

**LAKESIDE HOUSING DEVELOPMENT AT BISHOFTU TOWN, THE
CASE OF HORAARSADI, FOR OROMO IRRECHA REVIVAL**

Geda Tura Shengu



**A Thesis Submitted to
The Department of Architecture
School of Civil Engineering and Architecture**

**Presented in Partial Fulfillment of the Requirement for the Degree of Masters of
science in Environmental Architecture**

**Office of Graduate Studies
Adama Science and Technology University**

Adama, Ethiopia

November 2019

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Advisor Approval sheet

To: Architecture Department

Subject: Thesis Submission

This is to certify that the thesis entitled: Lakeside Houses Development at Bishoftu Town, Hora Arsadi For Oromo Irrecha Revival, submitted in partial fulfillment of the requirements for the degree of Master of Science in Environmental Architecture, the Graduate Program of the Department of Architecture, and has been carried out by Geda Tura, under my supervision. Therefore, I recommend that the student has fulfilled the requirements and hence hereby he can submit the thesis to the department.

Name of Advisor /Supervisor/

Signature

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Approval of Board of Examiners

We, the undersigned, members of the Board of Examiners of the final open defense by Geda Tura Shengu, have read and evaluated his thesis entitled: Lakeside Housing Development at Bishoftu Town, The Case of Hora Arsadi, For Oromo Irrecha Revival, and examined the candidate. This is, therefore, to certify that the thesis has been accepted in partial fulfillment of the requirement of the Degree of Masters of Science in Environmental Architecture.

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DECLARATION

I, Geda Tura Shengu hereby declare that this MSc Thesis is my original work and has not been presented for a degree in any other university, and all sources of material used for this thesis have been properly acknowledged.

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This MSc Thesis has been submitted for examination with my approval as a thesis advisor.

Advisor Name: _____

Signature: _____

Date of submission: _____

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Abstract

Waterside has different purposes such as recreational, transform vacant docklands in the city for commercial use, residential use or public open space. Hora Arsadi Lake is a historical and cultural site, which the great Oromo Irrecha celebration ceremony takes place. Bishoftu town is a historic place of Oromo Irrecha ceremony place since 6th century with a few numbers of a participant, now the population of the festival participant from different direction of Ethiopia is estimated to 4 - 6 million. Even, the site was a great historic place and the population of festivalgoers is increasing, the site doesn't gate any development. Lack of road access and open space is the main problem of the site. The objective is to analyze and plan sustainable Lakeside housing development for a revival of Oromo Irrecha. The paper analyzed relevant journal papers on sustainable waterfront restoration, and it finds out ten sustainable principles for waterfront development. The study uses these principles contextually in site analysis. Site analysis, questionnaire, and the interview has been applied in the data collection method. In the questionnaire, Judgmental survey sampling technique was adopted. The questionnaire and interview focused on cultural assessment for the integrity of the development within the social culture. The data analysis result indicates contextual is primary attention. Accordingly, water access and open space as primary criteria, and sustainable principles was for sustainable site restoration. Based on the analysis result, the paper proposed adequate road access plan, footpath alongside water body, artificial ponds, organized public open space, rainwater collection to the lake and Sustainable house development. Lakeside house development at Hora Arsadi lake revitalizes Oromo Irrecha through creating a suitable site for Irrecha celebration, Lake conservation, enhancing Oromo cultural practicing places, and advertising through media. These give popularity and awareness about the culture that helps to revive the Oromo Irrecha festival.

Keywords: Lakeside revitalization, lakeside houses, waterfront development, culture revitalization, Oromo Irrecha, sustainable waterfront

Table of Contents

Acknowledgment.....	iv
Abstract.....	v
Table of Contents	vi
CHAPTER ONE: INTRODUCTION	1
1.1. Background study	1
1.2. Statement of the Problem.....	2
1.3. Objectives	3
1.4. Research Question	3
1.5. Scope.....	4
1.6. Significance	4
CHAPTER TWO: LITERATURE REVIEW	5
2.1. Theoretical Background.....	5
2.1.1. Hora Arsadi Oromo Irrecha.....	5
2.1.2. Waterfront Historical Site Revitalization	8
2.1.3. Lakeside House Development	9
2.1.4. Cultural Revitalization.....	12
2.2. Empirical Experience.....	13
2.2.1. Sustainable Waterfront Development.....	13
2.2.2. Sustainable Principles for Waterfront Development (SPWD)	13
2.2.3. Lakeside Development Advantage for Culture	15
2.3. Conceptual Framework.....	16
CHAPTER THREE: MATERIALS AND METHODS	17
3.1 General Description of Study Area.....	17
3.1.1 Land Use Map	19
3.1.2 Topography.....	20
3.2 Data and Materials	21

3.2.1	Data.....	21
3.2.2	Material.....	21
3.3	Methods	22
CHAPTER FOUR: RESULTS AND DISCUSSIONS		25
4.1	Analysis	25
4.1.1	Road Access	28
4.1.2	Festival Place.....	30
4.1.3	Topography.....	31
4.1.4	Land Use Map	32
4.1.5	Questionnaire and Interview.....	32
4.1.6	Festivalgoers Population	34
4.2	Results.....	34
4.2.1	Access.....	35
4.2.2	Public Space	35
4.2.3	Sustainable House Development.....	35
4.3	Discussions	36
4.3.1	Access.....	36
4.3.2	Public Space	41
4.3.3	Sustainable House Development.....	44
CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS.....		50
5.1	Findings	50
5.2	Conclusions.....	50
5.3	Recommendations.....	51
GLOSSARY		52
REFERENCE		54
Appendixes		58

LIST OF TABLES

Table 2.1.1: space occupancy in Irrecha activities	6
Table 3.2.1: Data source for the study	21
Table 3.2.2: used materials	21
Table 4.1.3: current land use	27
Table 4.1.4: questionnaire survey data	33
Table 4.3.1: estimated water celebration potential	39
Table 4.3.2: occupancy of the site area	42

LIST OF FIGURES

Figure 2.1.1: human body size.....	8
Figure 2.1.2: Sustainable development diagram	11
Figure 2.3.1: The Study Conceptual Model	16
Figure 3.1.1: location map.....	18
Figure 3.1.2: land use map	20
Figure 3.3.1: methodology framework.....	23
Figure 4.1.1: site analysis	26
Figure 4.1.2: existing site condition	27
Figure 4.1.3: existing road analysis.....	29
Figure 4.1.4: existing open space and road access	30
Figure 4.1.5: site topography.....	31
Figure 4.1.6: The town land use map surround Hora Arsadi Lake	32
Figure 4.3.1: proposed main road detail section.....	37
Figure 4.3.2: road access at the site	38
Figure 4.3.3 water celebration access length.....	40
Figure 4.3.4: optional proposed artificial ponds.....	41
Figure 4.3.5: proposed Irrecha celebration site	43
Figure 4.3.6 :Proposed Lakeside House site plan.....	45
Figure 4.3.7: rainwater harvest for Hora Arsadi Lake.....	46

LIST OF ACRONYMS AND ABBREVIATIONS

Bldg. - building

cel. – celebration

cm - centimeter

°C - degree Celsius

DEM- Digital Elevation Model

E.C. – Ethiopian Calendar

Fig. – figure

G.C. – Gregorian Calendar

ha - hectare

hr. – hour

km – kilometer

LDP- land development Plan

m – meter

mm – millimeter

m² - square meter

m/s – meter per second

sec. – second

SPWD - Sustainable Principles for Waterfront Development

CHAPTER ONE

INTRODUCTION

1.1. Background study

Waterfront is the location where water and land meet covering the range that is used in relation to water. Usually, it includes the land within 300m from the waterline and the area above the water at a depth of 5 meters (Seong Hyun, et al., 2019). Good Riverside development contributes positively to the quality of urban life and the city economy. The waterfront revitalization has presented opportunities to transform vacant docklands in the city for recreational, commercial, residential uses or public open space.

Hora Arsadi Lake is a historical and cultural site, which the Oromo Irrecha celebration ceremony takes place. Found in Bishoftu town not far from Oda Nabe, one of the Oromo religious, political and historical centers of ancient times. The place is known with the highest number of irrecha festival is taking place. Historically, irrecha has been understood and practiced within the context of Oromo religion, Waaqeffannaa – a belief in one supernatural power called Waaqa (God). The Oromo nation is one of the indigenous peoples of east Africa. Throughout long history, they have developed their own culture, identity, a religious cult, and ritual performances. They believe in Waaqa tokko unique universal creator and master. Irrecha ceremony from the viewpoint of its relations to the Gadaa system and Qaalluu institution.

Irrecha means literally thanksgiving, worshipping and praying to the Waaqa or the universal creator through cultural practices. Irrecha ritual ceremony contains in itself religious cultural and philosophical world view which admires the miraculous spiritual powers of Waaqa and conjointly relates the living secret of generation. The ever greenness and productivity of plants, the regeneration of life and the replacement of the old by the new, death and resurrection of fruits are likened and related to the wisdom of Waaqa. According to this belief, all is accomplished by the will of Waaqa and is indicative of the life after the death of religious philosophy. This thanksgiving culture and pray would be accomplished at different places and time governed by its own system. Although the Irrecha ritual ceremony is conducted at different places, usually it takes place in two major areas. The first is Irrecha Tulluu (Irrecha that is performed at the top of the mountains) during the dry season (bona) according to the Oromo Culture. It is the time when the Oromo living in the vicinity are

gathered to pray to their Waaqa/creator/ to give them rain. The other is Irrecha Malkaa (Irrecha that is performed along the river bank), in September or at the beginning of Birra.

In Oromia, the core center of Irrecha celebration has been around Hora Arsadi in Bishoftu town, some 25kms to the south of Finfinnee, the capital city. Annually, particularly during the Irrecha Birraa (the Autumn Irrecha) in September or October, the Oromo from different parts of the country come together and celebrate the ritual. In the Irrecha ritual ceremony, Abbaa Malkaa and Abbaa Gadaa have vital participating communities carrying a bunch of lovely grasses and flowers in their hands-Praise, bless and pray to Waaqa. Soaking that bunches of flowers and grasses after thanksgiving song is over, they lay there it over. The Irrecha ceremony activities are needed to soaking the flower and grass to the water and the song together.

The great Oromo Irrecha festival is held at Hora Arsadi, Bishoftu Town. The participants come together from every direction of the country for the festival. Especially in recent decades, the participant population rises vastly. Bishoftu town has no specific recorded data of the participant, but they estimated in millions. Also, from observation and different media, it predicted 4 million to 6 million. Even the movement of Irrecha is under reviving, this festival site hasn't got development concerning the activity. On the other hand, the site is under the influence of urban expansion. Subsequently, the place is center for the largest Irrecha festival, it has a lack of access road, adequate open space and structural development to boost the site for its better benefit for the town, site conservation, and the most important issue is for Irrecha festival advance.

1.2. Statement of the Problem

Bishoftu town is a historic place of Oromo Irrecha ceremony place since 6th century. Irrecha celebrations have been expanded both in content as well as geographical and demographic representations. Irrecha celebration has been practiced in different places in the Oromia region as well in a different country where the Oromo community lives together. The most famous Irrecha festival is Irrecha takes place at Bishoftu, Hora Arsadi in the month of September. In a few past decades, the population of festival participants rises to about 4 million in 2017/18 G.C. Even though the participant population keeps on increasing, the site does not get focus to preserve rather than pushed by urban expansion. Currently, the existing site area is not adequate for the festivalgoer population.

In current time Ethiopian government give a good attitude for its nations to preserve and restore their culture. Irrecha is one of great Oromo festival which many Ethiopian nations participate on it. The grand Irrecha festival is take place at Hora Arsadi lake. This festival is when the society start new year with pleasant wishes. Asking Waaqa (God) forgiveness, and need help for fulfillment of their wishes. Hora Arsadi Irrecha festival is considered as religious, nationality, and social unity festival. Therefore, developing this site will vastly help to preserve the Oromo culture, strengthen the unity of Ethiopian nations and income for the country from tourism.

Hora Arsadi Topography is surrounded by high slope hills which create fence rotate about the lake that starts from the east, cover north and west. In the south direction, the site slope is suitable for water access, also in this side it is reserved by residential buildings and governmental services. These conditions create a small accessible area to the water body which is a challenge for the festival ceremony. These make one side entrance to the celebrating site. Existing road access and gathering place is not enough to customize the celebrator's population. The other is Since the place is historical and where great Oromo festival is held at the place, the site hasn't got any development for the festival services. The study has preserved this historic lake, provide appropriate road access, adequate open space and finally to develop the site for the cultural facility.

1.3. Objectives

General objective

To analyze and plan sustainable Lakeside housing development for a revival of Oromo Irrecha.

Specific objectives

1. To find appropriate solution for access at the study area.
2. It is to provide suitable open space for the festival.
3. To plan sustainable Waterfront Houses that help for the revival of Oromo Irrecha.

1.4. Research Question

The study answer questions listed below, regarding Lakeside Houses, Hora Arsadi historical site and the Irrecha celebration activities according to cultural value.

1. How to develop Sustainable Cultural Historic site.
2. How to deliver sustainable lakeside house design at Historic place, that contributes for the festival.

3. Benefits of Cultural Historic site restoration for cultural revival?

1.5. Scope

The paper study Oromo irrecha trend for a century in Ethiopia, and moreover in a few past decades the festival activity at Hora Arsadi Lake have analyzed. It investigated the site's existing condition regarding the current festival activity at the place and social attitude about the site. The selected site area for house development is about 200 m up to 300 m revolve surround the lake. In this study, festivalgoers population, festival site area, water accessibility for irrecha celebration was evaluated. Data of 20 years (1990- 2010) E.C. is analyzed for space requirement and prediction for the future population. The Lakeside houses development comprises cultural practicing places, public open spaces, buildings services, landscape design, and Waterbody conservation.

1.6. Significance

- * The development helps to vastly generate green economy for the town.
- * It creates job opportunities for society through tourism activity.
- * An enjoyable recreational and ceremonial center for the town.
- * Developers of such projects will use it as a reference.
- * It uses as a guideline for town decision-makers.
- * The development contributes a great role to conserve, teach and deliver the culture to generation.

