent approach exists yet. With the creation of the NCSD this could potentially change in the future. Cambodia also has not yet submitted a Voluntary National Review on the SDGs, which countries were encouraged to do as stated in the 2030 Agenda. This leaves Cambodia with no concrete path yet to the implementation of both agendas, despite progress being made with mainstreaming climate action in the development agenda.

7. Country Case Study: Kenya

Kenya's vulnerability to climate change is elaborately described in various documents. The country's main climate action plan, the 'National Climate Change Action Plan' (NCCAP) outlines the key areas of vulnerability of the country. The economy is most reliant on sectors such as agriculture, tourism and energy, but these are all highly sensitive to the effects of climate change. For example, the migration of species and loss of species diversity threatens wildlife-based tourism. Other examples are increasing droughts and unpredictable rainfall, which threatens electricity production, as 50% of the country's electricity comes from hydropower. Not only have prolonged droughts caused problems in Kenya, also extreme weather events such as frost, hailstorms and extreme flooding have lead to severe economic losses in various sectors. Several monetary estimations have been made about these economic losses, as described in the NCCAP: 1998 – 2000 drought (16% reduction in GDP), 2008 – 2011 drought (12.1 billion USD) and 1997 – 1998 floods (777 million USD to transport, 45 million USD to water infrastructure). As climate change enhances the frequency of extreme weather events, increased negative impacts on the economy are expected in the future. To combat climate change, Kenya has spent between 2005 and 2015 438 million USD and this has been supplemented with 2.29 billion USD from international development agencies.

Therefore, as climate change has direct and severe impacts on Kenya's economy, it is unsurprising the country has expressed the wish to mainstream climate action and development. This chapter will be dedicated to analyzing this process and determining the alignment of sectorial development policies with the NDC of Kenya. This will be done in the following steps. First, the structure on taking climate action at the national level will be explained. Second, the highlights of various key national climate and development strategies are outlined: the NDC, the NCCAP, Second Medium Term Plan 2013 – 2017 and the National Adaptation Plan (NAP). Third, for various sectors the alignment of these sectorial development strategies with the NDC will be analyzed. Fourth, a conclusion will sum up the main points to take away from this chapter and determine the type of mainstreaming occurring in Kenya based on this research' analysis.

7.1. National structure on climate action

In the past climate actions were coordinated by the National Climate Change Secretariat (NCCS), which fell under the Ministry of Environment and Natural Resources. The NCCS coordinated with various ministries to ensure mainstreaming and it was also the focal point for the UNFCCC secretariat. However, with the adoption of the Climate Change Act of 2016, as is outlined in the NAP (one of the most recent documents on climate change in Kenya), this process slightly changed. Figure 5 in the NAP outlines how the current structure on climate action looks like. From this figure one can see that the NCCS is replaced by the National Climate Change Council (NCCC), chaired by the president. The NCCC is inter alia responsible for the process of mainstreaming and the implementation of the NCCAP and the NAP. The NCCC is in direct contact with three other bodies: the parliament, the Ministry of Climate Change Affairs and the National Environment Management Authority (NEMA). These three have all their different functions: the parliament enables legislation, the Ministry of Climate Change Affairs hosts the Climate Change Directorate and NEMA is in charge of monitoring and ensuring compliance. The Climate Change Directorate leads the operationalization of climate action, provides technical support to other (local) governments and serves as secretariat to the NCCC. Moreover, it is in charge of the update of the NCCAP taking place every five years and reports to the parliament for the status on climate action, which is done through the Cabinet Secretary of the Ministry of Climate Change Affairs. For the process of

mainstreaming, the Climate Change Directorate is in contact with the Council of Governors, National Government Sectoral Agencies and Country Governments.

7.2. Nationally Determined Contribution (NDC)

In the introduction of the NDC it is stated that Kenya is vulnerable to the effects of climate change and that the country highly prioritizes climate action, together with poverty alleviation and sustainable development. Despite emphasizing that it has low per capita emissions (1.26 $MtCO_2eq$), Kenya does include an emission reduction target. By 2030, Kenya will reduce its GHG emissions by 30% compared to a business as usual scenario. This mitigation target will be reached via actions in the following sectors (the same as stated in the IPCC guidelines): energy, transportation, industrial processes, agriculture, forestry and other land use (AFOLU), and the waste sector. For mitigation, the NDC includes actions on renewable energy, energy efficiency, increasing tree cover, low carbon transport, climate smart agriculture, and waste management.

For adaptation, the NDC states that its main actions are outlined in the NCCAP and more elaborated upon in the NAP, which is indeed the case. The NDC lists numerous sectors where Kenya is planning to take action: energy, science, the public sector, labour, infrastructure, land reforms, education and training, health, environment, water and irrigation, urbanization, housing, gender, tourism, food sector, private sector, oil and mineral resources, and devolution. Many of these actions just state to mainstream climate action in these sectors or to increase resilience, barely any other details are given. The entire contribution, both mitigation and adaptation, relies on external support provided in the form of finance, technology transfer and capacity building. Kenya estimates that more than 40 billion USD up to 2030 is needed to achieve the listed actions.

7.3. National Climate Change Action Plan (NCCAP)

While this section focuses on the National Climate Change Action Plan (NCCAP), it is good to understand how this plan fits within the overall framework on climate action. Ongugo et al. (2014) explain how the general framework of climate action is outlined in the National Climate Change Response Strategy (NCCRS). The NCCRS highlights the impacts of climate change and proposes various sectorial strategies to deal with this. Moreover, it includes budgets and plans for the line ministries involved in climate action. The NCCAP functions as the operationalization of the NCCRS, as it includes more detailed actions. As President Mwai Kibaki states in the introduction of the NCCAP, the plan should take climate action to the next implementation level. The plan should set Kenya on a climate resilient pathway "through actions that address both sustainable development and climate change" (p. 1). Climate action and development are seen as interlinked rather than being in contradiction with each other. This climate resilient pathway consists of three elements: GHG emissions as low as possible, take into account that Kenya will still develop, and climate-proofing infrastructure.

The NCCAP elaborates on the actions stated in the NDC for multiple sectors, by outlining what possible GHG reductions can be achieved:

- *Agriculture*. Livestock dominates the total agricultural emissions with 90 per cent, but according to the NCCAP there is much potential for synergies in food security, poverty reduction, adaptation and mitigation. Nevertheless, actions should take into account Kenya's social, cultural, environmental and social profile.
- *Agroforestry*. Potential to reduce 4.2 $MtCO_2eq$ by 2030 through improving soil quality, reducing erosion and improving water retention in the soil.

