

A Stakeholder Map for Climate Change Adaptation in Ethiopia's Agricultural Sector



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1 Introduction

Background

It has now been widely accepted that climate change is one of the biggest challenges facing agriculture in the 21st century. Among those who are most affected are poor agricultural households in the developing world, even though these are the ones who have contributed least to climate change. Climate change is expected to increase both temperatures and extreme events (floods and droughts) in Ethiopia while there is less certainty regarding rainfall changes.

There is an increasing body of research focusing on the question of how agricultural households will be affected by climate change, and how they perceive climate change (Nelson et al. 2010; Deressa et al. 2009). In view of these predicted effects on poor agricultural households, there is an urgent need to identify the strategies that are best suited to support these households to adapt to climate change. Against this background, the International Food Policy Research Institute (IFPRI) and partner organizations in Ethiopia, Kenya, Mali and Bangladesh have recently started a new research project that focuses on this topic. The project is entitled “Enhancing Women’s Assets to Manage Risk under Climate Change” (in short referred to hereafter as “Enhancing Assets Project”)and is supported by the German Federal Ministry of Economic Cooperation and Development. The project aims to create knowledge that will help policy-makers and development agencies to strengthen the capacity of male and female smallholder farmers and livestock keepers to manage climate-related risks.

Objective of this report

This report presents the results of a stakeholder analysis, which had the following objectives:

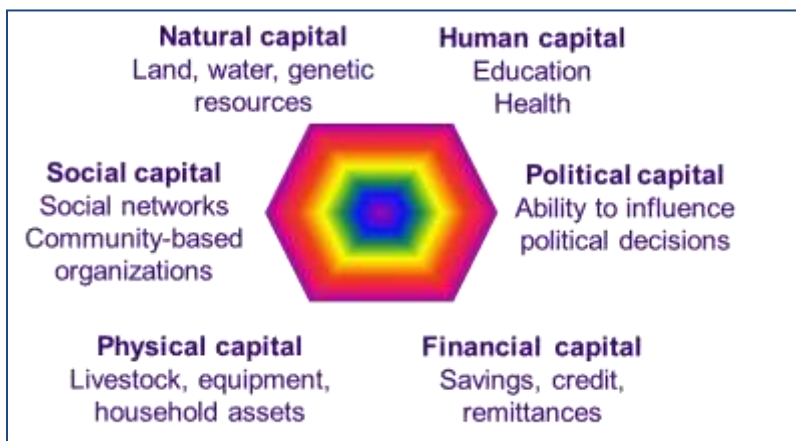
- to identify potential partners in the research process,
- to find out which organizations could make use of the research findings in their activities, and
- to derive implications for the communication and outreach strategy of the research project.

In addition to a review of documents and individual interviews, a stakeholder analysis workshop was conducted in Ethiopia on August 9, 2011. A participatory mapping tool referred to as Net-Map was used to conduct the stakeholder analysis. The results of the stakeholder analysis are expected to be useful not only for the “Enhancing Assets” project, but also for other organizations and projects that work in this policy field.

The “Enhancing Assets” research project

The “Enhancing Assets” project draws on the findings from earlier studies, which have highlighted the role of assets in reducing vulnerability and helping households to move out of poverty. Following the Sustainable Livelihoods Framework (DfID 2001) and IFPRI’s Gender and Assets (GAAP) framework (Meinzen-Dick et al. 2010), the project defines assets in a broad sense, including natural capital (access to land, water and genetic resources), social and human capital, as well as physical and financial capital. “Political capital”, that is, the ability to influence political decisions at the local or at higher levels is also considered to be an asset.

Figure 1: Types of Assets



Source: Adapted by authors from Livelihoods Framework (Meinzen-Dick et al. 2011)

In the context of climate change, assets are particularly important because they are essential for the ability of households to adapt to increasing variability of production caused by climate change. However, climate-related shocks, such as droughts and floods, can also deplete the assets that people have accumulated, either by destroying them directly (e.g., loss of livestock during droughts), or because people are forced to sell their assets to cope with these shocks. IFPRI research has shown that shocks affect men's and women's assets in different ways (Quisumbing 2009). In particular, women's assets are often the first to be disposed of during shocks that affect the poor, including those caused by climate events. Moreover, as research in Ethiopia has shown, droughts have a more severe effect on female-headed and poorer households (Dercon et al. 2005). Against this background, the Enhancing Assets project places a particular focus on women's assets.

The research project will entail the following activities:

- Review of existing experience with innovative risk management approaches worldwide
- Econometric analysis of existing data sets to understand how risks affects men's and women's assets and their ability to deal with climate-related risks.
- Experiments to assess innovative approaches to climate risk management, such as insurance schemes;
- Qualitative and participatory approaches to understand the governance challenges of projects aiming build households' assets.

Policy instruments and areas of intervention to enhance assets

To identify the stakeholders that could use the findings from the research project, it is important to identify the policy instruments through which governments, non-government organizations and development agencies can assist male and female household members

- to improve their access to and control over assets,
- to increase the return to their assets, and
- to use their assets effectively to adapt to risks caused by climate change.

Figure 2 displays the overlapping policy fields and areas of intervention that are related to these tasks. Agricultural technologies, such as improved varieties that are better adapted to climate risk help reduce the yield risks caused by climate change. Improved access to irrigation can also serve this goal. The adoption of sustainable natural resource management practices, such as erosion and flood control measures, is another important strategy to maintain the value of the households' land assets in view of climate-related risks. These strategies, which are displayed on the left-hand side of Figure 2 can be seen as technology-focused approaches.

