RESEARCH BRIEF – SEPTEMBER 2013

TRACKING CLIMATE AID IN AFRICA: THE CASE OF MALAWI

EXECUTIVE SUMMARY

The CCAPS Program has partnered with Development Gateway and the Government of Malawi to track and analyze aid flows to Malawi. This brief focuses on aid for climate change adaptation in Malawi, finding that aid explicitly targeting adaptation makes up a small fraction of Malawi's total aid portfolio (one to six percent). However, when aid focused on broader capacity development is taken into account, nearly one-fifth of all official development assistance (ODA) in Malawi has potential to reduce people's vulnerability and enhance their ability to adapt to climate change. Norway, the FAO, the World Bank, USAID, and the European Union are among the donors most involved in adaptation in Malawi in terms of total financial commitments. This research represents a pilot study of a new coding methodology that identifies and maps specific projects – those that have discernible benefits for climate change adaptation – and generates results that can be compared against the OECD's Climate Markers.

AUTHORS

Justin Baker and **Sarah McDuff** are research assistants at the Robert S. Strauss Center for International Security and Law.

Catherine Weaver is associate professor at the LBJ School of Public Affairs, distinguished scholar at the Robert S. Strauss Center for International Security and Law, and co-director of Innovations for Peace and Development at the University of Texas at Austin.

CLIMATE CHANGE ADAPTATION

According to the Intergovernmental Panel on Climate Change, Africa faces some of the greatest threats from climate change.[1] Over the next fifty years, the continent is expected to suffer from more frequent and intense droughts and floods, more unpredictable growing seasons, and higher average temperatures. These changes are likely, in turn, to increase the strain on food production and supply, increase the need for disaster response and preparedness activities, and exacerbate health problems. For poor communities reliant upon rain-fed subsistence agriculture, adapting to a changing climate will be particularly crucial.[2]

Yet estimates of future adaptation costs for Africa are in the tens to hundreds of billions of dollars per year.[3] African governments will not be able to meet these expenses on their own. Accordingly, member governments of the Organization for Economic Co-operation and Development (OECD), making up the majority of bilateral aid donors, pledged in 2006 to integrate climate change adaptation into development assistance, ensuring that ODA will play a central role in adaptation finance for developing countries.[4] At the same time, the African Development Bank (AfDB), the World Bank, and other multilateral donors have been working towards integrating climate change adaptation into their own activities, in concert with several funds dedicated solely to climate change such as the Adaptation Fund and Green Climate Fund.[5]

This shift has created a new category of donor funding: *climate change adaptation aid* (referred to as 'climate aid' in this brief). Such adaptation work, however, is not new. Development financing has for decades contributed to improving adaptive capacity through support of activities such as promoting climate-sensitive agricultural practices, improving infrastructure, and building resource management capacity. Adaptation activities are already well mainstreamed into traditional development assistance work on the ground and many donors have crafted robust strategies for integrating climate adaptation in their traditional

development work.[6] However, accounting in precise financial terms for the amount of resources directed towards adaptation activities remains a serious challenge. This makes it difficult for vested stakeholders to discern how well espoused international commitments to new and additional finance for adaptation are upheld in practice.

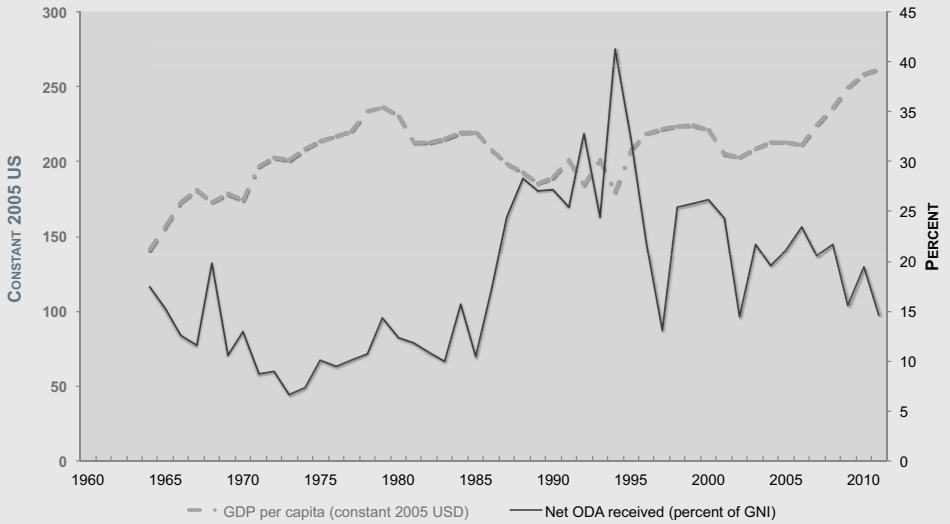
Financial accountability, however, is only one of the key challenges facing the climate change and development agenda. A second, and perhaps more daunting, challenge is tracking the *geography* of climate aid. In other words, where exactly is climate aid going? Are donors directing relatively scarce adaptation funds to the sectors, regions, and populations most vulnerable to climate change? And how coordinated is climate aid? Do donors work effectively with each other and with governments, non-governmental organizations, and private sector groups to ensure that resources are allocated in an efficient, equitable, and effective manner?

The CCAPS program has developed a rigorous coding methodology for tracking development assistance that enables analysis of both the

WHY MALAWI?

