

# Towards a Land Administration Approach to Water Resource Management in Ethiopia with Particular Focus on Lake Tana Watershed

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## Abstract

Sound water resource management is critical for Ethiopia to protect water bodies and wetlands as well as tap these resources for better socio-economic development. However, water resource management has faced challenges in Ethiopia. This article examines whether water resources could be better managed through an innovative way of integrating their management and administration with land administration in line with the principle of Integrated Water Resource Management and sustainable land management. Doctrinal analysis of laws pertaining to water and land management is applied to this end. Primary data collection methods were also applied through questionnaire survey, in-depth interview, and focus group discussion. The article discusses the general role of sustainable water resource management in the protection of the country's water bodies and examines the critical gaps under the present fragmented natural resource management system. A conceptual framework is developed to highlight the relationship between the principle of sustainable water resource management and land management. The existing natural resource management in Ethiopia is unsustainable and hence it is argued that a land administration approach can enhance water resource management in an integrated, holistic, and sustainable fashion by focusing on Lake Tana Watershed.

## Key terms:

Water resource management · Land management · Legislation · Lake Tana Watershed · Integrated natural resource management · Ethiopia

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**1. Introduction**

Efficient use of its natural resources in general and water resources in particular is critical for Ethiopia. Despite the limited direct human influences on Lake Tana, common pool resources including fish, grazing lands, wetlands and surrounding catchment land have already been seriously damaged by human activities.<sup>1</sup> Lake Tana and its surrounding environs are of immense

**Frequently used Acronyms**

ABA	Abbay Basin Administration Office
ABHCAR	Abbay Basin High Council and Authority Establishment Regulation
ARLAUP	ANRS Revised Rural Land Administration and Use Determination Proclamation
AUWRCP	ANRS Administration and Use of Watersheds, Rehabilitated and Being Rehabilitated by Community Participation Proclamation
BoA	ANRS Bureau of Agriculture
BoRLAU	ANRS Rural Land Administration and Use Bureau
BoWE	ANRS Bureau of Water and Energy Resources
EWRMP	Ethiopian Water Resources Management Proclamation
FGD	Focus Group Discussion
IBMP	Integrated Basin Master Plan
FRLAUP	FDRE Rural Land Administration and Land Use Proclamation
ITSBP	Integrated Tana Sub-Basin Plan
IWRM	Integrated Water Resource Management
LTW	Lake Tana Watershed
MoWE	Ministry of Water and Energy

ecological value and provide the means of livelihoods for millions of people. Aynalem *et al.* account for the economic importance of the Lake Tana Watershed (LTW) for the adjacent communities, livestock and wildlife based on different surveys carried out in the area.<sup>2</sup> Wetlands in the LTW are used for crop farming, medicine, livestock grazing, water supply, fishing, and fuel wood. The country's water resources such as Lake Tana and its watershed need improved management to sustain the resources and the multifaceted benefits they provide.

The objective of this article is to initiate discussion regarding the link between land management and water resource management in line with the principle of Integrated Water Resource Management ('IWRM') and sustainable land management. As we shall see later IWRM denotes a process that promotes the coordinated development and management of water and land resources based on the efficient role of institutions. Specifically, this article (i) explores the problems regarding management of LTW, (ii) examines the factors behind poor coordination between the sciences of land management and water resource management in the proper protection of water resources in Ethiopia, and (iii) can encourage more research to further explore the manner in which land management and water resource management can be better integrated for sustainable natural resource management.

In addition to legal analysis, field research has been conducted which includes consultation and discussion with major project stakeholders, government offices, and other respondents on the means of enhancing the sustainable and integrated management of LTW. The field research methods included questionnaire survey, in-depth interviews, and Focus Group Discussion (FGD). Questionnaires have reached 80 individuals in 27 institutions. The average number of individuals which were selected purposively in each institution for the questionnaire was about 3 persons. The

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RBHCAP	River Basin Councils and Authorities Proclamation
RRRs	Rights, restrictions and responsibilities
WRMP	Ethiopian Water Resources Management Proclamation
WRMR	Water Resource Management Regulation
WUA	Water User Association

<sup>1</sup> J. Vijverberg, *et al.* (2009). "Lake Tana: Source of the Blue Nile", in *The Nile*, 163–192, pp.186–188. DOI:10.1007/978-1-4020-9726-3\_9

<sup>2</sup> Shimelis, *et al.* (2017), "Wetlands of the Lake Tana Watershed". in Stave *et al.*, eds, *Social and Ecological System Dynamics Characteristics, Trends, and Integration in the Lake Tana Basin, Ethiopia*, p. 246; Mengistu, A.A. et al. (2017), "The Fish and the Fisheries of Lake Tana", in Stave *et al.*, eds, *Social and Ecological System Dynamics Characteristics, Trends, and Integration in the Lake Tana Basin, Ethiopia*, p.160.

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data obtained<sup>3</sup> was presented by a simple statistical tool using tables and percentages. The research involved a purposeful selection of multiple cases to show different perspectives on the issue.<sup>4</sup> Based on non-probability purposive sampling,<sup>5</sup> interviewees included staff working in different institutions at federal and regional level with regard to the management, administration, and use of LTW and other natural resources.

The section following the introduction presents some concepts and facts about watershed in general and LTW in particular by focusing on the problems relating to Lake Tana and its watershed and their implication for sound water resource management. Section 3 presents a conceptual framework for an integrated natural resource (land and water) management in Ethiopia. The fourth section critically evaluates the relevant legislation with regard to sound natural resource management. Sections 5, 6 and 7 deal with some major indicators of gaps in natural resource management in Ethiopia in the sense of the land administration approach to water resource management, a system of integrated and sustainable natural resource management followed by the last section that highlights conclusions and the way forward.

## 2. Overview of Lake Tana Watershed

### 2.1 The meaning of watershed

Water is the key component of watershed. Watershed is defined as any surface area from which runoff resulting from rainfall is collected and drained through a common confluence point.<sup>6</sup> The term is synonymous with a drainage basin or catchment area. Watershed could be defined as an area from which the runoff drains through a particular point in the drainage system. The main characteristic of lake eco-system landscapes is that they contain resource systems with multiple-use value which are used by multiple actors. As typical examples of common pool resource, these resources are usually characterized

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<sup>3</sup> The data were collected in 2020. But the majority of facts remain the same essentially. When few changes were observed they are made up to date before the final submission of this paper.

<sup>4</sup> Creswell (2005). *Designing and Conducting mixed method*, 3rd Edition, Thousand Oaks, Calif: Sage Publication.

<sup>5</sup> A. S. Singh & M. B. Masuku (2014). "Sampling Techniques & Determination of Sample Size in Applied Statistics Research", *An Overview on International Journal of Economics, Commerce and Management*, United Kingdom, Department of AEM, Faculty of Agriculture, University of Swaziland, Vol. 2, Issue No 11.

<sup>6</sup> MoARD (2005). *Community-based Participatory Watershed Development: A Guideline*.

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by multiple use values, such as consumptive, recreational, environmental and spiritual and multiple users with different powers and interests.<sup>7</sup>

When resource units are highly valued and many stakeholders benefit from harvesting them for consumption, exchange, or as a factor in a production process, the harvests made by one individual or actor are likely to create negative externalities for others.<sup>8</sup> However, issues of accommodating multiple uses and multiple users are especially critical in the case of the commons including watersheds. In such scenario, collective action by a group of major stakeholders becomes increasingly complicated. Different resource uses will be regulated and governed through different decision-making arrangements by different user groups.

## 2.2 Lake Tana and the problems facing it

LTW is located in Amhara Region in the North West part of Ethiopian highlands and it extends between 10.95°N to 12.78°N latitude and from 36.89°E to 38.25°E longitude. LTW has an area of 15,100 km<sup>2</sup> of which the Lake Tana accounts 3,078 km<sup>2</sup> and it is the second largest sub-basin of the Abbay (Blue Nile) Basin. Lake Tana is the largest lake in Ethiopia which covers 20% of the surface area of the Watershed. It is the main source of the Blue Nile River. It is approximately 84 kms long, 66 kms wide and it is located in the country's north-west highlands (Latitude 12° 0' North, Longitude 37° 15' East).

The major types of land cover in the LTW include farmland, water bodies, wetlands, forest, woodland, shrubs, rangeland, grassland and settlements. In ANRS, the wetlands cover an estimated area of 400,000 to 600,000 hectares. The total wetland area in LTW in particular is estimated to be 1.6% to 2.14% of the watershed area. Wetlands in LTW and its associated rivers hold about 28 species of fishes and over 300 species of birds which use it as their habitat including those globally threatened and endangered species. The greatest use

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<sup>7</sup> N. A. Steins & V. M. Edwards (1999), "Platforms for collective action in multiple use common-pool resources", *Agriculture and Human Values*, 16, 242; B. M. Swallow *et al* (1997), "Multiple functions of Common property regimes", *EPTD workshop summary paper* no. 5, International Association for the Study of Common Property 6 Annual Conference, June 7, 1997, pp.1-5; M. Leach *et al* (1999). "Environmental Entitlements: Dynamics and Institutions in Community-Based Natural Resource Management", *World Development*, 27, 225; J.M. Baland, & JP Platteau (1996), *Halting Degradation of Natural Resources. Is there a Role for Rural Communities?* Clarendon Press. Oxford.

<sup>8</sup> E. Ostrom (2008). "Institutions and the Environment", *Economic Affairs*, Wiley Blackwell, vol. 28(3).

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of wetlands is to provide food for livestock. For example, at the Yiganda wetland about 15,000 of livestock are dependent on the wetland pasture particularly during the dry season.<sup>9</sup>

Although LTW has diverse social and economic importance to the country and the watershed population, several biophysical and social problems are associated with it. These problems are caused by the various gaps in the legislative, policy and organizational system of LTW. The problems mainly arise from imbalances of development interventions and environmental and natural resource protection activities.<sup>10</sup> The problems frequently identified include soil erosion, deforestation, hydrological interventions, wetland farming, habitat destruction, improper solid and liquid waste management, overgrazing, lack of awareness, stakeholders' conflict and lack of decision support tool and inadequate organized data base system.<sup>11</sup> Respondents were asked to express their views regarding the major causes of these problems that have negative impact on LTW. The results are presented in Table 1 below.

**Table 1: Major causes of problems affecting LTW**

No	Factor	Yes or No (n=60)	% Yes
1	Non-existence of lead institution or problems with existing institution/s	Yes: 53 No:7	88.3
2	Lack of clear mandate and confusion in exercising authority by federal and regional institutions	Yes:54 No:5	90
3	Lack of detailed legislation on the water rights, restrictions, and responsibilities	Yes:48 No:9	80
4	Lack of awareness on the part of society about legislation and the need to conserve LTW	Yes:57 No:3	95

Source: Author, 2020

All problems listed in Table 1 above contribute to the problems affecting LTW. Asked to add other possible reasons, respondents mentioned two outstanding problems: institution-related and law implementation problems (12 respondents for each). With regard to the institution-related problems, they mentioned that the Federal Government does not discharge its duties

<sup>9</sup> Shimelis, *supra* note 2, p.249.

