Post-1990 Natural Resource Management Policies and Laws in Ethiopia: A Scrutiny in the Lens of Integrated Landscape Management Approach

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Abstract

In Ethiopia, scholarly works examining the post-1990 renewable natural resource management policies and laws and their implementation in terms of integrated landscape management (ILM) are generally scarce. This paper aimed at filling that knowledge gap and contributing to the debates on natural resource governance in Ethiopia. The article is based on data and information drawn both from primary and secondary sources. Secondary data was collected from eight policy and strategy documents, sixty-three laws (proclamations and regulations) that were enacted by the Government of the Federal Democratic Republic of Ethiopia and those of the regional states and several related documents. Primary data were collected from five micro-watersheds and two large landscapes using landscape performance score card, in-depth interviews with policy advisors, and dialogue workshops and focus group discussions (FGDs) with landscape actors and stakeholders. The data were analysed using content analysis, by matching the principles of ILM to provisions of the existing legal frameworks. It was found that many of the polices and laws make provisions that support the practicing of ILM approaches. However, those policies and laws were neither adequately implemented nor adequately disseminated to actors at the grassroots. Some of the provisions are marred by contradictory and overlapping provisions; most of them contain incomplete articles that require complementary laws to make them practicable; some are more than two decades old and thus require revision; and some others were frequently changed before implementation. Where the legal frameworks provide for cross-sectoral and cross-institutional collaboration, they were rarely pursued. Drawing on the findings of the study, the researchers recommend an urgent need for a comprehensive natural resources management policy review and both vertical and horizontal harmonization of inter- and intra-sectoral policies and laws, taking ILM and sustainable land management into account. There is also apparent need to improve policy implementation by, for example, building implementers' capacity and joint implementation, monitoring and periodic policy review.

Keywords: Integrated landscape management; renewable natural resource management; post-1990 policies and laws; landscape actors; Ethiopia

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1.Introduction

In many developing countries, land degradation, poverty, and food insecurity are highly interlinked (Gerber *et al*., 2014, Zagt and Chavez-Tafur, 2014). It is often argued that unless these problems are adequately and timely addressed, their reinforced impacts would cause further land degradation, and exacerbate food insecurity and poverty. In the quest for sustainable development, national governments are making efforts to abate the excessive land degradation and to improve the wellbeing of humans by promulgating and implementing different policies and actions. Also international communities join those efforts in different ways, such as funding supports. Worthy to note as examples are efforts made by United Nations (UN) Agenda 21, UNEP, UN Millennium Development Goals (MDGs), UN Sustainable Development Goals (SDGs), and AU 2063 agenda. Nevertheless, land degradation and poverty are still pervasive. For instance, for the period from 1983 to 2003, Bai *et al* (2008) estimated that degraded lands across the globe accounted for 24% of the land; and that negatively affects the level of food produced and made available for consumption, thereby contributing to increasing food insecurity. For example, FAO, IFAD, UNICEF and WHO (2022) estimated that around 2.3 billion people suffered moderate to severe food insecurity in the year 2021. Climate change and current wars in many different parts of the world exacerbated the food insecurity situation, as the world is witnessing in Yemen and Somalia.

To redress the problem of land degradation and poverty concurrently, several approaches have been implemented through time (WOCAT, 2007). The holistic Integrated Landscape Management (ILM) is among those approaches. Researchers (for example, Gray *et al*, 2016; Hart, *et al*, 2015; Sunderland *et* al., 2015; Chavez-Tafur *et al*, 2014; Estrada-Carmona *et al.*, 2014; Scherr *et al*. 2013; Sayer *et al*, 2012; Milder *et al*, 2012; Scherr and McNeely, 2008) argue that with enabling institutions, ILM is capable of addressing multiple objectives simultaneously including conservation, agricultural production, livelihood improvement and socio-cultural objectives. Furthermore, it promotes integrated solutions that maximize synergies and minimize trade-offs between different land use objectives. Among the several definitions and conceptualisations[i] about ILM, Landscapes for People, Food and Nature (LPFN) initiatives formally defined ILM as:

> … long-term collaboration among different groups of land managers and stakeholders to achieve the multiple objectives required from the landscape. These typically include agricultural production, provision of ecosystem services (such as water flow regulation and quality,

> pollination, climate change mitigation and adaptation, cultural values); protection of biodiversity, landscape beauty, identity and recreation value; and local livelihoods, human health and well-being. Stakeholders seek to solve shared problems or capitalize on new opportunities that reduce trade-offs and strengthen synergies among different landscape objectives. Because landscapes are coupled socio-ecological systems, complexity and change are inherent properties that require management. (Scherr *et al.* 2013:2–3).

Several experiences across the globe show that ILM is an approach practically sound to achieve sustainable land management (García-Martín *et al.*, 2016; Hart *et al.*, 2015; Estrada-Carmona *et al.* 2014; Chavez-Tafur, 2014; Milder *et al.*, 2012; Scherr and McNeely, 2008). For example, Hart *et al.* (2015) assessed the ILM experiences of 191 landscapes in Latin America and Africa and they found that objectives of conservation (e.g., biodiversity conservation, natural resource conservation), management of the common pool resources (e.g., for biodiversity, water and soil), and improving livelihoods (such as food security, reducing conflict and reducing vulnerability) were more often reported objectives in those integrated landscape initiatives.

In assessing ILM experiences in Ethiopia, let us begin by posing a general question: "Has ILM been ever implemented in Ethiopia?" The answer to this question is both 'yes' and 'no'. It is known that Ethiopia is one of the oldest countries in the world where human settlement and plough agriculture were began between 400 BC and 1000 BC (McCann, 1995)[ii], at least more than 2000 BP (Hurni, 1985; Ciampalini *et al.*, 2008). Scholars argue that the country's long history of agriculture, coupled with unavoidable natural factors and spatially-uneven distribution of both human and livestock population, led the country's highland rain-fed agricultural areas to suffer from sever land degradation (e.g., Hurni *et al*., 2010; EHRS, 1986). There are exceptions, however, where pocket landscapes have enjoyed sustainable use of land resources since several centuries ago. Some experiences and practices of sustainable indigenous land management systems include: the scared forest grooves (landscapes) of Orthodox Church Monasteries; sacred forests of Sheka and others; terraced landscapes of Konso, Gamo and Irob people; agroforestry of Gedeo and Sidama people;

many *Inset* staple areas of South-Central Ethiopia; and conservation agriculture of many communities such as those in Ankober of Central Highlands of Ethiopia) (see Engdawork and Bork, 2014; Tesfaye *et al.*, 2006; Cardelú, 2013; Tadesse and Masresha, 2006; Reij and Waters-Bayer, 2001). However, government-led land rehabilitation measures in Ethiopia began in the late 1970s and they are still continuing with varying vigour. In those years, the government and development partners have followed different approaches under the provisions of different policies and laws about sustainable land management. Soil and water conservation through free labour mobilization starting from 1980s to the present is among the notable examples of those approaches with varying person-days per year. Other examples include the more than 600 micro watersheds developed by the project called Managing Environmental Resources to Enable Transitions to sustainable livelihoods (MERET) of the World Food Program (see Gete *et al*., 2014; TANGO *et al.* 2012); and the more than 200 major watersheds[iii] wherein NRM interventions are implemented in several phases of Sustainable Land Management Project of the government of Ethiopia, with financial support from consortium of development partners including the World Bank (GoE/SLMP, 2014; 2018) and many NGOs.

Even though such concerted efforts are underway, there are widely-held strong concerns regarding the sustainability of those land rehabilitation measures and their outputs. We mention here two of those concerns. The first is that despite the very huge financial and labour resources invested in the sector in the last five decades, until 2016, only 23% of the total area requiring such treatment in Ethiopia was covered by physical Soil and Water Conservation (SWC) measures (see WLRC, 2018).[iv] Secondly, although citizens in general and farmers in particular are aware of the detrimental effects of land degradation (see Zerihun, *et al.* 2016; Aklilu and Awdenegest and Holden 2007; and Graaff, 2006), their practice to combat degradation is below the level one would expect from well aware actors.