Malawi proved to be a suitable case study for several reasons. First, climate change adaptation is already of great importance to the country. According to its National Adaptation Program of Action, Malawi is "highly vulnerable to the adverse impacts of climate change and extreme weather events,"[7] due to a combination of high reliance on rain-fed agriculture, poor energy access, and high levels of poverty. Second, aid has played a central role in Malawi's development. The ODA, as a percentage of gross national income (GNI), that Malawi has received each year since independence in 1964 has ranged from roughly 7 percent in 1973 to a peak of 41 percent in 1994, with aid contributing to approximately 15 percent of GNI in 2011 (see Figure 1).[8] Finally, and perhaps most importantly, Malawi is a practical choice; it is a relatively small nation – both in terms of population and area – with a moderately sized aid portfolio. The Ministry of Finance already uses an Aid Management Platform[9] and was open to participating in this exercise. Because Malawi is both vulnerable to climate change and highly aid-dependent, understanding the role that aid plays in Malawi is a necessary first step in understanding how foreign assistance is helping to reduce vulnerability to climate change.

Figure 1. Malawi GDP and Aid Committed Per Capita since 1964



financial and spatial aspects of climate aid.[10] The resulting data can provide a country-level, detailed assessment of:

- **FUNDING**: How much aid can be classified as relevant to climate change adaptation?
- **SECTORS:** Which activities are most prominent within climate aid?
- **DONORS:** Which donors are most engaged in climate change adaptation activities?
- **LOCATION:** Where are donors funding adaptation projects in Malawi?

CCAPS researchers piloted this climate aid tracking methodology in Malawi, where researchers systematically gathered all active project documents for 27 leading development aid donors working in the country.[11] These detailed project documents were used to track sub-project components (referred to as 'activities' within this brief). CCAPS, with assistance from AidData and Development Gateway, geomapped all project locations, thus allowing for a spatial visualization of all aid allocation and sectoral analysis of donor activities, a necessary prerequisite to subsequent coding carried out by the CCAPS team. Below are the details of the methodology and preliminary results. These highlight the potential for scaling up similar tracking efforts to facilitate continent- and world-wide analyses of climate aid finance flows.

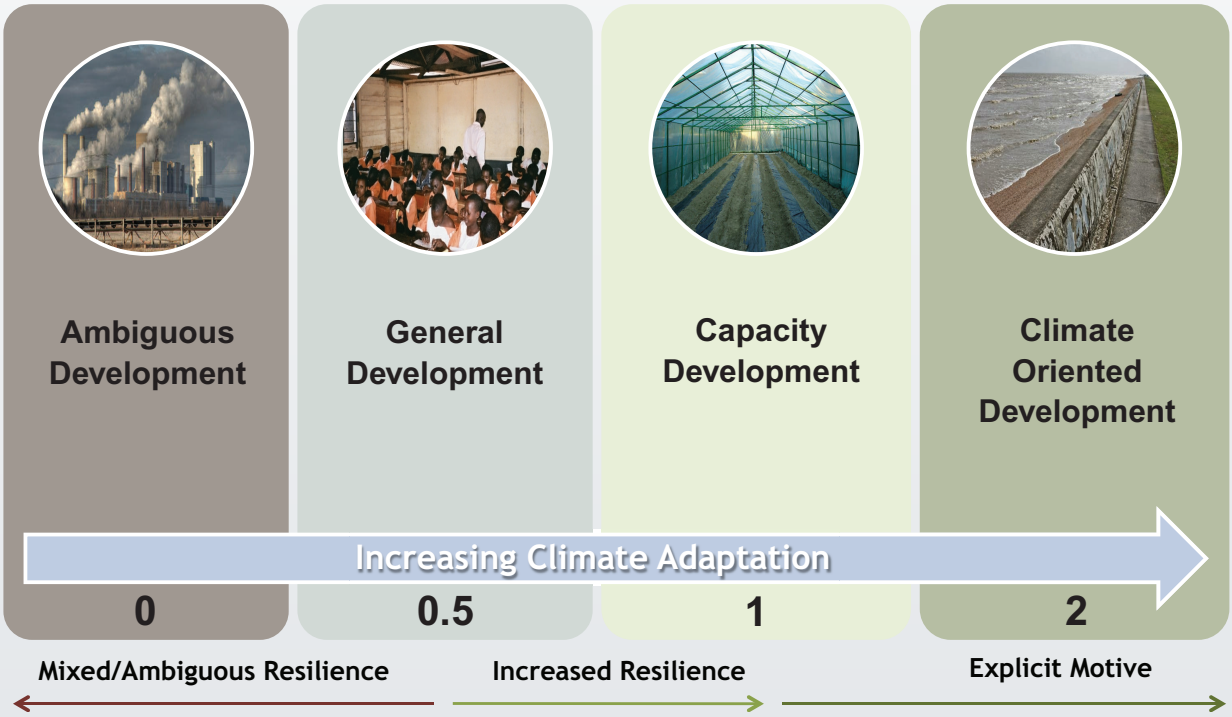
CODING METHODOLOGY

To date, there has been considerable debate over what constitutes climate change adaptation, a process that is specific to a given location or set of desired outcomes.[12] On the one hand, adaptation may be viewed broadly with the understanding that nearly all activities that enhance socioeconomic welfare will decrease human vulnerability and increase adaptive capacity in the context of climate change. On the other hand, adaptation might be defined narrowly to include only a small set of highly relevant activities (such as initiating early-warning activities or building flood protection structures).[13]

The CCAPS methodology captures this overlap by categorizing activities according to where they fall on a 'spectrum' of activities ranging from general development to more targeted adaptation (see Figure 2).