<sup>10</sup> Berhanu Teshale *et al.* (2002). "Development initiatives and challenges for sustainable resource management and livelihood in the Lake Tana Region of Northern Ethiopia", *International Journal of Technology Management and Sustainable Development* 1(2), 111-124

<sup>11</sup> See also Goraw Goshu and Shimelis Aynalem (2017)), "Problem Overview of the Lake Tana Basi", in Stave *et al.*, eds, (2017), *Social and Ecological System Dynamics Characteristics, Trends, and Integration in the Lake Tana Basin, Ethiopia*, pp.15–21.

which, according to them, results in regions not discharging their mandate. They also mentioned that the Amhara National Regional State (ANRS) and Federal Government should give due attention to LTW and that such focus should not be aimed at short-term political gain.

There is also a grave problem of institutions not working in a coordinated manner and have gaps in the realms of expertise, accountability and pushing responsibilities against each other. In addition to institution-related and law implementation problems, they added few other problems with lesser negative impact such as lack of justice system activity on violations of laws on protection of LTW and the community's attitudinal problems and practices that adversely affect the watershed's ecosystem.

### **3. Conceptual Framework for Integrated Land and Water Resource Management**

#### **3.1 Principles of Sound Water Resource Management**

Some of the major characteristics of water from the perspective of management are summarized in the Dublin Statement on Water and Sustainable Development also referred to as the *Dublin Principles*. It resulted from the meeting of experts on water related problems that took place on 31 January 1992 at the International Conference on Water and the Environment. The *Dublin Principles* incorporate four principles which still enjoy wide recognition and have played a crucial role in the production and harmonization of water legislation and in the water sector reform processes of many countries.<sup>12</sup>

The *first* principle underlines that water is a finite and vulnerable resource, essential to sustain life, development and the environment and should be managed in an integrated way. This principle calls for a holistic physical approach to water (respect for the hydrological boundaries), a recognition that resource yields have limits, a need to constrain human activities, to manage upstream-downstream user relations and a holistic institutional approach.

The *second* principle proposes that water development and management should be based on a participatory approach, involving users, planners and policy makers at all levels. This principle calls for a participatory approach which includes a recognition that participation is more than mere consultation, that in order to promote participation, decisions have to be taken at the lowest

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<sup>12</sup> F. Jaspers (2011). *Legal Arrangements for Water Governance Water and Environmental Resources Management Tools* (Lecture Notes), p.17.

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appropriate level and that participatory mechanisms need to be created and that there is a need to achieve consensus with the participants.

The *third* principle is that sustainable water management should be gender-sensitive. It focuses on the role of women in decision-making and the need for greater gender awareness and active capacity building to incorporate and achieve a substantial role in decision making. It presumes that women play a central part in the provision, management and safeguarding of water. The *fourth* principle considers that water has an economic value in all its competing uses and should be recognized as an economic good. This principle focuses on water as an economic good, where economic value includes the value to water users, the net benefits from return flows, the net benefits from indirect uses and an adjustment for societal objectives.

The Dublin Principles ultimately resulted among others in the influential World Bank Policy Paper on Water Resources Management, which was revised a number of times afterwards. Moreover, the articulation and implementation of the principles were embraced by the Global Water Partnership.<sup>13</sup> The principles are linked to the concept of IWRM,<sup>14</sup> a major pillar of sound water management across the world. IWRM describes a process that promotes the coordinated development and management of water, land and related resources in order to maximize economic and social welfare in an equitable manner without affecting the functions of vital ecosystems in the short or longer term.<sup>15</sup> Hence, this can be taken as a stepping stone to initiate a new approach of water resource management, i.e. a land administration approach to sound water resource management.

### 3.2 A Land Administration Approach to Water Resource Management

The principle of IWRM, as discussed above, goes in line with modern principles of sustainable land administration and land management,<sup>16</sup> concepts which can be covered under the overarching concept of land governance. It is now necessary to expand our conceptual analysis on this light

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<sup>13</sup> Global Water Partnership (2000). *Towards water security: A framework for action*. GWP, Stockholm.

<sup>14</sup> D. J. Bandaragoda (2000). "A Framework for institutional analysis for water resources management in a river basin context". *IWMI Working Paper 5*. Colombo, Sri Lanka: International Water Management Institute. BGRS, p.11.

<sup>15</sup> GWP, *supra* note 13.

<sup>16</sup> This section does not deal with the meaning of land administration and land management. With regard to these themes see, for example, United Nations Economic Commission for Europe, Geneva (1996) *Land Administration Guidelines with Special Reference to Countries in Transition*, pp.13, 14.

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in an attempt to show the potential relationship between water resource management and land management.

Sound land governance is best understood through analysis of a legal and regulatory framework, operational processes and capacity to implement land policies and land management strategies consistently within a jurisdiction or country in sustainable ways.<sup>17</sup> The land management Paradigm developed by Enemark *et al* helps us to best understand the relationship between these key concepts.<sup>18</sup> The Paradigm illustrates that the land management activities may be described by three components, namely, land policies, land information infrastructures, and land administration infrastructures which underpin sustainable development.<sup>19</sup> It further indicates that the land management activities are run by institutions and organizations whose arrangements and structures differ from one jurisdiction to the other and which may change over time.<sup>20</sup> In short, this means land governance involves land management, land administration, land law and policy, land registration systems (commonly denoted by the words, ‘cadastre’ and ‘land register’) and land tenure.<sup>21</sup>

The objects or resources which land administration addresses could be varied in scope depending on factors such as technical and technological capacity, legal framework, and financial capacity. The field of land administration involves various theories or models regarding this matter.<sup>22</sup> Thus, Cadastre 2014 which aimed to present a clear vision for a modern cadastre for 20 years (from 1994- 2014), introduced the concept of a “legal land object” in place of the traditional concepts of “land” and “parcel”.<sup>23</sup> A land object is defined as a piece of land in which homogeneous conditions exist.<sup>24</sup> Thanks to this new concept of “legal land object”, now a land parcel

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<sup>17</sup> Melkamu Belachew Moges (2021). “Critical Gaps in Land Governance with Respect to the Land Registration System in Ethiopia”, 15(2) *Mizan Law Review* 419–454, p.427.

<sup>18</sup> S. Enemark (2005), *Understanding the Land Management Paradigm* (FIG Com 7 Symposium on Innovative Technologies for Land Administration 19-25 June, Madison, Wisconsin, USA).

<sup>19</sup> *Id.*, p.3.

<sup>20</sup> *Ibid.*

<sup>21</sup> For a brief account of these terms, see Melkamu, *supra* note 17, pp. 428–430.

<sup>22</sup> See generally Melkamu Belachew Moges (2015), *Modelling Legislation for a Sustainable Cadastral System* (PhD thesis, University of Melbourne, Melbourne Law School), pp. 54-71.

<sup>23</sup> J. Kaufmann, and D. Steudler (1998), *Cadastre 2014: A Vision for a Future Cadastral System* (International Federation of Surveyors (FIG), p. iii.

<sup>24</sup> *Id.*, pp.13–14.

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can be understood to include quite diversified objects, interests and restrictions including interests under customary tenure.<sup>25</sup>

Thus examples of legal land objects include private property parcels, areas where traditional rights exist, administrative units such as countries, states, districts, and municipalities, zones for the protection of water, nature, biota, mining, noise, pollution, land use zones, underground tunnels, apartments over land and areas where the exploitation of natural resources is allowed.<sup>26</sup> Land administration can include natural objects, like rivers, lakes, forests, and mountains as are defined normally by a law.<sup>27</sup> This recognition of land administration and land information system to accommodate diversified property objects and rights is, in fact, further adopted in other land administration models and declarations.<sup>28</sup> Land administration approach is thus a feasible and legitimate tool to accommodate water resource management such as the LTW. The following section examines whether natural resource legislation in Ethiopia accommodates this new approach.

## 4. Critical Analysis of Major Natural Resource Legislations

### 4.1 Developing criteria for evaluating natural resource legislation

The functions of a natural resource management system will be best served by legislation that meets certain criteria or principles. Land management and its components in general require ‘a clear legal basis and a streamlined institutional infrastructure that is capable of administering the process

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<sup>25</sup> Mohsen Kalantari *et al*, “A New Vision on Cadastral Data Model” (Paper presented at Shaping the Change XXIII FIG Congress, Munich, Germany, October 8–13, 2006) 6. A legal land object is also defined as a geo-referenced entity that could be represented on a map along with other land interests. See also, Rohan Bennett (2007), *Property Rights, Restrictions and Responsibilities: Their Nature, Design and Management* (PhD Thesis, University of Melbourne, 2007), p. 90.

<sup>26</sup> Kaufmann and Steudler, *supra* note 23, p. 14; Kalantari *et al*, *supra* note 25, p. 5.

<sup>27</sup> Kaufmann and Daniel Steudler, *supra* note 23, p.13. For discussion of how a land administration approach can be applied for the protection of the environment see generally Melkamu B Moges (2014), “A Cadastral System Approach to Environmental Protection: A Focus on Australia”, 4 *Prop L Rev* 75.

<sup>28</sup> See, The International Federation of Surveyors, The Bogor Declaration: United Nations Interregional Meeting of Experts on the Cadastre (1996) <<https://www.fig.net/commission7/reports/bogor/BogorDeclaration.html>>; The International Federation of Surveyors, The Bathurst Declaration on Land Administration for Sustainable Development (Publication No 21, 1999) <http://www.fig.net/pub/figpub/pub21/figpub21.htm>; see also, Ian P Williamson, Land Administration ‘Best Practice’ Providing the Infrastructure for Land Policy Implementation’ (2001) 18(4) *Land Use Policy* 297, pp. 303 - 305.

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efficiently.’<sup>29</sup> In this sense, land resource legislations provide an efficient basis for evaluating natural resource management.

Further, major information on the relationship between land management and water resource management could be found from the direct analysis of related natural resource management legislations. We can examine the legislations which are the most relevant in the context of natural resource management in Ethiopia. These are the Water Resource Management Proclamation, Water Resource Management Regulation, River Basin Councils and Authorities Proclamation, Abbay Basin High Council and Authority Establishment Regulation, and ANRS Administration and Use of Watersheds, Rehabilitated and Being Rehabilitated by Community Participation Proclamation. In addition, we shall examine the rural land administration and use legislations. In doing so, we need sound evaluative criteria for watershed legislation.