CHAPTER TWO

LITERATURE REVIEW

2.1. Theoretical Background

2.1.1. Hora Arsadi Oromo Irrecha

Irrecha is a chain of rituals performed to plead with and also extend gratitude to the creator. There are two major annual celebrations; irrecha Tulluu (of hilltop) and irrecha Malka (of lakeside). Annually, particularly during the Irrecha Birraa (the Autumn Irrecha) in September or October, the Oromo from different parts of the country come together and celebrate the ritual. In Irrecha ritual ceremony, Abbaa Malkaa and Abbaa Gadaa have vital participating communities carrying a bunch of lovely grasses and flowers in their hands- Praise, bless and pray to Waaqa. Soaking that bunches of flowers and grasses after thanksgiving song is over, they lay there it over. The major annual thanksgiving celebration that brings the largest number of participants is the one held at Hora Arsadi a sacred lake located in the Bishoftu City of Oromia Regional State. Irrecha at Hora Arsadi assembles thousands of participants from different backgrounds from all over the Oromia region and other parts of Ethiopia. Apart from prayers, other colorful performances like songs, horse ride, boat trips, bird watching, and similar touristic activities happen to grace the festivity. Spirit possession sessions, coffee ceremonies under the big sacred tree, invocation songs and trance are also the integral, and yet contested, parts of the ritual (Debele, 2019). In the past regime, the Gadaa Oromo system was highly influenced. Ethiopian colonialists expropriated Oromo economic resources, such as land, and destroyed Oromo institutions and cultural experts and leaders. They have also denied the Oromo opportunities for developing the Oromo system of knowledge by preventing the transmission of Oromo cultural experiences from generation to generation. Under these conditions, the Oromo basic needs and self-actualizing powers have not been fulfilled (Jalata, 2012). Revitalize the Oromo Gadaa system developing the historic place, Hora Arsadi Irrecha is a vital place for Oromo culture. Culture, then, is the creation, transmission, reformulation, and transformation of these artificial environments (Durham, 1984). In the late nineteenth and early twentieth century, the Abyssinians attempted various mechanisms to cut off the Oromo from their political, social and cultural heritages to prevent their transfer down through generations. In other words, the conquest was followed by economic and cultural domination, including forced religious conversion (Aga, 2016). In 1991, Ethiopia underwent remarkable political

reconfiguration following the overthrow of the military regime. It comes with new political arrangements along with ethnic federalism fundamentally deconstructed the old illusion of nation-building along one dominant cultural path. This condition helps to revive the Oromo Gadaa System entire the country that has been declined in previous rules. At this Thanksgiving Day celebration, Oromo people from different parts and from other religious sects (Non-Waaqeffannaa, Christianity, and Muslims) come together and celebrate with joy and happiness. Therefore, irrecha is a social bond within Oromo people that brings them closer to each other. (Aga, 2016)

Bishoftu city is found at the center of Adea Liban district. Its exact time of foundation didn't know, but some existing documents enlisted that it was established around 1917 with the starting of Ethio-Djibouti railway. The name Bishoftu comes from the Afan Oromo language called "Bishaanoftu" which refers to "The land of excessive water body" in addition to this, the word Bishoftu is given to the city from the existing of many volcanic crater lakes such as Bishoftu, Hora Arsadi, Cheleleka/seasonal/, Kuriftu, Kilole, Green Lake and Babugaya (Bishoftu city Administration, 2009). The historical and cultural site of Hora Arsadi Lake where the celebration ceremony is taking place. Found adjacent to Bishoftu town not far from Oda Nabe, one of the Oromo religious, political and historical centers of ancient times. Hora Arsadi is named after the man called Arsadi who is said to have belonged to the Liban lineage. Irrecha has undergone some transformations in accommodating non-religious aspects of Oromo culture and thus has played a significant role in building Oromo identity and sense of unity. (Asebe Regasa, 2018)

Space requirement (Ergonomics)

The average time requirement while celebrating the water is estimated to one minute per person. Based on the international standard human dimension (ergonomics) that taken from a book, Architects' Data (Neufert, 1999), Timesaver standards for building types (Callender, 1983) and Metric handbook planning and design data (By, Adler, & Edition, 1999) space occupancy is listed as follow. Based on the activities performed on irrecha ceremony the space occupancy is described in Table 2.1.1.

Table 2.1.1: space occupancy in Irrecha activities

Activities	Space requirement				Remark
		Length	Width	Area per person	

1. While Walking to celebrate	Single	625 mm No: 2	625 mm No: 15	0.39 m ²	Not on motion
	Group	600 mm No: 1a	1250 mm, No: 15/1b	$0.75 + 0.075 = 0.825 \text{ m}^2$	10 % Circulation
2. While celebrating the water	Single	625 mm No: 2	-	0.625 m	Along the water
	Group	625 mm No: 2	Circulation 10%	$0.625 + 0.0625 = 0.687 \text{ m}$	Distance along water
3. Blessing	Standing (in group)	2250 mm No:7	2125 mm No:11	4.78 m ² for 16 persons	
	Public Sitting	625 mm No: 2	875 mm No: 4	$0.547 + 0.0547 = 0.6 \text{ m}^2$	10 % circulation
	Stage	685 mm No: 1b	940 mm No: 1a	$0.64 + 0.2 = 0.84 \text{ m}^2$	30 % circulation
4. Folle song	Group	562.5 mm No: 7	1250 mm No: 15	$0.703 + 0.211 = 0.914 \text{ m}^2$	30 % circulation

Based on standard human dimension space requirement is list in Table 2.1.1 in four main activities group, these are while they going to the celebration, when celebrating the water, while they attending the Abba Gadaa blessing and folle song after the program. Accordingly, the space requirement per person on walking is 0.86 square meters. The next is when celebrating the water, it is measured by distance along the waterside space occupancy for a single person in a group activity is 0.86 meter. The other is while Abba Gadaa blessing, at this activity the festivalgoers collected together and perform celebration on the ground following the cultural value. That means, it doesn't need chair installation, it is sitting on the ground and handing the land then perform the blessing. So, area requirement estimated is for an attendant and Abba Gadaa is 0.76 and 0.84 square meter respectively. After the blessing is over youth starting to a song together within the Gadaa age-grade system. At this time most of the participants are segregate and walk to their home, So, the traffic load is become reduced for folle playing space. The space requirement desired is 0.914 square meters. Figure 2.1.2 is available to easily understand the activity for area estimation.

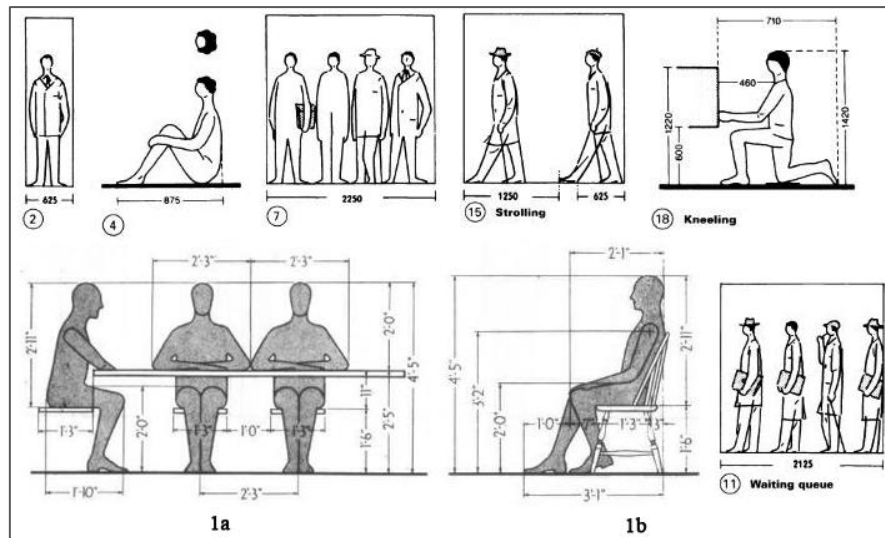


Figure 2.1.1: human body size Source; Neufert 1999, pp. and Callender, 1983 pp.4

The other point is the time requirement while celebration. In irrecha celebration soaking the wet grass into the water, is considered a vital issue for the followers. This soaking bench of grass into water need length alongside the lake, in such great Hora Arsadi Irrecha, it is difficult to perform Celebration at the same time because of the high population congregation of the society. Participants perform quickly in a minute, some of them do not celebrate the water. From observation analyses, the average water celebration time for a single person is estimated to 30 seconds.

2.1.2. Waterfront Historical Site Revitalization

According to cited in (Md. Yassin, Ramlan, & Mohd. Razali, 2017), Revitalization means to give new life, strength, vitality to an area, meanwhile urban revitalization means to impart new life or strength to a neighborhood and (it can include efforts to) revitalize a flagging economy. Rashid et.al, (2013:1), argued that the concept of urban regeneration in Malaysian cities is to promote a “return to the city”, revitalize the city center, restore activity and implement initiatives to improve the quality of the environment. Various terms were referred to the revitalization process that is commonly used interchangeably, Spandau et.al, (2010:2) identified the terms such as; Regeneration, Renewal, Redevelopment, Rehabilitation, Conservation, Restoration, Reconstruction, revival, Refurbishment, Renaissance. Urban revitalization as a process that comprises a set of urban management strategies to facilitate Economic, Social, Environmental, Cultural and Historical (re)development of problematic, deprived and derelict urban areas (Md. Yassin et al., 2017).

In recent decades, several trends have combined to create an environment in which cultural heritage can be considered an important resource for coastal sustainable development.

Firstly, there has been increasing widespread awareness, through scientific advances communicated via the media in general and television in particular, of the outstanding biodiversity often associated with coastal regions. Ecosystem productivity frequently endows this interface zone between land and sea with exceptionally rich flora and fauna, terrestrial and marine. Secondly, however, a parallel understanding has developed such that human activity is now a direct threat to the delicate balance of this biodiversity. Coasts have always been attractive to people around the world, because of the food resources to be found at sea, the appeal of coastal lowlands for agriculture and urbanization, and the need for ports to facilitate the flow of trade (Pinder & Vallega, 2003). Revitalization primarily involves active methods used for the purpose of reviving a protected building or site, primarily referring to restoration with or without conversion of functions, adaptation or interpolation. Instead of condemning old waterfront structures to non-use, decay and ultimate abandonment, some cities are working toward the preservation and adaptive reuse of historic buildings that maintains a tangible sense of the past and favoring a restorative approach that makes for a richer community and captures the allure that comes from being in touch with the past in modern daily life (Ragheb, 2017).

2.1.3. Lakeside House Development

As stated in (Md. Yassin, Ramlan, et al., 2017) Lakeside is referred to land fronting on to water (Dong, 2004), and the water itself being any type of water bodies such as a lake, the ocean, a river or a stream of all sizes. A more detail definition, Waterfront is the location where water and land meet covering the range that is used in relation to water. Usually it includes the land within 300m from the water line and the area above the water at a depth of 5 meters (Seong Hyun et al., 2019). The word lakeside is using some different words instead of the term lakeside in the literature. These words are a waterfront, city port, harbourfront, riverside, river edge, water edge and riverfront (Dong, 2004; Yassin et al., 2012). Breen and Rigby (1994), Sairinen and Kumpulainen (2006) and Morena (2012) imply the same thing with waterfront and urban waterfront. According to these, waterfront identifies the water's edge in cities and towns or urban areas of all sizes. The water body may be "a river, lake, ocean, bay, creek or canal" or (e.g. in Shaziman et al., 2010) artificial (Pekin, 2013). Accordingly, the paper use words Lakeside and Waterfront moreover the listed, because of the waterbody is specified (Lake). Lakeside development was more defined in (Rim, Estate, & Conference, 2010), waterfront development is development directly fronting on the water for any purposes and the water components can include river delta, coastal plains, wetlands,

beached and dunes, lagoon, and other water features not excluded watershed area. Following the decline of old harbour sites and waterfront industrial areas in many cities all over the world in the second half of the 20th century, urban waterfront redevelopment started in North America, most notably with Baltimore's Inner Harbour in the 1970s, and has gradually spread to Europe and elsewhere since the 1980s (Gospodina, 2001). Cited in (Dong, 2004). In addition, the increase of competition between cities across the world led to improving the urban image as stated by Short "What sells the city is the image of the city" (Short, 1996). Therefore, many cities decided to re-establish their image of a post-industrial city on waterfronts. Sydney and Bilbao are two good examples of promoting their waterfronts and became worldwide known. (Al-shams, et al., 2017)

In the development context, waterfront developments have various interpretations depending on the characteristics of the sites and the cities Dong (2004). And, Butuner (2006) sees waterfronts as land to be reclaimed from water in order to create an extension of existing city centers. Breen and Rigby (1994, 1996) considered that waterfront development may not necessarily need to directly front water but may need only to look as if it is attached to the water. They believed that a property with a commanding view of water can be considered as waterfront property. (Md. Yassin et al., 2017). (Al-shams, Ngah, Zakaria, Noordin, & Hilmie, 2017) cited, Public spaces have formed the background of public life, and supported the community's needs for commercial activities, sacred celebrations, social interaction and entertainment (Slessor, 2001). This gave the concept of public space a wide range of notions, from a space of democratic expression to a space between buildings that fosters human interaction (Varna, 2009). Generally, public space can be seen in various forms, such as streets, squares, plazas, market places and parks (Ercan, 2007). Waterfront as a type of public space should have the same aspects, which means, it has to be the space that is open, owned and used by all members of the public. (Al-shams et al., 2017).

Sustainable development

The sustainable development concept was firstly coined by the Bruntland Commission which defines sustainable development as the development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains two key concepts of needs, in particular, the essential needs of the world's poor, to which overriding priority should be given; and the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs (Permana, et al., 2017). Sustainable development is a development that meets the

needs of the present without compromising the ability of future generations to meet their own needs (Jonker & Harmsen, 2012). Green buildings are responsible for our environment, As cited in ((YLE, et.al., 2010), (Ji, 2016), (Kubba, 2012) and (Siva, et.al., 2017)) Green building, is the practice of creating structures and using processes that are environmentally responsible and resource-efficient throughout a building's life cycle from siting to design, construction, operation, maintenance, renovation, and deconstruction. Although new technologies are constantly being developed to complement current practices in creating greener structures, the common objective is that green buildings are designed to reduce the overall impact of the built environment on human health and the natural environment (Ji, 2016). To develop sustainable environmental, green building is the main key in any environmental development.



Figure 2.1.2: Sustainable development diagram

(Source: www.conceptdraw.com/examples/sustainability-venn-diagram)

One accomplished sustainability if the development of three aspects is in a harmonious balance. However, the state of 'harmonious balance' could not be determined exactly. To what extent the development of social, environment and economy should be accomplished? A real example of sustainability is the development of Singapore. Many people, politicians, policymakers, academics, researchers, decision-makers and the likes agreed upon the achievement of Singapore as a sustainable country or city. (Permana et al., 2017). Daly (1990) defined environmental sustainability from three different perspectives i.e. renewable, non-renewable resources and pollution. According to him, environmental sustainability is the rates of renewable resource harvest, pollution creation, and non-renewable resource

depletion that can be continued indefinitely. Environmental sustainability requires that the environment will continuously and constantly serve human life, and in return, a human being must be able to preserve the environment. (Permana et al., 2017).

