



**ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES
COLLEGE OF DEVELOPMENT STUDIES
TOURISM DEVELOPMENT AND MANAGEMENT PROGRAM**

**EXPLORING WATER BASED TOURISM DEVELOPMENT POTENTIALS OF
CENTRAL RIFT VALLEY: EVIDENCES FROM KOKA WATER RESERVOIR,
ETHIOPIA**

**THESIS SUBMITTED TO COLLEGE OF DEVELOPMENT STUDIES OF ADDIS
ABABA UNIVERSITY IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR
DEGREE OF MASTER OF ARTS IN TOURISM DEVELOPMENT AND
MANAGEMENT**

**BY
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ADDIS ABABA, ETHIOPIA**

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This is to certify that the thesis by Debela Gemechu, entitled: **Exploring Water Based Tourism Development Potentials of Central Rift Valley: Evidences from Koka Water Reservoir.** Submitted in partial fulfillment of the requirements for Master of Arts Degree in Tourism Development and Management in accordance with the regulation of the University and meets the acceptable standard with respect to the originality and quality.

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DECLARATION

I, Debela Gemechu, hereby declared this thesis entitled “**Exploring Water Based Tourism Development Potentials of Central Rift Valley: Evidences from Koka Water Reservoir**” submitted by me for the award of degree of Master Arts in Tourism development and Management, is an original work carried out by me and all other sources are fully acknowledged, and that it has not been submitted to any other universities for similar degree awards.

Name: _____

Signature _____

Date _____

DEDICATION

I dedicate this thesis to my father **Gemechu Waktole**. I really felt bad that you're not with me to see your fruit.

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ABBREVIATIONS AND ACRONYMS

ADB	Africa Development Bank
BCM	Billion Cubic Meter
ESTMP	Ethiopia Sustainable Tourism Master plan
EWCA	Ethiopia Wildlife Conservation Authority
GTP	Growth and Transformation Plan
HPP	Hydro Power Plant
ITTC	International Travel and Tourism Council
MOCT	Ministry of Culture and Tourism
MOFED	Ministry of Finance and Economic Development
NCWA	North California Water Association
OECD	Organization for Economic Co-operation and Development
UNWTO	United Nation World Tourism Organization
PASDEP	Plan for Accelerated and Sustained Development to End Poverty.
SDG	Sustainable Development Goals
UNDP	United Nation Development Program

ABSTRACT

This thesis was intended to Explore Water-Based Tourism Development Potentials of Central Rift valley, Evidences from Koka Water Reservoir. However, there has been lack of empirical studies conducted on this issue globally as well as in Ethiopian context. As a result, this research aimed to assess the potentiality of the study area for water-based tourism development. Mixed research approach, and descriptive and exploratory types of research design were utilized in this study. Both primary and secondary data sources were used for the study. Purposive and simple random sampling techniques were employed to select 238 respondents from concerned offices and local communities. The result indicates that the Koka water reservoir owns various potential tourism resources, such as bird species, fish species, and aquatic animals. Regarding local community perceptions, descriptive statistics (mean and standard deviation) were used, and the result revealed that local communities have positive perceptions that the development of water-based tourism at Koka water reservoir would create more jobs for the local community, increase the standard of living, attract investment to the site, and improve infrastructure and facilities. In addition, principal component analysis was used to extract factors affecting water-based tourism development. The result reveals five factors, such as infrastructure and facilities, accessibility, awareness and training, conservation and protection, and finance and funds. Lastly, multiple regression analysis was directed at measuring the effect of the factors (independent variables) on water-based tourism development. The result shows infrastructure and services had a high effect, followed by conservation and protection, finance and funds, and awareness and training, whereas accessibility had no significant effect on the development of water-based tourism at Koka water reservoir. For multipurpose utilization of reservoir all concerned body should have to work together for the improvement in infrastructures and services, fund rising, conservation and protection. Culture and tourism offices of all level should have to work on awareness creation and proper utilization of water-based tourism potentials of the area.

Keywords: *Central Rift Valley, Water Reservoir, Water-Based Tourism, Potentials, Perception, Factors*

CHAPTER ONE

1. INTRODUCTION

This chapter focuses on background of the study, statement of the problem, research questions, objectives of the study, Scope and significance of the study, limitations of the study, and ethical consideration of the study.

1.1. Background of the Study

In the world, tourism has emerged to become an important economic sector. It is considered as one of the leading service industries in the global economy in recent decades. Economic flows generated by international tourism have become a vital factor in economic growth and international economic relations in many developing countries (Ekanayake & Long, 2012). The sector is also used as an important strategy for socio-economic development in developing countries (Telfer & Sharpley, 2015). Moreover, despite the almost universal adoption, tourism development is also proclaimed to be an important pillar for Sustainable Development goals (Saarinen & Rogerson, 2014). The demand for the segment of nature tourism is growing much faster than in the tourism sector as a whole and will rise more rapidly in the future. It is frequently described as one of the fastest growing sectors of the world's largest industry, and a very important justification for conservation (Tyrväinen et al., 2014).

As one of the nature-based tourism resources, water tourism in the developed nations is appropriately exploited to the advantage of nature conservation and economic gains through suitable policies, plans, management systems, and budgets. However, this only compares in contrast with developing nations, some of which are endowed with water resources in the form of lakes and rivers (Ngunyi, 2009). In the world there are numerous lake-based destinations where regional or local attractions are mainly based on lake resources. In the same way, lakes are attracting tourists because of their tourism activities such as boating, swimming, and a good landscape around them. They are helpful in controlling the weather and local climate, creating irrigation facilities, and recreation (Dokulil, 2014; Balasubramanian, 2015).

In the other hand, lake basin tourism development is infused with complexities resulting from the interactions between society and environment and also between various social actors (Haugland et al., 2011). Lakes, for instance, are mixing of different pilots of nature, this includes, water, wildlife

and pollution; and they are often also mixing pots for different economic sectors that use lake resources, such as tourism and fishing (Sun & Liu, 2020). In addition, developing lakes region or specific lake for water-based tourism development is affected by different factors, unique nature of the area, geological and geomorphological features, and also, ecological-cultural diversity (Safarabadi, 2016), Brown et al., (2017) conflicts over land use and utilization of natural resources, multiple representation of a single place for different purposes, destination capabilities, coordination at the destination level, and inter-destination bridge ties have a direct impact on destination development.

Moreover, funding, planning, infrastructural facilities, politics and culture are factors affecting against the development of tourism resources (Tunde,2012). In addition, Rodrigues, Correia &Kozak (2013) by considering reservoir as a new lake tourism destination, discussed that the climate and landscape of the areas are the factors the development of tourism and recreation. However, Water based tourism demonstrates a fundamental home to biodiversity and attractive features to recreationists. Moreover, it is not limited to it is aesthetic value for tourism, but also, they present potentials for water-dependent tourism activities like swimming, boating, sunbathing, skiing, recreational fishing and visual amenities (Uma, Hayombe, & Agong, 2014).

In Africa, lakes contribute significantly to poverty reduction and food security. They are a source of dietary proteins and water. They provide revenue through fish harvest, export and tourism, and are used as avenues for transport of people and goods. Moreover, they also provide water for irrigation, agriculture and hydropower projects (ADB,2015). Likely, Ethiopia has different water resources which are mainly the result of seasonal rainfall. This water resources are mostly existed in the form of rivers and lakes. The numerous lakes and rivers are extraordinarily rich in biodiversity, and support the livelihoods of various farming and fishing communities (El-Shabrawy & Al-Ghanim, 2012). Besides of having water resources, the country has untapped other natural tourism resource potential (ESTMP, 2015-2025). Considering this, developing and marketing of tourism resources is well recognized and is given significant attention by the government. The existence of potential resources holds a bright promise for the country.

Inline of this, water development report for Ethiopia (2004) stated the potential of Ethiopia by describing the country as the water tower of East Africa, in which the country has about 12 major river basins, including the Nile River basin, the largest basin in the country. In addition, Ethiopia

has 20 major natural lakes, most of which are rift valley lakes, except Lake Tana, which is the source of the Blue Nile, 11 are fresh (water) and 9 salty. Due to the presence of tourism resources, the influx of tourists from every corner of the world to Ethiopia increases the growth and development of tourism industry (Mitchell and Coles, 2009). However, the tourism products of Ethiopia in the other destination of the country not identified and promoted for the tourism development diversification and sustainability (Sefrin, 2012).

From tourism resources of the country artificial lakes are among untapped resources which are primarily constructed for the purpose of power generation. Koka reservoir is one of the artificial lakes constructed in the Awash River basin. It was built in 1960 in order to generate hydroelectric power, and parallelly serves local people as a source of water for drinking, cleaning, animal watering, recreation, irrigation, and fishing (Akele, 2011). However, the country has not adequately channeled these resources into use for tourism development. As a result, the central purpose of this study was to explore the water-based tourism development potentials of the Koka water reservoir.

1.2. Statement of the Problem

The presence of water resources can create many opportunities for the development of tourism activities, which include water-dependent and water-enhanced recreational activities (Ouma, Hayombe & Agong, 2014). There are several lake-based tourism destinations around the world, where the area's attractions are mainly based on a lake resource (Rodrigues, Correia & Kazak, 2013). Both man-made and natural lakes can be used for the same purposes or differently used for different purposes. The majority of man-made lakes have been created as a result of constructing dams. As time passed, the purpose of dam construction and reservoir creation changed. Energy supply was the primary objective at first. The dam reservoirs' following tasks were irrigation, water supply and flood control. Modern reservoirs fulfill a variety of functions due to high investment expenses (Duda-Gromada,2012).

In other ways, the building of dams and their associated reservoirs has increased opportunities for recreation (Riungu et al.,2020). As a result, the creation of an artificial reservoir usually enhances the tourist attractiveness of the destination. It is the most important factor in creating the tourist attractiveness of an area, and therefore, it can have an impact on the level of tourism development

(Dias-Sardinha & Ross, 2015). Significantly, artificial lakes are constructed to replace natural lakes' ecological functions, and they may provide a range of services beyond the main reason for their construction, like support for recreational activities or aesthetic services (Benyamine et al., 2004).

In addition, artificial lakes also contribute to the development of water-based tourism across the world by providing opportunities for boating, fishing, and other water-based tourism activities similar to natural lakes (Halkos, 2012). Duda-Gromada (2012) also mentioned that an artificial reservoir has potential for the development of use for tourism and recreation. Dias-Sardinha & Ross (2015) also confirmed the significant role of artificial lakes in regional development through enhancing the domestic tourism market. In other ways, water reservoirs serve beyond water storage and irrigation. As a result, the water reservoir was visited by 777,800 visitors each year, and it attracts 1,013,300 visitors within a week, generating US \$34,146,000 in revenue that shows the effectiveness of tourism development in Tingxi reservoir (Shen et al,2020). The artificial lake, constructed on large rivers, on the world's longest river, the Nile, supports over 350 million people and is a developed tourism resource in Egypt, which is called Nasser Lake (ADB,2015).

Ethiopia is endowed with unevenly distributed water resources, which include natural and artificial lakes. There are around 33 natural lakes in Ethiopia, of which nineteen (19) of them are found in the Rift Valley, whereas the other fourteen (14) lakes are found in the highlands of Ethiopia (Ayenew,2009). With the distribution of these water resources, lake Tana, the largest highland lake, contributes to local tourism development through its potential ecotourism resources. It is the home to giant hotels, resorts, and spas, which intensify the flow of tourists besides its natural endowment. It also has valuable ecosystem services like comfortable aquatic biodiversity, marine birds, tourism activity (religion), a source of hydropower, recreation, and irrigation (Worku,2017). In addition, the Wenchi crater lake is a central highland lake which has good potential for tourist activities such as hiking, horse riding, boating/canoeing, spa bathing, forest exploring, trekking, adventure, medical tourism, and other leisure activities (Ketema,2015).

On the other hand, there are a large number of lakes found in the Ethiopian rift valley region, which are called lowland lakes. Bishoftu lakes are crater lakes found a short distance from the capital Addis Ababa. There are around eight crater lakes that serve weekenders from the capital.

Moreover, plants, sports, trekking, agro-tourism and bird watching are recreational activities tourists can experience during their stay in the area (Fenet, 2015). According to the report of the Oromia Culture and Tourism Bureau of (2015) there are around 13 resorts and lodges found in the surrounding of Bishoftu lakes. The lodges and resorts created permanent and temporary job opportunities for the community. In addition, the other Rift Valley lakes, such as Ziway/Batu lake, Abijata shalla lakes, and Langano, with their immersive potential, contribute to tourism development and serve as recreational and vacation areas for domestic and foreign tourists.

Besides natural lakes, the country also has artificial lakes formed due to hydropower plant construction. Existing hydro power plants with artificial lakes include Beles Abbay, Fincha Abbay, TisAbbay I and TisAbbay II on the Abbay river (Blue Nile), Awash II, Awash III, Awash and Koka on the Awash River, Gilgel Gibe I and Gilgel Gibe II on the Omo-Gibe River, Tekeze (Atbara), and MelkaWakena on the Wabashebele River (Berhanu, Sileshi & Mesele,2014) In the other hand, the country is also on the way of constructing the most disputable dam, named the Great Ethiopian Renaissance Dam, which is planned to be used for multipurpose, and some others are under construction .

However, irrespective of having various powerplants, and plans for further exploitation of major rivers for geothermal power plants and other related activities, assessing their potential for use for multipurpose, especially for tourism, is overlooked in Ethiopia.

Koka reservoir is one of the artificial lakes formed due to hydropower plant construction in the Awash River basin in the rift valley region of Ethiopia. The water reservoir contributes greatly to the daily sustenance and improvement of the local economy through generating hydropower, irrigation and fish production (Akele, 2011). In addition, manufacturing industries found adjacent to the reservoir use the water for different purposes. Due to this, human impact in the Koka water reservoir, notably created environmental problems mainly water pollution. On the other hand, the local communities residing around these tourism resources and the local governors are unaware of the alternative significance of these resources and give less attention for its conservation and protection and they solely focus on the immediate benefits from the resources as a means of livelihood this by turn increase pressure on water resources which once get depilated and difficult to restore it (Lume woreda culture and tourism office, 2018).

In line with this, different studies have been conducted focusing on agriculture, fishing, challenges and management, and the related problems of the lake (Taddese, Sonder & Peden, 2003; Akele, 2011; Tesfahun, Dadebo & Temesgen, 2018). However, the issue of using water reservoirs for tourism development is the most ignored, both among governments and other tourism stakeholders. Moreover, the issue has not got concern from the tourism industry itself or academic institutions so far. Thus, there is a lack of works of literature that provide evidence about the reservoir's touristic potentials and its use for water-based tourism development, especially in Ethiopia. Hence, the researcher believes that a study must be carried out on Koka water reservoir, which is one of the oldest and the only water reservoirs in Ethiopia registered by the international bird life organization as a bird life area.

Therefore, the aim of this research was to explore the water-based tourism development potentials of the Koka water reservoir. Additionally, the study also attempted to explore community perceptions and identify the factors that affect the development of water-based tourism on the Koka water reservoir.

1.3. Research Questions

The research addressed the following questions;

1. What are the potentials of Koka water reservoir for water-based tourism development?
2. What is perception of local community towards water-based tourism development of Koka water reservoir?
3. What are the factors that affect the development of Koka water reservoir as a water-based tourism destination?

1.4. Objectives of the Study

1.4.1. General Objective of Study

The general objective of this study was to explore water-based tourism development potentials of Koka water reservoir.

1.4.2. Specific Objectives

1. To identify tourism potentials of Koka water reservoir for water-based tourism development.

2. To explore local community perception towards water-based tourism development of Koka water reservoir.
3. To identify the factors that affect the development of Koka water reservoir as water-based tourism destination.

1.5. Scope of the Study

The scope of the study is geographically located at Koka water reservoir, in the East Shewa zone of Oromia regional state. The theme of the study was limited to exploring the water-based tourism development potential of the Koka water reservoir. In addition, the scope of this study also covers the factors affecting water-based tourism development potential, and community perception towards water-based tourism development of Koka water reservoir. The units of observation were the participants in the research from which relevant data was collected. The primary data was gathered from Lume Woreda and East Shewa Culture and Tourism Offices, Oromia Culture and Tourism Bureau, Tourism Ethiopia, and other concerned bodies such as the Ethiopian Wildlife Conservation Authority, and the local communities and their representatives.

1.6. Significances of the Study

In Ethiopia, the efforts to develop tourism are not only limited to the government; the private sector also plays a greater role. Many plans have been developed by the government to diversify tourism products, develop and market the tourism potential of the country. In light of this, scientific and sound research is beneficial for the development of effective tourism potential. Thus, this study will have the following academic and research, policy and developmental importance.

1.6.1. Academic Significance

This study will be used as a reference for government and private institutions, which have direct and indirect relation with water and tourism cases. It will have significant contributions to water-based tourism development literature from research and a practical perspective. It will also present both primary and secondary information that could assist scholars, researchers, and government officials interested in exploring and understanding water-based tourism development Potentials in artificial lake area. It may also serve as a spring board for those who will have an interest to conduct further research and studies on water and tourism related issues. As a result, this study will provide a base for understanding these issues while contributing to the existing body of literature.