From a legal theory point of view, Fuller has coined eight excellences of the law which, according to him, a legal system needs to possess or exhibit as a minimal amount of respect and dignity for those affected by it and which, together, give the law its existence. These are generality of law, promulgation, prospectivity, clarity, consistency or coherence, possibility, constancy, and congruence between official action and declared rule.<sup>30</sup> Interestingly, Fuller calls them ‘implicit laws of lawmaking’.<sup>31</sup> As noted in my earlier research (2015), other criteria can be used to measure legislation for natural resource registration: legitimacy, respect for human rights and freedoms, comprehensiveness and responsiveness/object rationality.<sup>32</sup> Other authors have also used other criteria to study legislation.<sup>33</sup> Taking into account these

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<sup>29</sup> Klaus Deininger & Hans Binswanger (1999), “The Evolution of the World Bank’s Land Policy: Principles, Experience, and Future Challenges”, *The World Bank Research Observer*, No.34, p. 260; see also Malcolm Park (2003), *The Effect of Adverse Possession on Part of a Registered Title Land Parcel* (University of Melbourne, PhD Thesis), p.36.

<sup>30</sup> See generally L. Fuller (1969), *The Morality of Law*, Rev. Ed. (New Haven: Yale University Press), pp.46-91.

<sup>31</sup> Lon L Fuller (1968), *Anatomy of the Law* (New York: Praeger,) cited in Kenneth I Winston (ed), *The Principles of Social Order: Selected Essays of Lon L Fuller* (Hart Publishing, 2001),p. 159.

<sup>32</sup> Melkamu, *supra* note 22, p.112.

<sup>33</sup> Fitsum *et al.* (2009), *Assessment of Local Land and Water Institutions in the Blue Nile and their Impact on Environmental Management*, IWMI Conference Proceedings 212438, International Water Management Institute. DOI: 10.22004/ag.econ.212438; see also, Bandaragoda, *supra* note 14, p. 34.

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criteria, the following practical criteria were applied in the evaluation of natural resource legislations to follow. These include:

- Description and definition of water rights, restrictions and responsibilities ('RRRs) including customary rights and riparian land relations;
- Coordination in central-local institutional relations;
- Integration of water law with other related/overall legal and policy framework (policies and strategies, constitution, property law, land administration law, environmental law);
- Description of objectives, scope and target of water resources including physical, chemical, and biological aspects of the water resource;
- Provision of information on water rights, restrictions and responsibilities (RRRs) and water resource use planning and development; and
- Implementation of legislation, prevent and solve violation.

#### **4.2 Evaluating land administration legislations**

Land resource is regulated and guided by land administration laws which, in Ethiopia, are separate for rural and urban areas. In general, the field of land administration has a well-developed conventional system that defines land in terms of the smallest unit, i.e. parcel, the users of the parcel, and the third parties who might have some stake on it. Yet, Ethiopia's land administration law has its own weaknesses in identifying these elements.<sup>34</sup> At this juncture, it is important to examine particularly the role of land administration and use laws in clarifying water and other natural resource rights, restrictions and responsibilities (RRRs). With regard to land (non-wetlands), the law provides for various rights with a relatively more detail and clarity. The first rural land administration and use law<sup>35</sup> and FDRE Rural Land Administration and Land Use Proclamation (FRLAUP)<sup>36</sup> introduced the new concept of 'land holding right'. The meaning attached to the term 'land holding right' sheds light on the scope of rural land rights in Ethiopia in the present era. The term 'land holding right' is defined as:

The right of any peasant farmer or semi-pastoralist and pastoralist to use rural land for purpose of agriculture and natural resources development, lease and bequeath to members of his family or other

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<sup>34</sup> See Melkamu, *supra* note 17. pp. 445–451.

<sup>35</sup> Federal Rural Land Administration Proclamation No. 89/1997.

<sup>36</sup> Federal Democratic Republic of Ethiopia Rural Land Administration and Land Use Proclamation, 2005, Proc. No. 456/2005, Fed Neg. Gaz, Year II, No. 44 (hereinafter 'FRLAUP').

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lawful heirs, and includes the right to acquire property produced on his land thereon by his labour or capital and to sale, exchange and bequeath same.<sup>37</sup>

The analysis of this definition and other provisions of FRLAUP depicts that land holders have various rights on their land. Thus, they have the right to use and enjoy rural land; the right to lease or rent land to fellow farmers or to investors; the right to pass it through inheritance or donation to members of their family; the right to undertake development activity solely or jointly with an investor, the right to acquire property produced on land, and the right to transfer property developed on land including via sale. The right to land to land exchange is specifically provided in ANRS Revised Rural Land Administration and Use Determination Proclamation (ARLAUP).<sup>38</sup> Land holders have the right to transfer property produced on their land by their labour or capital by means of sale, exchange and bequeathal. Further, an investor land holder who has leased rural land may present his land right as collateral/mortgage.<sup>39</sup> This mortgaging right is now being extended to other rural land holders. Thus, the ARLAUP provides that any rural landholder may mortgage his land use right to a financial institution for not more than thirty years.<sup>40</sup>

The problem with land administration laws is their failure to address water and watershed matters in a complete manner. In fact, the FRLAUP mentions the word ‘lakes’ and other water resources as belonging to “state/public holding”.<sup>41</sup> The urban land legislation, i.e., the Leasehold Proclamation No.721/2011<sup>42</sup> and Urban Landholding Registration Proclamation No.818/2014<sup>43</sup> never mention water resources as their subject. Moreover, none of the legislations –rural or urban– define the term ‘land’, and this gap creates difficulties in understanding the relationship between ‘land’ and ‘water’.

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<sup>37</sup> Id., Art. 2(4); ANRS Revised Rural Land Administration and Use Determination Proclamation, 2017, Proc. No 252/2017, *ZikreHig*, Year 22, No 14 (hereinafter ‘ARLAUP’), Art. 2 (24).

<sup>38</sup> See, for example, id., Art. 37, Art. 20.

<sup>39</sup> Id., Art. 8(4).

<sup>40</sup> Id., Art.19.

<sup>41</sup> Id., Art. 2(13). ARLAUP mentions the term ‘watershed’ as a basis for land use planning in rural areas; but the meaning of the term and the sense in which it is used lacks clarity. See ARLAUP, *supra* note 37, Art. 29 (4) and (6).

<sup>42</sup> Federal Urban Leasehold Proclamation No. 721/2011.

<sup>43</sup> Urban Land Holding and Registration Proclamation No. 818/2014.

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Nor is the Civil Code helpful in this regard. It defines immovable property as constituting ‘land’ and ‘buildings’ without defining these terms let alone expressing their relationship to ‘water’. The Civil Code has also provisions on water<sup>44</sup> but they are not adequate enough to solve water resource administration issues as they were promulgated at a time when water resource administration was not a primary concern. Therefore, the rural and urban land administration legislations, unfortunately, do not seem to aim at defining and regulating water. Or at least, they are far from being complete in terms of enforcing these issues. The Ministry of Agriculture (‘MoA’) is thus expected to pay due attention to such gaps as it is the responsible organization with regard to rural land management, and its functions in the spheres of water resource management, especially watershed and irrigation development.

### 4.3 Evaluating specific water resource legislations

The laws evaluated in this Section against the criteria developed above are WRMP,<sup>45</sup> WRMR,<sup>46</sup> RBHCAP,<sup>47</sup> and ABHCAR.<sup>48</sup> The purpose of WRMP is to ensure that the water resources of the country are protected and utilized for the highest social and economic benefits of the people of Ethiopia, to follow up and supervise that they are duly conserved, ensure that harmful effects of water are prevented, and that the management of water resources is carried out properly.<sup>49</sup> According to this Proclamation, the social and economic development programs, investment plans and programs and water resource management, development and administration activities of any person shall be based on the country’s water resources policy, the relevant basin master plan studies and the water resources laws of the country.<sup>50</sup>

Article 4 of the Proclamation applies ‘to water resources management on the water resources that exist in Ethiopia’. Water resource management is defined as activities that include water resources development, utilization,

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<sup>44</sup> Ethiopian Civil Code, 1960, Arts. 1228–1256.

<sup>45</sup> Ethiopian Water Resources Management Proclamation No. 197/2000, Fed. Neg. Gaz., Year 6, No. 25 (hereinafter ‘WRMP’).

<sup>46</sup> Water Resource Management Regulation No.115/2005 (hereinafter ‘WRMR’),

<sup>47</sup> River Basin Councils and Authorities Proclamation No.534/2007 (hereinafter ‘RBHCAP’).

<sup>48</sup> Abbay Basin High Council and Authority Establishment Regulation No. 151/2008 (hereinafter ‘ABHCAR’). The name ‘Basin Authority’ has been changed at different times without change in RBHCAP. It was renamed ‘Basin Development Office’ where all offices were to be coordinated by BDA. It has further been renamed ‘Basin Administration Office’ in 2022. See *infra* note 65.

<sup>49</sup> WRMP, *supra* note 45, Art. 3.

<sup>50</sup> *Id.*, Art. 6(2).

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conservation, protection and control.<sup>51</sup> Thus, it relates to the management of water as a resource as well as to the management of organizations which are dealing with the supply, protection and the management of the resource.<sup>52</sup>

The Proclamation brings together objectives, principles and legal instruments of the national policy on water resource management. It introduces many changes at institutional and policy levels. It defines the river basin as a geographical area, described by the watershed limits of a water system including surface and underground water flowing into a common terminus.<sup>53</sup> But it does not express the need for the establishment of river basin organizations. The principle of water management decentralization stated under Ethiopian Water Resources Management Proclamation (EWRMP)<sup>54</sup> is not embodied in the Proclamation. Further, the room for promoting participatory approach in line with the direction of the policy is not embodied in the Proclamation; and the participation and consultation forums involve ‘concerned public bodies’, but not communities or civil societies.<sup>55</sup> This fails to meet the objectives, principles and aspiration of water policy and strategies.

Under WRMP, the right to allocate and apportion water to all regional states regardless of the origin and location is bestowed upon the FDRE Ministry of Water and Energy (‘MoWE’) in its capacity as supervisory body. The legal provisions in the Proclamation with regard to ownership of the resources and its allocation and apportionment clearly show that the development, management, utilization and protection of all water resources in the country lies effectively within the power of the Federal Government. Article 4, especially the Amharic version, states that the Proclamation shall apply with respect to water resources management on all water resources that exist in Ethiopia. The literal reading of the words “all water resources” seems also to include intra-state water resources. So the issue of harmonizing this with the constitutional power of regional states to administer the watersheds in their territory becomes a problem.

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<sup>51</sup> Id., Art. 2 (19).

<sup>52</sup> Jaspers, *supra* note 12, p.3.

<sup>53</sup> WRMP, *supra* note 45, Preamble *cum*. Art. 2 (15).

<sup>54</sup> Ethiopian Water Resources Management Policy (1999) (hereinafter ‘EWRMP’), number 1.3.4.

