

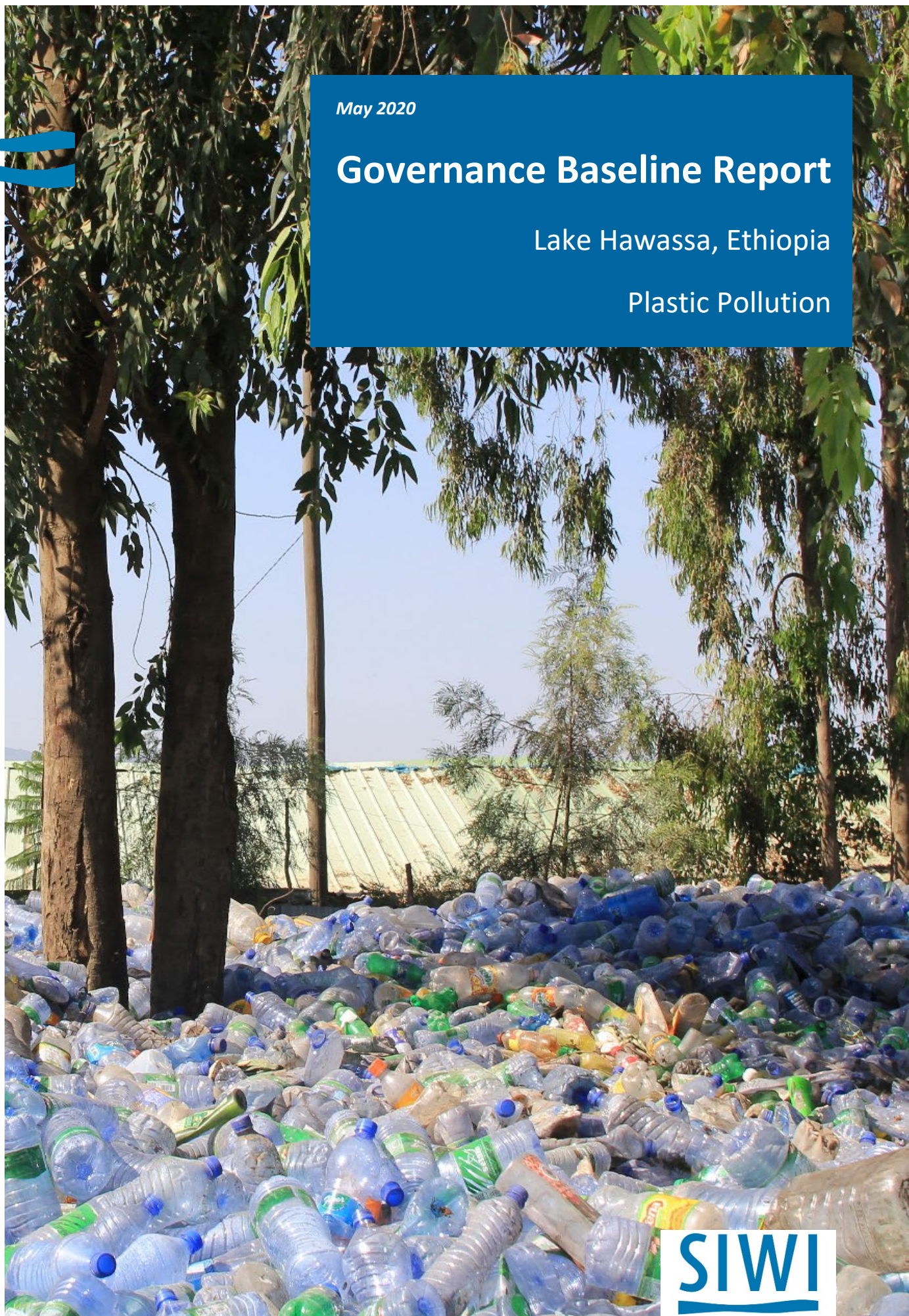


May 2020

Governance Baseline Report

Lake Hawassa, Ethiopia

Plastic Pollution



This document has been authored by David Hebart-Coleman, Ruth Mathews, Josh Weinberg, Kanika Groeneweg-Thakar, SIWI. It has been produced as an outcome from the “Foundations for Source-to-Sea Management” project carried out by SIWI from September 2019– May 2020 and funded by the German Federal Ministry of Economic Cooperation and Development (BMZ).

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This project followed the guidance provided in “Implementing the Source-to-Sea Approach: A Guide for Practitioners” and “Source-to-Sea Framework for Marine Litter Prevention: Preventing Plastic Leakage from River Basins”. Both of these resources as well as many others can be found at www.siwi.org/source-to-sea.

About SIWI

SIWI's vision is a water wise world, where we recognize the value of water, and ensure that it is shared and allocated sustainably, equitably and efficiently, to meet everyone's basic needs.

Through applied research, policy consultation, capacity-building, and connecting key actors across sectors, SIWI stimulates the development of innovative policies and scientifically-based solutions to water-related challenges. We bridge science, policy and practice for a water wise world.

Founded in 1991, the Stockholm International Water Institute (SIWI) provides and promotes water wise solutions for sustainable development in the areas of water governance, transboundary water management, and through international policy processes.

Foundations for Source-to-Sea Management

The Stockholm International Water Institute (SIWI), funded by the Federal Ministry of Economic Cooperation and Development (BMZ) conducted a project "Foundations for Source-to-Sea Management" to pilot the source-to-sea approach¹ in the Vu Gia Thu (VG-TB) River Basin, Viet Nam and the Lake Hawassa sub-basin, Ethiopia. By focusing on the first three steps of the source-to-sea approach, the two pilots:

- Increased knowledge of priority local challenges constraining sustainable development;
- strengthened awareness of the linkages between upstream and downstream activities and their impacts;
- built local capacity for taking a holistic approach to natural resource management and economic development;
- highlighted the opportunities and challenges associated with implementing the source-to-sea approach to management.

Contents

- Foundations for Source-to-Sea Management 2
- Contents 3
- Introduction..... 5
 - Lake Hawassa sub-basin 6
 - Governance baseline 7
- Diagnosing the governance system..... 7
 - Local context 7
 - Source-to-sea approach to management 10
 - Conducting a governance baseline 11
 - Governance in Lake Hawassa Sub-Basin 13
- Discussion 19
 - Gaps..... 19
 - Conflicts 20
 - Recommendations 20
- References..... 22
- Annex 1: Plastic Litter governance worksheet for Lake Hawassa (Institutions) 23
- Annex 2: Plastic Litter governance worksheet for Lake Hawassa (Instruments) 24

Figures

Figure 1: Six steps of the source-to-sea approach (Source: Mathews, et al. 2019)..... 5
Figure 2 Administrative Map of Hawassa City sub-cities (Source UN-Habitat 2014)..... 6
Figure 3 Sub-cities selected for the survey and their associated characteristics (Source: RWA 2019) .. 8
Figure 4 Household waste composition in 2014 (Source USAID) and 2019 (Source RWA 2019) 9

Tables

Table 1 Breakdown on quantities of waste generated and per capita generation in Hawassa City 8
Table 2 Stakeholder workshop identified impacts and sources of plastic pollution..... 10

Introduction

The Stockholm International Water Institute (SIWI), funded by the Federal Ministry of Economic Cooperation and Development (BMZ) conducted a project “Foundations for Source-to-Sea Management” to pilot the source-to-sea approach as it is laid out in [“Implementing the source-to-sea approach: A guide for practitioners”](#) and [“Source-to-Sea Framework for Marine Litter Prevention: Preventing Plastic Leakage from River Basins”](#). Two specific locations, Vu Gia Thu Bon River Basin (VGTB), Viet Nam, and Lake Hawassa sub-basin, Ethiopia, were selected for the implementation of pilot studies that involved the application of the first three steps within the S2S approach (Figure 1).

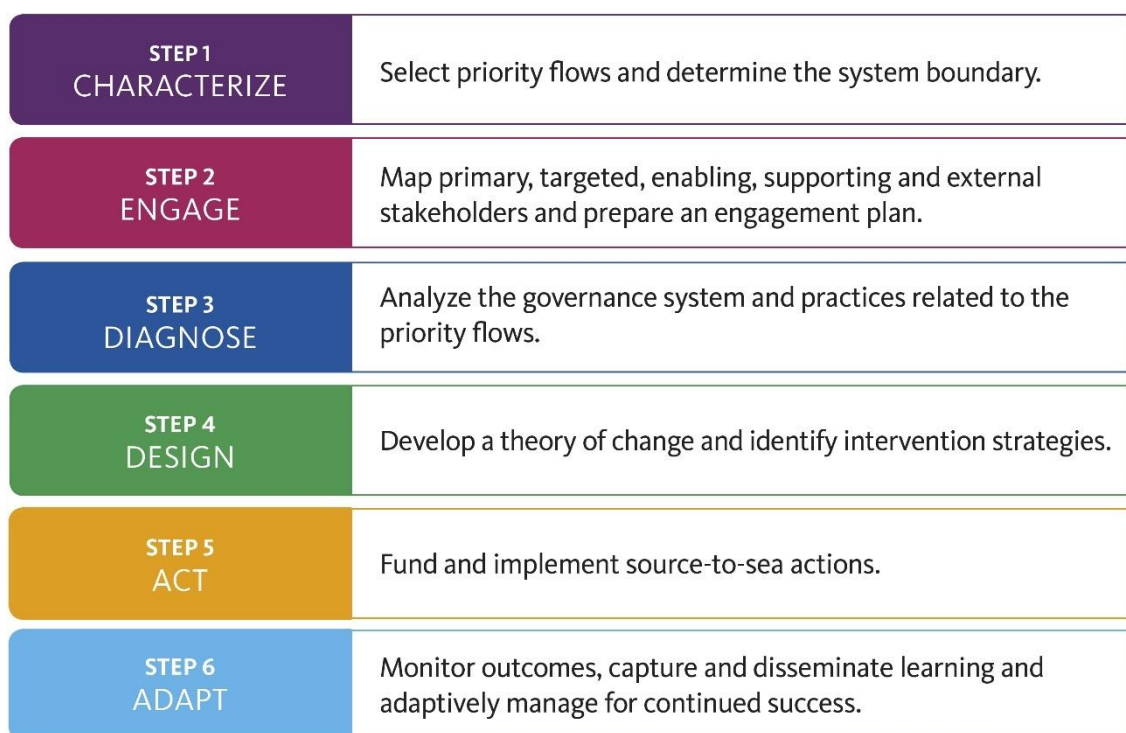


Figure 1: Six steps of the source-to-sea approach (Source: Mathews, et al. 2019)

In the Lake Hawassa sub-basin, two priority source-to-sea flows were identified as important – sediment from soil erosion and plastic pollution. In the VGTB, plastic pollution was selected as the priority source-to-sea flow for this project. These priority flows were chosen following early discussions with local partners. In both Ethiopia and Viet Nam, stakeholder workshops, capacity building workshops and field visits were conducted. Activities in the Lake Hawassa sub-basin were conducted with GIZ, and the Basin Development Authority of Ethiopia (BDA). While activities in the VGTB were conducted with IUCN, Department of Natural Resources (DONRE) and Quang Nam Provincial Peoples’ Committee. In the Lake Hawassa sub-basin, the source-to-sea approach was adapted to source-to-lake, recognizing the similarities in characteristics in an endorheic lake basin and as compared to a sea or ocean. Consultants were commissioned to prepare reports characterizing the priority flows as described in Step 1 of the source-to-sea approach. These reports were used to define the system boundary for each priority flow, and, in turn, provide a base for undertaking Step 2: Engage and Step 3: Diagnose within the pilot.

The focus of this report is the results from carrying out Step 3: Diagnose.

Lake Hawassa sub-basin

The Lake Hawassa sub-basin is located 275 km south of Addis Ababa and covers approximately 1400 km². Lake Hawassa is 90 km² in size and is the endpoint of an endorheic hydrological system, with some limited groundwater outflow. Erosion and sediment flows are considered major issues in Hawassa and have been driven by the substantial land use changes over the past 50 years. Ongoing changes in land use have led to infilling of aquatic environments, including the loss of Lake Cheleleka, and increased water turbidity in local water bodies.

