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Cross-sector challenges in Ethiopian forest and landscape restoration governance

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ABSTRACT

The federal government of Ethiopia set a national target to restore 15 million hectares of degraded and deforested lands by 2030. While forest and landscape restoration governance is intended to be a multi-actor process through which various land uses are coordinated, in practice it turns out to be difficult to bring specialised government agencies together to achieve restoration targets. We conducted a policy document review, 56 semi-structured interviews and 14 focus group discussions to understand the different challenges that exist in the governance of forest and landscape restoration in Ethiopia. We found three cross-sector challenges that influence the way in which national restoration targets are implemented at the local level in Ethiopia: 1) food security dominates the restoration policy frame and budgetary allocation at the expense of alternative restoration pathways that foster forestry livelihoods and biodiversity benefits, 2) agricultural and environmental policy objectives and targets, and restoration mandates at the sub-national level are incoherent, and 3) a siloed land use planning instrument makes it difficult to negotiate trade-offs and find synergies between sectoral policy objectives. Our results point out the need for an integrated land use planning instrument to achieve a wider range of restoration benefits. Given existing power imbalances between land-based sectors, we posit that an independent integrated land use planning authority that can draw on hierarchical authority is required to better balance different sector interests and different forms of conservation and restoration.

1. Introduction

Forest, grassland and wetland degradation has become a pervasive, systemic phenomenon that has caused the loss of ecosystem functions on which human well-being depends (IPBES, 2018). To stop and reverse land degradation trends, forest and landscape restoration (FLR) has grown into a global approach to restore ecological integrity while providing social benefits (Mansourian et al., 2021). FLR entails a landscape-level land use planning process that aims to accommodate the ecological processes needed to generate ecosystem functions, while safeguarding food production and improving livelihoods (Chazdon et al., 2017). A mix of actions occurs under FLR, including passive and active management of natural regeneration, planting single or mixed species tree plantations using native or exotic species, and agroforestry systems (Lamb et al., 2005; Wilson and Cagalanan, 2016). Depending on the chosen form, FLR contributes to a greater or lesser extent to mitigate climate change, reduce biodiversity loss, improve soil stability and water regulation, and strengthen rural livelihoods (IPBES, 2018; Stanturf et al., 2019). By who and for what purpose FLR is implemented may significantly influence the final outcome (Djenontin et al., 2020; Mansourian, 2018; Wiegant et al., 2020).

In theory, FLR is intended to be a multi-actor governance process to negotiate trade-offs and maximise synergies between different land uses through a landscape approach (Mansourian et al., 2017; Reed et al., 2017). This process is difficult to achieve in practice however, given the complexities associated with bringing together different government sectors and levels, rural communities and other actors. FLR has therefore often resulted in asymmetric outcomes that merely pursue the interest of one dominant actor (Mansourian and Parrotta, 2019). Siloed approaches to FLR are a challenge because they tend to focus on a few benefits while ignoring a wider diversity of benefits that more integrative restoration approaches can obtain (Carmenta and Vira, 2018; Parrotta and

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Mansourian, 2018).

The momentum for governments to set national restoration targets has grown globally over the past decade and recently culminated in the UN Decade on Ecosystem Restoration. By pledging to restore 15 million hectares of degraded land by 2030 (MEFCC, 2018a), Ethiopia is leading among African countries in terms of the size of land that is targeted for restoration. The Ethiopian government deploys different landscape restoration mechanisms to reach the target, including participatory forest management, area enclosure and the planting of 20 billion trees through the Green Legacy Initiative (Boissière et al., 2021; Kassa et al., 2017). Since the final outcome of restoration is strongly influenced by the specific forms chosen, it is important to understand which agencies are involved in FLR, how land is found and allocated for restoration purposes, and who decides on the benefits this should yield.

Despite having a well-documented and ambitious forest and landscape restoration target, the factors that influence land use policy and decisions in Ethiopia are not well understood (Ariti et al., 2019). In our research, we study the governance dynamics between relevant public actors in the implementation of forest and landscape restoration targets. We focus in particular on the challenges that emerge between different restoration-oriented policy sectors. This brings us to our research question: what are the cross-sector challenges related to forest and landscape restoration governance in Ethiopia? By investigating this, we first make a contribution to the existing literature on cross-sector challenges by conceptualising the different ways in which sector interests can be misaligned. Second, we analyse what forms of sector misalignment exist in Ethiopian forest and landscape restoration governance.

2. Theoretical framework

In today's public governance system, societal problems are addressed by assigning tasks to specialised government agencies that design policies and instruments to deal with a problem within their own policy domain (Klijn and Koppenjan, 2016). Yet, some of the large problems that governments are currently confronted with, such as land degradation, biodiversity loss and climate change, cut across governance levels and the boundaries of policy domains and can rarely be solved by one agency alone (Candel and Biesbroek, 2016; Peters, 2018). To address global land use-related problems, inherent trade-offs need to be managed between meeting immediate human needs and maintaining the long-term ecological processes that generate ecosystem functions (Foley et al., 2005; Sayer et al., 2013). The greater the trade-offs are, the more explicit interactions have to be between agencies to address diverging interests (Scharpf, 1978). Ethiopia's FLR policy domain cuts across the agricultural and environmental sectors. Alignment is not a straightforward process however, given the inherently pluralistic character of public decision-making in which diverging interests co-exist. While the agencies of different sectors are formally independent, they are practically interdependent when policies in one sector influence those in another sector (Klijn and Koppenjan, 2016; Scharpf, 1978).