- *Coastal zones.* The most important adaptation options include the implementation of the various coastal zone management plans to rehabilitate and conserve coastal ecosystems.
- *Energy.* For non-fossil fuel energies, geothermal energy has the highest potential and can lead to a reduction of 14 $MtCO_2eq$ a year by 2030. Moreover, if wind power and hydropower are expanded, this could lead to an additional reduction of 2.5 $MtCO_2eq$ in 2030.
- *Health.* Several priority actions are outlined such as improving disease surveillance, strengthening early warning systems and increasing monitoring and evaluations systems for malaria. Moreover, increased access to water can reduce health risks, just as better knowledge on community levels can increase resilience to diseases too.
- *Manufacturing.* Despite emphasizing that emissions from manufacturing are low, the NCCAP still sees potential for abatement by introducing energy efficiency measures: this could lead to a reduction of 1.3 $MtCO_2eq$ a year by 2030. Additionally, more efficient production techniques could be introduced in kilns and charcoal production as these have high abatement potential of 1.6 $MtCO_2eq$ a year by 2030. Another low-carbon option is the use of biogas for electricity and heat, which could reduce emissions by 1.6 $MtCO_2eq$ a year by 2030.
- *Population, urbanization and housing.* Key adaptation options for the sectors population, urbanization and housing include expanding food management in high-risk areas, upgrading of building codes and undertaking climate risk assessments in infrastructure.
- *Transport.* The completion of the light rail system in Nairobi can lead to a reduction of 2.8 $MtCO_2eq$ in 2030, while this could be even more if the public infrastructure for bicycles and sidewalks is improved. For private transport, energy efficiency and the use of biofuels can lead to a reduction of 4.1 $MtCO_2eq$ in 2030.
- *Water management.* It is emphasized that water resource management is essential to combat droughts, and to provide water to forests, hydropower stations, irrigation and logically drinking water. Actions for this sector include increasing the domestic water supply, improving sewage systems, and improving irrigation for agriculture and livestock.
- *Waste management.* With a good design for waste management, methane can be captured and used for electricity generation: this could reduce emissions with 1.6 1.1 $MtCO_2eq$ in total.

Table 6.3 in the NCCAP summarizes mitigation actions and clearly outlines quantified targets for various sectors including their budget costs. For these actions to be implemented it is essential, as is explicitly stated, that these are mainstreamed in the various sectors, but also in the budgets. The total estimated costs for the implementation of the NCCAP in the period 2013 - 2017 is 12.67 billion USD for both the mitigation and adaptation actions. The estimated adaptation costs for these five years is 7.5 billion USD, while the total mitigation costs up to 2030 would be 16 to 22 billion USD.

7.4. Second Medium Term Plan 2013 - 2017 (SMTP)

The Second Medium Term Plan 2013 – 2017 (SMTP) outlines the key development priorities for Kenya and functions as its overall strategy. SMTP builds upon the First Medium Term Plan and primarily aims to increase economic growth and improve living standards for Kenyans. Moreover, in the introduction it states that "Kenya will pay full attention to securing our environment and building our resilience to climate change" (p.

x). However, when analyzing how climate change is covered, not all sectors described in the SMTP address climate change. For the following sectors, climate change is mentioned:

- Infrastructure; land use; ending drought emergencies; agriculture, livestock and fisheries; manufacturing; financial services; environment; water and sanitation.

For many of these sectors only brief references to climate change are made, without much elaboration what needs to be done about it. However, many other sectors do not relate to climate change at all:

- ICT; science, technology and innovation; public sector reforms; labor and employment; national values and ethics; security, peace building and conflict resolution; tourism; trade; Business Process Outsourcing (BPO) and IT-Enabled Services (ITES); oil and mineral resources; education and training; health; population, urbanization and housing; gender, youth and vulnerable groups; sports, culture and arts; devolution; governance and the rule of law.

It is interesting to see that for some of these sectors (public sector, labor, education and training, health, urbanization and housing, oil and mineral resources and devolution) the NDC did relate to climate change, while the SMTP does not. Despite this minor coverage of climate change, it is still identified as one of the most critical threats the country faces. Interestingly, the SMTP makes a reference to the SDGs, by stating that these will be integrated in the medium term plans of Kenya.

7.5. National Adaptation Plan (NAP)

Kenya's National Adaptation Plan (NAP) has been developed for the period from 2015 to 2030 by the Ministry of Environment and Natural Resources. The plan states that it is aligned with both the Constitution of Kenya and Vision 2030, builds upon both the NCCRS and the NCCAP, and provides the main adaptation input for the NDC. The NAP outlines actions for 20 different sectors focusing on the short, medium and long term. The main priority actions in the NAP were selected based on four main criteria: urgency and ease of implementation, alignment with the medium term plan, alignment with NCCRS, and low regrets option. The actions following these criteria are categorized under several themes: these are exactly the same ones as stated in the NDC. However, they are much more elaborate than those in the NDC, as for each the short, medium and long term actions are outlined, what the budget is and which entity is responsible for the implementation. While this gives a good insight in what Kenya plans to do in every sector, the actions outlined are still very broad and should not be seen as a concrete action plan. In chapter 5.4 on 'Adaptation Reporting and Learning' it is also clearly stated that each ministry mentioned for the respective actions is responsible for the integration and has to report to Kenya's Climate Change Secretariat on their progress. This shows that while the NAP outlines the broad framework of how each ministry should take action, this integration process is still barely occurring.

7.6. Sectorial approaches

Many ministries have written strategies for their respective sector focused on the long term. These are not specifically dedicated to climate change, but do provide occasional references to climate change. In the following paragraphs several sectors will be analyzed upon their link to climate change and how they relate to the actions described in the NDC.

7.6.1. Biodiversity & Ecosystems

The only statement in the NDC regarding biodiversity and ecosystems is the aim to mainstream climate adaptation in land reforms. However, this aim cannot be found in the sectorial plans. Ongugo et al. (2014) describe three policies that are relevant to biodiversity and ecosystems: A Statement on Future Wildlife Management Policy (1975), Rangelands Management Policy (2004), and the National Land Policy (2011). All these policies do not specifically relate to climate change, but do contain actions and issues that are indirectly relevant to it. Nevertheless, the action outlined in the NDC does not relate to what sectorial strategies in the field of biodiversity and ecosystems describe.

7.6.2. Education & Raising awareness

The NDC describes only the action that education, training and public awareness on climate adaptation in both the public and private sectors need to be enhanced. The Ministry of Education claims in 'A Policy Framework for Education' (2012) that the policy aligns Kenya's constitution with its SMTP. However, while SMTP stresses the need for increasing awareness on climate change, in the entire policy on education no references on climate action can be found. The policy focuses on various topics, such as decreasing inequalities, increasing access to education, management of education and the curriculum at schools, but climate change is not a topic covered.

7.6.3. Energy

Multiple references to energy are made in the NDC. First, there is the aim to increase renewable and clean energy options, with the explicit mentioning of geothermal, solar and wind energy. Second, in various sectors energy efficiency needs to be enhanced. Third, reliance on wood fuels needs be reduced through the use of clean energy technologies. Fourth, resilience of energy systems needs to increase. However, these topics are not all addressed in the sectorial strategies. Both the name of the Ministry (Ministry of Energy and Petroleum) and the policy the ministry produced (National Energy and Petroleum Policy) show where the emphasis lies with regards to the energy sector. In the policy, published in June 2015, there is significant focus on fossil fuels. However, there is also an elaborate chapter on renewable energy describing various policies and strategies for the different types of renewable energy. It also outlines the key challenges in every sector and what type of systems are already in place. Nevertheless, the actions outlined for fossil fuels are more elaborate and specific than those for the renewables. For the renewables, often the potential is described rather than what is planned to be built, only for geothermal energy there is a clear target of 5500 MW by 2030.[18] There is only one reference to climate change under a section on land, environment, health and safety, with three actions outlined: support the implementation of the national climate change policy, capacity building in international negotiations, and the formation of a collaborative framework for the implementation of climate actions. Ongugo et al. (2014) describe how the Energy Act of 2006 extensively focuses on the development of renewable energy, but does not cover climate change elaborately. The only references are the mandatory inclusion of disaster preparedness and mitigation actions, but it is not clear how this should be done. Nevertheless, if the actions outlined for renewable energy were to be implemented this would have a positive effect as this would lead to reduction of emissions, but Ongugo et al. (2014) explain that there is a lack of incentives to adopt renewable energies. Therefore, the

[18] This goal is also curious as the NAMA 'NS-83 - NAMA for accelerated geothermal electricity development in Kenya' states that Kenya aims for *50000* MW of geothermal energy, almost tenfold the amount.

sectorial strategies only partly cover the actions of the NDC, but these are definitely not well aligned with each other.