The main urban area is Hawassa City and it is one of the fastest growing cities in Ethiopia. The population of Hawassa City in 2015 was estimated to be 350,000 in the urban area and was growing very quickly at 4% per annum. The population of the entire sub-basin is approximately 3 million people who mainly live in rural areas. Prominent land uses in the sub-basin include agriculture (including enset, maize and potatoes), tourism, and, most recently, industries supported by the inception of a major industrial park (Hawassa Industrial Park (HIP)). Plastic pollution is an emerging issue in Hawassa, one that can result in local impacts such as urban flooding, increased costs of clean-up, and pressure on local biodiversity (RWA 2019) and is thought to be entering the food chain through local fisheries and urban dairy farming. RWA (2019) noted a population of 403,000 people divided across several sub-districts within the city.

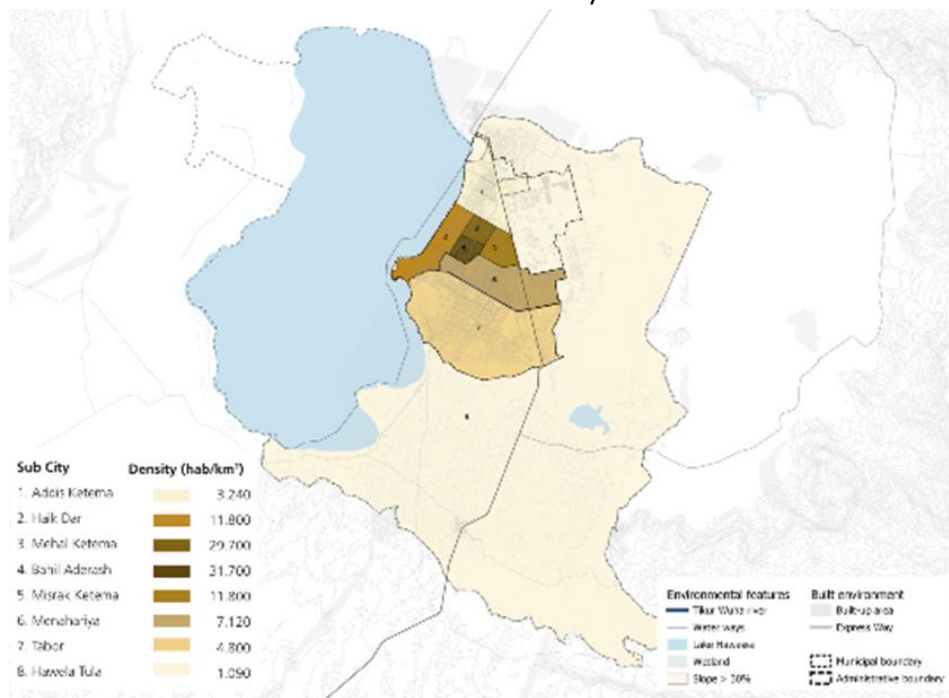


Figure 2 Administrative Map of Hawassa City sub-cities (Source UN-Habitat 2014)

There are several sources of plastic pollution into Lake Hawassa, mainly from urban domestic areas as well as touristic areas. The report by RWA (2019) indicates that there is a reasonably clear institutional framework, but that the governance system is hampered by poor coordination amongst key actors, weak enforcement of established provisions, and a lack of resources. Applying a source-to-lake approach helps address this issue by focusing on the linkages between land, rivers and lakes and identifying where the weak points exist. The approach considers the entire source-to-lake system – stressing upstream and downstream environmental, social and economic linkages and stimulating coordination across sectors and spatial segments, across flows such as water and pollution including solid waste. This knowledge is then used to build commitment by critical

stakeholders for designing strategic courses of action that hold greater benefits for the source-to-lake system, rather than one or two sources of plastic litter flow.

The project in the Lake Hawassa Sub-Basin provided a good opportunity to highlight the benefits of taking an integrative approach for source-to-lake management and working with local stakeholders on developing solutions and strategic course of action and identifying gaps or overlaps in terms of Governance on an ongoing issue.

Governance baseline

The purpose of a governance baseline is to: 1) better understand the governance conditions that have had an impact on the present state of the system; 2) identify which institutions hold mandates for managing priority flows; and 3) identify existing instruments related to current behaviours and practices that are leading to impacts to the source-to-lake system. This mapping of existing instruments and institutions is followed by an assessment of key overlaps or gaps between the mandates of different institutions, coordination challenges and responsibilities that will support necessary changes in practice or behaviour that have led to negative impacts. This analysis forms a clearer picture of the governance baseline, including the existing means of governance and the set of issues it is meant to address.

The governance baseline can also provide background on limitations to past interventions that are then incorporated into the planning of future interventions as part of Step 4: Design, and ensure that these are better tailored to the system boundary. In the source-to-lake approach, the governance baseline is mainly concerned with understanding the impacts, mandates, and activities by the Enabling Stakeholders identified in Step 2: Engage.

Diagnosing the governance system

Local context

Hawassa City Administration includes urban, industrial and peri-urban/rural areas. Due to limitations in the time allocated for the study, research was limited to the Hawassa City administrative area that contains a mix of urban, touristic, rural, peri-urban and commercial areas and the assessment was

primarily concerned with root causes of plastic leakage and the sources of plastic pollution within Hawassa.

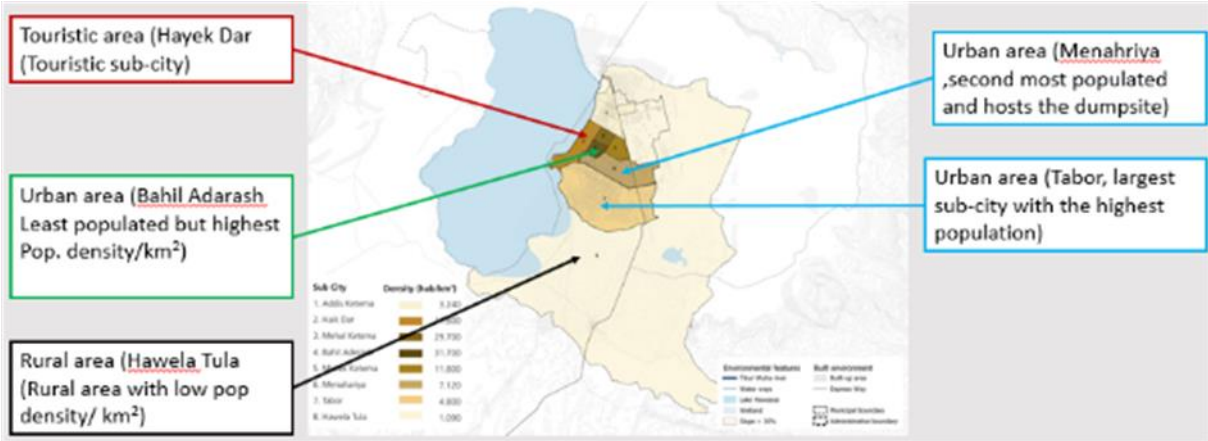


Figure 3 Sub-cities selected for the survey and their associated characteristics (Source: RWA 2019)

RWA (2019) estimated that the urban area in Hawassa generates approximately 206 t/day of municipal solid waste (MSW), from which 8% (15.94 t) is plastic waste. The 206 t/day estimate includes both domestic and commercial sources and was based upon a mixture of modelling using established processes, augmented by local sampling at the solid waste facility to verify estimated values. Urban areas are considered to be the main source of plastic waste at 63.9% of the total, followed by touristic and rural areas at 25.6% and 10.5% respectively.

Table 1 Breakdown on quantities of waste generated and per capita generation in Hawassa City

Study area		Quantities of waste generated (t/day)			Per capita generation (kg/day)
		Households	Premises	Total	
Urban	Population 206,496	89	38	127	0.62
Touristic	59,835	26	11	37	0.62
Rural	136,694	29	13	42	0.31
Total		144	62	206	
		Weighted Average			0.51

Several types of plastic waste are generated in Hawassa. These include: dense/heavy (PET, LDPE, HDPE, PP), film/light (bags and wrappers) and fishing nets. Light plastic forms most of the plastic waste at 60.9% of the total load followed by dense plastic and fishing nets at 38.9% and 0.2% respectively. Dense plastic, especially PET, has a high market value in the recycling industry. Alternatively, despite the large amount of light plastic being generated, very little of it is recycled since it has no market value. Strategies to manage plastic litter will need to take this limitation into account. Another source of plastic pollution in the Lake Hawassa is fishing nets. The lifecycle of many fishing nets is limited. RWA (2019) found that illegal fishing nets are at the end of their life span, i.e., one year, are often disposed directly into the lake as a convenient disposal method. Whilst the total material of plastic from this source is limited compared with other sources, old nets can result in local biodiversity impacts.

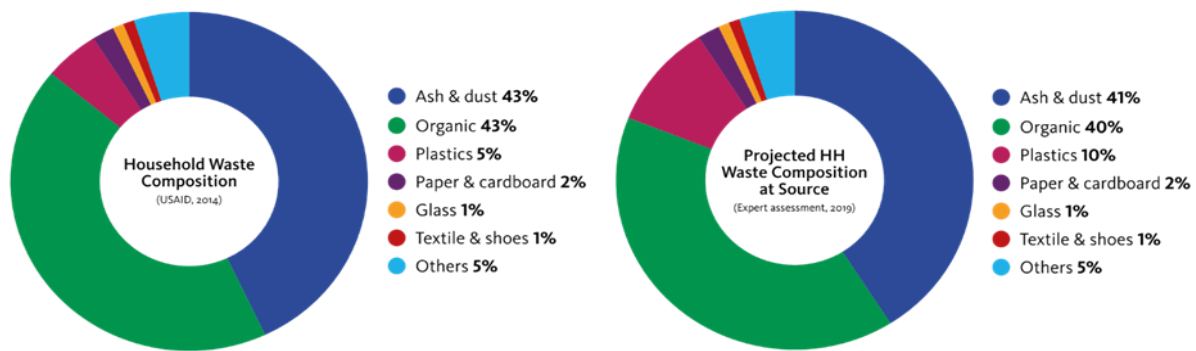


Figure 4 Household waste composition in 2014 (Source USAID) and 2019 (Source RWA 2019)

RWA (2019) observed that collection and management of plastic waste is similar across both urban and touristic areas. However, there is no waste management system found in rural areas and it is assumed that plastic waste sourced from rural areas either ends up in the environment or occasionally finds its way into waterbodies. Similar sources of plastic pollution may be found outside Hawassa City in the other rural areas of the sub-basin, but these were not accounted for within this study. RWA (2019) estimate that in urban and touristic areas, approximately 32% of all the plastic waste generated is collected for recycling (21%) or disposal (11%). This implies that close to 68% of the plastic waste generated in these areas is not disposed of appropriately. Of uncollected plastic waste, it is estimate that 56% is left on land, 25% is burned, 18.6% ends up in Lake Hawassa, and 1% in drains. Although this a small percentage of plastic waste that is stuck in drains, it is important to note that drains are the main transmitters of plastic into Lake Hawassa and it can also cause flooding during wet seasons.

Inadequate plastic waste management in Hawassa has resulted in environmental, economic, ecosystem and public health impacts including but not limited to (RWA 2019):

- increased cost of clean-ups,
- flood damage to roads and houses,
- increased risk of flooding due to blockage of storm drains
- increased risk of malaria outbreak.

Different stakeholders were identified in connection with this priority flow, with primary stakeholders¹ including urban communities affected by flooding and fisherman reliant on Lake Hawassa for their livelihoods; targeted stakeholders² including consumers, local and commercial businesses; enabling stakeholders³ including various regional state bureaus and federal ministries;

¹ Primary stakeholders are those individuals or communities who are affected by changes in the priority flow

² Targeted stakeholders are those individuals or communities whose practices or behaviours are creating or exacerbating the problem

³ Enabling stakeholders are those who have roles in managing practices and behaviours that impact on the priority flow

supporting stakeholders⁴ such as Hawassa University and CIFA; and external stakeholders⁵ such as Ethiopian Airlines.

As part of the study, stakeholders within workshops were asked to identify impacts from excessive plastic litter flow as well as some of the key geographical locations or practices that they thought contributed to plastic pollution. In terms of impact, the following table outlines stakeholder knowledge on various impacts and sources of the excessive plastic litter flows. Whilst many of these are found in urban areas, a number of these identified impacts are more applicable to rural areas. It is noted that the sources of plastic identified in this process were very widespread, touching on most parts of the sub-basin, especially compared with the focus of RWA (2019).