When the policies of different agencies are misaligned, cross-sector challenges may emerge that consist of unaddressed trade-offs and missed synergies. Unaddressed trade-offs exist when the negative effects of one sector's policy actions on another sector remain unresolved. Missed synergies exist when the potentially positive effects of policy actions of one sector on another sector are not realised. Agencies may not always want to proactively align their interests, and develop strategies that create coherence across policy domains since alignment also has its disadvantages. These include interaction costs, such as money, time and energy, and political costs associated with having to accept compromise (Klijn and Koppenjan, 2016). To identify what is required to achieve cross-sector alignment, we need to understand the relationship between agencies and the ways in which different sectors misalign. Misalignment can emerge in five, not mutually-exclusive ways:

a) Policy frames: frames influence who is included or excluded in a policy process (van Lieshout et al., 2011). Agencies tend to see problems and solutions through their own particular policy frame, thereby neglecting views and ideas of other policy domains (Candel and Biesbroek, 2016; Peters, 2018). When different policy frames to define and solve a problem exist, it is difficult to pinpoint which agency is responsible for what, who is in the lead to offer a solution, and what specific issues are part of the problem and solution. Agencies can frame a problem in such a way that it places their own sector at the centre of power to offer the solution (van Lieshout et al., 2011).
b) Policy objectives: diverging interests often cause agencies to pursue incoherent policy objectives (Ansell and Gash, 2007; Klijn and Koppenjan, 2016; Scharpf, 1978). Objectives between sectors may be misaligned when achieving one sector's policy objectives makes the achievement of another sector's objectives unattainable. van Oosten et al. (2018) gave the example of misalignment occurring between policy objectives that aim to achieve food security versus those that focus on the large-scale reforestation of agricultural land.
c) Policy instruments: to pursue their objectives, agencies may use different policy instruments that can be regulatory, voluntary or communicative in character. Misalignment may occur between legally-defined rules, financial incentives, awareness campaigns and procedures that build on different forms of knowledge and follow their own logics and assumptions (Young, 2006). Misalignment between instruments used by one agency can be resolved with relative ease since few trade-offs are expected. Misalignment between the instruments of different agencies are harder to solve however, since trade-offs will be more common and linked to politics (Visser-en-Hamakers, 2015). In such cases, the policy instrument of one sector may clash with the assumptions of another sector to pursue its interests.
d) Implementation processes: even when policy frames, objectives and instruments are all aligned, misalignment may still occur in the policy implementation process when it results difficult to translate policy alignment intentions into local action (Hudson et al., 2019). When the interests of an agency are not properly represented or guaranteed when a cross-cutting problem is addressed locally, the agency may become alienated from the implementation process. When the agency tries to find alternative venues to pursue its interests, the policy's sustainability will be constrained (Ansell and Gash, 2007).
e) Policy actors: misalignment may occur between policy actors when they fail to establish common ground to constructively manage their differences (Hudson et al., 2019). When sector agencies are not on speaking terms in the first place, chances are substantial that cross-sector challenges emerge during policy design and implementation. Different reasons can cause misalignment between policy actors. An agency may choose not to interact with other agencies because it wants to govern a problem in line with its own logics and interests, or because it seeks to defend its budgets and personnel (Peters, 2018). An agency's motivation to collaborate may also be low or absent when the costs of a cross-cutting issue are not considered high enough, other priorities are more urgent or when an agency does not consider itself dependent on others to provide a solution (Klijn and Koppenjan, 2016).

The lack of cross-sector alignment may have different effects on how policy processes unfold:

- Dynamic balance through mutual partisan adjustment: a dynamic balance takes place when actors try to influence and persuade each other in a competition of ideas on how problems should be defined and what solutions need to be pursued. While mutual partisan adjustment may lead to more thoughtful policies that are influenced by a wide range of considerations (Lindblom, 1979), it is also a

process of pushing and pulling between actors with uncertain results (Ansell and Gash, 2007; Klijn and Koppenjan, 2016).

- Weaker sector losing out from a dominant sector: Dominance may be based on an actor's ability to control a policy frame (Dewulf et al., 2007) or the resources that enable policy implementation. Weaker actors may be dependent on a dominant actor to obtain resources and have a greater interest to interact (Scharpf, 1978). When no measures exist to ensure a level playing field, dominant actors can exploit weaker actors by making them accept intrinsically unattractive policy proposals, since refusal may complicate the interaction upon which weaker actors depend. Exploitation may however motivate weaker actors to alter their relationship by looking for alternative resources and venues that change the interaction into one of mutual dependence or independence (Ansell and Gash, 2007).
- Efforts to address cross-sector challenges: There are three main efforts to create alignment between sectors. The cross-sector misalignment types we identified above are extrapolated from the following efforts:
  - *Policy integration to align policy frames, objectives and instruments*: processes of policy integration involve all relevant agencies in the design of policies that minimise trade-offs and produce synergies to address a cross-cutting problem in an integrated way (Candel and Biesbroek, 2016). Integration creates alignment in the way a cross-cutting problem is perceived in a given policy context, and fosters coherence within the range of policy objectives and instruments that either drive a cross-cutting problem or aim to resolve it;
  - *Policy coordination to align implementation processes*: policy coordination occurs when formally independent, but practically interdependent actors with differing policy frames, objectives and instruments choose to negotiate with each other to minimise trade-offs and realise synergies in policy implementation (Peters, 2018; Stephenson, 2013), even though they do not share any responsibility for a problem in formal terms (Young, 2006).
  - *Collaborative governance to align policy actors*: collaborative governance comprises a constructive and inclusive process between public and non-state actors to discover common grounds and design co-produced solutions to fulfil a purpose which the actors could not accomplish alone (Emerson et al., 2011). The factors that increase the success of interaction include committed and impartial leadership (Ansell and Gash, 2007), clear incentives that drive collaborative action (Emerson et al., 2011) and the perception that actors are interdependent to solve a problem (Ansell and Gash, 2007; Scharpf, 1978).

It is important to understand what types of cross-sector misalignment prevail in a policy context before the most effective alignment efforts can be identified. We therefore mainly focus on the cross-sector challenges that emerge in forest and landscape restoration governance and touch upon several options to create cross-sector alignment in the discussion.

3. Methods

We conducted a document review, interviews and focus group discussions to understand the existing challenges in Ethiopian FLR governance (Wiegant et al., 2022). We used a subset of interviews to elaborate the cross-sector challenges that influence the ways in which national restoration targets are met locally. First, we explain our data collection and analysis process, and then provide a brief overview of FLR-related sectoral dynamics and the land use planning context in Ethiopia.