Under these and other related paradoxical contexts, land degradation continued to affect millions of hectares of land, reducing productive land area and productivity of land. These realities triggered us to explore one of the pertinent factors— policies and laws. Extending North's (1991)

conceptualisation of institutions (policies and laws) as "the rules of the game", we uphold that institutions play important roles in determining the sustainability of NRM works; but then we argue that the post-1990 NRM policies and laws issued in Ethiopia didn't play the invaluable roles they ought to have played. In Ethiopia, scholarly works examining the existing policies and laws through the lens of integrated land management are generally scarce, and the available ones are sketchy. This research was, therefore, initiated to analyse essences and grassroots level implementation of the post-1990 natural resource management policies and laws from ILM perspective.

The objectives of this paper are to: (a) examine and evaluate the contents of the post-1990 renewable natural resource management (RNRM) policies and laws in Ethiopia, whether or not they are comprehensive and foster inter sectoral collaboration; and (b) identify and analyse gaps of these policies and laws in guiding implementation of integrated landscape management at multiple levels, including at the grassroots' level. The questions investigated include: To what degree are principles, objectives and contents stipulated in RNRM and environment related policies and laws aligned with the integrated landscape management principles and goals? Which opportunities and constraints existed in the already enacted policies and laws to implement ILM? To what extent and effect, as perceived by landscape management actors in selected watershed, were the enacted policies and laws implemented on the ground?

2. Methods

2.1 Description of the Study Area

This study was conducted at two major scales. The first one is at the policy level in which the study analysed policies and laws enacted by the Federal and Regional governments from the principles and perspectives of ILM. The second one is at the spatial scale where relevant information and empirical data pertaining to the implementation of policies and laws were collected in five selected micro-watersheds and two larger landscapes.

From around 1000 watersheds reviewed for a larger project study, five currently functional micro watersheds with a known project and actors were selected as case study landscapes from different parts of the country[v]. In addition to the WLRC staffs, the Ethiopian Learning Landscapes Network actors were involved in the final selection of those five for this study. The selected micro watersheds, according to the performance reports by the respective implementer institutions, are exemplar watersheds in implementing integrated watershed management, and they are presumed suitable to examine implementation of ILM principles for scaling up, and/or to examine the bottlenecks for ILM implementation. Those watersheds are: Aba Gerima Learning Watershed, Bohele Community Watershed, Ergi Community Watershed, Humbo Assisted Forest Management Area, and Wichi Community Watershed. The larger landscapes are Bale Eco-region and Lake Tana sub-Bain (Annex 1). The latter two landscapes were selected to analyse the complexity of land management activities when large number of actors are involved and/or have stake (see Fig. 1 for the location of the case study areas).

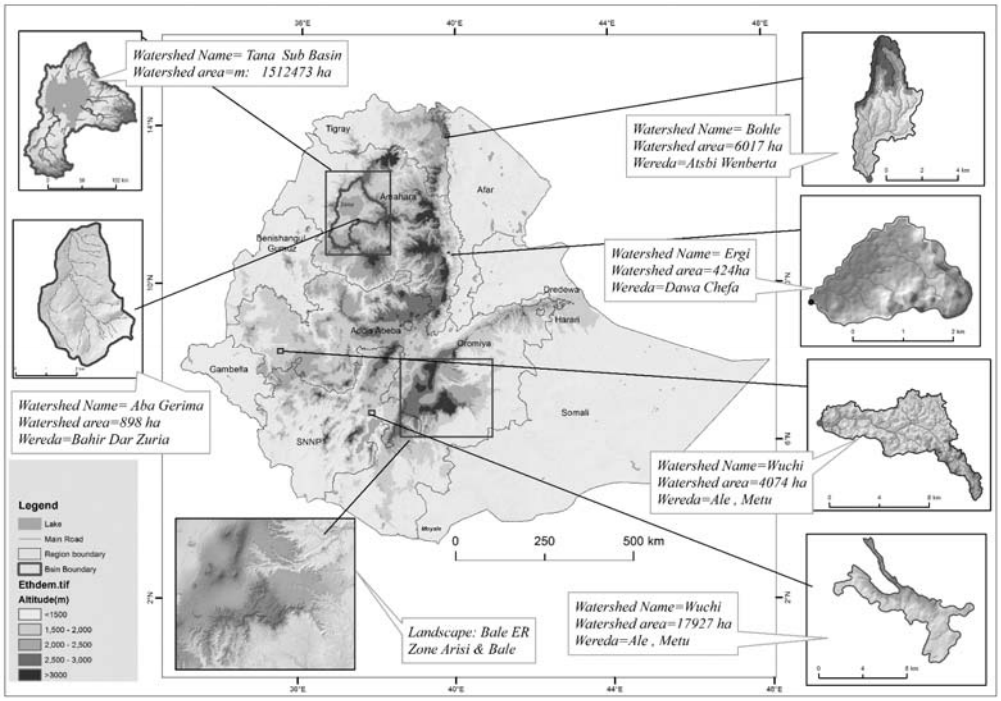


Fig 1. Location of the case study micro watersheds and larger landscapes

2.2 Conceptual Frameworks of the study

This study is informed by the philosophy of Sustainable Land Management and more specifically by concepts of Multi-level Multi-stakeholders' Approach and Integrated Landscape Management (ILM) (Hurni,1997, 2000; Sayer *et al*., 2012; Scherr *et al.*, 2013:3-4). Specifically, it is pinned on the major tenets of ILM, which are fostering cross-sectoral collaborative approaches, involvement of multiple stakeholders, and attaining multiple objectives (i.e., nature conservation, production, and livelihood improvement) at a landscape level. In this regard, policies and laws were analysed as to whether or not they give room for pragmatic and collaborative approaches for managing and using natural resources of a given landscape towards successful ILM.

The issue of policy integration for better environmental governance has been discussed and debated since many years now (Biermann *et al*, 2009), where the principle of integration of environmental policies and actions with economic and social development policies and actions is argued as a cornerstone for sustainable development. Hence, this integrative principle is taken as an additional conceptual framework informing this research.

Understandably, policy formulation is a very complex endeavour. It is argued that it is guided by several historical, economic, political and cultural factors (Piorr 2003; Keeley and Scoones, 2000). Starting from the policy agenda setting through its preparation and enactment, it passes through several procedures and steps. In this study, the focus is not to see the process, outcomes and impacts. Instead, it focuses on seeing whether or not the already enacted policies and laws are promoting integrated landscape management approach.

2.3. Methods of Data Collection and Analysis

The study followed an exploratory qualitative-dominant mixed methods design. Data regarding analysis of policies and laws was collected through the following methods:

(a) review and content analysis of seventy policies, laws and strategies enacted by the Federal Government and Regional States; (b) review and content analysis of community bylaws developed by the case study micro-

Watershed Users' Association. (c) in-depth interview with four policy advisers of the Ministry of Agriculture, the then Ministry of Environment, Forest and Climate Change; Ministry of Water, Irrigation and Energy; and Ethiopian Wildlife Conservation Organization[2]. The policies, laws, bylaws and in-depth interview data transcriptions were reviewed and analysed using concept matching and content analysis.

Data regarding the implementation status of enacted laws was gathered using: (a) actors' and stakeholders' perception survey in the case study micro-watersheds and two larger landscapes; (b) actors' and stakeholders' policy dialogue workshop at Federal and watershed levels; and (c) participant observation and transect walk along the watersheds and landscapes. Actors' and stakeholders' perceptions were assessed using a pre-tested standard perception questionnaire which we called 'Landscape Performance Analysis Score Card (LPSC).

Participants for actors'/stakeholders' dialogue workshop were: (a) experts drawn from pertinent offices of the District (*woredas*) where the case study micro-watersheds are found and watershed committee members of the respective micro watersheds; and (b) experts from regional and zonal offices as well as those from NGOs working in the given landscape and associations organized to manage/use certain resources in the respective landscapes (see Annex 2). In the perception study, dozens of performance-based statements about conservation, production, institution, livelihoods and social goals of ILM were presented to them, and they were requested to provide their opinion on a nine-level Likert scale (the levels being 1, 1.5, 2, 2.5, …, 5, where "5" is for "strong agreement" while '"1" is for "strong disagreement"). In this paper, we analysed actors'/stakeholders' perceptions of the performances of policies and institutions as implemented in the case study micro-watersheds and two larger landscapes. Regarding the dialogue workshop, we conducted one per each micro-watershed and landscapes. At national scale, we conducted a high-level policy dialogue workshop on May 12 - 13, 2015. Overall, nine dialogue workshops were conducted for two days each.