Table 2 Stakeholder workshop identified impacts and sources of plastic pollution

Impacts	Sources of Pollution
<ul style="list-style-type: none"> • Farmland and Farmers • Livestock • Lake Fisheries • Ecosystem • Health Impacts (from waste burning in various areas) • Air pollution and Residues • Impacts on Biota / Biodiversity • Direct Impacts on Poor communities • Ingestion of plastic in cattle • Health Impacts – general and specific • Fish Types • Plastic Collectors • Flooding in many areas 	<ul style="list-style-type: none"> • Industries (packaging) • Irrigation (Packaging and broken equipment) • Polyethene Cubes • Health Centers (Packaging of medical equipment and waste) • Agricultural – Agrochemicals • Nursery Sites: Plant Packaging • Irrigation Pipes • Water Harvesting materials • Pipes and Bags in agricultural areas • Bottle Users • Events • Industries – Textiles, Construction, Food • Retail Sector • Tula Sub-city as an example of a Hotspot • Bus centers • Bazaars and markets

Results from both Step 1 Characterize and Step 2 Engage assessments indicate that the sources and geographical locations of plastic leakage, and the stakeholders that whose practices and behaviours contribute to plastic pollution, are very widespread within the urban areas but are unknown unknown but less significant outside of Hawassa City. RWA (2019) confirmed the steady increase in the amount of plastic waste generated, with higher per capita production in urban areas but less collection and managed disposal in rural areas.

Source-to-sea approach to management

In many countries, water and land governance is fragmented over multiple institutions and instruments, and in this Ethiopia is no different. Ethiopia has a complex political system that includes federal entities, regional state entities, and multiple layers of local entities including weredas, kebeles, and urban authorities. Each regional state has the mandate to release proclamations and

⁴ Supporting stakeholders are those who already provide support for addressing plastic leakage and solid waste management but may not have legislative powers or formal mandates

⁵ External stakeholders include those whose interests may be aligned in managing the priority flow but may sit outside the biophysical boundaries or may be unaware of opportunities for involvement

regulations applicable to their area, and whilst these may be reflective of national proclamations, they can differ significantly at state levels. In addition, weredas and urban authorities may also have powers to develop bylaws, initiate local courts, and other activities that comprise the overall governance framework. The Lake Hawassa Sub-Basin crosses regional state boundaries between Oromia and the Southern Nations, Nationalities and Peoples Regional State, creating additional complexity in local governance and meaning that the federal ministries should play a greater role than those basins that only fall into on regional state.

Following regime political changes in the 1990's, the core instruments include the Constitution of Ethiopia, the Environment Policy (1997), the Conservation Strategy (1997), and Integrated Water Resource Management (2000). Amongst other provisions, these instruments outline rights, obligations, and mandates in terms of individuals, institutions and the environment. This core was later supplemented by national proclamations on Environment Impact Assessment, Environmental Pollution Control, and, importantly for this plastic pollution, Solid Waste Management. More recently, the River Basin Councils Proclamation emerged in 2007, and the main function of this is to provide for an institution that helps coordinate the many different activities that impact on water, including potentially for plastic litter.

Ongoing plastic litter flows into Lake Hawassa suggest that the present governance is not working or is only working in part. RWA (2019) listed several factors for this, including a lack of enforcement or implementation capacity at a local level as well as low public awareness of plastic litter impacts. A source-to-lake approach will provide four main benefits for addressing this priority:

1. It will help identify context specific interventions that address the full range of root causes and strategies for the reduction of plastic litter flows, rather than being restricted to an action space whose parameters are defined by the specific mandated institution or instrument. For example, in terms of plastic pollution, strategies focused on prevention of litter flows, whether through public awareness or re-design of materials, could be considered in concert with strategies designed to improve collection and conveyance of solid waste.
2. It will help different parties to develop common objectives and help coordinate activities or actions taken by different institutions to ensure that interventions are not exacerbating problems.
3. It will help identify overlaps or gaps in governance, leading to conflicts between agencies in the former, and failure of action in the latter.
4. It can potentially build support and advocacy for addressing plastic litter issues collectively, by creating better understanding of the connections between different segments of the source -to-lake system in Lake Hawassa and the stakeholders involved. This could enable better conditions to advocate for additional resources to reduce plastic litter. RWA (2019) noted that previous attempts at coordinated actions have not proven successful.

Conducting a governance baseline

Chapter 4 in the Practitioners Guide contains leading questions related to governance used to help guide this process. These include:

- Which institutions, legal and regulatory frameworks, rights, ownership, informal agreements have management mandates for priority flows, targeted activities and/or source-to-sea segments?

- Are those management mandates in conflict with each other and are they supportive of achieving the desired source-to-sea outcomes?
- Are there other actors, e.g., companies or non-governmental organizations, that may influence the priority flows, targeted activities and/or source-to-sea segments?
- What is the relative power and impact of government, the private sector and civil society in affecting the condition of the source-to-sea system?
- Are the practices being used by the targeted stakeholders in line with the institutional mandates or is there a failure in enforcement?
- Are there mechanisms for stakeholders to be involved in decision-making, are there procedures in place for resolving conflicts that may arise between stakeholders and are they being effectively applied?

For this governance baseline, two broad types of categories are used, institutions and instruments. Whilst the meaning of institutions can be very broad and can include organisations, legislation, formal and informal agreements etc, in this report the categorization is used to identify organisations, agencies or entities that generally have a formal or informal influence. In general terms these will include federal ministries, regional state government and bureaus, urban authorities, kebeles and, potentially, river basin authorities for addressing plastic pollution. Most of these institutions would fit into the Enabling Stakeholders categorization conducted as part of Step 2 exercises. Annex 1 includes the different institutions that are involved in governance related plastic pollution and includes information and discussion on the tier of governance, their relevance to the appropriate management of plastic pollution, general strengths and weaknesses, effectiveness and limiting factors. It also includes a listing on the key instruments that they administer.

The other broad category used in this baseline are instruments. Instruments include such things as legislation, regulation, constitutions, bylaws, and plans etc. normally applicable to the plastic litter priority flow. These various instruments may be applicable generally or specifically, relate to a particular sector, may be administered by one or more institutions, or outline roles and responsibilities for several tiers of governance. Some instruments may be prepared at a federal level but applicable nationally, whereas other instruments are prepared by the regional state governments for use in their own region. Examples of generally applicable instruments include the Constitution of Ethiopia or Environmental Impact Assessment Proclamation, whereas an example of locally applicable instruments include the SNNPR Rural Use Proclamation or the Hawassa City Solid Waste Strategy.

Annex 2 includes the different instruments applicable to plastic litter management, and includes information on whether the instrument is general, sector specific, site or area specific, or specific to a particular segment. Many of the instruments that are general in nature form the foundation of subsequent legal instruments, such as legislation or regulations that are more specific in nature, bylaws which may be locally driven rules, plans whether rules based or strategic, and funding strategies.

Methods

In order to undertake Step 3 and identify key institutions and instruments, three different research approaches were used. The first was through the Step 1 Characterization study commissioned as part of the assessment reports prepared by local consultants (RWA 2019). While the focus of this report was on Step 1 Characterization, they also included sections on Step 2 and Step 3. The second approach was through engagement with stakeholders in workshops held as part of the project in late 2019 and early 2020. These workshops included representatives from various institutions and

communities throughout Lake Hawassa (and further afield) and focused on enhancing knowledge about plastic pollution and the identification of impacts, stakeholders and institutions as applicable. The third approach was through desk-top research and review of various instruments identified through this research. In terms of restrictions, whilst the combination of the three approaches has helped build the baseline, the project team was intending to hold further workshops in Lake Hawassa to verify and endorse the findings. These were cancelled due to travel restrictions related to the Covid-19 pandemic.

As well as the identification process of key institutions and instrument, various components of governance were evaluated in terms of overlaps, gaps, conflicts and coordination challenges. An overlap in mandate occurs when more than one institution or instrument is managing the same geographic location or issue, for very similar purposes. The result of such overlap is that resources may be split to an extent that there is limited impact by either institution, or it may result in mixed messages being sent to the target audiences, leading to confusion.

As well as overlaps, there may be a definable gap within governance. It can emerge as a result of changes in behaviours or practices that weren't anticipated when legislation or institutions were mandated, or it may occur as the legislation covering the activity is very general or highly targeted. Gaps may also occur in terms of implementation, such as a lack of enforcement capacity due to lack of capacity, resources, or priority.

For some priority flows, there may not be specific instruments or institutions managing the priority flow but instead governance is reliant on a piecemeal approach. These can result in significant issues if institutions fail to address their responsibilities at the same time, or when one institution relies on another to carry out their function, and therefore coordination challenges emerge. Another coordination challenge occurs when objectives and targets are poorly defined or very generic, meaning that the individual institutions are not clear how their components fits into the wider challenge.

Conflicts may occur when one or more institutions hold responsibilities over the same issue, but their mandates or objectives can negatively impact on activities or mandates of the other. This can have a geographical component, where the management of one segment by one institution can result in upstream and downstream challenges, or it can occur within the same segment of the source-to-lake system, such as in upper catchments. Sometimes conflicts can occur between different institutions, within large institutions where different departments are granted conflicting mandates.

Governance in Lake Hawassa Sub-Basin

Institutions

Many key institutions are important for the governance baseline, ranging from national institutions through to local institutions. Whilst the process identified close to 20 institutions that form part of the governance system, the most relevant for this report are as follows:

Ministry of Trade and Industry: The Ministry of Trade and Industry is responsible for facilitating investment across Ethiopia. Whilst it doesn't manage proclamations of direct relevance to plastic litter, its efforts to catalyse project investments may increase the generation of plastic pollution, as can be seen with the expansion of industrial parks across Ethiopia. Amongst their duties is promoting the expansion of domestic trade and taking appropriate measures to maintain lawful trade practices. It also controls the compliance of goods and services with the requirements of mandatory Ethiopia

standards and takes measures against those found to be below the standards set, which may be important for managing plastic products and their production. This ministry is of high relevance to addressing plastic pollution issues from a national perspective, especially in terms of facilitating plastic pollution prevention or re-design of plastic litter materials.

Ministry of Urban Development and Construction: The responsibilities of this ministry are to design, approve, and implement policies, strategies, development packages and programs relating to urban development. Through its influence over urban policy and planning, it has an impact on the way that solid waste is planned for and managed and should help to ensure that the services, such as solid waste management, are in place. It provides capacity building support to regions to improve service delivery and ensure good governance, of relevance in discussions about the management of plastic waste. The Ministry of Urban Development and Construction administers proclamations relating to urban plans and urban authorities. This ministry therefore has a significant impact on how solid waste is managed across Ethiopia, especially through the way that urban areas are planned and serviced. There may be coordination challenges between its mandate and that of the Ministry of Trade and Industry, both in terms of urban planning but also in terms of waste materials and their disposal.

Ministry of Environment, Forest, and Climate Change: This ministry has a strong mandate in relation to plastic pollution, including the administration of national proclamations for environmental pollution, environmental impact assessment, solid waste management, and other activities that have an impact on the management of solid waste in land and waters. However, much of this mandate is connected to managing downstream activities such as collection and disposal. There may be coordination challenges in terms of proclamations relating to material standards and their downstream impacts.

Ministry of Water, Irrigation and Energy (Incl. Basin Development Authority): This ministry is responsible for water resource management, especially in terms of planning and strategy. It also hosts the Basin Development Authority that is enacted under the River Basin Councils and Authorities Proclamation No. 534/2007. The Ministry administers proclamations such as Irrigation Water Users' Associations Proclamation No. 841/2014 and others. The mandate within the Basin Development Authority is related to coordination and strategic planning around IWRM, but it is unclear how involved the Basin Development Authority is within solid waste management activities.

Ministry of Culture and Tourism: This ministry is responsible for the promotion of tourism across Ethiopia and provisions around accommodation and services for tourism. Hawassa is a very popular destination within Ethiopia, with the presence of the lake playing a large role in its attractiveness. Some types of plastic pollution are mainly sourced from tourist related activities, and therefore this ministry is of some relevance in the case of Hawassa and should be coordinated within wider solid waste management activities in the sub-basin.

Bureau of Trade and Industry (Oromia): This regional bureau catalyses investment into Oromia State, and may have an impact on plastic waste generation through increased local building and investment within this region. This Bureau is of high relevance to addressing plastic pollution issues from a regional perspective and administering the application of national standards, especially those facilitating plastic pollution prevention or re-design of plastic materials. In addition, investment catalysed into Oromia may impact on plastic waste generation.

Bureau of Trade and Industry (SNNPR): This regional bureau catalyses investment into SNNPR, and may have an impact on plastic waste generation through increased local building and investment within this region. This Bureau is of high relevance to addressing plastic pollution issues from a

regional perspective and administering the application of national standards, especially those facilitating plastic pollution prevention or re-design of plastic materials. Given that the largest population centre in Hawassa is found within SNNPR, investments catalysed into SNNPR may be significant.