3.1. Data collection

To analyse challenges that emerge in Ethiopian forest and landscape restoration governance, we adopted an exploratory case study design focused on two landscapes: Mount Guna in Amhara region to study area enclosure and Kafa in the Southern Nations, Nationalities and People's (SNNP) region to study participatory forest management (Wiegant et al., 2022). We conducted FLR-related multilevel governance research at the 1) federal level, 2) regional level in the Amhara and SNNP regional states, 3) zone level in South Gondar and Kafa zones, and 4) district (*woreda*) level. To create a thick description (Geertz, 1973) of governance processes, we identified three districts in each landscape to study the implementation of area enclosure and participatory forest management. In the Mount Guna landscape we studied the Lay Gayint, Guna Begimder and Misrak Estie districts and in the Kafa landscape the Gimbo, Decha and Addiyo districts (Fig. 1).

First, to understand the national FLR context and inform our interview checklists, we assessed several policy documents (e.g. FDRE, 2011, 2016). Second, 56 semi-structured interviews and 14 focus group discussions were conducted between October and December 2019 by our research team, consisting of an Ethiopian and Dutch national. Fig. 2 gives an overview of the interviewed actors, their affiliation and position in the case study. We used a purposive sampling strategy to identify FLR actors. Our decision to interview persons was based on their perceived centrality in federal, regional, zone and district-level FLR policy processes and local FLR efforts. In addition, we convened separate focus group discussions with district-employed natural resource management and environmental experts (three participants per group) as well as with members of community-level natural resources user groups (six to nine participants per group).

Interview checklists included questions on implementation mechanisms of restoration policies and projects, local restoration practices, underlying motivations to restore, cross-level and cross-sector interaction, land use planning practices, and the links between restoration and rural livelihoods. The semi-structured nature of the checklist provided sufficient openness to discuss other FLR-related issues that arose and were considered important by interviewees.

In the results, we use organisational codes to link viewpoints to organisations rather than to individuals. The promise of anonymity was needed to facilitate a candid discussion of potentially sensitive governance issues. The codes that are used to support the evidence are listed in Fig. 2. Given existing sensitivities in Ethiopia, civil society organisations were further anonymised to ensure that viewpoints cannot be traced to a specific organisation. In case only one person of a specific organisation was interviewed, only the organisation's code is used while in cases where multiple persons of the same organisation were interviewed, a specific number is added to the code. Hence, GIZ7 refers to the seventh interview with an employee of the German Society for International Cooperation, and ICSO5.1 refers to the first interview with a staff member of an International Civil Society Organisation that received '5' as code. Fig. 2 shows all civil society organisations that were interviewed in alphabetical order.

3.2. Data analysis

Interviews were recorded and fully transcribed, to create a thick description (Geertz, 1973) of FLR governance dynamics and concerns that are perceived by actors who comprise Ethiopia's FLR community of practice. We used grounded theory-informed exploratory methods to inductively analyse the qualitative data (Charmaz, 1996) and complemented these methods with deductive sensitising concepts, such as scales, levels and sectors to analyse the data. The interview transcripts were coded using ATLAS.ti software.

We followed the path of analytic progression (Miles and Huberman, 1994) in which we first tried to understand the multilevel nature of FLR governance in Ethiopia, and then analysed its elements more closely to shape a narrative that indicates how various elements are connected. We condensed, clustered, sorted and linked the data (Miles and Huberman, 1994; Tesch, 1990) and followed different leads. In this way, we identified three cross-sector challenges. With our analysis, we aim to

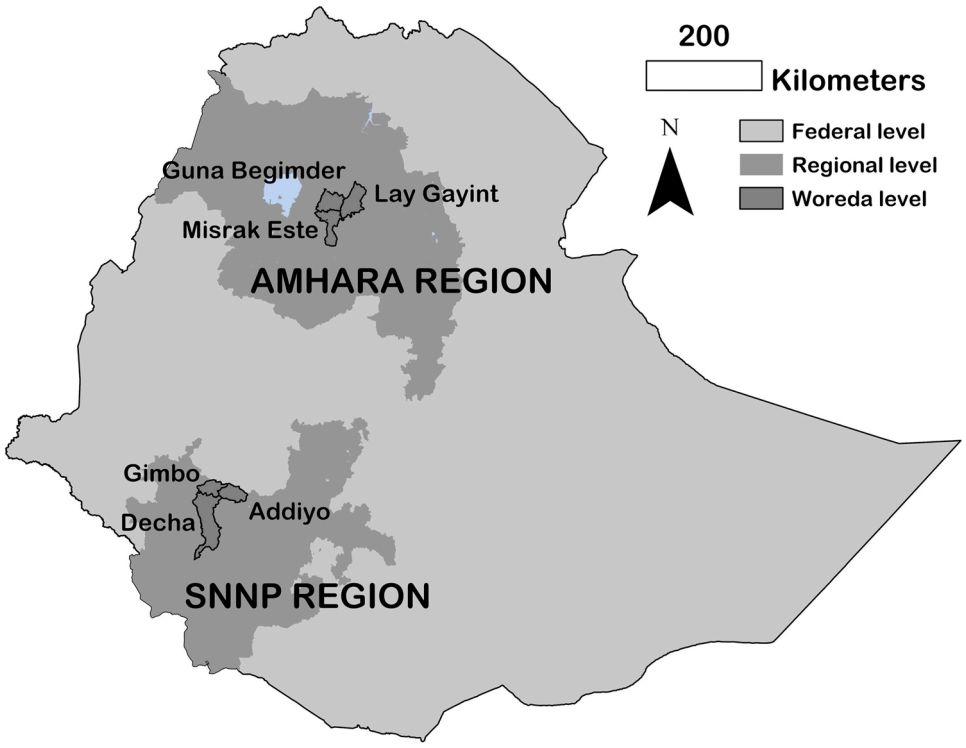


Fig. 1. Location of the studied districts (woredas) in Ethiopia.
Source: elaborated by the authors, with geographical data from WLRC.

contribute to theory building that is related to FLR-specific cross-sector challenges (Charmaz, 1996).