Figure 2: Policy fields related to agricultural climate change adaptation



Source: Authors

The right-hand side of the figure shows the approaches that focus on the development of institutions, such as agricultural credit and insurance schemes, and the establishment of safety nets, which may at the same time also enhance production goals (productive safety nets). The “Enhancing Assets” project is expected to generate policy-relevant knowledge on these different areas of intervention, since the existing data sets to be analyzed and the primary data to be collected address these issues. The project will not cover all intervention areas in all countries, but it is expected that the findings will, to some extent, be relevant across countries.

A review of development activities indicates that organizations working in the policy fields indicated in Figure 2 use, to a large extent, group-based approaches. Examples include agricultural extension groups, water user associations in irrigation schemes, groups practicing community-based natural resource management, micro-credit groups, groups that are formed for weather-based insurance schemes, and groups that receive assistance through social safety nets. Research has shown that group-based approaches can be particularly effective in building households assets of the poor (Kumar and Quisumbing 2010). However, group-based approaches may also face the challenge of elite capture and exclusion of poor households and of female household members (Eriksen and Lind 2009). Against this background, the “Enhancing Assets” project places particular emphasis on group-based approaches, and includes an assessment of the governance challenges involved in implementing those approaches with a view to strengthening the asset base of poor households.

Since the policy instruments and intervention areas that can help agricultural households to better use their assets for risk management cover a wide range of activities, one can expect that the number of organizations and agencies that can potentially make use of the research results of this project are rather diverse. Therefore, a stakeholder analysis was conducted at the beginning of the project in each of the four study countries. As mentioned above, this report presents the results of the stakeholder analysis in Ethiopia. The report is structured as follows: Section 2 describes the methodology for the stakeholder analysis. Section 3 gives an overview of the “stakeholder landscape” identified in the process. Section 4 draws implications for the communication and outreach strategy of the “Enhancing Assets” project. Section 5 presents some conclusions.

2 Methodology for the Stakeholder Analysis

The interview method used for the stakeholder analysis was the Net-Map method. Net-Map (Schiffer 2008) is a participatory interview technique that combines social network analysis (Wasserman and Faust 1994), stakeholder mapping, and power mapping (Schiffer 2007). Net-Map helps people understand, visualize, discuss, and improve situations in which many different actors influence outcomes. By creating maps, individuals and groups can clarify their

own view of a situation, foster discussion, and develop a strategic approach to their networking activities. It can also help outsiders understand and monitor complex multi stakeholder situations.

In particular, Net-Map allows stakeholders to examine not only the formal interactions in the network, but also the informal interactions that cannot be understood by merely studying documents concerning the formal policy making procedures. Actors meet to exchange information and lobby for certain policy goals; local and international initiatives contribute by adding funds or research; and all of these interactions contribute to shaping the content and process of policy making. To get a realistic understanding of these formal and informal links and how the actors use them to influence the policy process, empirical field work is crucial (as only the formal links can be deduced from government documents). To understand how the actors interact with each other in the process, social network analysis (SNA) approaches are especially suitable, as they allow for a complex representation of a system, putting the actions of individuals and organizations into a greater perspective. SNA (Hanneman 2005) explains the achievements of actors and the developments within groups of actors by looking at the structure of the linkages between these actors. Thus, while traditional survey based approaches collect data about attributes of actors, network analysis focuses on gathering information about the network through which these actors connect.

More specifically, in this Net-Map exercise respondents were asked:

- What actors are involved in climate change adaptation in Ethiopia?
- Who is giving advice to whom among these actors?
- How much influence does each actor have over improving the ability of farmers and pastoralists to adapt to climate impacts?
- What are the priorities and core activities of each of these actors in terms of climate change adaptation?

The answers to these questions were arrived at by group consensus. The actors' names were written on small note cards and spread across a large piece of paper. Upon nominating an actor to be included, respondents would explain why that actor was important to add and what their primary activities are in this field. Advice flows were drawn among the actors. And then influence towers were added to each actor card. The results of this exercise were a visual depiction of the stakeholder network for climate change adaptation in Ethiopia, and notes from the in-depth discussion during the process. The network data was entered into a social network analysis program in order to better assess the network structure. The influence scores attributed by the respondents were inputted as well, so that the nodes (the representations of each stakeholder in the network) can be sized according to its perceived influence over improving climate change adaptation for farmers and pastoralists.

The visual depictions of this network, and the key lessons we learned from the network and, in particular, from the stories of the respondents, are described in the next chapter.

3 Lessons Learned

In addition to learning which organizations are currently active in this field and what their core activities are, we also determined the structural characteristics of the network that were of consequence to this project's goals and heard contextual explanations of these characteristics from the interviewees. Because this information came from a small group of stakeholders, relative to the complete network, we do not consider this to be the decisive, complete policy network, but rather a snapshot of the landscape to provide guidance and insights on the policy process to the project. In this chapter we will describe the highlights learned in the mapping process, including some key actors and groups of actors, possible targets for research results, and other structural information about the network that could have implications for the project's communications and outreach.

The Network Structure

The structural characteristics of the network show how information and funding flows among actors, and has implications for who controls those flows. The network, depicted in Figure 3, largely has a hub-and-spoke structure; in network theory the hub is referred to as the core and the spokes are referred to as the periphery. Typically, a hub-and-spoke network has one central actor and the other actors are arranged around this actor with few lateral links; thus nearly all interaction has to go through the hub. Here, we see a few actors making up the hub, and the majority of links going into and out of this hub. The implications for this type of structure are that the hub actors have a high degree of control over the flows that the “spoke” actors have.