1.6.2. Policy Significance

Since the idea of water-based tourism development lacks clear development policy. This study will be expected to contribute much for policy makers and implementers to understand the gaps and to take corrective actions on the use of artificial lakes for water-based tourism development purpose in Ethiopia.

1.6.3. Development Significance

This study will explore the perceptions of the local community towards water-based development. It will enable planners and practitioners to consider the communities interest while designing for the development of water-based tourism in the study area. The study will contribute towards the effort of poverty reduction through diversifying the economy of local communities through tourism. Furthermore, the development of water-based tourism will promote not only tourism but also help in sustaining the lake and its natural environs.

1.7. Limitations of the Study

The study was conducted under several unavoidable limitations. For most, the study was conducted only on one water reservoir, and only at a single shore area of Koka water reservoir in "Meto Aleka village". Based on this, there is a need to take care in generalizing the research findings to whole parts of the Koka water reservoir, which leads to the question of all water reservoirs. Since the area is at an exploration stage, it is difficult to apply all the tourism development indicators. As a result, a researcher was forced to use two indicators, income and job opportunities, as a measurement of the water-based tourism development of an area. *Moreover, tourists were not consulted as a result of no tourist flow to an area. Unavailability of theoretical and empirical literature regarding water reservoirs and tourism development was the major challenge a researcher faced during this thesis work.*

1.8. Ethical Considerations

The selected respondents were informed about the purpose of the study before asking questions. Then, the good will of the respondents was consulted, and permission letters and legality were provided before any interview and related issues were raised. The respondents were informed and agreed that the information they gave would be kept confidential and for this research purpose only. The one who was not voluntary for the interview or questionnaire has not been included as

an interviewee or questionnaire respondent. All the respondents are free to express what they feel regarding the issue of their involvement in the study area. To prove the ethical consideration expected in research on survey questionnaires, the names of respondents were not included. whereas, to avoid repetition during interviews, the names, jobs/positions of the interviewee, and date of the interview were provided.

1.9. Definition of Key Terms

Water based tourism: It refers to people's leisure and recreation activities on and around bodies of water. The activities they perform are because of the presence of the water resources.

Water based tourism development: It is a type of tourism development in which the growth is based on the availability of water resources. The basis for the development of tourism is the existence of water bodies such as lakes, water reservoirs, rivers, seas, and others.

Water reservoir: A body of water which is formed due to the construction of hydropower plant. They are called artificial lakes because their formation depends on human activities.

Lake: Is any body of water that is artificially or naturally enclosed or surrounded by land.

Potentials: Possessing or demonstrating the ability to develop in the future.

Koka: The name of the artificial lake formed due to hydroelectric power generation. It is found in the East Shewa Zone of the Oromia Regional State in the Central Rift Valley of Ethiopia.

Factors: Issues that influences the success and failure of the development.

CHAPTER TWO

2. REVIEW OF THE LITERATURES

2.1. Concept of Tourism and Tourism Development

Development is a multidimensional concept that is based on interactions between humankind and the natural environment (Hsu, Lin & Jhang, 2020). The development of tourism is linked with the developmental ideologies, development level of the countries, the attention of government to develop tourism, and the level of community awareness.

Tourism, as such, has been well recognized globally as a growth industry, with its great economic potentials attracting the interest of national and local governments which encourage tourism development as a vehicle for re-initiate economic decline and improve quality life for local communities (Bandoi et al, 2020). From the mid-twenty century and still, the tourism industry is seen as an effective developmental growth-pole, and tourism has been taken in many countries to improve their economic development. However, the processes that produce this development in tourism are affected by economic, socio-cultural, and political forces (Sharpley, 2020).

The development of tourism at new or established destinations will come with a number of impacts which ranging from economic and sociocultural to environmental that host communities are experiencing in their daily life (OECD, 2020). Such impacts of tourism are, among others, an increase in employment opportunities, investments and income, inflation, improvements in the local infrastructure, crime, environmental pollution, noise, and traffic, all potentially affecting the quality of life at the destination. Although usually the focus of local authorities and developers is on the widely-recognized positive economic impacts that are frequently employed by tourism advocates for justifying its development, adverse impacts on the environment, local economy, or the host population also occur as a result of the increasing demand for tourism activities.

The presence of negative impacts especially on the environment, natural or artificial - which along with (Cooper et al., 2008) is among the fundamental ingredients of the tourism product - can have significant and irreversible effects on a destination; at a time, resources are degraded, then the reasons for traveling and visiting a destination will no longer exist and at the same time the quality of life of the host population will be diminished. (Saeporsdottir, Hall& Wendt, 2020).

Originally the idea of tourism development is to counteract increases in stress caused by rapid advances in technology and transportation and the greatly accelerated pace of life, by providing a means for rest and relaxation (Lin et al., 2018). Although tourism produces economic advantages, beautifies local communities, and improves basic infrastructure for the regions. Broadly, tourism development discusses the utilization of natural and cultural resources to provide relaxation to tourists and to broaden their horizons, while equivalently contributing to the improvement of the areas of economic, social, and environmental conditions of the regions and local communities (Hsu, Lin & Jhang, 2020).

In other ways, with the concern of protecting the planet from the effect of climate change, different international organizations were focused on the protection of nature, which currently contributes to the development of nature-based tourism (Saarinen & Tervo, 2006). Natural resources are the main sources of tourism resources that play a greater role in the development of tourism. Since the concept of nature-based tourism movement catches attention in tourism, in recent times the concept of tourism has been seen rising on ethics such as the basis of awareness of protecting nature, the precautions of prevention of consuming the natural resources.

Moving from here, nature-based tourism could be described as a tourism type which contains a wide range of activities, as being performed in the areas that are supposedly different and purer natural areas, and swimming, diving, hiking, campfire, picnic, taking photographs, learning, friends or spending time as families. (Metin ,2019). Center for Responsible Travel (2018) stated that among all types of tourism in the World, nature-based tourism, having a quite high share 20%, this share is continuously increasing, this shows that the development of tourism is highly dependent on nature which is the mountain, rivers, valleys, caves, seas, oceans, natural and artificial lakes, and other nature-based resources.

In the past few decades, the travel and tourism industry have an incredible contribution to our modern economic system. As a result, According to United Nations World Tourism Organization report, the contribution of the travel and tourism industry, including related business, represents 9.8% of total global gross domestic product, and 7% of the global trade. In addition, the industry also created approximately 11% of the world's existing employment (direct & indirect) in 2016 (UNWTO,2017a). Considering this contribution, in the modern world, the issue of sustainable

development has become an agenda of international organizations, likewise, Sustainable development is increasingly becoming a priority issue in tourism development (Kapera,2018).

In terms of number of international tourist arrivals (overnight visitors) in 2015 is increased to 1186 million worldwide, this shows a difference of 52 million over the previous year which is increased by 4.6%. Since tourism is sensitive by its nature, the flows of tourism were influenced by three major factors such as exchange rate fluctuations, the decline in the price of oil and other commodities, and global focus about safety and security. Contrary, there was a growth in international tourist arrivals increased in different regions; 6% Americas and Asia and the Pacific, 5% in Europe, 2% Middle East, while in Africa they declined by 3%. Whereas there was an increase of international tourism receipts by 4.4% in real terms (considering exchange rate fluctuations and inflation) with total earnings in the destinations estimated at US\$ 1260 billion worldwide in 2015 (UNDP, 2017)

2.2. Sustainable Tourism Development

Sustainable tourism development should emphasize the concepts of social, economic, and environmental features of the tourism system (Swarbrooke et al., 2003). In other words, taking into consideration these three concepts might lead to adopt sustainable tourism development which is economically viable but does not give attention to the resources on which the development of tourism will depend, especially the physical environment and the social values of the local community (Maftuhah& Wirjodirdjo(2018) state that there are confusion and lack of agreement on how to conceptualize and define these key concepts sustainability, sustainable development, and sustainable tourism development.

Referencing the Sustainable Development Goals (SDGs) and the broader 2030 Development Agenda of United Nations General Assembly the UNWTO recommended five central pillars to which tourism should stand to make a significant and lasting contribution to achieve the sustainable development (UNWTO, 2017a). Development without concern for sustainability, tourism cannot only damage societies and the environment: it could also contain the seeds of its own destruction. Sound plan and proper monitoring mechanism is necessary to keep the tourism in the desired way (Andereck et al., 2005).

A primary function of government in fostering more sustainable tourism is to create an environment that enables or influences the private sector to operate more sustainably, and influences patterns of visitor flows and behavior so as to maximize the benefits and minimize the negative impacts of tourism (Lasisi et al., 2020).

Negative impacts from tourism occur when the level of visitor use is greater than the environment's ability to cope with this use within the acceptable limits of change. Uncontrolled conventional tourism poses potential threats to many natural areas around the world (Higgins, 2018). It can put enormous pressure on an area and lead to impacts such as soil erosion, increased pollution, discharges into the sea, natural habitat loss, increased pressure on endangered species and heightened vulnerability to forest fires. It often puts a strain on water resources, and it can force local populations to compete for the use of critical resources (Lehmann, 2009). Tourism causes unfavorable consequences, like: degradation of natural resources, life style distortions, socio-cultural patrimony of destination and so forth.

As a result, tourism development must be based on sustainability criteria, must be long term economically bearable and ethically and socially equitable for the residents of a tourist destination. All three sustainable development dimensions (preservation of natural and cultural resources, economic viability and social justice) can be measured and analyzed using indicators that are adapted to specific realities of each place and that consider environmental, socio-economic and tourist variables (Rahaman & Varis, 2004).

Therefore, countries need to give increased concern for sustainability of tourism, working on mitigating the negative impacts of tourism. Particularly, they need to focus on Sustainable tourism development issues like: making tourism able to continue as an activity in the future, ensuring that the conditions are right for this, making the society and the environment able to absorb and benefit from the impacts of tourism in a sustainable way, minimizing the negative impacts of tourism on society and the environment, maximizing tourism's positive and creative contribution to local economies, the conservation of natural and cultural heritage, and the quality of life of hosts.

2.3. Local Community Perceptions and Tourism Development

The development of tourism, and communities' perception towards the impacts of development is related with social change theory. As the development of tourism show hazard such as environmental degradation and local cultural heritage loss, due to the invasion of large numbers of visitors who also bring foreign behaviors and material assets (Dologlou &Kastoni, 2016). The local communities start to develop negative consequences from tourism development. Hence, many countries have been facing serious environmental and social disorders due to mass tourism that only insists on quantity rather than quality tourism, number rather than sound economic benefits to the place and people of the destination. Developing environmental tourism and water-based tourism in today's world, where massive destruction of nature and pollution is common, is significant to the society and seen as an important tool in achieving sustainable development and avoiding uncontrolled movement of tourists (Ceit & Sevic, 2016).

As a result, tourism development is dependent not only on the availability of tourism resources, but also on the willingness of local residents (Kariuki, 2013). As a result, the perceptions of local communities can influence the success or failure of tourism development. Hence, the Social Exchange Theory (Tittenbrun, 2012) is used to infer the social behavior of the local community as a result of an exchange process. The notion focuses on the host community's attitude and perceptions (Meimand et al., 2017). The idea also shows that if the hazards outweigh the advantages, the host community's connection with the development tourism project will likely be discontinued. Residents' belief is important because they are more inclined to support tourism development if they can benefit from tourism without incurring additional costs (Homsud, 2017).

In line with this, analyzing residents' perception during the development stages may help to better understand and act in all stages (Rasoolimanesh, Dahalan & Jaafar, 2016). Tourism destination passes through different development stages as a Butler (2004) stated Tourist Destination Lifecycle Model is an important contributor for the development of theoretical models relating to the interaction between tourism development and communities' perception. Butler's model assumes that tourist destinations vary and change through time, and is based on the product cycle concept, which states that product sales increase slowly at first, then accelerate, stabilize, and ultimately drop. It implies that the area will initially be flooded. In line with this, Communities

perception towards tourism development also different depending on the development stages of tourism destination.

As tourism destinations reach on different development stages, the local communities experience the impacts from the development. Residents' perceptions differ at different stages of tourism growth; thus, during the involvement stage, the economic benefits are usually acknowledged (Kim, Uysal & Sirgy, 2013). The following figure shows Butler model of tourism product life cycle.

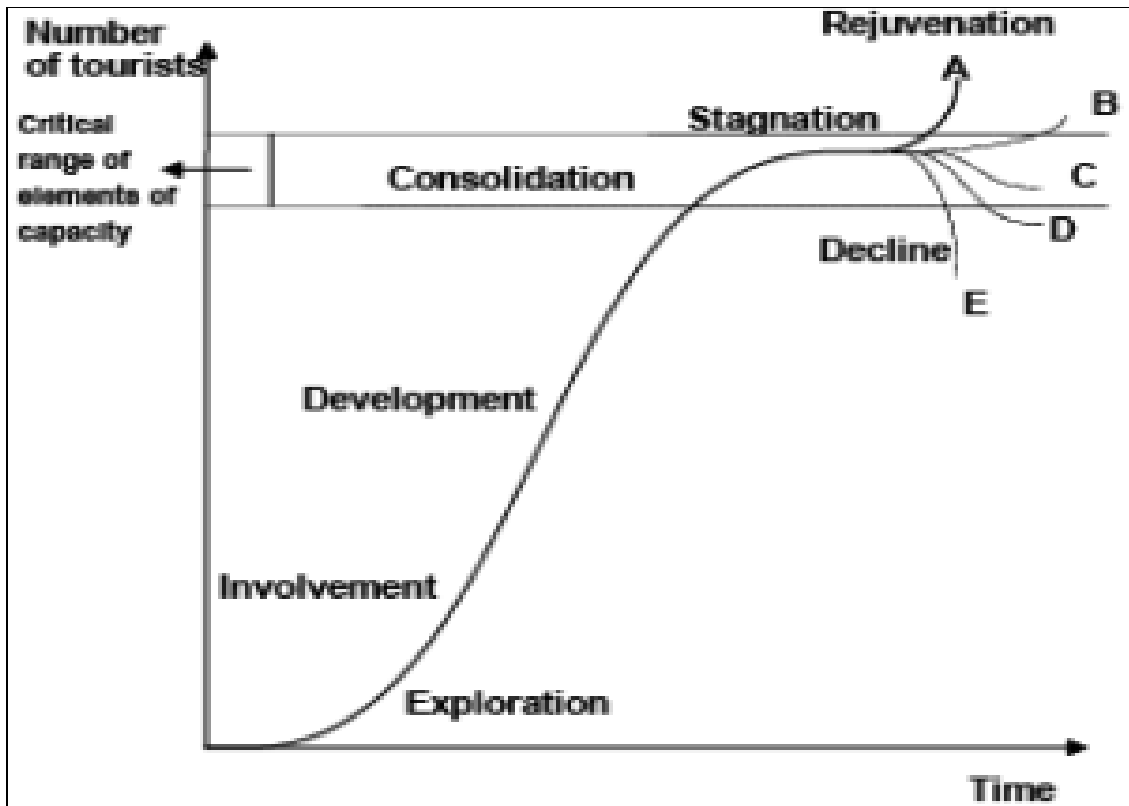


Figure 2 1: The Tourism Area Life Cycle in the Twenty-First Century

Source: Butler (2004)

As a result, a community's desire and perception of tourism development is influenced by the benefits they perceive from tourism development (Sharpley,2014). The extent to which the host community participates in tourism development and the value they derive from it is significantly linked to their perceptions (Eshliki & Kaboudi, 2017). Personal gains derived from tourism are linked to the level of involvement (Hanafiah, Jamaluddin & Zulkifly,2013). As a result, in

developed tourism sites, local communities see both the positive and negative effects of tourism, influencing their perceptions (Andereck et al.,2005).

Accordingly, the benefits from developed tourism resources and the expectation of benefits from future development led to positive perceptions, while local communities earn low benefits and those experiencing and expecting higher adverse impacts from tourism development have negative perceptions (Celik & Rasoolimanesh, 2021). Tourism operations are often seen positively by local communities, particularly because of the economic benefits, which mostly include job opportunities and public facilities provided by the local government. A socio-cultural factor also influences community perception (Homsud, 2017). As a result, all of the techniques are essentially the essence of the social exchange theory, which is used in the tourist industry to explain community attitudes and involvement based on the advantages derived from environmental, economic, or socio-cultural factors.

According to Lee (2013), the perceptions of local communities are influenced by cost and advantages. Residents are more inclined to favor tourism if they can profit from it without paying a lot of money, but they will reject it if the costs outweigh the benefits. The costs of tourism development, such as crowding, pollution, destruction of natural habitats, and noise, are generally seen negatively by the host community (Gnanapala & Karunathilaka, 2016). According to Nzama (2008) there is a strong positive relationship between the extent of community perceptions towards an increase in tourism development and tourism development. Moreover, several studies have explored residents' perceptions of tourism development focusing on mature tourist destinations. Moreover, Rasoolimanesh, Dahalan & Jaafar (2016) resident perceptions are influenced by the positive and negative impacts of tourism development.