7.6.4. Food production (agriculture and fisheries)

With regards to food production, the NDC makes two statements: promoting climate-smart agriculture and increasing the resilience of the agriculture, livestock and fisheries value chains. The National Agricultural Research System Policy (2012) does not have any references to climate change, but just focuses on improving capacity building and research in agriculture. The National Agribusiness Strategy (2012) has just one reference to climate change, by stating that better information on the risks, one of which is climate change, is needed. However, in the five strategic priorities outlined climate action is not mentioned as these focus on markets, research, effective organization, financial services and attracting investments. In 'A Management Plan for Fisheries Targeting Small and Medium Sized Pelagic Fish', published in March 2013, the Ministry of Fisheries Development outlines the main actions for artisanal fisheries in Kenya. The main aim of this plan is to have a sustainable fisheries sector that provides both economic and social long-term benefits to fishermen. Climate change is mentioned in a list that focuses on medium and high risks threatening the fisheries sector. Three climate risks are mentioned in this plan: increase in water temperature, coral bleaching and algal blooms. Under management objective 1, focusing on optimizing the social and economic benefits of fisheries, it is stated that there is an adaptation strategy for climate change in place. However, when looking at the activity that falls under this action, which are listed in table 1 of the document, it becomes clear that this is not a fully worked out adaptation plan. The activity that is listed describes that workshops need to be organized (it specifically states that at least one needs to be organized) to "provide advice on research/monitoring and mitigation/adaptation measures" (p. 13). No other details are provided on the contents of this workshop, just as this is the only activity listed under the actions that an adaptation strategy is in place. The 'Strategic Plan 2013 – 2017' produced by the Ministry of Agriculture, Livestock and Fisheries has special sections on addressing the effects of climate change and developing climate resilient agricultural technologies. Addressing the effects of climate change is done via four ways: mainstreaming, establishment of climate change information on agriculture, up-scaling climate-smart agriculture technologies and applying climate methodologies. Taking into account all these sectorial plans, the statements from the NDC are relatively well covered by some of these plans, but others also do not address climate issues at all.

7.6.5. Forests

The Forest Policy (2014) developed by the Ministry of Environment, Water and Natural Resources outlines several main features which relate to forest management, adopting an ecosystems approach and preparing national standards, but do not include an explicit mention of climate related actions. It does repeat the action of the NDC to have at least 10% tree cover in Kenya, but this does not explicitly relate to the NDC as this is also stated in the Constitution of Kenya. Climate change is a key issue, as explained in a chapter with nine other priority issues for forest management. This section states that forests have clear mitigation and adaptation potential, but that there is a lack of data and research. In multiple other sections this need for more research and data is repeated, although not in direct relation to climate change.

7.6.6. Gender equality

The NDC focuses on gender equality through aiming for the strengthening of capacities of vulnerable groups with the use of social safety nets and insurance schemes. However, in the 'Gender Policy', published in July 2011 by the Ministry of Gender, Children and Social

Development no references to climate change or increasing resilience are made. The policy just focuses on topics like promoting equity among men and women, providing information on gender issues and supporting ministries to develop adequate gender responses.

7.6.7. Health

The only action related to health in the NDC is the statement to integrate climate adaptation in the health sectors. The 'Kenya Environmental Sanitation and Hygiene Policy 2016 – 2030' does not contain any direct references to climate change. It primarily focuses on actions related to increasing access to sanitation and ensuring a clean environment. Additionally, its key strategies contain measures focused on governance, finance, legal and research endeavors.

7.6.8. Industry

Just as the NDC of Kenya does not state anything about climate action in the industry sector, the Kenya National Industrialization Policy Framework also has no references to climate change. Its goals contain multiple quantified targets but these focus on increasing productivity or expansion of industrial areas. One of its objectives states that protection of the environment is important, but this is not much elaborated upon in the reminder of the policy.

7.6.9. Infrastructure

While no sectorial strategy is available on infrastructure in Kenya, the NDC aims for the climate proofing of infrastructure for energy, transport, buildings and ICT, without elaborating upon this statement further.

7.6.10. Transport

The NDC aims for transport systems that are both low in carbon emissions and efficient. The 'Integrated National Transport Policy' (2009) from the Ministry of Transport has an elaborate section on climate action, but only in a section on maritime transport, while other types of transport are being described elaborately in this policy too. In the maritime transport section a significant number of actions are listed that contribute to the reduction of greenhouse gas emissions. These include setting targets (although not quantified) for these reductions, encouraging the use of renewable fuels and initiating green ports in Kenya. However, in the other sections of the policy no reference to climate change is made. It is also not highlighted as one of the main challenges, although urban environmental pollution is.

7.6.11. Waste

There is no sectorial strategy on waste management and also the NDC has only a very minor reference to waste. It states that there should be sustainable waste management systems, but it does not elaborate on what this would entail.

7.6.12. Water

For the water sector the NDC does not outline any elaborate actions, only that it aims to mainstream climate adaptation. As Ongugo et al. (2014) summarizes well, the Water Act of 2002 "provides for the management, conservation, use and control of water resources, and for the acquisition and regulation of water rights" (p. 18). While the Water Act sets out the framework for water management, the National Irrigation and Drainage Policy (2009) has a more detailed action list. This includes measures related to expanding the arable land using irrigation and drainage, improving finances, and increasing human capacities, but

the policy makes no direct links to climate change. Nevertheless, some actions mentioned do support adaptation activities in the water sectors to deal with the potential effects of climate change.

7.6.13. Other policies

One policy that has very clear references to climate change is the 'Common Programme Framework for Ending Drought Emergencies'. The overall outcome clearly states that the communities living in drought-prone areas should become more resilient to the effects of climate change. Additionally, three out of six expected results refer to increasing this resilience, through climate-proofing infrastructure, increasing resilience of livelihoods and improving resilience through the improvement of institutions, mechanisms and capacities. In the remainder of the document these expected results are elaborated upon. Therefore, it is clear that climate change is a main factor taking into account when increasing resilience in drought-prone areas.

The National Environment Policy (2013) developed by the Ministry of Environment, Water and Natural Resources in 2013 also has multiple references to climate change. It highlights climate change as one of the drivers of natural degradation and it also has an entire chapter dedicated to it. In this chapter the vulnerability of Kenya is emphasized and also that it is a national priority for the country to move forward in a climate-resilient, low carbon way. It outlines several policy actions for the government, such as strengthening capacities, awareness raising campaigns, building early warning systems and setting up a national carbon trading platform.

7.6.14. Comparison among sectors

Looking at the alignment shown in Table 8, it is clear that the sectorial strategies do not relate well to the NDC. Only for a couple of sectors (food production, forests and transport) the sectorial strategies have some alignment with the actions of the NDC, but for most sectors the sectorial strategies do not focus on climate action at all. This shows that a lot remains to be done in Kenya to ensure adequate mainstreaming of climate action into the development agenda. With the current status of mainstreaming in Kenya one can rightfully question whether and, if it will, how this process will continue in the future. While the actions of the NDC are not integrated in the sectorial development plans, these plans also do not describe many other climate actions, as was visible in the case of Cambodia. Despite the fact that there is a national climate change strategy (the NCCRS) and a national climate change action plan (NCCAP) in place with elaborate climate actions, these are not reflected in the national sectorial development plans.