All the workshops at micro-watersheds and the two landscapes were facilitated by the first two authors of this paper. The procedure included: preparing inception paper on different aspects of natural resource management and particularly on the principles of ILM, and presenting it to audiences just to set the stage and to create a shared understanding among all actors about major concepts of natural resource management. Then, discussion points were raised on the status of the watershed including collaboration of sectors, integration of objectives in the management plan, participation types by the community and so on. Participants were encouraged to evaluate the state of their respective watersheds/landscapes. On the second day, questionnaires were filled. Summaries of their responses were immediately analysed using EXCEL and the preliminary results were presented to the same audience whose views were sought on whether or not the mean values of their evaluation explain their watershed. That prompted critical and open discussion to the extent that the results threw light to each member for their future joint actions.

3. Results and Discussion

3.1. Matching Analysis of Contents and Principles of Policies and Laws with ILM Principles

As mentioned in the methodology, matching analysis between the principles of ILM and principles of the post-1990 Ethiopian Environmental and Natural Resource Management policies and laws was performed. Results of the analysis for selected pertinent policies and laws (see Annex 3 for the list of policies and laws referred in this paper) are presented in this section.

3.1.1. The environment policy of Ethiopia

The Environment Policy of Ethiopia, which was enacted in 1997 is an umbrella policy comprising ten sectoral and cross-sectoral components that were planned to be implemented by concerned sectors. In its principles, it advocates for participation, empowerment, interdependence, social equity, accounting for socio-economic costs and benefits, sound marketing and other incentives while managing, conserving and developing natural resources. This policy stipulates for collaborative engagements of sectors in implementing the different components of the policy. Federal Proclamations

No. 299/2002 about Environmental Impact Assessment (EIA) and No. 300/2002 Environmental Pollution Control emanates from the Environmental Policy and enacted by the Federal Government following precautionary and polluters-pay principles. They address sustainable environmental management issues and pay attention to respect the environmental ethics, which is also the concern of ILM. Nevertheless, these laws are highly threatened by the Investment Laws that were subsequently enacted by the government, which lessen the role of environmental ethic concern of ILM. Implementation of EIA and pollution control laws faced irregularities. For example, the Environmental Protection Agency (EPA) delegates sector institutions to implement EIA; that has ensued conflict of interest between the major mandates entrusted to the sectors and their responsibility to act as regulatory organ at the same time. In this regard, Mellese and Solomon (2012: viii) argue, "the delegation of Environmental Impact Assessment (EIA) report reviewing powers of Environmental Protection Agencies (EPAs) to sectoral agencies has been found to contradict the basic principle of avoiding conflict of interests in assigning the roles and responsibilities of regulation of environmental protection on the one hand and resources development on the other".

The performance of regional states in implementing EIA was found very low. Dozens of implementation-related, capacity-related, awareness-related, institutional instability and commitment-related problems were identified, which hampered the former EPA's performance (Ruffeis *et al.*, 2010; Mellese and Mesfin, 2008). Our field work into the case study watersheds and the two larger landscapes confirmed that these problems cascaded down to the watershed scale. Furthermore, until today, investments and instruments that can promote environmental sustainability, such as payment for ecosystem services, which have received growing attention in many African, Latin American and Asian Countries (Hart *et al.*, 2015), are only discussed on several fora in Ethiopia, but yet full-fledged backup laws for their implementation are missing. Rather most of land rehabilitation and natural resource management activities are run through free labour community mobilization and through financial support of different organizations. PES still beg for attention.

3.1.2. Water Resources Policy, Strategy and Proclamation

Water Resources Policy, Proclamation and Strategy, which were enacted in 1999, 2000 and 2001 respectively (MoW, 2001; Proclamation No. 197/2000), mainly follow the Integrated Water Resource Management (IWRM) principles, which are also in line with ILM principles. The major principles that these laws stipulate include the following ones: Water is both an economic and social good; water resources should be managed using decentralization principle, should follow participatory approach for their management; integrated/comprehensive approach for water resource use (integrate protection and conservation with all forms of development activities); the need to integrate with all sectors horizontally and vertically in all levels of organization, the need to follow hydrologic unit to plan, and enhancing private participation in the management of water. In fact, it gives due regard for hydrologic unit as boundary than others which might, in some instances, be necessary to use other forms of boundaries such as eco-region and jurisdiction. Mersha *et al*. (2016) argue that unclear and overlapping institutional competencies as well as a low level of stakeholders' awareness on policy contents and specific mandates of implementing institutions have prevented the Basin Authority from fully exercising its role as the prime institute for basin level water management. As a result, coordination between stakeholders, a central element of the IWRM concept, is lacking. Insufficient management instruments and planning tools for the operational function of IWRM are also among the major hurdles in the process. (Ibid.)

3.1.3. Forest Policy and Proclamation

The current active forest policy of Ethiopia was enacted in 2007 and the existing forest law is Proc. No. 1065/2018, which repealed Proc. No.542/2007 and 94/1994. The principles of the current Proclamation include: participation and benefit-sharing among communities for sustainable forest management (for example, introduction of Participatory Forest Management (PFM)); cooperation and integration with other sectors (particularly agriculture and rural development); managing forest to reap multiple uses (production, climate change mitigation, biodiversity conservation, water conservation, and in general ecosystem services); and institutional incentives (private and state ownership). Regions, particularly

Oromia (Proclamation No. 72/2003; Proc. No. 147/2009; Regulation No. 122/2009) and SNNPR (Proc. No. 77/2004; revised Proclamation No. 147/2012) proclaim their regulations following the major tenets of the federal proclamation. Also Amhara, Benishangul-Gumuz, Tigray and Gambela regional states produced different guidelines for forest resource management and utilization and protection. The research team realised that also the present forest laws are built on the experience of previous laws enacted since the first modern written forest legislation of 1965 (Sisay 2008). The laws, in general, fit the principles of ILM. Their implementation, however, needs a long way where stable organizational structures at different levels and sound land use plan and policy are yet to be established. The important initiative called "Green Legacy Initiative" for mass tree planting, backed heavily [pioneered] by the Prime Minister, is a very promising country-wide campaign since 2019 (Fikreyesus *et al.* 2022). As a concern, authors of the present study realise that strong and robust organizational structure at different administrative tiers are required for sustainable forest development and well-defined land use plans where tree planting of different kinds (agroforestry, industrial planation, conservation forestry, and recreational afforestation,) should be implemented. Ethiopia's general economic development strategy known by the name "Climate Resilient Green Economy" (GoE, 2011) is also a strategy that strongly supports the forest sector development.

3.1.4. Wildlife Development, Conservation and Utilization

Formal wild life conservation and management in Ethiopia commenced back in 1909 with Emperor Menelik's regulation of Sport Hunting, particularly of elephants. Until 1990s, the major approach of wildlife conservation was that of fortress/wilderness approach'. Since recently, community-based conservation approaches are becoming popular (Debrework, 2017).

Pursuant to the policy and strategy of 2005, the Federal Government passed the Wildlife Development, Conservation and Utilization Proclamation in 2007 (No. 541/2007). The policy constituted four items (components); namely, 1) administration and establishment of protected areas, 2) utilization of wildlife resources, 3) participation of the community and

investors in the sector, and 4) conservation education and information network. Likewise, the proclamation expressed its aims as: (a) conserving, managing, developing and properly utilizing the wildlife resources; (b) creating conditions necessary for discharging government obligations assumed under treaties; and (c) promoting wildlife-based tourism and encouraging private investment in the sector. The major change from the previous attempts of wildlife conservation and management is to look the resource in the economic lenses, giving room for benefit-sharing among the stakeholders, including the surrounding residents and opening up the sector for private investors. The proclamation indicates that regions can promulgate their own laws. In this proclamation wildlife is narrowly defined in terms of the fauna but at the neglect of the flora biodiversity which is the key component in sustainable ILM.

