

Université Libre de Bruxelles

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Master en Sciences et Gestion de l'Environnement

**“The role of ‘vulnerability’ as a guide line for the distribution of climate change adaptation aid:
an analysis of three aid donors (DFID, GIZ & EC)”**

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Abstract

The most recent Intergovernmental Panel on Climate Change (IPCC) report reaffirmed that climate change forms an immediate threat to all countries, but developing countries are the ones that are affected the most by climate impacts such as rising temperatures and extreme weather events. High economic dependence on agriculture, poverty, and weak government can make a country and its population more vulnerable to climate change, because they lack the capacity to cope with the impacts. The international community has pledged to help developing countries to cope with these impacts through mitigation and adaptation efforts. Whilst mitigation aims to reduce greenhouse gas emissions, adaptation is intended to help countries adjust to better cope with future and current climate risks. This research analyses in what manner the Rio Marked adaptation aid of donors was flowing towards the most vulnerable countries during the time period 2010-2012. Through the combination of a qualitative document analysis and a quantitative assessment of donor allocations of Climate Change Adaptation Aid (CCAA), the author accomplishes several observations. First of all, CCAA allocation differs strongly amongst the donors, by region and by income group. Whilst the DFID donates most of its CCAA towards LDCs, Germany allocates most of it to MICs. The EC is the most differentiated donor, but also favours LDC's. Secondly, donors do not pick countries on a basis of national vulnerability assessments, there is, however, some overlaps between them. Thirdly, there is a strong relation between the traditional partner countries and the CCAA recipients; however not all CCAA is going to traditional partner countries. And finally some donors have been more active on the field of CCAA, than others.

Résumé en français

Le dernier groupe d'experts intergouvernemental sur l'évolution du climat (GIEC) a réaffirmé que le changement climatique constitue une menace immédiate pour tous les pays, mais les pays en développement sont le plus touchés par les impacts du climat de ces températures en hausse et des événements météorologiques extrêmes. Aussi la forte dépendance économique de l'agriculture, la pauvreté et la faiblesse du gouvernement sont des facteurs qui peuvent causer des impacts plus sévères pour un pays en développement et sa population plus vulnérable aux changements climatiques, parce qu'ils n'ont pas la capacité de faire face aux impacts. La communauté internationale s'est engagée à aider les pays en développement à faire face à ces impacts par atténuation et d'adaptation . Atténuation tente de réduire les émissions de gaz à effet de serre et l'adaptation est destinée à aider les pays à s'adapter à mieux répondre aux risques climatiques futures et actuelles . Cette recherche analyse de quelle manière l'aide à l'adaptation de donateurs 'marquée Rio'¹ coulait vers les pays les plus vulnérables au cours de la période 2010-2012. Grâce à la combinaison d'une analyse de documents qualitative et une évaluation quantitative de la répartition des donateurs de l'aide à l'adaptation aux changements climatiques (AACC), l'auteur accomplit plusieurs observations . Premièrement, la répartition de la AACC diffère fortement entre les bailleurs de fonds , par région et par groupe de revenu . Alors que le DFID fait de la plupart de son AACC vers les Pays Moins Avancés (PMAs) , l'Allemagne alloue la plus grande partie de pays à revenu intermédiaire. La Commission Européenne (CE) est le donateur le plus différencié, mais favorise les PMAs aussi . Deuxièmement , les donateurs ne ramassent pas les pays sur une base d'évaluations nationales de vulnérabilité , il y a cependant des chevauchements entre eux . Troisièmement , il existe une relation forte entre les pays partenaires traditionnels et les bénéficiaires de l'AACC , mais pas tout l'AACC va aux pays partenaires traditionnels. Et enfin certains bailleurs de fonds ont été plus actifs sur le domaine de l'AACC , que d'autres.

¹ Rio-marked

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List of acronyms

AACC	Aide à l'adaptation aux changements climatiques
ASAP	Adaptation for Smallholder Agriculture Programme
ACP	Africa, Caribbean and Pacific
BMU	Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety
BMZ	Federal Ministry for Economic Cooperation and development
BRACED	Building Resilience and Adaptation to Climate Extremes and Disasters Programme
BRICS	Brazil, Russia, India, China and South-Africa
BVI	British Virgin Islands
CAR	Central African Republic
CARIAA	Collaborative Adaptation Research Initiative in Africa and Asia
CCA	Climate change adaptation
CCAA	Climate change adaptation aid
CCVI	Climate change vulnerability index
C3D	Climate Change Capacity Development Project
CE	Commission Européenne
CGIAR	Consultative Group on International Agricultural Research
CLP	Chars Livelihoods Programme
CRS	Creditor Report System
CVM	Climate vulnerability monitor
DEFRA	Department for Environment, Food & Rural Affairs
DFID	Department for International Development
DECC	Department for Energy and Climate Change
DRC	Democratic Republic of Congo
DRM	Disaster risk management
EbA	Ecosystem-based adaptation

ECACC	Enhancing Capacity for Adaptation to Climate Change in the Caribbean UK Overseas Territories
EC	European Commission
ECOFIN	European Council of Economic and Financial Affairs
EDF	European Development Fund
EKF	Special Energy and Climate Fund
EP	European Parliament
EU	European Union
ESI	Environmental sustainability index
EVI	Environmental vulnerability index
FAO	Food and Agriculture Organization
FSF	Fast Start Finance
GAIN	Global Adaptation Index
GCCA	Global Climate Change Alliance
GCRI	Global Climate Risk Index
GIEC	Groupe d'experts Intergouvernemental sur l'Evolution du Climat
GIZ	German International Cooperation
GOS	Governmental Office for Science
GTZ	German Technical Cooperation
HDI	Human Development Index
HMIC	Higher middle income country
HSI	Human Security Index
IATI	International Aid transparency Initiative
IFAD	International Fund for Agricultural Development
ICF	International Climate Fund
IKI	International Climate Initiative
IPCC	the Intergovernmental Panel on Climate Change
IPCC SREX	The Intergovernmental Panel on Climate Change's Special Report

on Managing the Risks of Extreme Events and Disasters

LDC	Least developed country
LIC	Low-income country
LMIC	Lower middle income country
MFF	Multiannual Financial Framework
MIC	Middle income country
NAPA	National Action Plans for Adaptation
ODA	Official Development Assistance
OECD	Organisation for Economic Cooperation and Development
OECD DAC	Organisation for Economic Cooperation and Development Donor Assistance Committee
ODA	Official Development Assistance
ODI	Overseas Development Institute
PDG	Project Development Grants
PMA	Pays Moins Avancés
PRSP	Poverty Reduction Strategy Paper
SAGWP	South Asia Water Governance Programme
SIDS	Small Islands Developing States
SOPAC	the South Pacific Applied Geosciences Commission
UNDP	United Nations Development Programme
UNEP	United Nations Environmental Programme
UNFCCC	United National Framework Convention on Climate Change
VARG	Vulnerability and Adaptation Resource Group
WPI	Water Poverty Index
YCELP	Yale Centre for Environmental Law & Policy

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1. Introduction

Climate change is recognised as the one of the main environmental challenges for the present and future generation (Cardona et al., 2012; Ackerson, et al., 2013) It is expected to exacerbate immediate development stresses through temperature increases, water scarcities and through weather variability and extreme events (Halsnaes & Verhagen, 2007; Cardona et al., 2012; IPCC, 2013). The most recent Intergovernmental Panel on Climate Change (IPCC) report reaffirmed that climate change forms an immediate threat to all countries, but developing countries are the ones that are affected the hardest. Their high economic dependence on agriculture, poverty, and weak government can make a country and its population even more vulnerable to climate change, because they lack the capacity to cope with the climate impacts. In fact, this means that those who are the least responsible for anthropogenic climate warming, will be hit the hardest (IPCC, 2014).

Climate change threatens to hamper development progress or even destroy progress that has been made so far. In response to these problematic effects of climate change, wealthier countries are pledging billions of dollars each year to help developing countries reduce their vulnerability (Smith, Dickinson, Donahue, Burton, Haites, Klein, & Patwardhan, 2011; Ackerson et al., 2013; ODI, 2013). Yet, the definition of climate finance is problematic, because it includes both mitigation as adaptation efforts and encompasses private and public, bilateral and multilateral flows, including Official Development Assistance (ODA) (DARA, 2011, p.55, van Gameren et al., 2014, IPCC, 2014; UNFCCC, 2014).

In 2010 the United Nations Framework Convention on Climate Change (UNFCCC) set up its 'Fast-Start Finance' project for the time period 2010-2012, intended to help developing countries with their climate challenges. Although the UNFCCC does not formulate a clear definition of vulnerability, it clearly indicates the vulnerability of a country as a guide-line criteria in allocating adaptation funds. So far it is unclear if countries have actually distributed according to this criteria. Therefore this research will attempt to analyse to which extent relevant development donors allocate their development aid marked as 'climate change adaptation' (CCA) to those most in need.

Next to this international political framework, there has been a process of mainstreaming going on, integrating climate change within other national policies. This is supported by the idea that adaptation cannot stand alone next to other policies if it wishes to be effective (Huq, et al., 2003; Huq & Reid, 2004; Gupta, 2009; GIZ, 2012). Until now, there has not been

much research conducted on what the intentions of aid donors are regarding to CCA. Yet, the mainstreaming of climate change adaptation through the development policy has been tracked by the Organisation for Economic Cooperation and Development Donor's Assistance Committee (OECD DAC). All development projects and programmes that are intended for climate change adaptation as a principal or significant objective are 'Rio-marked'. This enables us to make a quantitative assessment of donor CCAA allocation.

Hence, this research wishes to analyse: **How much of the 'Rio-marked activities' of existing Official Development Assistance (ODA) donors allocate to the most vulnerable developing countries?**

To answer this question we will need to clearly conceptualise what we mean by 'vulnerability'. Firstly, vulnerability is a concept that has received many definitions and has been elaborately been discussed in both literature, as politics (Oxfam, 2009; Füssel, 2010; Barsley, De Young & Brugère, 2013; IPCC, 2014). The IPCC refers to vulnerability as *"the propensity or predisposition to be adversely affected"* (IPCC, 2014, p. 8). Mostly it is seen as consisting of three broad elements: exposure, sensitivity and adaptive capacity (Smit & Wandel, 2006; Cardona et al., 2012).

Secondly, a thorough discussion on different vulnerability assessments will enforce itself. Vulnerability assessments have tried to measure which countries are the most vulnerable to climate change, but the complexity of both the climate impacts and the term vulnerability have brought a wide range of different indices, assessments, scores and rankings (O'Brien et al., 2004a, Brooks et al., 2005). Indicators and indices are important measures and techniques for vulnerability analysis. The choice of indicators is always a normative one and will be difficult to agree upon on an international level (Füssel, 2010). Through this comparison of vulnerability assessments, we tend to get a better image of which countries are in fact the most vulnerable. However, Cardona et al. emphasise that *"quantitative approaches for assessing vulnerability need to be complemented with qualitative approaches to capture the full complexity and the various tangible and intangible aspects of vulnerability in its different dimensions"* (2012, p. 67).

Therefore, a qualitative document analysis of policy documents of three European donors should provide insight into the donors' intentions in regard to climate change adaptation. Do they wish to reach the most vulnerable? Or are they 'climate proofing' their existing programs? The chosen donors are: the United Kingdom, the European Commission (EC) and

Germany. These donor countries are chosen for reasons of transparency and academic relevance. All donors have policy documentation available in English. The UK is known to be an important development donor (OECD DAC, 2010a), the EC is a unique donor and has been trying to take a leading role on climate change (OECD DAC, 2012) and finally, Germany has a specialised in within its development policy (OECD DAC, 2010b).

We will combine the qualitative analysis with a more quantitative approach to create an image of the distribution of CCAA for each donor. How much CCAA do donors give? Who are the recipients of CCAA? And how do these recipients relate to the donor's intentions and to vulnerability, defined through the vulnerability assessments?

This research wishes to attribute to the tracking of climate adaptation aid and look at the correlation between the aid recipients of 'climate marked aid' with a country's vulnerability. This analysis contributes to the current literature in three significant ways: 1) identifying which developing countries are receiving international aid to adapt to the effects of climate change, and 2) identifying who donors wish to address with their CCAA and in which sense donors apply with the vulnerability criteria put forward by the UNFCCC, and 3) critically assessing the contemporary vulnerability indices.

2. Linkages between climate change and development

In general, there are three linkages between climate change and development. First, unsustainable socio-economic development leads to climate change (Ayers & Huq, 2009). Second, sustainable development induces a reduction of vulnerability to climate change (Huq et al., 2006, Klein et al., 2007; Ayers & Huq, 2009; Dodman et al., 2009). Third, the impacts of climate change can threaten the development and sustainability of development investments (Burton & Van Aalst, 2004; Klein et al., 2007). The last two linkages are the most relevant to development policy.

Before looking at the way climate change has found its introduction into development policy. It is important to notice two main responses to climate change in general: mitigation and adaptation (Ayers & Dodman, 2010, pp. 161-162). Mitigation refers to limiting the production of greenhouse gases (GHGs) to mitigate against further anthropogenic climate change. Adaptation on the other hand, describes the adjustment in natural or human systems to respond to the effect of actual or expected climatic stimuli. Adaptation can be *“a process, action or outcome in a system”* (in our study: country, region) *“that helps the system to better cope with, manage or adjust to the changing conditions, stresses, hazards, risks or opportunities associated with climate change”* (Smit & Wandel, 2006, p.282). Although climate change will have an impact in the entire world, it is of the utmost importance to pay excessive attention to the LDCs and MICs, that are more vulnerable to climate change, due to a lack of resources, inadequate physical infrastructure and weak and ineffective systems of governance (Klein et al., 2007; Ayers & Dodman, 2010).

With adaptation arising as one of the answers to climate change, the linkage between development assistance and climate change has become clearer. The evolution of climate change adaptation within development discourse has been described by several authors (Ayers & Huq, 2009; Ayers & Dodman, 2010). Development was initially associated with emissions trajectories and mitigation responsibilities, however following the new millennium a slow seems to have occurred shift towards bringing adaptation on equal footing with mitigation, together with realizing that adaptation, particularly in developing countries, is an urgent priority. Therefore, the literature stresses the need to address ‘mainstreaming’ climate change adaptation into development policies² (Kok & de Coninck, 2007; Saito, 2013).

² Yet there is some debate that within current institutions the mainstreaming would be contra productive (Gupta, 2009). So although there are some difficulties with using Official Development Assistance (ODA) to support climate change adaptation, Ayers & Huq (2009) conclude that it provides an avenue to address the shortfalls of funding under the UNFCCC.

By the time of the new millennium, adaptation had also begun to be associated with the interests of developing countries³, whereas adaptive capacity was dependent on development contexts. The realisation that high vulnerability and exposure were mainly the outcome of skewed development processes led to the incorporation of climate change adaptation within Official Development Assistance (ODA) (Cardona et al., 2012). Consequently, existing ODA donations currently flow through a variety of forms to help climate change adaptation integrate into social, institutional and infrastructural development planning (Ayers & Dodman, 2010, p. 164). Next to the utilisation of existing ODA resources, raising awareness within the main actors also place a crucial role (Huq & Reid, 2002, p. 19). Most major donor agencies are 'climate proofing' their development investments by screening them for climate change vulnerabilities and then taking action to address them (Burton et al., 2006; Klein et al., 2007; Ayers & Huq, 2007; Harmeling, Bals & Burck, 2007). However, this approach depicts adaptation as something that is external to development rather than an integral part of it.

Some authors (Ayers & Dodman, 2010; Smith et al., 2011) have made the distinction between stand-alone adaptation, climate proofing and vulnerability reduction. Where stand-alone adaptation addresses emerging climate change impacts, climate proofing takes place within a policy other than the climate policy, such as development policy. The latter brings about the discussion of additionality and significantly relates to our research question. Vulnerability reduction or 'adaptation as development' is for most authors the preferred approach, due to the fact that development is the end goal and sometimes adaptation can be seen as synonymous to development in order to reach that end goal.

Until now it has been rather unclear what criteria development donors use to determine which countries receive this adaptation aid. Our research will create a first attempt at ascertaining this.

³ Within the Marrakech Accords³ (2001) three new funds were created to assist developing countries: the Least Developed Countries Fund (LDCF) to support the LDCs to adapt to climate change, the Special Climate Change Fund (SCCF) and the Kyoto Protocol Adaptation Fund (KPAF), which was financed by the Clean Development Mechanism(CDM) (Huq & Reid, 2002; Huq, Rahman, Konate, Sokona & Reid, 2003, p.19; Ayers & Huq, 2009; Ayers & Dodman, 2010, p. 163). Eventually in Bali in 2007 (COP13) adaptation was brought on equal footing with mitigation (Ayers & Huq, 2008).

3. Vulnerability and adaptive capacity

3.1 Spelling out: what is 'vulnerability'?

In order to commence our research we must first clearly define what is meant by 'vulnerability'. There are different aspects of vulnerability and different interpretations (Smit & Wandel, 2006, Cardona et al., 2012). Oxfam comprehensively describes vulnerability as *"a measure of our capacity to deal with shocks"* (2009, p. 7). Hence, *"greater vulnerability means less capacity to deal with shocks without suffering a long-term loss of wellbeing"* (Oxfam, 2009, p. 7).

In its latest report the Intergovernmental Panel on Climate Change (IPCC) refers to vulnerability as *"the propensity or predisposition to be adversely affected"* (IPCC, 2014, p. 8). According to IPCC vulnerability encompasses a range of concepts and elements including sensitivity or susceptibility to harm and lack of capacity to cope and adapt (IPCC, 2014). Within the literature we find these two broad contributing elements of vulnerability as well. Both exposure and sensitivity and adaptive capacity play an important role in determining a country's vulnerability (McCarthy et al., 2001; Brooks, 2003; O'Brien et al., 2004a; Füssel & Klein, 2006; Füssel, 2007; O'Brien et al., 2007, Barr, Fankhauser & Hamilton, 2011; IPCC, 2014;).

Exposure: *"The presence of people, livelihoods, species or ecosystems, environmental functions, services, and resources, infrastructure, or economic, social, or cultural assets in places and settings that could be adversely affected"* (IPCC, 2014, p.4)

Sensitivity: *"The physical predisposition of human beings, infrastructure, and environment to be affected by a dangerous phenomenon due to lack of resistance and predisposition of society and ecosystems to suffer harm as a consequence of intrinsic and context conditions making it plausible that such systems once impacted will collapse or experience major harm and damage due to the influence of a hazard event"* (Cardona et al., 2012, p. 72)

Adaptive capacity: *"the ability to anticipate and transform structure, functioning, or organisation to better survive hazards"* (Cardona et al., 2012, p. 72)

Notably, the adaptive capacity of a country is often limited by a lack of resources, poor institutions and inadequate infrastructure. These are all factors that have typically been addressed by ODA. Thus, this reaffirms the synergies between poverty reduction and vulnerability reduction (Klein et al., 2007).

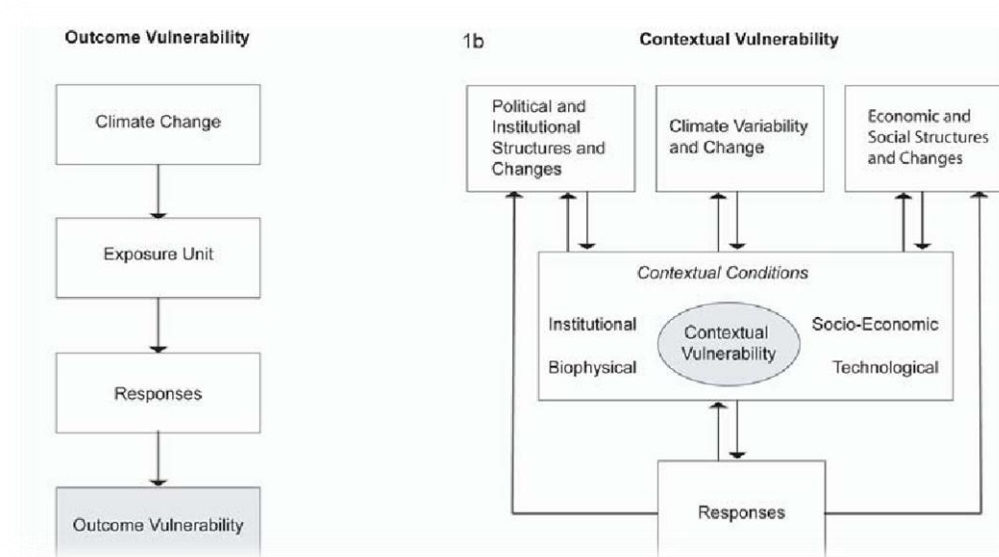
Consequently these three aspects (sensitivity, exposure and adaptive capacity) play an important role for policy makers. It is necessary to look at, on the one hand which countries will be most exposed to the impacts of climate change, and on the other hand, which countries have the capacities to deal (pre-emptive) to the threats that climate change imposes and which countries do not (Smit & Wandel, 2006, p. 286).