<sup>55</sup> C. Ansell, & A. Gash (2008). “Collaborative Governance in Theory and Practice”, *Journal of Public Administration Research and Theory*, Volume 18, Issue 4, pp.2-6.

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The Proclamation lists some fundamental legal principles that provide a coherent structure for the system. *First*, it treats water as public property or as the common property of the Ethiopian people and the State as mandated by the Federal Democratic Republic of Ethiopia ('FDRE') Constitution.<sup>56</sup> *Second*, it recognizes that water is a scarce resource and, along with its ecological attributes, has social and economic value.<sup>57</sup> Especially recognizing water as an economic good justifies charging for its use and the use of the water resources of the country shall be with a permit system.<sup>58</sup>

*Third*, the Proclamation requires that water management involves multiple uses and user rights and there must be a preference among uses.<sup>59</sup> It embodies provisions on general principles of water use and management, inventory of water resources, professional engagement in water resource management and supply. The Proclamation indicates requirements on water bank management and prevention of harmful effects of water resources.<sup>60</sup> It makes the use of water for domestic use an absolute priority above and over any other uses.<sup>61</sup> The Proclamation allows access rights to utilize water resources without holding a permit issued by the supervising body (MoWE) for the purposes of digging water wells by hand or use water from hand-dug wells, use water for traditional irrigation, artisanal mining and for traditional animal rearing, as well as for water mills.<sup>62</sup> However, without prejudice to these exceptions, no person shall perform any construction on waterworks, supply water, transfer water, release or discharge waste into a water resource without having obtained a permit from the supervising body.<sup>63</sup>

*Fourth*, it designates Integrated Basin Master Plan (IBMP) as a point of reference for the implementation of the social and economic development programs, investment plans and programs and water resources development activities.<sup>64</sup>

The WRMP was issued by Council of Ministers in March 2005 to provide detailed and specific provisions for the effective implementation of the WRMP. The regulations contain a further elaboration of the WRMP providing in detail the main requirements for the issuance of permits for different uses

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<sup>56</sup> WRMP, *supra* note 45, Art. 5.

<sup>57</sup> *Id.*, Art. 6 (1).

<sup>58</sup> *Id.*, Art. 6 (4).

<sup>59</sup> *Id.*, Art. 7.

<sup>60</sup> *Id.*, Arts.25 and 26.

<sup>61</sup> *Id.*, Art. 7.

<sup>62</sup> *Id.*, Art. 12(1).

<sup>63</sup> *Id.*, Art. 11(1).

<sup>64</sup> *Id.*, Art. 6(2).

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of water and the conditions for the issuance as well as the level of water charge and procedure for licensing water operators. The MoWE still retains the mandate to issue permits for large water resources of the country although it can delegate it to any relevant body. This is also true for the collection of fees and water uses charges. Furthermore, tariff rates are determined for different water uses at national level without the intervention of regional states. The WRMR further elucidates the application process for permit, issuance, duties of the MoWE, discharge of water after use, and conditions for termination, suspension, transfer or variation of water use permit.

Definition of Powers and Duties of Federal Executive Organs Proclamation has transferred the powers and duties of the Basin Development Authority to the MoWE.<sup>65</sup> The actual fate of river basin councils and authorities (now renamed as administration offices) seems to be unclear. The RBHCAP gives definition for terms which are also crucial throughout all water laws. These terms include ‘stakeholder’, ‘water allocation’, ‘basin’, ‘river basin plan’, ‘IWRM’, and ‘water use’.

‘Stakeholder’ is defined as any person who is intentionally or unintentionally involved in, or directly or indirectly affected by water resources management in a basin.<sup>66</sup> It is a broader and inclusive definition that can include all potential actors at the grassroots. ‘Water allocation’ is a system of sharing the water available in a basin among various users according to water use permit. ‘Water use’ means any utilization of water likely to have an impact either on the water resources and its availability to other uses or on the aquatic ecosystems, and includes abstraction of water, modification of the natural watercourse, use of water to discharge pollutants and use of water for recreational, fisheries, navigation and other activities.

The river basin concept is considered as the pillar of the water policy as can be seen from the Preamble of RBHCAP. ‘River Basin Plan’ is defined as strategic water resources planning with long-term vision in the aim of guarantying equity and sustainability in water resource uses. The river basin is the territorial unit for water resources planning and management.<sup>67</sup> These elements of IWRM are meant to avoid the fragmentation of river management.

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<sup>65</sup> Definition of Powers and Duties of the Executive Organs of the FDRE Proclamation No. 1263/2021. *Negarit Gazeta*. Year 28, No. 4, Art.32 (2).

<sup>66</sup> RBHCAP, supra note 47, Art. 2(3).

<sup>67</sup> Id., Preamble.

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Ethiopia's water law principles have incorporated many of the well-established principles of international water law. For instance, the principle of fair and equitable utilization of water appears in the RBHCAP as one of the objectives of the integrated water policy with a view to using of the basins' water resources for the socio-economic welfare of the people in an equitable and participatory manner, and without compromising the sustainability of the aquatic ecosystem.<sup>68</sup> Definition of Powers and Duties of Federal Executive Organs Proclamation in the same manner states that establishing sustainable and integrated administration system is one of the powers of the MoWE with the aim of facilitating the equitable utilization of water resources.<sup>69</sup>

The IWRM reconciles different priorities of water use among regional states and potential water uses within a river basin system with a view to achieve balanced and sustainable development of water resources as economic as well as environmental resources.<sup>70</sup> The coordination of many stakeholders and their respective different approaches, interests and perceptions were the factors that rendered integrated water resources management necessary.<sup>71</sup> To this end, RBHCAs were established as the effective implementation organs of WRMP.<sup>72</sup>

RBHCAP envisages that RBHCAs shall be established for each river basin by Regulations to be issued by the Council of Ministers,<sup>73</sup> and it describes their powers and duties. Abbay Basin High Council and Authority was established through ABHCAR. The RBHCAP embodies the principle of IWRM, sustainable development, stakeholder coordination and the need for the establishment of river basin councils and authorities in its Preamble, in line with the EWRMP. Regional and local administrative bodies are strictly obliged by law to implement the water policy and the water Proclamation in accordance with directives and guidelines provided by the MoWE.<sup>74</sup>

However, there is no provision that expressly states the powers of regions on water administration. The term 'supervising authority' is also not defined and it is not clear if the term refers to the regional water bureau, and the legislation is silent about institutions such as Lake Tana and other Water Bodies Protection and Development Agency.

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<sup>68</sup> *Id.*, Art.4.

<sup>69</sup> FDRE Executive Organs, *supra* note 65, Art. 32(1)(f).

<sup>70</sup> RBHCAP, *supra* note 47, Preamble.

<sup>71</sup> *Ibid.*

<sup>72</sup> *Ibid.*

<sup>73</sup> *Id.*, Art. 3.

<sup>74</sup> Fitsum *et al.*, *supra* note 33, p.207.

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The powers of ANRS Bureau of Water and Energy Resources ('BoWE') are defined in the ANRS Revised Executive Organs Re-Establishment and Determination of its Powers and Duties Proclamation No.280/2022. The BoWE staff, during the FGD, mentioned that giving water use permit under water resource administration are their main functions. Their activities include operation, maintenance, drinking water associations, irrigation associations, plan for maintenance survey, production quantity of water services, revenue obtained from sale, quantity of internal line, etc. They mentioned that they are not aware of any water use plan. However, BoWE is expected to focus on water resource protection, management, development and utilization.

There are four kinds of permits, namely, permit for ground water digging by public development enterprises, permit for surface water, permit or license for consultants who undertake construction, and permit for sanitary works. They stated that so far water use permit has been given by Abay Basin Authority now changed as Abay Basin Administration Office ('ABA'). However, now this mandate has been transferred to the BoWE. They have one expert only which gives permit and they have asked additional experts and working directives for that.

The following Table indicates views on the selected gaps on these laws in the context of LTW. Respondents were asked about specific and more detailed features and problems of those laws.

**Table 2: Assessment of particular issues with respect to water legislations**

Legislation	Evaluation criteria	(n=41)		Rank
		Frequency (Yes/No)	%	
WRMP & WRMR	Do not show detailed features of watershed resources such as quantity, boundary and classification of water bodies	Yes: 31	75.6	3 <sup>rd</sup>
		No: 9	22	
	Do not provide rights, restrictions, and responsibilities which persons (including riparian communities) have with regard to water resources	Yes: 35	85.4	1 <sup>st</sup>
		No: 6	14.6	
	Do not show information on water RRRs	Yes: 31	75.6	3 <sup>rd</sup>
		No: 5	12.2	
	Non-existence of watershed planning or failure to enforce existing ones	Yes: 31	75.6	3 <sup>rd</sup>
		No: 1	2.4	
	Limitation on coordination between federal and regional institutions with regard to watershed administration	Yes: 33	80.5	2 <sup>nd</sup>
		No: 3	7.3	
Water resource legislations not integrating with other sector legislations	Yes: 30	73.2	4 <sup>th</sup>	
	No: 5	12.2		
Lack of system for implementation of legislation, Protect and solve violation	Yes: 30	73.2	4 <sup>th</sup>	
	No: 2	4.9		
Lack of overall completeness of legislation	Yes: 29	70.7	5 <sup>th</sup>	
	No: 3	7.3		

Legislation	Evaluation criteria	(n=41)		Rank
		Frequency (Yes/No)	%	
RBHCAP & ABHCAR	Do not show detailed features of watershed legislation such as quantity, boundary and classification of water bodies	Yes:23	56.1	5 <sup>th</sup>
		No:13	31.7	
	Do not provide rights, restrictions, and responsibilities which persons, including riparian communities, have with regard to water resources	Yes:26	63.4	4 <sup>th</sup>
		No:10	24.4	
	Do not show information on water RRRs	Yes:27	65.9	3 <sup>rd</sup>
		No:5	12.2	
	Non-existence of watershed planning or failure to enforce existing ones	Yes:29	70.7	2 <sup>nd</sup>
		No:0	0	
	Limitation on coordination between federal and regional institutions with regard to watershed administration	Yes:30	73.2	1 <sup>st</sup>
		No:3	7.3	
Water resource legislations not integrating with other sector legislations	Yes:26	63.4	4 <sup>th</sup>	
	No:5	12.2		
Lack of system for implementation of legislation, protect and solve violation	Yes:27	65.9	3 <sup>rd</sup>	
	No:1	2.4		
Lack of overall completeness of legislation	Yes:26	63.4	4 <sup>th</sup>	

Source: Author, 2020

Table 2 shows how various factors affect existing legislation on Ethiopian water resources in general and LTW in particular. With regard to WRMP & WRMR, the first problem in the laws is that they do not provide RRRs which persons, including riparian communities, have with regard to water resources. The second problem relates to coordination between federal and regional institutions with regard to watershed administration. Failure to show detailed features of watershed resources such as quantity, boundary and classification of water bodies, lack of information on water RRRs, and non-existence of watershed planning or failure to enforce existing ones are the next significant problems. The fourth category of problems relate to water resource legislations not integrating with other sector legislations and lack of system for the implementation of legislation. Lack of overall completeness of legislation stands the least significant among the factors. However, all these problems can generally be considered significant.