Sector	Accessible sectorial strategy	Relates to actions from NDC	Elaborates on measures from NDC	Describes new climate related actions	Quantified targets	Sectorial alignment with NDC	Climate action integrated in sectorial strategy
Biodiversity & Ecosystems	Yes	No	No	No	No	No	No
Education & Raising awareness	Yes	No	No	No	No	No	No
Energy	Yes	Partly	Yes	No	Yes	Weak	Weak
Food production	Yes	Yes	Yes	Yes	No	Medium	Weak/Medium
Forests	Yes	Yes	No	No	No	Medium	Medium
Gender equality	Yes	No	No	No	No	No	No
Health	Yes	No	No	No	No	No	No
Industry	Yes	-	-	-	-	-	-
Infrastructure	No	-	-	-	-	-	-
Transport	Yes	No	No	Yes	Some	Weak	Weak/Medium
Waste	No	-	-	-	-	-	-
Water	Yes	No	No	No	No	No	No

Table 8. Comparison of alignment of sectorial strategies with information coming from the NDC. The second to right column ('Sectorial alignment with NDC') qualitatively estimates the alignment of the different sectorial actions with those in the NDC. The determination of this alignment is largely based on the analysis done for each sector, not a sum of the categories mentioned in this table. The rightest column ('Climate action integrated in sectorial strategy') shows to what extent climate actions are integrated in the sectorial strategies, which is also an interpretation of the analyses made per sector.

7.7. Type of mainstreaming

The above analysis shows that mainstreaming in Kenya is largely invisible, which makes it difficult to assign a category from the analytical framework to this. It is clear that some form of mainstreaming is occurring, but definitely not on a large scale. This makes that the idea of 'climate-proofing development' is probably most applicable, as underlying vulnerabilities do not seem to be addressed and there is no clear long term vision in mind. Interestingly, with regards to the type of mainstreaming that is applied in Kenya, there are actually two documents that explicitly refer to this. Hammill and Price-Kelly (2017) state that Kenya's climate change documents indeed focus on climate-proofing, something which is also reiterated in the NCCAP. Figure 3.1 of the NCCAP actually describes this process of 'climate-proofing development', which clearly shows how the development objectives are taken first and after that it is assessed what the climate risks are for reaching

these objectives. This shows that in the mainstreaming approach, addressing underlying vulnerabilities does indeed not seem to be a main priority for Kenya, but that the development objectives outlined in the SMTP and Vision 2030 are the most essential. Therefore, these observations all confirm the idea that 'climate-proofing development' is the type of mainstreaming most applicable in Kenya today.

7.8. Conclusion

Mainstreaming of climate action into the development agenda is largely invisible in Kenya, even more than in Cambodia. Despite several statements on the need for mainstreaming in various documents, the alignment of sectorial strategies with the NDC is weak. The only documents that are actually well aligned are the NDC and the NAP, and to some extent the NCCAP, although the latter contains emission reduction targets that are not found in any other policy. Despite their lack of integrating climate action, several sectorial strategies do describe the threats climate change plays for development and highlight the synergies between climate action and development. A similar conclusion on mainstreaming is reached by Ongugo et al. (2014). They conclude, from the policies the analyze, that climate action is weakly integrated in the sectorial strategies. Very few chapters are dedicated to the effects of climate change, just as clear climate actions are not mentioned. Therefore, they argue that there is a need for a common framework on climate action, just as the policies need to be better aligned across sectors. Although efforts are made through the Vision 2030 document, the document predominantly focuses on the impacts of climate change in each sector rather than developing policies to address the issues, just as the sectorial development strategies do not yet align with this vision. Reasons Ongugo et al. (2014) provide for this is the competition among ministries and, perhaps consequently, lack of communication between them. This lack of a common framework also supports the idea that Kenya pursues 'climate-proofing development' as a type of mainstreaming today. The main focus still lies on development objectives and there does not seem to be a process in place that addresses underlying vulnerabilities in taking climate action. Kenya acknowledges in several documents the relationship between climate action and development, but does not take an integrated approach to address both.

8. Conclusion

This research tried to give a better understanding of the relationship between climate action and development by using the concept of mainstreaming. Using three types of analyses, covering both the international and the national level, this research discussed how mainstreaming is conceptualized and operationaized in various policies. While the literature review showed that scholars emphasize the need for mainstreaming and agree upon several elements for the concept of mainstreaming, the operalization can take various forms. This also came apparent through analyzing international environmental agreements, the (I)NDCs and the case studies of Cambodia and Kenya, as these analyses give different views on how mainstreaming is being approached. In the next paragraphs the main outcomes of these three major analyses will be summarized and thereby the formulated research questions will be answered.

8.1. Answering the research questions

The analysis of the international environmental agreements showed that the issues of climate action and development cannot be separated. Both the international climate agreements and the SDGs emphasize the interlinked relationship of both topics, but the SDGs are more strongly phrased with regards to mainstreaming than most of the international climate agreements. This also lead to the conclusion that the SDGs and the UNFCCC see mainstreaming, by using the analytical framework of this research, more as 'climate action through development processes' compared to 'adaptation plus development' in the Paris Agreement. Additionally, the multiple references to climate action in various goals show that the SDGs provide clear linkages between climate action and development. While the international climate agreements also provide these links, it is less explicit and abundant there. The discussions on the 'new and additional' character of climate finance highlight the political sensitivity around the concept of mainstreaming. Despite the fact that countries agreed upon that climate finance should be new and additional to ODA, with good reasons, within actual projects on the ground one cannot easily distinguish between climate and development objectives. While a good argument can be made to mainstream climate action and development programmatically and the finance could just be an accountability problem, it is likely that the political discussions on climate finance will not be resolved soon if at all, causing the political sensitivity around the term mainstreaming to remain.

The (I)NDCs provide a new perspective on the linkages between and mainstreaming of climate action and development. Through the analysis of the SDG coverage in the (I)NDCs, this research has shown that these national climate plans are closely linked to many (although not all) development sectors. While more mitigation than adaptation related sectors are addressed, the contents of these (I)NDCs show that these do not solely deal with emission reductions but with a much wider range of development topics. However, this does not mean that the (I)NDCs and the SDGs form a truly integrated agenda, as this research has shown that the SDG targets are weakly covered in the (I)NDCs. Nevertheless, this could also not be expected as most (I)NDCs were written before the adoption of the SDGs. With regards to mainstreaming, high SDG coverage in the (I)NDCs could already be an indicator of a mainstreaming process occurring in countries as climate plans (the (I)NDCs) integrate development objectives. Nevertheless, a vast majority of the countries state that integration of climate action into the development agenda is (also) needed. The analysis of the conceptualization and operationalization of mainstreaming in the (I)NDCs showed that a majority of the countries opt for a 'climate action through development processes' type of mainstreaming, although information from the (I)NDCs only cannot be enough to determine accurately the type of mainstreaming.