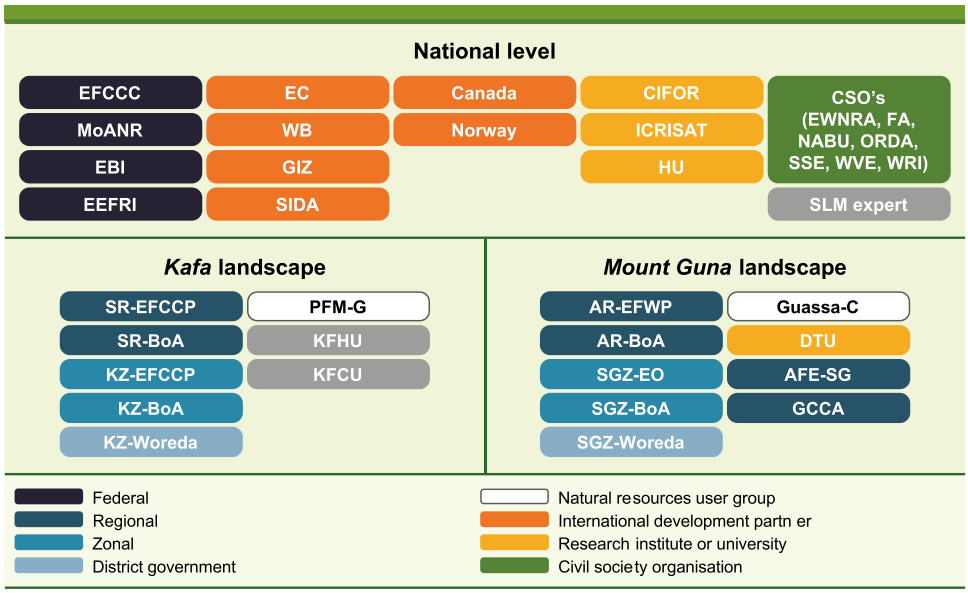
3.3. Sectoral dynamics and land use planning in Ethiopia

Over the past decades, widespread land use changes have occurred in Ethiopia as the result of cropland expansion (Ariti et al., 2019). Growing population and consumption demands, in combination with a lack of land use planning, have caused a steep decline in natural forests, woodlands and grasslands. Land degradation due to soil erosion is no longer a local problem, but threatens food production and water security, and negatively affects rural livelihoods in many parts of the country (Providoli et al., 2019). In recognition of the development challenges land degradation poses, the federal government committed itself to restore 15 million hectares of degraded and deforested land by 2030 (MEFCC, 2018a). Meanwhile, the federal government intends to reach middle-income status by 2025 and is convinced that "boosting agricultural productivity […] will be essential to reach this goal" (FDRE, 2011, p.7). The federal agencies chiefly dealing with the cross-cutting problem of land degradation are the Ministry of Agriculture (MoA) and the Environment, Forest and Climate Change Commission (EFCCC). Past MoA-led programmes that included restoration efforts were the Productive Safety Net Programme and Sustainable Land Management Programme that were both funded by the World Bank, GEF and other partners (MEFCC, 2018b). Current MoA-led programmes that include restoration components are the World Bank's Resilient Landscapes and Livelihoods, and Climate Action through Landscape Management programmes. Large EFCCC-led restoration programmes are the Norway-funded REDD Investment Plan and Sweden-funded National Forest Sector Development Programme (MEFCC, 2018b).

Ayana et al. (2013) have shown how the relationship between the forest and agriculture sectors has been one of competing policy frames that have existed throughout Ethiopia's modern history and which have had considerable effects on the ability of the forest sector to implement policies. During the 1970 s and 1980 s, the ruling socialist government established a strong and autonomous Forest and Wildlife Conservation and Development Authority, and large donor funds drove the development of production forests with fast-growing exotic tree species. After the 1984 drought and famine however, government attention gradually shifted from production forests to multi-functional forests that favoured indigenous tree species. This was the result of a problem frame that directly linked the famine to environmental degradation, and put more emphasis on the role of forests and woodlands to generate ecosystem functions such as erosion control and water regulation (Ayana et al., 2013). Most government and donor attention went to the construction of physical and biological soil and water conservation measures that were implemented by MoA to tackle short-term food shortages and enhance long-term crop productivity. Shifting priorities towards food security put an end to the autonomous forest policy field and institutional setup.

To accelerate economic growth, a process of agricultural intensification was initiated by the new government stepping to power in the early 1990 s, and a dominant agricultural frame increasingly overshadowed the forest sector and environmental conservation issues (Ayana et al., 2013). Although short-lived, the new government gave attention to natural resources conservation by establishing a Ministry of Natural Resources Development and Environmental Protection between 1992 and 1995. Nonetheless the 2001 Rural Development Policy and Strategy implied a further shift away from forest development, towards agricultural intensification. The policy only gave marginal attention to forestry and conceptualised it as an agroforestry intervention where trees are grown on agricultural land to improve soil conditions and boost crop production or to serve as livestock fodder. The forest department of the Ministry of Natural Resource Development and Environmental Protection was downgraded to a subsection within MoA (Ayana et al., 2013; MEFCC, 2018b). While the government claimed to create cross-sector alignment by integrating forest development and agricultural production, opponents argued that crop production was greatly overemphasized at the expense of forests and woodlands (Ayana et al., 2013).