Next to these broad elements there are social, economic, political and ecological conditions which affect both exposure and sensitivity; and the adaptive capacity of a country (Turner II et al., 2003; Smit & Wandel, 2006). Smit & Wandel (2006, p. 286) observe that: “*vulnerability, its elements of exposure, sensitivity and adaptive capacity, and their determinants are dynamic, they vary by type, they vary from stimulus to stimulus and they are place-and system-specific*” . This is what is referred to as the dynamics of vulnerability. Processes such as conflict, demographic change, urbanisation, technological change, global environmental change and globalisation are able to alter the vulnerability and the adaptive capacity of regions, nations, communities or individuals (GOS, 2012, pp. 52-53).

3.2 Different interpretations

The most well-known interpretations of vulnerability within the climate change context are contextual vulnerability and outcome vulnerability. These interpretations of vulnerability are based on different conceptual frameworks, they manufacture different rankings, and they imply different strategies for reducing vulnerability (Füssel, 2010).

Figure 1: Frameworks depicting two interpretations of vulnerability to climate change



(Source: O'Brien et al., 2007, p. 78)

Within the outcome vulnerability approach the starting point is climate change, whereas the endpoint is outcome vulnerability. The interpretation is linear and can be seen as a causal relation. Dependant on how a country is exposed to climate change, responses will differ and a certain vulnerability can be deduced (Wisner et al., 2004; Füssel, 2010). According to Füssel (2009) this is the approach applied by the IPCC. This complies with the 'end point vision', meaning that vulnerability is seen as a residual of climate change impacts minus adaptation (O'Brien et al., 2004b; Fellman, 2012).

On the other hand the contextual vulnerability approach works within a more complex frame, where the variables are more interconnected (Füssel, 2010). The model of Turner II et al. (2003) is an example of this. This vision complies with the 'starting point vision', viewing vulnerability as a general characteristic generated by multiple factors and processes (O'Brien et al., 2004b; Fellman, 2012). Assessing vulnerability as an 'end point' considers that adaptations and adaptive capacity determines vulnerability, while assessing vulnerability as a 'starting point' implies that vulnerability determines adaptive capacity.

Depending on which interpretation is applied, different policy recommendations will be suggested. O'Brien et al. (2007) argue that the two interpretations are rooted in different discourses, and therefore they differ fundamentally in their conceptualization of the character and causes of vulnerability. So when we look at the framework used to build proper policy on, it will be interesting to look at what 'discourse' is used. Since the two different interpretations of vulnerability have two different conceptions of the problem, necessarily two different approaches to the solution will arise (O'Brien et al., 2004b).

Due to these different conceptual frameworks and definitions, as well as disciplinary views, approaches to addressing the causes of vulnerability also differ⁴ (Turner II et al., 2003a; 2003b; Cardona, 2003; Füssel and Klein, 2006; Cardona et al., 2012). Keeping this diversity in mind, we take a look at how vulnerability is analysed and applied by several actors. Within the academic

² For general reviews of the conceptualization of 'vulnerability', the reader is referred to: Timmermann 1981, Liverman 1990, Cutter 1996, Hewitt 1997, Kasperson and Kasperson 2001, UNEP 2002, Ford 2002, Turner II et al. 2003, Cardona 2003, Prowse 2003, Kasperson et al. 2005, Cardona et al., 2012. Publications focussing on the conceptualization of 'vulnerability' in climate change research include: Adger 1999, Kelly and Adger 2000, Olmos 2001, Downing et al. 2001, Moss et al. 2001, Brooks 2003, Downing and Patwardhan 2004, O'Brien et al. 2004, Eakin and Luers 2006, Smit & Wandel, 2006; Füssel 2007, O'Brien et al. 2007 (Cardona et al., 2012, p. 71).

world several definitions of vulnerability have arisen, which have led to diverse kinds of vulnerability indices

4. Vulnerability assessments: what, how and why?

Vulnerability assessment encompasses various approaches and techniques ranging from more quantitative approaches to more qualitative approaches. Although quantitative approaches for assessing vulnerability are desirable, they are in need of complementation with qualitative approaches in order to capture the complexity of vulnerability to the fullest extent (Cardona et al., 2012). O'Brien et al. (2004a) confirm that vulnerability mapping can be used to identify "hot spots" of vulnerability, while case studies can provide an understanding of the underlying causes and structures that compound vulnerability.

As adaptation aid is intended to prioritise those countries that are most vulnerable to the impacts of climate change (UNFCCC, 1992, art.2) but there is no fixed definition of vulnerability (Cardona et al., 2012), assessing vulnerability is both complex and contentious. *"The dynamic character of vulnerability leads to a complexity, in terms of processes interacting at several different geographic scales, that has to be tackled by national indicator studies"* (Adger et al., 2004, p. 22). *Vulnerability indices* – which use standard variables to quantify and rank countries' vulnerability to climate change – are partially able to indicate the extent to which climate change adaptation aid distribution mirrors this vulnerability (Shepherd et al., 2013). The indices are only partially able to give a real and accurate image of the most vulnerable countries, due to the fact that different outcomes are produced depending on what standard variables are used and what weight is given to each of them (Brooks et al., 2005).

The application of generic national vulnerability indices has therefore been criticised (Moss et al., 2001; Brooks et al., 2005; Eriksen & Kelly, 2007; Fussel, 2010; Gall, 2007; Kaly et al., 2004; Yohe et al., 2006a; 2006b). In fact, all countries will in some way be affected by climate change and will need to adapt, even if they are somewhat 'less vulnerable' than others (Füssel, 2010). A main criticism however is that one index alone cannot properly sketch the complexity of climate change (Adger, et al., 2004; Klein, 2009; Fussel, 2010). The complexity and heterogeneous patterns of vulnerability factors for different climate-sensitive sectors has led academic results to be inconclusive or even contradictory (Füssel, 2010). This brings along a political difficulty, because choosing one assessment is a normative choice of certain indicators over others. Hence, Fussel (2010) argues that the allocation of international adaptation funds to developing countries should be guided by sector-specific or hazard-specific criteria instead of a generic index of countries' vulnerability to climate change. Taking into account these critiques, we will attempt to avoid this 'one-size-fits-all-vulnerability label' by comparing and contrasting different indices. It should be noted that climate change vulnerability assessments serve other purposes as well; they

increase the scientific understanding of climate-sensitive systems under changing climate conditions (Füssel & Klein, 2006, p. 324).

4.1 What makes up a good index?

The IPCC recognises that vulnerability indices are a feasible way to monitor risk and emphasises that the usefulness of these indices depends on how they are employed to make decisions. For this reason it is necessary to complement these quantitative approaches with qualitative approaches to weigh multiple variables and capture the complexity of vulnerability (Cardona et al., 2012, IPCC, 2014).

The indices that are used in an attempt to measure vulnerability to climate change have had a certain evolution. Whereas the first assessments tended to measure climate impacts, a new generation of assessments arose that attempted to measure vulnerability. The latter can be split up into first-generation and second-generation vulnerability assessments. Whereas the first-generation vulnerability assessments mostly focus on climate impacts and the socio-economic impact they might have, the second-generation incorporates adaptive capacity as well (Burton, Huq, Lim, Pilifosova & Schipper, 2002; Füssel & Klein, 2006).

Due to our definition of vulnerability according to the elements of exposure, sensitivity and adaptive capacity, it logically follows that we see the second-generation vulnerability assessments as more representative. However for analytical purpose it might be interesting to look at how they differ from each other. Therefore the different generations of climate impact and vulnerability assessments will also be considered later, when comparing to the results of our quantitative analysis.

Before starting to compare the different generic indices, it is useful to keep into account certain determinants that will impact the outcome of the indices. Several authors have claimed that ranking and comparing vulnerability across countries is challenged by everything from the quality of the available data and, the selection and creation of indicators (Eriksen & Kelly, 2007), to the assumptions used in weighting of variables (Füssel, 2010; 2010) and the mathematics of aggregation (Eakin & Luers, 2006; Gall, 2007), including the time span applied. Some indices base their assessment on past occurrences, while others attempt to measure future risk.

Finally it must be stated that the following indices all calculate climate impact or vulnerability on a national level. Several authors have concluded that this is not always the most appropriate way

to depict true vulnerability, nor is it appropriate for use as guideline for allocation decisions⁵ (Füssel, 2010). Cross-scale comparisons of vulnerability have shown that even if the vulnerability of a country is low, certain subgroups of the population may still be strongly affected (O'Brien et al., 2004a; Füssel & Klein, 2006). According to some authors regional and local vulnerability assessments should guide allocations in the future, rather than generic national assessments (Schipper et al., 2008, p. 26; Glick & Stein, 2010, p.80).

4.2 Vulnerability indices compared

Every index is based on a conceptual framework including several components such as food, water, settlements, health and ecosystems vulnerability. Each of these components is constructed from indicators of “coping capacity” and either “sensitivity” or “hazard exposure”. Every indicator consists out of multiple variables (Downing et al., 2001, pp 46-47; Adger et al., 2004, Brooks et al., 2005).

Some of the most commonly used indices will be discussed. The selection of vulnerability indices aims to be comprehensive, but not exhaustive. We make a distinction between climate impact assessments, first-generation; and second-generation vulnerability assessments (Füssel & Klein, 2006). Before looking at these vulnerability or climate impact assessments, we first assess two other indices that are acknowledged as relevant for vulnerability: the HDI and the HSI.

4.2.1 Vulnerability related indices

A. Human Development Index (HDI)

Some authors claim that the Human Development Index (HDI) remains the best index for climate change vulnerability. *“One multi-criteria evaluation has suggested that none of the existing indices are particularly robust means of measuring or comparing vulnerability, and that the human development index (HDI), though weak itself, is the most effective means of measuring vulnerability”* (Gall, 2007). The HDI is an aggregate measure of human wellbeing based on education and health status, as well as income and inequality (Downing et al, 2001; Adger et al., 2004). Downing et al. (2001) represent the HDI as an adequate index to measure “present criticality”, which is equivalent to vulnerability as described above. The indicators appear to be quite similar to other (vulnerability) indices, taking into account the assessment of people’s wellbeing through life expectancy at birth, years of schooling, and gross national income (GNI) per capita (UNDP, 2013). Other human welfare indices, such as the *World Poverty Index* (WPI) could

⁵ According to Klein (2009, p.291) no ranking or index has ever been used to inform resource allocation decisions.

serve as substitutes according to Adger et al., 2004. The HDI is adjusted frequently, most recently in 2013.

Although the HDI does not involve an environmental indicator, human welfare does depict a certain vulnerability of a country.

B. Human Security Index (HSI)

Another possible way of looking at human wellbeing that is sometimes used is through the lens of (in)security. There is a suite of literature on the link between security and environmental degradation. Predominantly, this is focused on the threat of shortage of freshwater, which according to some could lead to new conflicts (Raleigh & Urdal, 2007).

A first index linking environmental degradation to insecurity was the IHI (Lonergan, Gustavson & Carter, 2000). The IHI consisted of 16 indicators, equally weighted, which presented mapping of human insecurity according to economic, environmental and social components. The HSI was definitively formulated in 2009 within the UN and was based on similar components, but addressed a more advanced set of indicators. Although it was mainly seen as a toolkit to provide guidance on preparing a National Human Development Report, the index in itself gives another insight on vulnerability (Gomez & Gasper, 2013).

C. Water Poverty Index (WPI)

The Water Poverty Index (WPI) is an index of a totally different kind. The WPI is a specifically targeted environmentally based index which links physical estimates of water availability with socioeconomic variables that reflect poverty (Sullivan et al., 2003; Adger et al., 2004). It has a very strong thematic approach, and is addressed here to serve as an example of an index with a political objective. The aim of the WPI is to measure water stress at the household and community levels, designed to aid national decision makers. Some of the indicators are: access to water, water quantity, quality and variability, water uses, environmental aspects and capacity for water management (Sullivan et al, 2003). Although the index does not relate directly to climate change vulnerability, water scarcity remains one of the largest threats caused by long term climate change, specifically because it also seems to hit the poorest countries (LDCs) (table 1).

D. Discussion

In table 1 we organised the top ten of most vulnerable countries according to the former indices. The listed countries are also referenced as LIC, LMIC, MUC or high-income economy according to the World Bank classification (World Bank, 2014a).

Contrary to the HDI, the HSI does enclose an environmental aspect, but has as main goal human welfare. Still the results show some similarities: Chad, Burundi, the Democratic Republic of Congo and the Central African Republic (CAR) appear in both indexes. It will be interesting to look if these appear in the climate impact and vulnerability assessments.

More obviously the results show a strong correlation with the LICs. The only country that does not list as a LIC is Sudan (LMIC). Sudan on the other hand is a LDC according to the 2013 UN list of Least Developed Countries. Only Zimbabwe is not recognised as a LDC.

Table 1: Vulnerability-related indices: Human Development Index and Human Security Index

<u>Vulnerability-related indices</u>	HDI (2013) – human development	HSI (2009) – human security	WPI – water poverty
Most vulnerable countries			
Country 1	Niger	Somalia	Haiti
Country 2	DRC	Afghanistan	Niger
Country 3	Mozambique	DRC	Ethiopia
Country 4	Chad	Liberia	Eritrea
Country 5	Burkina Faso	CAR	Malawi
Country 6	Mali	Zimbabwe	Djibouti
Country 7	Eritrea	Sudan	Chad
Country 8	CAR	Burundi	Benin
Country 9	Guinea	Sierra Leone	Rwanda
Country 10	Burundi	Chad	Burundi

Legend: Colour classification according to income (GDP) country/inhabitant (World Bank, 2014b)

- Low-income countries (\$1035 or less)
- Lower-middle-income countries (\$1036-\$4085)
- Upper-middle-income countries (\$4086-\$12615)
- High-income economies (\$12616 or more)
- Least Developed Countries (UN, 2013)

4.2.2 Climate impact assessments and first-generation vulnerability assessments

Climate impact assessments mainly emphasise exposure and sensitivity to climate hazards, based on spatially referenced projections of different emissions scenarios (Füssel & Klein, p. 312). First-generation vulnerability assessments are characterised by the evaluation of climate impacts ('climate variability') in terms of their relevance for society and by the consideration of potential adaptation ('non-climatic factors'). Second-generation vulnerability assessments (4.2.3) will complement the assessment of climate impacts with a more thorough assessment of the adaptive capacity (Füssel & Klein, 2006)⁶.

Contemporary climate impact assessments and first-generation vulnerability assessments will be addressed together, since all recent indices take into account a social aspect of some sort⁷. Through this distinction with the second-generation vulnerability assessments we mainly focus on the in-/or exclusion of the adaptive capacity. Intuitively expect this will have a significant impact on the outcome.

A. Environmental Sustainability Index (ESI)

The Environmental Sustainability Index (ESI) was created by the World Economic Forum, in cooperation with the Yale Centre for Environmental Law & Policy (YCELP). It can be categorised as a first-generation vulnerability assessments. It measures five components for each country: environmental systems, reducing human vulnerability, reducing stress, social and institutional capacity and global stewardship. Using 20 indicators, each consisting out of a variety of variables, the index wishes to measure progress towards environmental sustainability (Daniel, Levy, Srebotnjak & de Sherbinin, 2005). In order to do this it lays its focus more on environmental impacts, than adaptive capacity. *"The relationship between environmental sustainability and economic development is complex. At every level of income, countries face environmental challenges"* (Daniel et al., 2005, p. 2).

A complementary index: the Environmental Performance Index (EPI) has been constructed to assess environmental health and ecosystem vitality through indicators such as health impacts, air quality, water and sanitation, water resources, agriculture, forests, fisheries, biodiversity and habitat and climate and energy (YCELP, 2014).

⁶ Füssel & Klein also address a fourth sort of assessment: the adaptation assessment. This assessment wishes to answer the question of which adaptations are recommended for reducing vulnerability (Füssel & Klein, 2006)? Because in this part we wish to focus on country rankings, this is less relevant to our research.

⁷ Impact assessments were conducted until early half of the 1990s (Downing et al., 2001, Füssel & Klein, 2006, p. 314).

B. The Composite Vulnerability Index (CVI)

The Composite Vulnerability Index (CVI) parts from the particular vulnerability of small states. According to the authors small states are more vulnerable to external economic forces and environmental hazards than are large states (Atkins, Mazzi & Easter, 2001). The CVI include the aspects of economic exposure, remoteness and insularity; and susceptibility to environmental events and hazards. Each of these indicators exists out of a wide range of weighted variables.

Noteworthy is that within this index, the degree of vulnerability is independent of income (per capita GDP). This is reflected in the results through the fact that the Bahamas and Malta, which have relatively high GDP/capita, are more vulnerable than low income large states, such as Kenya and Madagascar. Hence, the question of adaptive capacity is not touched upon within the index, but it is noted that possessing resources, capacity and capabilities play an important role in measuring the resilience of a (small) state to cope with the factors that create output growth volatility.

C. Environmental Vulnerability Index (EVI)

In line with the CVI, the Environmental Vulnerability Index (EVI) was developed by the South Pacific Applied Geosciences Commission (SOPAC) in 2004 (Kaly, Pratt & Mitchell, 2004). The purpose was to represent the vulnerability of small islands developing states (SIDS) to a range of hazards, based on 47 indicators. These indicators included risk, intrinsic resilience, environmental integrity or degradation and were divided into 5 subcategories: meteorological events, geological events, country characteristics and anthropogenic factors. The resulting indices are rated on a scale of 1 to 7, with 7 representing high vulnerability (Kaly et al., 2004).

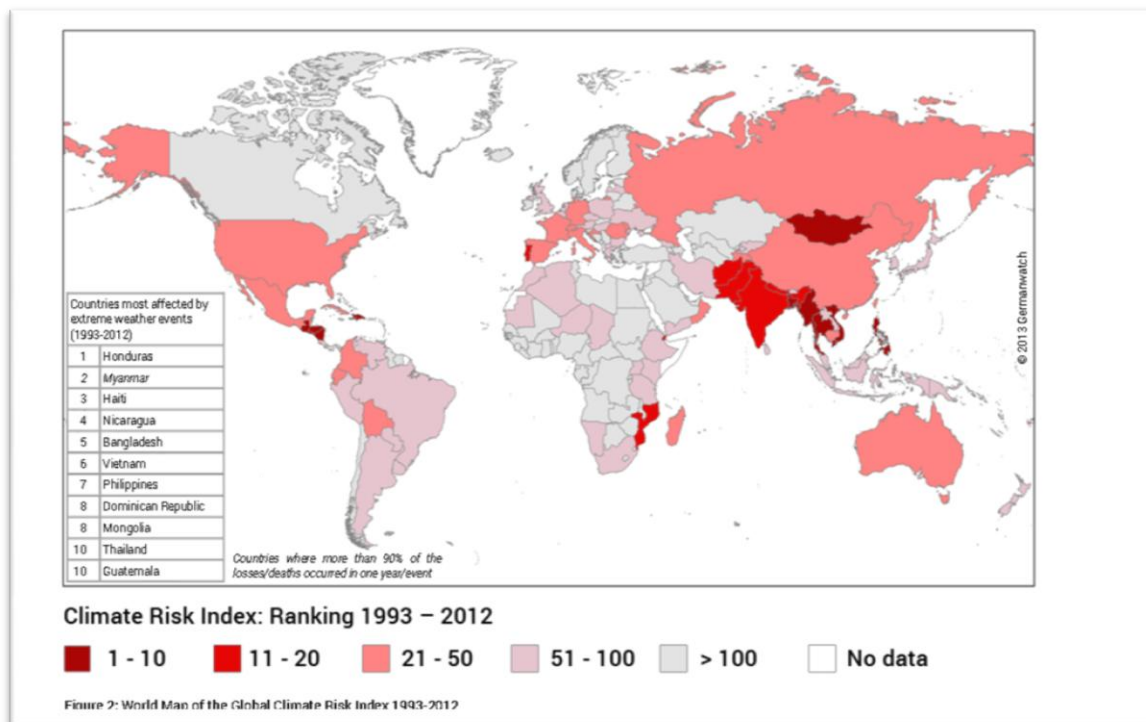
Several authors have build further on this assumption of higher vulnerability of small states, more specifically SIDS (Barnett & Campbell, 2010; Small-Lorenz, Culp, Brandt Ryder, Will & Marra, 2013; Hay, 2013). Thus, to date this index remains relevant.

D. The Global Climate Risk Index (GCRI)

In 2013 Germanwatch made a report on who suffers he most of extreme weather events. **The GCRI 1993–2012** is based on average values of extreme weather events over the last twenty years (Figure 4). The CRI measures exposure to extreme weather events and considers some socio-economic data as well. The list of countries featuring the worst results can be divided into two groups: those that are continuously affected by extreme events, and the ones that only rank high due to an exceptional catastrophe (Myanmar (95%), Honduras (80%) & Thailand (87%)).