Despite their differences, the case studies of Cambodia and Kenya both show limited signs of an actual mainstreaming process occurring. While both countries explicitly and repeatedly state that they aim to mainstream climate action into the development agenda, the actions mentioned in the NDCs are often not clearly visible in sectorial development policies. Although the countries frequently highlight the dangers climate change poses in several sectors, the various plans, policies and strategies lack concrete actions and are not very well aligned with each other. Cambodia shows a higher degree of mainstreaming than Kenya, as it has developed climate change sectorial strategies, more actions of the NDCs are reflected in those strategies and the sectorial development policies address climate action more frequently. However, one should not forget that both countries are LDCs and have limited financial resources and capacities to take climate action and facilitate this mainstreaming process. As this research did not investigate any other countries with regards to mainstreaming, it is hard to determine how the mainstreaming processes in these countries relate to the ones of Cambodia and Kenya. Nevertheless, this analysis did show that merely stating the objective to mainstream climate action into the development agenda does not mean this is actually happening in the policy making process.

Together, this gives a mixed picture on the relationship between climate action and development. While there can be no doubt about the interlinkages between the both, diverse approaches are taken for their implementation. Caution for integration is expressed in the Paris Agreement and the discussions around climate finance make mainstreaming a politically sensitive issue, while on the other hand the SDGs and (I)NDCs provide more clear language to aim for this integration. Ultimately, it will be up to each individual country to decide how the implementation of both the Paris Agreement and the SDGs will look like at the national, sub-national and local levels, which makes it likely that multiple approaches will be taken. As the analytical framework also has shown, there are various ways in which mainstreaming can be approached, although some are more strongly favored than others by scholars. However, one can also raise questions about whether this mainstreaming process will occur in the future at all. The case studies of Cambodia and Kenya show countries that do express the wish for integration, but that this is not a natural and easy process to do just as the actual policies might not reflect this wish. One can argue that these countries are in their early phases of mainstreaming, but the future must tell whether this process of mainstreaming will actually continue in these countries. Critical in this regard is political leadership and this raises the question about who will actually benefit from this mainstreaming process. While the advantages of mainstreaming are there (more efficiency, more focus on synergies, more attention for climate action), there is also a high risk for many countries that this would lead to a decreasing amount of funds. Further research in this topic would be needed to track whether mainstreaming processes evolve in different countries, how these are shaped and who benefits from these at various levels in society.

8.2. Reflections on the use of literature and research design

This research used the concept of mainstreaming to supplement the other analyses made to broaden the view on the relationship between climate action and development. At first sight the theory of mainstreaming seems something almost impossible to disagree with. Increasing programmatic efficiency, addressing issues which have similar means and ends, and creating a comprehensive agenda for sustainable development on the long term all seem like logical things to do. Therefore, it is also unsurprising that many scholars and policy makers argue for such an approach. However, the key to mainstreaming lies in how the actual implementation process looks like in practice. The analytical framework created

in this research provided valuable input in determining the type of mainstreaming conceptualized in policy documents and how this term was operationalized. The international environmental agreements, the (I)NDCs and the case studies all showed a different view on how the concept of mainstreaming can be operationalized: in these analyses, the analytical framework has definitely proven its value to determine how mainstreaming was described. Nevertheless, key elements are still missing in this analysis. Questions whether mainstreaming is desirable and feasible remain unanswered by this research, just as trade-offs were barely addressed. This was mostly due to the fact that the research design would have to change for this, as more focus should be on interviews and performing in-depth country case studies, rather than only performing policy analyses. However, the lack of focus in the literature on these aspects also made it difficult to design an analytical framework around these questions. As there is predominantly a focus on what mainstreaming is, rather than on its desirability and feasibility, it is hard to come up with a good set of indicators to investigate this. In this light it would also be beneficial to have more case studies on mainstreaming at national and sub-national levels. This research described the case studies of Cambodia and Kenya, although only looking at national policies, and together with the cases described in the literature of Bangladesh and the Philippines this is only a small set of countries investigated. Therefore, it would be beneficial to further research other countries upon their efforts towards mainstreaming to get a better picture on how climate action and development are pursued on the ground.

8.3. Further implications

One of the key discussion points which arises from the case study analysis is the importance of the NDC. In both case studies, Cambodia and Kenya, the NDC was not very well aligned with the sectorial policies. Moreover, the NDC did not relate well to the overall national development strategies, but only contained similar actions as in the national climate change strategies. Hence, the NDCs of both countries must not be seen as a document being on top of the pyramid, summarizing the key elements of climate action for the countries. Likely it is more a political tool that has be produced for the international community rather than being a capstone of the overall national framework on climate action. However, when one is interested in seeing the proposed path of climate action in a country, one might better look at the national climate strategy rather than the NDC. Not only are those more elaborate, but in the case studies analyzed these plans are also better aligned with the other strategies present in the country. Logically this does not mean this is the case for all countries, Kenya and Cambodia could just be exceptions with their NDCs, but it is also not implausible. More research would have to provide a more comprehensive answer to this question. Nevertheless, there are several reasons that can explain the role of the NDC as described here. First, the NDC is a binding document when ratified and is submitted to the international community, making that countries are reserved about their ambition and actions here. Second, the processes of climate action are not well aligned and communicated with each other causing that documents do not support each other or are produced by completely different teams of people. Third, different ministries could be responsible for the writing of the documents. Despite all this, the NDCs can still play an important role in the future. The fact that almost each country submits an NDC and will likely revise and increase ambition in the future means that there is improvement possible in the contents of the NDC. However with the political sensitivity of the document, this could also result in that the NDCs will always be less ambitious and not well reflective of the reality in many countries.

Two key conceptual discussions on definitions have been highlighted in this research: one focusing on what mainstreaming means and the other on what the phrase 'new and additional' implies for climate finance. The idea of mainstreaming is something relatively easy to come up with as this is a quite intuitive idea when understanding the links between climate action and development. However, defining what it actually means is a completely different story. While the scholars agree upon some characteristics, the implementation of mainstreaming looks quite different. Methmann (2010) has some interesting insights in this topic, as he has a critical view towards the concept. He states that the idea of mainstreaming actually has paradoxical results: the idea of climate action spreads, but what this actually means in reality becomes vaguer. It becomes a term that many can relate to, but rather than actually doing something about climate change, it is used to rephrase existing activities. Although this will not count for all the activities, it is an eminent threat that the idea of mainstreaming is misused. For the 'new and additional' phrase a similar logic actually applies. It seems valid that, as climate change is a new threat to development, funds should also be new and additional to ODA. However, while countries agree upon this, the actual implication of this phrase is heavily debated. As explained, it can be hard to distinguish between climate action and development activities on the ground, just as 'new and additional' can be interpreted in various ways. The phrase can be claimed by different parties as multiple interpretations exist, making it impossible to have a common agreement. Therefore, these two discussions make one question the need to agree upon these definitions. It does not seem to be the case that the discussions around these definitions advance the actual implementation or bring parties closer to an agreement.

This research ends with a final paragraph dedicated to the narrative of climate action and development. As outlined in the research objective, investigating this narrative was one of the goals of this research. The (I)NDCs and the case studies show that climate action and development are clearly interlinked and both agendas are approached in an integrated way. However, disputes at the international level make that mainstreaming remains a politically contested issue. This makes that while mainstreaming is disputed by countries at the international level, many might actually actively pursue it at the national level. This creates a complex picture for the narrative of climate action and development, with likely various views depending on the position one is in. However, it is clear that the focus on trade-offs between climate action and development has shifted towards emphasizing synergies. The adoption of the Paris Agreement and the SDGs show that although the degree of integration can still be disputed, the issues of climate action and development cannot be separated and are highly connected. The existence of these two agendas can also help in supporting the acceleration of combined action at the (sub-)national level and thereby help in reaching both the goals outlined for climate change and sustainable development. While trade-offs will still be there, political challenges will always be present, and much work still needs to be done, it is a positive shift from the past.