The hub is made up of several government actors: the Ethiopian Environmental Protection Authority (EPA), the Ministry of Agriculture and Rural Development (MoARD), and the Prime Minister’s Office (PM). These three actors not only fall graphically in the middle of the network and have the highest number of links, but they also have the highest influence values (Figure 3). Clustered around these actors, we find a variety of international and UN organizations with medium influence. We see this shape in the multiplex network image that combines funding and advice links, and can see it even more clearly in the network that isolate the advice links.

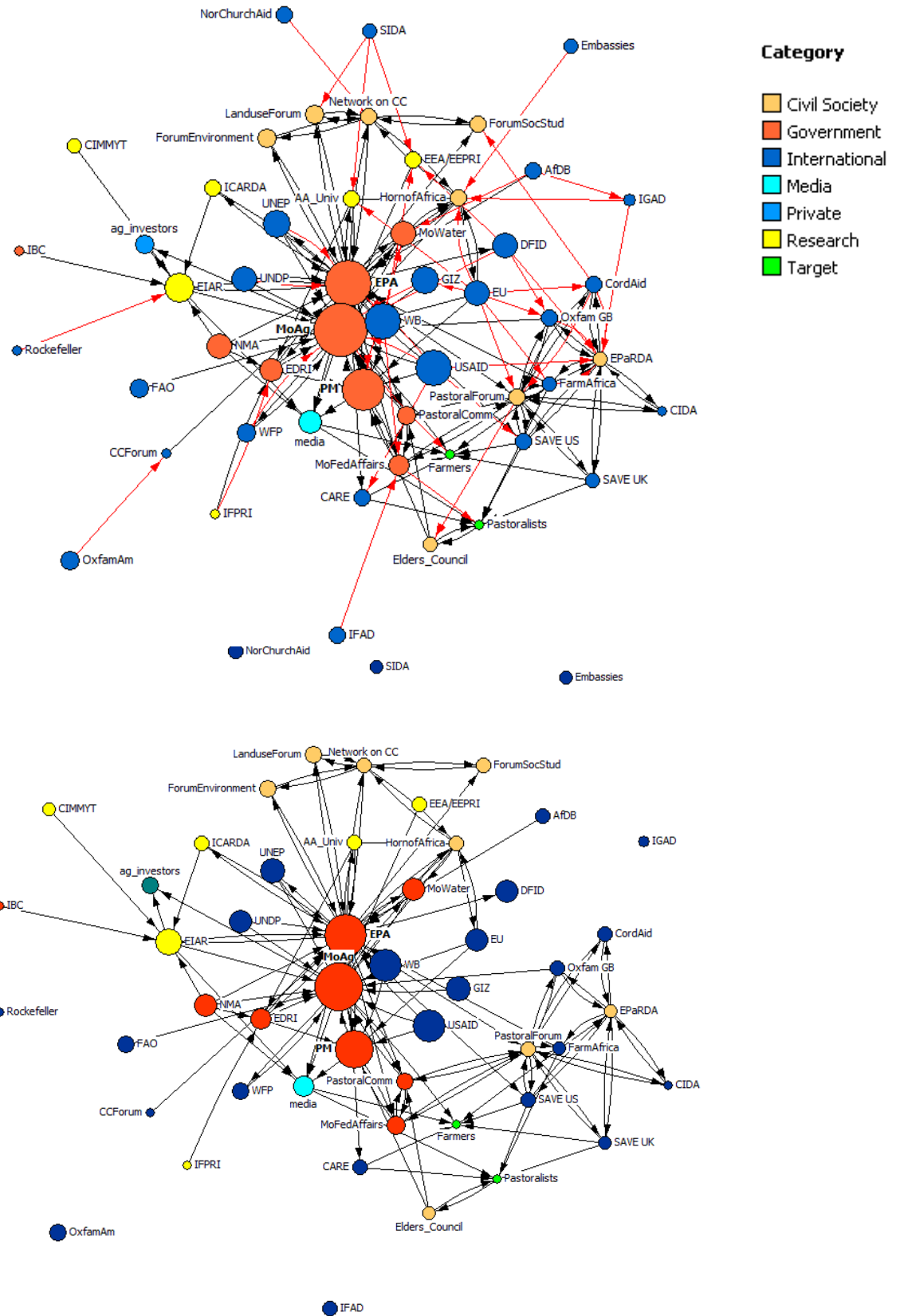
The Target Communities

To identify which actors, or groups of actors, are important to the communications and outreach of a project, we want to consider both the policy actors engaged in policy influence and policy development, and the implementing actors involved in providing some service or advice directly to the target communities. First we examine the latter (Figure 4) and then isolate those actors directly linked to farmers and pastoralists.

In addition to a handful of international NGOs linking directly to the target communities¹, MoARD is linked to farmers while the Ministry of Federal Affairs (MoFA) is also linked to pastoralists. MoARD provides advice, such as through agricultural extension, and funding, such as through the Productive Safety-Nets Programme, to farmers. We can see that MoARD has a high influence score, which is understandable given the large role that agriculture plays in the country. The MoFA provides funding to pastoralists through the Pastoral Community Development Programme (PCDP). It was noted by interviewees that previously pastoralists were considered to be the responsibility of the MoARD, and, as such, there may be some tension related to the awarding of the PCDP to MoFA rather than MoARD. Communications and outreach initiatives should consider this possible tension between key actors when developing a strategy.