The federal government launched the Climate Resilient Green



AFE-SG	Amhara Forest Enterprise, South Gonder branch
AR- BoA	Amhara Region Bureau of Agriculture
AR-EFWP	Amhara Region Environment, Forest and Wildlife Protection Authority
Canada	Canadian Embassy
CIFOR	Centre for International Forestry Research
CSO	Civil society organisation
DTU	Debre Tabor University
EBI	Ethiopian Biodiversity Institute
EC	European Commission
EEFRI	Ethiopian Environment and Forest Research Institute
EFCCC	Environment, Forest and Climate Change Commission
EWNRA	Ethio Wetlands and Natural Resources Association
FA	Farm Africa
GCCA	Guna Community Conservation Area offic
GIZ	German Society for International Cooperation
Guassa-C	Guassa Committee members from communities of the Estie, Guna Begimder and Lay Gayint districts of South Gonder Zone
HU	Hawassa University
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
ICSO	International civil society organisation
KZ- BoA	Kafa Zone Bureau of Agriculture
KZ-EFCCP	Kafa Zone Environment, Forest and Climate Change Protection Authority
KZ-Woreda	Environment and NRM experts of the Adiyo, Decha and Gimbo districts of Kafa Zone
KFCU	Kafa Forest Coffee Farmers Cooperative Union
KFHU	Kafa Forest Honey Producers Cooperative Union
LCSO	Local civil society organisation
MoANR	Ministry of Agriculture and Natural Resources
NABU	German Nature and Biodiversity Conservation Union
Norway	Norwegian Embassy
ORDA	Organisation for Rehabilitation and Development in Amhara
PFM-G	Participatory Forest Management Group members from communities of the Adiyo, Decha and Gimbo districts of Kafa Zone
SGZ-BoA	South Gonder Zone Bureau of Agriculture
SGZ-EO	South Gonder Zone Environment Offic
SGZ-Woreda	Environment and NRM experts of the Estie, Guna Begimder and Lay Gayint districts of South Gonder Zone
SIDA	Swedish International Development Cooperation Agency
SNNPR	Southern Nations, Nationalities and People's Region
SR- BoA	SNNP Region Bureau of Agriculture
SR-EFCCP	SNNP Region Environment, Forest and Climate Change Protection Authority
SSE	SOS Sahel Ethiopia
WB	World Bank
WRI	World Resources Institute
WVE	World Vision Ethiopia

Fig. 2. Overview of interviewed actors, their affiliation and position in the case study.

Economy strategy in 2011, to counter the critique that it was making few efforts to deter domestic deforestation while it was assuming an active role in international climate negotiations. Contrary to the marginal role of the forest sector in the 2001 Rural Development Policy and Strategy, forests made up one of four pillars in the 2011 strategy. A new Ministry of Environment and Forests was established in 2013 (Kassa et al., 2017), following the request of international development partners to have an agency through which REDD+ and climate finance could be channelled. It was expanded to become the Ministry of Environment, Forests and Climate Change (MEFCC) in 2015 and led the development of forest sector policies, strategies and guidelines (MEFCC, 2018b). As part of its soil and water conservation measures however, MoA kept on implementing agroforestry measures. In 2018, the forest sector lost its seat in the federal and regional cabinets when the MEFCC was downgraded to the Environment, Forest and Climate Change Commission (EFCCC).

Meanwhile, a weak institutional set-up has largely hampered progress towards establishing a land use planning policy that supports the sustainable management of land, forests and water. A harmonised, comprehensive and enforceable national land use policy that coordinates different sectors has not yet emerged, even though such a plan

and policy was already called for in both the 2005 Rural Land Administration and Land Use Proclamation (Gebrewold, 2016) and 2011 Climate Resilient Green Economy strategy. The latter strategy highlighted that changes in regulatory frameworks should focus on better coordination of land use planning (FDRE, 2011). Ariti et al. (2019) found that existing land use policies are fragmented across multiple agencies and not visible on the ground, due to a lack of financial and human resources, commitment and law enforcement, and an absent institutional set-up at lower administrative levels to guide land use planning (Ariti et al., 2019). As a result, land rezoning is not practiced with public participation to minimise trade-offs and find synergies between agriculture, forestry and nature conservation (Gebrewold, 2016). This is problematic, given the evidence that the land on which ecological functions are generated, such as forests, wetlands and wildlife reserves, has been diverted for other uses, primarily due to large-scale agricultural investments and small-scale agriculture encroachment (Gebrewold, 2016; Providoli et al., 2019).

4. Results

In this section, we elaborate the three cross-sector challenges we identified in Ethiopian forest and landscape restoration governance (Table 1). The challenges influence the ways in which the country's national target to restore 15 million hectares of degraded and deforested lands are met locally. We provide a background analysis of the challenges with evidence from the interviews and focus group discussions held at the federal, regional, zone and district level.

Table 1
Cross-sector challenges in Ethiopian forest and landscape restoration governance.

	Cross-sector challenge	Description	Type
CSC1	Food security dominates the restoration policy frame and budgetary allocation at the expense of forestry livelihoods and biodiversity benefits	A dominant policy frame that focuses on improving agricultural productivity has resulted in land allocation and budget allocation practices that make it difficult for the environmental agency to successfully achieve its restoration-oriented policy objectives (i.e. strengthening the economic importance of forestry livelihoods and safeguarding biodiversity benefits)	A) Misaligned policy frames
CSC2	Agricultural and environmental policy objectives and targets, and restoration mandates at the sub-national level are incoherent	Coherence is lacking between policy objectives that promote crop production and reforestation. In addition, there is unclarity about the mandate of agricultural and environment agencies to lead restoration efforts at different levels	B) Misaligned policy objectives
CSC3	A siloed land use planning instrument makes it difficult to negotiate trade-offs and find synergies between sectoral policy objectives	The only land use planning process that occurs in Ethiopia is implemented by MoA at the watershed level, following MoA guidelines. A land use planning process that integrates the policy objectives of multiple sectors has not yet come off the ground	C) Misaligned policy instruments

4.1. Food security dominates the restoration policy frame and budgetary allocation at the expense of forestry livelihoods and biodiversity benefits

A first cross-sector challenge emerges from the fact that food security and poverty alleviation have been the federal government's dominant policy frame for decades (MEFCC, 2018b). This dominant policy frame translated in the federal government's strong focus on crop production. Improving agricultural productivity has been a main reason for engaging in land restoration for both the federal government and development partners [WB1] and has greatly influenced the forms of restoration that have been promoted, i.e. soil and water conservation measures. As a result, most international development funding has flowed through MoA. Meanwhile, alternative restoration forms that are proposed by the environmental sector, such as forest management and forestry initiatives, have received less importance compared to those of the agricultural sector. A predominate focus on agricultural productivity is evident from the way that the federal government steers land and financial resources allocation. This subsequently influences the extent to which the forest management and forestry objectives and related implementation processes of the environment agency can be successful.