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Annex I: Coverage of SDGs in (I)NDCs

The following examples outline when an SDG is covered in the (I)NDC or not:

- Example 1: '[Country] will pursue actions to limit the impact of diseases.' This is an action so the country covers the SDG.
- Example 2: 'There are co-benefits in the health sector due to mitigation action in [country].' This is based on an action so the country covers the SDG.
- Example 3: 'Sectors covered: agriculture, energy, LULUCF'. This is an action so the country covers the SDG(s).
- Example 4: '[Country] has an adaptation plan for the health sector.' This implies an action so the country covers the SDG(s).
- Example 5: '[Country] will write an adaptation plan for the health sector.' This is an action so the country covers the SDG.
- Example 6: '[Country] expressed the need for support in the health sector.' This is an action so the country covers the SDG.
- Example 7: '[Country] is vulnerable to the impact of diseases.' This is not an action so the country does not cover the SDG.
- Example 8: '[Country] has been much impacted by the presence of diseases'. This is not an action so the country does not cover the SDG.
- Example 9: '[Country] has made a lot of progress in the past to prevent diseases'. This is not an action so the country does not cover the SDG.

Annex II: Keywords used to search for SDGs

1. Poverty:
2. Hunger; food; nutrition; agriculture:
3. Health; well-being/wellbeing; mortality; hospital
4. Education; training; awareness
5. Gender; women
6. Water; sanitation
7. Energy; power; electrification
8. Economic growth; job; employment; tourism
9. Infrastructure; road; ICT; industry/industrial/industrialization; science; research; innovation; technology
10. Equality; income; inclusion
11. Cities; urban; transport; disaster
12. Consumption; production; waste; fuel
13. Skip, as this one is about climate change
14. Ocean; marine; acidification; coastal; fish;
15. Forest; land use; desertification; biodiversity; ecosystem; wildlife; drought; flood
16. Peace; institution; decision-making; public access to information:
17. Partnerships; cooperation; finance; technology; capacity; trade; systemic issues

Annex III: Models and policy guides on mainstreaming

Below one can find the various descriptions of the models and policy guides described in Table 1.

Model Huq and Ayers (2008)
Ayers et al. (2014) review for their case study in Bangladesh a model developed by Huq and Ayers (2008). This model, focused on mainstreaming climate change at the national level, has four steps:

1. Awareness-raising on the relevance of climate change adaptation for development;
2. Focus on how this information is made available to decision-makers across sectors and scales;
3. Initial types of climate change adaptation responses, which tend to be isolated pilots and projectized interventions, often undertaken by non-governmental organizations (NGOs);
4. Full integration of climate change adaptation into policy and planning across different sectors and scales, requiring a shift from 'business as usual' to investment and planning that is not only climate-proof, but also explicitly seeks to build resilience amongst the climate-vulnerable poor.

Ayers et al. (2014) review the four-step model developed by Huq and Ayers (2008) with the mainstreaming experiences in Bangladesh. These are the main lessons to take away:

- The model is not a linear process as multiple steps occur at the same time;
- Decision-making often occurs without certainty of information;
- Information on climate change can come from various stakeholders;
- Strong political commitment and good coordination mechanisms are needed for adequate implementation.

Model Janetos et al. (2012)
Janetos et al. (2012) propose a framework that provides guidance for structured decision making with regard to competing or complementary goals of climate and development policy. The framework consists of five steps:

1. Identify policy choices;
2. Identify respective development and climate goals;
3. Consider potential development and climate outputs;
4. Consider pros and cons of outputs;
5. Produce a score based on balance of pros and cons.

The framework was not tested in the article with the use of case study. Additionally, the authors emphasize the framework is a conceptual tool, not something that should be used for specific project evaluation.

Model Fröde et al. (2013)
Fröde et al. (2013) describe an approach, developed by GIZ, called 'Climate Proofing for Development'. This approach has been used in ten different countries and aimed at assessing climate risks and base priority responses on that. The model is based on three principles and three steps. The three principles are:

1. Process is key;
2. Form follows function (meaning: take a flexible approach);

3. Mix of perspectives (multiples perspectives are needed in order to make climate-proofing a success).

The three analytical steps are:

1. Gather data regarding climate trends;
2. Organize meetings with relevant stakeholders to identify the impacts of these trends;
3. Stakeholders and experts develop actions accordingly.

From the countries this model has been applied, several lessons can be learned. The most relevant ones are listed below:

- Gather the right stakeholders, involve them at the right time in the process and create a common understanding among them;
- Allocate adequate time and funding;
- Present data and information in an understandable manner, although not too simplified;
- Integrate the approach in all planning, implementing and evaluation processes, as it is not a stand-alone activity.

Policy guide USAID (2007)

USAID (2007) is a policy guide called 'Climate Change Adaptation Guidance Manual', which ought to be used to inform non-climate experts to include climate change in the development projects, prepared by the United States Agency for International Development (USAID). It outlines six steps:

1. Identify whether the project is vulnerable to climate change impacts;
2. Identify adaptation options;
3. Analyze adaptation options;
4. Decide upon implementation of adaptation options;
5. Develop implementation plan;
6. Evaluate implementation.

Policy guide OECD (2009)

OECD (2009) is a policy guide focused on practical advice for the integration of adaptation into development, prepared by the Organisation for Economic Co-operation and Development. They provide a list of priority areas for mainstreaming at the national, sectorial, project, and local level. Since the focus of this research will be on the national level, these are the national level priority areas listed by the OECD (2009):

- 'Whole of governance' approach required;
- Adaptation and climate focus should be adopted at various stage of the national policy cycle;
- Improve the coverage and quality control of climate monitoring data;
- Moving the co-ordination for adaptation into powerful central bodies;
- Including considerations of climate change risks within long-term visions, poverty reduction and sustainable development strategies;
- Making a sound economic case for investing in adaptation;
- International donors can encourage action on adaptation through budgetary support mechanisms, and country and joint assistance strategies;

Policy guide UNDP-UNEP (2011)

UNDP-UNEP (2011) is a policy guide aimed at mainstreaming practitioners and advocates to assist in their endeavors and to stimulate partnerships of stakeholders with the same (mainstreaming) interest. The policy guide provides a framework with three major components:

1. Set the stage for mainstreaming. This includes raising awareness, evaluating institutional and capacity needs, performing preliminary assessments about climate-development linkages, and understanding governmental and political contexts.
2. Mainstream adaptation into ongoing policy processes. This step is more focused on country specific processes. It focuses on collecting country-specific evidence, influencing policy processes, developing and climate-proofing policy measures and strengthening institutions and capacities.
3. Mainstream adaptation into budgeting and financing, implementation and monitoring processes and establish mainstreaming as standard practice.

On all levels, the document emphasizes to engage and coordinate with relevant stakeholders and the development community. For the mainstreaming process, UNDP-UNEP (2011) identifies three levels of intervention: (1) reduce vulnerabilities, but avoid maladaptation, (2) ensure that climate change is considered in decision-making of government agencies, (3) identify specific adaptation measures that are not addressed by the first two steps.

Policy guide UNDP (2012)

UNDP (2012) is a guide to assist United Nations Country Teams that are tasked with integrating climate risks and opportunities in national development processes. The guide is prepared by the United Nations Development Programme. It describes in a practical way six steps in which the mainstreaming process occurs:

1. Create a Country Climate Profile;
2. Prepare an Institutional Map;
3. Engage stakeholders and select the document to be assessed for climate risks and opportunities;
4. Assess climate change risks and opportunities
5. Build the capacity of stakeholders; and
6. Mainstream climate change into the revised document.