With regard to RBHCAP & ABHCAR, the most basic problem is limitation regarding coordination between federal and regional institutions with regard to watershed administration. Non-existence of watershed planning or failure to enforce existing ones is the second problem. Other problems include:

- Lack of information on water RRRs and lack of system for the implementation of legislation;
- Failure to provide RRRs which persons, including riparian communities, have with regard to water resources;

- Water resource legislations that are not integrated with other sector legislations, and lack of overall completeness of legislation; and
- Failure to show detailed features of watershed resources such as quantity, boundary and classification of water bodies stands the least significant among the given factors.

#### **4.4 ANRS Proclamation No. 204/2013**

ANRS Administration and Use of Watersheds, Rehabilitated and Being Rehabilitated by Community Participation Proclamation No. 204/2013 (AUWRCP) specifically deals with the management of watersheds. This Proclamation aims at undertaking ‘community watershed development’ which is about ‘implementing measures to harmonize the use of soil, water and vegetation in a way that conserves these resources and maximize their productivity in the community watershed’.

AUWRCP was designed to be ‘applicable for rehabilitated or being rehabilitated watersheds; supported by community participation, government or other stakeholders in the Region’.<sup>75</sup> ANRS Bureau of Agriculture (BoA) is responsible to enforce it. But it is striking that BoWE was not given role in the enforcement of this legislation. The matter of watershed is highly related to water. For instance, WRMP has, as we discussed earlier, a provision on the establishment of WUAs, matters also addressed in AUWRCP in detail.

While AUWRCP defines the word ‘watershed’ and divides it into two, namely, sub-watershed and main/critical watershed,<sup>76</sup> it fails to define the word ‘rehabilitated’ or ‘being rehabilitated’. But by the strongest terms of logic, it must be construed to govern LTW too. Critical watershed is defined as watershed with an area of more than 500 hectares but which can be prepared into two or more sub-watersheds to make the applicability of the development plan suitable.<sup>77</sup> A sub-watershed has an area of less than 500 hectares with defined user community.<sup>78</sup>

The objectives and principles of AUWRCP are bringing users’ participation in the planning, management and implementation of watershed responsibilities, establish sustainable use, administration and protection of natural resources which are under private or common possession, and promote capacity for management, use and protection of natural resources through

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<sup>75</sup> ANRS Administration and Use of Watersheds, Rehabilitated and Being Rehabilitated by Community Participation Proclamation No. 204/2013, Art. 3.

<sup>76</sup> Id., Art. 7.

<sup>77</sup> Id., Art. 9.

<sup>78</sup> Id., Art. 8.

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Water Users Association (WUA).<sup>79</sup> So the Proclamation envisages the formation and management of water user associations. The BoA has prepared a model by-law for WUAs. “By-law or users’ agreement” means a specified document, issued to describe the formation of WUAs, objectives, rights and duties of members, use of natural resources administration and protection in the region.<sup>80</sup>

The need to delineate the topographic boundary of any watershed size is given due attention with a view to develop and protect the natural resources efficiently.<sup>81</sup> The Proclamation also states the following criteria for entitlement as watershed users:<sup>82</sup>

- Ethiopians who are 18 years old and above;
- Those who have possession of land in the watershed; and, live upon income from this;
- Those who have not possession of land in the watershed region but who are dwellers around it or who are users of natural resources; and
- Persons who are living in the watershed region who have a relationship to the watershed, either renting the land or using it by other legal means.

Article 11 provides for the rights of watershed users which include the right to use the resource individually or in groups, to participate in the development, protection, to elect or be elected in WUAs, and engages in additional income generating activities. Activities that are specified as rendering additional revenue are honey production, milk production, supply forest products, irrigation water users, credit and saving service, and other similar activities which must be carried out in a manner that does not compromise the users’ duty not to damage watershed development.<sup>83</sup>

Other specific rights are the right to privately own or possess dry-wood, live woods, shrub and grass along farm boundaries or plant areas or those planted whether in the compound of work place or residential house by owners of these properties.<sup>84</sup> Any possessor may cut the branches and use the forests, the forage and the fertile plants species which he/she has grown by planting and protecting on his/her/own possession of land.<sup>85</sup> A person who fulfills his duties may be rewarded before the *kebele* public through the reward

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<sup>79</sup> Id., Arts. 4 and 5.

<sup>80</sup> Id., Art. 2(1) (c).

<sup>81</sup> Id., Art. 6.

<sup>82</sup> Id., Art. 10.

<sup>83</sup> Id., Art. 12.

<sup>84</sup> Id., Art. 23(1).

<sup>85</sup> Id., Art. 25(14).

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committee established for this purpose.<sup>86</sup> But non-compliance with the duties results in fine and compensation, temporary (one year) suspension from farming, termination of use rights, or clearance order/taking of land depending on the degree of violation of the duties.<sup>87</sup>

The Proclamation recognizes ‘private possession’ and ‘communal or mutual possession’.<sup>88</sup> The former is not defined; the latter includes grazing or pasture land, firewood production places, empty lands, rehabilitated places, hills, canals, unfarmed lands, roads, centers of animal breeding test, flood and irrigation canals; and related natural resources. Stone and sand in gullies located in one watershed region will be communal possession which may be put into money by the association through sale. The individuals living nearby these places will, however, have the right to private possession.<sup>89</sup> Both possessors have several duties which include the duty to protect fertility of farmland in the watershed region, control free grazing, etc.<sup>90</sup>

A similar nation-wide law is FDRE Development, Management and Utilization of Community Watersheds Proclamation No. 1223/2020 (DMUWP). It covers the matters already addressed in the regional one but with better clarity or precision. One important provision relates to community watershed plan.<sup>91</sup> The preparation of community watershed plan shall adhere to the principle of participation. In areas where there is established land use planning system and when there is a land use plan which is approved by the concerned organ, the community watershed plan has to be based on such plan. Persons who develop community shall first prepare community watershed plan.

Based on the FDRE Constitution, determination of RRRs on natural resources is the authority of the Federal Government.<sup>92</sup> Regions are given power to administer natural resources according to federal law.<sup>93</sup> In this context, it is appropriate to recall that the RRRs determined in AUWRCP

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<sup>86</sup> Id., Art 28.

<sup>87</sup> Id., Art. 26.

<sup>88</sup> Id., Art.11 (1) (a).

<sup>89</sup> Id., Art. 24.

<sup>90</sup> Id., Art. 25.

<sup>91</sup> FDRE Development, Management and Utilization of Community Watersheds Proc. No.1223/2020, Art.8.

<sup>92</sup> Constitution of the Federal Democratic Republic of Ethiopia Proclamation,1995, Proc. No.1/1995, *Fed Neg Gaz*, Year 1, No.1, Art. 51(5).

<sup>93</sup> Id, Art. 52(2)(d).

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should be revised in line with these constitutional provisions. The result from the field research indicated in Table 3 clearly shows the gaps in AUWRCP.

**Table 3: Assessment of particular issues with respect to AUWRCP**

Legislation	Evaluation criteria	(n=41)		Rank
		Frequency (Yes/No)	%	
AUWRCP	Do not show detailed features of watershed legislation such as quantity, boundary and classification of water bodies	Yes:28 No:7	68.3 17.1	1 <sup>st</sup>
	Do not provide rights, restrictions, and responsibilities which persons, including riparian communities, have with regard to water resources	Yes:27 No:6	65.9 14.6	2 <sup>nd</sup>
	Do not show information on water RRRs	Yes:26 No:5	63.4 12.2	3 <sup>rd</sup>
	Non-existence of watershed planning or failure to enforce existing ones	Yes:28 No:2	68.3 4.9	1 <sup>st</sup>
	Limitation on coordination between federal and regional institutions with regard to watershed administration	Yes:28 No:3	68.3 7.3	1 <sup>st</sup>
	Water resource legislations not integrating with other sector legislations	Yes:24 No:4	58.5 9.8	5 <sup>th</sup>
	Lack of system for implementation of legislation, protect and address violation	Yes:25 No:4	61 9.8	4 <sup>th</sup>
	Lack of overall completeness of legislation	Yes:25 No:2	61 4.9	4 <sup>th</sup>

Source: Author, 2020

As we can see from Table 3, the *first* category of problems of AUWRCP are:

- Failure to show detailed features of watershed resources such as quantity, boundary and classification of water bodies;
- Non-existence of watershed planning or failure to enforce existing ones; and
- Limitation regarding coordination between Federal Government and regional institutions with regard to watershed administration.

The *second* problem relates to the failure to provide RRRs which persons, including riparian communities, have with regard to water resources. This means that RRRs already indicated in AUWRCP are not clear enough. The *third* problem is the failure to show information on water RRRs. The last items in list are water resource legislations not integrating with other sector legislations, lack of system for implementation of legislation, protect and solve violation, and lack of overall completeness of legislation.

The central weakness of AUWRCP is related to its failure to show its clear focus because it lacks clarity whether it focuses on watershed, or environment



or irrigation agriculture. In the absence of clear and focused objectives, it is difficult to further evaluate it based on other criteria.

## **5. Indicators of a Disentangled Natural Resource Management in Ethiopia**

The conventional land administration system in Ethiopia identifies land holding rights such as private holding, communal holding and public holding.<sup>94</sup> Further it stipulates clear strategies for providing land information to any stakeholder and user and enhancing tenure security through land registration system and provision of land holding certificates.<sup>95</sup> The system also stipulates that any rural and urban land is to be used according to land use plan.<sup>96</sup> However, the land administration system lacks completeness by ignoring the country's essential resource, i.e. water resource.<sup>97</sup> Further, the water resource management system which sits separately from the land administration system fails to provide sustainable water resource management in Ethiopia as can be seen from the findings presented in the previous Section. The following discussion deals with the major gaps which vividly indicate existing poor coordination between water resource management and land management in Ethiopia.

### **5.1 Lack of Water Tenure Security and Water Rights Definition**

The Ethiopian Water Resources Management Proclamation (WRMP) and Water Resources Management Regulation (WRMR) have a substantial focus on economic use of water. The purpose of WRMP is 'to ensure that the water resources of the country are protected and utilized for the highest social and economic benefits of the people of Ethiopia'.<sup>98</sup> The WRMP and WRMR are by any measure incomprehensive and fail to govern many relevant matters necessary for sustainable management of water resources. The WRMP disregards tenure security as it fails to define water RRRs in detail. Clear land tenure in general and along land-water boundaries in particular can be a precondition for the success of watershed management.