3.1.5. Energy Policy and Proclamation

In Ethiopia, the energy sector is highly linked to renewable resources mainly to water, forest and other biomass resources such as plants for biofuel, crop residue and cow dung for household energy demand. Taking this into account, therefore, implementation of the Energy Policy that was issued in 1994 necessitates collaborative works with other sectors that are responsible for the development and management of renewable resources. Many of the policy directions support ILM; those are: enhancing and expanding development and utilization of hydrological resources for power generation, expanding and strengthening agro-forestry programs, introducing energy conservation and energy saving measures in all sectors; ensuring compatibility of energy resources development and utilization with ecologically and environmentally sound practices; ensuring community participation, especially women; encouraging participation of the private sector in developing the energy sector; and integrating development of rural energy with activities of agriculture, environment protection and rural development at large.

Review of the contents of the Energy Proclamation (Proc. No. of 810/2013) indicates that it is not as exhaustive as the Policy in terms of making provisions that contribute towards integrated landscape management. It does have very little aspects that are promised in the policy. Particularly,

hydropower generation has direct implications to the watershed resources and livelihoods of the people residing in the surroundings of the reservoirs. Implications could be looked at from Payment for Ecosystem Services (PES) or investment for watershed services perspectives for upland nature and water conservation, with the purposes of reservoir sedimentation risk reduction and rewarding the upland residents for their watershed activities. In this regard, the Energy Proclamation does not provide on public participation and issues of benefit-sharing and upland conservation of the watershed. Current problems observed in the siltation of major hydro-drams such as Koka, Tekeze, Gilgil Gibe I, Aba Samuel (review by Kebede, 2012), Gibe 1 (Negash and Mesfin, 2011) and Melka Wakena (own field visit, 2015, Fig 2) are highly linked to the upland watershed degradation.

Fig. 2. Example of rugged and degraded upper catchment of Melkawakena

Hydropower (*Sebsibe Washa* [Sebsibe cave] area). Here sediment is generated in large amount causing siltation and reducing the life span of the dam. On the other hand, revenue generated from hydropower production from the dam is contributing nothing for conservation of this area (as an ecosystem service). (Photo credit: Amare, March 2015)

3.1.6. Rural Land Use and Administration

The Federal Government and all Regional States promulgated rural land use and administration proclamations. Some of the regions enacted the proclamation immediately after the enactment of the governing federal law on the matter and some several years after the federal proclamation. Furthermore, several amendments and revisions were made on those laws. The Federal Government approved the first Rural Land Administration Proclamation (Proc. No 89/1997) in 1997, which was amended eight years after by Proclamation No. 456/2005. The regional proclamations were also amended several times by the respective regions. For example, Oromia: (repealed proclamations no. 56/2002, 70/2003 and 103/2005) and replaced them with Proc. No. 130/2007; Amhara had Proc. No. 133/2006 repealed and replaced Proc. No. 46/2000; SNNPR had Proc. No. 53/2003 latter repealed and replaced by Proc. No 110/2007; and Tigray National Regional State had proclamations 136/2000EC (2007); 97/1998 EC; 55/1994 EC; 23/1989 EC (1997) where each preceding proc. was repealed and replaced by a succeeding one and the last one by Proc. No 239/2006 EC. Other regional states amended their land use and administration proclamations less frequently.

We noted that all the currently active proclamations of the Regions and the Federal government have important provisions that promote ILM. Worthy to mention among those provisions are the following: the necessity of land use planning; application of watershed approach for land resource management; necessity of equitable water uses between upstream and downstream residents; buffering water bodies and gullies; implementation of wetland conservation (though the Amhara Region Proclamation didn't explicitly indicate this aspect); and harmonizing livestock with Soil and Water Conservation (SWC). In addition, these proclamations levied obligations to use the land appropriately, such as restrictions of cultivation of steep slopes, prohibition of free grazing on areas treated by physical and biological SWC conservation practices; and so on. The proclamations explicitly indicate different kinds of sanctions and fines on users violating these provisions. In order to implement these proclamations and regulations, the respective regional states established and empowered Bureaus of

Environmental Protection and Land Administration. In Amhara and Oromia Regional States, the structure reached the *kebele* grassroots level. However, its implementation is lagging behind where vivid pitfalls observed.

In the proclamations, there are also provisions which are very difficult to fully implemented, particularly, in the central and northern parts of the country, where large portion of the land is characterized by rugged terrain with slope angle of >30% and yet already cultivated it appears difficult to implement the provisions made in the law. In some places, the number of livestock is very large where, unless improved pasture land management is designated, it is also very difficult to achieve 'no-free grazing' pastureland management. The laws therefore, didn't explicitly put the legal frameworks in context to address the problems of such landscapes.

During Landscape Scoping meetings held in those selected case study landscapes and micro watersheds, participants disclosed that activities of EIA and implementation of many of the provisions in the aforementioned proclamations/regulations gave very little attention to ILM. For example, in the meeting held in Goba Town with actors of Bale Eco-region on March 27 and 28, 2015, several participants mentioned that though the Oromia Bureau of Land Use and Administration was established, it doesn't have the promised power to discharge the duties vested in it by the proclamation. Rather, the Investment Office of the Region and other sector institutions claimed to have practiced even violating the rules enacted in the proclamation (Bale Eco-Region Actors' workshop held on March 27 & 28, 2015). It seems investment is priority than other ecosystem services. The office itself is not logistically equipped in all regions compared to parallel sectors.

3.1.7. Nature of Grassroots Community Laws in the Case Study Watersheds/Landscapes

There is a belief that "bylaws" or "community protocols" would lead to sustainability if they are prepared well with full participation of the community members (UNEP and EDO NSW, 2013) and by ensuring appropriate mix of customary and formal laws in the bylaws of watershed management. That can be achieved by using knowledge generated through

disciplinary (science-based) and trans-disciplinary (participatory social learning) research approaches so as to accommodate a shift from land/natural resource management (which is basically based on formal laws enacted) to land/resource governance where laws are supportive to empower the land users and enhance ownership of issues.

Several studies in Ethiopia have shown that there are community bylaws for different kinds of resource management. Few examples include: bylaws for forest and exclosure management (Mastewal *et al*, 2013; Abrar and Inoue, 2012); bylaws for community irrigation users (Rahel, 2008; Tekalign *et al*, 2014; Mastewal, 2013); and recently bylaws of watershed users' associations/cooperatives (Amhara Regional Government, 2013). Bylaws for watershed management in Ethiopia are ought to be site-specific delegation of the community (local people) to manage resources in the watershed. They are particularly formulated and "enacted by the local community" after a given watershed is treated by physical and biological soil and water conservation activities. They are used as tools for a devolution of power from the region and woreda to the watershed level. The question addressed in this section is, are bylaws of watershed management developed following the interest of users and with full participation of community members? Are they comprehensive for IWM? Are they effectively implemented?