In this pilot, CCAPS researchers coded all aid project documents in Malawi according

Figure 2. CCAPS Climate Spectrum



to this spectrum. The dataset includes 754 codable projects, from 1996 to 2011,[14] that include over 2,900 activities, 2,500 locations, and approximately $5.95 billion of committed aid.[15]

The coding was carried out as follows: each project was broken into multiple activities where possible using the AidData Activity Coding Methodology,[16] after which each activity was coded for its relevance to climate change adaptation. There are four possible scores along the CCAPS climate spectrum. These correspond to increasing relevance to climate adaptation: *Ambiguous Development* (0), *General Development* (0.5), *Capacity Development* (1), and *Climate-Oriented Development* (2). The numerical weights (0 to 2) for each category are designed to reflect the degree of direct relevance to climate adaptation. They are also intended to mimic the 0 to 2 reporting protocol used by the OECD in its Climate Markers to enable future comparison of CCAPS climate coding results to climate activity reporting captured within the OECD's system.[17] Definitions for the CCAPS climate spectrum categories are provided in Figure 3.

Each coder then assessed the overall project along the spectrum. This project-level score was added to the average activity-level score to generate a final aggregate climate adaptation score for the whole project. For example, a project could have a final score of 1.32 – a value that places the whole project somewhere between *capacity development* and *climate-oriented development*. These climate scores were combined with existing information on projects, such as financial commitment, donor, sector, and geographical coordinates of project locations. The end product is a near-comprehensive dataset of climate-coded and geocoded project information on Malawi that can be searched by donor, sector, project- or activity-level scores, geographical location, time period, and overall funding amount.[18] The CCAPS aid dashboard, available online, provides an easily navigable platform for such data searches and analyses.[19]

RESULTS OF STUDY

Comprehensive, Detailed, and Precise Data

This dataset is the first of its kind, capturing the location and climate adaptation relevance of the majority of aid received by Malawi over the past decade.[20] The key innovation is capturing information on activities within given projects, as opposed to previously

Figure 3. Defining Climate Aid

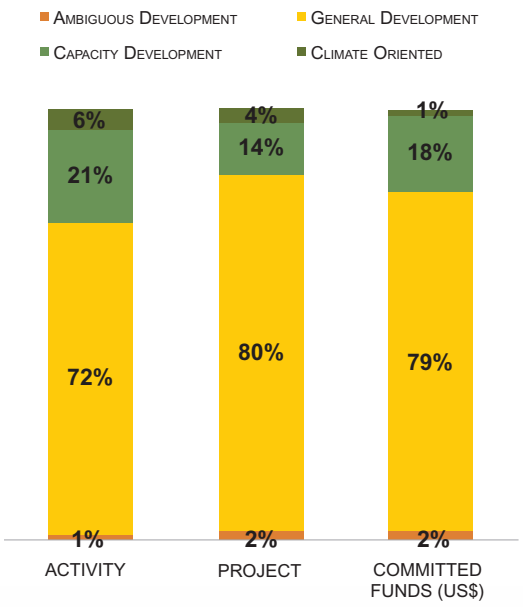
CLIMATE-ORIENTED DEVELOPMENT: An activity that intends to reduce the vulnerability of human or natural systems to the impacts of climate change and climate-related risks, by targeting enhanced adaptive capacity of these systems to actual or anticipated effects of climate change or responding to negative climate effects.

CAPACITY DEVELOPMENT: An activity that reduces the vulnerability of human or natural systems to the impacts of climate change and climate-related risks, by increasing the resilience of these systems to actual or anticipated effects of climate change.

GENERAL DEVELOPMENT: An activity that reduces the vulnerability of human or natural systems to the impacts of climate change and climate-related risks, by increasing the general well-being of these systems.

AMBIGUOUS DEVELOPMENT: An activity that has an indeterminate effect on the vulnerability of human or natural systems to the impacts of climate change and climate-related risks.

Figure 4. Climate Scores by Level of Analysis



existing methods (such as the OECD's Climate Markers) that provide only project-level data. More information on climate-relevant aspects of aid programs is captured as well as precise estimations of the amount of climate relevant work within traditional development assistance programs.

On average, the projects coded were comprised of approximately four activities. However, there is great variation between donors with respect to the size and number of activities in each project. For example, the African Development Bank has an average of nearly ten activities per project, whereas Norway has five, and USAID just under four. These figures greatly depend on the quality of documentation accessed from donors, as robust project-level information is needed in order to assign an accurate set of activities.[21] A low number of activities may reflect a small or highly focused project, or simply insufficient information from which to discern the totality of distinct activities.

HOW MUCH CLIMATE AID IS IN MALAWI?