The strong focus on crop production in land allocation has reduced the options for the environmental sector to exploit the economic potential of forests, and create livelihoods in the forestry sector. While the most fertile land is allocated to crop production, land that is allocated for forestry and tree planting tends to be highly degraded and often unsuitable [EFCCC2]. The marginal nature of designated planting sites in terms of water availability, soil nutrients and soil depth greatly compromises the ability of the environmental agency to implement successful tree planting efforts and has resulted in tree seedlings showing poor survival rates [Norway]. "We know we are planting our seedlings in harsh and inhospitable sites, but we don't have a choice, because the productive land is usually used for agricultural purposes. So what is available for tree planting are the more degraded areas not suitable to practice agriculture" [EFCCC4]. In addition, adequate attention to facilitate tree growth is often lacking, although it is needed given the harsh conditions at planting sites.

Besides land allocation, the neglect of the forest sector is reflected in federal budget allocation, which is based on criteria that are established by Parliament and which include population and agricultural land size [ICSO5.1]. Regions with more forests tend to receive less budget from the federal government, as they have lower population density, a smaller agricultural land surface and less livestock [GIZ7]. Since forestry has not been a federal budget allocation criterion [SR-EFCC1], having more forest in a region has translated into less budget. However, forestry and forest management require budget to develop their economic potential and safeguard ecosystem functions. The economic potential of the forestry sector, and the extent to which forestry policy can contribute to poverty alleviation and economic growth has not been fully understood yet by federal policy-makers [GIZ4, CIFOR, HU].

How this is a missed opportunity is illustrated by rural communities in regions like Amhara where people have started planting trees without government support, albeit mainly plantations of eucalyptus and several charcoal-producing tree species. A reason is that the economic returns from wood and charcoal have become higher and more certain compared to the returns from crop cultivation [AR-BoA, SGZ, SR-EFCC1] due to erratic rainfall and expensive chemical fertilisers [LCSO2.2]. "People are now understanding that they can sometimes make a better livelihood with forestry than with agriculture, because some places are not suited for agriculture but those same lands can be productive for forestry" [GIZ1]. Forestry value chains could yield higher value timber products if forestry extension services would be provided that ensure the proper management of tree plantations and develop their economic potential. Instead, MoA's development agents discourage farmers to establish tree plantations on their agricultural land, given that this has repercussions for agricultural productivity [GIZ1]. "Farmers are changing agricultural croplands to forestry because they

simply calculate the economic return. […] Even where there is a restriction by the land use bureau, they are now changing their land into forestry. […] The problem emanates from the experts. Their thinking is simply a cereal kind of thinking" [AR-EFWP1].

Besides forestry value chains lagging behind, little attention is placed on biodiversity benefits in restoration efforts, including in the country's protected areas. As part of its soil and water conservation measures, MoA focuses on growing trees that produce crops, livestock fodder or construction materials. It is noted that professional understanding is lacking to distinguish monoculture tree plantations and restoration that also places attention on the biodiversity that remains in the afro-montane forests [LCSO2.2]. On average, tree nurseries grow 5–6 tree species with 85–90% of the seedlings being exotic species [EBI], which does not do justice to the genetic diversity that is found in Ethiopia's remaining natural forests. Only a few native species are grown, because they have longer growing periods in tree nurseries and lower survival rates resulting from a lack of knowledge on how to grow them. "Focus was on soil and water conservation and planting exotic multipurpose trees, like different species of Acacia. From my perspective, I do not consider that restoration because in that degraded area there were species that have already been lost and that should be placed back" [EBI].

4.2. Agricultural and environmental policy objectives and targets, and restoration mandates at the sub-national level are incoherent

A second cross-sector challenge deals with the incoherence of policy objectives between MoA and EFCCC. To meet the target of becoming a middle-income country by 2025 Ethiopia's Climate Resilient Green Economy strategy formulated growth targets for agricultural commodities like teff, wheat and maize, and higher export value targets for coffee and livestock (FDRE, 2011). To reach these, the agricultural sector's main strategies have been to increase productivity and expand the area under cultivation [GIZ1, ISCO5.3, CIFOR]. Meanwhile, the same Climate Resilient Green Economy strategy set the target to bring 4 million hectares under forest management and 3 million hectares under afforestation and reforestation to increase carbon sequestration in the forest sector (FDRE, 2011). These targets were later expanded to 15 million hectares. However, the targets to increase productivity and the area under cultivation that local MoA offices have had to meet show little coherence with existing forest management and reforestation targets [SIDA, AR-EFWP2]. "In terms of agriculture there is the goal to increase the coffee sector export a number of times. Where do you produce it? They go and clear the forest to achieve the coffee export objective. You talk about 15 million hectares to be restored while you are destroying natural resources for agriculture" [CIFOR].

MoA and EFCCC do not have mechanisms to coordinate policy objectives, and instead set priorities and make plans in isolation [EFCCC5, EBI]. This siloed way of working creates contradictions and tensions [GIZ1, GIZ4, CIFOR]. It is for example not possible to ensure that deforestation for agriculture does not take place in one area while reforestation is promoted in an adjacent area [EFCCC2, ICSO2]. "Within the same government we have different ideas. Agriculture says to expand agriculture and intensify so that you get more production, even by clearing forest. […] We as the forest sector want to maintain what we have and expand forest cover further. The policies are totally incompatible" [EFCCC5]. A particular challenge for the forests has been the federal government's tendency to consider forestland as being available for agricultural investments [HU], by both domestic and foreign actors. "They even invite investors by saying that we have ample lands. Where is that ample land? It is the forestland in Southwest Ethiopia! We do not have a land use plan so forestlands are resources to expand agriculture and investment" [SR-EFCC2].