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<sup>94</sup> See FRLAUP, *supra* note 36, Art. 2 (11), (12) and (13).

<sup>95</sup> *Id.*, Art.6. Rural land certification has been implemented in Ethiopia in two phases, namely, first level certification and second level certification where the former had been completed and the latter is ongoing.

<sup>96</sup> *Id.*, Art.13; ARLAUP, *supra* note 37, Arts. 29-2.

<sup>97</sup> See Section 4.2.

<sup>98</sup> WRMP, *supra* note 45, Art. 3.

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The first fundamental problem relates to the rules of ownership to LTW especially the Lake Tana Sub-Basin ('LTSB'). Property rights in LTW include communal grazing lands, forests, wetlands, fisheries, rivers and Lake Tana itself. LTSB is an example of a constantly changing and very complex 'common pool' resource system whose water resource, commercial fishery, surrounding wetlands and other associated resources are managed and governed by different property rights regimes, involving a wide range of issues and multiple stakeholders with diverse power over and interests in the watershed. As Dessalegn noted, there is confusion with regard to rules for access, withdrawal and management right over resources within the LTW that also leads to conflict.<sup>99</sup> This study has similar finding.<sup>100</sup>

The watershed legislation fails to determine the property rights or bundle of rights, interests or benefits, restrictions and obligations with regard to water. The rights which individuals have on water and the restrictions are not clearly defined. The WRMR defines 'water use' as the use of water for drinking, irrigation, industry, power generation, transport, animal husbandry, fishing, mining and uses of water for other purposes.<sup>101</sup> The RBHCAP defines the same term as "any utilization of water likely to have an impact either on the water resources and includes abstraction of water, modification of the natural water course, use of water to discharge pollutants and use of water for recreational, fisheries, navigation and other activities".<sup>102</sup>

The WRMP covers only 'domestic use' of water which it defines as the use of water for drinking, cooling, sanitation, or other domestic purposes.<sup>103</sup> 'Water works' is also defined as any man-made work constructed or to be constructed for the purpose of putting water to beneficial use, and includes diversion, dam construction, drilling, clearing, investigation, regulation, purification, measurements, transportation, transmission, desalination, dike construction and other similar works.<sup>104</sup> Moreover, some rights are, albeit indirectly, provided under the condition of getting or not getting water use permit. These include the right to construct waterworks, supply water, transfer water abstracted from a water resource or received from another supplier, dig water wells by hand or use water from hand-dug wells, use water for

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<sup>99</sup> D. M. Ketema (2013). *Analysis of institutional arrangements and common pool resources governance: the case of Lake Tana sub-basin, Ethiopia*. PhD Thesis, University College Cork, p.174.

<sup>100</sup> See generally Sections 4.2–4.4.

<sup>101</sup> WRMR, *supra* note 46, Art. 2(6).

<sup>102</sup> RBHCAP, *supra* note 47, Art.2 (7).

<sup>103</sup> WRMP, *supra* note 45, Art. 2(2).

<sup>104</sup> *Id.*, Art. 2(18).

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traditional irrigation, artisanal, mining and for traditional animal rearing, as well as for water mills.<sup>105</sup>

The above list apart from not being provided clearly as water right, it displays a number of shortcomings. First, it does not show in detail the relationship that community members have with regard to each water resource unit. The physical extent or boundary of water resource or unit is not defined with respect to particular members or groups of society. The variety and extent of water interest, benefit or right as well as restriction and responsibility with regard to a water unit is not defined at all. Second, the water legislation does not take into account the customary rights of people living around the watershed resources for generations. Nevertheless, community by-laws are at the core of many governance structures that regulate the access, use, and conflict resolution across Ethiopia and elsewhere in Africa.<sup>106</sup>

## **5.2 Gaps in the effectiveness of customary by-laws and practices**

Although customary institutions are deeply anchored in the local tradition, most of them have weak linkage with the formal land and water management institutions and activities in the sub-basins. In recent times the top-down resource governance structure has predominated and undermined potential roles which could have been played by the local by-laws. Resource scarcity, population pressure and lack of support from the formal governance structure are considered as the main factors that affect community by-laws. As population increases, competition over resources increases and resource users were tempted to break their own by-laws. As a study showed, local conventions endorsed by the community members were challenged and not fully accepted by some members of the community (particularly youths) as they had been before.<sup>107</sup>

Dessalegn identified three reasons for this.<sup>108</sup> *Firstly*, there was no or minimal support from the government to approve as soon as possible and support the local conventions. *Kebele* administrators and district officials considered those who were self-motivated groups to conserve their commons and opposed development pressures on common resources as anti-development. As a result, some of the greedy individuals were using this gap

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<sup>105</sup> Id., Arts. 11 and 12.

<sup>106</sup> H. Markelova, & B. Swallow (2008). "By-laws and their Critical Role in Natural Resource Management: Insights from African Experience. Paper presented at the 12th Biennial Conference of the International Association for the Study of Commons" (IASC) in Cheltenham, England, July 14–18 cited in Ketema, *supra* note 100, p.157.

<sup>107</sup> Ketema, *supra* note 100, p.160.

<sup>108</sup> Ibid.

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as an advantage to misuse the resources. *Secondly*, younger generations who are mostly landless were not willing to comply with the local convention devised by community elders and they are in continuous dispute with the community members. They are claiming the wetlands and other protected areas for cultivation. *Thirdly*, the existing community organizations were too weak to exercise their collective leadership over their watershed resources. Weak community organizations and by-laws mean that local people are not knowledgeable about their resources and their rights, and they lack the capacity to devise sound community by-laws and norms for managing them; this resulted in inability to control illegal encroachment of the valuable resources in their locality.

### **5.3 Uncertainties in water rights and lakeshore enclosures**

A fundamental root cause for the failure of existing watershed legislation in comprehensively defining water tenure and RRRs in Ethiopia is that there is no one unified water code, similar to other legal codes such as the Civil Code.<sup>109</sup> There are as yet only provisions, proclamations and legal notices which are not inclusive of the water rules that exist historically as well as in the traditions of various communities in the country and, as such, they cannot be perceived as consolidated water law.<sup>110</sup> This resulted in uncertainty in the water rights, restrictions and responsibilities of users. The severe problems in LTW can be attributed to this fundamental factor.

In the recent past, with the exception of regional government offices and residences, lakeshores around Lake Tana were considered as commons for the surrounding communities and public spaces that were open to other people elsewhere in the region. The public used to fish, harvest papyrus grass, recreate, and celebrate rituals along the beaches and the shore of the Lake. Now, except some places which are still open to the public, the majority of the lakeshores are enclosed or privatized and access to those places is only allowed with a special entrance fee. Here typical examples are Taytu recreation-entrance fee that charged money, Kuriftu Resort and Spa which charged a special membership entrance fee, and Grand Resort and Spa, Blue Nile Avante Hotel enclosure of public recreational paths along the lake, and other similar restrictions.

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<sup>109</sup> Yacob Arsano (2007). *Ethiopia and the Nile Dilemmas of National and Regional Hydropolitics*, PhD Thesis, University of Zurich, Switzerland), p.116.

<sup>110</sup> *Ibid.*

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As has been argued by Bollier, enclosure of the lakeshore means that people have to start paying for resources they previously got free, or cheaply.<sup>111</sup> Similarly, the survey made by Dessalegn revealed that in the past few decades, there was a major decline in the availability and accessing of common-pool resources and that the exclusion from LTW use has been increasing as the volume of resource units available to harvest has been decreasing from time to time.<sup>112</sup> The more powerful segment of the society particularly politically affiliated and well-off groups are benefiting more from the watershed system. Inversely, youths, marginalized groups and the rural poor have been increasingly prevented from accessing the LTW system.<sup>113</sup>

## **6. Lack of Water Information System as a Factor in Water Tenure Insecurity**

The other problem of water tenure insecurity in the LTW relates to lack of clear framework for information system. As Bandaragoda stated, water resources management within watershed must be essentially knowledge-driven for effective coordination and institutional performance.<sup>114</sup> A sound database about the physical, social, environmental, economic and institutional parameters of the basin is critical. The different actors and different sectors using land and water resources within the basin should be able to understand and assess the requirements of one another, as well as the limitations imposed on each of them by the overall environmental considerations. In more practical terms, a basin approach to water resources planning needs to be based on a number of key sets of information related to the basin: present conditions of the physical subsystem, availability of water and its quality, analysis of its social subsystem including who uses water for what purposes, how the uses and users have been organized and their binding rules, and current performance levels of the production systems.<sup>115</sup>

As indicated earlier, the rural and urban land administration and use laws in Ethiopia give emphasis to the use of registration or legal cadaster as a key tool for land administration.<sup>116</sup> This can pave the way for land titling, by registering all arable lands, to the landholders who received land during the last land redistribution or through inheritance from their close kin. ARLAUP

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<sup>111</sup> David Bollier (2007). "A New Politics of the Commons", *Renewal Magazine*, p.3.

<sup>112</sup> Ketema, *supra* note 99, p.123.

<sup>113</sup> *Ibid.*

<sup>114</sup> Bandaragoda, *supra* note 14, p.15.

<sup>115</sup> *Id.*, p.16.

<sup>116</sup> See FRAULP, *supra* note 36, Art. 6.

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provides that a map is prepared for any rural land held in private, communally, by the state or non-state parties after measurement by traditional or modern means<sup>117</sup> and it will be issued for them together with landholding certificate.

Mark indicating the boundaries of different holdings (private, communal and government) are made.<sup>118</sup> Measured rural landholding is registered in the land file established for this objective.<sup>119</sup> A landholding certificate containing the land parcel will be given to any rural landholder (in the landholder's name) through the pertinent *woreda* rural land administration and use office, and photograph of the landholder is attached.<sup>120</sup>

But the review of rules on the operation of the task of registration of land such as issuance of certificate of title does not imply water right registration.<sup>121</sup> This means the biophysical, socioeconomic, legal, and demographic characteristics of the basin are not monitored properly. Communal lands, forest and grazing areas were also supposed to be delineated, registered and certified during the registration and certification of land holdings undertaken in 2005.<sup>122</sup> However, during the registration process, many cases of illegal encroachment into wetlands, common grazing fields, forest and marginal areas were observed.<sup>123</sup> Most of the land registration and certification activities around Lake Tana (particularly in Fogera and Libokemekem districts) were suspended for quite some time. In due course, most of the greedy and corrupted *kebele* officials who have landholding adjacent to the common pools included and registered communal lands and wetlands into their holding through illegal land grabbing. As a result, the most powerful groups (wealthy and/or politically motivated individuals) owned common wetlands illegally with land certificates issued to them which became a source of conflict.

The water legislations have few provisions on the need for information system. WRMP provides that the MoWE shall prepare or cause to be prepared and maintain the inventory of water resources of the country.<sup>124</sup> The inventory will include:

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<sup>117</sup> ARLAUP, *supra* note 37, Art. 33 (1).