SNNPR Urban Development and Housing Bureau: The role of this bureau is to assist urban areas in the state, and the private sector by way of preparing urban plans that encompass socio-economic and land-use dimensions and that ensure plan-led development of urban areas that have strong linkages with their rural hinterlands and serve as centres of rapid development. It would also have a role in appointing and administering local courts that would deal with local environmental cases, including plastic pollution. Similar to the national level, there may be coordination challenges between its mandate and that of the Bureaus of Trade and Industry, both in terms of urban planning but also in terms of materials and their disposal.

Oromia Urban Planning Coordinating Bureau: The role of this bureau is to assist urban areas in the state, and the private sector by way of preparing urban plans that encompass socio-economic and land-use dimensions and that ensure plan-led development of urban areas that have strong linkages with their rural hinterlands and serve as centres of rapid development. It would also have a role in appointing and administering local courts that would deal with local environmental cases, including plastic pollution. Similar to the national level, there may be coordination challenges between its mandate and that of Bureaus of Trade and Industry, both in terms of urban planning but also in terms of materials and their disposal. However, the main centre of population in the Lake Hawassa sub-basin is found in the SNNPR component.

Environmental Protection Agency (SNNPR): This bureau is responsible for managing the environment at the regional level, including the administration of environmental impact assessment and environmental pollution proclamations, as well as the provisions found across the Conservation Strategy, Environmental Policy, and Constitution of Ethiopia. This bureau is also responsible for managing components of the Solid Waste Management Proclamation, especially in terms of administering regulations as well as assessing local planning materials. RWA (2019) noted weak enforcement as a key gap in governance, and it is unclear whether plastic pollution is a high priority and/or whether there is a lack of local capacity.

Ministry of Health: The Ministry of Health, and local counterparts, plays a role in governance of solid waste, predominantly from a health perspective. The powers and duties of the Ministry are granted according to Proclamation 4/87. Health facilities were noted as key sources of plastic waste in the sub-basin, including inadequate management of medical waste and packaging. The presence of a regional hospital in Hawassa, close to Lake Hawassa, was seen as a concern by local stakeholders due to the potential to generate medical waste that is not managed properly. The appropriate disposal of medical waste can be resource-intensive, and it is unclear how well this is integrated into wider solid waste activities in Hawassa. The involvement of health representatives in Hawassa may be a significant gap.

Hawassa City Administration: Hawassa City Administration is responsible for services relating to solid waste management in the urban areas of Lake Hawassa, and for administering local urban planning legislation and regulations. Its responsibilities are devolved from the regional state level. Its chief influence on plastic pollution will be in terms of providing appropriate solid waste management as well as ensuring that changes in land use do not create new pressures on solid waste services are managed. The Urban Planning Sanitation and Beautification department within the Hawassa City Administration is responsible for managing services relating to solid waste and is critical to addressing this issue. A key gap is the limited capacity of the administration to influence national objectives on solid waste management, or standards and policies developed at the federal level. The

relationship between the Hawassa City Administration and regional bureaus will be important for addressing the root causes of plastic pollution.

Kebeles: Within urban areas, kebeles are responsible for local land management and the administration of local policies and may have devolved responsibilities and budgets for local services. The involvement of urban kebeles are of some importance for managing plastic waste, but they are more limited compared with higher levels of governance such as the urban authority.

Affiliation of Friends of Lake Hawassa: This is a newly emergent institution whose purpose is to support coordinated efforts to protect and rehabilitate Lake Hawassa from multiple threats. Its membership comprises representatives from multiple different institutions including public, private, and civil society.

Instruments

There are several key instruments that are important to include in the governance baseline, ranging from general instruments through to local instruments. Whilst the study identified close to 30 instruments that form part of the governance system, the most relevant for this report are as follows:

Ethiopia's Constitution of 1994: The Constitution underpins all legislation in Ethiopia and provides a basis for the development and enactment of legislation, regulations and proclamations, mainly at federal and regional state levels. As well as the rights, it also notes obligations on governments and citizens. As noted in RWA (2019), the Constitution adopted by Ethiopia in 1995 provides the guiding principles for environmental protection and management in Ethiopia. The concept of sustainable development and environmental rights are enshrined in article 43, 44 and 92 of the Constitution of GOE. Whilst the Constitution is of high relevance to legislation across Ethiopia, it is less relevant on a sectoral level but as a foundational document it can be used to support and guide actions or proclamations made by Enabling and Supporting Institutions. It does set out components of vertical coordination from the federal government through to kebele levels, but has limited applicability to horizontal coordination.

Environmental Impact Assessment Proclamation No. 299/2002: The Proclamation gives strong roles to regional state government and respective agencies in managing environmental impacts from projects. The definition of Impact and Pollutant would mean that solid waste would be included, and this suggests a role of EIA units from state governments in including waste management implications in their approval processes. As noted in RWA (2019), the Environmental Impact Assessment Proclamation No. 299/2000 contains provisions designed to ensure sustainable development. Proclamation 299/2000 makes an environmental impact assessment mandatory not only for development projects but also for policies, plans and programs. This would be mainly relevant for managing impacts from plastic pollution in riparian areas. The Proclamation makes reference to integration within urban administrations in terms of the collection, transportation, safe disposal etc, of solid waste, and the role of the regional state authority in evaluating its effectiveness, but is silent on the wider concerns around plastic pollution such as a reduction in the total waste that needs to be disposed or recycled.

Environmental Pollution Control Proclamation No. 3001/2002: This proclamation deals with environmental pollution in many forms, including effluent, management of municipal waste, and monitoring and evaluation. It provides for an environmental protection agency at the federal level, as well as regional environmental agencies in each regional state. It also references the role of courts in dealing with environmental matters at federal and regional state levels of government. National

authorities are responsible for preparing waste management standards, including on solid waste management. The Proclamation also recognises that that regional state standards may be more stringent than federal standards, considering different needs in different locations. As well as outlining the roles of different authorities in managing environmental pollution, it also provides for the role of environmental inspectors within those institutions. These inspectors may be important for managing plastic waste from urban development. The Proclamation makes reference to integration within urban administrations in terms of the collection, transportation, safe disposal etc, of solid waste, and the role of the regional state authority in evaluating its effectiveness, but is silent on the wider concerns around plastic pollution such as a reduction in the total waste that needs to be disposed or recycled. It is most applicable within the lower sub-catchments and in relation to riparian areas. Given the high focus on tourism around Lake Hawassa, this instrument could be relevant in addressing the contributions to plastic pollution from hotel owners and their guests.

River Basin Councils and Authorities Proclamation No. 534/2007: This Proclamation brings into force a more integrated approach to water resources management in Ethiopia and helps to enact various provisions found in the Constitution and other strategies, policies and proclamations found across Ethiopia. The river basin councils were set up as a new component of governance within Ethiopia, and to give effect to the ongoing promotion of Integrated Water Resource Management (IWRM). Using water as the integrating concept, the river basin councils should help regional states and other tiers of government address water challenges. The river basin councils have an important role in providing knowledge and guidance to other regulatory agencies, especially through the vehicle of the mandated basin plans as well as their role in providing opportunities for coordination. The main strength of this Proclamation is its highly integrated approach, and relatively high level of detail of the roles and responsibilities of the river basin councils. Such an approach allows for a wider perspective on the challenges relating to managing water compared with regional states. The basin plan may be an important tool for coordinating activities from many different agencies, especially with the provisions for setting up a forum and the provision policy guidance designed to implement IWRM across the Basin. The Proclamation has a direct connection to lakes, rivers, and riparian areas, and an indirect connection through IWRM to the lower sub-catchments in terms of managing plastic waste if these become a significant source of plastic pollution. Its relevance is assessed as high as it is supportive of coordinated actions (both horizontal and vertical) in terms of managing impacts of land-based activities on water.

Solid Waste Management Proclamation No. 513/2007: The Proclamation provides a foundation for undertaking solid waste management in Ethiopia, and giving effect to the Constitution, Environment Policy and other Proclamations. The Proclamation empowers regional state authorities and those urban authorities granted powers under the regional state government and is a very important component of the governance system. The Proclamation also grants urban administrations the ability to transfer responsibilities to lower units, including the development and implementation of action plans, and is of critical importance in managing plastic waste. However, the Proclamation is mainly concerned with the provision of services within an administrative unit, as opposed to addressing solid waste management in a more holistic way, including the reduction of the amount of wastes generated.

Fisheries Development and Utilization Proclamation No. 315/2003: The fishery sector is reliant on adequate fish stocks in Lake Hawassa. Plastic pollution can impact on the Lake Hawassa fishery in several ways, including polluting lake-bed shallows where fish recruitment is found, plastic finding its way into the food chain, or potentially creating transport issues around the lake. The Proclamation gives support to the industry's involvement in discussions around setting targets for managing solid

waste and plastic pollution and in the management of nets. It is of limited relevance otherwise as it does not provide support to preparing regulations that would reduce plastic waste loads.

A Proclamation to Provide for Urban Plans No. 574/2008: The main strength of this Proclamation is its highly integrated approach with regards to urban planning, and relatively high level of detail of the roles and responsibilities of urban authorities as administered through urban planning. Such an approach allows for a wider perspective on the challenges relating to managing waste, at least of a spatial dimension. Ongoing land use changes moving from rural to peri-urban to urban land can generate new sources of plastic waste, depending on local conditions, and there may be a need to further scrutinise activities near waterbodies, as well as monitor the capacity of solid waste management to respond to recent rapid growth. The Proclamation was assessed as medium relevance in terms of providing direction in managing land development and solid waste management in urban areas, including in terms of providing solid waste management services.

Solid Waste Management Manual (2012): This is a national document used to provide support for the management of solid waste in Ethiopia. It outlines types of waste and appropriate management, integrated approaches, landfill types, and provides support for investing in resource recovery. In this, resource recovery means the obtaining of some economic benefit from material that someone has regarded as waste. The manual also outlines types of collection approaches, incorporation in plans, selection of landfill types, expectations on what different urban areas should meet in terms of service. However, the Solid Waste Management Manual is mainly concerned with managing waste within geographical units as opposed to taking a more holistic approach to preventing plastic pollution.

National Integrated Water Resources Management Program (Draft): At present, this appears to only be a draft version, but it is likely to provide direction for water management in Ethiopia. It outlines the basic structure of water governance in Ethiopia, supports consistency in managing environmental pollution, and allocation of responsibility to different institutions that influence waste management. This programme will underpin investments made at the national level regarding water management, including wastewater, sanitation and solid waste. However, until it comes into effect, it will have little direct influence in terms of planning and budgeting. In addition, the present draft version tends to be focussed on the end product of solid waste management as opposed to a wider lifecycle.

Environment Policy: This proclamation enacts the Constitution and prepares the way for further legislative activities that would have an impact on the solid waste management system such as Environmental Impact Assessment.. It sets out the institutional framework for managing environmental impacts through Policy 5.1. Institutional Framework, Responsibilities and Mandates with management for effectiveness at the federal, regional, zonal, wereda, kebele, and community levels. The Policy was approved by the Council of Ministers in April 1997. It has 10 sectoral and 10 cross-sectoral components one of which addresses “Human Settlements, Urban Environment and Environmental Health”, and was based on the findings and recommendations of the National Conservation Strategy of Ethiopia. The policy document contains elements that emphasize the importance of mainstreaming socio-ecological dimensions in development programs and projects. The provisions in 2.2, Prevention of Pollution, are of specific interest as they may provide support for a source-to-lake approach as preventing plastic pollution at the source is more cost-effective in terms of total benefits than downstream clean-ups.

Rift Valley Lakes Basin Development Office Basin Plans: Basin Development Authorities are granted a number of powers under the River Basin Council Proclamation, mainly in terms of providing longer

term strategic planning for water resources that is implemented according to IWRM approaches, and for the protection of water resources from overallocation issues or in the physical vicinity of waterbodies such as riparian areas. Both the present and draft basin plans recognise issues around inadequate solid waste management and the role of municipalities, but do not have strong provisions on preventing plastic pollution.

Hawassa City Administration Master Plan: Plastic waste derived from urban locations can be highly significant for Lake Hawassa, and due attention should be paid to land development activities that exacerbate plastic pollution in Lake Hawassa.