2.1.4. Cultural Revitalization

Cultural heritage assets refer to physical or tangible heritage, such historic monuments, ruins, and buildings, historic urban and rural centers, historic gardens, archaeological sites, industrial sites, architectural monuments, scientific or technological assets, artifacts, and collections, and to non-physical or intangible heritage, which includes but is not limited to traditional festivals, oral traditions, customs, ways of life and traditional crafts, Cited in (Mourato, et al., 2014). Revitalization or revival of intangible cultural heritage means reactivating, restoring and strengthening intangible cultural heritage practices and expressions that are vulnerable. (UNESCO, 2019). Cultural development is any social production (idea about human production and nature production) and its own identities that contain everything they need it and develop their own customs, codes, norms, knowledge, beliefs, language, region, religion as well as any other behavioral regulations and institutions. As stated in (Chapuis, 2009), Idea of restoration really crystallized in the 19th century, with these ideas being put into practice. Then the concept of cultural heritage conservation broadened to include other areas of heritage, especially related to the movable part. In the second half of the 20th century, a series of resolutions, recommendations and conventions was taken by international worldwide and European organizations especially UNESCO, and its related agencies the International Council on Monuments and Sites (ICOMOS), the International Council of Museums (ICOM), and the International Centre for the Study of the Preservation and Restoration of Cultural Heritage (ICCROM).

Hora Arsadi Lake is a cultural historic place, which is the Irrecha festival take per year. The other is, some of the site functions are recreational, wedding, tourism, swimming, floating boat, and somehow for a fishery. The place has been customizing a small number of peoples and space was enough for that time. Oromo people lived under and governed themselves through the democratic and republican system of governance known as the Gadaa System until their nation was overrun by the European armed rival ethnic groups in the last part of the nineteen century and early twenty century (Wakayo, 2019). The Abyssinians attempted various mechanisms to cut off the Oromo from their political, social and cultural heritages to prevent their transfer down through generations. In its earlier phase, the Ethiopian Revolution of 1974 promised democracy in Ethiopia and to heal an old wound that was

created based on ethnic identity and religious rituals. In recent times, the population of followers is highly increasing, and the government gives the right to culture and religion to follow and develop.

2.2. Empirical Experience

2.2.1. Sustainable Waterfront Development

Waterfront revitalization would be an effective strategy to preserve heritages, conserve the contaminated or abandoned site and inspire the identity and authenticity (Keyvanfar et al., 2018). There were many cities has been practiced waterfront revitalization in history, many of them are success and some of them are failed in their development due to design approach.(Md. Yassin et al., 2017), (Shamsuddin, et al., 2008), & (Al-shams et al., 2017). Since ancient times, the built environments have changed their purpose to fit contemporary social needs in a rather pragmatic way, critical reflection to the reuse of cultural heritage-built environment is of quite a new date. The application of technical protection measures on the cultural heritage-built environment can ensure their preservation with a limited lifetime, but for long-term existence and ensuring protection it is more favorable if they have some socially justified use (Vasilevska, 2018). Waterfront development is used in this paper to describe, create an accessible and enjoyable water environment that maintains the main function of the place as well as new structural development. It is also an Arrangement of water-related entertainment and activities, emphasize, River-way remedy, water-human relationship design. Waterfront development uses some key elements for the achievement of sustainable development. As cited in (Md. Yassin, Bond, & Mcdonagh, 2012), discussed that the success of waterfront development is only achieved once it can function on all levels and benefit all stakeholders. The harmonies of waterfront development could be achieved through combinations of people, nature, and technology (Mann, 1973). In addition, Bertsch (2008) determined that for any use of a waterfront area, a water plan should be developed before the land plan, to maintain an economically viable waterfront. Different country has specific principles according to the context of the place (Md. Yassin et al., 2017).

2.2.2. Sustainable Principles for Waterfront Development (SPWD)

Parallel with the growing popularity of waterfront redevelopment is the idea that it is essential to give full consideration and attention to several principles to maintain the public's interest in the waterfront area and to protect the waterfront itself (Azlina Binti MD Yassin, et al., 2011). To secure the long-term growth of the resource, it is important for waterfront areas to be used strategically to maintain their economic value and enhance their specific

features or image Cited in (Md. Yassin et al., 2012). Many towns use their own principles, some of them are discussed as follow. Barry Waterfront Design and Access Statement were prepared by The Vale of Glamorgan Council in 2009 in order to determine the principles of the development of the waterfront and these principles are intended to create a basis for the waterfront master plan (Niemann & Werner, 2016). The other is (Niemann & Werner, 2016) cited, LA Waterfront Design Guidelines which is prepared for LA Waterfront of the Port of Los Angeles by Los Angeles Board of Harbor Commissioners in 2011, and Port Melbourne Waterfront Urban Design Framework in 2013 (Niemann & Werner, 2016). Another guide is Tacoma Waterfront Design Guidelines, in 2013. On other hand principles mostly used as environmental Global issues. Principles for a Sustainable Development of Urban Waterfront Areas have been presented in the context of the initiatives for the Global Conference on the Urban Future (URBAN 21) held in Berlin on July 2000 and in the course of the EXPO 2000 World Exhibition. Cited in (Bruttomesso, 2006) and (“10 Principles for a Sustainable Development of Urban Waterfront,” 2019)

1 - Secure the quality of water and the environment; The quality of water in the system of streams, rivers, canals, lakes, bays and the sea is a prerequisite for all waterfront developments. 2 - Waterfronts are part of the existing urban fabric; New waterfronts should be conceived as an integral part of the existing city and contribute to its vitality. Water is a part of the urban landscape and should be utilized for specific functions such as waterborne transport, entertainment, and culture. 3 - The historic identity gives character; Collective heritage of water and city, of events, landmarks and nature should be utilized to give the waterfront redevelopment character and meaning. 4 - Mixed-use is a priority; Waterfronts should celebrate water by offering a diversity of cultural, commercial and housing uses. Those that require access to water should have priority. Housing neighborhoods should be mixed both functionally and socially. 5 - Public access is a prerequisite; Waterfronts should be both physically and visually accessible for locals and tourists of all ages and income. Public spaces should construct in high quality to allow intensive use. 6 - Planning in public-private partnerships speeds the process; New waterfront developments should be planned in public-private partnerships. Public authorities must guarantee the quality of the design, supply infrastructure and generate social equilibrium. 7 - Public participation is an element of sustainability; Cities should benefit from sustainable waterfront development not only in ecological and economic terms but also socially. 8 - Waterfronts are long term projects; Waterfronts need to be redeveloped step by step so the entire city can benefit from their potentials. They are a challenge for more than one generation and need a variety of characters

both in architecture, public space, and art. 9 - Re-vitalization is an ongoing process; All master planning must be based on the detailed analysis of the principal functions and meanings the waterfront is concerned. Plans should be flexible, adapt to change and incorporate all relevant disciplines. 10 - Waterfronts profit from international networking; The re-development of waterfronts is a highly complex task that involves professionals of many disciplines.

Contextual integration is an important consideration for sustainable waterfront regeneration for the historic cities (S. Shamsuddin¹, et al., 2016). The contextual attribute of regenerative design by representing the understanding of the place where we live, and inhabiting it sustainably and respectively through ecological design (Okolie, 2017). According to Barry Waterfront -Wales (2009) Design and Access Statement, Daedalus Waterfront Design & Access Statement- England (2011), In the process of identification of design principles of waterfront; waterfront is separated into different character areas and goals and objectives are determined for each area and detailed design principles are developed in uses and mix, layout and urban form, scale, height and massing, appearance, materials and design features, public realm and public open space subjects (Niemann & Werner, 2016). Generally, from different literature ten principles were adopted. (Nepravishta, et al., 2014), (Md. Yassin et al., 2012), (Azlina Binti MD Yassin et al., 2011), (Heritage, Nepravishta, Plumbi, & Manehasa, 2014) and (Ismaeel, 2018), etc. cited, (Bruttomesso 2006) identified the following design principles to be critical components of successful waterfront projects; 1) Secure the quality of water and the environment. 2) Waterfronts are part of the existing urban fabric. 3) The historic identity gives character. 4) Mixed-use is a priority. 5) Public access is a prerequisite. 6) Planning in public-private partnerships speeds the process. 7) Public participation is an element of sustainability. 8) Waterfronts are long term projects. 9) Revitalization is an ongoing process. 10) Waterfronts profit from international networking.

2.2.3. Lakeside Development Advantage for Culture

Cultural development strategies have acquired significance in the economic development plans of cities because cultural activities are considered as urban tourist draws and a significant factor in how individuals choose where to live and work. As cities find themselves engulfed in inter-urban competition, they concentrate on developing a broad range of cultural activities to catalyze private development, increase consumption by residents and tourists, improve the city image, and enhance the local quality of life. (Grodach & Loukaitou-Sideris, 2007). Festivals in a particular give a strong impetus to the urban

economy; they operate at the interface of art and culture, the media, tourism, and recreation. (van Aalst & van Melik, 2012), the festival can serve as a showcase for a city and destinations can be branded by festivals. In recent, several trends have combined to create an environment in which cultural heritage can be considered an important resource for coastal sustainable development (Pinder & Vallega, 2003). In the republic of Tatarstan, there was formed an effective model of public-private partnership in the field of cultural heritage preservation that helped to revive most of the cultural objects in a short period (Absalyamov, 2015).

2.3. Conceptual Framework

A conceptual framework is a layout that leads to ongoing procedures. The overall study is graphically represented in Figure 2.3.1. it starts from the paper title, methodology and expected out came result is illustrated.

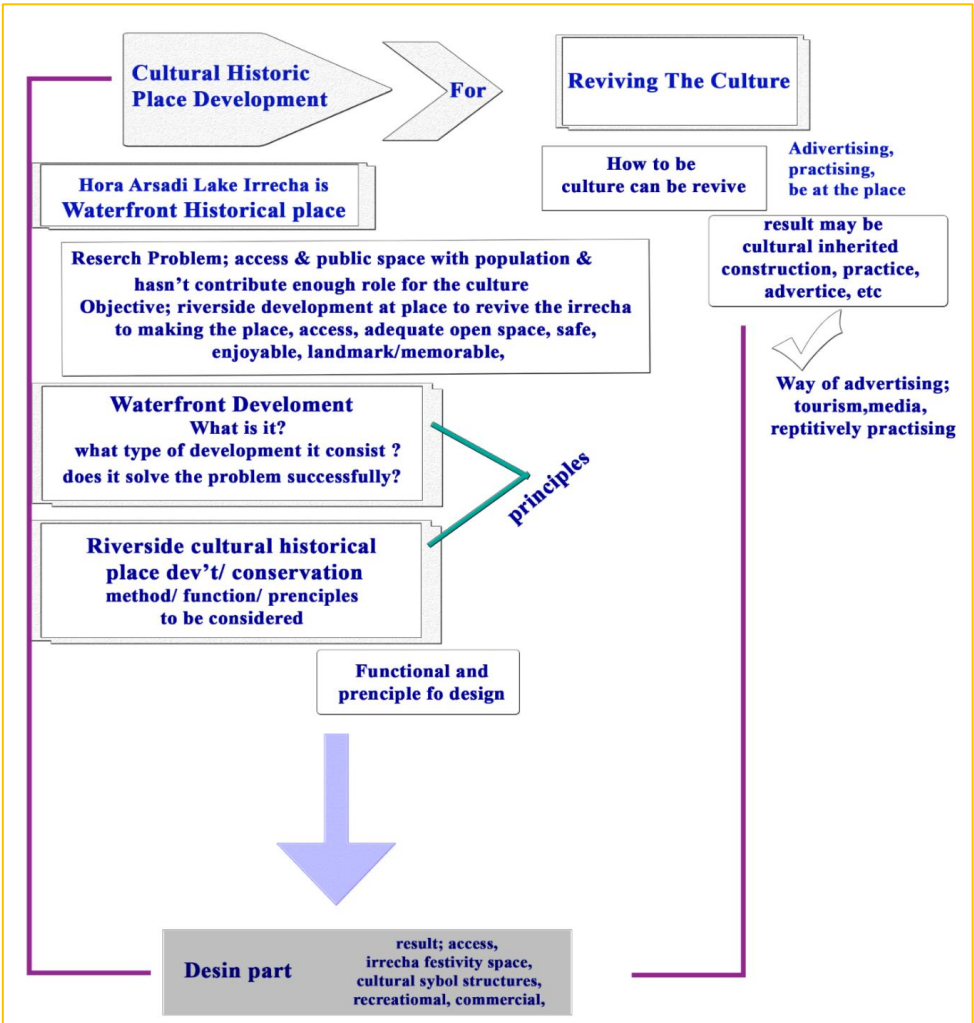


Figure 2.3.1: The Study Conceptual Model

CHAPTER THREE

MATERIALS AND METHODS

3.1 General Description of Study Area

Geographical/astronomical/ location of Bishoftu town is approximately located between 7°12' to 9°14' North latitude and 38°32'to 39°32'East longitudes. It covers about 14,000 hectares area. It is found in the Oromia Region, North Shewa Zone of Ada'a Wereda. It is situated at a distance of 47 km south East of Addis Ababa, and 52 KM from Adama. In the North the Town is bordered with Yerer Silassie , in the south with Wedo and Keta Jara , in East with Kaliti and in the West with Dire town and peasant association (*Bishoftu town Administration*, 2017).

On the ceremony, about Millions of People from different corners of the country and abroad have been taking a part with different cultural dresses in the ceremonial occasion of irrecha that mean “thanks giving day. Now a day wedding ceremony is also conducted at this historical occasion, therefore Irrecha is one of the tourist attraction centers in the country in general and for the city administration in particular so that attention must be given in developing the area for future.

The action area rotate about Hora Arsadi Lake, it circulates a historic place Hora Arsadi Lake about 200 m to 300 m from water edge. The lake is surrounded by hills in a large area. The slope of the hill is difficult for landscape treatment and foot access. The other side of the site is fenced by residential houses and governmental organizations. See Fig. 3.1.1, on next page.