In our case study watersheds, we found that bylaws were prepared in different ways and at different depths. A closer analysis of these bylaws reveals several shortfalls. Firstly, the content of bylaws, which are meant to be used to promote integrated watershed management is not comprehensive enough to address different issues of conservation, production, livelihood improvement, etc. They are biased towards solving the problem that is presumed pertinent to the given area, for example, prohibiting free grazing in cultivated lands or areas treated by Soil and Water Conservation (SWC) structures (for example, watershed bylaws from Amhara Region, interview of Watershed Committee Members of Ergi, and others) or are biased towards inhibiting tree cutting in designated forest conservation areas (Humbo Assisted Forest Management Area), or towards outlawing free grazing in conserved cultivated lands and exclosures (e.g., Bohele

watershed). Secondly, the FGD with watershed committee members of the case study micro-watershed reveals that formal legal system and sectoral institutions didn't pursue their support as required to make bylaws operational (e.g., in Wichi the bylaw is not registered by the woreda legal department, it rather got protection by the customary law called *Idir*[vi]*;* the Woreda Land Use and Administration Departments, which have a regulatory function, are poorly equipped and integrated with other sectoral departments. From the case study watersheds, Humbo's watershed bylaws is an exception because the CDM requires recognition of the regional bureau of justice and hence registered. Third, there is serious capacity limitation in drafting the bylaws in a way to make them comprehensive as well as to contextualize to situations by taking important community norms and values, on the one hand and inclusion of some provisions that emanated from formal laws. For example, in Amhara Regional State, Department of Natural Resource Management in the Bureau of Agriculture prepared model bylaws and dispatched to watershed committees for customisation. However, in many cases, the Committees adopted the model bylaws without contextualizing it to their watershed's given social, cultural, economic and natural factors. Humbo is an exceptional case, where its bylaw was prepared in consultation with the beneficiary households and registered by the region's justice department. In fact, this bylaw, as others, has little link with the customary laws. In addition, the already existing bylaws did not adapt issues pertinent to the local situation from the formal laws adopted by legislatures of the regional states. In general, this irregularity makes the bylaws less acceptable by the community members, and hence appeared less effective. The different bylaws in the larger case study landscapes as well have different gaps and pitfalls.

3.2 Complementarities and Contradictions of Policies and Laws

Content analysis of policies and laws mentioned above and laws defining powers and duties of Federal and Regional Executives, revealed complementarities, overlaps and contradictions. The overlapping of mandates can be interpreted in two different ways. In many of the policies and laws, several overlapping mandates are provided. On the one hand, this situation can facilitate and necessitate cooperation, in which this case, there

must be a convener when ministries in the case of the Federal Government and Bureaus in the case of Regions have parallel status. As practice has shown, line ministries gave priority to accomplishing activities that fall exclusively under the jurisdiction of their own sectors. On another hand, if actors do not creatively consider the opportunity aspects provided by those clauses, the overlaps may be a source for duplications of efforts and might lead to unhealthy competitions among the different actors. Both situations, according to several sources and interviews, prevail at different intensities over different strategic resources (interview with policy advisors/makers, 2015).

The review of provisions of duties and responsibilities of Federal Ministries as given by Proc. No. 691/2010 and its amendments Proc. No. 803/2013, Proc. No. 1097/2018 and Proc. No. 1263/2021 revealed several overlaps between ministries. Furthermore, repeated restructuring of ministries and their mandates is evident almost every year. This frequent restructuring has undoubtedly created institutional instability to perform activities that need closer monitoring and long-term engagements. An example provided below demonstrates how wildlife conservation authority is affected by repeated restructuring.

Some of the laws make contradictory provisions between development and conservation, between protection and utilization, and between different uses (for example, land for agriculture versus for urban development; water for domestic use versus irrigation versus hydropower; ecosystem for biodiversity versus for livestock rearing and cultivation; etc.).

The content analysis also disclosed several concerns. Few examples are discussed below.

In the Water Resource Policy**,** Strategy and Proclamation, (a) all advocate for using basin/watershed boundary with little regard to other kinds of boundaries, such as administrative or jurisdiction landscape boundaries. The best example to show this gap is to assess situations in Bale Eco-region, where the entire mountainous area in all sides has similar characteristics and serves as water source and need to address the ecosystem management in all directions as one unit; and (b) the policy didn't recognize the environmental,

hydrologic, economic, and cultural value of wetlands; and (c) The mechanisms of sharing water resource between upstream and downstream users at different scales (from micro to larger watersheds) are not explicitly explained. The field study revealed that (e.g., in Bale Eco-region) experts are not confident whether or not millions of downstream water resource users understood that the water they are using is originated and flowing without flood hazard is due to the health of upstream ecosystem, leave alone to contribute for upstream conservation. The policy didn't stipulate anything, such as PES that downstream users contribute to the health (management) of upstream ecosystem for continued ecosystem services.

In the Forest Policy and Proclamation, many of the gaps identified in Proc. No. 542/2007 are resolved in the new Proc. No. 1065/2018. However, the concern that was observed previously, i.e., weak enforcement of the proclamation is still valid. The necessity for close collaboration with other institutions to implement provisions of the proclamation also appears very critical. Furthermore, concerns that were raised by several previous studies are still valid. For example, Mulugeta and Taddese (2010) and Melaku (2008) argue: (1) forests and woodlands are under de facto open access; (2) poor inter-sectoral collaboration in policy implementation; (3) poor capacity (budgetary, trained personnel, logistics); (4) PFM-related problems (leakage, poor capacity of FUA, emerging conflicts of different sort). Furthermore, Habtemariam *et al.* (2009) point out that "there are gaps in the coherence and compatibility of regulations at different levels. At Federal level, for example, proclamations governing natural forest and those for establishing and legally recognizing cooperatives are not complementary. The first puts emphasis on the need for conservation of natural forests through agreed upon management plans while the cooperative legislation encourages cooperative members to use their resources so as to maximize incomes.

Concerns that can be raised pertaining to wildlife policy, strategy and proclamation include: (i) the definition given to wildlife is only referring to wild animals, invertebrate or vertebrate, dead or alive, which overlook other biodiversity; (ii) policy fragmentation/ appropriateness of policy set-up, to imply that there are several Federal and Regional Institutions having closely

related mandates of natural resource management but housed in different Ministries in Federal Government or Bureaus in the Regions; (iii) until October 2018, EWCA was placed in the MoCT and as of 2021 re-structured under Ministry of Tourism. (iv) the wildlife conservation policy says "… participation of the community is irreplaceable" and it affirms that "it ensures community's benefit sharing". A good example of the second conceptualisation is the frequent restructuring of the Institute of Biodiversity and Natural Resource Directorate in the MoA and the Environment Protection and Forestry sectors. However, because the sector didn't generate enough revenue, the benefit accrued to the community is little. In fact, the intangible ecosystem services and benefits are far from the revenue they generated from tourism.

In the Energy Policy, several natural resource conservation and management related provisions are made. However, still the promises entered by the policy document can be questioned in terms of whether: there were cases where the then EEPCo (now spitted into Ethiopian Electric and Ethiopian Electric Utility) promoted and implemented agroforestry activities; whether it promoted collaboration with other institutions; the extent to which the rural energy sector is actively working and integrating its activities with watershed development; what alternative energy technologies are being promoted in urban areas to reduce the burden of fuelwood on forest for cooking and other services; and whether electric-generating dams support upstream conservation and livelihood improvement activities, as manifestation of upstream-downstream linkage. A critical observation on hydro-dams reveals that reservoirs are seriously affected by siltation generated from the cultivation and grazing on the river banks of the streams and buffer areas of the dams. A very good example is that of Gilgel Gibe I which is highly affected by siltation (Negash and Mesfin, 2011).

Land Administration and Use Proclamations of the Federal Government and all Regional States are big steps into sustainably managing the land resources. However, there are concerns that are related to contents of those proclamations as well as their implementations. To mention few: (a) There is no comprehensive land use policy at all levels; (b) some of the restrictions provided by the proclamations are not translated into practice (e.g., land use

plan is not prepared, prohibition of steep slope cultivation is not implemented except some attempts at micro watershed scales); (c) ways of equitable water sharing between upstream and downstream residents are not sufficiently indicated; (d) inter-sectoral collaboration in implementing the laws is weak (all case studies indicate this gap); (e) enforcement capacity of Environmental Protection and Land Administration Bureaus is weak; and (f) the focus is on land administration than environmental regulation. In addition, land tenure security still remained contentious.