Based on experiences in five pilot countries, UNDP (2012) also provide six lessons for the mainstreaming process:

- Ensure that the partner institution sees the importance of climate change and is convinced of the need for mainstreaming;
- Good timing is essential, mainstreaming should occur with pre-existing cycles of national processes;
- Establish an official United Nations coordination committee that overseas mainstreaming, increases collaboration, follows-up on implementation, raises awareness and makes use of synergies between development activities;
- Ensure a competent implementation team;
- Create good climate risk assessments, by using interdisciplinary knowledge, possibly from external consultants too, to design a country specific assessment;
- The Country Climate Profile and Institutional Map can be of use for other stakeholders instead of keeping it for internal use only;
- Create synergies with other initiatives from NGOs, civil society and the private sector whenever appropriate and possible.

Policy guide CKDN (2016)

CKDN (2016) is a guide for policy makers on how to plan NDC implementation, prepared by the Climate and Development Knowledge Network. It states that integration of the NDCs in development planning is essential for successful implementation. It provides several suggestions on how integration in current processes can occur:

- Develop a stand-alone NDC with linkages to current and future development plans;
- Develop sectorial strategies in line with the targets of the NDC;
- Link the NDC with other climate strategies;
- Coordinate government processes in charge of NDC implementation.

Annex IV: Topics of the SDGs

SDG	Topics
1. No poverty	End extreme poverty everywhere; reduce by at least half the proportion of men, women and children living in poverty; implement national social protection systems for the poor; equal rights to and ownership over economic resources for everyone; increase resilience of the poor
2. Zero hunger	End hunger for all; end all forms of malnutrition; double agricultural productivity and incomes of small-scale food producers; ensure sustainable food production systems and implement resilient agricultural practices; maintain the genetic diversity of seeds, plants and animals
3. Good health and well-being	Reduce global maternal mortality ratio to less than 70 per 100000 live births; end preventable deaths of newborns and children; end epidemics of specific diseases; reduce by one third premature mortality from non-communicable diseases; strengthen the prevention and treatment of substance abuse; halve the number of global deaths and injuries from road traffic accidents; ensure universal access to sexual and reproductive health-care services; achieve universal health coverage and access to medicines and vaccines; reduce casualties from chemicals and pollution
4. Quality education	Ensure that all boys and girls complete primary and secondary education; ensure that all boys and girls have access to pre-primary education; ensure equal access for all to tertiary education; increase skills of youth and adults; eliminate gender disparities in education and ensure equal access for all to education; ensure all youth and substantial proportion of adults achieve literacy and numeracy; ensure that all learners acquire the knowledge and skills needed to promote sustainable development
5. Gender equality	End all forms of discrimination against all women and girls; eliminate all forms of violence against all women and girls; eliminate all harmful practices; recognize and value unpaid care and domestic work; ensure women's full and effective participation and equal opportunities for leadership; ensure universal access to sexual and reproductive health and reproductive rights
6. Clean water and sanitation	Universal access to drinking water; access to adequate and equitable sanitation and hygiene; improve water quality; increase water-use efficiency; implement integrated water resources management; protect and restore water-related ecosystems
7. Affordable and clean energy	Universal access to affordable, reliable and modern energy; increase share of renewable energy; double the rate of improvement in energy efficiency

8.	Decent work and economic growth	Sustain per capita economic growth; higher levels of economic productivity; promote development-oriented policies for i.a. jobs and entrepreneurship; improve resource efficiency and decouple economic growth from environmental degradation; full employment for all; reduce youth unemployment; protect labour rights and promote safe and secure working environments; promote sustainable tourism; strengthen capacity of domestic financial institutions
9.	Industry, innovation and infrastructure	Develop quality, reliable, sustainable and resilient infrastructure; promote inclusive and sustainable industrialization; increase access of small-scale enterprises; upgrade and retrofit industries; enhance scientific research and innovation
10.	Reducing inequalities	Sustain income growth of the bottom 40 per cent; empower inclusion of all; ensure equal opportunity and reduce inequalities of outcome; adopt social protection policies; improve regulation and monitoring of global financial markets; ensure enhanced representation of developing countries in decision-making; facilitate orderly, safe, regular and responsible migration and mobility of people
11.	Sustainable cities and communities	Access for all to adequate, safe and affordable housing; access for all to safe, affordable, accessible and sustainable transport systems; enhance inclusive and sustainable urbanization; protect world's cultural and natural heritage; reduce impacts from disasters; reduce per capita environmental impact of cities; universal access to safe, inclusive, accessible, and green public spaces
12.	Responsible consumption and production	Implement framework of programmes on sustainable consumption and production; sustainable management of natural resources; halve per capita food waste; environmentally sound management of chemicals and all wastes; reduce waste generation; encourage companies to adopt sustainable practices; promote sustainable public procurement practices; ensure that everywhere people have information and awareness on sustainable development lifestyles
13.	Climate action	Strengthen resilience and adaptive capacity of countries; integrate climate change measures into national policies; improve education and awareness raising on climate change
14.	Life below water	Reduce marine pollution; manage and protect marine and coastal ecosystems; minimize impacts of ocean acidification; regulate and end overfishing; conserve 10 per cent of coastal and marine areas; prohibit and refrain from fisheries subsidies; support SIDS to make sustainable use of marine resources
15.	Life of land	Ensure conservation, restoration and sustainable use of terrestrial ecosystems; promote sustainable management of all types of forests; ensure conservation of mountain ecosystems; reduce degradation of natural habitats, biodiversity and loss of species; Promote fair and equitable sharing of the benefits

		arising from the utilization of genetic resources; end poaching and tracking of protected species; reduce impact of invasive alien species; integrate ecosystem and biodiversity values into national and local planning
16.	Peace, justice and strong institutions	Reduce all forms of violence; end all forms of violence against children; promote rule of law and ensure equal access to justice for all; reduce illicit financial and arms flows; reduce corruption and bribery; develop effective, accountable and transparent institutions; Ensure responsive, inclusive, participatory and representative decision-making; Broaden and strengthen the participation of developing countries; provide legal identity for all; ensure public access to information
17.	Partnership for the goals	Strengthen domestic resource mobilization; developed countries should fulfill their ODA commitments; mobilize additional financial resources for developing countries; assist developing countries in attaining long-term debt sustainability; adopt and implement investment promotion regimes for least developed countries; enhance North-South, South-South and triangular regional and international cooperation; promote technology transfer; promote information and communications technology; enhance capacity building; promote trading system of the World Trade Organization; increase exports of developing countries; implement duty-free and quota-free market access to least developed countries; enhance global macroeconomic stability; enhance policy coherence for sustainable development; respect sovereignty; enhance global partnership for sustainable development; encourage effective public, public-private and civil society partnerships; enhance capacity building for data collection; development measurements of progress on sustainable development

Annex V: Coverage of targets in (I)NDCs

NB. This analysis excludes the 'letter' targets of the SDGs, as these are means of implementations. Additionally, the description of the targets is a summary of the main contents.