Germanwatch does remark that due to the methodology used, SIDS are not considered here, nor are indirect losses such as droughts and food scarcity, prone to African countries (Harmeling & Eckstein, 2013).

Figure 2: Global Climate Risk Index 2012



(Source: Harmeling & Eckstein, 2013, p. 11)

E. Discussion first-generation vulnerability indices

Table 2 shows us the most vulnerable countries according to the discussed indices. The results are very scattered over different income groups. Some SIDS are considered in these first-generation assessments as being extremely vulnerable. Some of them (Vanuatu, Kiribati & Tuvalu) have been recognised to be LDCs as well, however their income status might suggest otherwise.

Table 2: Climate impact and first-generation vulnerability assessments: CVI, EVI & ESI

	CVI – extreme weather events	EVI (2004) – environmental vulnerability - countries listed as ‘extremely vulnerable’	ESI (2005) – environmental sustainability	GCRI 1993-2012
Most vulnerable countries				
Country 1	Vanuatu	Korea ⁸	Korea	Honduras
Country 2	Antigua & Barbuda	Philippines, Pakistan, Samoa, Fed. States	Taiwan	Myanmar
Country 3	Tonga	Micronesia, India, Kiribati	Turkmenistan	Haiti
Country 4	Bahamas	Lebanon, Maldives, Tonga, Tuvalu, Jamaica	Iraq	Nicaragua
Country 5	Botswana	Singapore, Bermuda, Virgin Islands, Guam,	Uzbekistan	Bangladesh
Country 6	Swaziland	Malta, Barbados, French	Haiti	Vietnam
Country 7	Gambia	Polynesia, Northern	Sudan	Philippines
Country 8	Fiji	Mariana Island, US Virgin Islands, Austria,	Trinidad & Tobago	Dominican Republic
Country 9	Maldives	Belgium, Israel, UK,	Kuwait	Mongolia
Country 10	Singapore	Italy, Japan, Netherlands, Trinidad & Tobago	Yemen	Thailand
				Guatemala

Legend: Colour classification according to income (GDP) country/inhabitant (World Bank, 2014b)

- Low-income countries (\$1035 or less)/LDCs
- Lower-middle-income countries (\$1036-\$4085)
- Upper-middle-income countries (\$4086-\$12615)
- High-income economies (\$12616 or more)
- Least Developed Countries (UN, 2014)

These first-generation vulnerability assessments are dominated by high-income economies and UMIC's. However, the SIDS and African countries also find their entrance within these indices.

⁸ Because one of the indicators does not specify if they are talkin gabout North-Korea or the Democratic Republic of Korea, we will further on keep referring to Korea, including both countries.

4.2.3 Second-generation vulnerability assessments

Aside from the inclusion of climate variability and non-climatic factors, other indices have included non-climatic drivers and adaptive capacity as crucial elements to determine vulnerability. These assessments are what Füssel & Klein (2006) call these assessments 'second-generation' vulnerability assessments. These approaches are all considered to be more holistic by taking into account a diverse and complex set of indicators resulting in an overall score or classification.

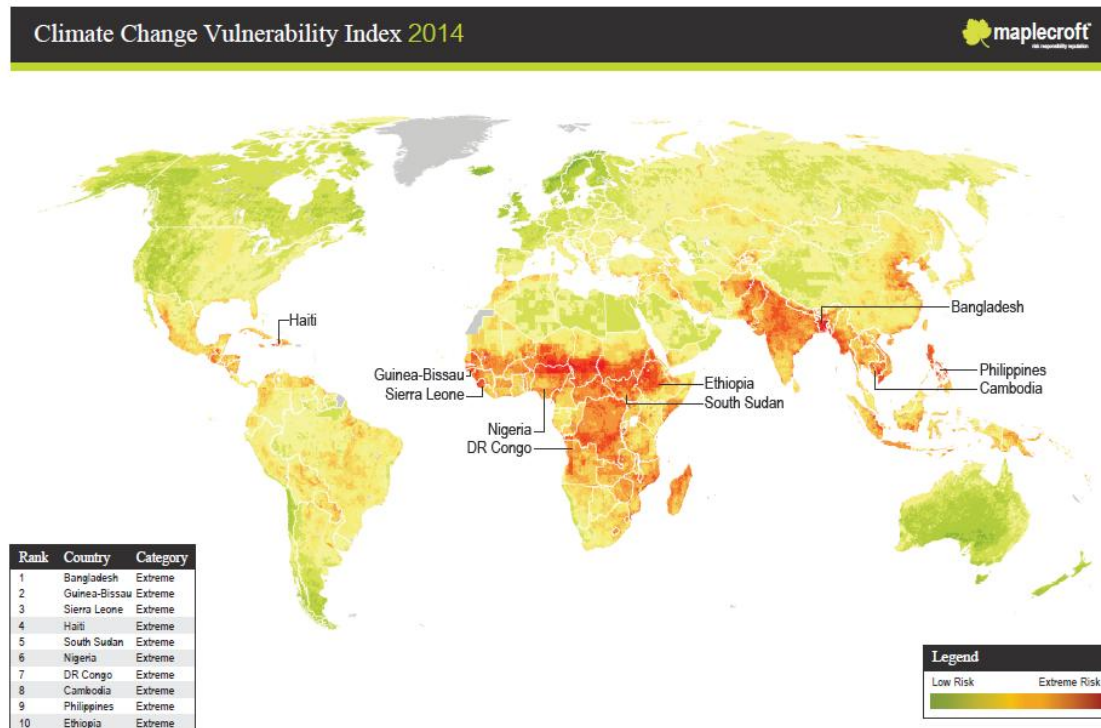
This research attempts to be as transparent as possible about the method used, but cannot give an explanatory factor of the formation of the discussed indices, beyond components and indicators used.

A. Climate Change vulnerability index

The ***Climate Change Vulnerability Index*** (CCVI) rates 16 countries as 'extreme risk' (Figure 3). According to Maplecroft, the countries with the most risk are characterised by high levels of poverty, dense populations, exposure to climate-related events, together with their reliance on flood and drought prone agricultural land. Africa features strongly in this group, as the continent is home to 12 out of the 25 countries most at risk within the year 2011.

It evaluates 42 social, economic and environmental indicators to assess national vulnerabilities across three core components. These include: exposure to climate-related natural disasters and sea-level rise; human sensitivity, in terms of population patterns, development, natural resources, agricultural dependency and conflicts; and, the index assesses future vulnerability by considering the adaptive capacity of a country's government and infrastructure to combat climate change (Maplecroft, 2014a).

Figure 3: Climate Change Vulnerability Index - 2014

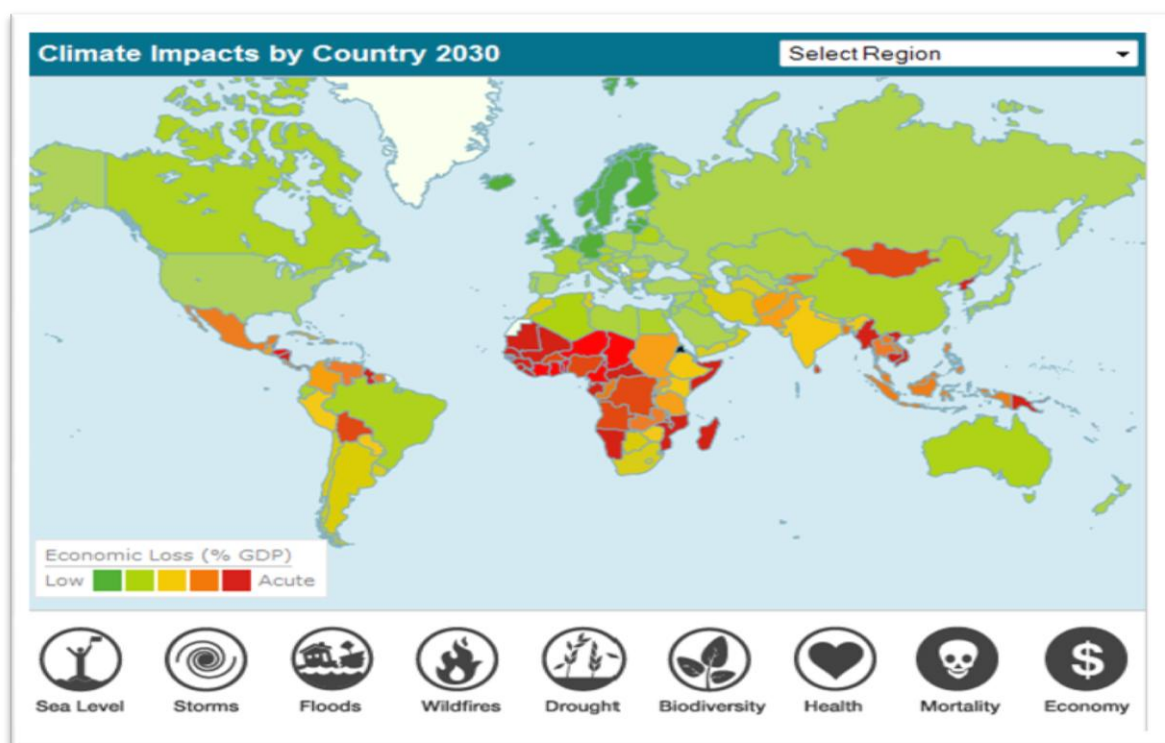


(Source: Maplecroft, 2014b)

B. The DARA Climate Vulnerability Monitor

The Climate Vulnerability Monitor (CVM), created by DARA and the Climate Vulnerability Forum, measures vulnerability through four sorts of impacts: environmental disasters, health impact, habitat change and industry stress. These four components divide themselves into 34 climate-related indicators (DARA, 2010; 2012). These include political stability, technology access and trade freedoms. DARA intends to predict climate impacts by country by 2030. However, it is almost impossible to predict the evolution of several important variables; hence the result of this should be interpreted with caution.

Figure 4: The DARA Vulnerability Monitor: climate impacts by country in 2030



(Source: Tck tck tck, 2014, data provisioned by DARA)

C. Notre Dame Global Adaptation Index (ND-GAIN)

The **ND-GAIN Index**, a Global Adaptation Institute (GAI) project, is based in part on 36 vulnerability indicators, which seek to capture exposure to climate-related hazards, sensitivity to their impacts, and adaptive capacity to cope with them. The index was last adjusted in 2012.

Further on we will split up the GAIN-index in a GAIN I and a GAIN II, consistent with the division they make between vulnerability score and readiness score. GAIN I will include both vulnerability and readiness, whilst GAIN II will only take into account vulnerability. Vulnerability here is defined as exposure, sensitivity and ability to cope with climate related hazards, including food security, water, health and infrastructure. Whilst readiness measures the efficiency of the economy, governance and society, which has an influence on the speed and implementation of adaptation programmes. GAIN II can be seen as a more inclusive index of adaptive capacity (GAI, 2014).

D. Overview second-generation vulnerability indices

Table 3 summarises the results of the previous indices. Because none of these indices are undisputed on their own, the combination and comparison between them could lead us to new insights and is possibly scientifically more interesting than following one specific vulnerability index. When looking at the top ten⁹ for each index, it becomes clear, that in comparison to first-generation vulnerability indices the second-generation keeps into account the income status of a country. Not one high-income country is considered as being ‘most vulnerable’ by these countries the majority of countries are LICs. Further comparison will be made in 4.3.

Remarkably, certain of the indices part from the same idea to capture total vulnerability, but still result in other outcomes.

⁹ Some indices do not give a score but mark countries from ‘less vulnerable’ to ‘extremely vulnerable’. For these indices all countries marked as the most far going form of vulnerability will be considered, because there is no way of determining which country of that group is more vulnerable than the other.

Table 3: Second-generation vulnerability assessments

	CCVI 2014	GAIN I	GAIN II	DARA CVM (No list available ¹⁰) Countries listed as 'acute'
Most vulnerable countries				
Country 1	Bangladesh	Korea	Somalia	Cambodia, Myanmar, Sierra Leone, Liberia, Mali, North Korea, Guinea, Guinea-Bissau, Central African Republic, Somalia, Mozambique, Madagascar, Namibia
Country 2	Guinea Bissau	Afghanistan	Burundi	
Country 3	Sierra Leone	Burundi	Sierra Leone	
Country 4	Haiti	Central African Republic	Afghanistan	
Country 5	Southern Sudan	Eritrea	Central African Republic (CAR)	Guyana, Nicaragua, Papou New Guinea, Mauritania, Senegal, Vietnam,
Country 6	Nigeria	Chad	Togo	
Country 7	DRC	Zimbabwe	Liberia	Belize, Gabon
Country 8	Cambodia	Democratic Republic of the Congo	Democratic Republic of the Congo	
Country 9	Philippines	Sudan	Ethiopia	
Country 10	Ethiopia	Iraq	Guinea	

Legend: Colour classification according to income (GDP) country/inhabitant (World Bank, 2014b)

- Low-income countries (\$1035 or less)/LDCs
- Lower-middle-income countries (\$1036-\$4085)
- Upper-middle-income countries (\$4086-\$12615)
- High-income economies (\$12616 or more)
- Least Developed Countries (UN, 2014)

¹⁰ For the CVM there is no list available, so the category 'acute' is listed completely, because there is no way of choosing the top ten most vulnerable out of these countries.

4.3 The most ‘vulnerable’ countries

In contrast, the outcome of the first-generation vulnerability assessments were dominated by high-income economies and UMICs. The resulting countries of the second-generation vulnerability assessments were mostly LICs.

The results are broadly consistent with certain expectations. Differences lie within the applied variables or indicators. The use of different socio-economic indicators, different time frames and the use of past or future hazard (risk) tends to play an important role. Whereas when indices are applied that place less importance on the adaptive capacity of a country, result in a top ten of most vulnerable countries that are classified as middle income countries, or even high income countries. However, when more importance is put on human development and/or adaptive capacity, it appears that again certain African LDC’s and LICs tend to ‘lead’ the lists of most vulnerable countries.

So far very little research has been done on comparing the different ranking outcomes of different indices. Brooks et al. (2005) was an exception. According to Brooks et al. (2005) countries that are seen as vulnerable through almost every index, will most likely be most vulnerable in the general trend¹¹. The quantitative result of the comparison between indices presented a list of the most vulnerable countries, being mostly LDC’s, which reaffirmed research on the linkage between development and climate change.

A similar analysis might be interesting within our own research for reasons of comparison (Table 5). It can perhaps be seen as an update of the outdated research of Brooks et al. (2005). The difference in our approach lies in the use of the top ten for each index and not the complete list. This explains the lower presence rate of the most vulnerable countries within the different indices.

¹¹ Although emphasising the advantages of national-level vulnerability assessment, Brooks et al. (2005) also highlight the importance of local and regional vulnerability assessments.

Table 4: Top most vulnerable countries according to 11 indices

Most vulnerable countries (/13 indices) – Brooks et al. (2005)		Most vulnerable countries ¹² (/11 indices) – Own Research (2014)
Angola 13	Rwanda 13	Burundi 5
Burundi 13	Sierra Leone 13	DRC 5
Central African Rep. 13	Somalia 13	Haiti 5
Democratic Republic of Congo 13	Sudan 13	CAR 4
Eritrea 13	Togo 13	Chad 4
Ethiopia 13	Turkmenistan 12	Korea 4
Equatorial Guinea 13	Chad 12	Sierra Leone 4
Gambia 13	Gabon 12	Afghanistan 3
Guinea Bissau 13	Iraq 12	Eritrea 3
Haiti 13	Liberia 12	Ethiopia 3
Mauritania 13	Malawi 11	Guinea 3
Mozambique 13	Brunei Darussalam 11	Liberia 3
Niger 13	Burkina Faso 11	Somalia 3
Pakistan 13	Guinea 11	Sudan 3
	Yemen 11	

When counted Burundi is the country that pops up most in the top ten lists of the different indices. Here we consider 14 countries as being particularly vulnerable to climate change. We have chosen all countries that occur in 3 lists or more. However, this should not be seen as a hard fact. It just gives an image of the countries that are most like prone to different aspects of vulnerability, wherefore they appear in several indices.

When looking at specific vulnerabilities, such as droughts, extreme weather events, another image might appear (WPI, GCRI). Further in-depth analysis of the different indices could nuance former results more.

Will these countries also be the ones receiving the most climate change adaptation aid? This is what will be researched further on. Foremost there is a need to analyse the intentions of donors. ***Do they intend to address the most vulnerable? Thereafter the donor allocation of CCAA can be analysed combining quantitative and qualitative methods.***

¹² All countries that occur 3 or more times in the top ten of the indices are considered to be most likely the most vulnerable. The results are tentative and not meant as a tool, nor hard evidence.

5. Analysis of donor attitude towards vulnerability

5.1 Limited earlier research on climate financing

There has not been much research on which criteria donors use to distribute climate change adaptation aid within ODA. Limited earlier research (Nakhooda et al., 2013) has shown us that initial climate finance of the 5 largest contributors: Germany, Japan, Norway, the UK and the USA, showed a weak correlation with a country's vulnerability assessed by the GAIN and DARA indices. They found that the largest recipients of adaptation finance per capita tend to be **SIDS and some LDCs** (Figure 5).

When we look solely at the total for ODA, not much differs when comparing FSF and purely the aspect of FSF that relates to ODA. An exception is found in the DRC, which finds its entrance in the list and the DRC is the first country out of the GAIN top ten most vulnerable countries. It will be interesting to look at how the analysis of our donors relate to these results.

Figure 5: Top ten recipients of Fast-Start Finance and ODA

	Adaptation FSF		Mitigation FSF		Total FSF		Total ODA	
	Top 10 recipients	Amounts (Million US\$)	Top 10 recipients	Amounts (Million US\$)	Top 10 recipients	Amounts (Million US\$)	Top 10 recipients	Amounts (Million US\$) (2011 figures only)
1	Bangladesh	272	India	5,308	India	5,676	Afghanistan	5,160
2	Vietnam	266	Indonesia	1,950	Indonesia	2,878	Democratic Republic of Congo	4,423
3	Philippines	235	Brazil	1,098	Brazil	1,622	Vietnam	4,091
4	Niger	224	Kenya	891	Mexico	1,176	India	3,634
5	Ethiopia	178	South Africa	836	Vietnam	1,140	Pakistan	2,307
6	Pakistan	160	Mexico	758	Kenya	1,046	Kenya	2,105
7	Cambodia	156	Thailand	644	South Africa	843	Haiti	1,879
8	Mozambique	126	Egypt	538	Thailand	677	Ethiopia	1,740
9	Nepal	124	Morocco	527	Philippines	608	Bangladesh	1,636
10	Kenya	112	Vietnam	523	Morocco	592	Indonesia	1,607

Source: OECD Aggregate Aid Statistics and FSF data set. Highlights indicate countries that are top-ten recipients of both ODA and FSF

(Source: Nakhooda et al., 2013, p. 34)

This research gives us a first impression of the distribution of CCAA, but it does not really focus on ODA itself and the programmes within ODA dedicated to CCA. Therefore our research will elaborate on this relationship between vulnerability and climate change adaptation funds distributed through ODA. The European commission also has not been considered as a contributor of CCAA before, although it is an increasingly important actor within the development field, because of the growing coordinating task it receives within the development policy of the EU.

Next to the ODI report, there is another report that is particularly interesting for our own research. Smith et al. (2011) were the first to analyse development spending on climate change-sensitive sectors. As there was no other way of marking aid that was intended to fight climate change, certain sectors were chosen as 'climate sensitive' (, whereas now we use the classification of OECD DAC). According to the calculations of the authors, a total amount of 45 billion \$ was spent on development projects in climate-sensitive sectors in 2007. They make a distinction between development funding and climate funding, however there appears to be a lot of overlap between what is thought of as development funding and what is thought of as adaptation funding. Approximately two-fifths of development funding is for projects in climate-sensitive sectors and approximately three-fifths of climate change adaptation funding appears to be for development. In conclusion, it can be said that according to their research the larger part of adaptation funding intends to achieve development and reduce vulnerability to climate change. The acknowledgement of the overlap between the two issues of climate change and development is an aspect to keep in mind during our own research.

5. 2 Analysis

5.2.1. Method

Each donor will be approached both **qualitatively** and quantitatively. Firstly, we wish to analyse the *intentions the aid donor has with CCAA*. Who do they wish to address and why? Parting from the donor's reputation and its traditional partners, we will build up a framework around the donor's intentions on CCA.

The **discourse analysis** of each donor will be split up in a part on the general intention in policy documents and a part on the specific programmes and projects attended to achieve adaptation within the development context.