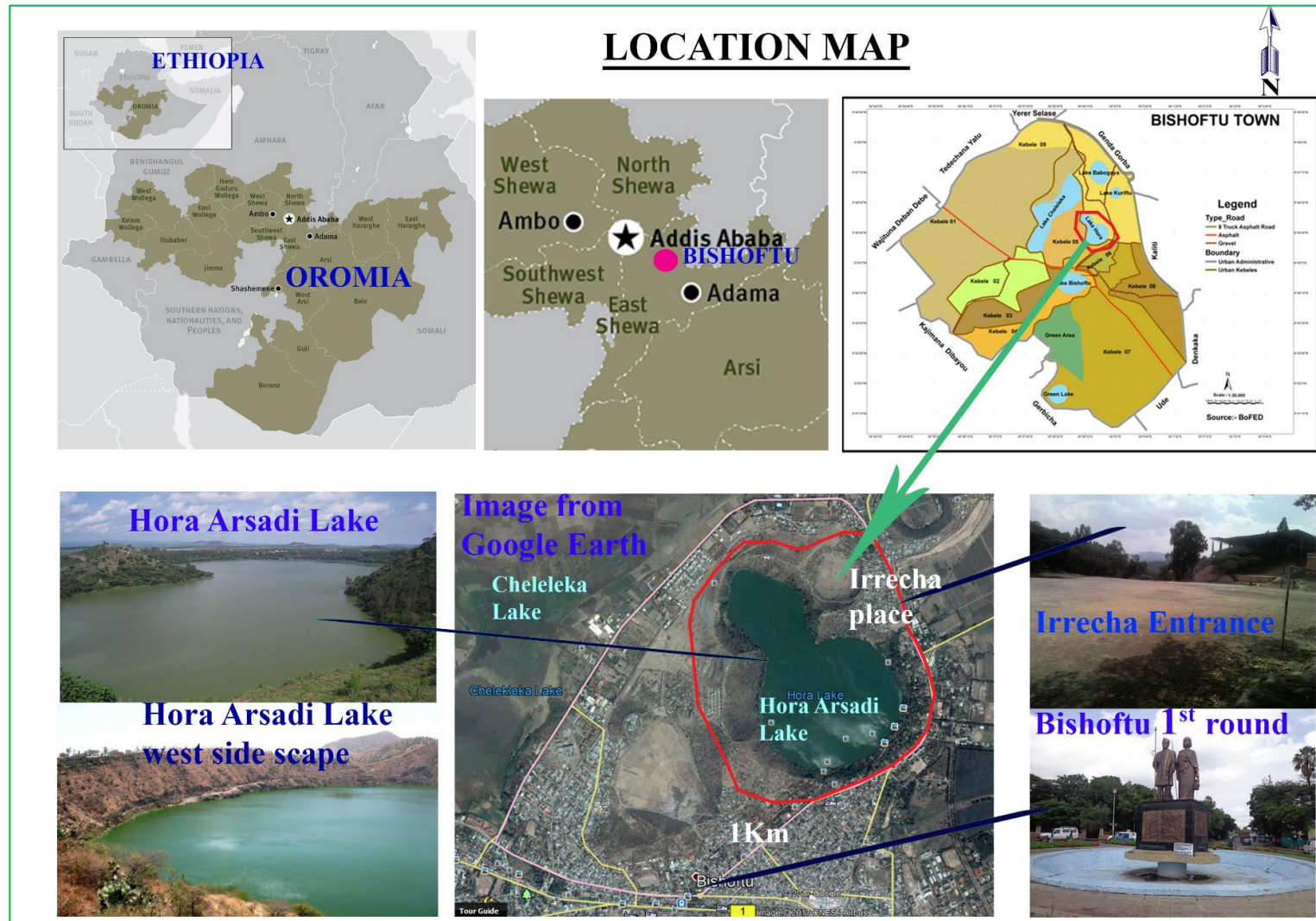


Figure 3.1.1: location map

The climate of the Town in general belongs to woina dega (Agro climatic zone). The Maximum annual temperature is 26.25 °C and the Minimum is 11.18. Annual average rainfall of the city is 762 mm. April is the hottest month of the year (31.1°C), while December is the coldest month (7.6 °C). December is the driest months, while August is the rainy month (209.9 mm) of the year. The highest wind speed is registered in March (2.24 m/s) and the most common wind direction seen in the city is easterlies. Population dynamics of a given settlement area is the result of fertility, mortality and migration. Those demographic processes are complex phenomenon affected by social, cultural, economic, political and psychological factors. The data obtained from the population projection made by Bishoftu Finance and Economic Development Office, the town has a total population of 201,408 by the year 2015. From the total population 97,683 (48.5%) are Males and 103,725 (51.5%) are females including the rural kebeles currently incorporated under the administration of the city (Bishoftu town Administration, 2017).

3.1.1 Land Use Map

The town Land Development Plan (LDP) for the following purposes. The first is for the integration of the proposed town plan and the new anticipated project. The next is to sustain the existing neighborhood with the new development. The assessment was analyzed the latest town LDP revised in 2019 G.C. for reliability of the new action. The new LDP update surrounds the lake from residential service to park and recreational service. It is to maximize the site potential for the festival. Fig. 3.1.2 shows, the revised town LDP.

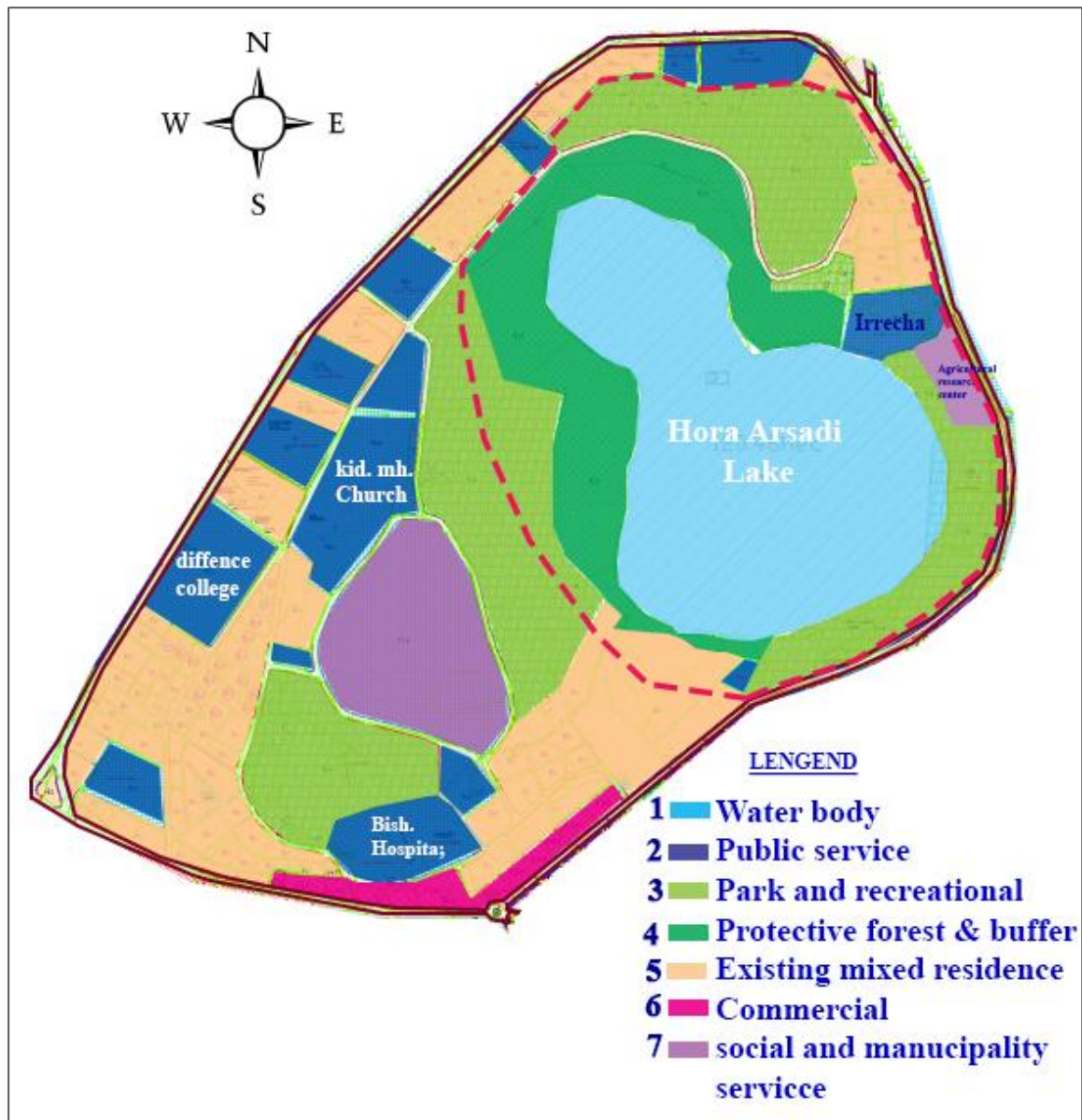


Figure 3.1.2: land use map (Source; Bishoftu Town administration 2019)

Selected site is circumscribed by a red hidden line. Functionals dominated in the site are park and recreational, protective forest and buffer, public service and mixed residences.

3.1.2 Topography

Topography of the town is created by volcanic eruption that makes vary from place to place. Assessment of topography is, first for natural land feature preservation analysis, and the second is protect soil erosion, rainwater collection, determine the type of development and structure, and create design integrates with the existing environment.

3.2 Data and Materials

3.2.1 Data

The source of the study data is from two; primary data and secondary data. Primary data; it is from site observation, questionnaire, and interview. Secondary data source is from Bishoftu town administration office. These data are; festival population, land use map and town structural plan.

Table 3.2.1: Data source for the study

Data type		Purpose	Source
Secondary	Land development plan	Topography, land use map	Bishoftu Town Admin.
	Town structural plan	future aim/or objective of the Town: determine the development.	
	Irrecha population	Population trend, to estimate future population, site occupancy potential	
	Google earth	site Map, slope,	Internet
Primary		Photograph; Site existing condition, observation	Society
	Questionnaire and interview	Assess the festival activities, to integrate the development with the cultural value.	

3.2.2 Material

Table 3.2.2: used materials

Software	Uses	Version
Auto CAD	site plan, section	2007
Archi CAD	2D and 3D site design	2022
Revit 2020	Site 3D	2020
ArcGIS	Slope assessment	10.7
Lumion	3D rendering	6.0

3.3 Methods

The study is project-based research, that it needs a design-based solution. As described in the earlier session, the research is to develop sustainable Lakeside houses at Hora Arsadi Lake, that serve for Irrecha festival. The study analyzed relevant recently published journal papers and adopt sustainable principles applied in analysis. After analyses, it proposed ten principles that guide the plan. The other is input data, the main data input is site analysis and data from Bishoftu town administration (structural plan and Land Use Map). The other is google earth, it uses for existing land use analysis, slope and site map. On the other hand, site observation, different Media, informal interviews are input for a design solution. The questionnaire was distributed thought society concerning familiarity with the Irrecha festival at Hora Arsadi Lake. The questionnaire was analyzed qualitatively from the collected survey. The data of the questionnaire has been collected through hard copy for the rationality of the research. Furthermore, based on experience and observation and from site analysis, it is the main input for the proposed design, evaluating the site problem and ongoing condition shaped the output result. The final output of environmental design from Architectural software was the vital aim of the study. From journal review and contextual analysis, it formulates sustainable design principles. After principles cast and collected data analyzed, based on result cast the sustainable design solution for the development.

For sustainable solution, Site analysis was used for understand the type of activities where to locate according to the function rather than the form, because of the nature of the project. Site slope, background history, natural features, existence of a historic place, and future aim of the selected area according to the town Land use will assess and integrated into the project. Predicted environmental solutions demonstrated using Architectural software such as Auto CAD, Arch CAD, Lumion, and Revit. The research workflow is graphically represented as follows to easily understand.

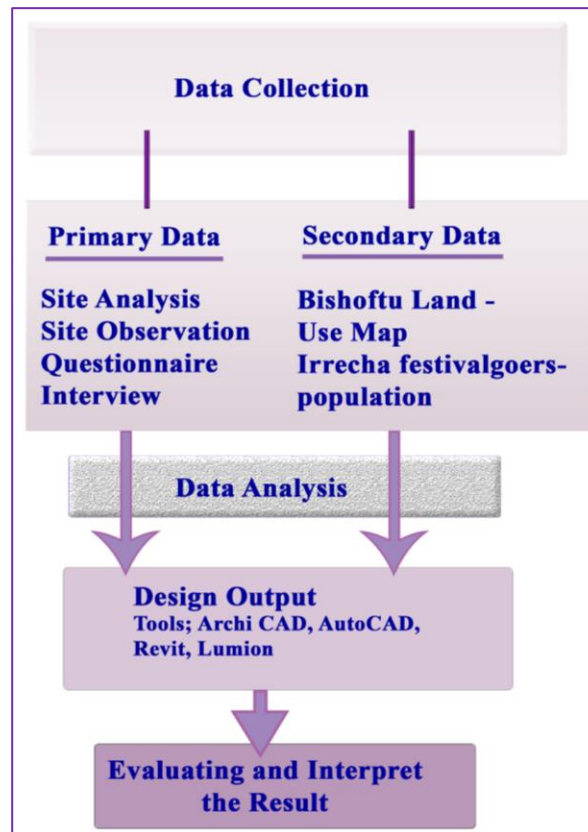


Figure 3.3.1: methodology framework

As represented in figure 3.2.2 the main input data is primary data from observation, different media, personal communication, experience, and questionnaire data. The other data from land use map and population of festival participants from the Bishoftu Town administration was a source of data. Flowed by site analysis and from the professional study are used for the effort of the study.

Judgmental survey sampling technique was adopted in this study. Purposive or judgmental sampling is a strategy in which particular settings persons or events are selected deliberately in order to provide important information that cannot be obtained from other choices. The strength of this technique is Low-cost, convenient, not time- consuming, ideal for exploratory research design. On the other hand, its weakness is Does not allow generalization, and subjective. The smaller the value of E (percentage maximum error required) the greater the sample size required as technically speaking sample error is inversely proportional to the square root of n (required sample size), however, a large sample cannot guarantee precision. (Taherdoost & Group, 2017).

Survey sampling was based on peoples who have knowledge about the Abba Gadaa system and Oromo culture and the Historical place Hora Arsadi Lake. This also includes

Architecture professions regarding sustaining historic and cultural places. The questionnaire has handled the solutions for the festival participant population on Irrecha at Hora Arsadi Lake that through the sustainable environment and the other aim was how to develop the Oromo culture as a general not only Irrecha ceremony. And also, how and what type of development can more sustain the site for the future.

Data collected from the questionnaire was analyzed quantitatively and qualitatively to well understand what filling and needs from the society for the culture and for the site. The second part design will be qualitatively comparing the existing site and compare after design. That is what the design part advantage comes with for the Hora Arsadi Lake site, Irrecha festival activities and as a whole for Oromo culture were discussed.

CHAPTER FOUR

RESULTS AND DISCUSSIONS

4.1 Analysis

The study has identified ten SPWD, these has been listed in the literature review. These points are used as a framework to analyze the existing site conditions. Questionnaires and interviews are addressed to explore the culture value. Questionnaire and interview focus on festival activity regarding this historic site. Other is data from the town, it is about LDP and festivalgoer's population. These points are discussed under this session.

The selected site area is about 337-hectares, out of this Water Body cover about 120.48 hectares. The site topography is steeper slope surround the lake, there is naturally depressed area and hills inside the selected area. Hora Arsadi is a volcanic crater lake, that does not have a river or other source of water flow in it. It gates only rainwater and a small amount of flood from surrounding land surface. As an interview reply, relatively the volume of the lake is decreasing than earlier. According to interview respondents while the volume of Chelalaka lake decrease also the volume of Hora Arsadi was simultaneously decreasing. They state underground it discharged to Chelalaka lake slowly. In the latest years, the Bishoftu administration provides one flood channel following asphalt road at the irrecha entrance side. Selected Site and existing conditions are illustrated in figure 4.1.1. cfMost of the site coverage is grassland, shrubs forest, and agricultural land. This natural environment is rich in flora and fauna with an attractive natural land feature. Furthermore, the existing land use map is illustrated in Fig 4.1.2 and Table 4.1.1.