Climate Resilient Green Economy National Adaptation Plan (2019): The NAP provides an important role for managing watersheds as a major component for responses to climate change impacts. Some budget will be made available to addressing national needs, and an action plan on solid waste may be able to access funding through this source. However, responses in terms of solid waste management are not a strong feature of this document and therefore this is not seen as influential. Solid waste management was grouped under the AO10 Increasing resilience of urban systems, but this was not included as a priority for either Oromia or SNNPR at present, although it was a priority for larger urban areas such as Addis Ababa and Dire Dawa.

Discussion

The previous section outlined key instruments and institutions of relevance to governance of plastic pollution in the Lake Hawassa sub-basin. Through this analysis, several key gaps, as well as overlaps and conflicts have been identified.

Gaps

Many problems relating to plastic litter are a result of several broad gaps, such as:

- **capacity gaps:** limited overall solid waste management;
- **enforcement gaps:** weak local enforcement capacity of regulations, proclamations, bylaws, standards and guidelines;

- **investment gaps:** to upgrade/build solid waste management collection and disposal facilities; and
- **coordination gaps:** this includes challenges faced in *vertical coordination* within individual ministries and authorities between federal level, regional, state government and city administration representatives; and *horizontal coordination* between various ministries and authorities.

More specific gaps were also identified, such as:

- **disposal of medical waste** from health centres
- **rural plastic waste** collection and disposal
- **leakage during collection and transport** of plastic waste to local waste disposal facilities.

Conflicts

Conflicts between competing objectives and interests can manifest at multiple levels. For example:

- **Attracting investment vs ensuring the functions of solid waste services.** These *challenges are seen at the national level where the ability to apply solid waste standards can be strained by industrial growth that is prioritized to increase investment and spur economic development.* This can also be the case in Hawassa City, which plays host to a significant investment project in the form of Hawassa Industrial Park. Expansion of the city, in part driven by industrial investment, appears to have exceeded local solid waste management services, especially in terms of collection and transport, leading to the large leakage in the environment (RWA 2019).

There can also be issues where there is a lack of clarity over responsibilities, interests, and capability to execute different measures. For example:

- **Views and roles in enacting national actions.** RWA found that the enactment of an impending national proclamation that would ban the use of plastic bags or introduce a levy remains uncertain. The role that an urban authority or regional authorities will play in making or influencing changes within the national framework on plastic pollution is not yet clear, as well as their specific role in any administrative activities required due to policy changes.

Recommendations

1. **Increase investment in solid waste management collection and disposal:** This is needed to build and upgrade facilities, including for collection vehicles, and reduce the flow of plastic pollution. To facilitate such investment, there needs to be more alignment and coordination of stakeholder objectives and activities, increased local capacity to facilitate enforcement, and a stronger focus on monitoring in order to build a better business case for increased investment.
2. **Develop coordination mechanisms to manage plastic litter:** More *coordination* of actions both horizontally and vertically across governance institutions is necessary if the plastic pollution challenge issue is able to be successfully managed. The development of a coordination mechanism appears to be a key component of future action and should outline

a role for different interventions made by different institutions. Such a process should be led by the Hawassa City Administration, supported by regional state bureaus, in terms of addressing local issues.

At the federal level, the Basin Development Authority may have a role in coordinating activities between national institutions, in terms of managing plastic waste through advocating for instruments that both prevent the use of inappropriate plastics, provide support for plastic alternatives, and ensure that a high priority is given to solid waste management nationally. Its coordination role is important, as ultimately, failures to better manage plastic waste and prevent its leakage into the environment directly impacts on Lake Hawassa.

3. **Take steps to address disposal of medical waste, collect rural sourced plastic waste, and eliminate leakages occurring during collection and transport:** This includes considering measures, investments and institutional arrangements necessary in these areas that currently receive little attention.

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Annex 1: Plastic Litter governance worksheet for Lake Hawassa (Institutions)

STEP 3: Diagnose governance institutions

Governance institution	Mandate	Type	Level	S2S segment	S2S sub-segment	Key instruments	Level of implementation	Implementation barriers	Additional comments
Ministry of Trade and Industry	The Ministry of Trade and Industry is responsible for facilitating investment across Ethiopia. Whilst it doesn't manage Proclamations of direct relevance to plastic litter, through catalysing project investments that may increase prospects of plastic litter, including the expansion of Industrial Parks across Ethiopia. Amongst their duties they are promoting the expansion of domestic trade and take appropriate measures to maintain lawful trade practices. They also control the compliance of goods and services with the requirements of mandatory Ethiopia standards and take measure against those found to be below the standards set for them; which may be important for managing plastic products.	Government	National	Multiple		Proclamation No. 513/1999: Ban on the production and import of plastic bags with thickness of less than 0.03mm.	Weak		This Ministry is of high relevance to addressing plastic litter issues from a national perspective, especially in terms of facilitating plastic litter prevention or re-design of plastic litter materials. In addition, the Ministry, through catalysing investment in large scale project, may increase solid waste significantly, but may be difficult to reach in terms of local stakeholders.
Ministry of Urban Development and Construction	The responsibilities of this Ministry are to design, approve, and implement policies, strategies, development packages and programs relating to urban development. Through its influence over urban policy and planning, it has an impact on the way that solid waste is planned for and managed and should help to ensure that the services, such as solid waste management, are in place. They provide capacity building support to regions to improve service delivery and ensure good governance, of relevance in discussions about plastic litter. MUDC administers Proclamations relating to urban plans and urban authorities. This Ministry therefore has a significant impact on how solid waste is managed across Ethiopia, especially through the way that urban areas are planned and serviced.	Government	National	Multiple		Environmental Policy 1997, Solid Waste Management Proclamation No. 513/2007, A Proclamation to Provide for Urban Plans No. 574/2008, The Solid Waste Management Manual (2012), National Integrated Water resources management Program, Ethiopian National Urban Solid Waste Management Standards, Integrated Solid Waste Management Strategy (2017), Solid Waste Management and Handling Standard Number MUDHC 07/2007 (2014)	Moderate		This Ministry has a significant impact on how solid waste is managed across Ethiopia, especially through the way that urban areas are planned. There may be coordination challenges between its mandate and that of the Ministry of Trade and Industry, both in terms of urban planning but also in terms of materials and their disposal.
Ministry of Environment, Forest, and Climate Change	In terms of plastic litter, this Ministry has a strong mandate in relation to plastic litter, including the administration of national proclamations for environmental pollution, environmental impact assessment, solid waste management, and other activities that have an impact on the management of solid waste in land and waters. However, much of this mandate is connected to managing downstream activities such as collection and disposal. There may be coordination challenges in terms of proclamations relating to material standards and their downstream impacts.	Government	National	Multiple		Environmental Policy 1997	Weak		This Ministry has a significant impact on how solid waste is managed across Ethiopia, especially through urban areas.
Ministry of Water, Irrigation and Energy (Incl. Basin Development Authority)	This Ministry is responsible for water resource management, especially in terms of planning and strategy. It also hosts the Basin Development Authority that is enacted under the River Basin Councils Proclamation. The Ministry administers proclamations such as Irrigation Water Users' Associations Proclamation No. 841/2014. River Basin Councils and Authorities Proclamation, and others. The mandate within the BDA is related to coordination and strategic planning around IWRM, but it unclear how involved it is within solid waste management activities.	Government	National	Freshwater system		Environmental Policy 1997, River Basin Councils and Authorities Proclamation No. 534/2007, Ethiopian Water Resources Management Proclamation No. 197/2000,	Weak		This Ministry may have a significant impact on the management of plastic litter through its coordination and IWRM functions, but it may be less influential than other Ministries in regards to the solid waste sector. More importantly, it houses the BDA (and through this institution local offices such as the RVLBDO) that coordinates activities across basins. However, it is unclear how much coordination in terms of solid waste is occurring at the local levels compared with the national level.
Ministry of Culture and Tourism	This Ministry is responsible for the promotion of tourism across Ethiopia and provisions around accommodation and services around tourism. Hawassa is a very popular destination within Ethiopia, with the presence of the lake playing a large role in activities. Some types of plastic litter are mainly sourced from tourist related activities, and therefore this Ministry is of some relevance in the case of Hawassa, and should be coordinated within wider solid waste management activities in the Sub-Basin.	Government	National	Multiple			Weak		The MCT main influence will be through the imposition of standards in regards to solid waste on the hotel industry.
Ministry of Agriculture	This Ministry supports the preparation and administration of policies, proclamations and regulations relating to agriculture and rural development at a national level. As part of its role, it administers fishing activities, including that of net disposal. It is unclear as to whether plastic litter in rural areas is given a high priority within its operations, but given that workshop participants identified plastic litter sources in the rural environment, there may be a gap.	Government	National	Land system		Environmental Policy 1997, Fisheries Development and Utilization Proclamation No. 315/2003	Moderate		The main influence of MARD will be through developing policies and awareness on the correct disposal and management of plastic litter in rural areas.

Governance institution	Mandate	Type	Level	S2S segment	S2S sub-segment	Key instruments	Level of implementation	Implementation barriers	Additional comments
Bureau of Trade and Industry (OROMIA)	This Regional Bureau catalyses investment into Oromia State, and may have an impact on plastic litter generation through increased local building and investment within this region. This Bureau is of high relevance to addressing plastic litter issues from a regional perspective and administering the application of national standards, especially those facilitating plastic litter prevention or re-design of plastic litter materials. In addition, investment catalysed into Oromia may impact on plastic litter generation.	Government	State	Land system		Proclamation No. 513/1999: Ban on the production and import of plastic bags with thickness of less than 0.03mm.	Weak		This particular bureau would have limited impact in terms of plastic litter in the Basin.
Bureau of Trade and Industry (SNNPR)	This Regional Bureau catalyses investment into SNNPR, and may have an impact on plastic litter generation through increased local building and investment within this region. This Bureau is of high relevance to addressing plastic litter issues from a regional perspective and administering the application of national standards, especially those facilitating plastic litter prevention or re-design of plastic litter materials. Given that the largest population centre in Hawassa is found within SNNPR, investments catalysed into SNNPR may be significant.	Government	State	Freshwater system		Proclamation No. 513/1999: Ban on the production and import of plastic bags with thickness of less than 0.03mm.	Weak		This bureau would have some impact in terms of plastic litter in the Basin, especially given that the urban areas of Hawassa are located in this State. Many trade activities will be connected to larger workforces or the presence of the Hawassa Industrial Park, and these may be key generators of plastic litter.
Bureau of Water Resources Development (Oromia)	This regional bureau is responsible for the management and promotion of water activities at a state level. It mainly focuses on the development, operation and maintenance of rural (and urban) water supply systems in the regions; and also irrigation developments. In terms of plastic litter in the sub-Basin, its chief influence will be through managing expansion of irrigation or activities that are reliant on water and may be a future source of plastic material flows.	Government	State	Freshwater system		Environmental Policy 1997, River Basin Councils and Authorities Proclamation No. 534/2007, Ethiopian Water Resources Management Proclamation No. 197/2000	Weak		Limited effectiveness on this issue.
Bureau of Water Resources Development (SNNPR)	This regional bureau is responsible for the management and promotion of water activities at a state level. It mainly focuses on the development, operation and maintenance of rural (and urban) water supply systems in the regions; and also irrigation developments. In terms of plastic litter in the sub-Basin, its chief influence will be through managing expansion of irrigation or activities that are reliant on water and may be a future source of plastic material flows.	Government	State	Freshwater system		Environmental Policy 1997, River Basin Councils and Authorities Proclamation No. 534/2007, Ethiopian Water Resources Management Proclamation No. 197/2000,	Weak		Limited effectiveness on this issue.
Environmental Protection Agency (Oromia)	This Bureau is responsible for managing the environment at the regional level, including the administration of environmental impact assessment and environmental pollutions proclamations, as well as the provisions found across the Conservation Strategy, Environmental Policy, and Constitution of Ethiopia. This Agency is also responsible for managing components of the Solid Waste Management Proclamation, especially in terms of administering regulations as well as assessing local planning materials. RWA (2019) noted weak enforcement as a key gap in governance, and it is unclear whether plastic litter is a high priority.	Government	State	Multiple		Environmental Impact Assessment Proclamation No. 2991/2002, Environmental Pollution Control Proclamation No. 3001/2002, A Proclamation to Provide for the Establishment of Oromia Bureau of Land and Environment Protection. Proclamation 147/2009, Regulation 159/2008, Prevention of Industrial Pollution	Weak		Limited effectiveness on this issue.
Bureau of Agriculture and Natural Resources (SNNPR)	This Bureau supports the administration of proclamations and regulations relating to agriculture and rural development. As part of its role, it administers fishing regulations, including that of net disposal. It is unclear as to whether plastic litter in rural areas is given a high priority, but given that workshop participants identified plastic litter sources in the rural environment, there may be a gap.	Government	State	Multiple		Environmental Policy 1997, Fisheries Development and Utilization Proclamation No. 315/2003, SNNP Regional Government Fisheries Development, Management & Control Regulation (Proclamation No. 62/1999; 78/2004) & Directive (2007)	Weak		Some effectiveness in terms of managing fishing nets.
SNNPR Urban Development and Housing Bureau	The role of this bureau is to assist urban areas in the state, and the private sector by way of preparing urban plans that encompass socio-economic and land-use dimensions and that ensure plan-led development of urban areas that have strong linkages with their rural hinterlands and serve as centres of rapid development. It would also have a role in appointing and administering local courts that would deal with local environmental cases, including plastic litter pollution. Similar to the national level, there may be coordination challenges between its mandate and that of the Bureau of Trade and Industry, both in terms of urban planning but also in terms of materials and their disposal.	Government	State	Land system		Environmental Policy 1997, Solid Waste Management Proclamation No. 513/2007, A Proclamation to Provide for Urban Plans No. 574/2008, The Solid Waste Management Manual (2012), National Integrated Water resources management Program, Ethiopian National Urban Solid Waste Management Standards (2014)	Moderate		Some effectiveness in terms of planning solid waste management