3.3. Accessibility of Natural-Resource-Management-Related Policies and Laws to Users at the Grassroots

The review of the legal documents mentioned in the methods section reveals that all of them constitute principles advancing ILM, though many of them are sector based.[7] Pertaining to accessibility of them to the implementers at the grassroots, the content analysis of these legal documents revealed three pertinent problems. First, several provisions (articles) in the enacted proclamations need the issuance of subordinate/subsidiary laws (regulations or directives or guidelines) by the legislature or by the designated competent agencies. Few examples are the following:

- in the Land Administration and Use Proclamations of different regional states, subsidiary laws are required on specifying land to be conserved, land development and implementing land use plan, on communal land utilization, redistribution and allotment, minimum land size, and on conditions that the holder be deprived of the use right.
- the Forest Proclamation of 2007, which is replaced by Proclamation No. 1065/2018, requires subsidiary laws on issues of incentives to attract private investment on forest development, on the list of endangered indigenous tree species, directives on forest management plan, on incentives and rewards for informants and persons who seize illegal forest products.
- the Water Development Proclamation needs further supervision on water development works, on licensing and permit of water works, on water charges, on waste water discharge to the river system, and on protection of banks of water bodies.

- the Wildlife Conservation Proclamation requires provisions on hunting permit and hunting methods, and on benefit sharing.

Because of the absence of those subsidiary laws/clauses, there are considerable delays of implementing such laws in full.

The second problem is absence or limited dissemination of copies and awareness-creation trainings on those enacted laws to implementers at the grassroots for their day-to-day practical use. Thirdly, even though some laws reached the grassroots implementers, the FGD, KI and Landscape dialogue workshop results revealed gaps in the awareness about and interpretation of those laws. This is related to gap of knowledge about the enacted laws and lack of implementation capacity at the grassroots level. To the surprise of the authors, even professional judges indicated that they had little awareness on these specialized environmental and natural resource related laws (Discussion in the National Workshop, May 12, 2015; Merhatsidik, 2015[8]; Melesse and Solomon, 2012). All the three claims above were mentioned by grassroots implementers mainly at the *woreda*, *kebele* and watershed levels. Moreover, these problems are well understood and appreciated by several high-level policy makers and policy advisors (Interview with the four Ministry advisors, March 2015), which they also recommend to aggressively hold capacity development programs and activities.

3.4. Cross-sectoral and Inter-Institutional Working Linkages and Collaborations

Principles of policies and laws reviewed in the above sub-section advocate for cross-sectoral collaboration in conserving and managing different natural resources of the country. The question then is: to what extent was cross-sectoral collaboration practiced at different landscapes and watersheds. The sorts of formal working linkages established in the landscapes/watersheds across-sectors are also worth examining.

To uncover these questions, a rapid assessment was made using actors'/stakeholders' workshops in five micro watersheds and two larger landscapes (see Table 1 for description of the case study sites). The

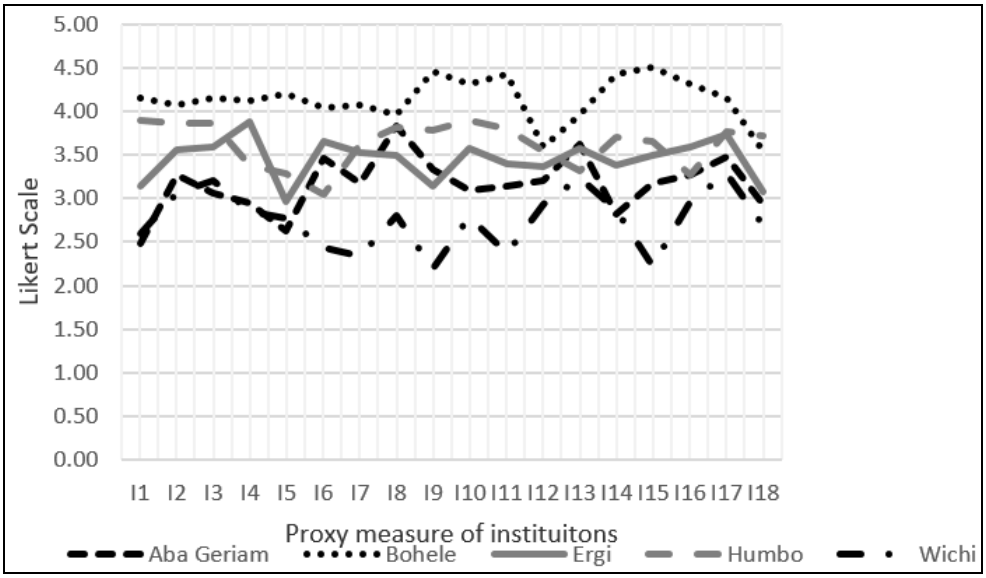
respective actors/stakeholders of the watersheds/landscapes convened and they were requested to assess the performance of their watersheds from ILM perspective using Landscape Performance Score Card (in addressing conservation, production, livelihood of communities, social and institutional goals). Eighteen standard policy and institution performance related questions (statements) were presented for actors of five smaller landscapes (micro watersheds) and eleven questions to the two larger landscapes (Bale Eco-region and Lake Tana Sub-Basin). For each statement, actors rated their perception using the Likert-Scale from the highest (5) to the lowest value (1) with a possible nine levels including mid values between consecutive scales. Workshop participants ranged from 20 - 50 in each landscape. The analysis below is based, however, on valid number of respondents (17 - 30). Statements in the questionnaire ask to what extent available institutional and policy frameworks support their work in advancing integrated landscape management/integrated watershed management. Responses vary! Three pertinent questions out of the total eighteen institutional and policy-related questions were raised for actors of the smaller watersheds regarding the implementation of cross-sectoral collaboration in planning, implementing and monitoring watershed activities (see Table 1). The results for Aba Gerima, Wichi and Ergi are below or close to the average while better performance was noted for Bohele and Humbo. Percentage distribution of respondents in the rating of indicators also showed similar trend. For example, 48.7% of the respondents in Aba Gerima micro-watershed rated the statement “existence of sectoral collaboration” below three on a 5-level Likert-scale. For the same statement, 20% of respondents in Erigi and 47% in Wichi replied that there is little integration among sectors. There are also some respondents who didn’t replay to the question, implying that they are not aware of such thing.

Table 1. Mean score of actors' perception of the existence of cross-sector collaboration and inter-institutional cooperation in small watersheds (measurement on Likert Scale; 1= very low and 5 = very high)

Description/statements	Micro-watersheds				
	Aba-Geriama (N=25)	**Bohele (N=13)**	**Ergi (N=17)**	**Humbo (N=17)**	**Wichi (N=19)**
Different sectors collaborate activities within the watershed/landscape to raise the wellbeing of the community	2.52	4.15	3.13	4.00	2.60
Local governance system & sectors in the Kebele and Woreda Administration collaborate to each other and with the community in the major activities of the watershed	2.88	4.42	3.38	4.00	2.22
There is harmonization of plan targets set by the watershed/landscape committee and Woreda/Zonal and regional offices	**	3.55	3.08	**	2.89

**Indicates that large number of respondents didn't reply to the question and hence ignored from the analysis. This, however, indicates that though all actors have unquestionable stake in the watershed and need to participate in all affairs of the watershed, in this case it appears that some actors even didn't know whether plans of different institutions and at different level are harmonized or not. It is indicative of the existence of very little collaboration. This view is corroborated by the results of the Focused Group Discussion we conducted in each watershed.

Source: Fieldwork (2015)



Legend (short version statements)

I1: Effective cross sectoral planning/monitoring/decision making takes place
I2: The planning process follows major planning cycles
I3: Community members actively participate in the planning process
I4: Community members actively participate in the implementation process
I5: Women have tangible roles in the planning and decision-making
I6: Community Watershed Team (CWT) or equivalent Committee active in coordinating activities
I7: Proper documentation of activities is available
I8: Communities set bylaws recognized by the justice system
I9: Communities follow and respect their bylaws
I10: Community Watershed Committee, Kebele and Woreda Administration enforce bylaws
I11: Functional self-help groups available
I12: There is periodic capacity building/training on aspects of watershed development & livelihood
I13: Ownership/use-right policies of resources accepted by the community
I14: Local governance system works in close collaboration to each other & with the community
I15: Equal access to natural resources by all members is attained
I16: Mechanisms to solve resource use conflict is in place
I17: Human and livestock population size is based on the carrying capacity
I18: Harmonized plan targets available among watershed committee, Kebele, Woreda and zonal offices

Fig 3. Stakeholders' perceived mean score on the evaluation of intuitional robustness to promote ILM (values 1 = weak; 5 = strong)

Source: Field work (2015)

At a watershed level, Watershed Committee (WC) is the major legal body mandated to undertake activities ranging from planning to implementation and evaluation. This Committee is composed of rural Development (extension) Agents (DAs) representing different sectors of the lowest formal administrative unit in Ethiopia called '*Kebele*", representatives from the nearby school, local police, local residents and the *kebele* administration. However, experiences show that this committee rather plans and spearheads (leads) activities mainly works related to soil and water conservation and other agricultural pursuits. Plans of education, health, infrastructure, income-generation activities, governance of different sorts, etc. are not well integrated during watershed planning. Hence, they remain sectoral. In fact, when cooperation of experts is needed from other sectors, they perform activities together in a campaign approach. The two are different. Furthermore, characterization of watershed using scientific methods and developing land use plans based either on capability or suitability analysis of the land are not performed because the planning capacity at this grassroots level is too meagre.