Subsequently, a more quantitative approach should give us insight on who receives development related adaptation aid. In order to proceed, there needs to be a clear definition of what can be seen as climate change adaptation aid. Since 2010 the OECD DAC has been using a new policy marker to track adaptation aid: Rio markers (OECD, 2010). This gives us a practical way of tracking adaptation aid. However, it must be noted that tracking is restricted to ODA and merely marks adaptation as a "principal," or as a "significant," or a non-objective of aid (Smith et. Al, 2011, p. 990; Ackerson et al., 2013, p. 13). This means that every aid activity that DAC members report the OECD DAC creditor recording system (CRS) is screened as

marked as *“either (i) targeting the environment and/or one or more of the Rio Conventions as a ‘principal’ objective or a ‘significant’ objective, or (ii) not targeting the objective”* (OECD, 2014b).

The use of this indicator has an important effect on further results. Because the limitations of this research, we cannot make a distinction between the ‘significant’ or ‘principal’ mark and will therefore consider both of them equal, resulting in an overestimation of total budget flowing towards CCAA.

We will look at the aid flows marked as adaptation aid during the time period 2010-2012. This time table is chosen in line with the available data provided by OECD DAC Statistics. For each year the top ten recipients of CCAA will be addressed. They will be compared with the traditional recipients of the donor and critically assessed by income group and region. The results will be compared with their intentions.

Through the analysis of both parts we wish to make an assessment of who are the partner countries of the different donors when it comes to climate change adaptation. Eventually we aim to answer the question: do the relatively new development programmes for financing climate change adaptation address the most vulnerable countries? This we will do by comparing the ultimate result of our three donors with the previously assessed vulnerability indices. Through this we wish to accept that different donors might give different meaning or use different criteria to define the most vulnerable, if they actually intend to reach the most vulnerable.

5.2.2 Analysis by donor

1. Department for International Development (DFID) – United Kingdom (UK)

1.1 Donor reputation

Every few years the OECD analyses each OECD DAC donor. In its latest report the United Kingdom (UK) is recognised to be an international leader in development (OECD DAC, 2010a). *“This is the result of clear vision, consistent political leadership, strong human resource and financial capacity, and continued commitment to the 2013 target of providing 0.7% of its gross national income (GNI) as official development assistance (ODA)”* (OECD DAC, 2010a, p. 13).

UK ODA is for the most part channelled through the **Department for International Development (DFID)**. The DFID has been present in more than a hundred developing countries. However, the top 20 based on a 2002 to 2006 average, has received 65%, whereas the 114 other recipients only received 11% of bilateral ODA through DFID¹³. The largest recipients of the UKs development assistance during the period 2002-2006 were¹⁴: **Nigeria, India, Iraq, Tanzania, Bangladesh, Afghanistan, Ghana, Serbia, Zambia, Pakistan, Sudan, Uganda, DRC, Malawi, Ethiopia, South-Africa, Kenya, Mozambique, China and Rwanda** (OECD DAC, 2010a). More recent analysis shows some additional targeted countries such as: **Burma, Kyrgyzstan, Liberia, Nepal, Occupied Palestinian Territories, Sierra Leone, Somalia, Southern Sudan, Tajikistan, Tanzania, Yemen and Zimbabwe** (DFID, 2012; 2013a).

From the OECD DAC peer review report (2010a) stems that almost half of all ODA flows towards LICs or LDCs, mainly African countries south of Sahara and South & Central Asian countries. The top ten recipients receive averagely 40 percent of gross bilateral ODA, while the top twenty receives 57%¹⁵.

1.2 Discourse analysis

a. General intentions on climate change adaptation aid

The DFID’s approach towards climate change adaptation can be seen as threefold. First, they fund developing programmes aimed at climate change adaptation (1.2.b.) (DFID, 2013a). Second, they fund adaptation and climate impact research (DFID, 2013b) and thirdly they promote the linkage between climate change and development in international fora (OECD DAC, 2010a, p. 25). DFID aims for the creation of an international agreement which will ensure that *“the poorest and most*

¹³ 21% is not allocated (OECD, 2010).

¹⁴ In order of ‘number one receiver’ till number twenty in the period 2002-2006.

¹⁵ Average numbers of 2007-2008.

vulnerable countries get access to sufficient finance to enable them to adapt to climate change” (DFID, 2009, p. 51).

Since 2008 DFID itself has set up a strong institutional framework. It created the Department for Energy and Climate Change (DECC), enacted the Energy and the Climate Change Acts, and established a specific public service agreement (PSA) on climate change. Moreover, in 2009 climate change is discussed as a separate chapter in the DFID *White Paper on International Development* for the first time (DFID, 2009). The general climate objectives are to promote climate change mitigation and adaptation measures and ensure environmental sustainability (DFID, 2009; OECD DAC, 2010a, p.21). In addition, climate change is mainstreamed throughout the whole document and appears to be one of the main ‘new’ focuses of the UK within its development assistance (DFID, 2009; Maxwell, 2009).

This has led the OECD to conclude that the UK is highly committed to tackling climate change (OECD DAC, 2010a). Within different documents DFID emphasises that the poorest populations are being hit the hardest due to lack of capacity to cope with the effects of climate change (DFID, 2009; 2013a). Moreover they repeatedly refer to the need to help developing countries adapt to climate change as a condition for them *“to lift themselves out of poverty”* (DFID, 2013a).

In 2011 DFID set up an **International Climate Fund (ICF)**¹⁶ to provide £3.87 billion¹⁷ between April 2011 and March 2016 to help *the world’s poorest* adapt to climate change and promote cleaner, greener growth. Important is that the ICF provides an increasing level of climate finance from a rising ODA, by which it ensure its additionality (UK government, 2013). More than half of the financing was planned to come from DFID to help poor countries to prepare for the impact of climate change and to conduct research (DFID, 2013b). The Mid-Term evaluation of this fund however, brought highlighted some shortcomings. So far only £238,712 has been distributed at the halfway point in the programme’s time frame (IATI, 2014)¹⁸.

In its 6th National Communication (6th NC) the UK states that one of the objectives of the ICF is *‘to help build adaptation knowledge, capacity, institutions and evidence as well as support direct adaptation actions’* (UK Government, 2013, p. 205).

¹⁶ Management of the ICF is split between 3 government departments: DECC (£1.329 billion), DFID (£2.4 billion and the Department for Environment, Food & Rural Affairs (DEFRA) (£140 million) (DFID, 2013b).

¹⁷ = 6,52 billion \$ (market rate 15-05-2014: 1 GBP = 1.68476 USD)

¹⁸ Through ‘Development Tracker’ DFID wishes to enlarge its transparency. The ‘Development Tracker’ makes it possible to track down any project or programme conducted by DFID and get an update on current state of affairs.

Disaster risk management and climate change adaptation appear to be seen as tools for poverty reduction/development. The DFID seems to intent on to reaching the 'most poor' which does not necessarily mean the most vulnerable. Although, earlier we did find that LDCs are closely related with the most vulnerable according to several indices. On the other hand, it should be stated that in the past a large amount of DFID's ODA went to MICs. Later, more will be noted and clarified on this relationship.

b.Discourse analysis: CCAA programs and their criteria

Through the analysis of specific programs set up by the DFID, a more complex image arises. The DFID has joint responsibility with the DECC for leading on the UK's international policy work on adaptation. Therefore it supports research initiatives, sectoral programmes, and bilateral and regional programmes.

To begin with, there are several projects aimed at conducting research on climate impacts. The Collaborative Adaptation Research Initiative in Africa and Asia (CARIAA) followed the Climate Change Adaptation in Africa program (2006-2012), that focused on enhancing African participation in the CCA research process. The CARIAA program runs until 2019 and aims to build the resilience of *vulnerable populations* and their livelihoods by supporting collaborative research to inform adaptation policy and practice. Their focus specifically lies in Africa and Asia (IDCR, 2014). Other DFID funded research projects (Shepherd et al., 2013, DFID, 2014c) are also delivering comprehensive climate change risk assessments¹⁹.

Some other programmes are focused on addressing one certain issue relevant for climate change adaptation. The **Water Security Programme, the South Asia Water Governance Programme and the Adaptation for Smallholder Agriculture Programme** are examples of this.

- Water Security Programme (DECC)

The Water Security Programme is one of the initiatives funded by the ICF. It is financed through DECC, one of the three partners. The UK's Water Security Programme plans to allocate £21 million over three years (2012 - 2015) to help 18 million poor people become more resilient to climate change through improved water resources management. They work through the Global Water Partnership and the World Bank Water Partnership Programme with the intention of securing sustainable access to water for drinking and sanitation, irrigation and flood protection and the reduction of vulnerability to climate change (DECC, 2012, 4 December).

¹⁹ 'Research4Development' projects

- South Asia Water Governance Programme (SAWGP)

DFID is providing £23.5 million from 2012 to 2017 to the South Asia Water Governance Programme (SAWGP). The programme is jointly funded by the UK, Australia, Norway, the World Bank, and the International Centre for Integrated Mountain Development. It is helping countries work together to manage the Himalayan rivers for the benefit of 500 million people who live in the river basins (DFID, 2013b).

- Adaptation for Smallholder Agriculture Programme (ASAP)

DFID supports the Adaptation for Smallholder Agriculture Programme (ASAP) that was launched by the International Fund for Agricultural Development (IFAD) in 2013. DFID provides £150 million to support the adaptation of poor smallholder farmers to climate change. The programme is currently working in more than thirty developing countries, and aims to reach approximately 40, using climate finance to make rural development programmes more climate-resilient (DFID, 2013b; IFAD, 2014).

Like the South Asia Water Governance Programme additional adaptation programmes are aimed at specific regions. The BRACED programme specifically targets the Sahel region and some focal countries. The **Enhancing Capacity for Adaptation to Climate Change in the Caribbean UK Overseas Territories** (ECACC) is another programme intended for a specific region.

This DFID funded project ECACC ran from 2007 till 2011 and was intended to assist the UK Overseas Territories²⁰. The main objectives were the establishment of national climate change committees, the development of public education, the completion of their own vulnerability and capacity assessment, and the development of a climate change policy document per country. The objectives were achieved, resulting in 'green papers' and policy drafts on climate change for each territory (CCCCC, 2014).

Finally, DFID has several bilateral adaptation aid programmes. One of the programmes that has an extensive focus on climate change is the **Chars Livelihoods Programme** (CLP-1 & CLP-2I) in **Bangladesh**. The first programme period ran from 2002 till 2010. In 2010, however, the programme was renewed with an even larger budget, to run until 2016. The UK would provide funds for enhanced early warning systems, raised plinths for villages to protect them from flooding, renovated embankments and roads, multi-purpose cyclone shelters and climate resilient crops. The programme has a strong focus on the *extreme poor – especially women*. According to

²⁰ Anguilla, British Virgin Islands (BVI), Cayman Islands, Montserrat, and Turks and Caicos Islands (Caribbean Community Climate Change Centre (CCCCC), 2014).

the white paper in 2009 “66,000 homes on sand islands were raised onto earth platforms, protecting more than 400,000 people and their possessions from severe monsoon floods” (DFID, 2009, p. 55). The CLP-2 seems to achieve its objectives, according to the annual review (IAIT, 2013).

In **India**, a similar suite of DFID-supported rural livelihood projects focus on the reduction of climate risks and improving the capability of 1.65 million *poor and vulnerable people* to adapt to climate change in drought-prone, climate-sensitive regions (DFID, 2010, p. 13).

Other than Bangladesh and India, the UK’s country aid programmes have also stepped up their engagement with climate change. In **Nepal**, DFID is aiding the government to develop a national climate change strategy, as it has done in its own Overseas Territories. In **Ethiopia and Kenya** bilateral programmes have been set up to deal with chronic food security problems worsened by climate change (UK Government, 2009; DFID, 2010, p. 12).

In **Afghanistan, Ethiopia and Rwanda**, the governments are being supported to assess climate change impacts on the economy in order to develop effective adaptation and mitigation strategies. Again this is similar to the approach taken in the ECACC in their Overseas Territories. DFID also supports research. For example, in **Kenya and Tanzania**, it is supporting research into how to integrate climate change into malaria epidemic predictions so health officials can plan more effectively (UK Government, 2009; DFID, 2009, pp. 55-56).

In **China**, the UK is helping local governments and communities identify and adapt to climate change impacts, mainly focusing on agriculture, water resources, health and disaster management (DFID, 2009, p. 55-56; DFID, 2010, p. 12; UK Government, 2013, p. 209).

Next to direct bilateral programmes, there are a broad suite of developing countries being reached through other means. An initial example of this is the **BRACED Project Development Grants (PDGs)** which are intended to benefit up to 5 million *vulnerable people*, especially women and children, in developing countries by helping them become more resilient to *climate extremes*. BRACED provides climate funding for NGOs to build the resilience of people vulnerable to extreme climate events in selected countries in the Sahel, sub-Saharan Africa and South Asia. The goal is to help governments to improve national policies and institutions to better integrate disaster risk reduction (DRR), climate adaptation and development approaches (DFID, 2014a).

Accompanying the BRACED programme is a draft report *on building climate resilience in the Sahel* (Hesse et al., 2013). The Sahel region is one area that the programme intends to target. Together with the Sahel also some selected ‘*focal countries most at risk of climate extremes*’ are also

included in the set-up of the programme. The countries of the Sahel that are included in the programme are: Burkina Faso, Chad, Mali, Mauritania, Niger, and Senegal. Those that are categorised as **focal countries** most at risk of climate extremes are: Burma, Nepal, Ethiopia, Pakistan, Kenya, South Sudan, Sudan, Uganda, and Mozambique (Hesse et al., 2013; DFID, 2014a).

The focal countries overlap with the traditional recipients of bilateral ODA. It will be interesting later on to see if the most vulnerable countries of the traditional recipients are those receiving most CCA (although regional and social differences also could play an important role).

The Sahel was a region of less importance within DFID's traditional ODA and could have been chosen to be part of this programme on a basis of vulnerability assessment. It has been suffering from irreversible degradation, which could lead to desertification and with it the impoverishment of the population (Hesse et al., 2013). There seems to be a certain overlap with some of the different vulnerability indices mentioned before. Chad, Mali and Niger are all three present in the top ten most vulnerable countries according to the HDI. The IIED report, funded by the DFID, refers to the HDI as well (Hesse et al., 2013, p. 1), so this assessment possible fits the mindset of DFID decision makers. This confirms the strong 'poverty reduction' approach of the DFID. All of the chosen Sahel countries find themselves at the bottom of the HDI index (Hesse et al., 2013) and appear in at least one of the top ten most vulnerable country lists of the assessed indices.

Next to this programme intended for NGO's, DFID also explores the potential for a '**private sector-led, resilience-building transformation**' in some of the poorest and most vulnerable countries (Mozambique, Kenya, Bangladesh & Pakistan) and how public finance mechanisms can support this (DFID, 2014b).

c. A clear and transparent vision of climate change adaptation

The analysis of different policy documents reveals a coherent approach towards climate change adaptation. The DFID clearly aims to help the poor develop a better capacity to deal with climate impacts. There is a firm belief that climate impacts will affect the poor the most and that risk management has a direct effect on poverty reduction (DFID, 2009; 2010; 2013a). This approach follows the outcome approach, where vulnerability is seen as the outcome of different climate impacts.

The countries tackled within the different programmes²¹ were mostly traditional partners of DFID: India, Tanzania, Bangladesh, Afghanistan, Ethiopia, Kenya, Mozambique, China, Burma, Nepal,

²¹ Burkina Faso, Chad, Mali, Mauritania, Niger, Senegal, Burma, Nepal, Ethiopia, Pakistan, Kenya, South Sudan, Sudan, Uganda, Mozambique, Bangladesh, India, Afghanistan, Tanzania, China

South-Sudan, Sudan, Uganda, Mozambique, and Pakistan. The remaining countries: Mauritania, Burkina Faso, Chad, Niger, Senegal, Anguilla, BVI, Cayman Islands, Montserrat, and Turks and Caicos Islands, are part of the Sahel region or the UK's Overseas Territories. The latter have been traditional recipients, however, they are smaller islands states and therefore, they did not show up in the statistics (OECD, 2014a). The Sahel region therefore could have specifically been picked due to climate change vulnerability; however other factors might have played a role as well (Hesse et al., 2013).

1.3 Quantitative analysis: allocation of CCAA

a. UK's ODA towards CCA

DFID is known to be an important development donor in absolute and relative terms (OECD DAC, 2010a). In the period of 2010-2012 it allocated \$14,83 billion ODA. In 2010, 21,33 % of this aid was being marked as 'principal' or 'significant' for CCA, and in 2011 and 2012 it was, respectively, 3,89 % and 2,65 %. Yet, this still resulted in an amount of \$2,7 billion allocated for CCA (OECD, 2014a).

A disturbing factor is the apparent decline in total amount of ODA going towards CCA. Whereas in 2010 21,33 % of total ODA had CCA as a principal or significant objective, this was only the case for 3,89 % in 2011 and 2,65 % in 2012 (OECD, 2014A). This is not due to a large decrease of total ODA. The reasons for this apparent decline are yet unclear. However, when taking into account the allocation of the funds (Table 6), the difference in amounts tends to reflect the 'unspecified' amount given in 2010. In general, resources reported as "unspecified" usually include non-country programmable aid and this could, -for example, refer to research costs. Hence, this does not hinder our further analysis.

b. per country

Table 5 depicts the top ten recipients of DFID CCAA in 2010, 2011 and 2012. The data were established by the OECD DAC CRS database and include all Rio-marked aid of DFID, including aid marked as principal objective and as significant objective. Later, only the top ten recipients will be considered, as they represent a very clear majority of the aid recipients²². Other countries received less than 15% of the already limited budget.

²² Less than 15% each year goes towards other countries.

Table 5: Top ten recipients CCAA for the UK 2010-2012 (in million\$)

	2010	2011	2012
1.	Ethiopia (139,63)	Nepal (17,85)	Indonesia (5,96)
2.	Rwanda (25,40)	Malawi (3,9)	Ethiopia (2,97)
3.	India (22,56)	Vietnam (3,39)	Malawi (2,52)
4.	Nepal (15,99)	Southern Sudan (2,89)	Kenya (1,85)
5.	Bangladesh (15,71)	Kenya (3,32)	Nepal (2,48)
6.	Indonesia (10,33)	Bangladesh (10,01)	China (5,64)
7.	China (2,19)	India (4,64)	India (2,58)
8.	Tanzania (1,15)	Ethiopia (7,35)	Tanzania (1,84)
9.	Kyrgyz Republic (1,54)	Indonesia (5,41)	Brazil (4,22)
10.	Niger (1,48)	Brazil (2,91)	Zambia (0,92)
	Unspecified (831,33)	Unspecified (69,98)	Unspecified (99,71)
Total top ten	1080,94	131,65	132,07
Total CCAA	1088	153,2	153,4
% top ten²³	99,35 %	85,93%	86,1%

*Countries marked are the main traditional partners of DFID

(Source: OECD DAC database, 2014)

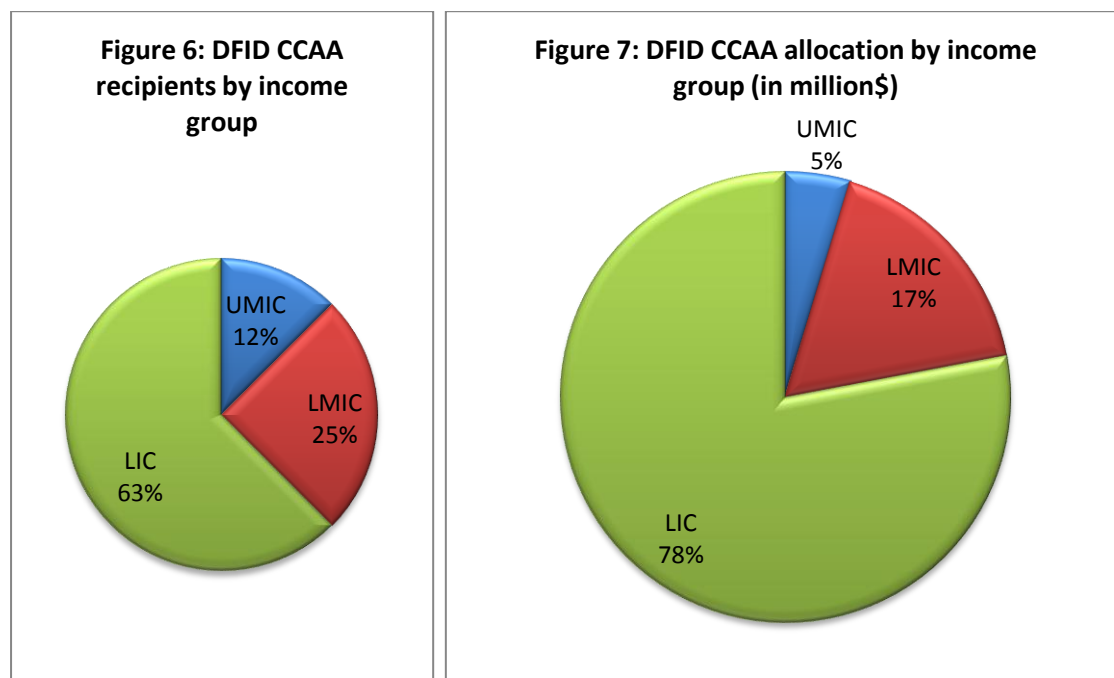
First of all, the accordance between the main traditional partners of DFID and the recipients of CCAA is quite strong (62,5 %). It is valuable at this point is to analyse whether these countries are the most vulnerable of the traditional partners of DFID. When analysing a classification by income/capita, there appears to a majority of 62,5 % LICs present amongst the main recipients. Whereas, 25 % of the receiving countries are LMICs, 12,5 % are UMICs²⁴.