Governance institution	Mandate	Type	Level	S2S segment	S2S sub-segment	Key instruments	Level of implementation	Implementation barriers	Additional comments
Oromia Urban Planning Coordinating Bureau	The role of this bureau is to assist urban areas in the state, and the private sector by way of preparing urban plans that encompass socio-economic and land-use dimensions and that ensure plan-led development of urban areas that have strong linkages with their rural hinterlands and serve as centres of rapid development. It would also have a role in appointing and administering local courts that would deal with local environmental cases, including plastic litter pollution. Similar to the national level, there may be coordination challenges between its mandate and that of the Bureau of Trade and Industry, both in terms of urban planning but also in terms of materials and their disposal.	Government	State	Land system		Environmental Policy 1997, Urban Local Government Proclamation of the Oromia Proclamation No. 65/2003, A Proclamation to Provide for Urban Plans No. 574/2008, The Solid Waste Management Manual (2012), National Integrated Water resources management Program, Ethiopian National Urban Solid Waste Management Standards (2014)	Weak		Limited effectiveness as few urban areas found in this part of the Sub-Basin.
Environmental Protection Agency (SNNPR)	This Bureau is responsible for managing the environment at the regional level, including the administration of environmental impact assessment and environmental pollutions proclamations, as well as the provisions found across the Conservation Strategy, Environmental Policy, and Constitution of Ethiopia. This Agency is also responsible for managing components of the Solid Waste Management Proclamation, especially in terms of administering regulations as well as assessing local planning materials. RWA (2019) noted weak enforcement as a key gap in governance, and it is unclear whether plastic litter is a high priority.	Government	State	Land system		Environmental Impact Assessment Proclamation No. 2991/2002, Environmental Pollution Control Proclamation No. 3001/2002, Solid Waste Management Proclamation No. 513/2007, Regulation 159/2008, Prevention of Industrial Pollution	Moderate		High effectiveness.
Ministry of Health	The Ministry of Health, and local counterparts, plays a role in governance of solid waste, predominantly from a health perspective. The powers and duties of the Ministry are granted according to proclamation 4/87. Health facilities were noted as key sources of plastic litter in the Basin, including inadequate management of medical waste and packaging. The presence of a regional hospital in Hawassa, close to Lake Hawassa, is seen as a concern by local institutions. The appropriate disposal of medical waste can be resource-intensive, and it is unclear how well this is integrated into wider solid waste activities in Hawassa. The involvement of health representatives in Hawassa may be a significant gap.	Government	National	Multiple		Environmental Pollution Control Proclamation No. 3001/2002, Solid Waste Management Proclamation No. 513/2007, National Integrated Water resources management Program, Ethiopian National Urban Solid Waste Management Standards (2014)	Weak		
Hawassa City Administration	Hawassa City Administration is responsible for services relating to solid waste management in the urban areas of Lake Hawassa, and for administering local urban planning legislation and regulations. It is devolved responsibilities from the Regional State level. In terms of plastic litter, its chief influence will be in terms of providing appropriate solid waste management as ensure that changes in land use and pressure on solid waste services are managed. The Urban Planning Sanitation and Beautification within the HCA is responsible for managing services relating to solid waste and is critical to addressing this flow. A key gap is the limited capacity of the administration to influence national objectives on solid waste management, or standards and policies developed at the Federal level. The relationship between the Hawassa City Administration and regional bureaus will be important for addressing the root causes of plastic litter pollution.	Government	Municipal	Freshwater system		Environmental Policy 1997, Solid Waste Management Proclamation No. 513/2007, A Proclamation to Provide for Urban Plans No. 574/2008, The Solid Waste Management Manual (2012), National Integrated Water resources management Program, Ethiopian National Urban Solid Waste Management Standards, Solid Waste Management Plan for Hawassa City (2018-2028), Hawassa City Bylaws	Moderate		High effectiveness.
Urban Planning Sanitation and Beautification - HCA	This department within the HCA is responsible for managing services relating to solid waste.	Government	Municipal	Land system		Environmental Policy 1997, Solid Waste Management Proclamation No. 513/2007, The Solid Waste Management Manual (2012), National Integrated Water resources management Program, Ethiopian National Urban Solid Waste Management Standards (2014), Solid Waste Management Plan for Hawassa City (2018-2028), Hawassa City Bylaws	Moderate		High effectiveness.
Water Supply (HCA)	This department within the HCA is responsible for providing water and sanitation services. Increased plastic flowed can result in an increased cost for the provision of water if surface water was the main source, through necessary upgrades and increased maintenance of water pumping and distribution services. However, most of local water is sourced from deep boreholes at present.	Government	Municipal	Freshwater system		National Integrated Water Resources Management Program	Weak		Limited effectiveness
Weredas (Hawassa Zuria, Hawassa Shala etc....)	Weredas are responsible for local land management and the administration of State Legislation and Regulation. The involvement of weredas is critical for managing plastic litter flows from rural areas as they provide local resources and coordination of activities.	Government	Local	Land system		Environmental Policy 1997, Solid Waste Management Proclamation No. 513/2007, The Solid Waste Management Manual (2012), Wereda Bylaws	Weak		Limited resources

Governance institution	Mandate	Type	Level	S2S segment	S2S sub-segment	Key instruments	Level of implementation	Implementation barriers	Additional comments
Kebeles	Within urban areas, kebeles are responsible for local land management and the administration of local policies and may be devolved responsibilities and budgets for local services. The involvement of urban kebeles are of some importance for managing plastic litter flows, but more limited compared with higher levels of governance such as the urban authority.	Government	Local	Land system		Environmental Policy 1997, Solid Waste Management Proclamation No. 513/2007, The Solid Waste Management Manual (2012), Kebele Bylaws	Weak		Limited resources
Affiliation of Friends of Lake Hawassa	This is newly emergent institution whose purpose is to support coordinated efforts to protect and rehabilitate Lake Hawassa from multiple threats. Its membership comprises representatives from multiple different institutions including public, private, and civil society.	Ad hoc	Basin	Multiple			Weak		Good coordination but mainly voluntary.

Annex 2: Plastic Litter governance worksheet for Lake Hawassa (Instruments)

STEP 3: Diagnose governance instruments

Governance Instrument	Description	Type	Level	S2S segment	S2S sub-segment	Relevance	Strengths of instrument	Gaps in instrument	Additional comments
Action Plan for the National Policy on Natural Resources and the Environment (1994)	The action plan is mainly concerned with Integrated land use and on-farm soil management. However, solid waste management and sanitary landfills are noted in the section pertaining to the management of industrial pollution and the wider regulatory framework for pollution. The document notes "solid domestic and industrial waste disposal in urban and peri-urban areas" as a medium term priority.	Strategy	National	Multiple		Moderate	The AP sets the scene for an integrated approach for the environment across Ethiopia, and one that has carried through the following decades. It includes references to water resources, and the connections to ecosystems, although it is more focused on water as an input into economic processes. Solid waste is very mentioned.		Very old and doesn't appear to have been updated. It was prepared 25 years ago. Sections on water rarely considered the impact of land use, including solid waste, on water resources. It also didn't consider specific impacts of plastic litter, which has increased in significance in more recent times.
Ethiopia's Constitution of 1994	The Constitution outlines the rights and obligations for all Ethiopians, as well as key institutions. Article 44 Environmental Rights: All persons have the right to a clean and healthy environment. Is relevant to discussion in relation to plastic litter insofar as excessive plastic litter will affect the health of Lake Hawassa and to the communities that depend on it. Article 51: Powers and Functions of the Federal Government 11 It shall determine and administer the utilization of the waters or rivers and lakes linking two or more States or crossing the boundaries of the national territorial jurisdiction. Article 52 Powers and Functions of States: (c) To formulate and execute economic, social and development policies, strategies and plans of then State; (d) To administer land and other natural resources in accordance with Federal laws; Article 55 Powers and Functions of the House of Peoples' Representatives(a) Utilization of land and other natural resources, of rivers and lakes crossing the boundaries of the national territorial jurisdiction or linking two or more States; Article 92 Environmental Objectives 2 The design and implementation of programmes and projects of development shall not damage or destroy the environment. 4 Government and citizens shall have the duty to protect the environment.	Law	National	Multiple		Moderate	The Constitution underpins all legislation in Ethiopia and provides a basis for the development and enactment of legislation, regulations and proclamations, mainly at Federal and State levels. As well as the rights, it also notes obligations on Governments and citizens. As noted in the Consultants Report: The Constitution adopted by Ethiopia in 1995 provides the guiding principles for environmental protection and management in Ethiopia. The concept of sustainable development and environmental rights are enshrined in article 43, 44 and 92 of the Constitution of GOE. Whilst the Constitution is of high relevance to legislation across Ethiopia, it is less relevant on a sectoral level but can be used to supporting actions by Enabling and Supporting Institutions.		General and very broad but needs to be acknowledged. It does set out components of vertical coordination from the Federal Government through to kebele levels, but has limited applicability to horizontal coordination
Environmental Impact Assessment Proclamation No. 2991/2002	This Proclamation is concerned with managing activities that have an impact on the environment, but is generally directed towards managing larger scale activities and projects as opposed to land use or non-point sources of pollution. In the case of plastic litter, it may be important for managing sources close to water bodies. "Impact" means any change to the environment or to its component that may affect human health or safety, flora, fauna, soil, air, water, climate, natural or cultural heritage, other physical structure, or in general, subsequently alter environmental, social, economic or cultural conditions;	Law	National	Land system		Moderate	The Proclamation grants strong roles to Regional State Government and respective state agencies in managing environmental impact from projects. The definition of impact and Pollutant would mean that solid waste would be included, and this suggests a role of EIA units in plastic litter. As noted in RWA (2019): it contains provisions designed to ensure sustainable development. Proclamation 299/2000 makes an environmental impact assessment mandatory not only for development projects but also for policies, plans and programs developed by other authorities. Because of this, it would be highly relevant to the evaluation of the plans prepared by lower tiers of governance such as urban authorities or woredas, as well as the assessment of large scale development that has the potential to generate plastic litter, especially in the vicinity of riparian areas.		Many activities related to plastic litter will be not managed due to their small individual scales in terms of this Proclamation, but could be applicable in terms of significant new investment such as that in the Hawassa Industrial Park or hotels located close to Lake Hawassa. Whilst it grants enforcement powers to local agencies, the relevance of the Proclamation is assessed as medium as opposed to high as it may not support proactive action given that many ongoing activities are too small to warrant intervention.
Environmental Pollution Control Proclamation No. 3001/2002	This Proclamation deals with Environmental pollution in many forms, including effluent, management of municipal waste, and monitoring and evaluation. It provides for an Environmental Protection Agency at the Federal level, as well as Regional State environmental agencies. Through the Proclamation, national authorities are responsible for preparing waste management standards, including on waste management. Provisions of importance to plastic litter includes: as appropriate, the recycling, treatment or safe disposal of municipal waste through the institution of an integrated municipal waste management system. 2) In collaboration with the relevant regional environmental agency, the Authority shall monitor and evaluate the adequacy of municipal waste management systems and ensure the effectiveness of their implementation. 4) The Authority shall, in collaboration with the relevant regional environmental agencies and any other competent agencies, monitor the situation with regard to the availability of waste disposal facilities and take the necessary measures to ensure that their availability is satisfactory.	Law	National	Freshwater system		Moderate	As well as outlining the roles of different authorities in managing environmental pollution, it also provides for the role of Environmental Inspectors within those Institution. These inspectors may be important for managing plastic litter from urban development. It is most applicable within the lower catchment and also in relation to the riparian areas. Given the high focus on tourism in Lake Hawassa, the relevance of this instrument could be higher in riparian areas given hotel owners were identified as Targeted Stakeholders. The Proclamation makes reference to integration within urban administrations in terms of the collection, transportation, safe disposal etc, of solid waste, and the role of the Regional State Authority in evaluating its effectiveness, but is silent on the wider concerns around plastic litter such as a reduction in the total waste that needs to be disposed or recycled.		Whilst this Proclamation may be relevant to managing solid waste that causes environmental pollution, it is unclear how much monitoring is undertaken by regional agencies or environmental inspectors in terms of non-point sources under this Proclamation. RWA (2019) suggests that enforcement of solid waste management tends to be weak.