Overall, the results reveal low levels of climate change adaptation aid in Malawi, whether measured in terms of dollars committed or number of projects and activities (see Figure 4). At best, if measured by combining both *capacity development* and *climate-oriented development* scores, 27 percent of aid activities broadly target adaptation, with six percent explicitly aimed at addressing climate change. However, when reviewing the results in monetary terms, only one percent of financial commitments explicitly go towards climate change activities. The different percentages obtained when counting projects, activities, or financial commitments – one to six percent for explicit adaptation aid – highlight the importance of looking beyond aggregate dollar amounts or project-level objectives. In fact, this exercise illustrates that there are likely more adaptation activities occurring within development projects than can be captured by looking solely at project titles or short descriptions.[22]

Overall, the amount of explicit climate aid in Malawi is a relatively small percentage of total aid. This is particularly striking considering the nation's vulnerability to climate change and the priorities stated in its National Adaptation Program of Action and Growth and Development Strategy. This finding corresponds with previous work carried out on selected projects across Africa.[23]

Sectoral Distribution of Climate Aid

The distribution of aid across sectors helps to explain why most aid falls under *general development*. The health sector accounted for the largest amount of spending, as donors focus on HIV/AIDS, infant mortality, and maternal health. For example, the Global Fund committed USD 779 million to the health sector alone – the fourth largest total amount of any donor. Economic and democratic governance, as well as transportation, also feature prominently, often in direct budget support programs. Figure 5 presents the specific distribution of aid across the climate spectrum for six individual sectors. This analysis illustrates that though 'traditional' adaptation sectors (such as *agriculture* or *water, sanitation, and irrigation*) hold the majority of climate aid, still other sectors are also important contributors to increasing resilience to the anticipated effects of climate change.

Figure 5. Funding to Selected Sectors in Malawi, Broken Down by Climate Score, 1996-2011

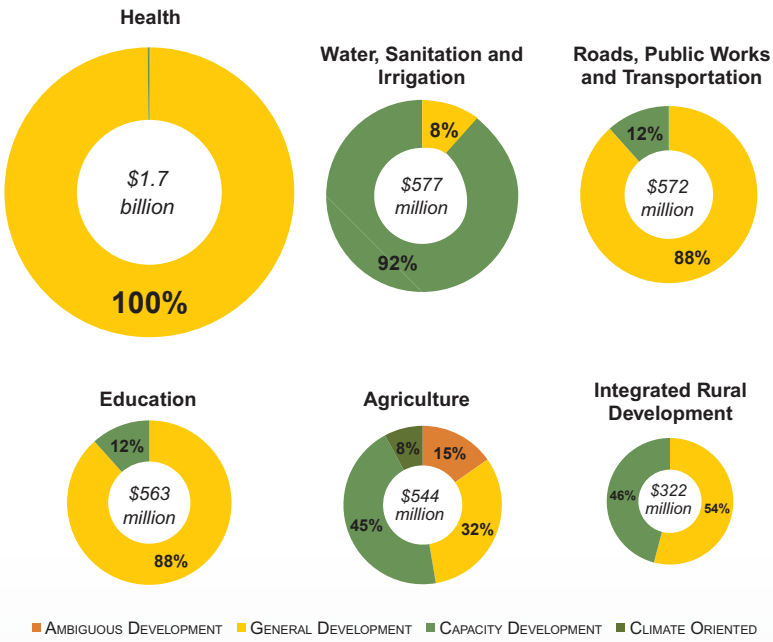
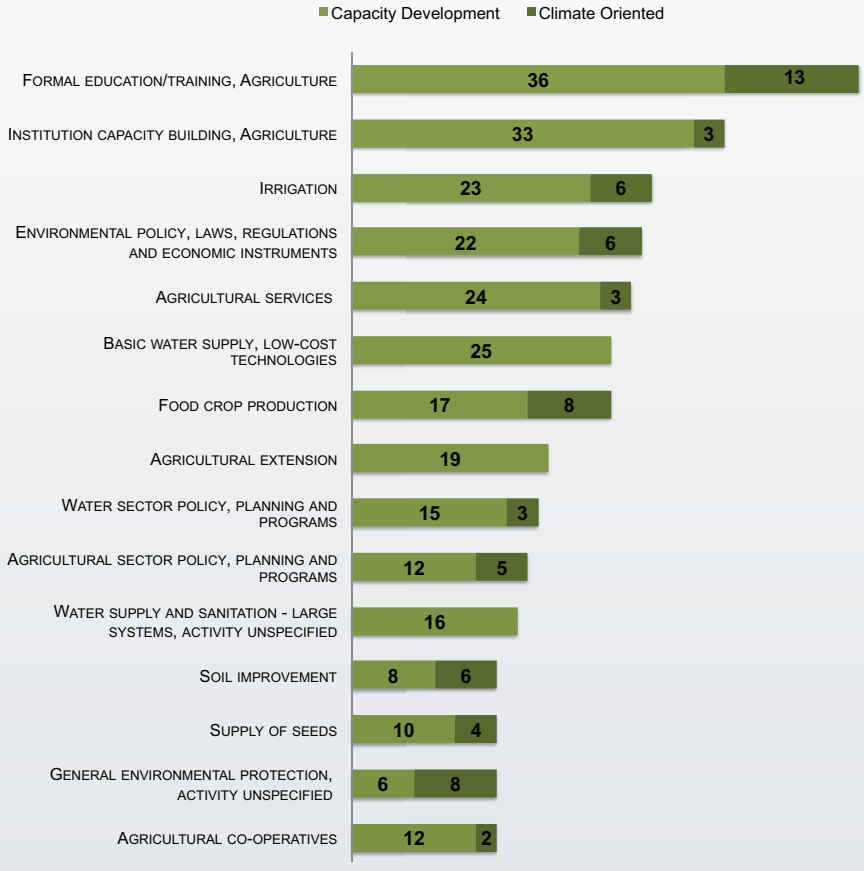
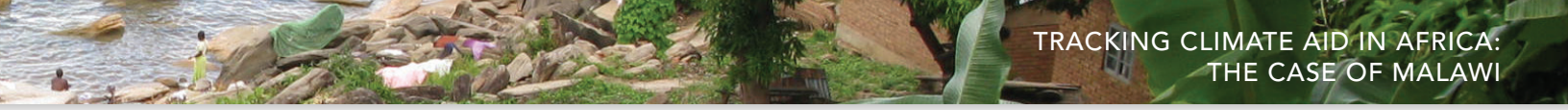