2.4. Factors Affecting Tourism Development

The development of tourism in any given destination area is closely related to the availability of tourism resources and attractions. For the success of tourism development, related sectors and tourism stakeholders are the main role players to boost the benefits of the development (Becken, 2010). In other ways, the development of tourism is affected by different factors that limit or foster its development. The factors may be either internal or external. External factors like weather, safety, access to amenities, peace, and security may affect the development of the tourism industry

(Philip, 2017). Internal factors limiting development of tourism include a lack of human resources, inadequate infrastructure, promotion strategies, and a lack of marketing (Mekonen,2016). Moreover, water supplies, networks for electricity and telecommunications, health and sanitation facilities, and basic road structures are playing a greater role.

According to Celata (2007) the uneven development of tourist destinations is raised by the geographic marginality and accessibility of the area. Accessibility can include the cost of travel in which it is one of the factors influencing the choice of destination. The relative distance of one tourist destination from the others provides the opportunity for its development. Sometimes a lack of accessibility can be balanced by other factors and even become a source of attraction in and of itself.

In addition, in developing countries financial capital is an important element for tourism development (Koutra, 2007). It is used specially to start or maintain a tourism business. The three distinguished financial capital pre-requisites to sustainable tourism development are financial investment, financial linkages and micro credit. OECD (2018) mentioned that investment and financing has an important role to play in supporting the transition to socially inclusive, low carbon and resource efficient tourism development.

Besides of this, the supports from different institutions are best placed to manage tourism to ensure that its environmental impact does not jeopardize the integrity of the ecosystem. Mostly, the supports for nature tourism which contributes directly through conservation and maintenance of species and habitats or indirectly providing revenue to the local community (Spenceley& Goodwin, 2007). Therefore, protected and well conserved tourism destination areas have the potential to attract tourists and at the same time the income generated through tourism development can be used for the conservation purposes.

2.5. Water and Tourism Development.

From natural resources, water is one of the most vital elements of the world. Which is considered as the lifeblood of the environment, and play an unreplaceable role in the survival of all living things. It is the most contributing natural resource for human existence and the main element of the socio-economic development of any industry (Ramazanova, Makhabbat & Isabel,2020). In with this, as one part of world industry tourism and water has strong relation that it creates good atmospheric condition for tourism activities. Water has a physical and intangible contribution to

tourism destinations by providing a meaningful experience for the visitors, who have an internal relation with this touristic resource as an attraction (Ramazanova, Makhabbat & Isabel,2020). Moreover, water and tourism relation are not just a matter of the water consumption at accommodations and tourist facilities, but also it is an important tourism resource upon which the attractiveness of a destination may depend. It is also one of the most critical and scarce resources for the tourism industry, at the same time UNTWO (2013) emphasizes tourism's significant role and contribution to water conservation.

Historically, and to date water resources are also used for various economic and cultural purposes (Deiminiat et al, 2014). Hence, international, regional and national governments work on the protection of water, the development of an inappropriate nature to create opportunities for the sustainable development of tourism in the medium term, characteristics that contribute to the tourism value of a water body and enable the development of knowledge of good practice in this respect; and work to ensure equitable resource benefit-sharing (ADB,2015). With limited availability of fresh water resources, water provides a wide variety of opportunities for recreational and tourist activities beyond the industrial and energy uses.

Moreover, understanding water as a precious resource and as an attraction help to show the relationship between water and tourism. Thus, considering water to be a valuable, scarce resource, different business initiatives through water-based tourism can be developed without jeopardizing the quality and availability of water resources (Solís, Alberto & Xueqin, 2015; Lavanchy, 2017). Moreover, Water is an important element for the conservation of ecosystems and tourism gives water resources great potential, because it facilitates the development of such attractive resources, combining their protection with respectful use (Folgado et al.,2018).

Water is a natural resource which incorporates as cultural resources, is used as a material and immaterial resource, also it is an aesthetic, social-political, environmental, and economic element in and around the urban areas, and the benefit of tourism not limited to economic values for national and local communities, but also supports water preservation (UNTWO, 2013). Consequently, water-based tourism is any tourism-related activities undertaken in or in relation to water resources, which means that water-dependent activities or activities commenced because of the availability of water resources. Differently, based on bodies of water resource different

activities of tourism may undertake on lakes, dams/reservoirs, canals, rivers, canals, waterways, creeks, marine coastal zones, seas, streams oceans, and ice-associated areas (Jennings, 2007).

The use of water is not only limited to what mentioned above, it also widely used for marketing purposes by tourism destinations: while opening any travel marketing brochure or website, water is an integral element of most of the holidays offered, and destination images used as a product of a site. At the same time, it should be kept in mind that naturally, the water resources, let it be lakes, rivers and springs are sensitive, therefore, thus, monitoring water resources in the tourism industry and the development of measures to its sustainability constitutes a key point to guarantee the availability of water resources of many regions taking in account that water-related tourism is the most popular and attractive for a people, water being used as a powerful tool in generating visits to a destination (Moreira, 2010).

2.5.1. Lake, Reservoir and Tourism Development.

Lakes are a body of natural water collected in a depression which includes; natural lakes, reservoirs, dams, and ponds found on the surface of the earth, in which they are mostly representing a valuable resource utilized for a variety of human activities (Campbell et al, 2015). The existence of the lake greatly influences the life of the people living around it. With covering an area of larger than 1 km² there are around 110 000 lakes found in the globe. It is helpful in controlling weather and local climate similar to other water bodies. Moreover, it used for creating irrigation facilities, tourism activities and also a good source of water supply for drinking (Balasubramanian,2015).

Lakes are the potential of interest to tourism. There are numerous lake-based destinations around the world, where regional or local attractions are mainly based on a lake resource. It is playing a greater role in offering a naturally defined essential resource for tourism development. Understanding the relevant methods of lake tourism is very important to a better future planning of inland water resources management (Matern et al., 2019). As a result, some of the destinations are popular because of the presence of a lake in them. The areas with a beautiful lake are living with us forever that they provide memorable experiences for visitors. Lakes are attracting tourists because of their tourism activities such as boating, swimming, and a good landscape around (Dokulil, 2014.)

Lake and its shore are some of the most attractive elements of the natural environment commonly used for tourism and recreational purposes (Hall and Harkonen, 2006; Hall, 2010). The aesthetic features of the lake have the power to attract tourists and also popular areas set aside for public recreation. Tourists can enjoy scenic journeys around the lake as well as a boat trip. The attractiveness of the lake is not limited to its water banks, the shorelines of lakes can also attract both people and a diverse community of plants and animals. Sometimes it is considered as water bird sanctuaries. In addition to the basic values associated with tourism and biodiversity, the presence of biodiversity in artificial ecosystems directly influence quality of some tourism activities of the area. Example, fishing and visiting aquatic animals used as recreational activities in many gravel pit lakes (Matern et al., 2019).

For many years, experts in aspects of environmental protection and water supply issues are trying to solve the problems of sustainable tourism and protection of lake ecosystems in joint international conferences (Kurlito, 2013). Lakes contribute significantly to poverty reduction and food security in developing countries. They are a source of dietary proteins and water, they provide revenue through fish harvest, export, and tourism, and are used as avenues for the transport of people and goods (ADB,2015). Above all, lakes all over the world are used as a resource for ecotourism, natural tourism, leisure tourism, and conference tourism and are attracting millions of tourists.

Beyond using natural lakes, the growth and expansion of industrialization, urbanization, and agriculture, and because of the need to reduce the seasonal cycles of abundances and deficiencies, many water-capture systems using dams have been implemented throughout the world to overcome demand increased for water in the last few centuries (Cooper & Prideaux, 2009). Reservoirs are an artificial lake, formed or modified by human activity, which is mostly constructed for specific purposes, in order to extend the use of water resources in a reliable and controllable manner (Cooke et al., 2016). The goals of constructing dam and creating reservoirs varied as the time passed. Mostly it was built for irrigation and water supply. The next functions of the dam reservoirs were navigation, flood protection, and then, together with the development of alternative energy sources, energy supply.

As a result of its high investment costs both in terms of economic and environmental, modern reservoirs fulfill several functions, there are rare single-purpose reservoirs around the world

(Duda-Gromada, 2012). Furthermore, areas of large and medium-sized water storage reservoirs which constructed hydropotential is used for water supply of settlements as well as for energy system, in addition under certain conditions and limitations the reservoir represent the locations for the development of tourism. As sited in Branche (2017) World Water Council and Électricité de France in 6th&7th World Water Forum held in Marseille & Degu respectively have agreed to work on “the multipurpose water uses of hydropower reservoirs” discuss on the issues such as the way to minimize contradictions and competition among multipurpose water uses of hydropower reservoirs, and how to set appropriate governance to allow coordinated/integrated water uses management, in terms of strategy, planning, decision-making, and operation.

Inline of this, different methodologies are developed and practiced in different country to use water for multipurpose. The new generation of Spatial Plans of the Special Purpose Areas (SPSPA) for water storage reservoirs, with their methodological approach, content and documentation base, which guide for multiple use of space and resources in order to meet the priority needs of water supply (or electricity production) as well as to activate tourist potentials. (Danilović et al., 2019)

Currently, in most parts of the world water reservoirs are constructed for replacing also natural lake's ecological functions that add to provide different services beyond the main purpose of its construction. It may provide recreational activities or has aesthetic (Halkos, & Matsiori, 2016) in all recreation is mostly focused on boating recreation activities. The building of dams and their associated reservoirs has increased opportunities for boating, but even these areas at times remain quite crowded (Geoffrey Koome et al.,2020). Similar to the other attractions, an artificial reservoir can be the most important factor contributing to the tourist attractiveness of an area, and therefore it can have an impact on the level of tourism development. Also, the construction of a dam that creates a reservoir, raises the tourist attractiveness of the regions and can contribute to the development of tourism, besides the increase of tourist traffic (Duda-Gromada et al. 2010).

2.5.2. Water, Lakes and Tourism Development in Ethiopia.

With a complex topography, diversified climate, and massive water resources Ethiopia is considered as “The water tower of the Horn of Africa” for the country, implies the country’s rivers providing unbelievable contribution for neighboring countries both in terms of source of water and favorable climate, in which all depends on geographical location of the country. The big and main water resources problem in Ethiopia is the uneven spatial and temporal occurrence and

distribution. Most of big rivers are found in west and south west of the country where population is less in percent. In other hand, less in number rivers found east and central parts were high percent of population. The country has about 124.4 billion cubic meter river water, 70 billion cubic meter of lake water, and 30 billion cubic meter of groundwater resources (Berhanu, Sileshi & Melesse, 2014).

The other major water resource in Ethiopia is lake, which is unevenly distributed across the country and categorized as rift valley lakes and high land lakes. Lake Tana is the largest lake in Ethiopia is the source and from where the famed Blue Nile starts its long journey to Khartoum, and on to the Mediterranean. It is the home of 37 islands and shelter of fascinating churches and monasteries. Cruise on lake Tana is one of the most pleasant excursions for visitors to the town of Bahirdar and its surroundings. Boating is the main water-based tourism activity on the lake, Along the lakeshore birdlife, both local and migratory visitors, make this an ideal place for birdwatchers. Is one of popular tourist attraction of Ethiopia with accommodating giant lodges along the shore (Selamta, 2021).

Furthermore, Wenchi crater lake is one of popular ecotourism site found in highlands of Ethiopia, it is gifted with its natural environment such as, waterfalls, hot springs, beautiful and scenic landscape, natural forests, and historical church also the hilly mountains and natural forest. The geographic feature the lake is very impressive, very steep with its dramatic valley. The lake is a good potential for such tourist activities: hiking, boating, horse riding, forest exploring, Spa bathing, medical tourism, trekking, adventure and other leisure activities. Even though, there is ecotourism activities are found, with the availability of local products the accommodation and recreational facilities, electricity in the site, gravel road, pathways and parking facilities, and poor with sufficient clean water to meet extra demands of tourists and locals (Ketema, 2015).

In other ways, different scholars studied Ethiopian rift valley lakes by dividing it to central rift valley and southern rift valley lakes. Includes the seven lakes of Bishoftu in which some of the lakes are used as recreational area for excursionist from the capital city, Addis Ababa and surroundings communities. Also, some of the lakes are home for resorts and lodges (Fenet, 2015). Furthermore, lake Ziway, Abijata, Shalla, Langanu and Awassa are the major central rift valley lakes have tourism potential, mostly natural attractions in which lake langano, Ziway and Awassa providing boating services. Whereas, all have aesthetic landscape, place of mammals, birds and

natural tourist attractions. Those features of the area are visited on a regular basis. They are mostly used as a transit area to visit southern and south Eastern parts the country. The area has experienced some developments which are in favor of its potential, such as infrastructural developments (Kauffmann, 2008).

The other Ethiopian rift valley part is southern part, which has two important lakes Abaya and Chamo. The lakes contain diversified species such as phytoplankton, zooplankton, fish, amphibians, reptiles, birds, and mammals maintain the aquatic ecosystem. Populations of birds, crocodiles and hippopotamus around estuarine and shores is common enjoyable phenomena in lake Chamo region. The lake-wetland ecosystem used for feeding, nesting, basking, and prey catching site for its dwellers (Hailemicael & Raju, 2010).

In accordance with the availability of water resources in Ethiopia the use of and development of water resource for tourism is untrained, besides the natural lakes the artificial lakes can be developed as tourism product, since the country has different reservoirs/artificial lakes formed during construction of power plant.

Most of the artificial lakes are used for irrigation and flood control besides hydropower generation. Beles Abbay (Blue Nile), Fincha Abbay (Blue Nile), Tisabbay I Hpp Abbay (Blue Nile), Tisabbay II Hpp Abbay (Blue Nile), Awash II Hpp Awash , Awash III Hpp Awash , Koka Hpp Awash , Gilgel Gibe I Omo Gibe, Gilgel Gibe II Omo-Gibe , Tekeze (Atbara) And Melkawakena Hpp Wabishebele are the existing hydropower projects and Great Ethiopian Renaissance Dam and there also projects under construction and planned for construction use the water resources for different purposes (Berhanu, Sileshi & Melesse, 2014). More above, the Ethiopian government focuses to develop the strategies for water-based tourism development and water basin tourism development including the Great Ethiopian Renaissance Dam in next ten (10) years (MOCT, 2020).

2.6. Empirical Evidences of reservoirs potential for tourism development.

The use of reservoirs for tourism purposes is currently growing around the world. Thus, different studies have been done qualitatively focusing on the benefits, importance and potential of the reservoirs for tourism. This has the implication that the water reservoirs provide other opportunities beyond the main purposes of construction. In line with this, Branche (2017) studied multipurpose uses of water reservoirs. The study revealed hydropower reservoirs provide services

beyond electricity power generation. In the current world, they serve as water supply, flood and drought management, irrigation, navigation, fishing, environmental services, and recreational activities which support tourist receipts. The study by Duda-Gromada (2012) on the use of river reservoirs shows that the main functions of the reservoirs include; electrical energy production, flood protection, water supply, and creating conditions for tourism and recreation.

According to Vyas & Singh (2004) biodiversity survey of Gandhisagar reservoir, in India, water reservoirs are the home to different flora and fauna. The study revealed that there are various macro bio diversities such as fish, birds, reptiles, mammals, and plant species found for the touristic potential of the reservoir. Moreover, the landscape of the site has the potential to motivate tourists for sightseeing and recreation. Thus, well developed infrastructure and agricultural farms are considered as supportive tourism resources for the destinations. Rodrigues, Correia & Kozak (2013) in their study of the reservoir towards the development of a new lake destination, have resulted in a lake resource considering the fact that it comprises several recent attractions contained in the nature, culture and community of the lake, generating new possibilities for tourism development.

Muryani et al (2018) in his study on Gajah Mungkur water reservoir, attempted to identify the potential of the dam in which touring around the dam, organic keramba, water park, and local traditions are the main potential resources used for touristic purposes. According to Hristi, Stefanovi & Petri (2018), in their study in Serbia, they identified opportunities for the development of tourist potential in protected areas of water storage reservoirs. They found that the dominant forms of tourism that are planned in the catchment areas of protected water storage reservoirs are: aquatic tourism with a mostly summer season offer (swimming, rowing, sailing, fishing); mountain tourism in the surrounding areas with a variety of all-year-round offers; then hunting, ecological, ethnological, and other forms of tourism on other natural surfaces.

Furthermore, Kolawole, Samson & Ibukun (2018) made assessment of flora diversity in areas of different land uses at Awba Dam, Ibadan, Nigeria. The study shows that the area is rich in flora diversity and has the potential for ecotourism development. There was an exciting blend of 13 indigenous and 11 exotic tree species in the study area. On the other hand, there are different factors that facilitate success or hinder the development of water-based tourism in different water

resource areas. Nzeve1, Kitur & Njuguna (2014) studied reservoirs in Kenya and the study shows that reservoirs play an important role in the livelihood of human populations in Africa in which they are used as a source of domestic water supply, irrigation, fishery development, hydropower generation, and flood control. The African Development Bank (2015) on the study to maximize the benefits of water for tourism indicated that the artificial lake formed in Egypt, which is called Nasser, supports over 350 million people and is a developed tourism resource.