However, when the quantity of the allocations is analysed, the image shifts slightly. Figure 6 separates the different recipients by income group. Figure 7 then takes into account the amounts the different income groups receive. In the case of DFID the LICs receive an absolute majority of CCAA. Of the recipient countries 63% are LICs and they receive 78% of the budget achieved by the

²³ Including amount 'unspecified'

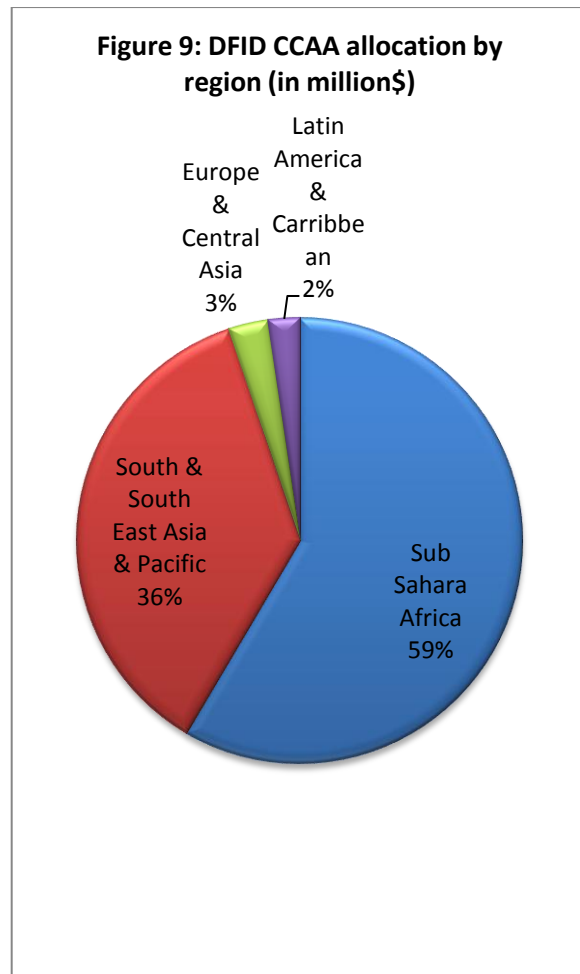
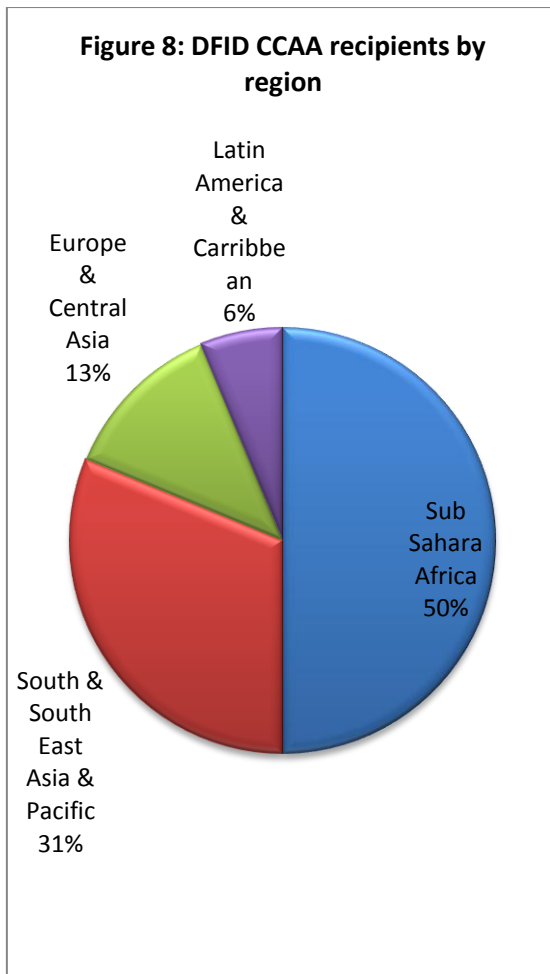
²⁴ LICs: Ethiopia, Rwanda, Nepal, Bangladesh, Tanzania, Kyrgyz Republic, Niger, Malawi, Southern Sudan and Kenya,
LMICs: Indonesia, India, Vietnam and Zambia
UMICs: China and Brazil
(World Bank, 2014b)

main recipients as described in table 5. Therefore, although there are 6 MICs amongst these recipients, they only receive 22% of the budget.



(Source: OECD DAC database, 2014)

When considering the DFID CCAA allocation and recipients by region a similar story appears. Figure 8 shows that 50% of the recipient countries are Sub Saharan African countries, 31 % are South, south East Asian or Pacific countries, 13% are European or Central Asian countries and finally 6% are Latin American or Caribbean countries. However when we take a look at the budget allocation the last two regions are relatively diminished to a significant extent in the graph (figure 9). Sub Sahara Africa and South & South East Asia & the Pacific together receive 95% of the budget.



(Source: OECD DAC database, 2014)

Brazil and China are classified by the WB as UMICs and are generally seen as emerging economies. It has been debated if these countries should still receive development assistance as they are becoming aid donors themselves (Walz & Ramachandran, 2011). Certain authors however have pointed out that the most poor are still living in these emerging economies (Summer, 2010). The amounts they receive here however are so small, that they appear of little importance to DFID CCAA.

When studying these numbers of the top ten recipients over the last three years, there are several other aspects that are noteworthy:

- In 2010 most of the CCAA was unspecified, which makes it difficult to assess the numbers of that year.
- From 2011 till 2012 it appears that although less CCAA is unspecified, also much less aid is given. Remarkably this aid resembles the \$831 million of 2010 that was unspecified. This

leads us to think that there might be a more methodological reason for this diminish in total assistance.

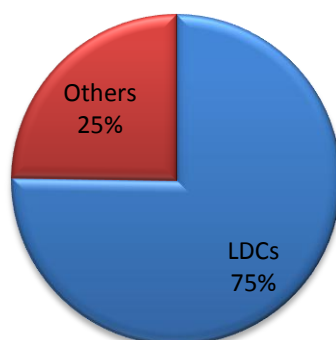
- Ethiopia, Nepal, Kenya, India & Indonesia are returning CCAA recipients over the three years.

1.4 Conclusion on the attitude of the DFID towards vulnerability

It is not the DFID's intention to address the 'most vulnerable countries'. Rather, the focus lies very strongly on the vulnerable people 'in' the poor countries, meaning that they mainly adhere to their previous traditional partners, rather than to truly engaging in new vulnerable countries. This is reflected in their previous aid distribution. However, within some of the new policy programmes new regions appear, such as the Sahel region.

As they claim to address the 'poorest', a comparison with the LDCs, might give another perspective. The amount of CCAA distributed to the LDCs is \$241,75 million , which represents 75 % of all bilateral CCAA given to the main recipients (figure 10). In relative numbers these results seem to be in favour of the DFID's development policy. However, the total budget set out for CCAA is very low in comparison to other development aid flows.

Figure 10: DFID CCAA allocation to LDCs (in million\$)



(Source: OECD DAC database, 2014)

Through the analysis of the DFID's discourse it became clear that DFID applied a more regional and community-based vulnerability assessment instead of a national vulnerability assessment when deciding who should receive CCAA.

2. European Commission (EC)

2.1 Donor reputation

The European Commission is a unique aid donor. On the one hand it distributes bilateral support to developing countries as development actor; on the other hand it plays a federating role in co-ordinating the development policy of its 28 Member States (OECD DAC, 2012, p. 13). In 2010 the EC was the 3rd largest donor of all DAC members, distributing \$12,7 billion ODA²⁵ (OECD DAC, 2012, p. 13).

The ODA recipients of the EC are quite diverse. The top ten received 25% ODA, and the top twenty received only 38%. In total 130 countries receive 78% ODA, which means approximately half of all ODA flows towards the top twenty, while the other half flows to the remaining 110. By analysing the ODA allocation of the last 15 years the most significant recipients become clear: Turkey, West Bank & Gaza Strip, Afghanistan, DRC, Kosovo, Serbia, Morocco, Ethiopia, Mozambique, Tanzania, Egypt, South Africa, Sudan, Uganda, Madagascar, Mali, Zambia, Tunisia, Haiti, Burkina Faso, Ukraine, Georgia, Bangladesh, India, Malawi and Ghana. Later, we will refer to these as ‘traditional recipients’ in order to maintain some coherence when comparing with other donors, although the term ‘traditional’ may be less relevant here (OECD DAC, 2012, 120).

2.2 Discourse analysis

a. Discourse analysis: General intentions on climate change adaptation aid

Within the EU DGDEV & DGRELEX are responsible for the programming of climate related assistance. DGAIDCO is responsible for the implementation. The budget of the EC’s development cooperation destined for CCAA derives from the budget of the EC itself and the EDF (EC, 2009b, p. 230).

The first EU Action Plan on ‘Climate Change in the context of Development Cooperation’ followed an initial communication in 2003. The Plan had five main strategic objectives: raising the policy profile of climate change, support for adaptation, support for mitigation and low GHG-development paths; capacity development; and monitoring and evaluating the Action Plan (EC, 2003; EC, 2009b). According to Germanwatch (Harmeling, Bals & Burck, 2007, p. 46) it can be understood “*as the most important framework for how different actors could contribute to an improved integration of climate change related issues into the European development cooperation and the policy development processes of the partner countries themselves*”.

²⁵ Excluding ODA loan

Within the first document on adaptation the EC referred to the necessity to mainstream adaptation within existing frameworks, such as Poverty Reduction Strategy Papers (PRSPs) (EC, 2003). This seems to confirm the idea that mostly traditional partners will be receiving this CCAA. If the most vulnerable tend to be non-traditional partners, they will not be included within this mainstreaming process.

In this Action Plan, the EC states that the first step is the adaptation to current climate, by which it literally refers to vulnerability as the guide line principle in adapting to climate change. It also reveals a firm belief in the application of climate impact and vulnerability assessments, stating that they “*provide the basis for, and sometimes integrate the identification and assessment of possible options for anticipatory adaptation*” (EC, 2003, p. 16). This principle then returns in a study carried out for the Vulnerability and Adaptation Resource Group (VARG)²⁶ with support by the European Commission. The report affirms the need to strengthen vulnerability data based on climate and hazard data with social and economic data, thereby stating the need for vulnerability assessments, instead of pure climate impact assessments. Moreover, it predicates the need to link climate change adaptation with disaster risk management in order to result into sustainable poverty reduction (Few, Osbahr, Bouwer, Viner & Sperling, 2006).

In a 2006 policy report: EU action against climate change, the EC clearly explains what this support for adaptation within the EU Action Plan means (EC, 2006, p. 10):

“Measures include: supporting partner countries in preparing vulnerability and adaptation assessments and national adaptation programmes of action (NAPAs) for least developed countries; developing guidelines for integrating climate change into development programmes – including measures to avoid maladaptation – based on consultation with all stakeholders; supporting capacity-building in developing country institutions to prepare for and reduce the impact of climate change-related disasters”.

The Action Plan ran until 2008, which was then followed by a series of documents that gave light to further EU adaptation policy (EC, 2007a; EC, 2007b; EP, 2008; 2010; Council of the EU, 2008). By 2007 the EC hadn’t succeeded in integrating climate change adaptation within the EU development policy. Hence, the EC’s green paper on adapting to climate change in Europe re-emphasised the need to integrate adaptation into EU external actions.

²⁶ This is a forum for debate on climate change, consisting of a core group of bilateral and multilateral donors, with a broader range of interest groups invited to join the discussions, depending on the issue (EC, 2014, http://ec.europa.eu/europeaid/what/development-policies/intervention-areas/environment/climate_en.htm)

“Climate Change is a serious challenge to poverty reduction in developing countries and threatens to undo many development achievements” (EC, 2007b, p. 22).

Consequently, a communication from the EC to the Council and European Parliament (EP) in 2007, announced the need for a Global Climate Change Alliance (GCCA) between the poor *developing countries most vulnerable to climate change*. The EC emphasised the need to address **the SIDS and LDCs (EC, 2007a), specifically the LDCs in Africa, parts of Latin America and Asia** (EC, 2007b). Particularly because these countries are least responsible for human-induced climate change and are hit the hardest (EC, 2007a). In 2007 the GCCA was launched and is still active today. It rests on two pillars: on the one hand it is a platform for dialogue and cooperation; and on the other hand it provides technical and financial support (GCCA, 2014).

The GCCA portfolio has increased from 4 pilot projects in 2008 to supporting more than 45 national and regional programmes across 35 countries and 8 regions and sub regions, with a total budget envelope of close to €300 million. In 2013 the EC has dedicated an additional €47 million for financing nine new GCCA interventions in Chad, Comoros, Djibouti, Myanmar, Haiti, Malawi, Mauritania, Sao Tome e Principe and Tanzania (EC, 2013a, p. 5).

The new policy documents set up in 2007 went beyond the mere mainstreaming (‘climate proofing’) of development strategies, and established that *“adaptation should also be integrated into strategies for poverty reduction [...], as well as development planning and budgeting”* (EC, 2007b, p. 22). This can be seen as a logical consequence of the acceptance that *“if climate change is not taken into consideration, development investments made today could potentially contribute to global warming, or be undermined by changes in climate”* (EC, 2007a, p. 8).

In a report on “Supporting a climate for change” in 2009, the EC reaffirmed its strategy of ‘climate proofing’. The 2009 EU Strategy on Disaster Risk Reduction in developing countries is aimed at integrating DRR within development cooperation. The strategy links DRR and climate change adaptation, however concrete implementation activities are still missing (EC, 2009a). Again it is clear that the starting point is ‘the poor’ and the aim is to ‘reduce their vulnerability’.

When in 2009 the White Paper, Adapting to climate change: Towards a European Framework for Action, was published the support for wider international efforts to adapt became clear. The white paper set out 2 phases. Phase I from 2009-2012 was to lay the ground work to prepare for a comprehensive adaptation strategy to be implemented in Phase II starting from 2012 (UK government, 2009, p. 100).

The EU has put some serious effort in drafting climate change adaptation intentions; however the OECD DAC report of 2012 concludes that very little progress has been made in preparing a clear strategy of how to mainstream climate change issues into development cooperation (OECD DAC, 2012). Although the environment is one of the priority areas within the European Consensus on Development (EC, 2005), there was an urgent need for an ambitious EU-strategy to achieve implementation (OECD DAC, 2012).

From 2011 onwards a lot of new documents were put into working in order to accompany the 2014-20 financial framework, that includes an environmental and climate change priority (Council of the EU, 2013).

Within the EU implementation plan for reducing disaster risk 2011 – 2014 the coordinating role of the EC has been confirmed (EC, 2011). The promotion of replication and scaling-up of successful initiatives through development cooperation instruments will also be addressed. A second important point in this plan is the inclusion of a plan to analyse and develop common assessment mechanisms in order to improve DRR integration.

In 2013 ECOFIN, who is responsible for the implementation of climate finance, notes in a press release that adaptation planning to improve climate resilience through development strategies is essential (Council of the EU, 2013). Therefore, it stated it will commit to supporting adaptation actions through various multilateral and bilateral instruments, by public and - where appropriate – private finance; and confirms that EU and its Member States in providing finance for adaptation will continue to take into account the needs of the particularly vulnerable developing countries, including SIDS and LDCs and Africa.

The 2013 EU policy brochure on climate finance states that both public and private climate finance is needed and that international financial institutions play a key role in mobilising climate finance. It also gives an update on the activities of the GCCA. All current programmes aim at strengthening countries' resilience to climate change, in combination with the integration of climate change into national development planning (ex. Myanmar) (EC, 2013a).

b.Discourse analysis: CCAA programs and their criteria

The EC acknowledges that adaptation policies and programmes in developing countries can and should take many forms, depending on a country's specific needs. This varies and can include *"diversification of agriculture or livelihoods, improved land-use planning and reforestation, enhanced coastal protection working with wetlands and coastal ecosystems, or strengthening disaster prevention mechanisms* (EC, 2007b, p. 22). The reduction of conventional pressures on

ecosystems and making them more resilient against climate change is predicated as the basis for forceful action, in combination with 'climate proofing' to ensure sustainability of investments (EC, 2007b, p. 22).

The EC funds different kinds of programmes and projects. First there are several research projects that are supported by the EC. Secondly there are programmes aimed at reducing the vulnerability of a country (bilateral) or region (regional). Thirdly there are several projects aimed at enhancing capacity; and ultimately there are a series of projects related to clean and secure energy and disaster preparedness.

There have been **several research projects** assisted by the EC:

- **'Linking Climate Change Adaptation and Disaster Risk Management for Sustainable Poverty Reduction'**, funded by the European Commission on behalf of the Vulnerability and Adaptation Resource Group (VARG) (2006).
- **Nairobi Work Programme** to assist LDCs and SIDS to better understand climate change impacts and their vulnerability (EC, 2009b, p. 237)
- **Consultative Group on International Agricultural Research** (CGIAR) to achieve food security and reduce poverty through research and research-related activities in the field (EC, 2009b, p. 238)

The **GCCA** has been an important **bilateral and regional channel** of adaptation aid for many developing countries. What started out with 4 pilot projects in 2008 has grown out to be a programme supporting more than 45 national and regional programmes across 35 countries and 8 regions and sub regions. With a total budget envelope of close to €300 million the GCCA seeks to address 5 priority areas: mainstreaming, adaptation, REDD, participation in the global carbon market and DRR. In 2013 the EC has dedicated an additional €47 million for financing nine new GCCA interventions in Chad, Comoros, Djibouti, Myanmar, Haiti, Malawi, Mauritania, Sao Tome e Principe and Tanzania (EC, 2013a, p. 5; EC, 2013b, p. xii).

The GCCA makes a division between Intra-ACP programmes, regional programmes, national programmes and multi-country programmes to address their five priorities. Further on, we will apply this classification to address the GCCA programmes and others. We will only address the adaptation programmes, however these are often intertwined with other objectives.

The first priority countries of the GCCA were Cambodia, Maldives, Tanzania, Vanuatu, Bangladesh, Belize, Guyana, Jamaica, Mali, Madagascar, Mauritius, Mozambique, Rwanda, Senegal and Seychelles. The focus on SIDS and LDCs is very clear here.

- Intra ACP programme

The Intra-ACP programme of the GCAA addresses the 79 member countries of the African, Caribbean & Pacific Group of States. Of these, 40 of them are LDCs and 37 are SIDS. Under this pretence they are classified as specifically prone to vulnerability. The total budget of the programme however is very low (€10 million) (GCCA, 2014). The EC also set up a Natural Disaster Facility to enhance capacity (EC, 2009b, p. 239).

- Regional programmes

The regional programmes focus on targeting certain regions²⁷ in an attempt to help with capacity building. The idea is that the lacking implementation of the National Action Plans for Adaptation (NAPAs) can be solved by adding amore regional approach. Therefore all the regional programmes are labelled as prioritizing adaptation and are mainly aimed at developing the capacity of stakeholders to mainstream climate change in development policies and helping to implement them (EC, 2013b; GCCA, 2014).

- National programmes:

Twenty-nine interventions are listed as aiming at adaptation under the financial and technical support pillar of the GCCA. These adaptation initiatives are aimed at a suite of countries: Bangladesh, Belize, Benin, Bhutan, Burkina Faso, Chad, Comoros, DRC, Djibouti, Ethiopia, Gambia, Guyana, Haiti, Jamaica, Lao, Lesotho, Malawi, Maldives, Mauritania, Mozambique, Nepal, Rwanda, Samoa, Sao Tomé and Príncipe, Senegal, Solomon Islands, Tanzania, Timor-Leste, Uganda & Vanuatu. Several sectors are tackled, including overall development and poverty reduction, agriculture and food security, land management, forest and natural resource management, water and sanitation, energy, as well as coastal zone management (GCCA, 2011; GCCA, 2014). Through means of different modalities (sector policy support, project, sector budget support, and general budget support) the GCCA intends to achieve its objectives per programme²⁸.