Absence or inadequacy of cross-sectoral and inter-institutional collaboration is considerably noted in larger landscapes compared to the situations in the small watersheds (compare Figs. 3 and 4). It is noted that in these landscapes very large number of actors are involved in different array of works and objectives. Our list indicates more than seventy actor institutions are actively engaged in activities related to natural resource management in each landscape. However, there seems to be little effort to collaborate their works towards one goal.

Lake Tana Sub-Basin Actors' dialogue revealed that currently cross-sectoral collaboration is not within reach and it seems to find at the other end of horizon, no matter how, everyone is arguing for it. The consequence is vividly observed whereby the sub-Basin, though endowed with huge biophysical resource and is rich in terms of socio-cultural and historical assets, resource degradation is severe and the livelihood of the people is close to abject poverty. This is the bare fact and scene that is apparent amidst huge efforts underway by the government and development partners. They asserted the following:

- Sectors achieve their own sectoral activities independently. There is no coordinated effort in planning, implementation and monitoring.
- Sometimes decision making on the development of big infrastructures/projects follow top-down approach. However, local initiatives, especially NRM decisions, are made in consultation with or through participation of the concerned community members.
- The frequent stakeholder workshops/dialogues indicated that ad hoc groups are available on specific collaborative actions but lack accountability and continuity. This resulted in inadequate commitment to implement agreed actions recommended during stakeholder platform workshops.
- Monitoring is conducted arbitrarily (not regularly) without prior planning.
- There is cross boundary conflict of interests between wetland and agriculture, irrigation and fishery, biodiversity conservation and development, etc.

The in-depth interview with representatives from the pertinent ministries explained the dissatisfaction over the collaboration of sectoral ministries. The same view was reflected during the national workshop (May12, 2015). The finding of this study corroborate with other several studies. For example, Melaku (2008) and Bane *et al.* (2008) argue that inter-sectoral collaborative and vertical as well as horizontal working linkages in Ethiopia are found very weak (see Fig. 4).

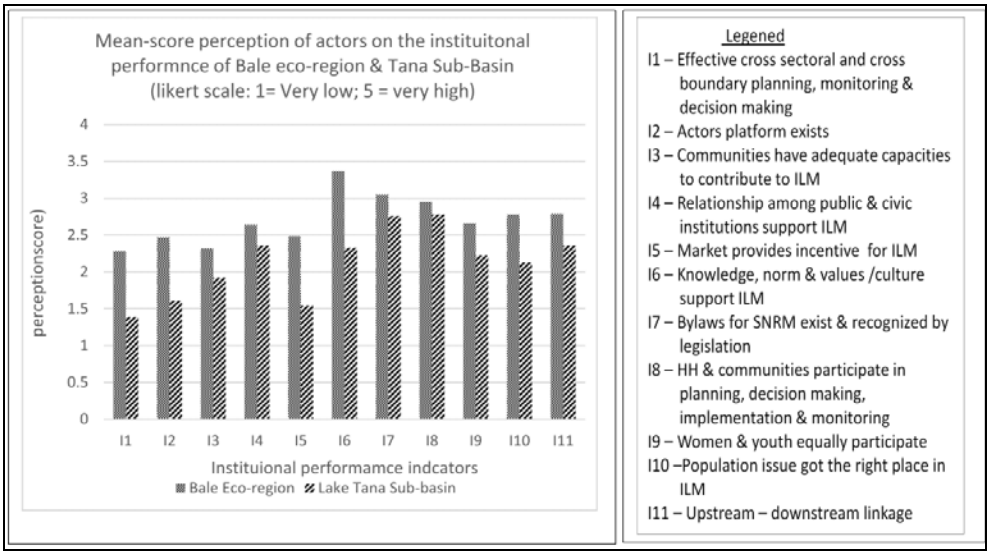


Fig. 4. Mean score of perception of actors' regarding the institutional performance in managing resources in the Bale Eco-region and Lake Tana Sub-Basin (rating in the 5-level Likert scale)

Source: Field work (2015)

4. Conclusions and Recommendations

The objectives of this paper were: (a) to examine whether and to what extent the post-1990 renewable natural resource management (RNRM) policies and laws of Ethiopia are comprehensive and foster inter sectoral collaboration, and (b) to analyse gaps of these policies and laws in the attempt to guide implementation of integrated landscape management at multiple levels. Secondary data was collected from eight policy and strategy documents, sixty-three laws (proclamation that were enacted by the Federal Government and the Regional States. In addition, primary data were collected from five micro watersheds and two larger landscapes using landscape performance score card; through in-depth interviews with senior policy advisors; and dialogue workshops and focus group discussions with landscape actors and stakeholders. The data were analysed using document analysis, content analysis, matching analyses between principles of ILM and principles of the existing legal frameworks. Based on the results of the study, we draw the following conclusions.

Large stock-pile of polices and laws are enacted by both Federal and Regional Governments that can and have the potential to support principles of integrated landscape management. However, there are huge gaps in disseminating these policies and laws in a convenient form to the actual implementers at the *Woreda*, *Kebele* and watershed levels. Awareness of experts on the enacted laws is limited to pursue integrated landscape management. The judiciary has also low awareness about natural resource related laws and hence the enforcement appeared very low. Redressing these limitations calls for: (1) ensuring that copies of each policy and law reach at all levels; (2) conducting periodic awareness creation and capacity building (training) on how policies and laws are linked to each other; and (3) establishment of special bench in the judiciary system for those NRM-related specialized laws.

Most policies and laws provide provisions for cross-sectoral and inter-institutional collaboration (for both vertical and horizontal linkages) to conserve natural resources and enhance livelihood of citizens at different levels. However, those promises are only found at rhetoric level with very low level of implementation at the ground. To boost collaboration and integration among sectors, therefore, establishment of landscape level platforms seems important where common issues could be discussed and would ensure that sectoral plans are complementary to each other.

There are some provisions in some policies and sectoral laws that appear paradoxical/contradictory to ILM. An example is the status given to wetlands in the Water Resource Policy, the little attention the Investment Law accorded to environmental pollution incurred by the issuance of investment license before making sound environment impacts assessments; and the mix of regulatory and development functions of institutions.

Certain laws contain contradictory provisions between development and conservation; between protection and utilization; between different uses (for example, land for agriculture vz. for urban development, water for domestic vs irrigation vs hydropower; ecosystem for biodiversity vs for livestock rearing and cultivation, etc.,). Hence, attention should be given that whenever new laws are passed, the previous laws as well as other related

laws, must be reviewed with active participation of all concerned institutions and sectors in the drafting of the new law. Above all Land Use Plan and Policy might solve the problem.

Some policies are about two decades old and they are therefore outdated given the rapid changes that the country and the world at large are experiencing. Contrary to this, there are laws that are very frequently revised, sometimes every two years and below, in which sometimes changes are happening before the already enacted laws were tried on the ground. Moreover, there are delays for promulgating subsidiary laws after the main proclamation was passed. Overlap of mandates is also one problem, where implementation becomes problematic. Frequent restructuring of institutions is another source of institutional limitations.

Monetizing the intangible benefits of ecosystem services and enhancing the income of communities through different mechanisms such as PES is found to be necessary.