Different scholars studied factors that limit or foster the exploitation of the tourism potential of destinations. Blazeska, Strezovski & Klimoska (2018) in their study on the influence of tourist infrastructure on tourist satisfaction in Ohrid, revealed that a high level of tourism infrastructure is fundamental for fostering tourism destination development and utilization of existing resources. Jovanovic & Ivana (2016) studied infrastructure as an important determinant of tourism development, in which infrastructure broadly comprises water supply systems, roads, electric power, communication systems, banking services, and waste disposal facilities. They argue that development of tourism infrastructure can be generated by state, private or by foreign investors willing to invest in the expansive progress of a tourist destination. Gunn (2002) study mentioned that having a great quantity of resources and attractions are not the only issue for tourism destination development, rather it requires the support of other elements, mainly infrastructure, in order to adequately receive tourists.

Uduma-Olugu & Onukwube (2015) explored the coastal tourism potential of Lagos in Nigeria. They identified twenty-six factors that could cause the lack of popularity of coastal tourism. Their study shows that water-based tourism destinations experience a lack of water transport such as canoes and boats for pleasure rides and sightseeing, lack of infrastructure, properly designed areas for relaxation and passive leisure, lack of security and non-availability of restaurants, shopping facilities and conveniences. Lin & Matzarakis (2008) on the study of tourism climate and thermal comfort in Sun Moon Lake, Taiwan, stated that the exploitation opportunities of lakes for tourism depend on geographic location, which also determines the climate, distance, formation and depth of the lake, and also on the ecosystem, the presence of economically valuable or protected species. In addition, landscape, topography, vegetation, and fauna, etc., are the factors which limit tourists from visiting. Weather can also determine the attractiveness of a tourist region. In other ways, Vasvari (2015) identified that the popularity of lakes is influenced by other factors independently

of marketing. Climate, and the geographical and economic environment are also important elements in these destinations' popularity.

Safarabadi (2016) on the study of developing lakes regions or specific lakes for water-based tourism, revealed that water-based tourism development is affected by different factors, including the unique nature of the area, geological and geomorphological features, and also, ecological-cultural diversity. Tunde (2012) also revealed that funding, planning, infrastructural facilities, politics, and culture are factors mitigating against the development of tourism resources. Rodrigues, Correia & Kozak, (2013) by considering the reservoir as a new lake tourism destination, discussed that the climate and landscape of the area are contributing factors to the development of tourism and recreation. Gunn (2002) study mentioned that having a great quantity of resources and attractors is not the only issue for tourism destination development, rather it requires the support of other elements in order to adequately receive tourists.

Muryani et al (2018) in his study on the reservoir water at Gajah Mungkur Dams, identified the barriers to water reservoir ecotourism development are reservoir retreading, water quality and environmental sanitation. In line with this, in Ethiopia, tourism potentiality of lakes was identified by different researchers Worku (2017) studied tourism potentials in lake Tana and found that the lake is the home of 37 islands and shelter of fascinating churches and monasteries, birdlife, both local and migratory visitors, make this an ideal place for birdwatchers. Cruise and boating on lake Tana are one of the most pleasant excursions for visitors is the main water-based tourism activity on the lake

Furthermore, (Ketema, 2015) studied the development of community-based ecotourism in Wenchi crater lake. The study is identifying potential tourism resources of an area which gifted with its natural environment such as, waterfalls, hot springs, beautiful and scenic landscape, natural forests, very steep geographic feature and historical church also the hilly mountains and natural forest. Also, the lake is a good potential for such tourist activities: hiking, boating, horse riding, forest exploring, Spa bathing, medical tourism, trekking, adventure and other leisure activities. (Fenet, 2015) identified the potentiality of lakes for tourism in Bishoftu town, there is bird species and the lakes has the recreation potential for excursionist from Addis Ababa.

Based on the above empirical studies, it is possible to judge that there is a shortage of literature regarding reservoir and tourism development in the world and Ethiopia as well. Even though the potential and importance of reservoirs for tourism development were identified by different scholars in different countries, Limited research has been done on identifying the factors that affect the development of reservoirs as water-based tourism destinations. Moreover, the recent growth in water-based recreation in international and national contexts will force us to use water resources properly. To this end, the study focused on identifying the benefits of the reservoir, the tourism potential of Koka water reservoir, communities' perceptions towards the development of water-based tourism at Koka water reservoir and identifying the factors that affect water-based tourism development at Koka water reservoir. This research gap initiated the researcher to conduct this study.

2.7. Conceptual Framework.

A conceptual framework is the total logical orientation and association of anything and everything that forms the underlying thinking, structure, plans, practices, and implementation of a research project (Ravitch & Riggan, 2017). The figure below implies the relationship between local communities' perceptions with factors, potential and water-based tourism development. perceptions may have their own impacts, in which it depends on what they perceive about tourism development. Community perception is central guidance for the development of water-based tourism in which positive perceptions facilitate and negative perceptions act as a hindrance for the development of water-based tourism. Thus, positive perception can be categorized under the potential, whereas negative perception under the factors affecting development. As a result, community perceptions may also be influenced by potential tourism resources of the surroundings, which creates an interest in benefiting from the resources. The availability of water-based tourism resources alone is not a promise for water-based tourism development unless there is sound support from stakeholders. Moreover, the development of water-based tourism requires government, NGO's and other tourism stakeholders' emphasis to support its development. On the other hand, water-based tourism development is affected by factors such as coordination among stakeholders, awareness and training, finance and budget, infrastructure and facilities, and conservation and protection of the resources. These factors can influence the utilization of the existing water-based tourism potential. Currently, tourism is contributing to local development. Thus, well managed

water-based tourism will result in conservation of water-based resources, employment generation, destination marketing and infrastructure improvements. Therefore, beyond the identification of water-based tourism potential of Koka water reservoir, the study deals with variables such as infrastructure, accessibility, awareness and training, conservation and protection, and financial support in their corresponding relationship with water-based tourism development. Furthermore, their conceptual relationship is shown in the diagram below.

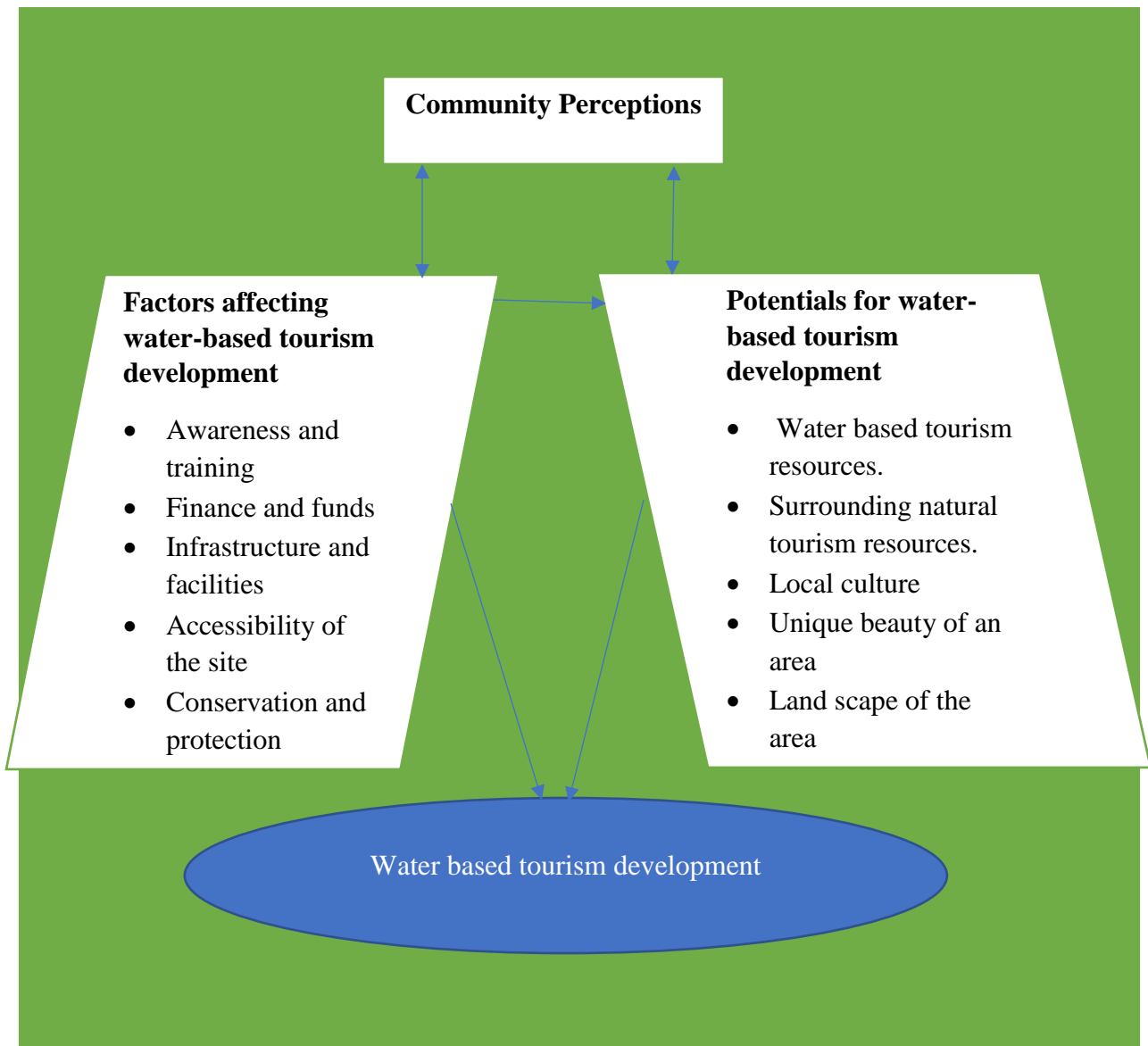


Figure 2 2: Conceptual Framework for Water-Based Tourism Development

Source: Researcher own construction (2021)

CHAPTER THREE

3. METHODOLOGY

This chapter includes the description of the study area-Koka water reservoir and the methodological procedures and processes that were utilized in the study. It briefly describes the Koka water reservoir, the area where the study was carried out. In addition, the chapter deals with research design and approach; target population and data sources, data collection and analyzing techniques.

3.1. Description of the Study Area.

3.1.1. Location

The Central Rift valley of Ethiopia is characterized by a chain of lakes which includes both natural and artificial lakes with unique hydrological and ecological characteristics. Thus, a study was conducted in the Central Rift Valley of Ethiopia, namely on the Koka water reservoir, which is the second hydro-electric power plant next to Aba Samuel dam in Ethiopia and came into operation in 1960 in order to generate hydroelectric power (Fufa, 2016). It is located in the upper Awash sub basin in the central Ethiopian Rift Valley, East Shewa of Oromia National Regional State, 75 km south-east of Addis Ababa. The road to the dam is a 10-km track to the south of the main Mojo–Adama road. The reservoir is located at (08°26 N; 39° 10 E) and 1590masl (meters above sea level) (Kibret et al., 2010). Lake Koka is also known as Lake Gelila, and the shores of the lake can be reached via the Great Rift Valley Road from Mojo to Meki, which passes over the Awash River about 20 km south of Mojo (International Birdlife,2020). The shore of the lake is found a short distance across the bank of the Awash River. The shore area is locally named Meto Aleka, which is rich in large trees and stops over fruit, fish markets, and is accessible to visit different birds.

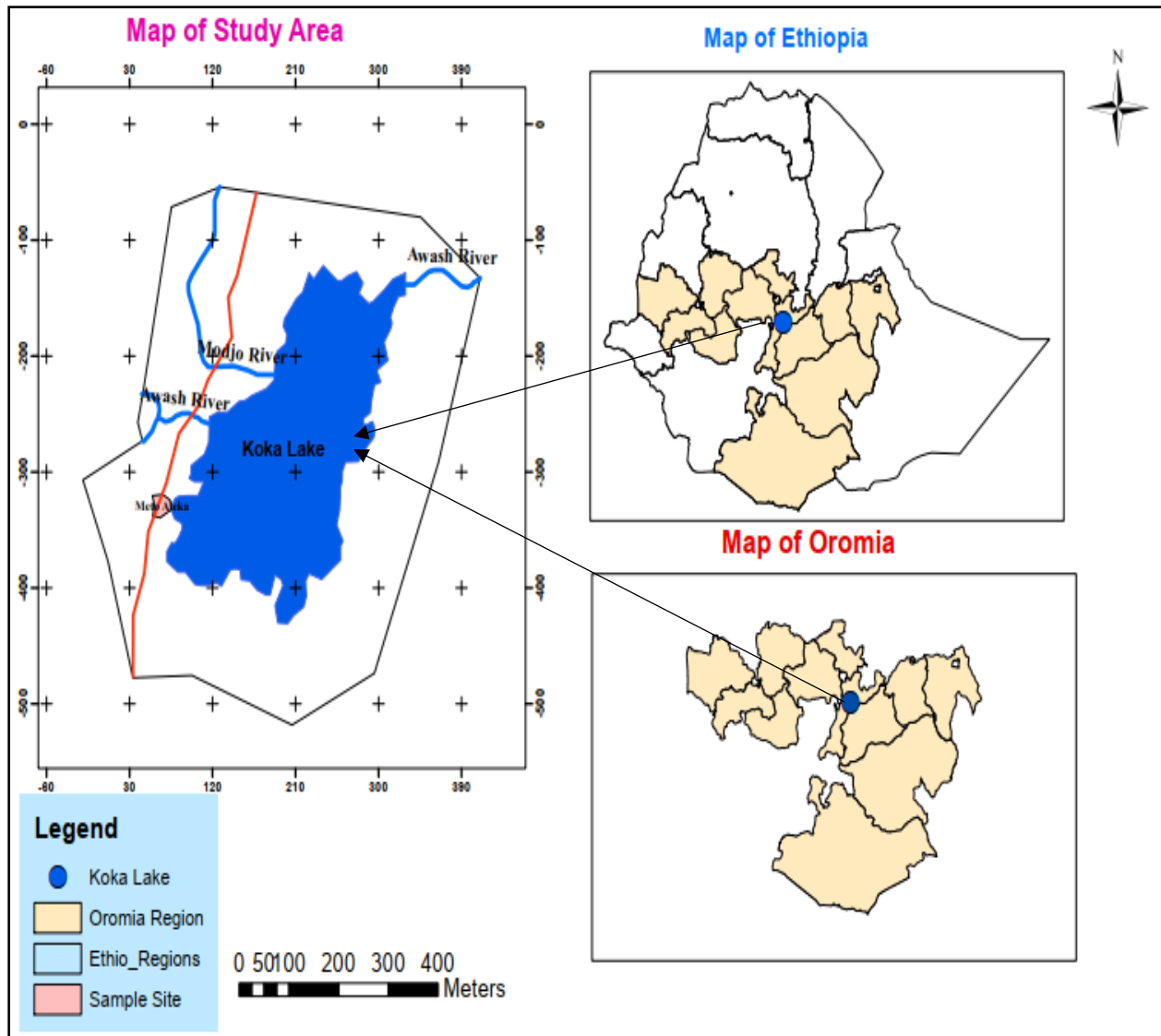


Figure 3 1: Maps Show Koka lake and sample site.

3.1.2. Physical Characteristics

Koka water reservoir covers an area of 180 km² with a mean depth of 9m and originally had a storage capacity of 1,850 million m³, although sedimentation has reduced this by 35%. The other main habitats are the surrounding farmland, an area of partly protected woodland beside the dam site, and the river and hot-spring area below the dam. Since then, it has been serving local people as a source of water for drinking, cleaning, animal watering, recreation, irrigation, and fishing. Agriculture provides almost the largest share of the livelihood of the population since the reservoir is used for irrigation (Akele, 2011).

3.1.3. Climate

The area is characterized by a semi-arid to sub-humid climate. The main rainy season starts in June and extends to the end of September, while the short rainy season occurs from March to May. The maximum and minimum annual mean temperature of the surrounding air is 30.4 and 14°C, respectively. As a result, the holding capacity of the lake has been reduced from 1650 million m³ in 1959 to 1186 million m³ due to sedimentation over 25 years (Bekele et al.,2013)

3.1.4. Economic Activities

As a result, the use of Koka water reservoir was extended to multipurpose beyond providing hydro power. The local community economy depends directly or indirectly on the reservoir. Consequently, irrigational agriculture, provides almost the largest share of the livelihood of the population in the study area. In line with this, the local communities in the study area also rely on the reservoir for the production of fish. Mixed farming is a common practice prevailing in the surrounding of the Koka water reservoir. The livelihood of the local community at Koka water reservoir is dependent on farming, fishing and rearing livestock.

3.2. Research Design

A research design is the overall plan for connecting conceptual research problems. It also describes the procedures for collecting, analyzing, interpreting, and reporting collected data in research studies (Creswell & Clark, 2017). As a result, descriptive and exploratory research designs were used for this study. The notation behind descriptive research design is to describe the state of phenomena regarding a particular theme in a particular arena which is desired to be investigated (Nassaji, 2015). Whereas, exploratory research is conducted when the problem has not been clearly defined and its theme is to tackle new problems on which little or no previous research has been done (Stebbins, 2001).

3.3. Research Approaches

A mixed research approach was employed for this study. Bulsara (2015) stated that a mixed approach provides an opportunity for the researcher to explore and gain an understanding of a particular situation or event. In addition, it provides better insight into research problems and also helps to enhance and validate research findings (Creswell and Clark, 2017).