In addition, it is also unclear which agency is mandated to implement restoration efforts at the sub-national level since the restoration roles of sub-national agencies that fall under MoA and EFCCC differ between regions. In South Gondar zone, raising tree seedlings in nurseries and tree planting are the mandate of the agriculture office, while the environmental protection department prepares forest use and management plans [SGZ]. Meanwhile in Kafa zone, both the agricultural office and environment office are responsible for planting tree seedlings, with some nurseries belonging to the agricultural office and others to the environment office [KZ-Woreda1]. With regard to land allocation for restoration purposes, in South Gondar zone it is the Bureau of Agriculture's land administration office that identifies areas for tree planting, while in Kafa zone the responsibility to delineate and protect forest areas lies with the environment office [SGZ, KZ-Woreda1]. "The Ministries of Agriculture, Water and Environment all say they are in charge and mandated by law. These three never talk to each other. It is very clear evidence of sectoral gaps and overlapping institutional mandates across sectors" [CIFOR].

The blurry restoration responsibilities of different sectors are attributed to a culture of resource competition [SIDA]. "There are some zones where the Bureau of Agriculture says that forestry is their task. […] For the sake of resources, they claim the seedling production extension we [the environment sector] have. It was under the Bureau of Agriculture and they do not want to give the seedling production station to us. Still not" [SR-EFCCP3]. When MoA or EFCCC obtain international development funds to implement restoration efforts they implement all aspects of their projects without involving other agencies, even where that would be adequate. It has also been noted that donor funded projects are not designed to stimulate agencies to collaborate, by providing common funds that need to be shared by multiple agencies [ICSO2]. "The sectors need to talk to each other, but in the end it just becomes a fight for resources […] We could have done better with the Sustainable Land Management [programme] and forced the sectors to work together, because you have the resources" [CIFOR].

4.3. A siloed land use planning instrument hampers negotiating trade-offs and finding synergy between sectoral policy objectives

The third cross-sector challenge relates to land use planning practices, which in their current set-up make it hard to balance sectoral policy objectives. Land use planning and rezoning efforts are not yet guided by a national framework. The only land use planning effort that is now implemented is a participatory land use planning process, which is managed by MoA's Land Administration and Use Directorate and which has received funding from the multi-donor Sustainable Land Management and Agricultural Growth programmes [EFCCC8]. Land use plans are created with community participation by MoA-employed development agents and follow MoA guidelines. The planning process is based on a capability classification that is given to individual plots of land, and a soil and water conservation measure prescription for specific land uses and slope classes to increase land productivity [KZ-BoA2, AR-EFWP1]. "The guideline only guides the development agents to identify the land uses and slope classes, and based on these they use the menu of different technologies for that land use and slope class" [ICRISAT]. The land use plans are made at the watershed level and are later aggregated at the district and zone level [MoA, EC2]. There are however concerns that the MoA-employed development agents lack the skills to identify what is needed in a specific watershed, causing land use plans to often lack specificity [KZ-BoA1, WB4]. For example, plans tend to not consider the configuration and characteristics of a wider landscape and ecosystem [ICRISAT]. "They don't see all the perspectives, such as ecological functions. Simply they look for the existing land use initially. Usually agriculture is prioritised" [AR-EFWP1].

Another concern relates to the enforcement of land use plans [EC1, WB4]. While development agents may give recommendations to communities not to cultivate steep slopes, water sources or wetlands, they are not paired with enforcement or compensation instruments, which causes recommended and actual land use not to align [ICSO3, ICSO5.1, KZ-BoA1]. "The land use planning exercise ends with formulating a plan

that does not deal with development planning to assure that the land use plan is implemented" [KZ-BoA1]. For example, the rule that agriculture is not allowed within 50 m of water bodies is often not respected in practice given that no one is responsible to check compliance [ICSO5.3]. In addition, government actors are hesitant to implement land use planning rules since these may affect agricultural land use patterns on which rural communities depend, and create conflict [EEFRI, GIZ2, CIFOR]. "You may say 'slopes above 30% inclination should be protected', but actually people are already using those areas for farming" [EEFRI].

While MoA's Land Administration and Use Directorate is responsible to develop land use plans at the watershed level and follows MoA guidelines to do so, EFCCC currently hosts the National Integrated Land Use Policy secretariat [EFCCC8]. A national integrated land use plan and policy process was started by the Prime Minister in the early 2010 s, after he declared this a top priority within Ethiopia's development agenda (Providoli et al., 2019). The policy was envisioned to be part of the third Growth and Transformation Plan (2020–2024) and the intention was that it would develop land use plans at the federal, regional, zonal and district levels to coordinate cross-sector land use trade-offs [WB4]. After being initially managed by the Prime Minister's office, MEFCC (and later EFCCC) was assigned to host the secretariat that leads the policy's design. In recent years however, the process has received little attention in terms of political support, human resources and finance [EFCCC8, WB4]. Therefore, the only land use planning process that currently takes place predominately works towards realising the agricultural sector's objectives rather than towards balancing policy objectives of a diversity of agencies.

5. Discussion

Our results provide evidence of three cross-sector challenges that influence the ways in which Ethiopia implements its national restoration target. The challenges we identified fall in different cross-sector challenge types.

First, misalignment exists between the policy frames of MoA and EFCCC (type A). MoA is the dominant actor in the FLR policy domain, causing restoration to be mainly interpreted through a narrow rural development lens (Mansourian, 2018). Through this lens, land degradation is a crop productivity problem that predominately falls within the agricultural sector's mandate and which can be solved by implementing physical and biological soil and water conservation measures. However, a focus on narrow restoration objectives has been criticised (Bond et al., 2019; Veldman et al., 2015) and there is a risk that a narrow focus on improving crop productivity overlooks the benefits that other forms of restoration like forestry and biodiversity conservation bring (Holl and Brancalion, 2020). Techel et al. (2019) also identified that the governance of FLR across sectors in Ethiopia is a major impediment to successful implementation. The alternative livelihood potential of forestry remains unobserved or misunderstood by policy-makers. As a result, Ethiopia now imports wood products at a high cost, despite the country having a diversity of agroecological zones that facilitate the growth of a wide variety of tree species. Second, the tree planting efforts that do occur are mostly geared towards growing crop, livestock fodder and construction material-producing tree species. Little to no attention is paid to conserving the tree biodiversity of Ethiopia's dwindling afro-montane forests. This is in contrast to restoration efforts in other parts of the world, such as Colombia (Murcia et al., 2016) and Ecuador (Wiegant et al., 2020), where biodiversity objectives supersede social ones.