Figure 6. Activities Most Commonly Categorized as Capacity Development and Climate-Oriented, 1996-2011





This dataset also allows for an examination of the allocation of climate aid at the sub-project level. For example, Figure 6 identifies the most prevalent adaptation-relevant activities. As expected, agricultural activities dominate – as donors work to improve crop yields through education, soil improvement, and input supply – particularly in light of a general effort to enhance food security in the country.[24] Water sector activities also play a prominent role in Malawi's climate aid, both for consumption and irrigation.

This detailed level of analysis not only allows donors and policymakers to understand how aid is divided between sectors, but can also contribute to better planning and coordination for climate change adaptation within and across sectors. In fact, because of the broad nature of climate change and its overlap with traditional sectors, coordination between donor agencies and government institutions will be crucial to effectively address adaptation challenges.

Distribution of Climate Aid by Donor

The geocoding and climate coding methodology used here enables enhanced analyses of donor programs. In the CCAPS aid dashboard, the Malawi aid map is searchable by donor, as well as sector, region, project date, and various other categories of project information.[25]

This detailed dataset not only allows donors and policymakers to understand how climate aid is divided between sectors, but can also contribute to better planning and coordination for climate change adaptation within and across sectors.

This empowers stakeholders to determine who the lead donors are, how their work may be distinctive or redundant, and who may exhibit the best – or worst – practices in the commitment to and allocation of climate aid.

For example, Table 1 shows Malawi's top donors, sorted by the number of projects. There is great variation between donors in the numbers of projects implemented in Malawi, as well as in total financial amounts committed.[26] Looking at this detailed comparison of climate aid between donors, it is possible to see which donors were most focused on adaptation activities in Malawi between 1996 and 2011.

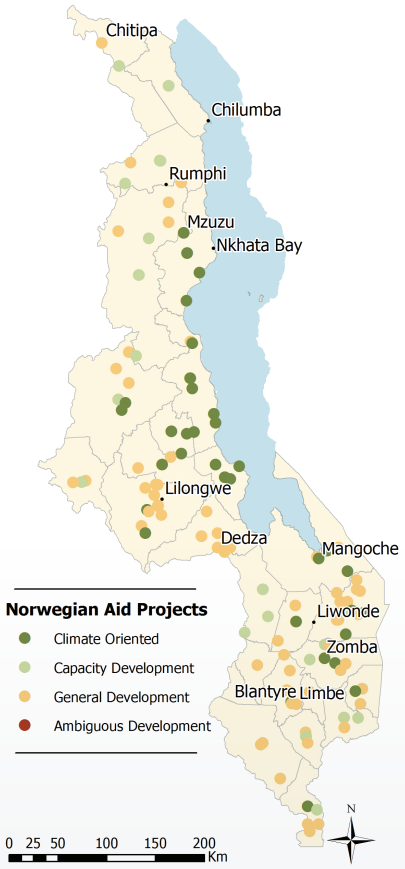
The United Nations Food and Agriculture Organization (FAO) – perhaps predictably given its focus on food security – ranks highest by number of *climate-oriented development* and *capacity development* projects in Malawi, as well as by percentage of funding. It appears to prioritize adaptation-relevant activities; depending on how it is classified, half to two-thirds of its activities are either *capacity*

Table 1. Top Ten Donors in Malawi by Number of Projects, 1996-2011

DONOR	NUMBER OF PROJECTS	NUMBER OF ACTIVITIES	CUMULATIVE COMMITMENT (CURRENT USD)	NUMBER OF CAPACITY DEVELOPMENT (CD) PROJECTS	NUMBER OF CLIMATE-ORIENTED (CO) PROJECTS	PERCENT OF CUMULATIVE COMMITMENT (CD/CO, CURRENT USD)	PERCENT OF ACTIVITIES (CD/CO)
USAID	**134***	**517***	**$783,907,152***	55	-	20.3	10.6
DfID	**91***	**380***	**$803,563,985***	39	24	3.7	16.6
Norway	**70***	**372***	$201,568,181	73	72	**27.0***	**39.0***
UNDP	**64***	159	$80,589,289	24	11	11.4	22.0
FAO	**49***	**311***	$25,807,768	122	35	**66.3***	**50.5***
JICA	47	79	$110,289,276	15	1	**22.9***	20.3
EU	46	227	**$906,167,082***	43	5	19.8	21.1
World Bank	25	139	**$660,833,216***	44	2	20.8	**33.1***
AfDB	24	**232***	**$402,985,378***	89	3	**24.7***	**39.7***
Ireland	23	69	$17,475,455	10	15	**41.1***	**36.2***

* Signifies top five in column

Figure 7. Norwegian Aid to Malawi, 2004-2011



*Note: a single project can be implemented in multiple locations

development or *climate-oriented development*. Similar patterns are seen in the projects funded by Norway, Ireland, and the African Development Bank.