Governance Instrument	Description	Type	Level	S2S segment	S2S sub-segment	Relevance	Strengths of instrument	Gaps in instrument	Additional comments
Environmental Policy 1997	This policy helps to enact the Constitution and prepares the way for Environmental Impact Assessment and other forms of environmental management, including with regards to plastic litter and solid waste. <i>2.2 Specific Policy Objectives f. Prevent the pollution of land, air and water in the most cost-effective way so that the cost of effective preventive intervention would not exceed the benefits; c. To ensure that improved environmental sanitation be placed highest on the federal and regional agendas for achieving sustainable urban development; h. To give priority to waste collection services and to its safe disposal; m. To undertake studies which identify suitable sanitary landfill sites in the major cities and towns of Ethiopia;</i>	Policy	National	Multiple		Moderate	The Environment Policy provides some support for dealing with solid waste generated from many different sources mainly through the allocation of responsibilities and application of legislation and regulation through vertical coordination. This policy is applicable across the whole of the Basin and has been given a medium relevance as it supports most actions necessary by Enabling or Targeted Stakeholders. The provisions in regard to 2.2, Prevention of Pollution, are of specific interest as they may provide support for a source-to-lake approach as preventing plastic litter at source is more cost-effective in terms of total benefits than latter stage clean-ups.		While the EP still underpins environmental management in Ethiopia, and associated Proclamations, it is relatively old and may require some amendment in support of coordinating governance activities both vertically and horizontally especially focusing on the upstream components of solid waste flows and management, and reducing the flow of plastic litter.
Fisheries Development and Utilization Proclamation No. 315/2003	This proclamation provides the framework for managing Fisheries across Ethiopia. Limited provision are applicable to plastic litter and solid waste management, although support can be found through: <i>8. Environmental Protection: The concerned organs of the Federal or Regional Governments shall ensure that development programmes and projects are drawn up in such a way that they will not have direct or indirect negative impact on the fisheries resource constituted in the basin where the programmes or projects are intended to be implemented.</i>	Law	National	Freshwater system		Weak	The Fishery sector is reliant on adequate fish stocks in Lake Hawassa. Plastic litter can impact on the Lake Hawassa fishery in several ways, including polluting lake bed shallows where fish recruitment is found, plastic finding its way into the food chain, or potentially creating transport issues, and is a key impact resulting from plastic litter. The Proclamation gives support to the industry being involved in discussions around managing solid waste and plastic litter, but does not provide support to preparing regulations that would reduce plastic litter loads.		Limited use in direct actions around plastic litter, but supportive of indirect actions such as through stakeholder engagement.
Climate Resilient Green Economy National Adaptation Plan (2019)	The NAP was only released in 2019. Provisions of note include 10. Increasing resilience of urban systems. This adaptation option will address increasing the provision of housing; improving housing conditions; enhancing urban greenery; and improving urban infrastructure. Urban land planning and management will be given due emphasis. In addition, urban administration and management programmes will engage in promoting efficient household/urban waste management system. 12. Developing adaptive industry systems. This adaptation option will enhance climate smart production systems and products through proper positioning of industrial parks and efficient supply of raw materials. Industrial waste management will be improved for e-wastes, liquid waste, and solid wastes. Efficient logistics will be enhanced to haul raw materials and deliver industrial products. To achieve these results, formal finance institutions will be appropriately strengthened at all administrative and management levels.	Plan	National	Multiple		Moderate	The NAP provides an important role for managing urban areas as a major component for responses to climate change impacts, and the role of urban planning and urban infrastructure in achieving this. Financing is being made available through this plan and associated activities, and actions on solid waste management may be able to access funding. Solid waste management was grouped under the AO10 Increasing resilience of urban systems, but this was not included as a priority for either Oromia or SNNPR. However, it does provide support for engaging in activities that address solid waste management beyond municipalities in terms of adaptive industry systems.		The NAP is a national document and may not result in significant resources distributed locally. The NAP has also only just been approved and it is unclear whether associated budgets are also approved and devolved to States.
River Basin Councils and Authorities Proclamation No. 534/2007.	This Proclamation brings into force a more integrated approach to water resources management in Ethiopia, and helps to enact various provisions found in the Constitution and other strategies, policies and proclamations found across Ethiopia. The River Basin Councils were set up as a new component of Governance within Ethiopia, and to give effect to the ongoing promotion of IWRM. Using water as the integrating concept, the River Basin Councils should help States and other tiers of Governance address water challenges. The RBC's have an important role in providing knowledge and guidance to other regulatory agencies, especially through the vehicle of the mandated Basin plan as well as the role of activity coordination.	Law	National	Freshwater system		Moderate	The main strength of this Proclamation is its highly integrated approach, and relatively high detail of the roles and responsibilities of the River Basin Councils. Such an approach allows for a wider perspective on the challenges relating to managing water compared with Regional States, and the Basin Plan may be an important tool for coordinating activities from many different agencies, especially with the provisions for setting up a forum and the provision policy guidance designed to implement IWRM across the Basin. The Proclamation grants RBC some planning and monitoring oversight, and thus has a direct connection to the Lakes, Rivers, and Riparian areas, and an indirect connection through IWRM to the upper and lower sheds in terms of managing plastic litter if these are a relatively significant source. Its relevance is assessed as high as it is supportive of coordinated actions (both horizontal and vertical) in terms of managing impacts of land based activities on water.		It is noted that the Basin Plan will strongly support direct actions in relation to water management and allocation, but is less supportive for direct activities managed by other agencies such as solid waste management. The Basin Plans will not be able to be used to compel actions to be taken by other authorities, with the exception of water permitting, but provide a strong basis for better coordination. Many of the regulatory actions or budgetary support needed to manage plastic litter flows are undertaken by other agencies, especially that of Regional State authorities and urban authorities, and while there is a duty to cooperate with the Basin Planning process, it is unclear how much provisions in these Basin Plans are operationalized through watershed and urban plans made by Regional Authorities and urban authorities respectively.

Governance Instrument	Description	Type	Level	S2S segment	S2S sub-segment	Relevance	Strengths of instrument	Gaps in instrument	Additional comments
Solid Waste Management Proclamation No. 513/2007	<p>The Proclamation provides the main foundation for managing solid waste in Ethiopia, including plastic litter. Provisions of note include: 2/ "Authority" means the Environmental Protection Authority established pursuant to Proclamation No. 295/2002; 7/ "Solid Waste Management" means the collection, transportation, storage, recycling or disposal of solid waste, or the subsequent use of a disposal site that is no longer operational.</p> <p>1/ Urban administrations shall create enabling conditions to promote investment on the provision of solid waste management services.</p> <p>1/ Urban Administrations shall ensure the participation of the lowest administrative levels and their respective local communities in designing and implementing their respective solid waste management plans.</p> <p>2/ Each Region or urban administration shall set its own schedule and, based on that, prepare its solid waste management plan and report of implementation.</p>	Law	National	Land system		Strong	<p>The Proclamation provides a foundation for undertaking Solid Waste Management in Ethiopia, and giving effect to the Constitution, Environment Policy and other Proclamations. The Proclamation empowers Regional Authorities and those Urban Authorities granted powers under the Regional State Government. The Proclamation also grants Urban Administration the ability to transfer responsibilities to lower units, including the development and implementation of action plans, as well as the involvement of the community in developing local services. However, the Proclamation is mainly concerned with the provision of services within an administrative unit, as opposed to addressing solid waste management in a more holistic way, including the reduction of wastes.</p>		<p>The main weakness of the Proclamation is that it is focused on the end point of solid waste management, rather than supporting activities and actions to reduce waste inputs to begin with.</p>
Urban Local Government Proclamation of the Oromia Proclamation No. 65/2003	<p>This State Level Proclamation sets out the responsibilities for lower tiers of governance when managing of urban areas, and has implications for the management of plastic litter. Provisions of note in respect to solid waste management include:</p> <p>3. ensure the provision of efficient and equitable urban services to residents in a sustainable manner; 6/ promote a safe and clean urban environment suitable for development, work and residence;</p> <p>9/ Functions of Urban Local Governments; (a) To provide efficient, effective and equitable services to the residents; especially environmental services (construction and management of city roads, sewerage and drainage lines, parks and recreation areas, waste disposal, prevention and control of pollution etc.) to prepare, revise, update and implement its city plan.</p> <p>a/ The Regional government shall have the authority to issue laws and standards setting the general framework within which cities may exercise powers and functions given to them by law.</p> <p>BUREAU OF INDUSTRY AND URBAN DEVELOPMENT The Bureau shall 1) Without prejudice to other functions given to the Bureau in other laws, the Bureau shall have the power to lead the affairs of urban local government in the Regional State.</p>	Law	State	Land system		Moderate	<p>Limited applicability to the land areas around Lake Hawassa, but as the population grows and settlements within the Oromia population grow, it may be more important at a later date. It outlines the mandates of different units of governance in terms of local services, but in terms of plastic litter, is mainly concerned with managing the final product as opposed to a holistic approach. Provisions are mainly applicable around the lower catchments where urban growth may occur.</p>	Limited applicability to issues around solid waste management within the Oromia State component.	
A Proclamation to Provide for Urban Plans No. 574/2008	<p>The provisions in this Proclamation are used to plan and manage urban areas across Ethiopia. Provisions of note include:</p> <p>1/ to establish a legal framework in order to promote planned and well developed urban centres;</p> <p>2/ to regulate and facilitate development activities in urban centres and thereby enhance economic development of the country;</p> <p>26. Underlying Principles The following principles shall be adhered to in any process of development authorization:</p> <p>2/ ascertaining the support of environmental impact assessment study with respect to development projects likely to have major environmental repercussions;</p> <p>3/ provision of basic infrastructure during land allocation for development in conformity with urban plans.</p>	Law	National	Land system		Moderate	<p>The main strength of this Proclamation is its integrated approach with regards to urban planning, and relatively high detail of roles and responsibilities of urban authorities as administered through urban planning. Such an approach may allow for a wider perspective on the challenges relating to managing solid waste, but in general it is more focussed on local needs. Ongoing land use changes moving from rural to peri-rural to urban land can generate potential sources of plastic litter, depending on local conditions, and there may be a need to further scrutinise activities near waterbodies, as well as monitor the capacity of solid waste management compared with recent rapid growth. It was assessed as medium relevance in terms of managing land development and solid waste management in urban areas, including in terms of providing solid waste management services.</p>		<p>The Proclamation provides for urban planning, but there are no strict provisions in terms of managing the different components of the solid waste cycle, only a generic approach in terms of planning.</p>