²⁷²⁷ Africa (Climate for development in Africa), COMESA-EAC-SADC region, West Africa, Asia, Caribbean, CARIFORUM, Pacific

²⁸ All specific programmes can be found at www.gcca.eu.

In this regard, the presence of several SIDS is remarkable. Projects have been launched in Mauritius (\$3,0 million), in Seychelles (\$2,0 million), in Jamaica (\$4,1 million), in Guyana (\$4,1 million), in Vanuatu (\$3,2 million) and in the Maldives (\$3,8 million) (GCCA, 2014).

- Multi-country programmes

The GCCA seems to intend to create multi-country programmes, but so far has no active programme.

Next to the GCCA, there are other initiatives adding to the complex framework of the EC's climate change adaptation aid. The programmes tackled by the GCCA already showed a certain emphasis on capacity building. Some other adaptation projects confirm this focus.

The EC initiated or supported several projects aimed at advancing capacity to deal with climate impacts. The **Climate Change Capacity Development Project (C3D)** was already launched in 2003 and renewed in 2009 (C3D+). The project is helping developing countries to develop measures and strategies to respond to climate change causes and impacts, focusing most on the poorest and most vulnerable. The project has created an innovative South-South training and capacity-building partnership between institutes in Senegal, South Africa and Sri Lanka. The aspect of capacity building is also to be found in the '**Advancing capacity to support climate change adaptation project**' (EC, 2009b).

In the 6th National Communication of the EC to the UNFCCC (EC, 2013b, pp. 177-188) the EC provides an overview of adaptation support by sector. The main important sectors in 2011 and 2012 for the EC's CCAA are agriculture, transport, water and sanitation and some cross-cutting different sectors.

c. A cluster of programmes and projects

The EC is very keen to prove its commitment towards climate change adaptation. Through a cluster of programmes and projects it aims to aid the most vulnerable. The EC parts from the assumption that the LDCs and SIDS are the most vulnerable. It does also believe that research on vulnerability assessments can clarify needs which countries need the aid the most. Given that most programmes are co-financed with other development agencies or regional organisations, it is very difficult to derive where the EC's main focus lies. The sectors described within the GCCA could well be a good indicator however, parting from the idea of dialogue with partner countries. Together with dialogue, coordination also plays a crucial role for the EC (EuropeAid, 2014).

2.3 Quantitative analysis: allocation of CCAA

a. EC's ODA towards CCA

According to the OECD DAC the EU is one of the largest donors of ODA. In the period 2010-2012 the EC has allocated 58,56 billion \$ of ODA, 8,66 billion \$ being CCAA (Table 12). It should be noted that these figures do not only reflect the own resources of the EC, but also the expenditure through the European Development Fund (EDF). This fund consists of grants from the Member States, yet although the size of the budget is determined by the Member States, the interpretation and direction is mainly given by the EC²⁹.

The relative amount of the EC's ODA flowing towards CCAA seems to be fairly stable. The range varies between 5-7% of total ODA. The absolute amount however seems to be increasing rapidly. Whereas in 2010 \$686,2 million was going to CCAA, almost double this amount was given the year after, and almost threefold the year thereafter (table 6). From this one could deduce that CCAA is gaining popularity. However within the EU budget deals are made in the form of a Multiannual Financial Framework (MFF), which sets the budget for seven years. Current MFF runs from 2014 to 2020, and the previous ran from 2007 to 2013. Consequently, the EC's budget itself will not have increased to a great extent. The EDF applies a similar mechanism (Orbie & Versluys, 2008).

b. per country

Table 6 sketches the top ten recipient countries for each year from 2010 to 2012. In 2011 and 2012, there especially seems to be a strong correlation between the EC's traditional recipients³⁰ and those receiving CCAA. The data were established by the OECD DAC CRS database and include all Rio-marked aid of the EC, meaning aid marked as principal objective and as significant objective.

²⁹ Commission proposals have to be approved by the Council and European Parliament.

³⁰ Turkey, West Bank & Gaza Strip, Afghanistan, DRC, Kosovo, Serbia, Morocco, Ethiopia, Mozambique, Tanzania, Egypt, South Africa, Sudan, Uganda, Madagascar, Mali, Zambia, Tunisia, Haiti, Burkina Faso, Ukraine, Georgia, Bangladesh, India, Malawi and Ghana

Table 6: Top ten recipients CCAA for the EC 2010-2012 (in million\$)

	2010	2011	2012
1.	Ethiopia (94,97)	Bangladesh (27,81)	Serbia (73,46)
2.	Indonesia (24,52)	China (41,71)	Djibouti (52,06)
3.	Mozambique (13,51)	Turkey (39,19)	Morocco (47,56)
4.	Nepal (10,60)	Jamaica (43,04)	Madagascar (43,70)
5.	Chad (22,51)	Sudan (90,38)	Tanzania (66,21)
6.	Bolivia (26,49)	Egypt (27,81)	Burkina Faso (47,68)
7.	Kenya (87,95)	Gabon (16,69)	Georgia (51,41)
8.	Malawi (42,38)	DRC (19,47)	Algeria (62,98))
9.	Pakistan (19,87)	Niger (20,86)	Afghanistan (77,12)
10.	Ukraine (13,25)	Ukraine (20,86)	Honduras (60,41)
	Unspecified (92,50)	Unspecified (99,45)	Unspecified (395,58)
Total top ten²	448,28	447,27	978,17
Total CCAA	686,2	1258	1718,9
% top ten³¹	65,33 %	35,55%	56,91%

*countries marked are traditional recipients

(Source: OECD DAC database, 2014)

First, the correlation between the main traditional partners of the EC and the recipients of CCAA is quite strong (55,2%).

Second, there appears to be little distribution coherence. Ukraine is the only recipient that occurs twice in the list. This could either mean that CCAA is allocated rather equally over different recipients, which would also explain the low percentage rate or it could be a sign of inconsistency.

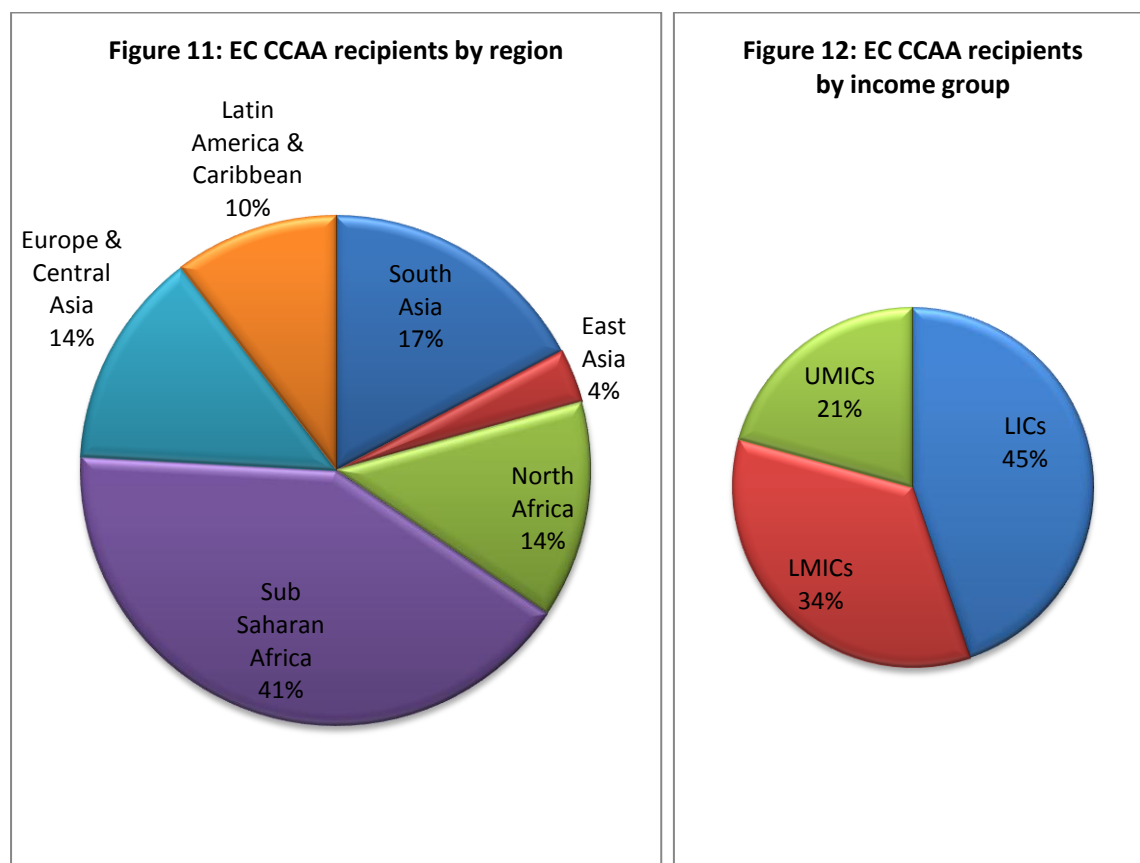
As mentioned the low percentage rate highlights that the CCAA is rather divided. However, it should be noted that regional allocations have not been taken into account in our research. In the case of the EC this is likely to be the explanatory factor (EC, 2013b, pp. 177-188; OECD, 2014a).

It is useful here to study how these recipients appear when classified by income and region. When studying a classification by income/capita, it appears that 45% of the recipient countries

³¹ Including amount 'unspecified'

are LICs. 34% are LMICs and 21% are UMICs³² (Figure 11). This does not appear to differ that much from general ODA distribution (OECD DAC, 2012). However, to most adequately measure commitment, we also have to study quantity distributed (figure 13 and 14).

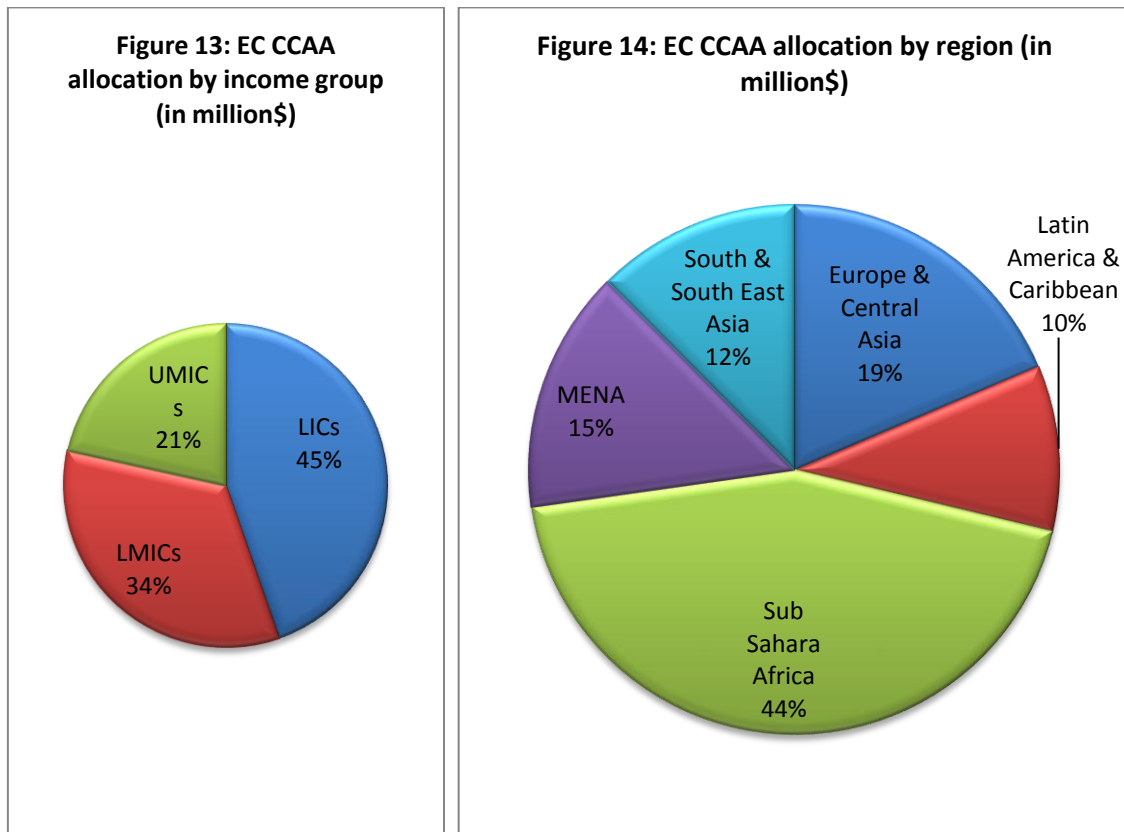
Furthermore, figure 11 depicts the recipients by country group³³. Clearly the Sub Saharan African countries are clearly represented (41%). All African countries (SSA & North Africa) receive more than half of CCAA. But the presence of European and Central Asian countries, might be more noteworthy. Turkey, Serbia, Georgia and Ukraine all receive significant amounts of CCAA. Yet none of them is marked as a LIC, and in addition, Turkey and Serbia are even UMICs. Other EU objectives within these countries may play a vital role in the EC's decision making in this respect. Serbia and Turkey are EU candidate countries and the others are all part of the EU's neighbourhood policy (EC, 2013b, p. 247).



(Source: OECD DAC database, 2014)

³² LMICs: Indonesia, Bolivia, Pakistan, Djibouti, Honduras, Sudan, Egypt, Morocco, Georgia, Ukraine
 LICs: Bangladesh, DRC, Afghanistan, Nepal, Chad, Kenya, Niger, Madagascar, Tanzania, Burkina Faso, Ethiopia, Mozambique, Malawi
 UMICs: Jamaica, China, Gabon, Algeria, Turkey, Serbia (Cf. annex 2)
 (World Bank, 2014b)

At an initial glance, it would appear that LICs and Sub Saharan Africa fair well by the EC's adaptation policy. However, when we assess the results when taking into account the budgets received by income group and by region, we gain a remarkable result (Figure 13 and Figure 14). It appears that the division by income group and by region are very similarly divided as in figure 11 and 12.

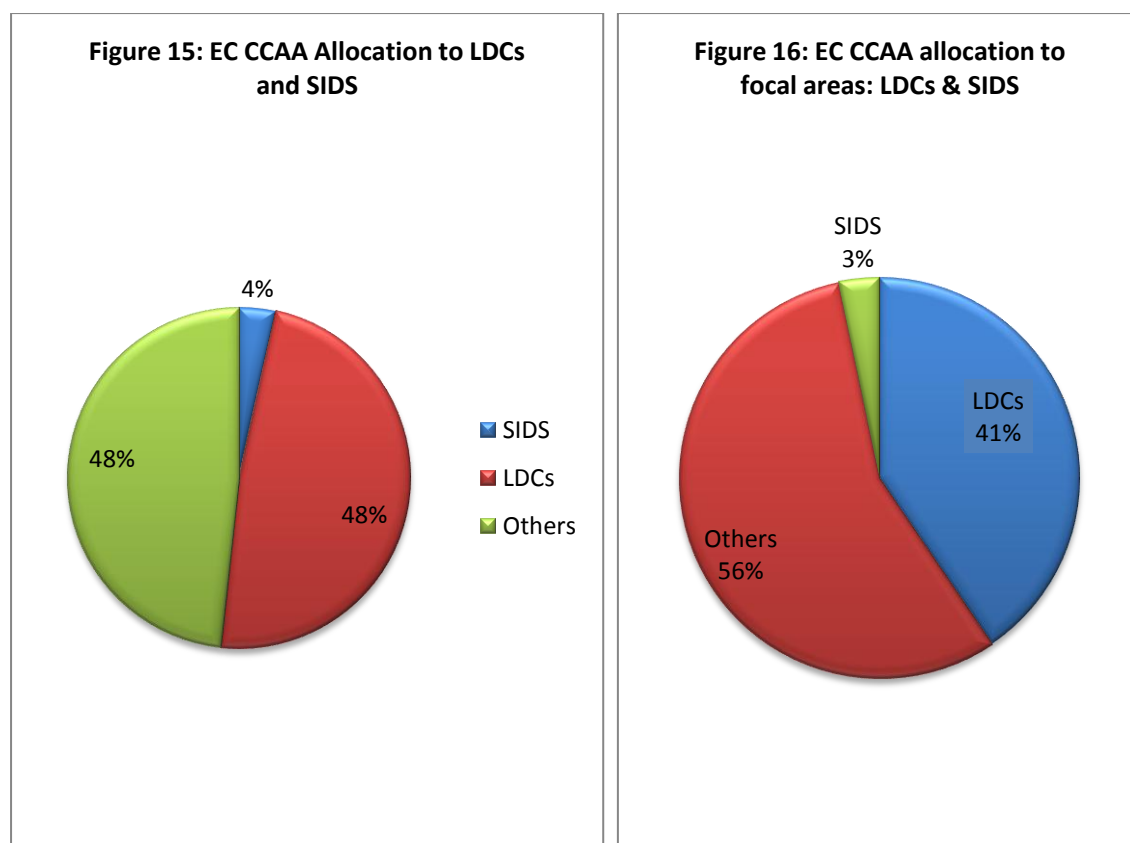


(Source: OECD DAC database, 2014)

Thus, Sub Sahara African countries are more represented and consequently they receive more CCAA. In addition, Europe & Central Asia seem to be receiving slightly more than South and East Asian countries, which appear to be the biggest losers here.

2.4 Conclusion on the attitude of the EC towards vulnerability

From the discourse analysis, it appears the EC intends to deliver CCAA to the LDCs and SIDS, rather than focusing on a larger vulnerability assessment. When analyzing the resulting top ten countries, we deduce that 41% of CCAA flows towards LDCs (Figure 15). This represents 14 of the 29 countries (figure 16): Afghanistan, Bangladesh, Burkina Faso, Chad, DRC, Djibouti, Ethiopia, Madagascar, Malawi Mozambique, Nepal, Niger, , Sudan, and Tanzania (cf. Annex 1).



(Source: OECD DAC database, 2014)

Evidently, the allocation to SIDS will not be easily traceable through quantitative data. Only 1 out of the 29 countries (Jamaica) is recognised as a SIDS (Figure 6). The EC however is pledging aid to specific programmes for SIDS. The pledged amount of money going to specific SIDS projects amounts up to \$20,3 million within the GCCA framework alone.

The EC mainly focuses on supporting (vulnerability) research and capacity-building within developing countries. It is their belief that this research could lead to more effective aid allocations and may serve to ensure that the people most in need, receive the necessary CCAA.

3. German International Cooperation (GIZ³⁴)

3.1 Donor reputation

Germany is one of the world's largest donors (140 recipients). Although Germany officially only has 57 partner countries, in practice it allocates development aid to more than a hundred countries. Moreover, Germany is also the largest contributor to European development policy. Only 14 out of the top 20 largest recipients are German partner countries. Still there is a strong continuity in Germany's top ten recipients, which has the benefit of providing predictability for the recipients. Iraq, Liberia, Botswana, Jordan, Turkey, Cameroon, China, India, Afghanistan, Indonesia, Egypt, Morocco, South-Africa, Brazil, Vietnam, Serbia, Ethiopia, Peru, Pakistan, Kenya, Ghana, DRC & Mozambique can be seen as traditional recipients. Of all ODA only 40% goes towards LICs, of which 31% goes towards LDCs. This means that most of the aid goes to MICs. Germany's historical focus in this respect, within the OECD DAC peer review of 2010 (OECD DAC, 2010b).

Germany's strong focus on targeting environment, climate change and water sector issues might give a secondary explanation, next to historical ties, as to why MICs are targeted, depending on what indicators are used to measure vulnerability.

a. Discourse: general intentions on climate change adaptation aid

Germany has been active in all areas of climate protection in developing countries since 1993 (GIZ, 2011). GIZ³⁵ is mainly commissioned by the Federal Ministry for Economic Cooperation and development (BMZ), and sometimes by other agencies.

In 2001 an initial study on adaptation was published by GTZ (GIZ since 2011) (Klein, 2001). It confirmed the need for a better understanding of climate vulnerability and its geographical distribution. Without referring to the term 'mainstreaming' itself, they claim that adaptation can find entrance in projects aimed at goals other than vulnerability reduction but can still have a beneficiary result on reducing climate change impacts. However, they emphasise that these measures alone are not sufficient. In countries that are specifically vulnerable to climate change there needs to be investments in infrastructure and adaptive capacity to deal with climate vulnerability.