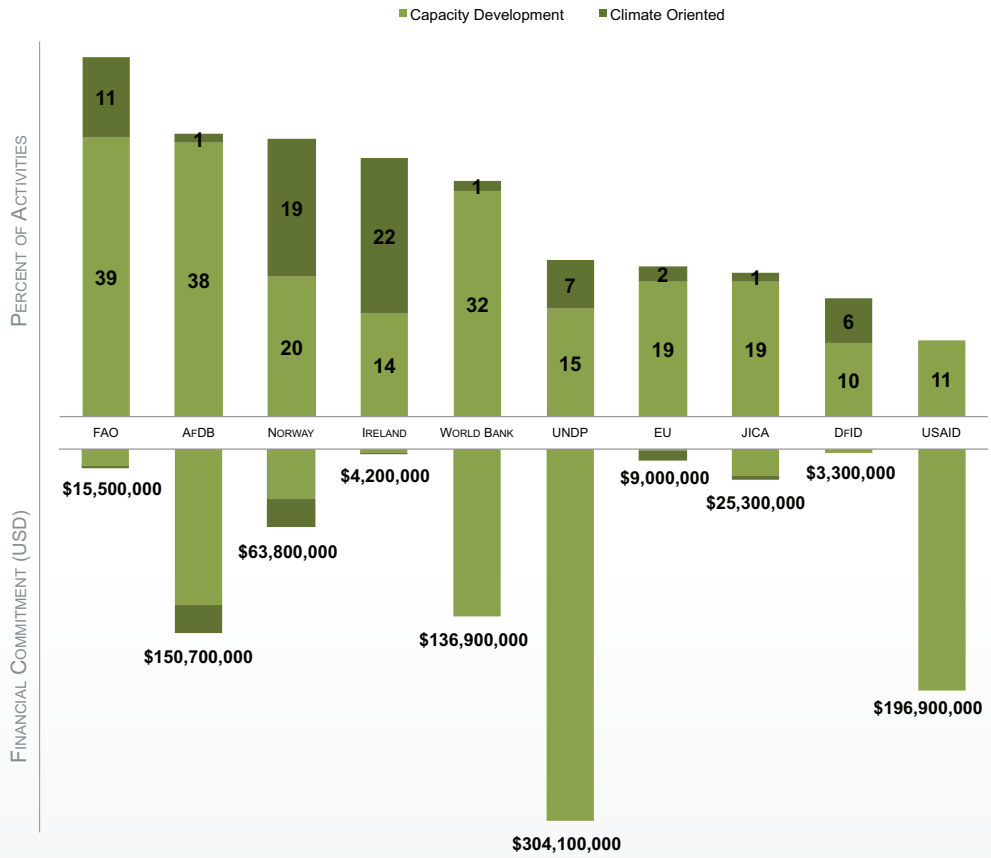
Furthermore, in this case it is especially important to note the different values obtained between activity- and project-level data. For example, Norway's *climate-oriented* aid share nearly doubles when activities are the key level of analysis. If a project is evaluated solely based on its overall climate score, this can obscure climate adaptation activities occurring at the sub-project level. Figure 7 shows Norway's aid projects according to the overall CCAPS climate spectrum score for each project.

A low percentage of aid explicitly targets climate adaptation, but there are a substantial number of adaptation-relevant activities underway in more general capacity-building development projects.

However, when the data are analyzed by financial commitment, a different picture emerges (see Figure 8). In this case, large donors (the World Bank, USAID, AfDB, and the European Union, in particular) show much greater prominence in climate adaptation, as they implement more (and generally much larger) projects. In contrast, the FAO, the Flemish International Cooperation Agency, and Ireland, all of which show strong adaptation emphasis by activity number and overall percent of projects, simply do not have the same financial resources available.

This analysis also emphasizes the importance of financial information to best determine the level of commitment to adaptation by donors. Critically, however, it is important to note that the financial amounts in Figure 8 are estimates. The amount for each coded activity is determined by dividing the total commitment amount for the project by the number of activities in the project. This assumes an equal amount of funds per project activity, which clearly does not hold in reality. This was driven by analytical necessity rather than choice: activity-level budget information is rarely publicly available, and thus more rigorous financial calculations are not currently possible. However, the Multilateral Development Bank climate change working group is currently piloting a method that integrates activity-level climate coding with activity-level budget information to facilitate more detailed financial calculation of activities that have adaptation and mitigation "co-benefits." This represents significant progress towards adopting methods of climate finance reporting capable of producing the detailed commitment and disbursement information needed to evaluate international pledges. However, these innovative methods rely on detailed budget data that are not externally available, making independent calculations impossible until information disclosure and aid transparency policies compel the publication of more detailed project budgets.[27]

Figure 8. Capacity Development and Climate-Oriented Activities by Top 10 Donors, 1996-2011



MAPPING CLIMATE AID

Ultimately, because the projects in Malawi's AMP System have been geocoded as well as climate coded, all data can be mapped, overlaid on other layers such as indicators of climate vulnerability,[28] and spatially analyzed. While donor-specific maps can provide important accountability and planning mechanisms for individual donors, multi-donor or sector maps can be used by an even wider range of stakeholders, including donors, government officials, and civil society.