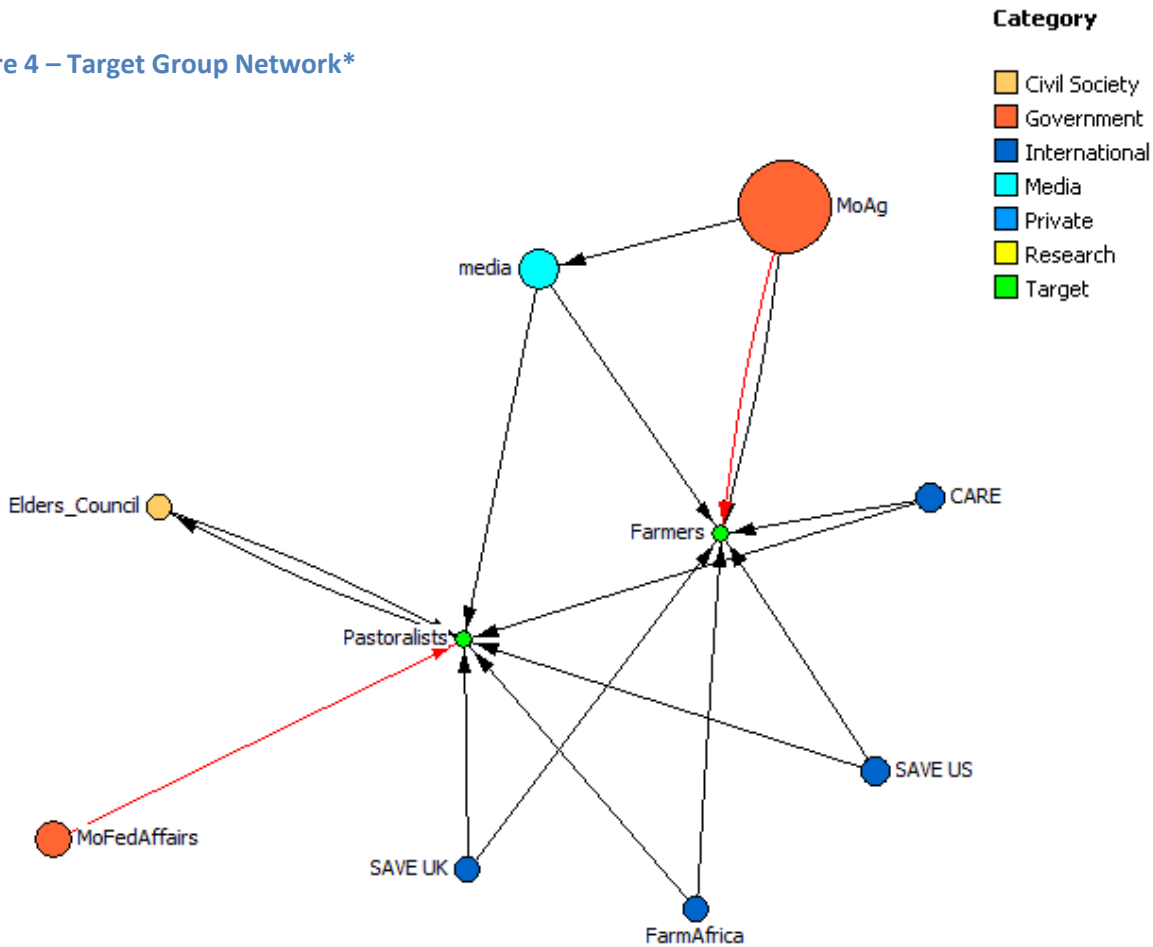
¹ While there are many Ethiopian NGOs directly linking to the target communities, particularly within specific districts, we limited this exercise to those actors who were also active at the national level, in order to maintain the national focus of the exercise rather than going in-depth into the distinct activities in each district.

Figure 3 - Complete Network (with advice and funding, then with just advice links)*



* Black arrows are advice links; Red arrows are funding links; the actors are colored according to their category; Actors are sized according to their influence scores.