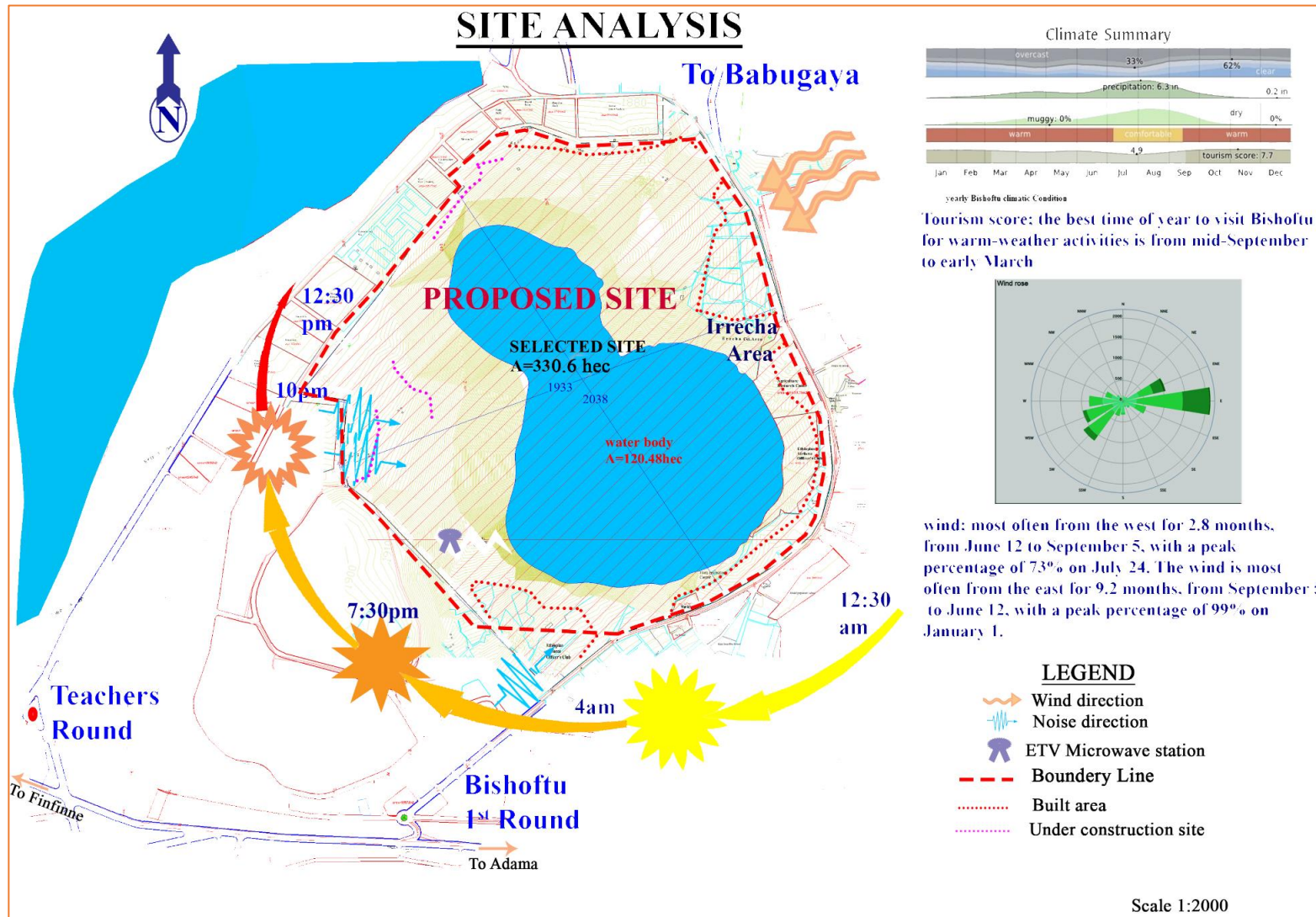


Figure 4.1.1: site analysis



Figure 4.1.2: existing site condition

Source Google Earth image (edit. owner)

Fig. 4.1.2, illustrate existing Land Use Map, latter R demonstrate residential land use, it is more of development beside the festival area. The other is at the entrance of the lake it is reserved with the Agricultural research center. Letter (P)- signify investors started resort construction surround the lake, but now the town administration protected in case of the land is proposed for Oromo cultural development center at the regional level. The town starts preventing some under construction in the site such as resort, real state, and other recreational structures. Letter F- is farmer agricultural land, and I- substitute Irrecha celebration place. the existing land use area quantified from Google Earth is discussed in table 4.1.3., the table list according to representation in Fig. 4.1.2.

Table 4.1.1: current land use

<i>Name of Service</i>	<i>area (hectare)</i>	<i>Percent</i>
Residential	49.43	14.67%
Urban Sprawl	2.07	0.61%
Irrecha site	4.55	1.35%
Governmental service	8.09	2.40%
Protected construction site	21.3	6.32%

Agricultural land	23.85	7.08%
Grass and Forestland	107.23	31.82%
Waterbody	120.48	35.75%
Total area	337	100.0%

The area stated in table 4.1.3 is calculated online from google earth 2019. The detail road area and other functions are accounts in enclosure land use.

4.1.1 Road Access

Road access to the site from the center of the town is only one Asphalt road circulate bout the Lake like a ring, it starts from Bishoftu town first-round path beside irrecha site and runs between Chelalaka Lake to teacher's square, which linked to the first round. The main roads to the town are from three directions, these are from Finfinne, Adama and chafe Donsa. Most partakers are from the direction of Finfinne and Adama, these Vehicles station is at the center of the town, this makes the main traffic flow to the site is from the center of the town. The road from the center of the town to the site 23 m wide and 5 m pedestrian walk. The road width is not balanced with this high population of festivalgoers. The third entrance is from the direction of Chafe Donsa, the participants use horse, car, and foot transportation mode. This direction has a lower traffic flow than others. Hora Arsadi water body is surrounded by hills in all directions rather than south and southeast, this land feature prevents adequate access to the place. On the other side, in the south and southeast, it is fenced by residential building and Agricultural research center (Governmental service). This is another challenge for the site to gate enough road access to the area. Now a time, Open space left for Irrecha is used as the main access for the Lake celebration. There is some footpath to the water body as illustrated in Fig. 4.1.3, red dot line, but it is not safe and comfortable for such a great festival ceremony. According to Oromo culture, the entrance and exit of the cultural festival place should different, even you travel to the same where they say "change the morning way while you back to your home". Consequently, according to the interview, they want to need to propose well adequate entrance for the site. Fig. 4.1.3, the pink dot line show asphalt road circulates the Lake and red dash line demonstration footpaths.

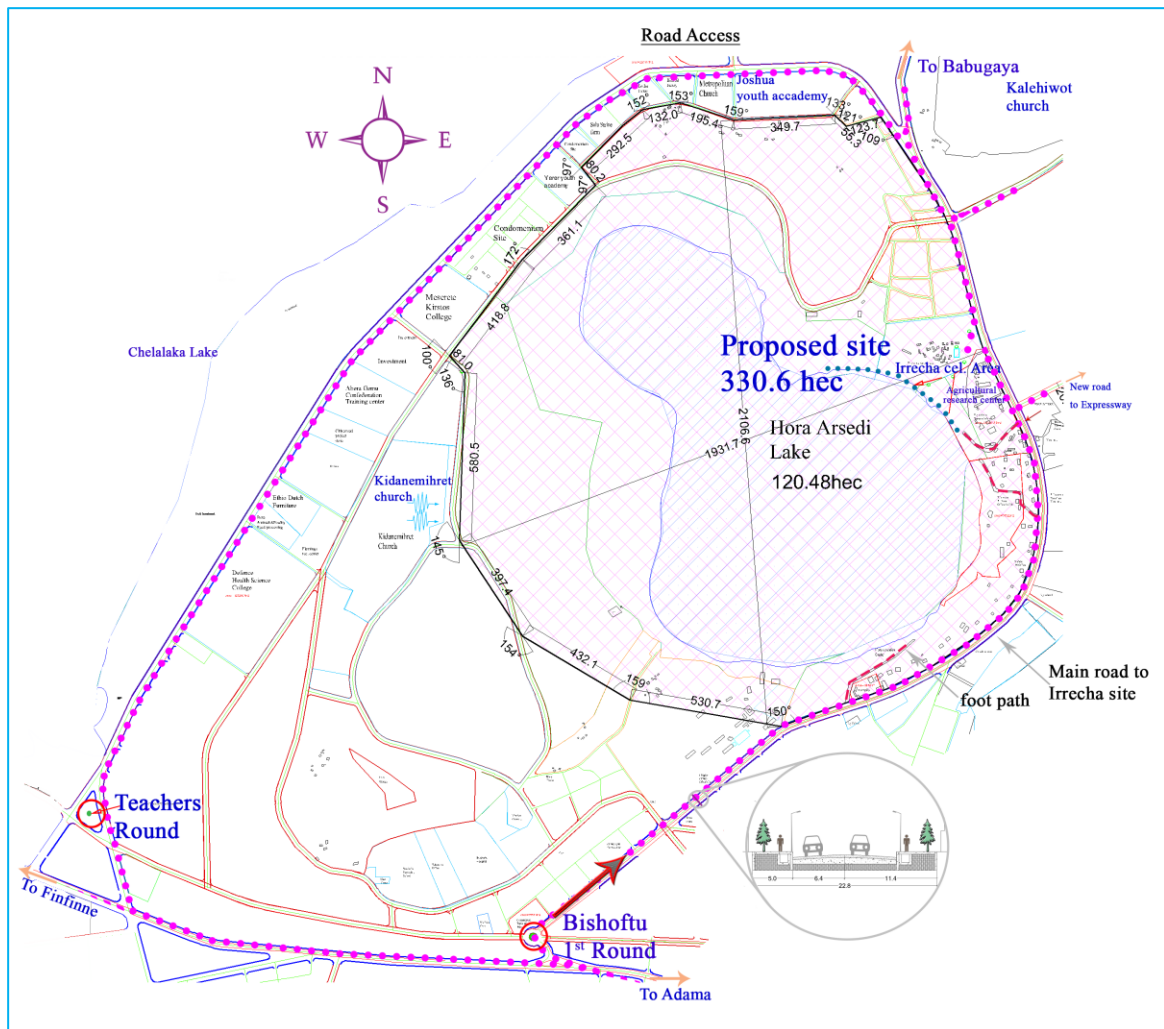


Figure 4.1.3: existing road analysis

The width of the main asphalt road from the First round to Hora Arsadi is about 13 m, and the pedestrian walk is 5 m wide. There is narrow foot access to the lake, which is inadequate for the service. The section detail is in figure 4.1.3.

At festival day vehicles are not permitted to the site, even so, the festivalgoers do not follow their left side road while walking for celebration, this consequence create crowded and disorganized traffic flow. This condition needs to expand the size of the road and walking direction indicators signs. The dimension of the existing road is thirty meters with a 5 m pedestrian width, so it will need expansion and redesign. In Oromo culture, all-natural features have their own value, also irrecha is integrated with water body, season, hilltop, and different natural conditions. In irrecha celebration soaking the bunch of grass into the water while celebration. Therefore, access to the water body is needed for the celebration according to cultural activity. The area of access to the water body is small length regarding ratio population to the area. The current distance along the lake access for celebration purpose is

about 835.32 m long. See Fig. 4.1.4. To maximize the accessibility to the water it needs both site expansion along the water boundary and proposing suitable road design.

4.1.2 Festival Place

The previous Irrecha celebration site is 4.55-ha area. This includes the water celebration area, Abba Gadaa blessing and youth (Folle) singing place. The existing open space is too small regarding the current population space occupancy. See fig. 4.1.4. As stated in the previous session the current participant population is estimated to about three to four million, but the space in use is 4.55-hectares. Especially while blessing time high traffic conjunction occurs. At a blessing time, all participants came together in front of Abba Gadaa stand. The existing space for the blessing is too small, that accounts to 1.03 hectare. It is denoted in fig 4.1.4 by later B.



Figure 4.1.4: existing open space and road access

Source (google earth 2019)

Alongside celebration site, in revised 2019, Land Development Plan proposed additional space for the festival, the site has been given for resort now change for the preservation of the historic site. It is a steep slope that is difficult to serve for the desired function. That means it needs Landscape treatment to create a comfortable site. The total area in the new proposal accounts for 7.2 hectares, even though the site is extended it is not well enough for the activities. The site slope is illustrated in Fig. 4.1.5. The blessing is taken once around the Lake after the society congregates together and soaking the grass into the water. In 2008

E.C. in case of reaction between government state and protest at a place it caused many life losses. It means the site topography and site area is not safe for the activity. In addition, the form of the land is not comfortable for such social congregation, its slope is too difficult for old peoples and women walk.

4.1.3 Topography

Bishoftu's lakes were created by a volcanic eruption, that formed land surrounds the lake is the steep slope. As discussed in the last session the hill circulates at the northeast, northwest, and southwest. Fig. 4.1.5. is extracted from the Ethiopian Digital Elevation Model (DEM), shows slope surround the area.

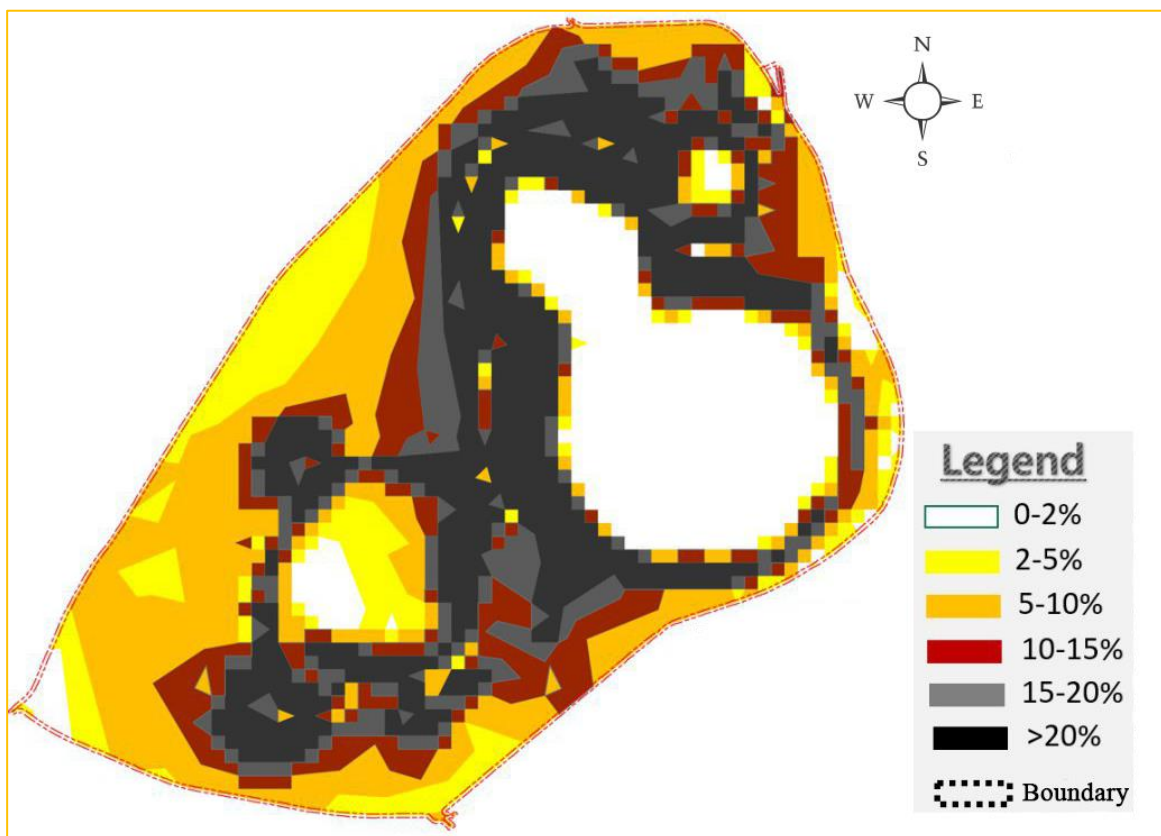


Figure 4.1.5: site topography

The figure illustrates the site slope in percentage, that indicate topography of the site is not suitable for construction. But in the southeast, it is well to support structures. Even though at hilltop it is suitable and beside Irrecha celebration is suitable for resort development. This condition makes the investors start construction surround the lake, and now all construction condition is paused at the site.