For example, Figure 9 displays aid locations for *Vulnerability and Disaster Risk Reduction and Management* aid, overlaid on assessments of climate change vulnerability.[29] Also displayed are the districts highlighted as most vulnerable in Malawi's National Adaptation Program of Action: these lie particularly in the southern region of the country, which is both central to the agriculture-dependent economy and prone to drought and flooding.[30] Interestingly, the majority of Malawi's *Vulnerability and Disaster and Risk Management* project locations are found in or near these priority districts, implying that these areas are indeed at risk, and have been targeted by donors in this sector. This is just one illustration of the types of questions that might be explored using geocoded aid data and other spatially disaggregated physical or socioeconomic datasets.

CONCLUSION

The goal of this arm of CCAPS research is to analyze the climate change adaptation relevance of recent aid to Malawi through a pilot study using the CCAPS climate coding methodology. This pilot study finds that a low percentage of aid explicitly targets climate adaptation (climate–oriented development), but also concludes that there are a substantial number of adaptation-relevant activities categorized as capacity development. Some donors, such as Ireland, the FAO, and Norway, appear to place greater emphasis on adaptation than others, yet

larger donors such as USAID and the World Bank make a substantially greater financial contribution to adaptation activities.

This type of study can help policymakers in several ways:

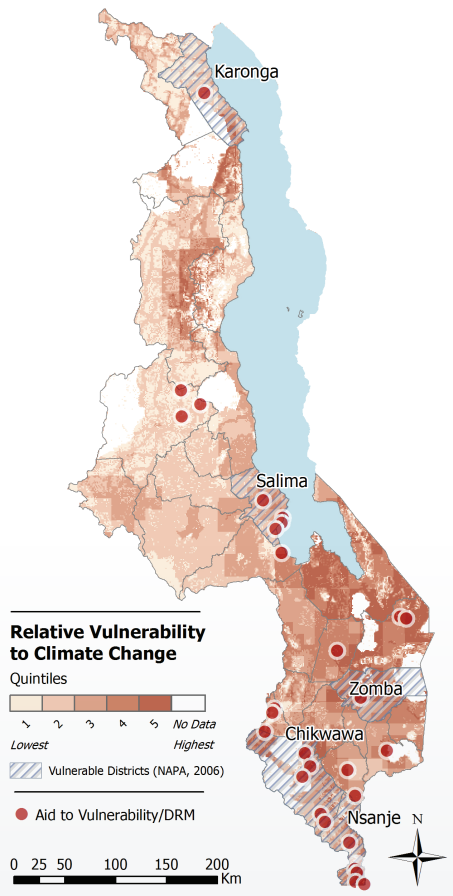
- **TARGETING AND ALLOCATION:** Combining climate aid location information with vulnerability studies can highlight places most in need of adaptation funds, and increase geographic and sector coordination between donors.
- **EFFECTIVENESS:** In-depth knowledge of a country's climate aid 'landscape,' including sector and spatial distributions, is a beginning point for climate aid effectiveness studies.
- **TRANSPARENCY:** Tracking climate aid creates accountability for donors and recipient governments under various international funding commitments.

Scaling this project beyond Malawi to other countries is a vital component of transparency in international aid and climate finance.

Overall, this study demonstrates the viability and utility of employing a simple methodology to track adaptation resources from international aid donors. Scaling this project beyond Malawi to other countries is a vital component of transparency in international aid and climate finance.

Innovations in geomapping technologies and big data analytics make such tracking exercises quite feasible. The biggest barrier will be political: attaining access to the timely, comprehensive, and accurate data on project activities by aid donors needed to create reliable maps. Moreover, the transparency movement should not be limited to aid only. It will be increasingly important to move beyond official development assistance to capture data on resources for climate change and development from governments, non-governmental organizations, and the private sector. Demonstrating the possibilities for – and the impact of – comprehensive resource mapping will be the next big step in the Open Aid movement.

Figure 9. Aid Locations and Climate Change Vulnerability



Source: CCAPS climate/geocoded dataset; CCAPS Climate Security Vulnerability Model 2.0

ENDNOTES

1 Michel Boko et al., "Africa," in *Climate Change 2007: Impacts, Adaptation and Vulnerability, Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, eds. Martin Parry et al. (Cambridge: Cambridge University Press, 2007).

2 Paul Collier, Gordon Conway, and Tony Venables, "Climate Change and Africa," *Oxford Review of Economic Policy* 24, 2 (2008): 337-353.

3 For more detailed cost estimates, see African Development Bank, "The Cost of Adaptation to Climate Change in Africa," October 2011; and Paul Watkiss, T.E. Downing, and J. Dyszynski, "AdaptCost Project: Analysis of the Economic Costs of Climate Change Adaptation in Africa," (Nairobi: UNEP, 2010).

4 OECD, "Declaration on Integrating Climate Change Adaptation into Development Co-operation," Adopted by Development and Environment Ministers of OECD Member Countries on 4 April 2006 (Paris: OECD, 2006).

5 For more information about the Adaptation Fund, see www.adaptation-fund.org. For more information on the Green Climate Fund, see http://gcfund.net/home.html.