Figure 4 – Target Group Network*

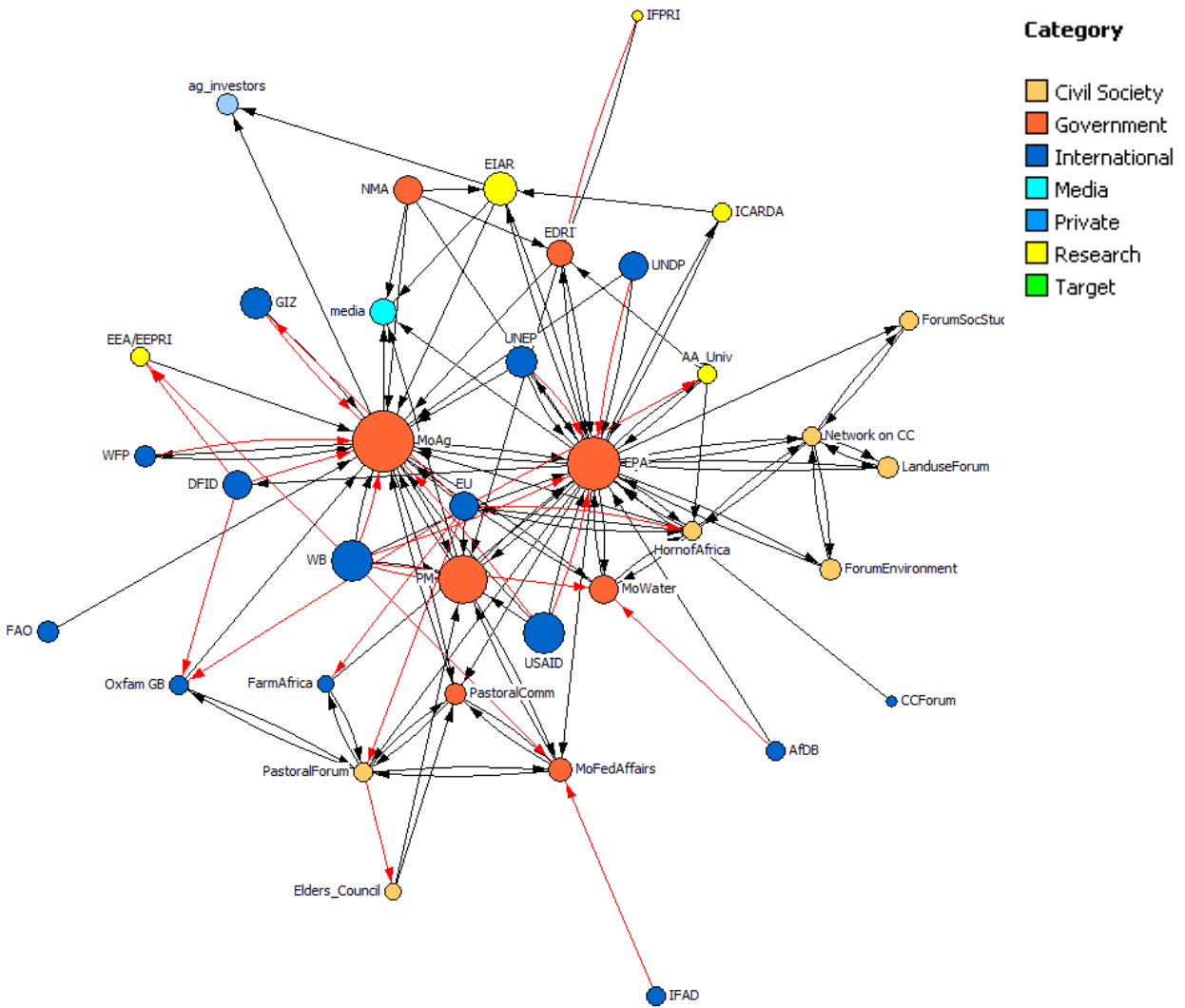


* Black arrows are advice links; Red arrows are funding links; the actors are colored according to their category; Actors are sized according to their influence scores.

The Policy Network

In order to isolate those actors directly engaged in advising, influencing, or otherwise contributing to the development of national policy on climate change adaptation, the network of actors directly connected to the core government actors in this network. We considered the core actors to be the hub actors—the EPA, MoAg, and the PM—as well as the MoFA (Figure 5). Here we once again see a clear hub and spoke structure, with very little interaction among actors other than directly into and out of the core government actors. In fact, most of the links are inward links to the core government actors, suggesting that the primary activity of actors in the policy network is to have their ideas be heard by these four government actors.

Figure 5 - Policy-focused Actor Network



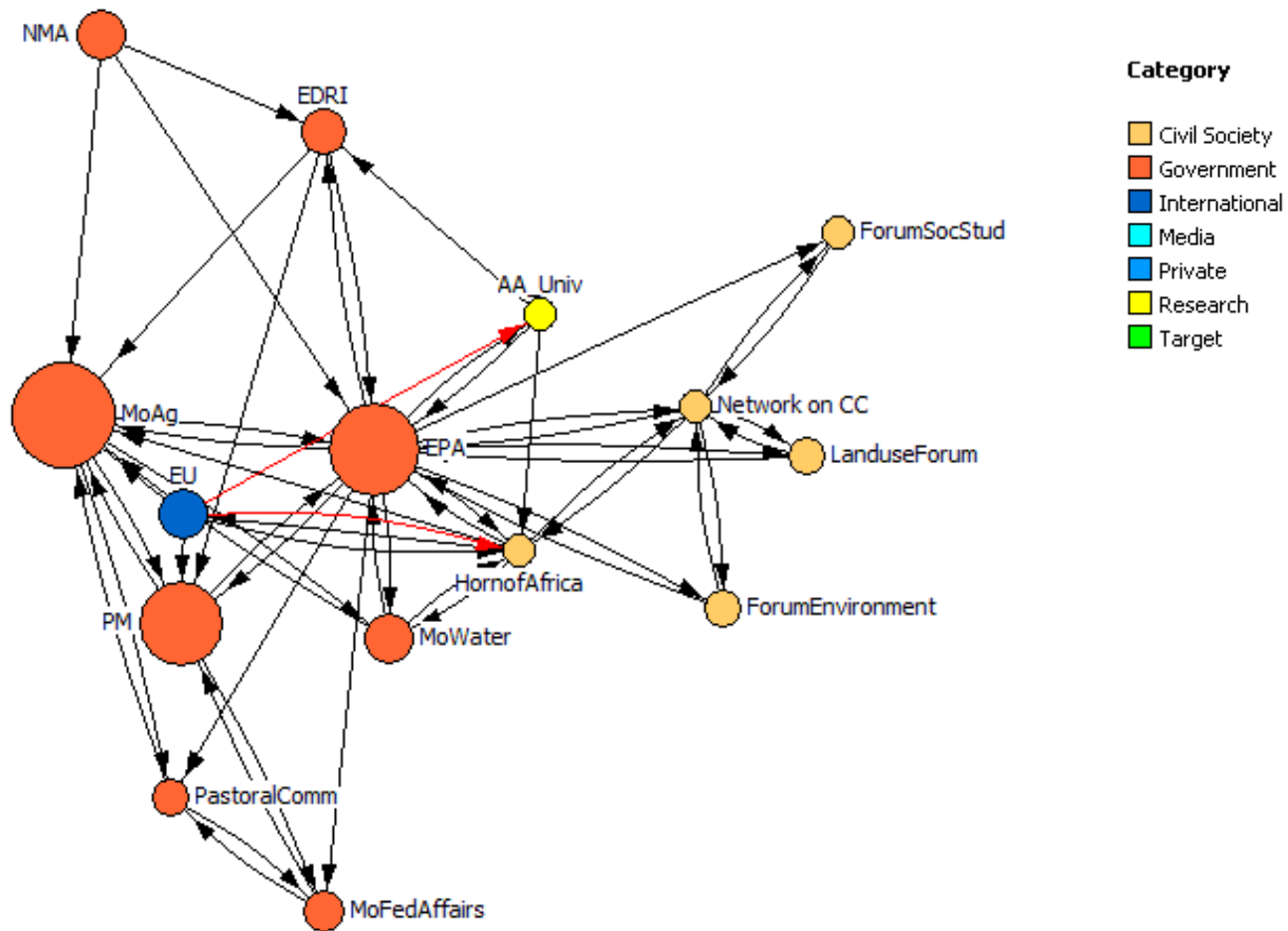
* Black arrows are advice links; Red arrows are funding links; the actors are colored according to their category; Actors are sized according to their influence scores.