Notes

[1] Several concepts and definitions flourished to depict aspects/approaches of sustainable land management. For example, the review by EcoAgriculure Partners (Scherr *et al.,* 2013), identified 80 English terminologies that are used at least by English speakers, all of which try to convey messages of multiple benefits provided by landscapes, such as Integrated Landscape Management, wise use of land resources, integrated watershed management, integrated natural resources management, ecological agriculture, sustainable agricultural landscape, etc. They try to combine current use and conservation for sustained ecosystem services.

[2] McCann (1995), explains that human action in highland Ethiopia has taken place since the second epoch of Ethiopia's prehistory (P35); he also quotes the result of archeological evidences from Yeha (North Ethiopia), suggesting that earliest dry farming was started from 700 B.C. to 400 B.C. (p40) and also mentioned that the first charcoal making on the highlands was started 2500 years BPC (p35).

[3] Major watersheds have an area more than 10,000 ha and they constitute several micro (community) watersheds, some of which have areas as small as 500 ha.

[4] In fact, official reports from regions and the national level aggregates cite larger figures than this. The cited figure is taken from major initiatives (MERET, SLMP, WLRC, from regional states watershed management programs and NGOs)

[5] This study was part of a larger study on landscape management entitled "Ethiopian Learning Landscapes and Actors Dialogue".

[6] *Idir* is traditional social insurance/mutual help institution particularly for facilitating funeral ceremonies.

[7] The hierarchy of policies laws according to implementable details, is as follows: constitution-policy-proclamation-regulation-directives-order/directives-guidelines.

[8] Legal Advisor to the President of Amhara National Regional State.

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Annex 1. description of the case study micro-watersheds and larger landscapes

Description	**Case study micro watersheds**					**Larger landscapes**	
	Aba-Gerima	**Bohele**	**Ergi**	**Humbo**	**Wichi**	**Bale eco-region***	**Tana Sub-Basin**
Location: Region/woreda	Amhara/ Bahir DarZuria	Tigrai/ Atsi Woemberta	Amhara/ DawaChefa	SNNPR/ Humbo	Oromia/ Mettu	Oromia Regional State	Amhara Regional State
Absolute (lat/long)	15°39´N / 39°21´E	13⁰49´N; 39⁰42´E	10°49´N / 39°50´E	06°44´N / 37°50´E	08°56´N / 35°40´E	≈ 5º22´ -8°08´ N / 38°41´-40°44´E	10°58´-12°47´N/ 36°45´-38°14´E
Area (ha)	600	1605	504	2728 (forest)	8146	Covers hundreds of square kms	15,096 km^2
Altitude (m asl)	1893-2120	2600-3000	1370-1780	900-1800	1680-1750	≈1000-3377	1788-3712
Agro-ecological belt	Hot temperate	Cool temperate	Hot temperate	Wet to dry semi-arid	Wet tropical	Wet semi-arid to afro-alpine)	(semi-arid to afro-alpine)
Population size in 2014 (no.)	1659	1505	936	25,385	13,086	Several millions	4.6 Million (2011)
Main trust of NRM activity up on establishment	Integrated Watershed Mgt& learning watershed	Integrated Watershed Management	Integrated Watershed Management	Forest Mgt. in Clean Development Mechanism framework	Integrated wetland & Natural Resource Management	National park, Forest ecosystem; Participatory Forest Management (PFM); other activities	Lake Tana biosphere reserve,Mt Guna Protected Area, Fishery, other activities
Major project financier & management	Water &Land Resource Centre &Bahir Dar Zuria Woreda	WFP through MERET & AWW	SLM Project and Dawa Chefa Woreda	WB/World Vision-Ethiopia & Australia; Humbo Woreda (CDM project)	Ethiopian Wetland &NR Mgt Association &Metu woreda	Several governmental & non-Governmental offices and actors	Several governmental & non-Governmental offices and actors
Project started	2012	2009	2012	2006	2005		

*The location of Bale eco-region considered for the sake of this study lies between Western-Arsi and Bale zonal administrations of the Oromia regional state. However, if we consider the entire upstream and downstream areas physically linked with streams originated from the summit of Bale Mountains, the area transcends beyond the Ethiopian borders. (Source: compiled from different sources)

Annex 2. Number of actors/stakeholders participated in the policy dialogue workshop and perception study in sampled micro watersheds and landscapes

No	Name of watershed or landscape	No. of actors and stakeholders	Home Institutions of actors those participated in the study
1	Aba Gerima	30	*Woreda* Department of Agriculture (agronomy section, livestock section, natural resource management section, cooperatives development section); *Woreda* Department of Water & Energy; *Woreda* Department of Rural Road Development; *Woreda* Department of Land Use Administration, Development Agents in the respective watersheds; *Woreda* Department of Health; *Woreda* Department of Education and *Woreda* Department for Women's Affairs
2	Bohele	13	
3	Ergi	17	
4	Humbo	17	
5	Wichi	19	
6	Bale eco-region	33	Regional and Zonal offices responsible for land administration, water resource development, agriculture, infrastructure, tourism and parks, NGOs, Resource User's Associations (irrigation agriculture, forest users, fishery); development association, biodiversity conservation, commercial farms, agricultural research institutes
7	Lake Tana Sub-basin	26	
	Total	**155**	

Annex 3: Policy and Strategy Documents and Laws cited in the Paper

Federal Policies and Strategies

1. Federal Democratic Republic of Ethiopia. Forest Policy of Ethiopia (2007)
2. Federal Democratic Government of Ethiopia, Wildlife Resources Development and Protection Policy and Strategy (2005)
3. Federal Democratic Government of Ethiopia, Climate Resilient Green Economic Strategy of Ethiopia (2011)
4. Federal Democratic Republic of Ethiopia, Water Sector Policy (1999)
5. Federal Democratic Republic of Ethiopia, Ethiopian Water Sector Strategy (2001)

6. Federal Democratic Republic of Ethiopia, Rural Development Policy and Strategy (2003)
7. Federal Democratic Republic of Ethiopia, Environmental Policy of Ethiopia (1997)
8. Federal Democratic Republic of Ethiopia, National Biodiversity Strategy and Action Plan (2005)

Federal and Regional States Proclamations and Regulations

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10. Afar Regional Sate Rural Land Use Administration and Policy (Amharic version, 2003 EC)
11. Amhara National Regional State Environmental Impact Assessment Proclamation No. 181/2011
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19. Federal Democratic Republic of Ethiopia, Electricity Proclamation No. 86/1997
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30. Federal Democratic Republic of Ethiopia, Ethiopian Water Resources Management Proclamation No., 197/2000

31. Federal Democratic Republic of Ethiopia, Forestry Conservation, Development and Utilization Proclamation No. 94/1994

32. Federal Democratic Government of Ethiopia, Ethiopian Water Resources Management Proclamation No. ,197/2000

33. Federal Democratic Republic of Ethiopia, Federal Democratic Republic of Ethiopia Rural Land Administration and Land Use Proclamation No, 456/2005

34. Federal Democratic Republic of Ethiopia, Definition of Powers and Duties of the Executive Organs of the Federal Democratic Republic of Ethiopia (Amendment) Proclamation No. 803/2013

35. Federal Democratic Republic of Ethiopia, Definition of Powers and Duties of the Executive Organs of the Federal Democratic Republic of Ethiopia Proclamation No. 916/2015

36. Federal Democratic Republic of Ethiopia, Development Conservation and Utilization of Wildlife Proclamation No. 541/2007

37. Federal Democratic Republic of Ethiopia, Forest Development, Conservation 'and Utilization Proclamation No.542/2007

38. Oromia Regional State; Forest Proclamation of Oromia, Proclamation No., 72/2003
39. Oromia Regional State; Oromia Forest and Wildlife Enterprise establishment Regulation No., 122/2009
40. Oromia Regional State; Proclamation to amend the Proclamation No. 56 /2002, 70/2003, 10312005 of Oromia Rural Land Use and Administration Proclamation No. 130 12007
41. Oromia Regional State; Oromia Bureau of Land and Environmental Protection Establishment Proclamation No. *14712009*
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