6 For example, see USAID, "Adapting to Climate Variability and Change: A Guidance Manual for Development Planning" (Washington: U.S. Agency for International Development, 2007).

7 Environmental Affairs Department of the Ministry of Mines, Natural Resources and Environment, "Malawi's National Adaptation Programme of Action (NAPA)," First Edition, March 2006.

8 World Bank, *World Development Indicators*, http://data.worldbank.org/indicator.

9 For more information on Malawi's Aid Management Platform, see Development Gateway, "AMP Malawi," www.developmentgateway.org/dg_uploads/pdfs/amp_malawi_eng_sept_2011.pdf.

10 For a detailed description of the climate coding methodology, see Catherine Weaver, Justin Baker, and Christian Peratsakis, "Tracking Climate Change Adaptation Aid: Methodology," *CCAPS Research Brief No.5* (Austin: Robert S. Strauss Center for International Security and Law, 2012).

11 See Catherine Weaver et al., "Malawi's Open Aid Map" (Washington: World Bank Institute, forthcoming).

12 W. Neil Adger, Nigel W. Arnell, and Emma L. Tompkins, "Successful Adaptation to Climate Change across Scales," *Global Environmental Change* 15 (2005): 77-86.

13 For more information, see E. Lisa F. Schipper, "Climate Change Adaptation and Development: Exploring the Linkages," *Working Paper 107* (Norwich: Tyndall Centre for Climate Change Research, 2007), 4.

14 These years represent the date of agreement for each project.

15 The authors would like to acknowledge the contributions of Christian Peratsakis, Dylan Malcomb, Milad Pournik, Sarah McDuff, Abigail Ofstedahl, Elena Rodriguez, Hanna Murphy-Pack, Florence Pichon, and Bryan Stephens in helping build this dataset.

16 For details on AidData's activity coding, see AidData, "Sector and Activity Coding Scheme," www.aiddata.org/content/index/user-guide/coding-scheme.

17 For details on the OECD's Rio and Adaptation Markers, see Organization for Economic Cooperation and Development, "Handbook on the OECD-DAC Climate Markers," September 2011, www.oecd.org/dac/stats/48785310.pdf.

18 A step-by-step guide on the CCAPS climate coding methodology is available from Christian Peratsakis, Justin Baker, and Catherine Weaver, "Tracking Climate Adaptation Aid: CCAPS Climate Codebook" (Austin: Robert S. Strauss Center for International Security and Law, 2012). The raw climate-coded and geocoded dataset is available for download at www.strausscenter.org/aid.html.

19 See www.strausscenter.org/ccaps/mapping-tool.html.

20 For more information on Malawi's geocoding initiative, see Weaver et al., "Malawi's Open Aid Map." The complete dataset is available for download at www.strausscenter.org/aid.html.

21 For more information on donor practices, see Justin Baker, Christian Peratsakis, and Catherine Weaver, "Tracking Climate Adaptation Aid: Insights on International Donor Reporting Practices," *CCAPS Research Brief* (Austin: Robert S. Strauss Center for International Security and Law, forthcoming).

22 This fact highlights the importance of activity-level coding.

23 Christine Ackerson et al., "Climate Change and Development in Africa," *CCAPS Student Working Paper No. 5*, eds. Catherine Weaver and Christian Peratsakis (Austin: Robert S. Strauss Center for International Security and Law, 2013).

24 See New Alliance for Security and Nutrition, "Country Cooperation Framework to Support the New Alliance for Food Security and Nutrition in Malawi," June, 2013, www.gov.uk/government/uploads/system/uploads/attachment_data/file/208059/new-alliance-progress-report-coop-framework-malawi.pdf.

25 See www.strausscenter.org/ccaps/mapping-tool.html.

26 The ten donors in this table committed over two-thirds of the total committed aid in the dataset.

27 See "Joint MDB Report on Mitigation Finance 2011," June, 2012, http://climatechange.worldbank.org/sites/default/files/MMF_2011_version_21.pdf

28 Malawi's climate-coded dataset has been dynamically mapped, available at www.strausscenter.org/ccaps/mapping-tool.html.

29 For more on the CCAPS Climate Security Vulnerability Model, see Joshua Busby et al., "Advances in Mapping Climate Security Vulnerability in Africa," *CCAPS Research Brief No.13* (Austin: Robert S. Strauss Center for International Security and Law, 2013).

30 Environmental Affairs Department of the Ministry of Mines, Natural Resources and Environment, "Malawi's National Adaptation Programme of Action (NAPA)."

THE ROBERT S. STRAUSS CENTER™
FOR INTERNATIONAL SECURITY AND LAW

CCAPS
CLIMATE CHANGE
AND AFRICAN
POLITICAL STABILITY

THE UNIVERSITY OF TEXAS AT AUSTIN

2315 RED RIVER STREET, AUSTIN, TEXAS 78712

PHONE: 512-471-6267 | FAX: 512-471-6961
CCAPS@STRAUSSCENTER.ORG
STRAUSSCENTER.ORG/CCAPS

Photo Credit: Sarah McDuff

HOW TO ORDER THIS PUBLICATION

To order a copy of this document, contact the CCAPS program at 512-471-6267 or ccaps@strausscenter.org. Please reference the document title and publication date.

This material is based upon work supported by, or in part by, the U. S. Army Research Office grant number W911NF-09-1-0077 under the Minerva Initiative of the U.S. Department of Defense.