<sup>118</sup> *Id.*, Art. 33(2).

<sup>119</sup> *Id.*, Art. 34(1).

<sup>120</sup> *Id.*, Art. 35(1) cum. Art. 25(9).

<sup>121</sup> See e.g. *Id.*, Art. 35; FRLAUP, *supra* note 36, Art. 6; Urban Land Holding and Registration Proclamation No. 818/2014, Art. 33.

<sup>122</sup> Ketema, *supra* note 99, p.198.

<sup>123</sup> FGD with ANRS Rural Land Administration and Use Bureau ('BoRLAU'), June 2020.

<sup>124</sup> WRMP, *supra* note 45, Art. 10.

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- Identification and description of the occurrence, availability, location, amount and, quality of water resources at any significant points in time of a year.
- Identification and description of seasonally expected demands for the supply of water;
- Periodically compiled data on consumptive and non-consumptive use of water.
- Registers of all actions taken with respect to applications with regard to water use, discharge or release of wastes into water resources, and construction of water works.
- Such other information as may be required by directives issued by MoWE.

For the purposes listed above, the Proclamation states that MoWE shall maintain Water Resources Information Center.<sup>125</sup> The RBHCAP also provides for the need to maintain basin information. It provides that each basin authority has a duty ‘to collect, compile, analyse and disseminate information for proper planning, administration and steering of water resources in the basin’.<sup>126</sup> For this purpose, every River Basin Authority shall develop and use management-oriented basin information system (BIS), in order to guide and support the basin water resources strategic planning and water management functions.<sup>127</sup> BIS shall encompass at least the quantity and quality of water resources of the basin, the aquatic ecosystem of the basin, the level of the water demand within the basin, the existing and planned major water infrastructures, the main interventions or projects that may have impact on the water resources, and the existing water uses.

However, these information system provisions do not indicate the unit for water information registration system. The purpose of the information system envisaged is not attaining tenure security for users but to enhance the management of the water resources in terms of economic development works on the resources. As we have already mentioned, the legislation does not show in detail the relationship that community members have with regard to each water resource unit. The physical extent or boundary of water resource or unit is not defined with respect to particular members or groups of society. The variety and extent of water interest, benefit or right as well as restriction and

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<sup>125</sup> Id., Art.10 (4). Also, the Ethiopian Water Resources Management Policy (1999) calls for the establishment of this Center and indeed to this effect the MoWE has created Data and Information and GIS Center.

<sup>126</sup> RBHCAP, supra note 47, Art. 9 (6).

<sup>127</sup> Id., Art.16.

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responsibility with regard to a water unit is not defined at all. Hence, there is no systematically organized long-term and spatially representative data base system in the LTW.<sup>128</sup>

Abbay Basin Administration Office (ABA) staff stated that the Lake Tana Sub-Basin has established information system with the support of the World Bank which could be a model at national level. There are two types of information, namely, hydrological information system (HIS) and basin information system which includes socio-economic study. The information system is a digital system with its own server. It shows the status of main rivers and signals when there is a problem in the rivers. This information is accessible to all those who have signed memorandum of understanding (MoU) with ABA such as Metrology office, Bahir Dar University, etc. Others can access it with a letter support from their institution. Before 2015, the information was handled by MoWE; thereafter the information has been collected by ABA. Although MoWE was asked to transfer some of the information to ABA, the Ministry has not yet shared most of the data with ABA. But the data collected after 2015/6 is within the ABA. The information collected manually is calibrated with the digital one.

Although different types of information serve different important purposes, a watershed's resource management envisages information that clearly outlines the physical boundary aspect of each resource unit and the nature of beneficiaries with respect to each resource unit such as fish resource or aquaculture, wetland farm, or any other information based on detailed definition of these components in legislation. In this regard, Dr. Ayalew,<sup>129</sup> Focus Group Discussion at BoRLAU,<sup>130</sup> and environmental office staff<sup>131</sup> indicated that there is no consolidated information system although there could be some in the sectors. According to BoRLAU staff, the law governs certification; but it does not separately provide for certification of Lake Tana which is a problem and land use plan coverage is also limited.<sup>132</sup> The staff hold that the Bureau gives holding certificate based on parcel and water is government holding and, as such, it is considered as open-access.<sup>133</sup> According

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<sup>128</sup> Goshu & Aynalem, *supra* note 11, p.20.

<sup>129</sup> In-depth Interview with Dr. Ayalew Wondie, Head, Lake Tana and other Water Bodies Protection and Development Agency, June 2020.

<sup>130</sup> FGD-BoRLAU, *supra* note 123.

<sup>131</sup> FGD with ANRS Environment, Forest and Wildlife Protection and Development Authority, July 2020.

<sup>132</sup> FGD-BoRLAU, *supra* note 123.

<sup>133</sup> *Ibid.*

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to the respondents, water is governed by different laws, namely, environmental and water law.

## **7. Land Use Planning and Implementation Problems with Particular Reference to LTW**

### **7.1 Efforts in designing plans *vis-à-vis* their harmony and implementation**

Amhara Urban Planning Institute (AUPI) staff pointed out that plan preparations for Bahir Dar consider Lake Tana and the watershed in their work.<sup>134</sup> When they prepare Master Plan, they identify soft economic activities which can be carried out in Lake Tana and things which put pressure on the Lake. The plan for cities along Lake Tana is done in a special way. E.g. roads in Bahir Dar and Delgi are wide so that wind flows easily. AUPI considers not only Buffer Zone for water resources but also many things such as waste treatment, waste disposal, forest, recreation and lodge sites, and urban agriculture. They put Buffer Zone of up to 50 meters. They undertake flood plain analysis following which drainage system is constructed. The problem, they indicated, is that they do not follow up if the plans are implemented because plan preparation and plan implementation was under different institutions. AUPI was responsible for plan preparation and Bureau of Urban Development and Construction was responsible for plan implementation. There is, however, a new decision so that both tasks will be under AUPI in the near future.

Bahir Dar had 3 master plans while the 4<sup>th</sup> one has also just been prepared. The first master plan was prepared in 1965. It put Buffer Zone between Lake Tana and the road. It was prepared for 10 years; but it worked for longer period until it was replaced by the second Master Plan which was prepared in 1996. Then the 3<sup>rd</sup> Master Plan was the Integrated Development Plan of 2006 prepared by AUPI. The 2006 integrated development plan suggested the idea of Lake Front which must be left for special function.<sup>135</sup> The special function was not specified in the plan; although it is not expected to show details in the integrated development plan of the city for the lakefront, it has to be recommended for either to prepare other detail plan or to restrict any development.<sup>136</sup> The only study that included detailed land use planning was

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<sup>134</sup> FGD with AUPI, June 2020.

<sup>135</sup>J. Abbay (2012). Land Allocation and the Publicness of Lake Tana Area in Bahir Dar City (MSc Thesis, EiABC, Addis Ababa University), p.61; Interview with Dr. Ayalew, *supra* note 129.

<sup>136</sup> Abbay, *supra* note 135, p.62.

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done by Devecon in 2006 which expired after ten years.<sup>137</sup> Despite the production of different urban plans for Bahir Dar, most of the development activities were carried out illegally and the Lake front development was hardly implemented.<sup>138</sup>

The 4<sup>th</sup> Master Plan of Bahir Dar City has been prepared after evaluating the previous ones; and it has now been approved by Bahir Dar City Administration Council. The Plan gives unique attention to Abbay River and Lake Tana. The Plan indicates what must be demolished will be demolished. Regarding its implementation, it recommends that a Plan office shall be established that follows up its execution. It states that Bahir Dar will expand to Hamusit and Chimba.<sup>139</sup> Buffer width from the Lake will be 300 meters; rivers will be protected; and wetlands will be clearly indicated in the land use map. Mr. Aynalem and Trade and Investment Bureau (BoTI) staff believe that if the new Plan is adopted, it will solve most of the problems.<sup>140</sup>

In addition to official or binding master plans which also govern Lake Tana, there are many other plans, studies, and designs. According to FGD discussants in ABA, Abbay River Basin Integrated Water Resource Management Plan has been completed for Abbay Basin.<sup>141</sup> It is an integrated plan which mainly is a baseline study and may not include LTW in detail. It is general and indicates what the structure of organizations in ABA would look like. It contains environmental protection, institutional framework, disaster risk management, Buffer Zone, building sites, etc. It has been adopted by Board of ABA and it is expected to be adopted in short time. Many previous studies were assessed as inputs. It has a general part and the implementation plan will be prepared in detail for it in the future. It is to be noted that when the 12 River Basins were established, a general master plan was adopted;<sup>142</sup> and this includes Abbay River Basin Integrated Development Master Plan.

Integrated Tana Sub-Basin Plan (ITSBP) was prepared for 30 years in 2010.<sup>143</sup> This was a World Bank ('WB') project for integrated sub-basin planning in Tana and Beles sub-basins. Innovative methodology including

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<sup>137</sup> Id., p.79; Interview with Behailu Melesse, Institute of Land Administration, Bahir Dar University, June 2020; Interview with Mr. Aynalem, Bureau of Urban Development and Housing, June 2020.

<sup>138</sup> Interview-Dr. Ayalew, *supra* note 129.

<sup>139</sup> Ibid.

<sup>140</sup> Interview-Mr. Aynalem, *supra* note 137; FGD with BoTI, June 2020.

<sup>141</sup> FGD with ABA, July 2020.

<sup>142</sup> Ibid.

<sup>143</sup> Ibid.

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stakeholder consultations at local, wereda, zonal, regional and national levels and use of decision support models were applied in the process. The implementation phase has not started.

Other plans such as Tana Sub-Basin Land Use Planning and Environmental Study (TSBLUPES) and those prepared by other institutions such as BoWE, BoA, BoRLAU, and Bureau of Urban Development and Construction are expected to be detailed plans prepared based on the ITSBP as the latter involves many stakeholders.<sup>144</sup> The latter aims at putting in place integrated water administration and was prepared considering all resources within the LTW.

For instance, TSBLUPES was prepared after the ITSBP as a thematic part was given to it. One problem with regard to ITSBP is that implementation gap was created as the World Bank stopped its support. ABA staff indicated that they are preparing to implement it. Another problem is that basin management follows a different geographical boundary to political administrative boundary as the former is trans-boundary in nature. Moreover, there are problems relating to continuity in institutional memory because the leaders of institutions change frequently and as the one who is familiar with the matter leaves the new one who has no knowledge of the problems comes in. Institutional structures also change frequently.