4.1.4 Land Use Map

The new town Land use map was revised in 2019 G.C, it planned forest buffer, park and recreational, public service, and residential zone in proposed site. The previous Land Use Map were proposed residential at the south and southeast of the lake. As shown in Fig. 4.1.6 number 4 is anticipated for park and recreational. In the revised land use map Irrecha festival site area is projected from 4.55 hectares to about 7 hectares, even though, the extended site slope is difficult to access for the festival activity. Furthermore the detail is shown in figure 4.1.6, on next page.



Figure 4.1.6: The town land use map surround Hora Arsadi Lake

As shown in figure 4.1.6, number 3 indicates the residential zone. The typology of the residential building is about 90 percent is a ground story made of wood and mud. Number 2 represent governmental service (Agricultural research center), as proposed in the new land-use map it is preserved under governmental service.

4.1.5 Questionnaire and Interview

In questionnaire survey it was to explore, how society has perceived these problems and the other was to enhance the society's need and culture in the desired development. Judgmental survey sampling technique has been adopted for this study. It is based on familiarity within the festival activity, especially the current condition at the place. for the survey sample, one

hundred questionnaire respondents were examined. The questionnaire has four questions, these regarding Irrecha public space, waterside landscape, road access to the lake, and value of development for Irrecha Oromo. these are listed as follow;

1. Is that Irrecha celebration site area is suitable for the Irrecha festival with current participants population? Yes___, No___, if your answer is No, what are the problems?
2. Is water access along the Lake is wide enough for celebration? Yes___, No___, If your answer is No, what is the case?
3. Is that road access to Hora Arsadi Lake, Irrecha celebration site is adequate for traffic load on the Irrecha festival? ___, If you say No, what is drawbacks?
4. Do you think Hora Arsadi lake development will help for Oromo Irrecha revival? ___, How?

The questions were translated into the local language, and for those who do not write and read, their response has been recorded with the help of the researcher. It is to collect satisfactory information and to reduce biases. The collected survey was summarized in Table 4.1.5.

Table 4.1.2: questionnaire survey data

Questions	Answer	Reason
1	Yes = 11%	Soil type, natural feature
	No = 89%	Topography, a small open public area, unprovided sitting place for women, child, old man, Abba Gadaa, etc.
2	Yes = 0%	
	No = 100%	In a balanced site area with Population, in case of topography small area of access to the water.
3	Yes = 0 %	
	No = 100 %	inadequate Road width, insufficient road access, absence of optional means of transport, etc.
4	Yes = 100 %	Attract festival participants more, suitable to practice the culture, appeal to the tourist, use as a symbol of identity, etc.
	No = 0 %	

For detail information interview question has been performed. Interview respondents are Abba Gadaa leaders, society and government workers who have participated. In this study,

the interview questions are to collect more detail and accurate information integrated with cultural activities and the site. The criteria for the interview were knowledgeable about the Gadaa System and Irrecha process has been taken as a frame. The interview questions focus on the activity of irrecha and additionally norm and value in Oromo culture has been assessed.

4.1.6 Festivalgoers Population

Oromo Irrecha ceremony has been started estimated to 13th century. Since Irrecha was integrated with Oromo culture the participation is rise as the population of Oromo people were increased. According to the influence on irrecha discussed in session two, it is not proportionally developed with the society need. Even though now at a time the activity is a hot issue in Oromia. The participants' population was not recorded officially in Bishoftu town administration, but from the Bishoftu Town culture and tourism office informal interview, they estimate 1 million before 10 years ago, now a time 2011 E.C. they guess from 3 million up to 4 million. From interview respondents the estimation is different from person to person, however, the population of irrecha before five years ago estimated to one up to two million and at a current time it is estimated to three up to four million. In fact, different media such as OMN (Oromo Media Network), OBN (Oromo Broadcasting Network), OBS (Oromo, Broadcasting Service) described in the range 3 million to 4 million, but there is no specific data about it. There no method to calculate the population change because of irregular change of participant population and no exact number of populations has been recorded. Even though based on current situation Oromo society integration with other nations such as Sidama, Amhara and among other Ethiopian nations, it will raise the number of festivalgoers than former. Additionally, the current conditions such as a governmental facility for the culture and preserving the heritage for tourist is very high. These conditions help to increase the population higher, generally, for this study, the current average population is estimation is 4 million to 6 million. Nevertheless, the study estimation was 4 up to 6 million, the development considers for the future expansion of the coming eras.

4.2 Results

According to the assessment in the previous session that was Existing Site condition, the objective of the town Land Development Plan, the population of festivalgoers the open space and the next was assessment collected through Interview and questionnaire. There have been evaluated under sustainable principles for waterfront development listed in the last session. The result indicates the following points;

4.2.1 Access

Access - (Public access is a prerequisite): - it has two parts; these are access to the site and footpath along the lake for celebration.

Road access to the site: - as discussed in data analysis main traffic flow is from the center of the town and from Chafe Donsa. Planning other optional road access to the site with adequate width from the town center to the place. proposing footpath to the lake from different direction minimizes traffic conjunction at the main entrance and exit. on the other hand, providing cable transports gives another mode of transportation.

Access surrounds the water for celebration: - along the water edge, it needs footpath expansion and providing ponds near the lake. The other is differentiating the entrance and exit.

4.2.2 Public Space

Public space: - the existing open space serves for the blessing is too small concerning to the population. In the case of topography and form of the site, the place is disorganized for the blessing activity. The anticipated solution is planning organized open space and sitting place by threatening the natural existing land feature that enhances the cultural value.

Safety – such social gathering space needs to secure the safety of the customers otherwise it causes risk. The action plans need to widen access to the lake and propose ponds surround open space to reduce the traffic conjunction. The other is to manage activities on the site, slope difference design and info-display stand. Planning artificial ponds for children, women, old peoples and for disables. The other is emergency access has to be provided for security.

4.2.3 Sustainable House Development

- i. Water conservation (Secure the quality of water and the environment) – making visible water body for the public, appealing human activity always at the place, directing flood from a different direction and filtering naturally.
- ii. Water use (Waterfronts are part of the existing urban fabric) – using the water as a source of the economy from tourism, and entertainment.
- iii. Historical identity (The historic identity gives character) – according to mentioned in previous sessions in Oromo culture every nature has great value in their faith. The main identity is conserving the nature above all (e.g. Oda tree, water, hill, etc.), and in a special case to be adopted integrating the new technology with the environment.

- iv. Functional service for the activity (Mixed-use is a priority) – contextual consideration is the main focus. So, the proposed functional service are commercials, recreational, and cultural.
- v. (Planning in public-private partnerships speeds the process) – the provide a cultural playing area; this helps to remember the previous and keep on the current. The other facilitating cultural educating place in an easy and recreational way. For example developing cultural identity buildings surround the lake, lecturing while boat voyage, providing cultural playing place and etc.
- vi. (Public participation is an element of sustainability) – the project enhances the social need (social interaction), creating social spaces such as youth center, wedding place, cultural practicing area.
- vii. Long term project (Waterfronts are long term projects) – the action is ongoing, at the starting stage plan the main service of irrecha such as open space, sitting area, road access, and waterbody conservation. Then the structural development is kept on.
- viii. (Revitalization is an ongoing process) – according to the existing location and the project condition, it subdivided into two terms; there are short term and long term.
- ix. Waterfront profit (Waterfronts profit from international networking) – create tourist attractive places, preserve the identity of the place and advertising through different media.

4.3 Discussions

Discussion is based on the problem listed in the introduction and goes through environmentally sustainable principles. Additionally, the solution is the integration of sustainable site development with the Oromo cultural value. Oromo cultural value is the respect of the society for nature, furthermore listed in the literature. The paper is project-based research, consequently, the point listed under the result is illustrated using Architectural software. The design is based on three points these are road access over the site, the open space requirement for 4 to 6 million, and the proposed house development, it illustrates conceptual rather than detail drawing.

4.3.1 Access

In this study it segregates the access into two parts these are the road access from all direction to the site and the other is access surround the Lake for the pursue of water celebration. Road access are main road from all direction to the site. The study analysis result indicates width and the plan of the road was not appropriate for the festival. The desired plan solution

proposed widen the road width and separate right and left traffic flow. It is the separation of the road center by a plant to separate the traffic flow forward-backward direction. The other is clearing of building a front fence and ditch cover for pedestrian walk. The detail road design is illustrated in figure 4.3.1, The detail section is taken from main road demonstrated in figure 4.3.2.

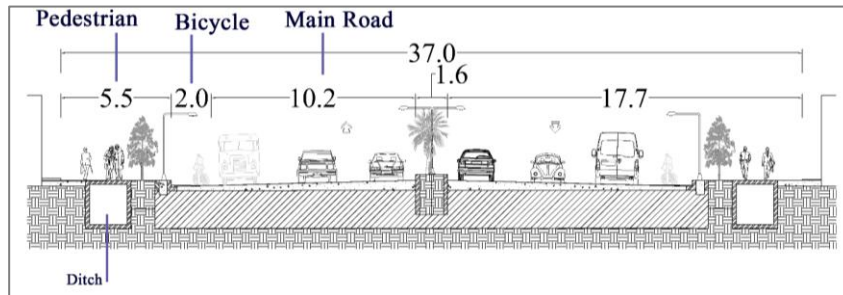


Figure 4.3.1: proposed main road detail section

Another hand the plan provided wide enough foot-access in the site. It is mainly to reduce the traffic load flow to the festival site. This distribute traffic flow over the site that has been happened on main asphalt road. Foot access to the lake in all directions is to make this historic place viable and safe for the activity.

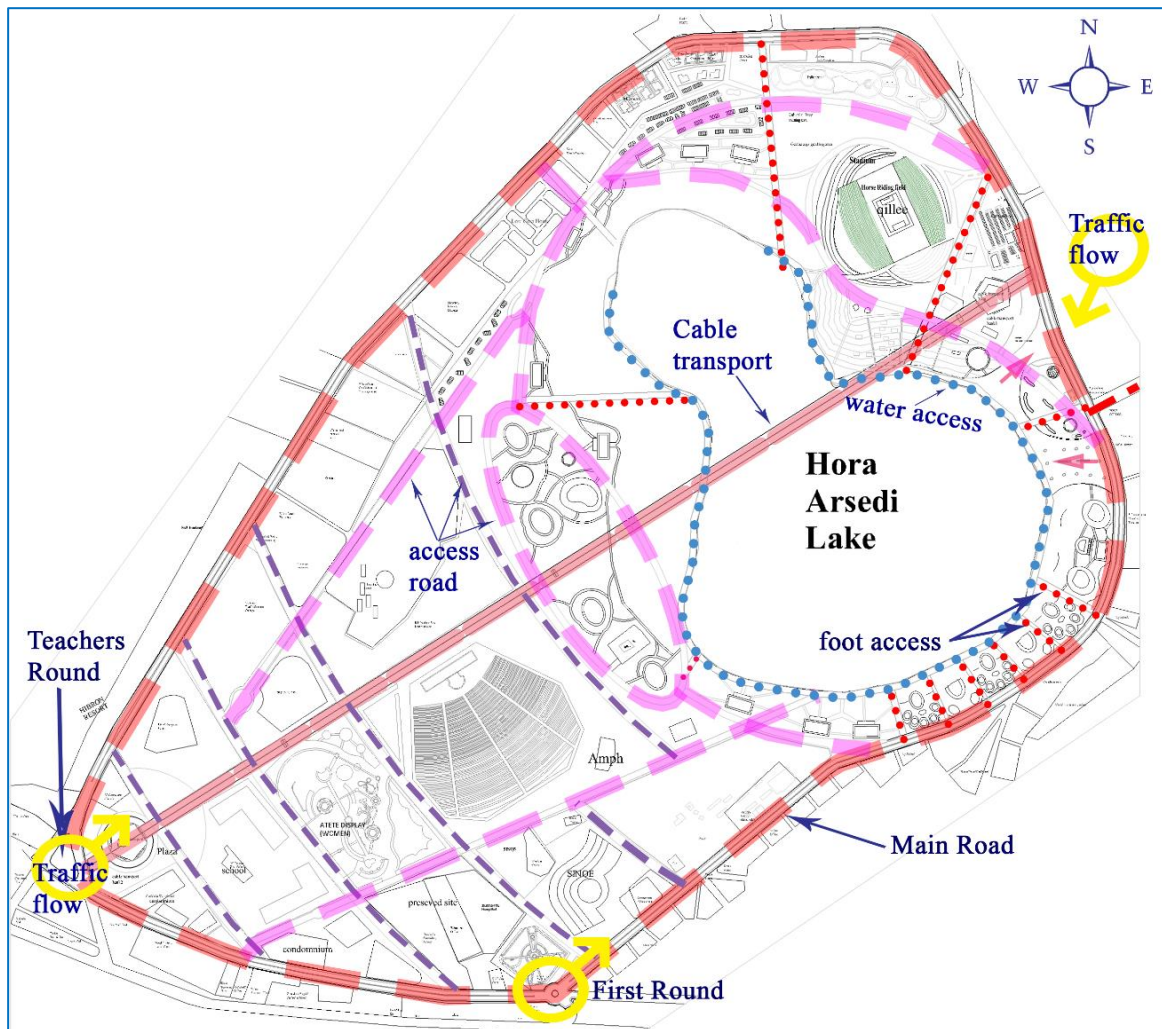


Figure 4.3.2: road access at the site

The other concept is Cable Transport is proposed in a development, it is very efficient and reduce the traffic load. Today's built cable cars have capacities up to 2,000 persons/hr. for aerial tramways (or jig-back ropeways) and up to 4,000 persons/hr. for gondolas (Težak et al., 2016). While the cable is three the capacity is tripled, that gondolas serve for 12,000 people per hour. So, it has a high capacity to carry the task of traffic reduction. The plan proposed two banks, the first is at teachers round and the next is around irrecha entrance. The advantages of cable car transport compared to other modes of transport are its quiet operation with an environmentally-acceptable electric drive and the possibility of transporting passengers above the ground, which can provide additional transport dimensions within urban centers (Težak et al., 2016). Furthermore, Figure 4.3.2 shows the proposed access plan, it is highlighted with red, pink and blue hidden lines and red dot lines. The hidden line is accessible from a different direction to the site. Dot red line is footpath to

the lake and the blue dot is footpath surround the lake. The center highlighted is proposed cable transport.