3.4. Target Population

The population for this study includes local communities who live along the shore of the reservoir, which is traditionally called "Meto Aleka" village. Individuals who are 18 years old or older were included among the sample informants. This age group was chosen because these individuals are compatible legally with their actions. Moreover, experts from (Oromia Culture and Tourism Bureau, Tourism Ethiopia, and Ethiopia Wildlife Conservation Authority), East Shewa Zone and Lume Woreda Culture and Tourism Office experts were also selected for this study.

3.5. Sampling Techniques

To achieve the objectives of the study, the study employed simple random and purposive sampling techniques to get relevant information from the respondents. The basic assumption behind purposive sampling is that, with sound judgments about the purpose of an enquiry, researcher can strategically select adequate subjects for the study or select subjects that are important or essential for the particular research aim (Deribsa, 2018). Thus, key informants from the local communities, and office experts were taken as appropriate respondents for the interview. Moreover, to distribute the questionnaire, a researcher used simple random sampling technique because the communities homogenous by their nature. In the simple random sampling method, each unit included in the sample has an equal chance of inclusion in the sample. This technique provides an unbiased and better estimate of the parameters if the population is homogeneous (Singh & Masuku, 2014).

3.6. Sample Size

According to Lume Woreda Administration Office Report (2018), the total households living adjacent to the Koka water reservoir in "Meto Aleka" village are 513 households. Yamane (1967) provides a simplified formula to calculate sample sizes to obtain a representative sample from a household. This formula was used to calculate the sample sizes in which 95% confidence level and $P = 0.5$ are assumed. $n = N / [1 + N (e)^2]$ Where n is the sample size, N is the population size, and e is the level of precision. Which is reliable up to 95% and the deviation factor is less than 0.05 in which the cut-off point is at a 5% chance of sampling error.

Thus,

$$n = N / [1 + N (e)^2] \quad N = 513$$

Where n = sample size $e = 0.05\%$

1 = constant number n = sample size

$$n=513/1+513 (0.05)^2$$

n=224 sample size

When this formula is applied to the above sample, 224 households were selected from local communities in the surrounding of the Koka water reservoir for the survey questionnaire. In addition, based on the purposeful selection method, a total of 14 interviewees were contacted both from the offices and the local communities. As a result, the total sample size of the study was 238 people.

Table 3 1: Sample of Key Informant Interview

No	Description of offices and professionals	Number of key informant interviewees
1	Key informants from the local community	8
2	Lume woreda culture and tourism office	2
3	East Shewa zone culture and tourism office	1
4	Oromia culture and tourism bureau	1
5	Tourism Ethiopia	1
6	Ethiopia wildlife conservation Authority	1
	Total population for key informant interview	14

Source: Survey (2021)

3.7.Data Sources and Methods of Data collection

The data for this study was collected from both primary and secondary sources to answer the research questions and meet the objectives of the study. The primary data was collected from office experts and local communities living around the shore of the reservoir, whereas the secondary data was collected from published and unpublished documents.

3.8. Instruments of Data Collection

The researcher used structured questionnaires, semi structured interviews, observation, and document analysis to obtain critical data for a rigorous and sound analysis of the study. As a result, the following primary data collection tools were applied for this study.

3.8.1. Field Visit/Observation

The field visit was also supported by a photography system in order to gather the primary data. Procedurally, the data collection process was handled by the researcher observation. water-based tourism potential, and factors affecting water-based tourism development of Koka reservoir were done in order to support information collected through interviews and questionnaires.

3.8.2. Interview

The interview type that was used in this research is a semi-structured interview. This tool was conducted with the key informants from local communities, experts from EWCA, Tourism Ethiopia, Oromia Region Culture and Tourism Offices, East Shewa Zone and Lume Woreda Culture and Tourism Offices.

3.8.3. Questionnaires

The community's perception towards the development of water-based tourism in Koka water reservoir, and factors affecting its development were conducted to determine the level of development for the identified water-based tourism potential of the destination. This was done for two months (March to May, 2021). The questionnaire was administered by four (4) trained data collectors. The questionnaire was prepared in English and translated into the local language (Afaan Oromoo) and distributed to selected respondents.

3.9. Method of Data Analysis and Presentation

The gathered information from different sources was compiled in a way that is easy to manage. The questionnaire survey was coded into the Statistical Package for Social Science (SPSS) version 20 for analysis. Both descriptive and inferential statistics were used to analyze the quantitative data. The reason for using descriptive statistics was that the researcher summarized demographic characteristics such as gender, age, and education background of the respondent's local community perceptions for a better understanding of the reader (Agresti & Finlay, 2009). The result of the analysis was interpreted and discussed using descriptive statistics (frequency, mean, standard deviation) using tables and charts. Qualitative data obtained in the form of interviews and field observation studies is presented in narrative and picture form. Moreover, factors affecting water-based tourism development were composed of 22 items validated through principal factor analysis. Cronbach's Alpha was used to test the reliability of the items under each dimension. Finally, linear

multiple regression analysis was used to measure the effect of independent variables on the dependent variables.

Dependent Variable

The development of tourism is mainly dependent on the existing natural and man-made attractions, such as wildlife, beaches, mountain areas, or heritage sites. Several literatures use a diversified way of evaluating tourism development. As a result, UNWTO and ITTC use tourist arrivals, tourist receipts, length of stay, income, and job opportunities in their reports to show the development level of a destination. The primary rationale for tourism development is to increase the number of tourists and the economic value of resources to a destination. Hence, Baoying & Yuanqing (2007) state that both the tendency for increases in job opportunities, tourist visits, and income from tourism show the development stage of a tourism destination. As a result, the dependent variable used in this study is water-based tourism development, which includes job opportunities, income, and tourist visits. Accordingly, a 5-liket scale has been implemented to measure the tourism development of an area using income and job opportunities.

Independent Variables

The independent variables for this study are five extracted factors which are considered as the basic conditions for tourism development: infrastructure and services, accessibility, conservation and protection, Awareness and training, finance and funds are taken as a certain factor affecting water-based tourism development.

CHAPTER FOUR

4. DATA ANALYSIS AND INTERPRETATION

This chapter deals with data presentations, analysis, and interpretation of the results of water-based tourism development potentials, and local communities' perceptions and factors affecting water-based tourism development of Koka water reservoirs. Based on the objectives of the study, both quantitative and qualitative data were analyzed with integrity in order to support and explain in detail the findings of the quantitative data.

In this regard, a survey questionnaire was distributed to 224 households and only 216 respondents were properly filled and submitted. As a result, 96% of the response rate was obtained from survey respondents.

4.1. Demographic Characteristics of the Respondents

To make the analysis more meaningful for the readers, an initial analysis of the respondents' background information, such as sex, age, marital status, and educational level, is required. The demographic analysis in this study is used to describe the sample's characteristics, such as the number of respondents, the proportion of males and females in the sample, the age range, marital status, and educational level. As a result, table 4.1 below discusses the research population's demographic characteristics.

Table 4. 1: Description of Respondent's Profile

Demographics	Category	Frequency	Percentage
Sex	Male	125	57.9
	Female	91	42.1
Age	18-27	24	11.1
	28-37	63	29.1
	38-47	79	36.6
	48-57	44	20.4
	58 and above	6	2.8
	Single	2	.9

Demographics	Category	Frequency	Percentage
Marital status	Married	199	92.2
	Divorced	11	5.1
	Widowed	4	1.8
Educational background	Uneducated	139	64.4
	Primary school	61	28.2
	Secondary school	10	4.6
	Diploma	2	.9
	First degree and above	4	1.9
	Total		216

Source: Survey (2021)

As shown in the table above, from the total sample of respondents 57.9% of them were males and 42.1% of them were females. The percentage indicated that males was participated more than females in this study. As it can be observed from the table, the majority of respondents were between the ages of 38 and 47, accounting for 36.6 percent of the total, followed by the ages of 28 to 37 (28.2 percent), and 48 to 57 (48.2 percent) (20.4 percent). This suggests that the majority of the respondents were mature and had sufficient life experience to react to questions about the development of water-based tourism at the Koka water reservoir. The remaining age groups came from 18 to 27 (11.1%), and 58 and above 6(2.8%) were fewer participants compared with other age groups. On the other hand, the marital status of the respondents was categorized into four groups: those who are divorced, widowed, married and single. Most of the respondents, which accounts for about 92.2%, were married, and divorced (5.1%). Typically, the percentages of single respondents fall to 0.9% and widowed is (1.8). This shows that most of the sampled respondents are married.

Furthermore, based on their educational level, the respondents were categorized into six groups, including those who have no formal education (uneducated), primary school, secondary school, diploma, degree, and above. Accordingly, most of the respondents had no education (64.4%) followed by primary school (28.2%), secondary school (4.6%), diplomas completed at 0.9%, and first degrees and above were at 1.9%. The result implies that most of the respondents living

adjacent to the Koka water reservoir at "Meto Aleka" village were uneducated, and followed primary school.

4.2. Benefits of the Local Community from Koka Water Reservoir.

In many parts of the world, the benefits of water reservoirs are not limited to the main purposes of their construction. As time passes, it is used for different purposes. As a result, 198 (92%) of respondents indicated that they are benefited from Koka water reservoir. The below figure 4.1, indicates the way of local communities' benefits from the reservoir. As a result, 89 (41.2%) benefited from farming, 84 (38.9%) fishing, 32 (14.8%) cattle watering, 4 (1.9%) tourism, and 7 (3.2%) others. This proves that the use of a reservoir is not limited to the main purpose of its construction. As a survey result implies, a high percentage of benefits are from irrigation and fishing, whereas a very low percentage of benefits are from tourism. In other words, the introduction of tourism services as a business is not customized in the area.

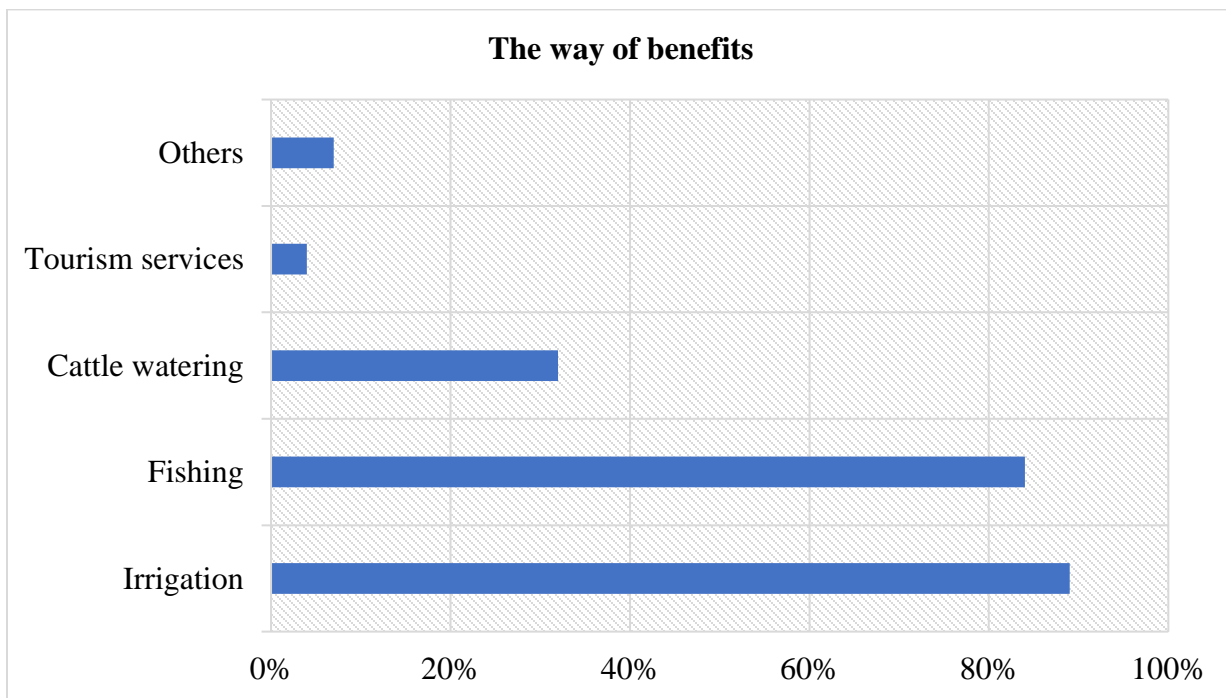


Figure 4 1: The Ways Local Communities' Benefit from the Reservoir

Source: Survey (2021)

In addition to survey data, key informants from the local community explained that the reservoir significantly benefits the local community through irrigation and fishing. They said that "almost

our lives are dependent on the reservoir because we cultivate different fruits and vegetables by using water from the reservoir for irrigation". Moreover, they mentioned that the reservoir is used for transportation by the communities adjacent to the reservoir on its eastern and western sides. But, the key informants raised that *there is limited awareness or training on the use of the reservoir for tourism. Hence, the benefits of the Koka water reservoir through tourism are limited to individuals who are engaged in fishing.* The experts from woreda and zone culture and tourism offices also confirmed that " *Koka water reservoir benefit all the adjacent communities through irrigation, fishing and cattle watering, but minor through tourism services*". Consistent with the above result, studies on the benefits of water reservoirs revealed that reservoirs are used mainly for irrigation and fish production, while some of them are used for tourism and recreation services in addition to the main service. The NCWA (2015) stated that creative water management would help to provide water for multiple beneficial purposes, including water for farms, fish, birds, and recreation.

Table 4. 2: Evaluation of Income Generated from Koka through Tourism.

How do you evaluate income you generate from Koka through tourism?	Frequency	Percent
Very low	68	31.5
Low	102	47.2
Medium	28	13.0
High	18	8.3
Total	216	100.0

Source: Survey (2021).

The income gained from tourism in Koka water reservoir is shown in table 4.2 in which 102 (47.2%), and 68(31.5%) of respondents mentioned that they earn low and very low level of income and also 28(13%), 18(8.3%) of respondents indicated they earn medium and high level of income from Koka through tourism. The result shows that the local communities earn small percentages of benefit from tourism of the area.

Table 4. 3: Evaluation of Job Opportunities Created due to Tourism in Koka

How do you evaluate job opportunities created due to tourism in Koka?	Frequency	Percent
Very low	90	41.7
Low	89	41.2
Medium	37	17.1
Total	216	100.0

Source: Survey (2021)

The above table 4.3 shows that the level that local communities evaluate job opportunities created in Koka water reservoir area due to tourism. As a result, 90(41.7%), 89(41.2%) indicated that very low and low whereas 37(17.1%) of respondents evaluated as medium job opportunities were created due to tourism in Koka. Accordingly, very low and low job opportunities created due to tourism in Koka water reservoir shows tourism is not well developed

4.3. Tourist Trends in Koka Water Reservoir

Tourist motivation to visit a particular location is mostly based on the availability of tourist resources, which must be balanced against the availability of other supportive amenities. Furthermore, the area's low ratio of tourist service providers and limited visitors indicate that it is in the early stages of tourism destination development.

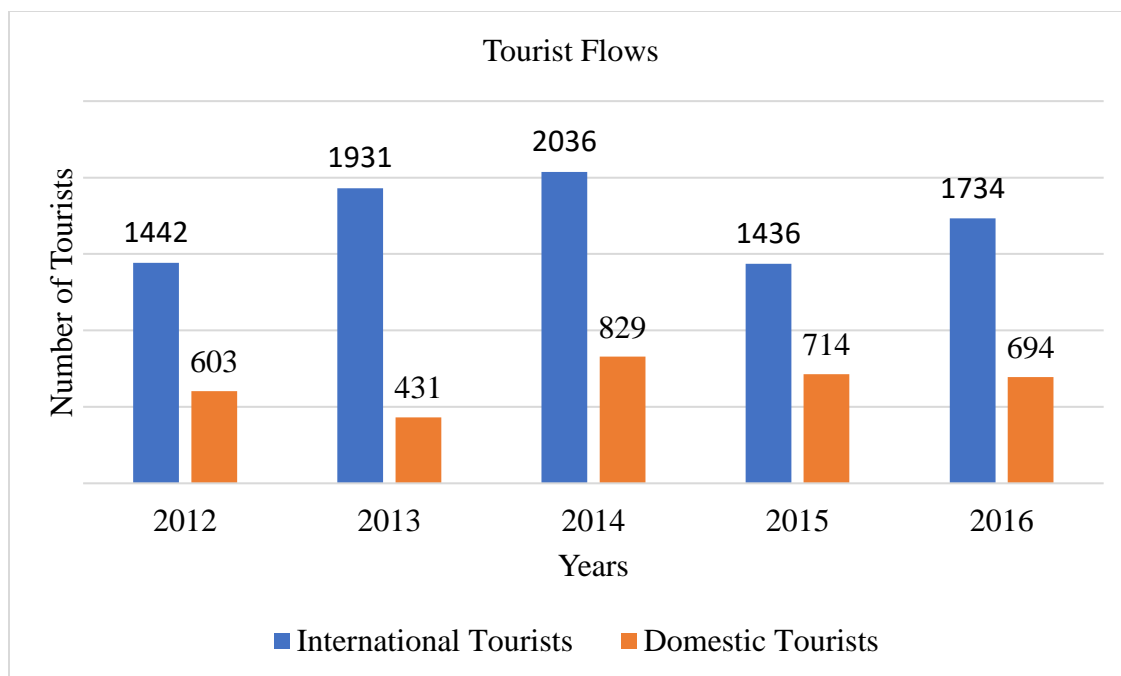


Figure 4 2: Tourist Trends of Koka Water Reservoir

Source: Lume Woreda Culture and Tourism Office Report (2018)

There was an increase and decrease in tourist flow as a value of data collected from the Lume woreda cultural and tourism office. The variance in international and domestic visitor flows at Koka water reservoir is depicted in Figure 4.2. The modest number of tourists that visited the Koka water reservoir between 2012 and 2016 G.C suggested that tourism in the area is still in its early stages. Despite the fact that the location was only visited by a small number of tourists, they were able to enjoy boating (13.1%), bird viewing (8.8%), and sightseeing (8.8%). (5.1 percent). As a result, the Koka water reservoir is a potential site for boating, birdwatching, and sightseeing.