In 2007 BMZ set up a special research programme on adaptation in African agriculture. It also donated money to the UNFCCC Funds, to help finance adaptation activities. In addition to

³⁴ Deutsche Gesellschaft für Internationale Zusammenarbeit

³⁵ Formerly known as GTZ (German Technical Co-operation), but fused in 2011 with two other development actors (DED and InWent) into GIZ.

contributions to the UNFCCC Funds, the Fourth National Communication (4th NC) of Germany mentions a programme aimed at promoting the improved utilisation of natural resources in Benin, projects aimed at improving disaster preparedness in Mozambique and Nicaragua and a separate bilateral project to help Tunisia adjust to climate change. Confusingly food and emergency aid programmes are mentioned as adaptation initiatives as well, which is quite contradictory to the idea that pre-emptively rather than reactionary initiatives should be (Harmeling, Bals & Burck, 2007).

In 2008 a German Strategy for Adaptation to Climate Change is established. In 2009 BMZ introduced a climate-based review process to guarantee that climate change is taken into account in all strategies and programmes of German development co-operation. According to its Fifth National Communication (5th NC) the German Government positions its efforts according to international standards such as the "*OECD Guidance on Integrating Climate Change Adaptation into Development Cooperation*" (OECD, 2009; German Federal Government, 2009, pp. 200-233). Subsequently an Adaptation Action plan followed in 2011 to implement the German strategies (German Federal Government, 2013). BMZ & BMU (2011) published a report together on Germany's International Approach to Climate Change in 2011. The document widely particularises climate financing (figure 17) and dedicates a whole chapter to adapting to climate change. Three case studies are represented to show Germany's adaptation policy towards certain countries/regions: the Pacific Islands, India and Ghana.

Figure 17: Germany's commitment to climate financing

Fig. 1: Germany's contribution to fast start financing

Mitigation	Adaptation	REDD+
<ul style="list-style-type: none"> Clean Technology Fund: 250 Mio € EU/BMU-UNDP Capacity Building Programme on Climate Change: 5 Mio € Bilateral projects: 128.4 Mio € 	<ul style="list-style-type: none"> Pilot Program for Climate Resilience: 20 Mio € Adaptation Fund: 10 Mio € Least Developed Countries Fund: 45 Mio € Special Climate Change Fund: 23 Mio € UNEP/UNDP/IUCN Ecosystem-based Adaptation Flagship: 10 Mio € (under preparation) Bilateral projects: 124.6 Mio € 	<ul style="list-style-type: none"> Forest Carbon Partnership Facility: 43 Mio € Bilateral projects: 51.9 Mio €
Total: 383.4 Mio €	Total: 232.6 Mio €	Total: 94.9 Mio €

As at 31 August 2011.

(Source: BMZ & BMU, 2011, p. 7)

In its Strategy of 2011 Germany BMZ & BMU state that the primary objective of German climate policy is to raise partner countries' awareness of impacts of climate change in all spheres of life and to support the adaptation processes in these countries. An initial step for this is the preparation of national adaptation strategies, followed by efforts to integrate adaptation into policy-making of the partner country. In all of this *"building human and institutional capacities and skills must be a priority"*(BMZ & BMU, 2011, p.26). In the 5th NC (German Federal Government, 2009) to the UNFCCC, Germany emphasise the importance of the agricultural and water sector for climate vulnerable countries (pp. 205-207). In the 6th NC that followed in 2013 the German Federal Government adds that funding prioritises the ecosystem-based adaptation approach. Hence, BMZ appears to tackle five main issues: 1) integrating adaptation into national development planning and building capacities; 2) agriculture; 3) water; 4) ecosystem-based adaptation and 5) management of the risks associated with climate change (German Federal Government, 2013).

Within Germany's fast start commitments, adaptation to climate change impacts is defined as a priority of the German bilateral cooperation with Africa. According to the 2011 Implementation report (BMZ & BMU, 2011) Sub-Saharan Africa has been involved the most adaptation projects.

The objectives are:

- To encourage the formulation and implementation of adaptation strategies and mainstreaming climate change adaptation in national policies and programmes;
- To provide subsidies for investments in adaptation activities;
- To develop and implement innovative insurance products to hedge against financial risks (in agriculture) that might arise through extreme weather events or other climate change consequences (BMZ & BMU, 2011, p.11).

Throughout the different communications and strategies of the German development actors, vulnerability attains an important role. However vulnerability is not solely seen as the result of climate impacts. Rather, it is also seen as the result of social processes and integrates indicator of adaptive capacity (Harmeling et al., 2007). This leads us to think that Germany could use a more contextual approach and possibly applies first or second-generation vulnerability assessments. On the other hand it could also be inferred that the thematic approach towards agriculture and the water sector that is utilised, means that they also use a more thematic approach when assessing the most vulnerable. More will become clear when some more specific projects and the main recipients of CCAA are assessed.

b. Discourse: CCAA programmes and criteria

The 5th NC gives an overview of all bilateral development cooperation in climate relevant sectors from 2004-2006 (German Federal Government, 2009, pp. 209-214). Subsequently the 6th NC does the same for the year 2010. In the report it is stated that the overviews of bilateral development-related climate finance in 2007, 2008 and 2009 will be submitted in the first quarter of 2014. Despite this statement however, this has not occurred as yet. The detailed tables for 2011 and 2012 can be found in the Biennial Report in the Annex of the 6th NC (German Federal Government, 2013, pp. 238-263).

Since its establishment by the BMU in 2008, **the International Climate Initiative (IKI)** has been financing climate and biodiversity projects in developing and newly industrialising countries, as well as in countries undergoing transition. In the funding area 'adaptation to the impacts of climate change', the International Climate Initiative (IKI) is supporting *particularly vulnerable countries* and regions in increasing their capacity to adapt to the effects of climate change. There are 70 projects listed as 'adapting to the impacts of climate change' (IKI, 2014).

There are three subdivisions made, under which the adaptation initiatives are classified, relating to the focuses laid out in the strategies: ecosystem-based adaptation (EbA); climate-related risk management instruments, such as innovative insurance solutions; and the development and implementation of national adaptation strategies. 44 projects are listed as intending to help develop and implement national adaptation strategies, 18 projects try to achieve ecosystem-based adaptation; and 7 projects are occupied with the management of climate risk. At times different goals of the initiatives overlap.

Later, we will address the different projects occurring through this division. Broadly, a distinction can be made between sectoral initiatives, regional initiatives and bilateral initiatives.

Table 7 gives an overview of all projects categorised according to the three main objectives within the adaptation policy.

Table 7: Adaptation projects within the German Development Cooperation

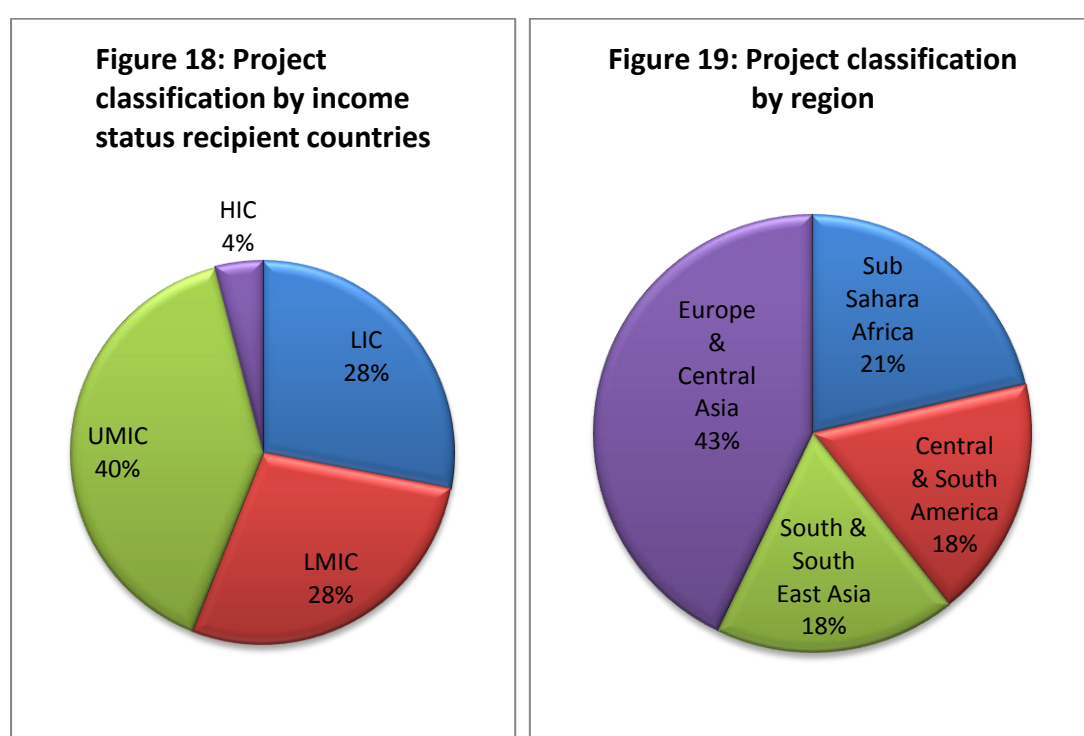
	Management of climate risk	Ecosystem-based adaptation	Adaptation Strategies
Bilateral	<ul style="list-style-type: none"> - Kenya - Ghana -Peru (2) - Vietnam - China 	<ul style="list-style-type: none"> - Brazil - Rwanda - Vietnam - Thailand - Georgia - Philippines (2) - Turkey - Ethiopia - India - Bolivia - China 	<ul style="list-style-type: none"> - Mali (2) - Ghana - China - Brazil - Kazakhstan - Uzbekistan - Tajikistan - Albania - Kyrgyzstan - Republic of Macedonia - Kenya - Philippines - Peru (3) - Russian Federation - India - Vietnam
Regional	Central and South America and Caribbean	<ul style="list-style-type: none"> - Sub-Saharan Africa (Burkina Faso, Ghana, Kenya) - Central and South America & Caribbean (Colombia, Peru) (2) - South and South-East Asia, Pacific (2) (Fiji, Samoa, Solomon Islands, Tonga, Vanuatu) (Thailand, Vietnam) 	<p>Central America (Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Panama)</p> <ul style="list-style-type: none"> - Central and South America, Caribbean (Costa Rica, El Salvador, Mexico, Panama) - SIDS (Marshall Islands, Micronesia, Federal States of Palau) - South and South-East Asia, Pacific (3) (Indonesia, Thailand, Vietnam) (Cambodia, Lao, People's Democratic Republic, Thailand, Vietnam) (India, Philippines)
Sectoral		<ul style="list-style-type: none"> - Mountain ecosystems(Nepal, Peru Uganda) - Marine, terrestrial and coastal regions (Brazil, Philippines, South Africa) 	<ul style="list-style-type: none"> - Inventory of methods (Grenada, India, Indonesia, Maldives, Philippines, South Africa, Tunisia) - mainstreaming gender aspects in CCA (global) - civil society participation and transparent structures (Benin, Cambodia, Honduras, Jamaica, Kenya, Senegal, South Africa, Tanzania) - Building competence by placement of integrated experts (Chile, Colombia, Maldives, Mexico, Uganda, Vietnam) - Providing support to delegations from LDCs and SIDS for the post-2012 (global) -Good governance (Bangladesh, Dominican Republic, Kenya, Maldives, Mexico, Peru)

Source: (IKI, 2014)

The transparency of the German data assists the analysis by making a classification by income group and region possible³⁶.

Figure 18 shows us the classification of the IKI projects according to the income status of the recipient countries. The results are overwhelmingly clear. BMZ clearly favours MICs (68%), and especially UMICs (40%). Consequently, only 7 out of the 28 countries included in the adaptation projects are LICs, accounting for only 28%. This is also reflected within the classification by country groups (Figure 19), as 43% of the projects are intended for Europe and Central Asia.

It must be noted that this data does not yet reflect anything about the quantity of aid going towards the different groups. This will be analysed later in our quantitative analysis.



(Source: OECD DAC database, 2014)

Next to the BMU's IKI regarding adaptation initiatives in developing countries additional funding for Climate change adaptation activities has been available to the German Federal Government since 2011 through the Special Energy and Climate Fund (EKF), which is jointly managed by BMZ and BMU (German Federal Government, 2013).

³⁶ Each country is only counted one time (if several projects took place within that country).

Finally, The BMZ also integrated adaptation into its international development activities. The mainstreaming of adaptation in the MENA-region regarding the water sector is an example of this (GIZ, 2012).

3.3 Quantitative approach: allocation of CCAA

a. GIZ's ODA towards CCA

In total during the period 2010-2012, GIZ has allocated \$36 billion of ODA, \$4,37 billion being CCAA (OECD, 2014a). The relative amount of the GIZ's ODA flowing towards CCAA seems to differ year by year. The range varies between 5-18% of total ODA. The absolute amount however seems to be increasing rapidly. Whereas in 2010 \$546,47 million was going to CCAA, the fourfold was given the year after (\$2263,84 million), however in 2012 the amount stuck at \$1555,08 million, which is still almost threefold of 2010 (OECD, 2014a). It would seem that starting 2011 Germany increased its effort for climate change adaptation.

b. per country

Table 8 presents the German CCAA recipients for the period 2010-2012 . Again the data were established by the OECD DAC CRS database and include all Rio-marked aid of Germany, meaning aid marked as principal objective and as significant objective. Remarkably almost all of the GIZ's CCAA recipients (13/21) are traditional recipients³⁷ as described above. Although only one country of the top 5 of 2008/09 is in the list (Jordan), almost all others are present under the main recipients of German CCAA.

³⁷ Iraq, Liberia, Botswana, Jordan, Turkey, Cameroon, China, India, Afghanistan, Indonesia, Egypt, Morocco, South-Africa, Brazil, Vietnam, Serbia, Ethiopia, Peru, Pakistan, Kenya, Ghana, DRC & Mozambique

Table 8: Top ten German CCAA recipients in 2010-2012 (in million\$)

	2010	2011	2012
1.	Mexico (10,25)	Tunisia (174,37)	Vietnam (36,52)
2.	Brazil (10,01)	Peru (114,18)	Bangladesh (30,02)
3.	Costa Rica (13,74)	Vietnam (49,0)	China (32,32)
4.	India (8,66)	Egypt (48,75)	Uganda (26,46)
5.	China (6,89)	Benin (47,92)	Jordan (48,70)
6.	Burkina Faso (4,71)	Brazil (188,16)	Morocco (165,21)
7.	Indonesia (7,37)	China (174,72)	India (205,26)
8.	Kenya (4,41)	Afghanistan (114,64)	Peru (31,19)
9.	Peru (3,79)	Kenya (73,40)	Brazil (26,63)
10.	Philippines (4,42)	Cameroon (53,75)	DRC (30,2)
	Unspecified (56,64)	Unspecified (203,38)	Unspecified(204,59)
Total top ten³⁵	139,59	1242,27	837,1
Total CCAA	546,47	2263,84	1555,08
% top ten³⁸	25,54 %	54,87 %	53,83%

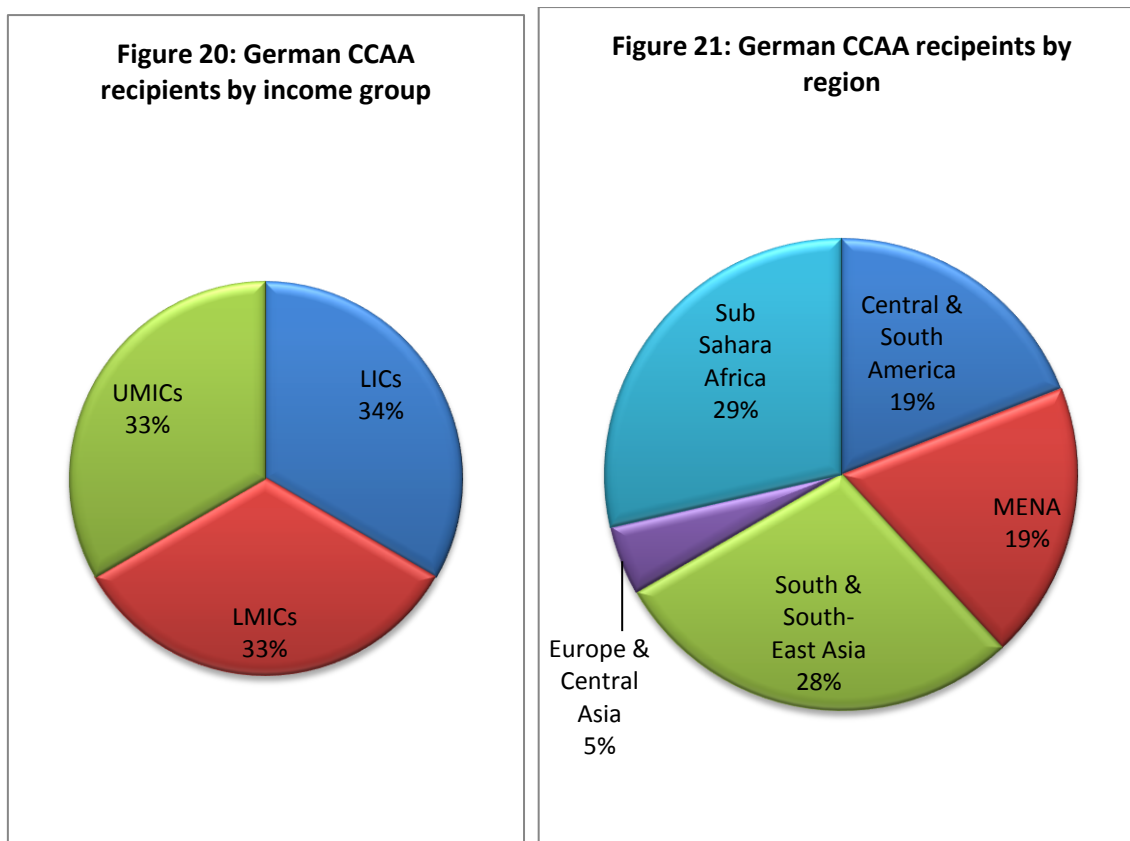
*countries marked are traditional recipients

(Source: OECD DAC database, 2014)

Again we find that there is an amount unspecified, which could be intended for research projects that are not linked with any country or region. In respect of all regional CCAA, this is not taken into consideration within the top ten list. It is however taken into account within 'total CCAA'. The latter explains in large part the relative low percentage rate of total CCAA being distributed towards the top ten.

When analyzing the bilateral allocation of CCA by income group or region, some interesting aspects arise. There seems to be an equal distribution between the different income groups, and the different regions (Figure 20 and Figure 21).

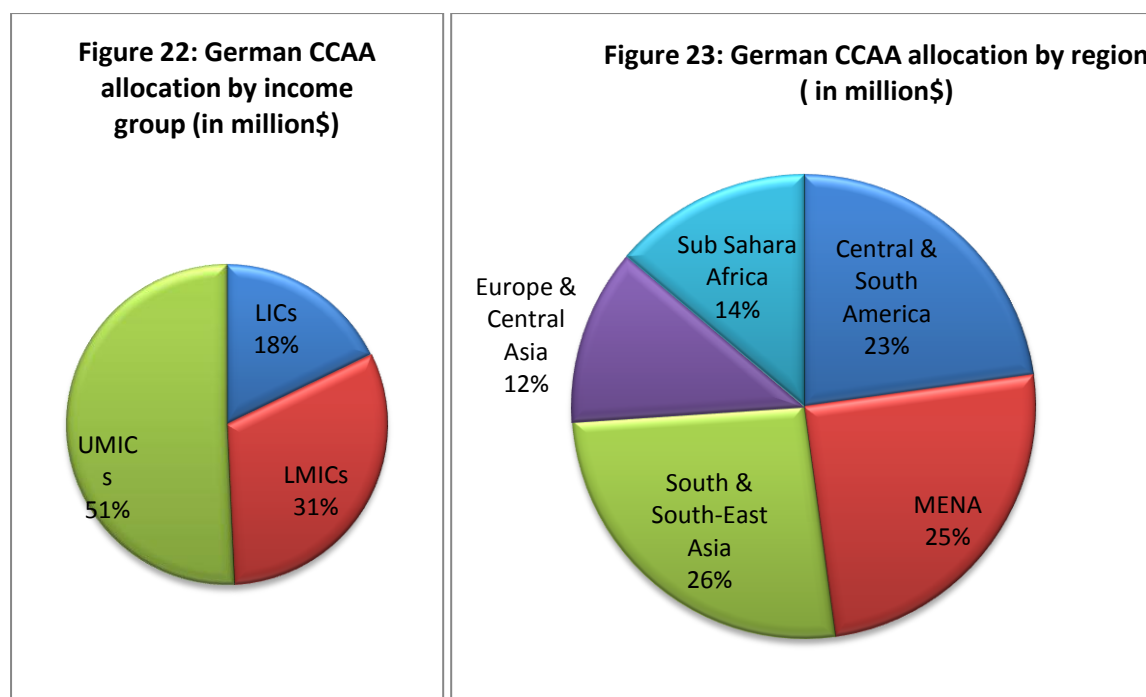
³⁸ Including amount 'unspecified'



(Source: OECD DAC database, 2014)

The desirability of this equal distribution however is not yet clear. Figure 20 shows us that 66% of all recipients of bilateral CCAA are MICs, whereas LICs only represent 34%. When including the quantitative amounts, the numbers only get worse. When taking into account the amount that the LICs present in the top ten recipient list receive, LICs only receive 18% of CCAA³⁹, whereas LMICs receive 31% and UMICs receive 51% (Figure 22). In summary, not only are less LICs receiving CCAA than MICs, but they also receive much less funds than the MICs as well. When we compare the amounts received by the different regions, we see that although Sub Sahara African countries were fairly represented in numbers (6), they receive the smallest part in budget flows (Figure 23). It seems that it is Europe & Central Asia that predominantly benefits from this. However, the region is only represented by one country, being China. The presence of China is significant. China alone receives \$213,93 million of ODA to adapt to climate change between 2010 en 2012. In total 3 out of the 5 BRICS are listed amongst the main receivers. India and Brazil also receive a particular large sum of CCAA. Together the emergent economies make up for approximately 37% of the bilateral allocation of the main recipients.