One of the problems at the site was water access, in case of celebration soaking the bench grass into the water. At this condition, the distance along the water need to elongate to serve the festivity. The mitigation proposed is a new plan surround the lake for a footpath along the lake. However, the footpath along the lake is not well enough and difficult for the organization of space. Also, while the population is increasing the safety should increase because it may be a happening stamp in case of crowded. In the case of this, the development proposes artificial ponds beside the lake.

The existing access along the water was about 835 meters, the development extends the distance along the lake to 4350-meter-long, it is shown in figure 4.3.2. according to the table 2.1.1 on number 2, a single participant needs 0.625 meters along the water while celebrating. When it is in a group it needs additional space requirement 10 percent circulation, which is 0.687-meters-long. Accordingly, the previous space serves about 1,215 people at a time. The new proposed plan support about 6,332 people at a time. However, the access is elongated, as far from the entrance and exit the requirement of the water celebration area is decreases. Therefore, another solution is performed to propose artificial ponds at the entrance side to serve old peoples, women, children and disable peoples. The pond's circulation length is about 1266.2 -meter-long, that has the capacity to serve about 1,843 persons at a time. The access provided over the lake and proposed pond serve 8,175 persons at the same time. As stated earlier current irrecha participants estimated to 3 million to 4 million according to mentioned in the last session. The paper predicts to plan for 4 million to 6 million. Even though according to official Oromia regional state speech on October 4, 2019, the participants estimated up to 10 million through governmental media Oromo broadcasting network (OBN) during the Finfinne irrecha festival. From the social congregation population seen on irrecha festival performed in Finfinne and Bishoftu, Hora Arsadi on October 5, and 6 in 2019 respectively, the participants estimated 5 million to 10 million. Table 4.3.1 shows predicted celebration site.

Table 4.3.1: estimated water celebration potential

water celebration Length alongside water body in meter	Space occupancy (0.687 m per person)		
	Average peoples	Celebrating	Total cel. in 6 hours

		Per 30 sec.	Per 1 hour	
Existing along	835 m	1,215	145,800	874,800
Proposed along the Lake	4,350 m	6,332	759,840	4,559,040
Proposed Pond	1,266.2 m	1,843	221,160	1,326,960
Total Proposed	5,616.2 m	8,175	981,000	5,886,000

On table 4.3.1 water celebration Length alongside water body is to describe celebration distance along the water for the soaking bench of grass. The average Celebration time per person is 30 seconds and the length requirements to celebrate the water is 0.687 meter. Accordingly, in one hour, 0.687 meters serve 120 persons.

The other is on the festival day the society starts to celebrate, about half past eleven up to half-past five (at local time). The total period of celebration is estimated to six to seven hours, which means at least it is over at half-past five. The existing site and proposed plan customization potential are illustrated in Fig. 4.3.3.

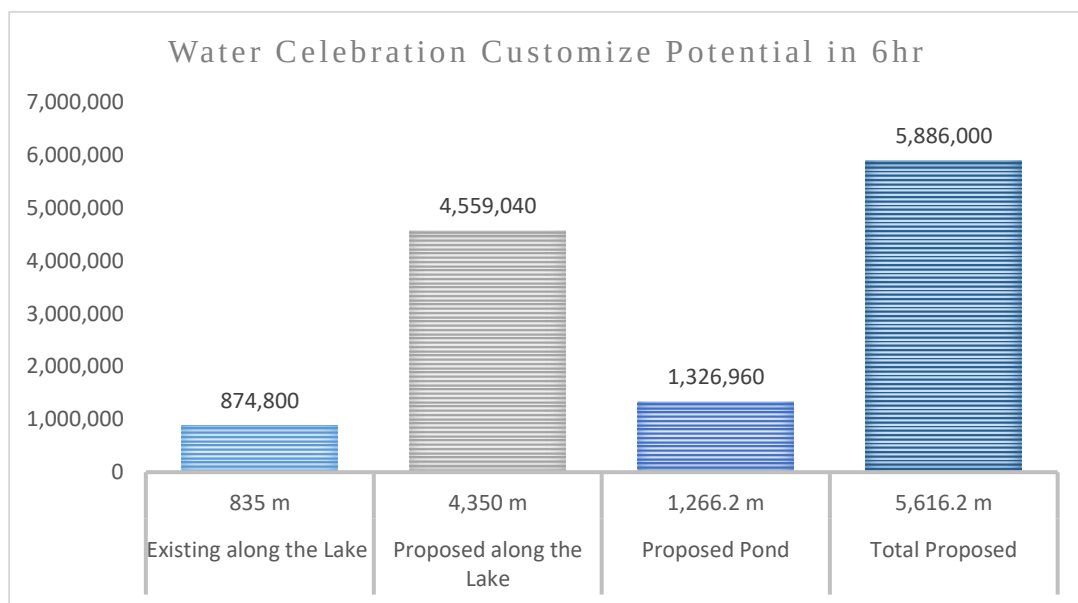


Figure 4.3.3 water celebration access length

The new anticipated plan has the potential to customize six million in 6 up to 7 hours. According to this estimation, the previous space needs 41 up to 55 hours, but the participants perform closely packed without safety. Figure 4.3.3 illustrates the artificial proposed pond beside the lake at the side of the entrance and the exit.



Figure 4.3.4: optional proposed artificial ponds

The development planned for the future expansion of such artificial ponds. This is to highly reduce crowdedness while celebration along the lake and for the safety. on the other hand, it is to keep the lake clean and provide a good view.

4.3.2 Public Space

Public space enhances the entrance and exit, celebration site, Abba Gadaa blessing stand and sitting place. Folle song performed at this site, because it starts after the blessing program is over. In a new proposed Bishoftu town 2019, the land development plan extends the open space from 4.55 hectares to 11.7 hectares. As discussed in the last session the extended site is not suitable for the activity with the current blessing shade location and site topography.

The action focus on extending open space along the lake, it is to create an organized and multifunction space. That is based on the topography of the site and the space created is to serve for celebration, attending the bless (as a sitting) and for folle singing area. The development offers about 43 hectares for open space. The site plan has some mixed-use and cultural structures that serve for Oromo cultural development throughout the year. According to the human body space requirement specified in Table 2.1.1 number 3, a single person needs 0.6 square meters while sitting. On stage, the space requirement is 0.84 square meters

with consideration of sitting chair and table. In the Gadaa system while everyone is wanted to sit on the ground, according to Oromo faith in the ground there is a fossil of their specious and above the ground the land carrying lives, so they prefer to sit on ground while blessing, other activities of the culture. Accordingly, the proposed site has no proved sitting chair rather than slope threatening for women, children, and old peoples. The other is the shade location is located on some criteria. One of them is east and west orientation, this orientation is also applicable for burial. The other is, Qaallu define according faith order. As interview the previous Abba Gadaa, the location orientation should follow east-west direction, visible for the celebrators from the celebrating Lake. Also, site topography has much effect on site organization. So, the design allocates based on these criteria. Table 4.3.2 shows planned site customization of festivalgoers.

Table 4.3.2: occupancy of the site area

Open space	Area in hectare	While sitting area per person (0.6 m ²)	While standing area per person (0.3 m ²)
Existing	4.55 hect.	75,833	151,666
new proposed	43 hect.	716,666	1,433,333

As stated earlier the anticipated open space is about 43 hectares, when site occupancy is estimated it serve for 716,667 peoples. This indicates it not adequate for the millions of festival attendants. In addition, the absence of sitting furniture, allow the participants to follow the program by standing rather than sit. This minimizes space requirement into 0.3 square meters per person it rise 43-hectare accommodation to 1.43 million. For this the structural developments have no fence to block the activity, it maximizes the site area for the service. Functional services assigned at the site is recreational buildings, mixed-use, playing grounds, swimming pools, cultural playing area provided. On the other hand, this open space assists as youth recreational place, cultural practicing, and used as a recreational center for the town. Even though the new plan extends the customization potential, it doesn't perform for 3 million or four million. So, the paper proposed all directions entrance and open space surround the lake with info display desks. The proposed 43-hectare open space is managed with cultural playing areas and different public services. 3 D sample to describe the way of organizing the festival Open space is shown in Fig. 4.3.5, and Fig. 4.3.6, on following pages.

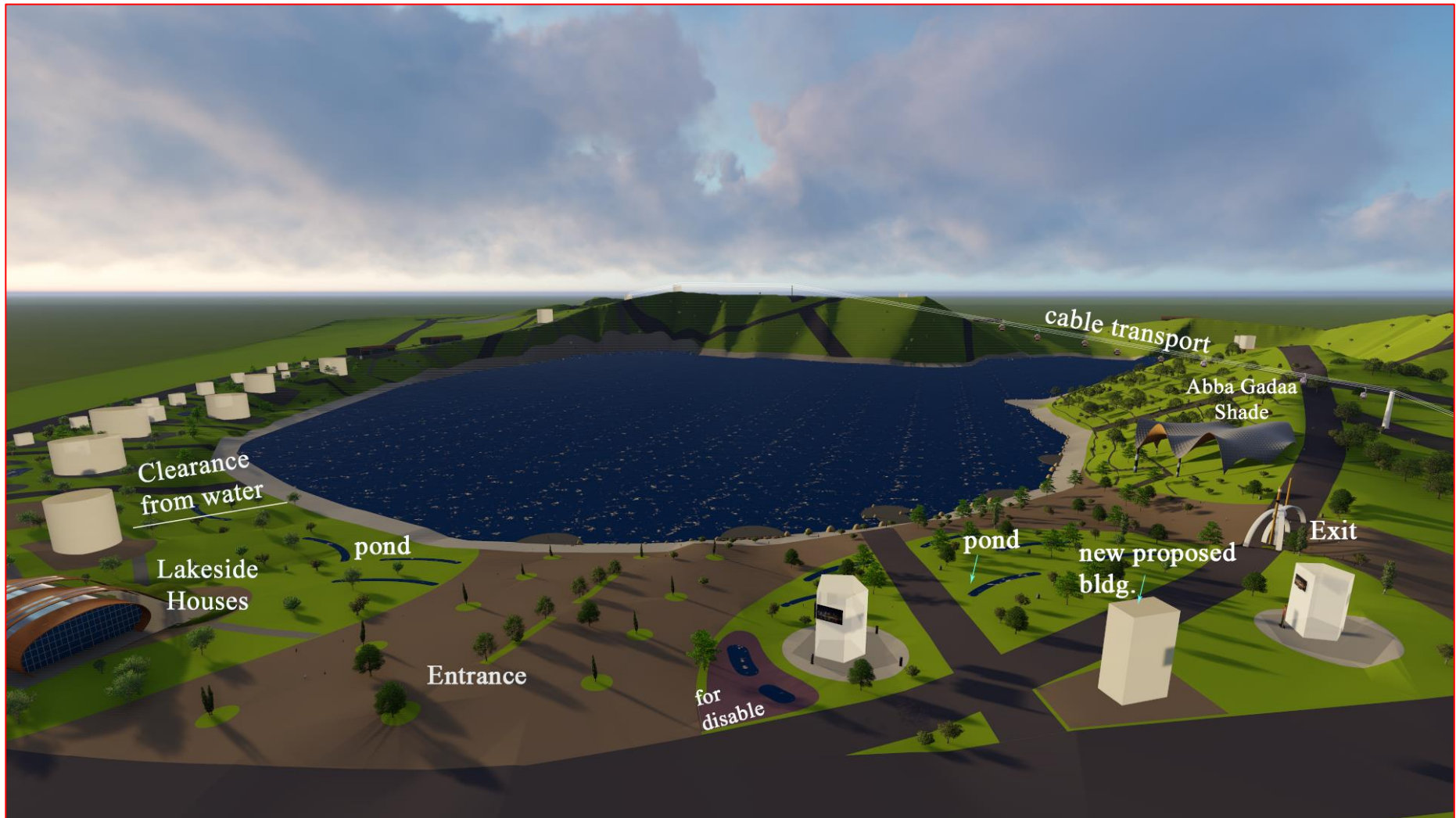


Figure 4.3.5: proposed Irrecha celebration site

4.3.3 Sustainable House Development

House development is to state the development of structural buildings planned at the site. Structural services to be built are cultural buildings, guesthouses, commercial buildings and recreational. Proposed Lakeside Houses are shown in Fig. 4.3.5, it is represented by white color model. Cultural buildings are desired to illustrating tangible, and intangible art of the cultural. The buildings are vastly integrated within surrounding open space visually, by removing blank fence. It incorporates outside space with the building within activity. This is to create visually viable, attractive space and dynamic functional space for the festival. The Structural plan circulates the lake which gives décor for a site. The design applies, the identity of the culture in different way such as on buildings 3D, floor plan and site plan, e.g. the site plan concept is represented eight years Age Grade Gadaa system, the road circulate the lake represent symbol of power in Gadaa system. On figure 4.3.6, the proposed Lakeside boundary is distinct by pink line. It contains irrecha celebration site, recreational, park and forest buffer zone. The other is, the study proposed the site plan following the asphalt road circulate the Site. It is to produce integrated site plan within neighborhood functional services. Generally, the site plan is to show overall site concept rather than detail functional floor plan. Furthermore see Fig. 4.3.6, on next page. The development described in detail in following session concerning SPWD. Lakeside cultural revitalization mainly concentrated on water conservation. As well in this study, the Oromo culture gives high value for water, not only water for any nature even for the date, month, season, year and any nature. The action designed some method to conserve the lake and to increase water use and it is also to secure the place identity and provide mixed service at the site. The conceptual model shows how anticipated development would manage the site that preserves the previous site function. Not only the previous, but the development also integrates the current festival condition and planned for future expansion.