TSBLUPES project was undertaken in 2015.<sup>145</sup> The Plan was prepared for Lake Tana at 1:20000 scale. The study was carried out by Lihket Design & Supervision Corporation ('Lihket'), formerly known as Amhara Design and Water Works Supervision Enterprise, on behalf of Bureau of Rural Land Administration and Use (BoRLAU). It consisted of three sections: Main Report, sector Studies, and Land Use Planning. The Land Use Planning part provides for protection of the Lake Tana buffer zone. However, it is surprising why the owner becomes ANRS Bureau of Rural Land Administration and Use (BoRLAU) while water resource administration is the mandate of ANRS Bureau of Water and Energy Resources (BoWE). But the Plan has not been implemented by BoRLAU nor by other stakeholders. BoRLAU is beginning to tie this Plan with local land use plan which is their mandate in legislation but it is not effective because there is no integration with other institutions such as BoA.

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<sup>144</sup> Ibid.

<sup>145</sup> FGD with Lihket and BoRLAU staff, June 2020.

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Another study is the Community-Based Integrated Watershed Management in Lake Tana Project funded by Global Environment Facility (GEF) and implemented by International Fund for Agricultural Development (IFAD) around 2010.<sup>146</sup> One of the objectives of this project was to create and strengthen favorable policy and regulatory mechanisms to facilitate the adoption of improved natural resources management practices to increase productivity and reduce vulnerability among farmer and rural communities.<sup>147</sup>

There were also positive developments that unfortunately failed to be implemented. For example, the Bureau of Culture and Tourism (BoCT) had caused the registration of Lake Tana as United Nations Education Science and Cultural Organization Biosphere reserve around 2014 together with Nature and Biodiversity Conservation Union.<sup>148</sup> The biosphere reserve management plan has detailed components in it. Lake Tana and its surroundings were demarcated into core zone, buffer zone and transition/development zone. The development zone was extended to Sebatamit *Kebele*. But there is problem of implementation. According to Mr. Bedlu, the other plan is LTW Growth Corridor 6 Year Strategic Plan prepared in 2009.<sup>149</sup> It is owned by Bureau of Finance and Economic Development (BoFED). BoTI staff mentioned another instrument, i.e., the Tana Belt Initiative which is a strategic document. Its components are sustainable development, green development, tourism, horticulture, livestock, etc.<sup>150</sup>

The other important development study was Tourism and Transport Development in Lake Tana and its environs completed in 2012.<sup>151</sup> The study has produced a number of project profiles indicating tourism development potentials complemented by maps showing travel routes and landing sites at the Lake shores. Despite the significance of the document it was hardly implemented.<sup>152</sup>

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<sup>146</sup> Global Environment Facility, Proposal for Project Development Fund. Project Title: Ethiopia: Community-based Integrated Natural Resources Management: Improving Ecosystem Integrity and Rural Livelihoods (2005–2010).

<sup>147</sup> Ibid.

<sup>148</sup> FGD with BoCT, June 2020.

<sup>149</sup> In-depth interview with Mr. Bedlu Dingetu Ayele, Commissioner, Amhara Planning Commission, June 2020.

<sup>150</sup> BoTI, *supra* note 140.

<sup>151</sup> FGD with BoCT, June 2020.

<sup>152</sup> Ibid.

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## 7.2 Encroachments and waste discharge in violation of plans

Urban Planning Proclamation No. 574/2008 provides that any local development plan shall, among other things, include ‘green areas, open spaces, water bodies, and places that might be utilized for common benefits’.<sup>153</sup> This certainly includes watershed areas bordering urban centers. ARLAUP addresses watershed in the context of land use plans and irrigation development. It provides that BoRLAU prepares a land use master plan that will be implemented in the region on the basis of the national land use plan or on its own contextual situations.<sup>154</sup> More interestingly, it stipulates that water holding lands as well as natural, traditional and religious heritages and the like should be properly preserved and developed through master plans.<sup>155</sup> A Directive is also issued that provides for the sanctions to be applied on those who violate land use plans.<sup>156</sup>

Similarly, ANRS legislation has dedicated one part for urban plans.<sup>157</sup> It provides that one of the powers of a city administration is to cause the study and revision of the master plan of the city, cause to be approved after being examined by the city council, and supervise the implementation.<sup>158</sup>

Even though the rural land administration and use legislations consider watershed in the context of land use planning, there is lack of land use planning service on watershed resources. According to Genet, there are challenges in preparing and implementing urban plans in Amhara region especially in the way water bodies are integrated with master plan of Bahir Dar and other cities.<sup>159</sup>

It is well-known that existing construction and other development works along Lake Tana shore are contrary to even existing plans.<sup>160</sup> Lake Tana and the Blue Nile River are increasingly being encroached by buildings and urban agriculture without protecting the natural wetland and leaving a sufficient protective buffer.

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<sup>153</sup> Federal Urban Plan Proclamation No. 574/2008, Art. 11(3)(f).

<sup>154</sup> ARLAUP, *supra* note 37, Art. 29.

<sup>155</sup> *Id.*, Arts. 27 (1(E), 10), 29(4, 6) 30(3).

<sup>156</sup> ANRS Land Use Directive issued under the ARLAUP and Regulation No.159/2018, Directive No.2/2018.

<sup>157</sup> The Revised Amhara Region Urbans’ Re-Establishment Organization and Determination of their Powers and Duties Proclamation No.245/2017, Arts.85–86.

<sup>158</sup> *Id.*, Art. 11(2)(C).

<sup>159</sup> G. Gebreegziabher (2017). Urban Areas and Planning in the Lake Tana Region: in Stave *et al*, eds, (2017). Social and Ecological System Dynamics Characteristics, Trends, and Integration in the Lake Tana Basin, Ethiopia, p. 428–429.

<sup>160</sup> Abbay, *supra* note 135, p.64.

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In a survey undertaken with 221 individuals by Abbay on local people in Bahirdar city, 125 respondents (56.56 %) responded that the public spaces left out of the allocated land of the lakefront are not enough.<sup>161</sup> Also, due to lack of sound urban planning many sewers and drain lines are connected to the LTW. Waste water generated by Felegehiwot Referral Hospital, Bahir Dar University Technology Institute (Poly Campus), and the hotels like Kuriftu, Tana, Avanti, Grand etc are directly discharged towards the Lake Tana.<sup>162</sup>

In fact, land use planning is a service that has never been materialized even with respect to non-water rural land resources. With regard to LTW, the stakeholder and power of management conflict means also that the scanty provisions in the rural land administration legislation may not be implemented easily.

## 8. Conclusion and the Way Forward

Serious problems with regard to institutional and legislative instruments on natural resources management within LTW have exposed the water, fish, wetland and related resources to danger. Natural resource policies, laws, study, design and plans are found in scattered documents and institutions. This article has examined Ethiopian legislations having bearing on LTW and other natural resources on various criteria.

WRMP, WRMR, and RBHCAP fail to directly specify the types of rights, restrictions and responsibilities (RRRs) of various water users although they define 'water use'. In this regard, for example, AUWRCP needs to indicate what happens to the public water use when a riparian land is transferred to another person through legal land transactions. WRMP provides for water resource information system although there is little association of this information with water use rights. The other two proclamations fail to provide for information system. For AUWRCP, this is a serious gap given that there is very little reference to the ANRS land administration and use proclamation which regulates registration of land rights and which fails to clarify whether the latter includes adjacent water use.

The other major gap relates to the coordination of central and local water institutions, and the lack of integration of water law with other related legislations and policies and strategies particularly with land administration

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<sup>161</sup> Id., p.53.

<sup>162</sup> B.A. Fenta (2017). "Waste management in the case of Bahir Dar City near Lake Tana shore in Northwestern Ethiopia: A review", *African Journal of Environmental Science and Technology*, Vol. 11(8), p.405.

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legislations. There are ambiguities regarding power and responsibilities. Roles, responsibilities and accountabilities are not clearly defined thereby leading to an overlap in the mandates of the key institutions and organizations that manage and govern natural resources. While all stakeholders have the same overall goal of protecting the natural resources, they have very different levels of awareness, approaches and perspectives in terms of sustainable management and governance. Moreover, they operate in diverse settings, political contexts and institutional environment. This has created confusion and conflict in resource management and governance at different levels.

Overlapping of major jurisdiction on water resource management among various institutions such as water institutions and agricultural and environmental institutions is quite common. This problem occurs from the highest /central level to the local/regional level leading to an absolute failure to the sustainable protection of Lake Tana Watershed (LTW). Practices substantially deviate from the written policy and legislation on Integrated Water Resource Management (IWRM).

Actual water development interventions follow a piecemeal approach. There is uncoordinated and unregulated harvesting of ground and surface water resources. Adequate upstream and downstream considerations are also lacking in the implementation process. Mechanisms for cost and benefit sharing between upstream users (who cause the degradation and could control it if they have the incentive) and downstream users (who could gain more from improved management of land and water upstream and lose due to poor management of the same) are not in place in the water policy of the country.

The poor record in monitoring and evaluation is highly linked with the absence of an integrated system of information management at the country level or at the sub-basin level. While the land and water organizations, both in the country and regions, are mandated to collect and store relevant data to support decision making, the data collection is inadequate.

There are attempts, for instance, to establish WRIC (Water Resource Information Center) at the MoWE. However, an integrated information management system is not yet in place to enable information sharing and exchange between organizations and support timely policy decision making. There is a considerable weakness at all levels of the regional water sector institutions in keeping proper records of data and information. There is also a lack of standard procedures for gathering and storing of data and information. Data management is not done in a way conducive to enable easy data sharing.

In light of the discussion and analysis in the preceding sections, it is possible to conclude that management of existing water resource in general and LTW in particular is not in line with the principle of IWRM and

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sustainable natural resource management. Hence, certain directions can be suggested. *First*, there should be work done in order to consolidate existing studies, plans, designs, laws, and policies on natural resource use, development, and administration and lead the management of these for the future. Lake Tana and Other Water Bodies Protection and Development Agency (LTWPDA) seems to be in a better position to implement this task to prevent duplication and wastage of the country's resources. But this institution may need more recognition and empowerment to be able to perform this task. *Second*, the powers and authorities of the key federal and regional institutions should be reviewed for proper alignment and synergy of mandates among numerous institutions at federal and regional level and also for proper cascading from region to zone, to *woreda* and *kebele*.

*Third*, the ANRS should adopt a separate regional law on the region's water resource management following the fashion of rural land administration and use laws. This is also an urgent task given the fact that clarity on the question of which institution should have practical mandate on the management of LTW is crucial.

*Fourth*, a land administration approach needs to be applied for water resource management. This is because the field of land administration has, at least relatively, a settled practice in defining property objects, users and institutions for same. Furthermore, the land administration approach is steadily developing in terms of providing new theories, models and applications which could be suitable to manage watershed in an integrated fashion. As the discussion in the preceding sections indicates, future research needs to further explore the manner in which water resource administration can be integrated with land resource management in terms of property rights and land tenure, land information, and land use planning. \_\_\_\_\_■

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