³⁹ % of the amount allocated to the top ten recipients during the time period 201-2012



(Source: OECD DAC database, 2014)

3.4 Financer of MICs and emerging economies

With a clear implementation plan and specific guidelines set out, Germany has succeeded in integrating climate change adaptation within its development policy and has been a substantial donor when it comes to adaptation projects. According to its intentions it wishes to reach those countries *particular vulnerable* to climate change. The quantitative analysis shows that most of CCAA allocation flows towards MICs, and especially UMICs.

The relation between Germany's discourse and its implementation practice and distribution behaviour is contradictory. Within Germany's fast start commitments, adaptation to climate change impacts is defined as a priority of the German bilateral cooperation with Africa and according to the 2011 Implementation report (BMZ & BMU, 2011) Sub-Saharan Africa has been involved in the most adaptation projects. Although, they are indeed present in several Sub-Saharan countries, only a very limited amount of funds is being distributed in their direction.

6. Discussion

Although there are several results that bring along difficulties to interpret, there are still some general findings.

1st observation: donor CCAA recipients differ strongly

The quantitative and qualitative approach of each donor's CCAA allocation behaviour depicted a differentiated picture of CCAA recipients. Whereas DFID aims for the poorest and 75% of their CCAA budget reaches the LDCs, only 41% of the EC's budget reaches them. Germany did not intend to reach the LDCs, but did claim to want to reach the 'particularly vulnerable', which has led it to distribute 82% of its CCAA towards MICs (Table 9).

Table 9: Overview donor allocations of CCAA from 2010 till 2012

	<u>UK</u> (DFID)	<u>EU</u> (EC)	<u>Germany</u> (GIZ)
To whom?	LDCs	SIDS and LDCs in Africa	Partner countries, mainly in Africa
- intentions			
	'poorest'	'most vulnerable'	'particularly vulnerable'
- reality	LICs & LDCs, mainly Sub Sahara Africa	Diverse, but majority LDCs/LICs and Sub Sahara Africa	MICs
LDCs	75%	41%	/*
SIDS	/*	3%	/*
LICs	78%	45%	18%
LMICs	17%	21%	31%
UMICs	5%	34%	51%
HICs	0%	0%	0%
Europe & Central Asia	3%	19%	12%
Latin America and Caribbean⁴⁰	2%	10%	23%
MENA region⁴¹	0%	15%	25%
Sub Sahara Africa	59%	44%	14%
South & South East Asia & Pacific	36%	12%	26%

* not researched

(Source: Data derived through own analysis with aid of the OECD DAC database)

⁴⁰ Also referred to as Central and/or South America, depending on used terminology by donor.

⁴¹ Once referred to as solely Northern Africa.

2nd observation: donors do not pick countries on a basis of national vulnerability assessments, there is however some overlaps between them.

For none of the donors there appears to be a clear set of criteria applied for choosing those countries who receive CCAA. This makes it difficult to address how climate change adaptation policy relates to vulnerability. Below, each of the donor results will be compared to the different vulnerability indices.

- DFID

It appears that a segment of the main recipients have indeed been identified as particularly vulnerable by vulnerability indices (Table 10). The WPI and CCVI appear to be the indices that relate most with the DFID CCAA recipients. The focus on more thematic approaches, such as given by the WPI, could be an explanatory reason why Niger, Ethiopia, Malawi and Rwanda receive an important amount of CCAA by DFID.

Table 10: Comparison DFID CCAA recipients and vulnerability indices

	Index 1	Type	Index 2	Type	Index 3	Type
Ethiopia	WPI	1	GAIN II	3	CCVI	3
Rwanda	WPI	1				
India	EVI	2				
Bangladesh	GCRI	2	CCVI	3		
Niger	HDI	1	WPI	1		
Malawi	WPI	1				
Southern Sudan	CCVI	3				
Vietnam	GCRI	2	CVM			
Other CCAA recipients⁴²						

Types: 1. Climate related vulnerability indices
 2. Climate impact or first-generation vulnerability assessments
 3. Second-generation vulnerability assessments

The preference of the DFID to aid the poorest in their partner countries might also explain why there is not that much overlaps with the national vulnerability indices. DFID indicates clearly that they rather apply a more regional or local community based vulnerability assessment.

⁴² Kenya, Brazil, Zambia, Indonesia, China, Tanzania, Kyrgyz Republic, Nepal

- EC

The relationship between the EC CCAA recipients and the vulnerability indices is not negligible. More than half of the recipients relate to one of the indices, whilst a fourth relates to two or more indices (Table 11). However, the allocation inconsistency over the years makes it very difficult to make any assumptions on how CCAA is allocated by the EC.

Both climate related and second-generation vulnerability assessments are relatively present. From the top ten lists of most vulnerable countries of the WPI, HDI and HSI, each time 3 or 4 countries are recipients of the EC. This shows a rather strong support for human welfare within the adaptation policy of the EC. On the other hand, the EC seems to pay attention to the adaptive capacity of a country as well. A large part of the recipient countries align with second-generation vulnerability assessments. We need to be careful with these assumptions: we do not presume causal relations, but merely want to demonstrate the similarities and give some possible reflections on applied criteria.

Table 11: Comparison EC CCAA recipients and vulnerability indices

	Index 1	Type	Index 2	Type	Index 3	Type	Index 4	Type	Index 5	Type
Djibouti	WPI	1								
Honduras	GRCI	2								
Sudan	HSI	1	ESI	2	GAIN I	3				
Niger	HDI	1	WPI	1						
Madagascar	CVM	3								
Bangladesh	GCRI	2	CCVI	3						
DRC	HDI	1	HSI	1	CCVI	3	GAIN I	3	GAIN II	3
Afghanistan	HSI	1	GAIN I	3	GAIN II	3				
Burkina Faso	HDI	1								
Ethiopia	WPI	1	GAIN II	3	CCVI	3				
Mozambique	HDI	1	CVM	3						
Malawi	WPI	1								
Pakistan	EVI	2								
Jamaica	EVI	2								
Gabon	CVM	3								
Other CCAA recipients⁴³										

⁴³ Nepal, Chad, Tanzania, Kenya, Egypt, Morocco, Georgia, Ukraine, Indonesia, China, Bolivia, Serbia, Turkey & Algeria

- Types:
1. Climate related vulnerability indices
 2. Climate impact or first-generation vulnerability assessments
 3. Second-generation vulnerability assessments

- Germany

The comparison of the German CCAA recipients with the vulnerability indices leads to a diverse image. There is no clear correlation with any of the indices. The higher presence of climate impact and first-generation vulnerability assessments (GCRI and EVI) can be linked to the allocations to some South & South East Asian countries (Philippines, Bangladesh, India & Vietnam). This could be a sign of a focus on exposure and sensitivity to climate change, rather than adaptive capacity.

Table 12: Comparison German CCAA recipients and vulnerability indices

	Index 1	Type	Index 2	Type	Index 3	Type	Index 4	Type	Index 5	Type
Burkina Faso	HDI	1								
DRC	HDI	1	HSI	1	CCVI	3	GAIN I	3	GAIN II	3
Benin	WPI	1								
Bangladesh	GCRI	2	CCVI	3						
Afghanistan	HSI	1	GAIN I	3	GAIN II	3				
India	EVI	2								
Philippines	EVI	2	GCRI	2	CCVI	3				
Vietnam	EVI	2								
Other CCAA recipients⁴⁴										

- Types:
1. Climate related vulnerability indices
 2. Climate impact or first-generation vulnerability assessments
 3. Second-generation vulnerability assessments

⁴⁴ Indonesia, Kenya, Peru, China, Egypt, Cameroon, Jordan, Morocco, Uganda, Tunisia, Mexico, Costa Rica

3rd observation: there is a strong relation between the traditional partner countries and the CCAA recipients, however not all CCAA is going to traditional partner countries.

Clearly the relation between traditional partner countries remains strong, even within CCAA. More than half of the CCAA recipients are traditional recipients for each donor (UK: 62,5%, EC: 55,2% and Germany: 61,9%).

Countries such as China, Brazil, India, Indonesia, Peru, Mexico, etc. might consist of parts of populations that are also 'at risk of disaster-induced poverty' (Shepherd et al., 2013), but could well have the adaptive capacity to deal with this themselves. Other factors than vulnerability aspects, clearly play a role in the distribution of CCAA.

Next to the mainstreaming of adaptation through development policy, countries that are not traditional partner countries have also been marked as CCAA recipients, whilst some other traditional recipients seem to score high on vulnerability indices and do not receive CCAA. An example of this, we find within the DFID. The DRC, Afghanistan, Chad, Sudan, Iraq, Yemen and Sierra Leone are all traditional recipients of ODA. Chad and Afghanistan receive over \$150 million/year of ODA and have been considered as two of the most vulnerable countries by several of the indices, however they have barely received any CCAA.

It should be considered that perhaps the lack of aid flows going to those most vulnerable countries is compensated through the funds being allocated by other climate financing for adaptation, outside the development framework. It could be argued that perhaps development cooperation is just being 'climate proofed' and other (UNFCCC) funds are addressing the most vulnerable (ODI, 2013).

4th observation: some donors have been more active on the field of CCAA, than others.

The EC has been very actively publishing documents on climate change adaptation and wants to play a larger role as a coordinating actor. The DFID has significantly less documentation on CCAA and spends a very limited amount on CCAA, specifically in comparison to its general ODA. Its specialization clearly lies elsewhere. On the other hand Germany is a particular large actor when it comes to CCAA. Next to its own CCAA budget, it is also one of the largest contributors to the EDF.

7. Conclusion

Clearly national vulnerability indices are no guide lines for the allocation decisions of the different donors. Although there is some overlaps, it appears that donors apply different indicators or motives to donate CCAA. For example, the DFID stated a preference for a more a regional or local community based vulnerability approach by which it reaches the poorest, especially in its existing partner countries. All donors indicate that they do not intend to give to those countries that are most vulnerable, however they do attempt to address the population that is most vulnerable (EC & Germany) or the poorest (DFID).

In itself it is not a bad thing that donors are focusing internally on the most vulnerable regions of a country, or on certain groups within community or region that are more vulnerable. This just acquires another assessment approach, based on local differentiation. It does raise the question however of who is helping those countries that are most vulnerable to climate change, when perhaps these countries aren't the more preferred traditional partner countries of the large donors? Do other allocation methods for climate finance address these countries? Further analysis of FSF and the adaptation funds within the UNFCCC framework could therefore be useful.

This research can be seen as a first step to understand the criteria applied by development donors to determine which countries receive CCAA. Whilst the DFID clearly focused on LICs and LDCs, Germany had a strong preference for MICs. The differentiating results were very clear and could serve as a basis for further research, explaining these differences.

This scope of this research does not provide for the inclusion of case studies with respect to the involving recipient countries. However, these might be necessary if we wish to truly capture the reasons for involvement or non-involvement of donors in a developing country. There might be political obstacles limiting donors to provide assistance to certain countries. Research on the criteria applied for CCAA might also be valuable in comparison to other development assistance.

There were some difficulties entailed during our research. The data provision was not always transparent and easily accessible. On the contrary, although the adaptation aid provided by Germany under the IKI was very accessible and added to the clarity of the research, the DFID and EC provide a lot of documentation, but the coherence and online availability is lacking.

Next to these difficulties, we need to emphasise some methodological remarks. Throughout our analysis we worked with the Rio markers-classification of the OECD DAC. However, we did not take into account the difference between adaptation as a principal or as a significant objective, which results in an overestimation of aid budget going towards CCAA. Moreover, our research did

not allow a full comparison between the pledged amounts of aid to the actual allocation. More in-depth reports of the donor allocations could add to this research.

Finally, what can be seen as a lacuna in this research is the inability to address the question of additionality. Climate finance for adaptation is supposed to be new and additional according to the UNFCCC in order to really be effective. However, it is impossible to calculate when and how CCAA can be seen as new and additional. So far there has not been a definition created, nor is there clarity in regard to what this should entail (IPCC, 2014).

8. ANNEXES

Annex I: CLASSIFICATION OF ALL COUNTRIES BY REGION

East Asia and Pacific		developing only: 24
American Samoa	Malaysia	Samoa
Cambodia	Marshall Islands	Solomon Islands
China	Micronesia, Fed. Sts	Thailand
Fiji	Mongolia	Timor-Leste
Indonesia	Myanmar	Tuvalu
Kiribati	Palau	Tonga
Korea, Dem. Rep.	Papua New Guinea	Vanuatu
Lao PDR	Philippines	Vietnam
Europe and Central Asia		developing only: 21
Albania	Hungary	Romania
Armenia	Kazakhstan	Serbia
Azerbaijan	Kosovo	Tajikistan
Belarus	Kyrgyz Republic	Turkey
Bosnia and Herzegovina	Macedonia, FYR	Turkmenistan
Bulgaria	Moldova	Ukraine
Georgia	Montenegro	Uzbekistan
Latin America and the Caribbean		developing only: 26
Argentina	Ecuador	Nicaragua
Belize	El Salvador	Panama
Bolivia	Grenada	Paraguay
Brazil	Guatemala	Peru
Colombia	Guyana	St. Lucia
Costa Rica	Haiti	St. Vincent and the Grenadines
Cuba	Honduras	Suriname
Dominica	Jamaica	Venezuela, RB
Dominican Republic	Mexico	

Middle East and North Africa		developing only: 13
Algeria	Jordan	Tunisia
Djibouti	Lebanon	West Bank and Gaza
Egypt, Arab Rep.	Libya	Yemen, Rep.
Iran, Islamic Rep.	Morocco	
Iraq	Syrian Arab Republic	
South Asia		all developing: 8
Afghanistan	India	Pakistan
Bangladesh	Maldives	Sri Lanka
Bhutan	Nepal	
Sub-Saharan Africa		developing only: 47
Angola	Gambia, The	Rwanda
Benin	Ghana	São Tomé and Príncipe
Botswana	Guinea	Senegal
Burkina Faso	Guinea-Bissau	Seychelles
Burundi	Kenya	Sierra Leone
Cameroon	Lesotho	Somalia
Cabo Verde	Liberia	South Africa
Central African Republic	Madagascar	South Sudan
Chad	Malawi	Sudan
Comoros	Mali	Swaziland
Congo, Dem. Rep.	Mauritania	Tanzania
Congo, Rep	Mauritius	Togo
Côte d'Ivoire	Mozambique	Uganda
Eritrea	Namibia	Zambia
Ethiopia	Niger	Zimbabwe
Gabon	Nigeria	

Source: (World Bank, 2014b)

Annex 2: CLASSIFICATION OF ALL COUNTRIES BY INCOME GROUP

Low-income economies (\$1,035 or less)			36
Afghanistan	Gambia, The	Myanmar	
Bangladesh	Guinea	Nepal	
Benin	Guinea-Bissau	Niger	
Burkina Faso	Haiti	Rwanda	
Burundi	Kenya	Sierra Leone	
Cambodia	Korea, Dem Rep.	Somalia	
Central African Republic	Kyrgyz Republic	South Sudan	
Chad	Liberia	Tajikistan	
Comoros	Madagascar	Tanzania	
Congo, Dem. Rep.	Malawi	Togo	
Eritrea	Mali	Uganda	
Ethiopia	Mozambique	Zimbabwe	
Lower-middle-income economies (\$1,036 to \$4,085)			48
Armenia	India	Samoa	
Bhutan	Kiribati	São Tomé and Príncipe	
Bolivia	Kosovo	Senegal	
Cameroon	Lao PDR	Solomon Islands	
Cabo Verde	Lesotho	Sri Lanka	
Congo, Rep.	Mauritania	Sudan	
Côte d'Ivoire	Micronesia, Fed. Sts.	Swaziland	
Djibouti	Moldova	Syrian Arab Republic	
Egypt, Arab Rep.	Mongolia	Timor-Leste	
El Salvador	Morocco	Ukraine	
Georgia	Nicaragua	Uzbekistan	
Ghana	Nigeria	Vanuatu	
Guatemala	Pakistan	Vietnam	
Guyana	Papua New Guinea	West Bank and Gaza	
Honduras	Paraguay	Yemen, Rep.	
Indonesia	Philippines	Zambia	

Upper-middle-income economies (\$4,086 to \$12,615)

55

Angola	Fiji	Palau
Albania	Gabon	Panama
Algeria	Grenada	Peru
American Samoa	Hungary	Romania
Argentina	Iran, Islamic Rep.	Serbia
Azerbaijan	Iraq	Seychelles
Belarus	Jamaica	South Africa
Belize	Jordan	St. Lucia
Bosnia and Herzegovina	Kazakhstan	St. Vincent and the Grenadines
Botswana	Lebanon	Suriname
Brazil	Libya	Thailand
Bulgaria	Macedonia, FYR	Tonga
China	Malaysia	Tunisia
Colombia	Maldives	Turkey
Costa Rica	Marshall Islands	Turkmenistan
Cuba	Mauritius	Tuvalu
Dominica	Mexico	Venezuela, RB
Dominican Republic	Montenegro	
Ecuador	Namibia	

High-income economies (\$12,616 or more)			75
Andorra	French Polynesia	Norway	
Antigua and Barbuda	Germany	Oman	
Aruba	Greece	Poland	
Australia	Greenland	Portugal	
Austria	Guam	Puerto Rico	
Bahamas, The	Hong Kong SAR, China	Qatar	
Bahrain	Iceland	Russian Federation	
Barbados	Ireland	San Marino	
Belgium	Isle of Man	Saudi Arabia	
Bermuda	Israel	Singapore	
Brunei Darussalam	Italy	Sint Maarten	
Canada	Japan	Slovak Republic	
Cayman Islands	Korea, Rep.	Slovenia	
Channel Islands	Kuwait	Spain	
Chile	Latvia	St. Kitts and Nevis	
Croatia	Liechtenstein	St. Martin	
Curaçao	Lithuania	Sweden	
Cyprus	Luxembourg	Switzerland	
Czech Republic	Macao SAR, China	Trinidad and Tobago	
Denmark	Malta	Turks and Caicos Islands	
Estonia	Monaco	United Arab Emirates	
Equatorial Guinea	Netherlands	United Kingdom	
Faeroe Islands	New Caledonia	United States	
Finland	New Zealand	Uruguay	
France	Northern Mariana Islands	Virgin Islands (U.S.)	

(Source: World Bank, 2014)

Annex 3: LIST OF LEAST DEVELOPED COUNTRIES (LDCs)

Country	Date of inclusion on the list	Country	Date of inclusion on the list
1 Afghanistan	1971	25 Madagascar	1991
2 Angola	1994	26 Malawi	1971
3 Bangladesh	1975	27 Mali	1971
4 Benin	1971	28 Mauritania	1986
5 Bhutan	1971	29 Mozambique	1988
6 Burkina Faso	1971	30 Myanmar	1987
7 Burundi	1971	31 Nepal	1971
8 Cambodia	1991	32 Niger	1971
9 Central African Republic	1975	33 Rwanda	1971
10 Chad	1971	34 Sao Tome and Principe	1982
11 Comoros	1977	35 Senegal	2000
12 Dem. Rep of the Congo	1991	36 Sierra Leone	1982
13 Djibouti	1982	37 Solomon Islands	1991
14 Equatorial Guinea ¹	1982	38 Somalia	1971
15 Eritrea	1994	39 South Sudan	2012
16 Ethiopia	1971	40 Sudan	1971
17 Gambia	1975	41 Timor-Leste	2003
18 Guinea	1971	42 Togo	1982
19 Guinea-Bissau	1981	43 Tuvalu	1986
20 Haiti	1971	44 Uganda	1971
21 Kiribati	1986	45 United Rep. of Tanzania	1971
22 Lao People's Dem. Republic	1971	46 Vanuatu ¹	1985
23 Lesotho	1971	47 Yemen	1971
24 Liberia	1990	48 Zambia	1991

Source: UN (2014)

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