Table 4. 4: Reasons of Tourist Visits the Reservoir

Items	Category	Frequency	Percent
Reasons to visit	Bird watching	19	8.8
	Boating	28	13.0
	Sightseeing	11	5.1
	Total	58	26.9

Items	Category	Frequency	Percent
Reasons not to visit	Government restrictions	18	8.3
	Lack of information	119	55.1
	Absences of responsible body	21	9.7
	Total	158	73.1
	Total	216	100.0

Source: Survey (2021)

Furthermore, 55.1% of respondents in the above table stated that a lack of information about Koka's tourism potential, government restrictions, and the lack of a responsible authority in the area are all factors that limit tourists to visit the Koka water reservoir.

The issues regarding tourist visits to the reservoir are also dissimilar across the countries is also true for Koka. According to the interview conducted with Lume woreda culture and tourism office experts,

"Koka water reservoir has not been well visited by tourists for the reason that it is not recognized as a tourist destination at regional and federal level, and also lacks organized information about the potential tourism resources of the reservoir."

Experts from the zone culture and tourism office also confirmed that *lack of attention from the government to recognize the water reservoir as a tourism resource, and lack of information about the tourism potentials of the water reservoir have limited tourist visits to the reservoir.*

In line with this, Oromia Culture and Tourism Bureau, and Tourism Ethiopia experts mentioned that *reservoirs had not yet been evaluated as prospective tourism resources. As a result, they are unaware of the reservoir's tourism resources as well as the reservoir's present uses other than hydropower generating.*

The above result indicates that lack of information regarding tourism potential and lack of attention from the government to register and map Koka water reservoir as a tourist site are the reasons that limit tourists to visit an area.

In the other hand, the interview conducted with key informants from the local community indicated that,

Currently, there are no tourists coming to Koka water reservoir, but, before the COVID 19 outbreak, tourists traveling to Awassa and passing through the route stopped over in this village for a short period of time to visit birds. Yet, no one knows the length of time they spent here. Tourists came to the area communicate with boat riders to get information about the reservoir, and the activities they wanted. They were performing activities such as bird watching and boating.

In addition, an expert from the Ethiopian Wildlife Conservation Authority narrated that,

"Koka water reservoir is a potential bird watching area which is considered as one of the registered bird sites in Ethiopia. Even though our office has no mandate for tourism destination development, we are recording birds and promoting the reservoir as one of the potential bird areas in Ethiopia. I believe that bird-watching tourists are visiting the reservoir since it is accessible from the main road to Awassa and the South Eastern parts".

4.3. Tourism Potentials of Koka Water Reservoir

Identification of water-based tourism potential of water bodies is the necessary step to protect, conserve and develop water-based tourism activities in and around them. A potential assessment records the resources (natural, cultural, and other resources) and also indicates the ability of the area to attract tourists.

4.3.1. Koka Water Reservoir

Water resources can exist in different forms, some of which are used as touristic potential. The reserved water and architectural design of the powerplant by itself have the potential to attract tourists. In addition, the general landscape and scenic view of the reservoir add value to the destination being visited by tourists.

The reservoir was constructed during the reign of Haile Sillassie. Even though the main purpose was for hydroelectric generation, the community gradually started to use it for irrigation. Then, the use of the reservoir extended to the fishing area. Currently, the reservoir is well known for its fish

potential, in addition to power generation and irrigation. Besides the above, the respondents narrated that during the construction of the dam, a large number of communities were displaced from the area. The current land covered with water previously belonged to the Jille ethnic group of Oromo people. They were semi-pastoralists. Their lives were dependent on farming and cattle rearing.

There are four (4) islands formed due to the water from power plant construction. The islands are the home to acacia trees and different types of bird species. The islands are, namely, Dhungugi, Girca, Argisa, and Sabole. Dhungugi island is one of the islands found in the Koka water reservoir. It is the nearest island found at a distance of 4km from the main land. Compared with others, it is an easily accessible island by boat. According to the interview with experts from Lume woreda culture and tourism office, this is the place where the local communities perform their cultural ceremony called "irrecha". The other islands were not yet explored because of a shortage of transportation. Hot spring is also among the resources found on Dhungugi island in the Koka water reservoir. This hot spring was used for medication purposes.

4.3.2. Water Bird Species

According to the key informants interviewed from local communities and experts from the Lume Woreda Culture and Tourism Office, Koka water reservoir is a place where the arrays of water birds are quite exceptional, and offers a great variety of bird species. There are different types of bird species found in and around the Koka water reservoir. The interview responses from key informants of the local community indicated that birds in Koka water reservoir are migratory birds in which the number of birds is increasing in winter and decreasing in summer seasons. This seasonality of birds has a direct relationship with the water level of the reservoir.

Similarly, an interview with an expert of EWCA,

“Birds on Koka water reservoir are seasonal by their nature. They come to the reservoir to search for food and a comfortable place to stay. Most of them are migratory birds. As he said, it is impossible to see all the birds at the same time. There is a time increase or decrease in the number of birds. As the place is comfortable for their food and life, they stay longer and vice versa”. As he explained, Koka is one of the important bird areas among 69 registered birdlife areas in Ethiopia”.

Koka is known for its abundance of bird species, and, it was registered by Birdlife International. In addition, according to the data from Ethiopia Wildlife Conservation Authority, there are fifty-one (51) bird species with a total number of (3,744) birds found on Koka water reservoir. The number of birds ranges from one (1), which is the lesser Black-backed Gull (1), to African Fish Eagle (21), White Pelicans (49), Gull-billed Tern (505), White Winged Tern (567), and Ruff (10,068). Moreover, during field observation by the researcher, there were different types of birds easily seen from a short distance. They are colorful and live in and around the reservoir in large numbers with diversified species. The availability of such resources clearly shows the touristic potential of the reservoir for bird watchers.

Great white pelican

As the below figure showing, Great white pelican living in group and searching their food collectively. Like other water birds, this bird also migrating to search their food and comfortable place to stay over. Great White Pelicans are large white birds, easily seen and identified



Figure 4 3: Great White Pelican Birds

Source: Taken by researcher (2021)

Black Crowned Crane Birds

This bird species is one of water birds found in Koka water reservoir. Unlike other birds it lives at wetland area of the reservoir. The below figure shows that the black crowned crane bird in the crane family with black legs and its head is graced with a golden crown. According to the interview made with expert from Ethiopian Wildlife Conservation Authority, the black crowned crane is one of with population declining and considered as vulnerable species.



Figure 4 4: Black Crowned Crane Birds

Source: EWCA (2021)

Marabou Stork Birds

The below figures show that photos taken at different time. As it is possible to observe from the figure, Marabou Stork is a very large bird with a bare head and neck having a throat pouch and a long heavy bill. Expert interviewed from Ethiopia Wildlife conservation Authority stated that, these types of bird species are common elsewhere in Ethiopia. It is also one of bird's species closely seen by anyone at Koka water reservoir

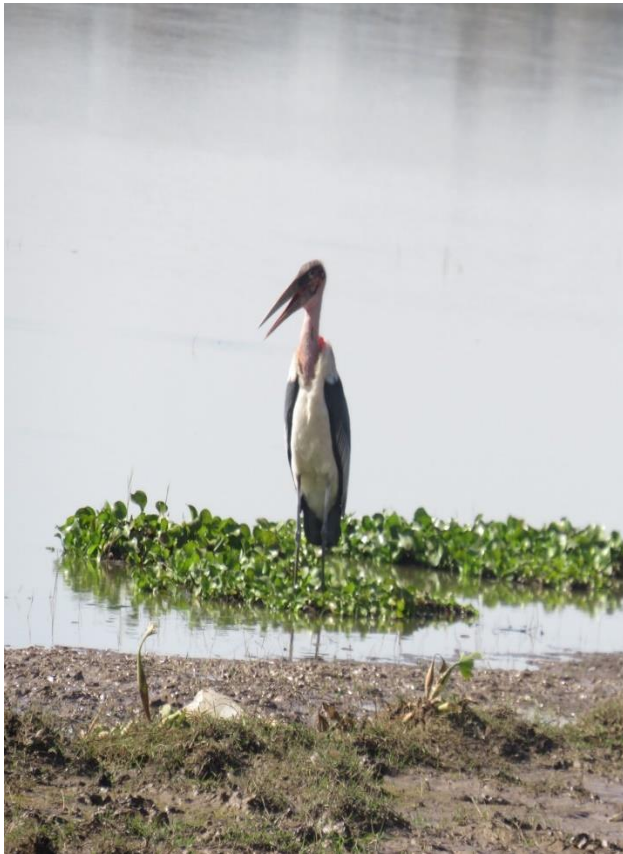


Figure 4 5: Marabou Stork Birds

Source: EWCA (2021)



Source: Photograph by researcher (2021)

African Fish Eagle Bird

The expert interviewed from EWCA narrated that, African Fish Eagle is an afro tropical species of birds widespread in Africa. It is considered as the most iconic bird species to most of the people, its brave presence and haunting cry symbolize ‘wild Africa’. It is water birds living near lakes, rivers and other waterbodies. As it has been seen from the picture the scruffy immature is dark brown and mottled with white on head. It catches fish, birds, reptiles, and carrion to eat. Accordingly, this bird species was living around Koka water reservoir because of easily accessing for food.



Figure 4 6: African Fish Eagle Bird

Source: EWCA (2021)

4.3.3. Fish Species

As stated in previous discussions, the reservoir is also important for fishing activities, mainly for the people living in the vicinity of the lake. According to the interview responses obtained from key informants from the local communities, there are five well-known types of fish species found in the Koka water reservoir. Accordingly, Tesfahun, Dadebo & Temesgen (2018) identified five

fish species: Nile tilapia (*Oreochromis niloticus*), Common carp (*Cyprinus carpio*), African catfish (*Clarias gariepinus*), African big barb (*L. intermedius*), and Small cyprinodont minnow (*Aplocheilichthyes antinorii*). The reservoir is considered as one of the important fishing areas in Ethiopia. Nile tilapia is a well-known fish species in the area.



Figure 4 7: Fish in Koka Water Reservoir

Source: Taken by Researcher (2021)

4.3.4. Agricultural Products

As a result, that, an area has an irrigational farming practice, there are diversified agricultural farms. According to the interview responses with local communities, Koka water reservoir is the home place for different agricultural products such as onion, water melon, potatoes, tomatoes and different spices. The wealth of crop and livestock breeds is also a valued



Figure 4 8: Farm around Koka Water Reservoir

Source: Taken by the Researcher (2021)

Diversified and large agricultural farm can contribute for agrotourism development. It capitalizes on rural culture as a tourist attraction. According to Awang et al. (2012) agrotourism can promote regional development by improving the income of the local population.

As a result, diversifying and recognizing agricultural products in the place it supports for other tourism resources is important to ensure economic transition of the local community. At the same time, it helps to raise the population's awareness of the value of agrobiodiversity, but also indispensable for the long-term conservation of diversity.

4.3.5. Irrecha

It is almost common It is a cultural ceremony performed by the Oromo community. It is the activities performed by the participants by having kinds of grass called "*coqorsa jidha*" and "*abaaboo*" kinds of flowers on their hands to give thanks to their God "*Waaqaa*". There are two types of thanks giving ceremonies "*irrecha*" by the Oromo community at different times. These are "*irecha tullu*" and "*irrecha Melka*". The Dhungugi island is the shrine place where Irrecha Melka is celebrated every year in the month of April. A large number of attendees have been participating in this cultural practice from different woredas and towns in the zone and nearby zones.



Figure 4 9: Irrecha Festivity Ceremony and Panel Discussion

Source: Lume Woreda Culture and Tourism Office (2021)

4.3.5. Other Water-Based Tourism Resources

As per the interview conducted with key informants from local communities, Koka water reservoir has become the home to large and small water animals as the age of the reservoir increases. Crocodiles and buffalo are among the large animals found in the Koka water reservoir. In addition, an interviewee from EWCA confirmed that;

"There are unidentified wildlife resources in the Koka water reservoir. Since the area has no consideration regarding the registration of wildlife, there is no data that implies the existence of wildlife in the reservoir. But we observed buffalos and crocodiles while we were moving to the reservoir for yearly registration of birds. "

4.4. Local Community Perceptions Towards Water Based Tourism Development

This part deals with the response of the local communities on how they perceive the water-based tourism development of the Koka water reservoir. In order to analyze the local communities' perceptions, the researcher used different statements which show the result of the development of tourism on the reservoir. The local communities were asked to indicate the level of their agreement with the statements. They indicated their level of agreement, from their point of view, depends on a choice provided to them with five points of Likert data. This five-point Likert data has the lowest value from '1-strongly disagree to the highest value of '5-strongly agree. The lower the mean indicates, the more the respondents disagree with the statement. The higher the mean, the more the respondents agree with the statement.

Table 4. 5: Descriptive Statistics of Local Communities Perception

Items	N	Mean	Std. Deviation
Water based tourism development creates more jobs for community.	216	4.41	.661
Water based tourism development enhances the image of the local culture and residents take pride in their culture	216	4.35	.661
Water based tourism development attract more investment to the village.	216	3.60	1.153
Water based tourism development increase the standard of living.	216	3.58	1.114

Items	N	Mean	Std. Deviation
Water based tourism development improve infrastructures and facilities.	216	3.50	1.108
Water based tourism development destroys the natural environment.	216	1.71	.767
Water based tourism development pollutes the reservoir.	216	1.95	.800
Water based tourism development increases the costs of living.	216	1.87	.956
Water based tourism development increases crime.	216	1.48	.789
Water based tourism development creates deterioration of culture	216	1.78	.898
Valid N (listwise)	216		

Based on numerical value assigned for each item, Mean and standard deviation were computed; Thus, 1=Strongly Disagree, 2=Agree, 3=Undecided, 4=Agree, 5=Strongly Agree

Source: Survey (2021)

The above table 4.4.1. indicates local communities' perceptions about the impacts of water-based tourism development. Thus, the mean values indicate their level of agreement or disagreement. As a result, the local communities responded that water-based tourism development of Koka water reservoir creates more jobs for the local community with a mean score of 4.41. Following this, increasing the standard of living for the local communities, attracting investment to the village, and improving infrastructure and facilities were ranked subsequently as 3.60, 3.58, and 3.50 respectively.

However, the lower the mean value is, the more local communities strongly disagree and disagree on the adverse impact of water-based tourism development. In line with this, local communities disagree that the development of water-based tourism in Koka water reservoir pollutes the reservoir, increases the cost of living for local communities, creates deterioration in culture, destroys the natural environment, and increases crime. With mean values of 1.95, 1.87, 1.78, 1.71, and 1.48 respectively, these values show that the local communities disagree with the negative impact of the development. Above all impact, the highest mean value belongs to 'create more jobs', whereas the lowest mean value referred to 'increase crime'. This result shows that the local communities perceive water-based tourism development at Koka water reservoir to have a positive contribution to the development of the village.

Various studies have reported that local communities have more concerns about the negative impacts of tourism development than more matured tourism destinations (Stewart, 2002; Sharma & Dyre, 2012). Nevertheless, since this study has been done at the initial development stage of tourism in and around the reservoir, the results of the current study with respect to positive and negative perceptions of the local community are consistent with previous studies. As such, the communities living around the reservoir do not presently experience adverse impacts from tourism development in the area; rather, they have started to experience positive impacts. As a result, they perceive that water-based tourism development of the reservoir would bring improvements in infrastructure, investments and more jobs to the communities.

Moreover, this study revealed that the local community living in the vicinity of Koka water reservoir perceives more positive and fewer negative impacts of water-based tourism development at Koka water reservoir. Here, from the findings, it is possible to conclude that local communities have positive perceptions towards the future contribution of water-based tourism development to the reservoir. Previous studies support these findings that local communities with high positive perceptions and low negative perceptions of tourism development have an interest in hosting visitors and have a willingness to support and participate in community development (Látková & Vogt, 2012; Wang & Pfister, 2008).

Next, the above listed local community perceptions towards water-based tourism development of Koka water reservoir were presented, described and analyzed in detail with figures and respective percentage distribution based on their mean score values.

The figures below display the percentage distribution of local community perception towards water-based tourism development of the Koka water reservoir.