Civil Society Clusters

Within the policy network, there are some sections of the network that are distinct from the rest of the network and do not fit the hub-and-spoke structure. These are groupings of non-governmental actors (including civil society) engaging with governmental actors on some specific policy issues.

First, a group of civil society actors focusing on climate change issues have a distinct cluster (a cluster is a group of nodes highly connected to each other), wherein they are sharing advice with each other as well as with the EPA and Addis Ababa University(AAU) (Figure 6). This type of network structure promotes the free spread of ideas and innovation.

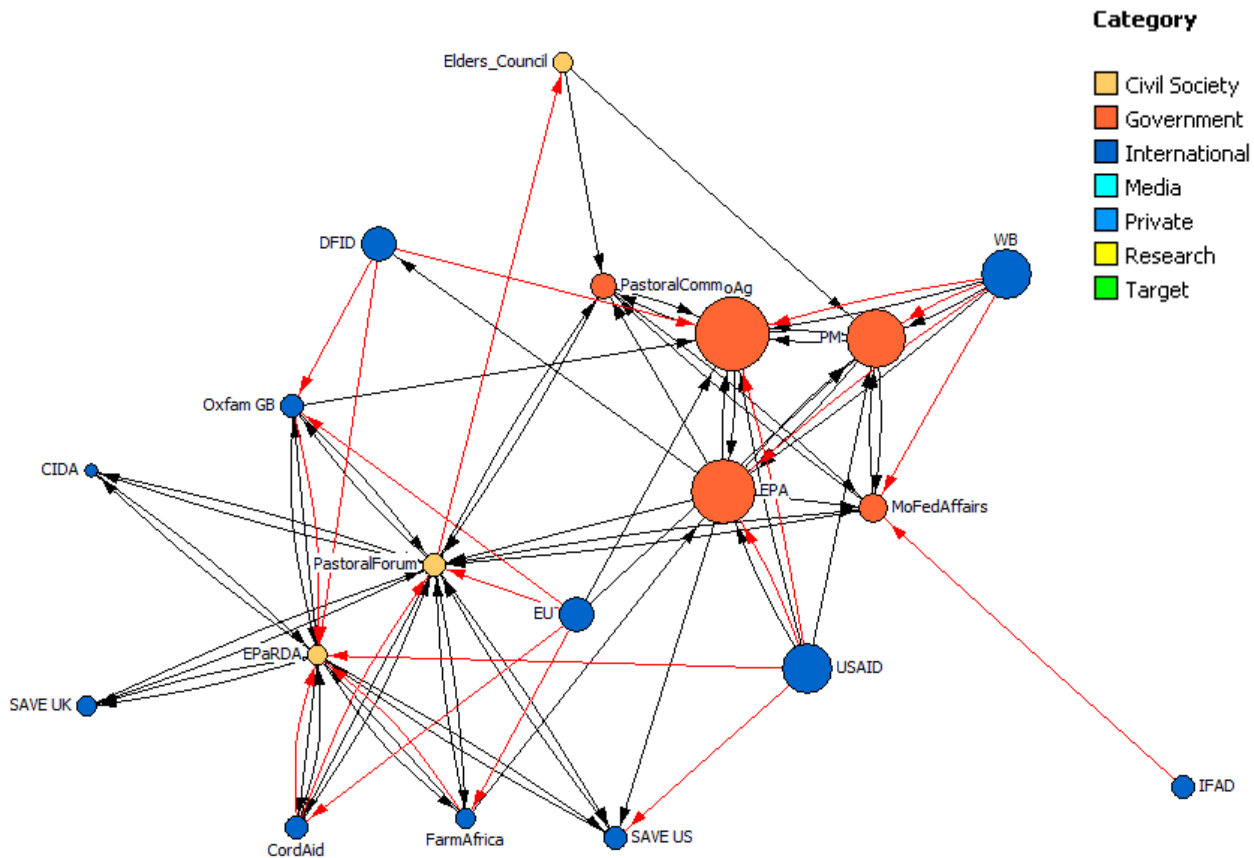
Figure 6: Climate Change Actors



* Black arrows are advice links; Red arrows are funding links; the actors are colored according to their category; Actors are sized according to their influence scores.

An additional cluster on pastoral issues can also be found in the network depicting a dynamic relationship among civil society actors, NGOs and government actors (Figure 7). Among those actors who specifically focus on pastoral issues, many of them engage with the Pastoral Forum to exchange information and advice. This advice is then provided to the MoFA and the Parliamentary Pastoral Committee. There is also a Council of Elders that reaches out to the PM and the Parliamentary Pastoral Committee with advice for how to serve the pastoralists. When we focus in on this cluster, however, we can see that the Pastoral Forum and the EParDA (Enhancing Pastoralist Research and Development Alternatives) actually begin to form something of a small hub-and-spoke network, rather than a more dynamic cluster wherein all actors are linked to most other actors. This shows that these two hub actors have some degree of control in this sub-network devoted to pastoral issues.