Governance Instrument	Description	Type	Level	S2S segment	S2S sub-segment	Relevance	Strengths of instrument	Gaps in instrument	Additional comments
Ethiopian Water Resources Management Proclamation No. 197/2000	The Proclamation has a number of provisions of note to solid waste management. These include: 10) "Waste" means any harmful matter introduced, released or discharge into any water body in any solid, liquid or gaseous form; 12) "Water Pollution" means harm caused as a result of the pollution of water by using organic or inorganic matter or as a result of the change in the temperature of the water. 19) "Water resource management" means activities that include water resources development, utilization, conservation, protection and control. The Supervising body shall be responsible for the planning, management, utilization and protection of water resources. (f) prepare directives, in consultation with public bodies concerned, in order to ensure that water resources are not polluted and hazardous to health and environment; h) cause, in consultation with the public bodies concerned, the issuance of quality or health standards which enables it to entertain an application for a permit to discharge or release polluted water into water resources.	Law	National	Freshwater system		Moderate	The key strength of this Provision is that it provided legislative support for undertaking IWRM across Ethiopia, including the management of pollution into water bodies as well as the use of master plans. It is applicable to most parts of the sub-basin including urban areas, but with an emphasis on water bodies and associated banks. Solid waste management and pollution may be controlled under this Proclamation insofar as it can reduce plastic litter loads. It has been assessed as medium relevance on this basis. It also helps to ensure that the BDA are involved in the governance of solid waste management.		The main weakness of this Proclamation is that it doesn't clearly delineate the management roles of different agencies in relation to some sources of plastic litter and this may need to be taken into account in future action planning.
SNNP Regional Government Fisheries Development, Management & Control Regulation (Proclamation No. 62/1999; 78/2004) & Directive (2007)	The State Proclamation has some relevance to solid waste management, especially close to water bodies. Provisions of note include 3. Without Prejudice to the provision of this Article sub-Article 2 for the purpose of maintaining of natural balance in the in the water bodies, it is forbidden to till any surroundings land of any water body in radius of 1 km. 4. The bureau shall ensure that development programs and projects are drawn up in such a way that they will not have direct or indirect negative impacts on the fisheries resources constituted in the basin where the programs or projects are intended to be implemented.	Regulation	State	Freshwater system		Weak	The Fishery sector is reliant on adequate fish stocks in Lake Hawassa. Plastic litter can impact on the Lake Hawassa fishery in several ways, including polluting lake bed shallows where fish recruitment is found, plastic finding its way into the food chain, or potentially creating transport issues, and is a key impact resulting from plastic litter. Many of the provisions in this proclamation are similar to those enacted at the Federal level, and like that documents gives support to the industry being involved in discussions around managing solid waste and plastic litter, but does not provide support to preparing regulations that would reduce plastic litter loads.		Limited use in direct actions around plastic litter, but supportive of indirect actions such as through stakeholder engagement.
The Solid Waste Management Manual (2012)	This is an national document used to provide support for the management of solid waste in Ethiopia. It outlines types of waste and appropriate management, integrated approaches, landfill types, and provides support for investing in resource recovery. Resource recovery means the obtaining of some economic benefit from material that someone has regarded as waste. The manual also outlines types of collection approaches, incorporation in plans, selection of landfill types, expectations on what different urban areas should meet in terms of services.	Procedure	National	Land system		Weak	Provides for a nationally consistent approach to solid waste management in Ethiopia. However this is mainly concerned with managing waste with geographical units as opposed to taking a more holistic approach in regards to plastic litter.		The manual provides more general guidance and may need to be supplemented with specific guidance in terms of different types of plastic and their management.
National Integrated Water resources management Program	At present, this appear to only be a draft version, but it is likely to provide direction of water management in Ethiopia. It outlines the basic structure of water governance in Ethiopia, supports consistency in managing environmental pollution, and allocation of responsibility to different institutions that influence waste management. Provisions of note include: 4. To support major towns to come with systems for safe disposal of urban liquid and solid waste management 4. Regulatory instruments for maintaining groundwater quality standards developed and enforced 4.1. Develop or revise and enforce standards, guidelines and procedures on wastewater quality, solid wastes and discharge regulation by MoWIE 7.2 Develop/revise standards, guidelines and procedures on wastewater quality, solid wastes and discharge regulation, by MoECC (Water bodies.	Strategy	National	Freshwater system		Weak	This programme will underpin investments made at the national level in regards to water management, including wastewater, sanitation and solid waste. However, until it comes into effect, it will have little direct influence in terms of planning and budgeting. In addition, it tends to be focussed on the end product of solid waste management.		Not in effect

Governance Instrument	Description	Type	Level	S2S segment	S2S sub-segment	Relevance	Strengths of instrument	Gaps in instrument	Additional comments
A Proclamation to Provide for the Establishment of Oromia Bureau of Land and Environment Protection. Proclamation 147/2009	This proclamation is applicable to activities occurring within the Oromia component of the Lake Hawassa Basin. It outlines the framework for managing land-uses and planning along with the initiation of a Bureau to help manage this process. The Proclamation is particularly relevant to the implementation of Environmental Impact Assessment and Environmental Pollution measures. Provisions of note include 3) "Land Use," means a process by which the land is sustainably used to give better outputs through proper management and conservation. 7) "Environmental Protection," means the protection of any resource at any place from hazardous pollution and dirt and taking care for sustainable use. 12) Regulate and follow up that any development activity is planned and implemented without damaging the environment; 14) Regulate the disposal of different pollutants and waste materials from factories, cities not to pollute the environment and lake or cause to be taken proper action if it caused any damage.	Law	State	Land system		Moderate	This Proclamation supports the creation of the Bureaus that can apply environmental impact assessment and environmental pollution control in parts of the Sub-Basin, but more importantly, outlines and defines the role of these Bureaus in applying land use planning. It would have relevance across the whole component of Oromia found in the sub-Basin, and would be highly relevant across urban and riparian areas. Of specific note is the role of the Bureau in developing public awareness on land use and environmental protection, and this would include awareness around plastic litter. RWA 2019 noted that a lack of public awareness in relation to plastic litter was a key local issue.		No specific weakness noted, as water and connections to water through land management are included within the definition of environment.
Conservation Strategy of Ethiopia	This Strategy, in concert with the Environment Policy and the Constitution provides the foundation for environmental management and associated Proclamations and institutional agendas, and activities across Ethiopia. A number of the sections and policies may reference to concerns around plastic litter. 1. Establish an institutional framework which ensures clear mandates and coordination of responsibilities among the various government agencies active in the fields of planning and developing urban areas, providing water, sanitation and other urban environmental infrastructure and services. 12. Improve road access to residential areas to allow the efficient provision of sanitation and other environmental and social services. 13. Undertake studies to identify suitable sanitary landfill sites in the major sites and towns of Ethiopia. 6. Establish safe limits for the location of, sanitary landfill sites in the vicinity of wells, bore holes and dams and incorporate these into regulations. 9. Review and develop guidelines for waste disposal, public and industrial hygiene and techniques to enable the cost-effective implementation of defined standards of control.	Strategy	National	Multiple		Moderate	The National Conservation Strategy was developed through a consultative process over the period 1989 to 1995. It takes a wider view of natural, human made and cultural resources, and their use and abuse and seeks to present a coherent framework of plans, policies and investment related to environmental sustainability. The document consists of five volumes i.e., the Natural Resource Base, Policy and Strategy, Institutional Framework, the Action Plan and Compilation of Investment Programme, but is mainly concerned with managing downstream solid waste management.		The Conservation Strategy underpins most environmental legislation in Ethiopia, and recognizes the important issue of land degradation. But many of the activities in the strategy may be outdated in regards to issues such as solid waste management.
Environment Policy (1997)	This proclamation enacts the Constitution and prepares the way for further legislative activities such as Environmental Impact Assessment which would have an impact on the solid waste management system. It sets out the institutional Framework for managing environmental impacts through Policy 5.1. Institutional Framework. b. To ensure that legally established coordination and management bodies from the federal down to the community level handle the sectoral and cross sectoral planning and implementation issues. .f. To ensure that enforcement of government laws and regulations with respect to environmental protection remain the responsibility of federal and regional courts and administrations.	Policy	National	Multiple		Moderate	The Environmental Policy of Ethiopia was approved by the Council of Ministers in April 1997. It has 10 sectoral and 10 cross-sectoral components one of which addresses "Human Settlements, Urban Environment and Environmental Health", and was based on the findings and recommendations of the National Conservation Strategy of Ethiopia. The policy document contains elements that emphasize the importance of mainstreaming socioecological dimensions in development programs and projects. However, it is still predominantly concerned with vertical coordination.		
Regulation 159/2008, Prevention of Industrial Pollution	This regulation governs the activities of industrial sites in terms of control pollution via the Environment Protection Agency. Few provision are directly relevant to the plastic litter, but the Proclamation provides the basis for managing industrial pollution from such sites as the Hawassa Industrial Park.	Regulation	National	Land system		Weak	Hawassa is a growing industrial hub, with global and national support for the development of local industry. Large-scale industrial development may generate substantial pollution flows, if poorly managed, although it is unclear how much plastic litter is being presently generated in these sites.		Only applicable to solid waste derived from industrial sites, but other Proclamations and regulations are generally more important.
Ethiopian National Urban Solid Waste Management Standards (2014)	Unable to locate, although it is referred to in several documents	Regulation	National	Land system		Moderate	Specific provisions should be obtained		Specific provisions should be obtained
Solid Waste Management and Handling Standard Number MUDHC 07/2007	Unable to locate, although it is referred to in several documents	Regulation	National	Land system		Weak	Specific provisions should be obtained		Specific provisions should be obtained
Proclamation No. 513/1999: Ban on the production and import of plastic bags with thickness of less than 0.03mm.	Unable to locate, although it is referred to in several documents	Law	National	Land system		Weak	Specific provisions should be obtained		Specific provisions should be obtained
Solid Waste Management Plan for Hawassa City (2018-2028)	Unable to locate	Plan	National	Land system		Weak	Specific provisions should be obtained		Specific provisions should be obtained
Integrated Solid Waste Management Strategy (2017)	Unable to locate, although it is referred to in several documents	Strategy	National	Land system		Weak	Specific provisions should be obtained		Specific provisions should be obtained
Hawassa City Bylaws	Hawassa city bylaws give effect to Regional States legislation. These bylaws are likely to include solid waste provisions, and this may effect plastic litter being sourced from urban areas.	Regulation	Local	Land system		Weak	Specific provisions should be obtained		Specific provisions should be obtained

Governance Instrument	Description	Type	Level	S2S segment	S2S sub-segment	Relevance	Strengths of instrument	Gaps in instrument	Additional comments
Wereda Bylaws	Wereda is the next level of governance below regional states and bylaws give effect to the Regional State legislation. 70% of local funding is sourced from the State, and local plans are developed and enacted at the local level. Most of the plastic litter generated in the Lake Hawassa Sub-Basin is sourced from urban areas as opposed to rural weredas.	Regulation	Local	Land system		Weak	Specific provisions should be obtained		Specific provisions should be obtained
Kebele Bylaws	Kebeles are the level of governance that sits below Weredas, and may have provisions or bylaws applicable to the management of solid waste.	Regulation	Local	Land system		Weak	Specific provisions should be obtained		Specific provisions should be obtained
Oromia Plans	Oromia Regional State prepared a number of plans and strategies in accordance with the powers granted it, along with key Proclamations made nationally. Funding and resources are made available through funding used to support the States activities, and there for this will have an influences on funding made available for addressing plastic litter issues, both state-wide and at lower governance levels. Only a small proportion of the Basin is found in Oromia State, and this area does not include the main urban areas of the sub-basin.	Plan	State	Land system		Moderate	Specific provisions should be obtained		Specific provisions should be obtained
SNNPR Plans	SNNPR Regional State prepared a number of plans and strategies in accordance with the powers granted it, along with key Proclamations made nationally. Funding and resources are made available through funding used to support the States activities, and there for this will have an influences on funding made available for addressing plastic litter issues, both state-wide and at lower governance levels. Most of the wereda and kebeles found in Lake Hawassa Basin are found in the SNNPR region.	Plan	State	Land system		Moderate	Specific provisions should be obtained		Specific provisions should be obtained
RVLBDO Basin Plans	Basin Development Authorities are granted a number of power under the Rivers Basin Council legislation, mainly in terms of providing longer term strategic planning for water resources that is implemented according to IWRM approaches, and for the protection of water resources from overallocation or in the physical vicinity of water bodies.	Plan	Basin	Land system		Moderate	Both the present and Draft Basin Plans recognise issues around inadequate solid waste management and the role of municipalities, but do not have strong provisions in regard to this priority flow.		
Hawassa City Administration Master Plan	Plastic litter derived from urban locations was seen as the main source of the priority flow for Lake Hawassa, and due attention should be paid to land development activities that have the potential to add to the plastic litter flow into Lake Hawassa.	Plan	Municipal	Land system		Weak	Specific provisions should be obtained		Specific provisions should be obtained
NatureRes Protecting Lake Hawassa Stewardship Project	This Project, supported by GIZ provides for the collaboration of multiple public and private stakeholders in protecting and rehabilitation of Lake Hawassa, mainly through managing land impacts in the contributing sub-Basin.	Agreement	Basin	Land system		Moderate	The main strength of this agreement is that is can help coordinate a wide variety of institutions efforts in the pursuit of improved outcomes, identify priorities for action, and funnel resources to priority actions. It is applicable across the whole Sub-Basin.		The main weakness of this group is that there are limited resources available.