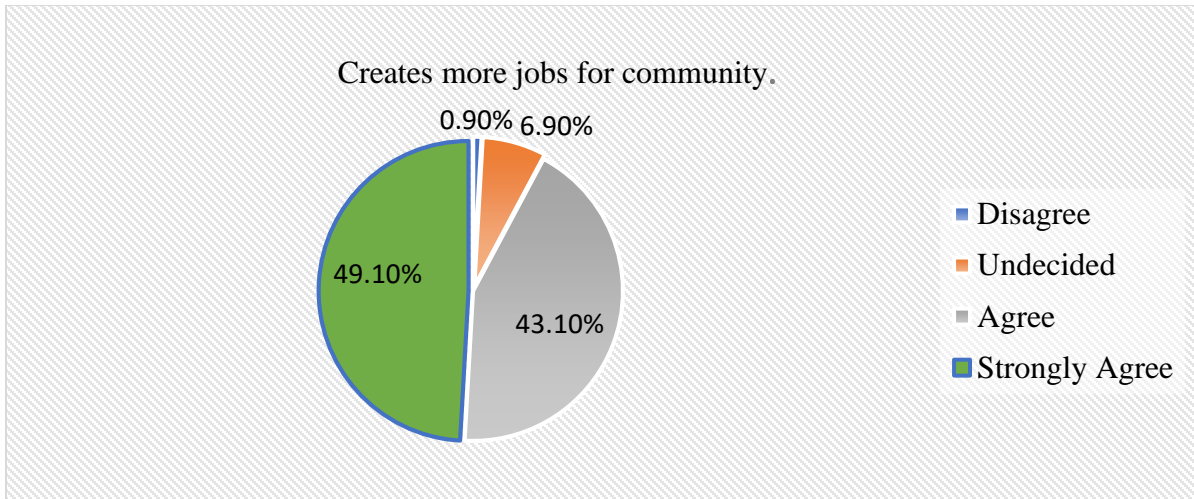


Figure 4 10: Perception Towards Job Creation.

Source: Survey (2021)

The result in figure 4.10 shows that about 92.1% (49.1% strongly agreed, and 43.1% agreed) that the water-based tourism development of Koka water reservoir creates more jobs for the local community. About 6.9% of households remain undecided in responding to the statement, while 0.9% do not agree. From these descriptions, it is possible to summarize that the local communities have a positive perception that water-based tourism at Koka water reservoir creates more jobs for the local communities.

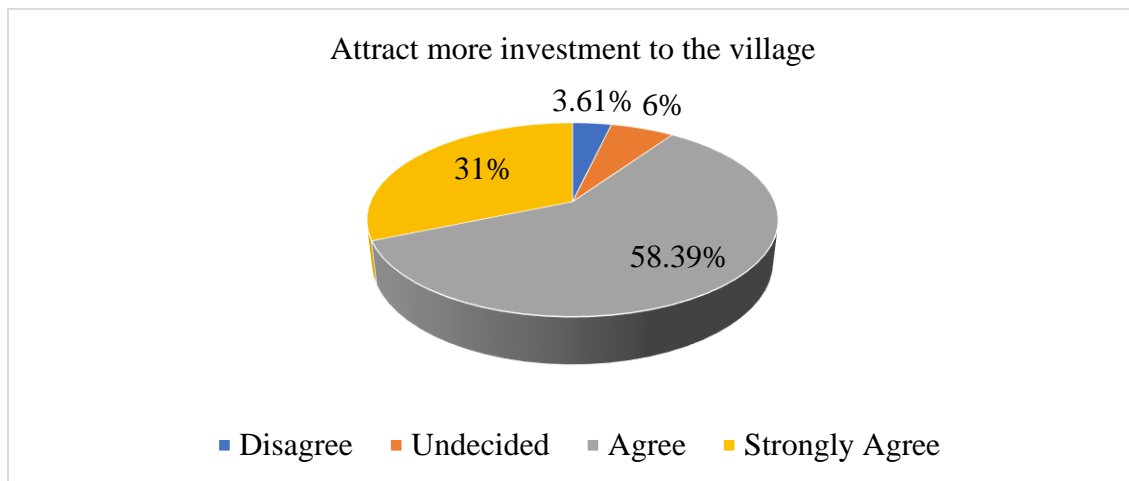


Figure 4 11: Perception Towards Attracting Investment

Source: Survey (2021)

Based on the above figure 4.11, it is possible to understand that the majority of the survey respondents replied 89.39% (strongly agree 31.0%), and 58.39% believed that water-based tourism development of the Koka water reservoir will attract more investment to the village. Among the respondents, (6%) were undecided, and 3.61% responded that they disagreed. The result of the above figure indicated that the local communities agreed with the development of water-based tourism on the water reservoir attracts more investments to the village.

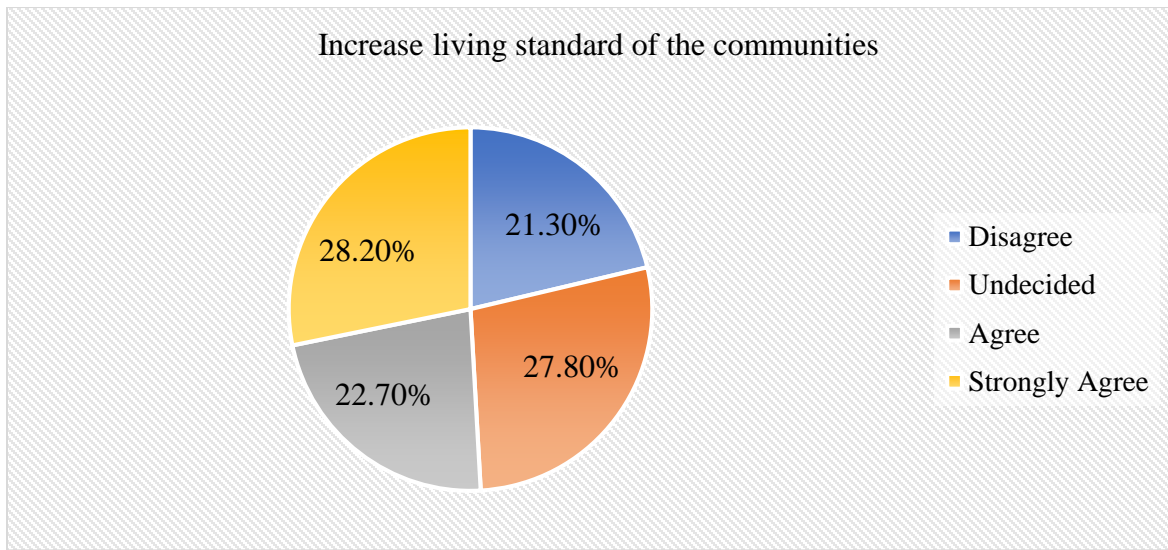


Figure 4 12: Perception Towards Increase in Standard of Living

Source: Survey (2021)

Figure 4.12, shows that 28.2% of respondents strongly agreed, 22.7% agreed with that water-based tourism development of Koka water reservoir increases their standard living. About 27.8% of respondents did not mention their perception agreement or disagreement; they were undecided to provide their answer. Whereas 21.3% responded that they were disagree this positive impacts. The survey result implies that close to equal percentage distributed to all agreement level but, both respondents strongly agree and agree with issue was shared 60.9% which shows more than half of participants accepting water-based tourism development of Koka water reservoir have positive impacts on the local community living standard.

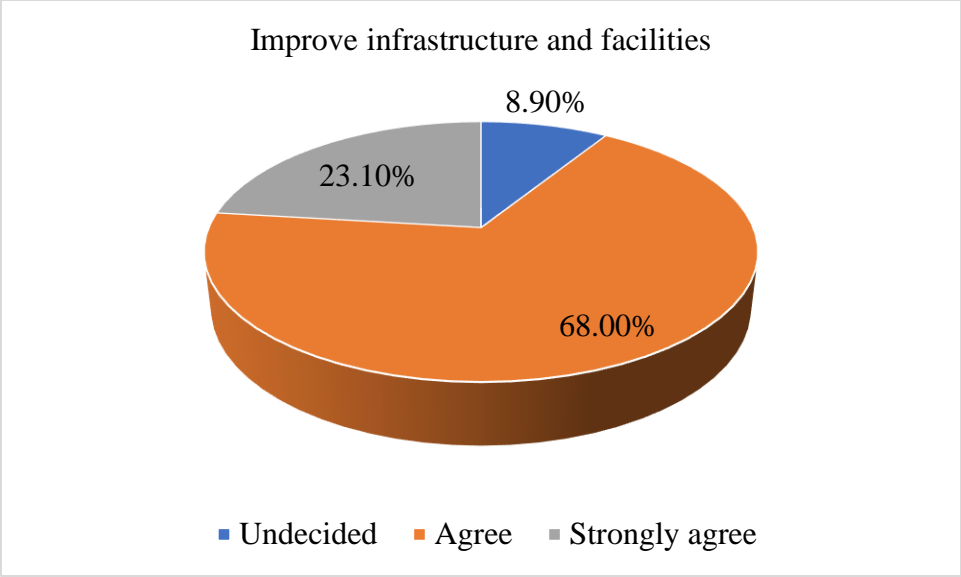


Figure 4 13: Perception Towards Improvement of Infrastructure

Source: Survey (2021)

The above figure 4.13. shows that they accept that Koka water reservoir improves infrastructure and facilities for the local community with 91.10% (68.00% agree and 23.10% strongly agree) whereas 8.90% are undecided on the positive impacts of water-based tourism development that Koka water reservoir improves infrastructure and facilities. This shows that water-based tourism development brings different infrastructure and facilities such as roads, electricity and water supply, and recreational facilities

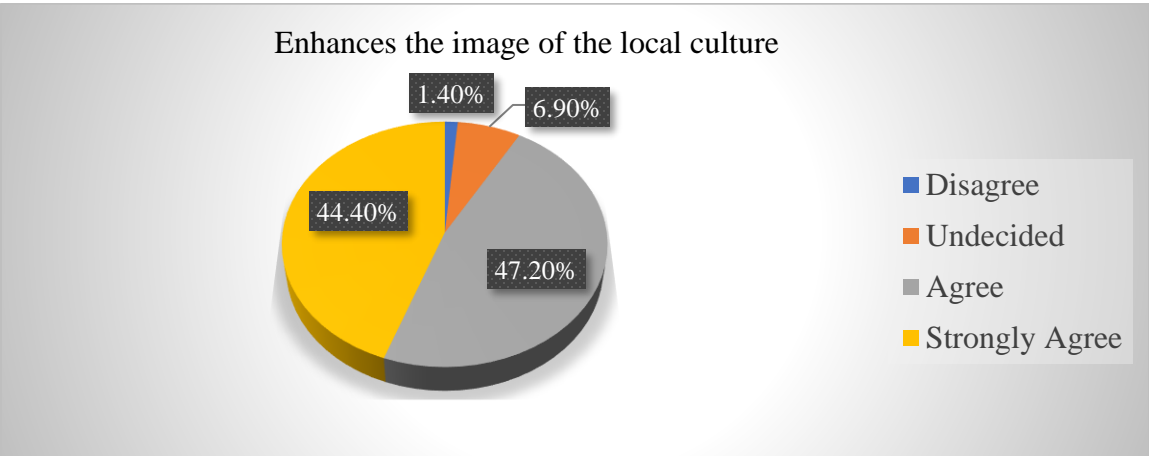


Figure 4 14: Perception Towards Enhancement of the Local Culture

Source: survey (2021)

Almost 92.2% of respondents which is (49.1% strongly agree and 43.1% agree) with that water-based tourism development of Koka water reservoir enhances the local culture and resident take pride in their culture. Comparing with this, insignificant number of respondents (6.9%) neither agreed nor disagreed, and 0.9% disagree with that water-based tourism development of Koka water reservoir enhances the of the local culture and resident take pride in their culture. As a result, the communities perceive that development of water-based tourism supports them to show their culture for tourists. This analysis implies that local community has an interest to promote their culture with connection to water-based tourism development of Koka water reservoir (Figure 4.14)

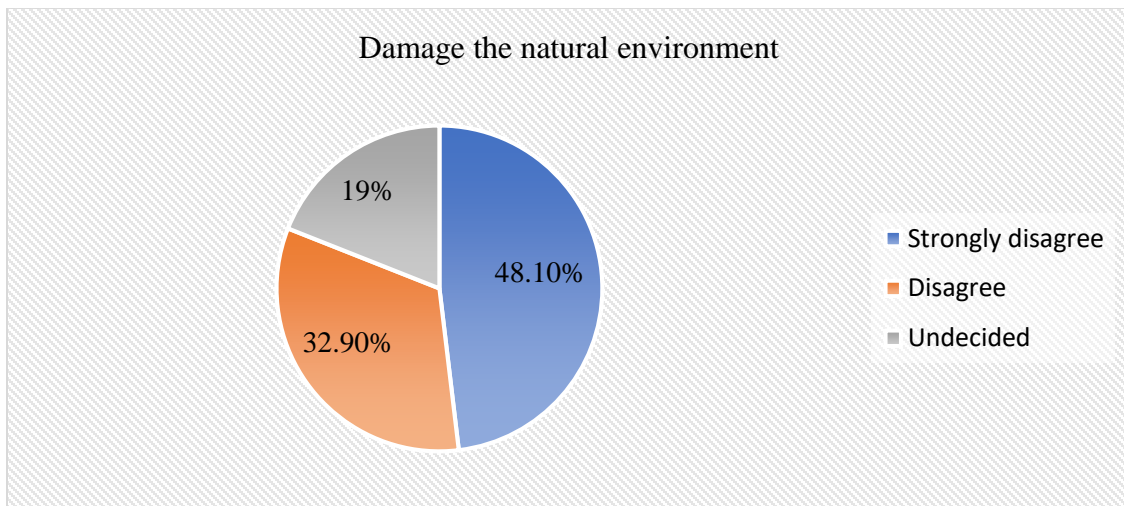


Figure 4 15: Perception Towards Damage the Natural Environment

Source: Survey (2021)

Above all the current water-based tourism development in Koka water reservoir has no negative impacts in which figure 4.15 shows that 48.1% of the respondents were strongly disagree and 32.9% were disagree with that, water-based tourism development in Koka water reservoir destroys the natural environment of an area. Others 19 % do not have any idea of agreeing or disagree. This implies that the local communities perceive water-based tourism development at Koka water reservoir contribute for environmental conservation rather than destroying the natural environment.

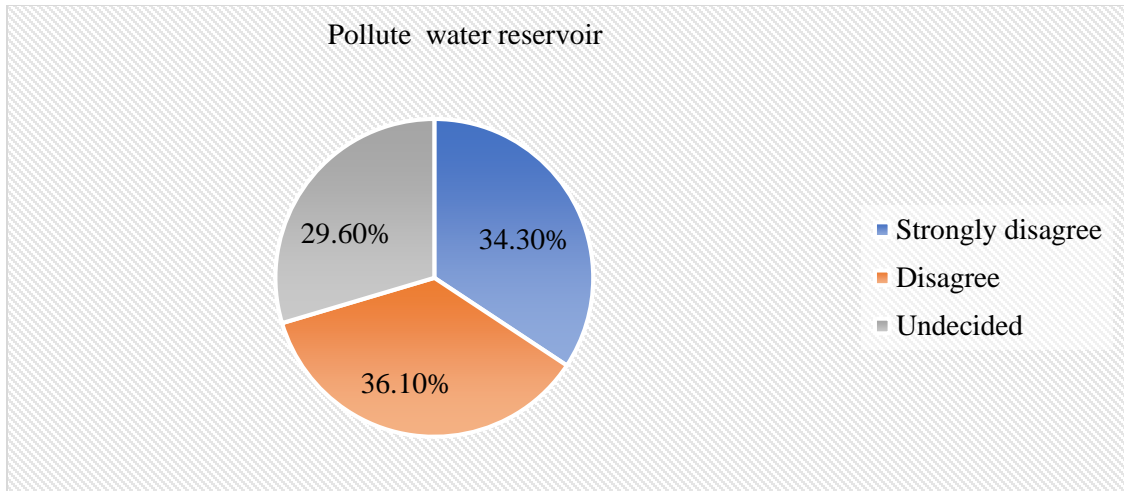


Figure 4 16: Perception Towards Pollution of Water Reservoir

Source: survey (2021)

Figure 4.16 revealed that 70.4% of respondents (34.3% strongly disagree, 36.1% disagree) with that development of water-based tourism development around the reservoir pollutes the reservoir. About 29.6% of respondents did not mention their agreement or disagreement; they were undecided to provide their answer. The survey result implies that none of the respondents were accepted the negative impacts of water-based tourism development based on current tourism activities at Koka water reservoir.