Figure 7: Cluster on Pastoral Issues



* Black arrows are advice links; Red arrows are funding links; the actors are colored according to their category; Actors are sized according to their influence scores.

4 Conclusions

As described above, the policy network in Ethiopia for climate change adaptation is highly centralized around a few key government actors. As such those actors should be intensely engaged with communication and outreach activities. If possible, this relationship should be forged early, before research results are complete.

The few clusters of actors that seem to be working together and providing advice could be considered 'opportunity points' for quickly spreading information as they are already engaged in these issues and are well-linked within their clusters. Given that many of the international organizations and research organizations do not appear to be linked to each other, it would be worthwhile to determine if: a) they are indeed exchanging advice in some forum that is not reflected here; or b) there is a possibility to spark dialogue among these actors through project meetings and other project outputs.

I. **Annex 1 - Actor Table: Important Activities Related to Climate Change**

Actor	Influence	Activities as described by group
Institute for Biodiversity Conservation (IBC)	0	Gene banks. Biodiversity conservation. Within Ministry of Agriculture
Ethiopian Institute of Agricultural Research (EIAR)	5	Government agency: Given a mandate to conduct agricultural research all over the country. Generating different agricultural technologies suited for climate change adaptation practices. Connects many of the universities. Influential through provision of technology and information, direct advice to Ministry of Agriculture
Large Scale Agricultural Investors	4	This is NEGATIVE influence on climate change adaptation. These are land grabbers. Enclosing common land, restricting areas for grazing. Government is contributing to this by allowing access to the land
Ethiopian Development Research Institute	2	Research includes work on climate adaptation, has influence via close access to Prime Minister
Addis Ababa University	2	University has Climate Change Center, hosts Horn of Africa. Current plan to establish a center that produces documents on climate change issues, sponsor masters and PhD students on these issues. Collaborates with EEA, but no specific links
Haromaya University	2	Has a department on CC and agriculture. Active on pastoral areas
Mekele University	2	Does arid land research
Ethiopian Economic Association/Ethiopian Economic Policy Research Institute	2	Climate is one of their thematic areas. Work on CC and livelihoods. Organize fora and conferences for discussions. Publish and distribute papers. Collaborates with Addis Ababa University, but no specific links were mentioned.
Prime Minister	8	Prime Minister himself is a big advocate on climate change issues
National Meteorological Agency	4	Important as a source of primary data related to climate change
Media	3	Government and private media, used as a tool to advise farmers and pastoralists
Ethiopian Environmental Protection Authority (EPA)	6	Oversees all environmental protection activities, including climate change. Also relevant to inter-governmental negotiations. Under Ministry of Natural Resources Development and Environmental Protection (MNRD&EP)
Ethiopian Ministry of Agriculture and Rural Development (MOARD)	6	Most important government agency for reaching farmers. Has 4 directorates of which Disaster Prevention and Preparedness Agency (DPPA) is most important for climate adaptation. Also makes direct transfers to farmers and pastoralists via Productive Safety Net Programme (PSNP). They're the main vehicle for government policy. Extension service, other policies go through them
United Nations Development Programme (UNDP)	4	Policy and advocacy on environmental issues. Also involved in rangeland management. Role is more in oversight than implementation
GIZ	4	Funds many activities. Working on fuel efficient stoves. Involved in

		sustainable land management. Technologies and inputs for farmers
Food and Agricultural Organization of the United Nations (FAO)	4	FAO is notably working in pastoralist areas. Their work involves assisting communities to adopt new technologies, providing seeds, agricultural inputs, and food. Gives advice to MoA on policy, technical advice
World Food Program (WFP)	4	WFP's work involves assisting communities to adopt new technologies, providing seeds, agricultural inputs, and food. Involved in preparedness and early warning issues
United Nations Environment Programme (UNEP)	4	Policy and advocacy on environmental issues including climate change. Work on sustainable rangeland management
Regional Elders Council	2	Part of the traditional hierarchy. Establishing elders councils at regional levels. Entirely made up of elders from the grassroots level. Goal is to come up with a unified national elders council. Meet every January 25th with the PM. Meet frequently with the parliamentary standing committee
Ministry of Water and Energy	3	Dam construction, irrigation. Always involved in downstream issues with respect to these activities
World Bank	4	Working with Ministry of Agriculture. They are doing a lot, have allocated a lot of funds, for issues related to adaptation. Also working with Ministry of Federal Affairs by funding PCDP
IFAD	3	Involved in microfinance. Working on (funding) Pastoralist Community Development Project (see Ministry of Federal Affairs)
SIDA	1	Supporting the government bilaterally, but not implementing
NorChurchAid	3	Funds Civil Society Network on CC
Sustainable Land Use Forum (SLUF)	3	Trainings and assessments. An umbrella organization with a lot of members. Notable for vetiver grass promotion
Civil Society Network on Climate Change	2	Has 10 thematic areas on climate change. Each thematic area has a leading organization. Highly involved in negotiation and policy issues. Not a practitioner at the ground level, but a network. Under Forum for Environment.
Horn of Africa Regional Environment Centre and Network	3	Network of environmental NGOs and higher learning institutions, hosted at Addis Ababa University. Have climate change and horn re-greening activities, renewable energy, park and buffer zone management, and environmental governance
Ministry of Federal Affairs	5	Notable for running the Pastoral Community Development Project (PCDP), funded by World Bank and IFAD (maybe others). Their approval always necessary on pastoral issues. Also, they are responsible for the 4 emerging regions (sensitive area)
Various embassies	2	There appears to be some direct funding from embassies to in-country projects (unclear)
AfDB	2	Involved in climate adaptation via funding of IGAD. IGAD is working on trans-boundary natural resource management
Forum for Environment	3	Advocacy and lobbying on environmental issues
Forum for Social Studies	2	Social Studies Research
Pastoral Standing Committee in	4	Relevant parliamentary committee on pastoral issues. Have to approve everything