Second, misalignment exists between the policy objectives of MoA and EFCCC (type B). The policy objectives that aim to increase agricultural productivity by expanding cultivated land contradict other objectives that are geared towards forest management and reforestation to realise national restoration targets. Also in Ghana, reforestation efforts are underway while agriculture continues to encroach remaining forest areas (Acheampong et al., 2019). As a way of reducing pressure on these forest areas while meeting food security objectives, agricultural intensification has been proposed. This however requires simultaneous improvement of forest protection laws, and hence alignment between the objectives of agricultural and environmental agencies. In Ethiopia, policy misalignment is also a result of the agricultural and environmental agencies not closely communicating with each other to constructively manage their differences, and hence has characteristics of a type E misalignment. While we have too little data to properly analyse this challenge, the lack of communication between the two agencies is likely the result of a turf war in which each agency claims the mandate for similar restoration activities, including tree nursery management.

Third, misalignment exists between MoA and EFCCC, given that the current land use planning instrument leads to an asymmetrical dependence of EFCCC on MoA (type C). MoA largely determines which forms of restoration are implemented locally, given that its development agents at the grassroots level are involve in guiding the land use planning process. EFCCC does not have this local presence. Although EFCCC attracted significant donor funding to develop the forestry sector and improve forest management in recent years, it depends on the MoA-led land use planning process to get access to the land it needs to achieve its restoration objectives. However, the MoA-led land use planning process allocates the most fertile land to agriculture and pushes forestry to degraded areas, thereby hampering EFCCC's objective to build strong forestry value chains that generate significant revenue. Some restoration efforts are implemented on degraded land through area enclosure and assisted natural regeneration but many of these efforts are unsustainable and characterised by poor tree seedling survival.

To better align restoration efforts by the agricultural and environmental policy domains, tailored policy processes are needed that can minimise trade-offs and reconcile competing land use claims between meeting immediate human needs, and maintaining the long-term ecological processes that generate ecosystem functions (Foley et al., 2005; Sayer et al., 2013). Actors have more incentives to interact with each other when there are no alternative venues to realise their policy objectives or when the use of such venues is made less attractive (Ansell and Gash, 2007). The current participatory land use planning process constitutes an alternative venue for MoA to regulate land use in such a way that it does not need to interact with other sectors to achieve its agricultural productivity objectives. However, this occurs at the expense of the environmental sector meeting its own objectives.

Governments can draw on various mechanisms to achieve policy alignment (Peters, 2018). Two examples are a dedicated agency at the centre of government that uses hierarchical authority to keep oversight over interactions between sector agencies, or a cabinet committee that brings together various ministers to shape collective policies (Peters, 2018; Scharpf, 1978). To attempt balancing interests and setting cross-sector priorities, it is first important that central government actors acknowledge the relevance of having a diversity of viewpoints. Then, the local institutional context will determine what mechanisms are most effective to promote policy alignment (Peters, 2018).

Klijn and Koppenjan (2006) emphasized that broad support for institutional change is crucial though, since the power relations between actors will determine the effectiveness of new institutional structures. Even when Ethiopia's land use planning process is opened up to other agencies and the resistance of agencies who have a vested interest in maintaining the status quo is overcome, new land use planning practices will have to be interpreted and internalised by agencies involved, causing unforeseen and unintended effects that actors must cope with (Klijn and Koppenjan, 2016).

6. Conclusion

While forest and landscape restoration governance is intended to be a multi-actor process through which various land uses are coordinated, in practice it turns out to be difficult to bring sectoral policy objectives

together. We found three cross-sector challenges that influence the way in which Ethiopia's federal government meets its national target of restoring 15 million hectares of degraded and deforested land by 2030. The results raise the need for integrated land use planning as an instrument to achieve a wider range of restoration benefits that also include forestry livelihoods and biodiversity conservation. A dedicated land use planning agency that draws on hierarchical authority could contribute to better balance sector interests in land allocation.

Ethiopia's federal government has however shown no strong drive to establish a level playing field to reconcile competing land use claims. An integrated land use plan and policy process was initiated by the Prime Minister's office in the early 2010 s. Being located at the centre of government and able to use its hierarchical authority, it was well-placed to create a dedicated government agency that could find ways to make different sectors coordinate and reconcile their land use claims. However, the process was taken out of this central government office and placed under EFCCC that currently does not even have a seat in the federal and regional cabinets. Hence, the required authority and resources now seem absent to lead an policy process that has to address systematic under-representation of actors, viewpoints or interests in land use planning and land allocation.

To better balance sector interests, giving due attention to the budget allocation of the federal government is also important. So far, there has been little understanding among federal policy-makers about the contribution that the forestry sector can make to the gross domestic product and poverty alleviation in general, causing limited funding to flow to the environmental agency. As a result, forest management and forestry extension services that could strengthen local forestry industries by promoting adequate tree plantation management and generating value addition within forestry value chains, remain limited. When actors at the centre of government, such as the Prime Minister's office, are not able or do not have political willingness to ensure adequate budget allocation for different restoration forms, an alternative could be provided by multilateral and bilateral partners, given the emphasis that is now placed on FLR by international development partners. In a bid to better balance various forms of restoration, common funding could be provided to multiple agencies, with the condition that they should create a negotiated policy frame, and align their objectives, instruments and implementation processes.

CRediT authorship contribution statement

Daniel Wiegant: Conceptualization, Methodology, Investigation, Writing – original draft, Funding acquisition. **Stephanie Mansourian**: Resources, Writing – review & editing. **Gete Zeleke Eshetu**: Resources, Writing – review & editing. **Art Dewulf**: Conceptualization, Methodology, Writing – review & editing, Funding acquisition.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data Availability

The data that has been used is confidential.

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