Targets	Covered by majority of (I)NDCs
1.1 Eradicate absolute poverty	No
1.2 Reduce relative poverty	Yes
1.3 Social protection systems	No
1.4 Equal access of vulnerable to all type of resources	No
1.5 Resilience of poor to climate events	Yes
2.1 End hunger in all its forms	Yes
2.2 End malnutrition in all forms	No
2.3 Assure agricultural productivity for marginalized	No
2.4 Ensure sustainable agricultural production systems for resource protection and climate change	Yes
2.5 Maintain genetic diversity and traditional knowledge	No
3.1 Reduce maternity rate	No
3.2 Prevent child mortality	No
3.3 End epidemics and diseases	Yes
3.4 Reduce mortality from non-communicable diseases	No
3.5 Prevent substance abuse	No
3.6 Prevent deaths from road accidents	No
3.7 Ensure sexual and reproductive health care	No
3.8 Achieve universal health coverage	No
3.9 Reduce illnesses and deaths from chemicals	No
4.1 Ensure equal and universal education	No
4.2 Ensure equal and universal childcare	No
4.3 Equal access for all to higher education	No
4.4 Strengthen youth employment and jobs	No
4.5 Equal access to education especially for marginalized	No
4.6 Ensure literacy and numeracy	No
4.7 Ensure that all have knowledge of sustainable lifestyles	Yes
5.1 End discrimination against women	No
5.2 End violence against women	No
5.3 Eliminate harmful practices	No
5.4 Social protection for care and domestic work	No
5.5 Women's leadership at all levels	No
5.6 Universal access to reproductive health	No
6.1 Universal and equitable access to water	Yes
6.2 Equitable access to sanitation and hygiene, esp. women	No
6.3 Improve water quality and reduce pollution	No
6.4 Increase water-use efficiency across all sectors, reduce scarcity for all	No
6.5 Implement IWRM also across boarders	Yes
6.6 Protect and restore water-related ecosystems	Yes

7.1 Access to affordable, reliable and modern energy for all	Yes
7.2 Increase share of sustainable energy	Yes
7.3 Double the rate of improvement in energy efficiency	Yes
8.1 Sustain economic growth (7%)	Yes
8.2 Diversification and high value added for higher productivity	No
8.3 Promote development and micro enterprises and decent jobs	No
8.4 Promote resource efficiency to decouple growth and degradation	Yes
8.5 Employment, decent jobs and equal payment	No
8.6 Reduce unemployment and increase education and training	No
8.7 Eradicate forced labor, child labor and human trafficking	No
8.8 Protect labor rights especially women	No
8.9 Sustainable tourism to promote local livelihoods	No
8.10 Strengthen financial institutions and access to financial services and insurance	No
9.1 Develop resilient infrastructure	Yes
9.2 Sustainable industrialization and raise employment and GDP	Yes
9.3 Increase access of small-scale enterprises to financial services and markets	No
9.4 Upgrade infrastructure, resource efficiency and new technologies	Yes
9.5 Strengthen Research and Development	No
10.1 Increase income of bottom 40% of population	No
10.2 Promote inclusion of all	No
10.3 Eliminate discriminatory practices	No
10.4 Adopt social protection policies	No
10.5 Regulate global financial markets	No
10.6 Ensure equal voice of global south in global financial institutions	No
10.7 Facilitate safe and responsible migration	No
11.1 Promote safe housing and basic services	No
11.2 Accessible and sustainable transport systems	Yes
11.3 Integrated urban planning (inclusiveness)	No
11.4 Safeguard cultural and natural heritage	No
11.5 Disaster risk management	Yes
11.6 Air quality and waste management	No
11.7 Provide sustainable and universal public spaces	No
12.1 Implement the SCP 10Y Framework	No
12.2 Efficient use of natural resources	No
12.3 Half global food waste	No
12.4 Reduce release of waste and chemicals	Yes
12.5 Reduce waste by recycling	Yes
12.6 Encourage private sector for sustainable practices	No

12.7 Promote sustainable public procurement practices	No
12.8 Ensure universal knowledge on sustainable lifestyles	No
13.1 Strengthen adaptive capacities	Yes
13.2 Integrate climate measures in national policy making	Yes
13.3 Increase education and institutional capacities	Yes
14.1 Reduce marine pollution from land based activities	No
14.2 Protect and restore marine and coastal ecosystems	Yes
14.3 Reduce ocean acidification with scientific cooperation	No
14.4 Effectively regulate overfishing	No
14.5 Conserve 10% coastal and marine areas	No
14.6 Eliminate unsustainable schemes/subsidies to regulate overfishing	No
14.7 Increase economic benefits of small island states from small scale fisheries and sustainable tourism	No
15.1 Conserve and restore inland ecosystems	Yes
15.2 Promote sustainable forest management and halt deforestation	Yes
15.3 Restore degraded land and combat desertification (LDN world)	Yes
15.4 Ensure conservation of mountain ecosystems	No
15.5 Halt loss of biodiversity and prevent extinction of species	Yes
15.6 Equitable share of genetic resources	No
15.7 Stop trafficking of protected species	No
15.8 Reduce invasive species	No
15.9 Integrate ecosystem values into national policy planning	No
16.1 Reduce violence	Yes
16.2 End violence against children	No
16.3 Promote rule of law and equal justice to all	
16.4 Combat organized crime	No
16.5 Reduce corruption and bribery	
16.6 Effective, accountable and transparent institutions	No
16.7 Responsive, inclusive, participatory and representative decision-making	No
16.8 Strengthen participation of developing countries in global institutions	No
16.9 Legal identity for all	No
16.10 Public access and protect fundamental freedom for all	No
17.1 Strengthen domestic resource mobilization (tax)	No
17.2 Developed countries to fulfil the 0,7% commitment	No
17.3 Mobilize additional financial resources for	Yes

developing countries	
17.4 Assist in debt relief and reduce long-term dependency of developing countries	No
17.5 Promote investment in least developed countries	No
17.6 Enhance global cooperation: technology, science and innovation	No
17.7 Promote diffusion of environmental sustainable technologies	Yes
17.8 Enhance communication technology in developing countries	No
17.9 Enhance support for capacity-building in developing countries	Yes
17.10 Promote open and equal, rule-based trade	No
17.11 Significantly increase exports of developing countries	No
17.12 Realize duty free markets	No

Annex VI: Country statistics Cambodia

Indicator	Statistic
Area	181,035 (NC)
Forest	59.19% (NC)
Coastal line (km)	435 km (NC)
GDP (US$ per capita)	1,036 (NC)
GDP (total)	18.05 billion (WB)
Services	38% (NC)
Agriculture, fisheries, forestry	32% (NC)
Industry	22% (NC)
Taxes on products	8% (NC)
Population	14.7 million (NC)
Urban population	21.4% (NC)
Rural population	78.6% (NC)
Population below poverty line	17.9% (NC)
Life expectancy (years)	Males: 67.1 ; Females: 71 (NC)
Electricity production	
Fossil fuels	95.2% (CCCSP)
Hydropower	3.3% (CCCSP)
Renewable energy	1.5% (CCCSP)
Total ODA (US$)	1,566.4 million (NDSP)
Technical Assistance	263.7 million (NDSP)
Capital Assistance	1,238.3 million (NDSP)
Other	64.4 million (NDSP)
Human Development Index (HDI)	0.555 (rank: 143)
Corruption Perception Index 2016	21/100 (rank: 156)
GINI	36.0 (WB)
Global Climate Risk Index 2013	35.50 (rank: 12)

Table 8. This data is collected from the World Bank (WB), Cambodia's Second National Communication (NC), CCCSP and NDSP, together with the other indexes listed. The information from the NC, CCCSP and NDSP is all from 2013, HDI from 2014 and World Bank data from 2015.