Parliament		
Pastoral Forum Ethiopia (PFE)	3	Strong in advocacy
FarmAfrica	2	Mitigating damage of invasive species "prosopis". Introducing ways and means to get some products from prosopis.
CIDA		Funding. Working on "development"
EU	4	ID'd as overall most important donor. Funding many activities directly and indirectly. Also a funder of IGAD. Highly involved in energy issues.
Inter-Governmental Authority on Development	1	working on trans-boundary natural resource management
Enhancing Pastoralist Research and Development Alternatives	2	Integrated pastoral development. Livestock health, products, and productivity. Gender, focusing on single-household poor women. Human health. Pilot rangeland management. Peacebuilding and conflict management. Health insurance. Cross border issues
SAVE UK	2	SAVE-UK was described as doing similar work to FAO and WFP. They are more focused on targeting vulnerable groups (e.g. women and children). Helping to minimize migration. Also promoting agricultural technologies and inputs.
DFID	4	Funding studies, including one important one on resource mapping. Also involved in institutional building for climate change adaptation
OxfamAm	3	
USAID	4	Comparable to EU. Funding "everything".
Oxfam GB	3	Risk management i.e. disaster prevention and preparedness. They're active in civil society network in climate change. Development activities targeting both pastoralists and farmers. Conflict mitigation, especially with pastoralists. Emergency interventions
CordAid	2	Risk management i.e. disaster prevention and preparedness. Development activities. Conflict management and peace building. Emergency relief
SAVE US	3	SAVE-US was described as doing "development interventions", especially those related to food security and capacity building in local communities. Also involved in district-level policy formation and awareness-raising.
CARE	3	

II. Annex 2: Net-Map Interview Guide

Overview of Project and Interview Process:

Overview of the project: Our project aims to strengthen the capacity of rural households, communities and development agencies to manage risks under climate change. To support this goal, we need to identify the stakeholders who work in the area of climate change adaptation and understand how they link up as well as how they work with rural smallholders to help us implement research and identify research message delivery modes that can make a real difference for both the organizations involved in climate risk management as well as the rural poor.

Net-Map is an interview technique that examines the power, goals and perspectives of various stakeholders, and looks at how these stakeholders interact with each other. We will start by listing all the actors involved in climate change adaptation for rural smallholders at the national level, determine how they are linked, examine how influential each actor is in this area, and examine the approaches used to make an impact for rural smallholders.

One thing about Net-Map is that we will look at how things are actually done on the ground and not only what is written in formal documents. This is why we need the insight of people like you, who are part of the process and know it from the inside.

Who is influential in improving the ability of small-holder farmers and pastoralists to adapt to climate change risk?

Step 1: Determine Actors

Who plays a role in improving climate change risk management and adaptation for smallholder farmers and pastoralists?

- Focus on national-level.
- Actors are pre-written on cards, according to scoping research and pre-testing. Prompt the interview partners to choose from the list of actors if they are involved in the network, or to add to the list by writing new actors. (Add a few blank cards underneath the pre-listed actors.)
- Actors do not have to be highly influential, but they do have to be “involved” in climate change work.
- Place actors on flipchart sheet, in no particular order.

Step 2: Drawing links between actors

2.a For each actor on the board, who gives advice to who on climate change adaptation and risk management issues?

2.b For each actor on the board, who provides funds to who related to climate change risk management and adaptation?

Explain the definition of advice, below, and then draw arrows between actors to show who regularly seeks advice from whom. Give each advice link a score from 1 to 3 to denote the frequency/intensity and importance of advice received.

1: no indication of the value of the advice to the recipient; very infrequent correspondence, down to a few times a year; not direct contact, perhaps an invitation to a meeting or event.

3: advice is valued and even sought-after; frequent, even daily correspondence; direct contact, even face-to-face meetings

- Advice is information given with the intention to recommend some action. This could include: policy advice, technical advice, research-based advice, programming advice, advice on implementation. It could be initiated by the advisor or the recipient.
- Advice should only be related to climate change adaptation and directly related issues, not on any other topics.
- Request examples observed by participants, but do not insist if respondent is resolute about the presence of the link.

Step 3: Attribute influence

How influential is each actor in ensuring that small-holder farmers and pastoralists are able to successfully adapt to climate change impacts? The scale is 0-6.

- Define influence:
 - o We refer to the current state of influence, not a possible future level of influence over the issue.
 - o Ask the interview partner “*what are different ways someone could influence **climate change risk management and adaptation for smallholder farmers?***”
 - Ways of influencing include, but are not limited to: formal supervision, funding, technical information, advice, advocacy, ability to exert policy pressure, traditional authority, being highly knowledgeable or respected.
- Attribute influence:
 - o First ask the influence level of each actor quickly, starting with the most influential actor(s).
 - o Then go back and ask them to explain each one. Ask the respondent to discuss “Where does their influence come from and how do they use it?” for each actor.

Step 4: Discussion

- **Are there any actors that disagree on adaptation strategies or may even be in conflict or strong competition? What issues do they disagree/conflict on?**
- **What are the critical channels to get our research information to target groups (those who make policies and run programs)?**
- **What were the most striking things you observed or learned while drawing at this map?**

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