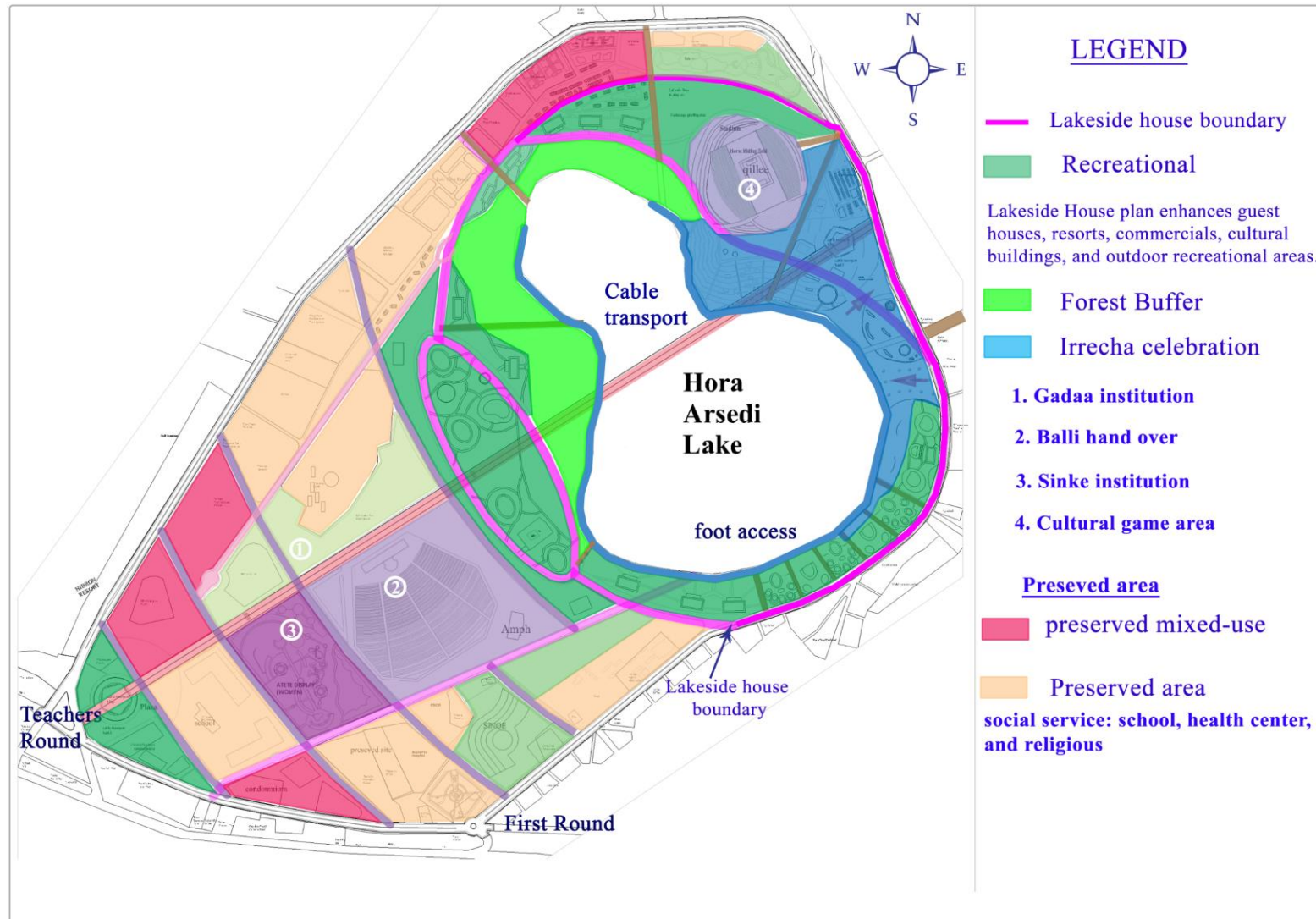


Figure 4.3.6 :Proposed Lakeside House site plan

I. Water conservation

Lakeside development's main potential is waterbody, so water conservation is the first task of the development. The development addressed some solutions in order to regrow the water volume. As mentioned in the last session the volume of the water is decreasing from time to time. For this the action designed to highly increase charging the Lake. Rainwater is our main water source. Rainwater harvesting is in two ways these are recharging the ground and collecting for future service. The main source of the lake is rainwater, in the last decade, the town directed one ditch line flood from town first round. Even if no data which shows water volume change after this ditch was installed, it has a possibility to increase the water volume. The plan moreover designed to direct rainwater from all directions to the lake. the lake is surrounded by hills so it is desired to harvest rainwater by following the slope change. The other is providing a green buffer to minimize water evaporation. as shown in Fig. 4.3.5.



Figure 4.3.7: rainwater harvest for Hora Arsadi Lake

II. Water Use

Hora Arsadi Lake is since the historical place it is serving the town as a recreational place. it performs as a tourist attraction and uses four boats recreating and source of food in little amount. In the proposal, recreational services such as cultural centers, cultural playing, commercial services are facilitated. These conditions ultimate the power to attract tourists. The other is a boat tour, it generates income and open work opportunities. It rises cable transport pleasure because of cable pass over the lake, in case it uses for recreational. The station of cable transport is near the lake, this stimulates site activity.

III. Historical Identity

Irrecha is the identity symbol of Oromo society, in fact, a site is a historical place of Oromo Irrecha. Irrecha festival performed at Hora Arsadi is Irrecha Birra (spring), its celebration is thanks performed at seasonal change. It is thanks submitted for lasting dark summery and starting bright of spring. And the flowering of the green admires the bright hope in their future. So, the activity is a very close chain with nature and time change. The development conserves the natural land's future, local flora, and fauna preservation. It is preserving existing plants and additionally planting local trees (e.g. Odaa, woddessa, etc.) on proposed trusses. the forest is a habitat for wildlife, it increases the harmony of wildlife. This opportunity demand tourists need to stay and repetitively visit the site.

Other is structural development are designed to demonstrate historic and cultural values. These are organized surround the lake, it is to facilitate educating the visitor easily through a recreational tour. The development attempts to adopt to design the environment identity and cultural aspect. Environmentally the proposed building design is desired to implement local construction material, climatic adapting mechanism, integrate with landform. Cultural concepts are applied to building form and space allocation.

IV. Functional service

As stated in the literature review sustainable waterfront development function should be mixed-use. Housing neighborhoods should be mix both functionally and socially. The proposal planed mixed functions such as commercial, cultural buildings, recreational centers, and guest houses. Commercial services are to commercializes cultural materials that give the higher potential to advertise the culture. Outdoor facilities are recreational spaces that can use for a weekend vacation, weeding place, youth playing grounds, and more of

cultural playing. Some of the cultural games are engaged, these are a circle (Korboo), wrestling (waldhanso), sadiqa, cultural golf (Kile) and the like.

V. Planning in Public-private partnership speeds the process.

Public open space is a place where to built-up society interaction. Places can provide opportunities for social interaction, social mixing, and social inclusion, and can facilitate the development of community ties. Cultural inherited public open space is planned. It is the gardens and streets are decors with heritage furniture. It helps to aware the user about the material and feels the identity of the place. The other is cultural playing areas that have divers of use regarding the Gadaa age-grade system. Gadaa age-grade system is circulated in eight years, consequently the role of a person changes with this system. The plan facilitates services for all age-grade system. The other is incorporating private services into action. through open access, building height regulation and functional service enable opportunities sharing to neighborhoods.

VI. Public participation is an element of sustainability

Irrecha is a festival anyone can participate from any nations and religious. As cited in (Aga, 2016) At this Thanksgiving Day celebration, Oromo people from different parts and from other religious sects (Non-Waaqeffannaa, Christianity and Muslims) come together and celebrate with joy and happiness. Therefore, Irrecha is an asocial bond within Oromo people that brings them closer to each other. The development design the way Oromo society participates in the activity. Bishoftu Town cultural and tourism bureau while interview data collection replays the office is planning to collect property to develop Irrecha at the site every year on the festival day, this creates society feel belongingness and income for development. The only way is planning their needs and initiates social morals. The interviewer state “we have planned everyone to pay even not five birrs to develop this historical place.”

The action planned Oromo cultural practicing places entire the site, as denoted in the last session surround the lake following the asphalt road is preserved for Oromo cultural development center. The development incorporates Oromo culture from all directions of the Oromia region these are Arsi, Bale, Borena, Guji, Harerge, Shoa, Jima, wollega and Wolo. It planned a place for all Gadaa System activities such as Balli handover place a great democratic way of power transferring culture. Gadaa Conference (Yaii sirna Gadaa) place is allocated to boost the Gadaa system's entire Oromia. Sigaba punishment (Dhaqna qaba) places are desired to planned the cultural center. sinke displaying area, it is where women

practice retaining their right that is given in the Gadaa system. Creating these main functional services is to create an acceptable cultural place for society. This condition improves social participation in the entire Oromia region.

VII. Waterfronts are long term projects

As discussed in the analysis part the existing site have different function such as residential, governmental service and agricultural land are major, furthermore, it is shown in Fig. 4.1.2. the development classified the projects in three parts; these are short term, medium-term and long terms. Short term projects last in five years, medium need five up to ten years and long term requires above ten years. Existing basic community services such as Agricultural research center and Ethiopian Airforce Officer's Club are planned in long term projects. Residential buildings are in a medium-term project. The Other is agricultural lands are planned under short term projects.

VIII. Revitalization is an ongoing process

Redevelopment of the site is not a lasting process, it kept on project. The main aim of revitalization is preserving the historical place; therefore, the water preservation process is the first issue in this action. Regarding the functional requirement for festival historical place primary development. festival services are facilitating open public space, irrecha water celebrating area, main road access to the site and foot access surround the lake. The second is structural development such as cultural buildings, commercial, recreational buildings, guest houses follow on. Cultural activities sites such as Balli handover, horse riding site, sigaba punishing site and the like kept on.

IX. Waterfront profit from international networking

The plan enhances recreational centers, international meeting places, weekends and summer vacation places are allocated. The other is the preservation of natural features such as landscape, endogenies plant, and diversity of birds attract tourists. The other is water body is the main resource, the proposal deserves the amount and quality of the water for the sustainability of the lake. This reservation of water vastly increases the attraction of the customers. The other opportunity is a site is a Cultural-Historical place, this gives high chance for different media advertising worldwide. Media has a great potential to control social attitudes. It helps to commercialize the place and revitalize Irrecha in faith, activities and economically.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

5.1 Findings

The site topography has effect on festival activities. In large social congregation suitability of space to escape from emergency accident and safety condition give to feel free to participate on activities. On other hand adequate road access and open space are primary in developing sustainable site for festival activities. Integrating local with international waterfront principles help to create profitable waterfront redevelopment. Redeveloping cultural festival site primary consideration should be given to society value for the historical site and the activities performed in celebration frame the development. Lakeside housing development help to activate the dead site for social activities. It is preferable to harmonies recreational and commercial space with cultural historic place.

5.2 Conclusions

Historic site regeneration is an important way to achieve urban development and cultural inheritance. The paper identified ten sustainable waterfront development principles and integrate with contextual conditions, road access, public open space, and waterfront cultural-historic festival site. The study addressed adequate road access and other means of transport which is cable transport at the site to admire the historical place access. Road from a different direction to the festival place and foot access to water for the celebration was mainly planned. Cable transport minimizes traffic load, moreover it serves for recreational purposes. The study planned a multipurpose public open space organized with the festival site, to accommodate the social congregation. Lakeside house development applied ten sustainable waterfront development principles in design. mixed-use functions which facilitates for Irrecha and furthermore Oromo culture practicing. Rainwater flood harvest preserve the water volume for sustainability of the lake. Cultural value integration with development is part of sustainable design solution.

Sustainable lakeside house development primary should follow social and environmental contexts. Integrating sustainable waterfront development principles with the local context assist to produce sustainable development in environmentally, socially and economically. Sustainable lakeside historical development help to revitalize social culture through facilitating cultural practicing place, economical encourage and advertising.

5.3 Recommendations

The study recommended the following points.

Sustainable waterfront housing development help to conserve our environment in economically, socially and cultural development.

Contextually applying principles for waterfront redevelopment is more relevant for successful environmental development.

The redevelopment enhances recreational and historical which boost tourist attraction. Restoration of Hora Arsadi increase tourist attraction for the town, that is main source of green economy.

Increment of tourist activity increase the town commercial activity this create job opportunity for the Town society.

Designing multifunctional space beside the festival place helps to provide a suitable area for practicing irrecha festivals. Creating public open space at the site makes the place center of weddings, different ceremonies, and youth recreational center.

The study uses as reference for such a project going to develop at the town and as well for anywhere.

Restoring Hora Arsadi site mainly solve the irrecha festival traffic conjunction on festival day. Furthermore, it attracts fans to more practice, this help to educate and spread the culture which led to revive the culture. Restoration of Hora Arsadi Lake cultural-historic place is unrivaled way to revitalize Oromo irrecha.

GLOSSARY

Abba Alangaa: father of prosecution

Abba Dinagdee: father of economy

Abba Dubbi: father of speech

Abba Duulaa: father of defense

Abba Gadaa fiixe: father of Gadaa at the apex

Abba Gadaa: father of assembly

Abba Muudaa/Abba Qaallu: father of anointment

Abba Seeraa: father of law

Abba Seeraa: father of law

Adula: Gadaa Council

Ayyaana: spirits

Bilisummaa: liberation/freedom

Bokkuu/ Baallii: scepter

Chaffe: general assembly

Balli wal-harkaafuudhu: power handover

Gadaa: Oromo democracy

Gumii Gaayyo: assembly of multitudes

Gumii: assembly

Haaromsa: renaissance

Hayyuu adula: senior Gadaa councilors

Hayyuu: councilors

Heera: constitutional

Jaldhaba: executive officer

Jaarsa: old man

Jila: ritual ceremony

Luba: one of the age sets, the leadership age set

Muuda: anointment

Odaa: sycamore tree

Oromummaa: Oromo culture, identity, and nationalism

Qaallu: spiritual leaders

Safuu Oromo: moral and ethical codes

Salgan yaa'ii Borana: the nine Boran's executive-assembly

Seera: laws

Sigaba: illegal polygyny

Sigaba daqnaqaba: sigaba punishing

Siqqee Oromo: women's sisterhood

Siqqe law: law to retain women right

Torbi: conscripts

Uumaa: nature

Waaqa: God, the Creator

Waaqeffannaa: Oromo monotheistic indigenous religion

Walabummaa: sovereignty

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Appendixes

Questionnaire paper for data collection distributed to Bishoftu town society.

Adama Science and Technology University

School of civil engineering
and Architecture



Dep't of Environmental
Architecture

Questionnaire

The questionnaire is to study the Oromo Cultural Historic place, Hora Arsadi Lake Irrecha site. I hope you will inform well.

Age: below 16 ☐ 16-24 ☐ 24-32 ☐ above 32 ☐

sex: male ☐ female ☐ Ethnic _____

Did you have participated on Hora Arsadi irrecha celebration in recent time? Yes ☐ No ☐

1. Is that Irrecha celebration site area is suitable for Irrecha festival with current participants population? Yes ☐ No ☐ if your answer is No, what are the problems? _____

2. Is water access along the Lake is wide enough for celebration? Yes ☐ No ☐ If your answer is No, what is the case? _____

3. Is that road access to Hora Arsadi Lake, Irrecha celebration site is adequate for traffic load on Irrecha festival? ____, If you say No, what is drawbacks? _____

4. Do you think Hora Arsadi lake development will help for Irrecha Oromo revival? ____ How? _____