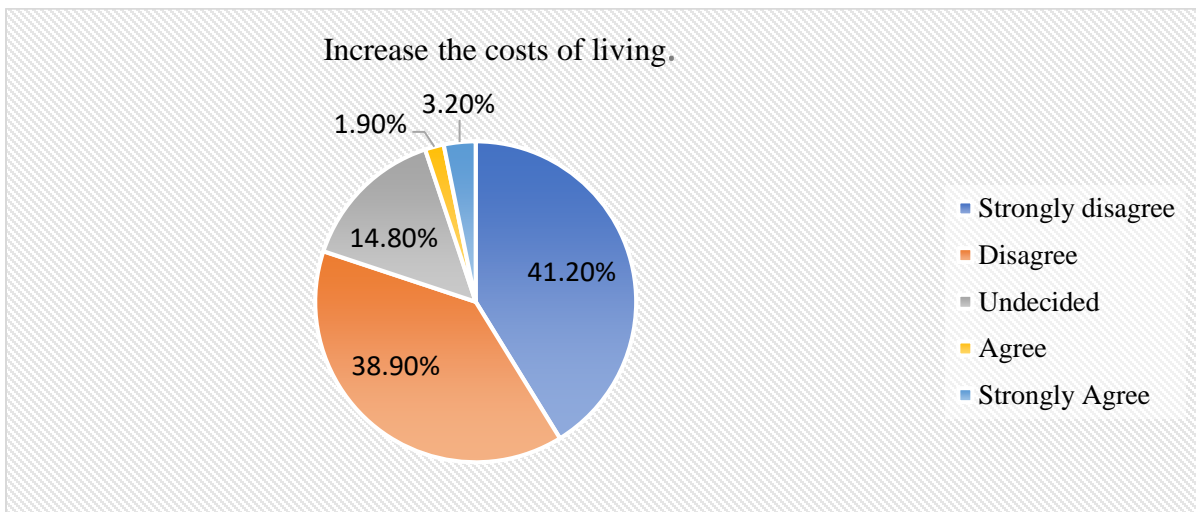


Figure 4 17: Perception Towards Increase Cost of Living.

Source: Survey (2021)

Based on the above table 4.17, the selected local communities' results show that 41.2% strongly disagree and 38.9% disagree that water-based tourism development of the Koka water reservoir increases the cost of living of local communities. Whereas 14.8% were undecided, and 3.2% and 1.9% strongly agreed and agreed respectively, that water-based tourism development at Koka water reservoir would increase the cost of living. Even though most of the respondents disagreed and strongly disagreed with these negative impacts, there were also respondents who believed water-based tourism development of the Koka water reservoir had negative impacts on the local community by increasing the cost of living. The result indicates that an increase in tourist numbers in the area comes with an increase in the cost of goods and services in the area. But the local communities don't recognize this impact in the current development of water-based tourism in the Koka water reservoir.

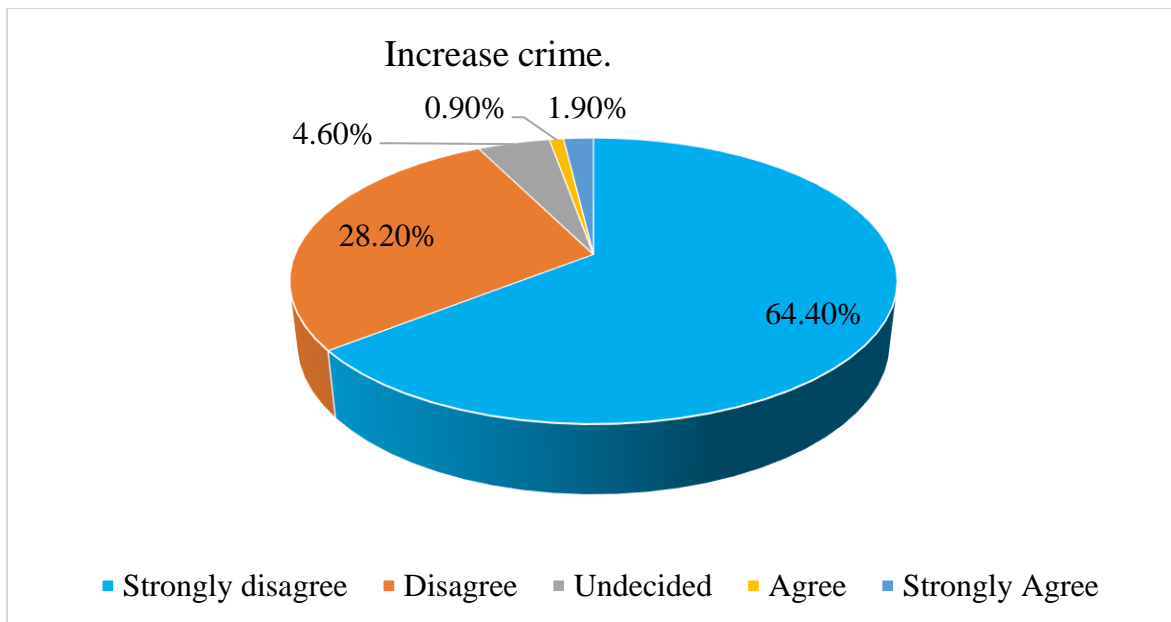


Figure 4 18: Perception Towards Increase in Crime

Source: Survey (2021)

The above figure shows that the majority of respondents (92.6%) strongly disagree and disagree that, the development of water-based tourism in Koka water reservoir increases crime. The impacts were supported by a small number of respondents (4.6%) who were undecided, (0.9% agreed, and 1.9% strongly agreed). From this data, it is possible to be assured that the local community perceives the development of water-based tourism at Koka water reservoir as having no negative impacts on increasing crime in the village.

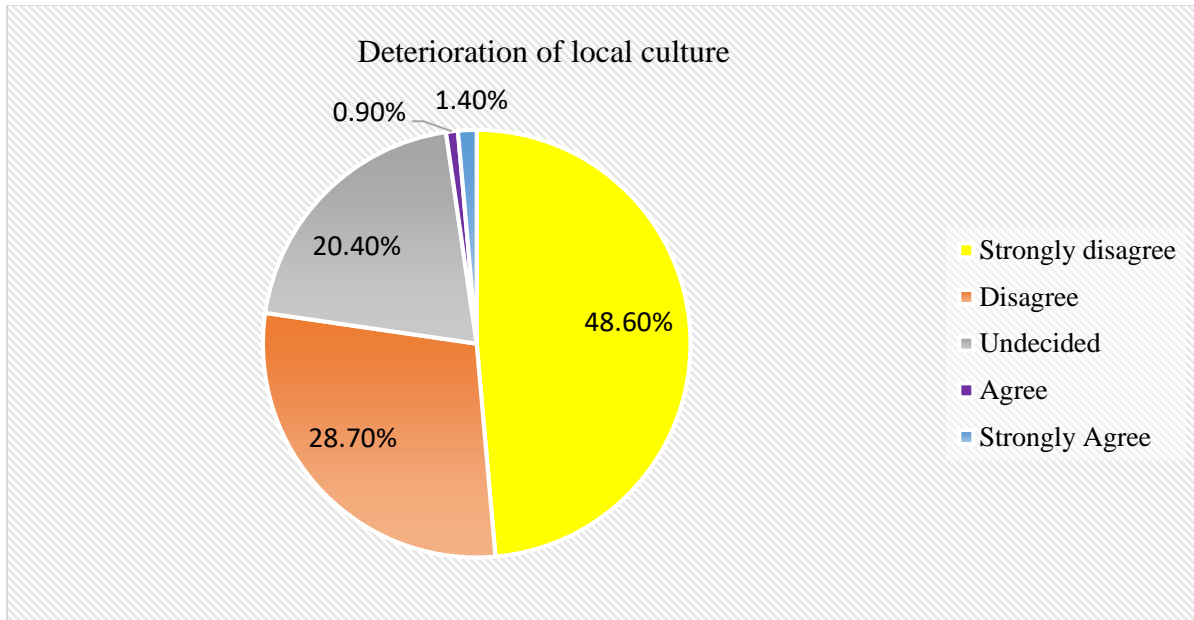


Figure 4 19: Perception Towards Deterioration of Local Culture

Source: survey (2021)

Figure 4.19 indicates that 48.6% of the respondents strongly disagreed and 28.7% disagreed that development of water-based tourism at Koka water reservoir deteriorates the culture of the local community. Whereas (20.4%) of survey participants have no idea whether they agree or disagree, they remain undecided. Furthermore, 0.9% and 1.4% of respondents agreed and strongly agreed, respectively. The result revealed that the local community were less perceptive of the deterioration of culture that resulted because of water-based tourism development.

4.5 Factors affecting water-based tourism development

To identify factors affecting water-based tourism development of Koka water reservoir, factor analysis, mainly principal component analysis is used to get the same items of factors. principal components analysis is the data reduction techniques that create component or factors, and allows to interpret large series of data in smaller number of components. Moreover, the summarized factors can be used for further analytical methods.

4.5.1. Validity and Reliability Test

To evaluate factors affecting water-based tourism development in this study, 23 items were used with different dimensions. The items were validated through factor analysis using SPSS version 20. However, in this initial exploratory factor analysis, one item, "Inf2; lack of food and beverage services," was loaded onto two factors. Hence, the item was removed from further analysis. This study used principal component analysis and varimax rotation. The communality of the scale, which indicates the amount of variance in each dimension, was assessed and the results show that all communalities were over 0.50. On the other hand, the reliability was tested through Cronbach's alpha coefficients.

According to Reimers et al (2012), internal consistency of factors with Cronbach's alpha coefficient greater than 0.60 is acceptable, above 0.70 is considered good reliability and a value greater than 0.80 is very good. For this study, Cronbach's Alpha was 0.876 for the whole 22 items. Therefore, the reliability of the questionnaire was high, indicating that the data was acceptable. Moreover, the value of the sampling adequacy of Kaiser-Meyer-Olkin (KMO) and Bartlett's Test of Sphericity were used to assess the factorability of data.

Table 4. 6: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.662
	Approx. Chi-Square	9259.656
Bartlett's Test of Sphericity	Df	253
	Sig.	.000

Source: Survey (2021)

Based on table 4.6 of this study, the value of the sampling adequacy Kaiser-Meyer-Olkin (KMO), which indicates the appropriateness of data for factor analysis, was equal to 0.662, which is above the recommended value. Moreover, Bartlett's Test of Sphericity provides a measure of the statistical probability that the correlation matrix has significant correlations among some of its variables. The result was significant at ($p=0.000$), which proved there was a significant correlation between variables and suitable for performing the factor analysis. It shows a better reflection of

the performance on the variables and demonstrates the acceptable internal consistency of the components.

On the other hand, the initial assessment for factor analysis is Eigenvalue, which is defined as the proportions of all the variables explained by factors. In addition, the Eigenvalue is the total variance explained by more than one variable (Cooper & Schindler, 2006). Hence, an Eigenvalue with a value greater than 1 could be considered as necessary for the analysis. The below includes that the factor solution derived from this analysis yielded five factors for the scale based on Eigenvalue, which accounted for 86.766% of the variance of all variables.

The table below shows loading factors, eigenvalues, % of variance, cumulative % and reliability for each item under their respective components.

Table 4. 7: Exploratory Factor Analysis

Items	Component				
	1	2	3	4	5
Lodging facilities and services	.612				
Road	.775				
Boating services	.893				
Telecommunication service	.840				
Water supply	.942				
Electric supply	.916				
Health care services	.846				
Distance from the capital city				.942	
Distance from nearby attractions				.967	
Distance from the main road				.976	
Transport links				.978	
Awareness of local community		.949			
Awareness of investors		.949			
Awareness among stakeholders		.966			

Items	Component				
	1	2	3	4	5
Skilled human resources		.964			
Attention from government to conserve the reservoir			.962		
Coordination of the users to protect the reservoir			.952		
Guidelines how to use the reservoir			.901		
Waste management system			.927		
Budget allocation from government					.812
Income level of local community					.934
Funds from NGO					.779
Eigenvalues	6.548	3.956	3.729	2.915	1.940
% Of Variance	23.317	18.121	17.709	17.098	10.521
Cumulative %	23.317	41.438	59.147	76.245	86.766
Reliability	0.938	0.972	0.976	0.974	0.809
Number of Items	7	4	4	4	3

N=22

Source: Survey (2021)

The above table shows Rotated Component Matrix which is a matrix to check whether a particular item of the factors loaded all together for each component or not. To extract and decide number of factors to be extracted scree plot and Eigenvalue were used. Hence, five components were extracted, and labelled as Facilities and Services, Accessibility, Awareness and Training, Conservation and Protection and Finance and funds.

Factor 1: Facilities and Services

The first factor affecting water-based tourism development is labelled as facilities and services. The eigenvalue was 6.548 with the percentage of variance was 23.317. The cumulative percentage of variance of these components is 23.317, and the reliability is 0.938. By referring to the above table, we found that the seven variables loaded onto component/factor 1 (facilities and services) their loading ranged from 0.612 to 0.942, which includes lodging facilities and services (0.612),

roads (0.775), boating services (0.893), telecommunication services (0.840), water supply (0.942), health care services (0.916), electric supply (0.846). This shows that facilities and services are a very important factor for water-based tourism development. Thus, fulfilling the above-mentioned facilities and services is deemed necessary for the water-based tourism development of the reservoir and contributes to the success of water-based tourism development in the Koka water reservoir.

Factor 2: Accessibility

The second factor affecting water-based tourism development is accessibility, with four item loading values almost approaching one (1), which ranges from 0.942 to 0.978. This component is the second factor affecting water-based tourism development which has scored an eigenvalue value of 3.956 with a percentage of variance of 18.121 within three items loaded. Moreover, the cumulative percentage and the reliability of this component are 41.438 and 0.972 respectively. The components presented in this factor were distance from the main city (0.942), distance from other attractions (0.967), distance from the main road (0.976) and "lack of transport links (0.978). This indicates that all components of this factor explain the factors in the best way by having high loadings.

Factor 3: Awareness and Training

The third component is awareness and training. It has four loaded components with values ranging from 0.949 to 0.966. The Eigenvalue of this factor shows 3.729, and 17.709 percent of the variance. Whereas the cumulative variance is 59.147% and the reliability is close to 1, which is 0.976. This component consists of variables such as awareness of the local community (0.949), awareness of investors (0.949), awareness among stakeholders (0.966), and skilled human resources (0.964). The results indicate that awareness and training are one of the factors affecting water-based tourism development. This implies communities and other stakeholders with training and awareness have an interest and motivation to engage in and support tourism development and vis-versa.

Factor 4: Conservation and Protection

The 4th component is a factor in conservation and protection. It consists of four components with values ranging from 0.0901 to 0.962. The overall eigenvalue for the components shows 2.915 with a variance of 17.098%, and 76.245% the cumulative variance of which reliability is 0.974. The items included in these components are attention from the government to conserve the reservoir (.962), coordination of the users to protect the reservoir (.952), guidelines on how to use the reservoir (.901), and waste management system (.927). Conservation and protection are issues that should be concerned with water-based tourism development. Particular attention from the government, coordination to protect water reservoirs and waste management systems are the factors affecting water-based tourism development at Koka water reservoir.

Factor 5: Finance and Funds

The last and the fifth component is a factor of finance and funds support, where the eigenvalue is 1.940, the variance is 10.521%, and the cumulative percentage of variance is 86.766 with a reliability of 0.809. There are only three variables in this component consisting of: budget allocation from the government (.812), income level of the local community (.934), and funds from NGO (.779). with all values ranging from 0.82 to 0.974. This result implies that finance and funds is also the important factor for the development of water-based tourism development of the Koka water reservoir.

Generally, from the results, all factors summarized under this study achieved an acceptable value and they have a strong relationship with the development of water-based tourism in Koka water reservoir, with an overall value of Cronbach's Alpha ranging from 0.809 to 0.976, which included facilities and services, accessibility, awareness and training, conservation and protection, and finance and funds.

4.6. Multiple Linear Regression Model

All too often, regression is used to find the best prediction equation for some phenomenon regardless of the meaning of the variables in the equation. In other words, regression analysis is used to predict the value of a dependent variable based on at least one independent variable (Heron, 2009). Therefore, regression analysis of this study was aimed at identifying factors affecting water-

based tourism development, such as facilities and services, accessibility, awareness and training, conservation and protection, and finance and funds as predictors, as well as the mean score of tourist visits and income generation, which were taken as measurement of water-based tourism development. As a result, a multiple linear regression model was used to identify the factors affecting water-based tourism development at Koka water reservoir.

4.6.1. The Mean Comparisons of Study variables

The statistical approach used for determining equivalence between variables is analysis of means and standard deviations for the variables of interest (Marczyk, Dematteo & Festinger, 2005). The mean indicates to what extent the sample group on average agrees or disagrees with different statements.

Table 4. 8: The Mean of Study Variables

Categories	Mean	Std. Deviation
Conservation and protection	4.4873	.58777
Accessibility	4.2461	.47610
Infrastructure and services	4.4213	.59028
Finance and funds	4.2220	.49608
Awareness and training	3.4931	1.05459
Water based tourism development	2.82	.355

Source: Survey (2021)

According to Pihie & Akmaliah (2009), while comparing elements, the mean value below 3.35 could be considered as low, the mean score from 3.36 up to 3.55 would be considered reasonable, and the mean score above 3.55 could be viewed as high as compared to the other variables in the same group. As indicated in the above table, conservation and protection (4.48), infrastructure and services (4.42), accessibility (4.24), and finance and funds (4.22) had high mean values as compared to the other variables in the same group, and awareness and training had low mean values with a (3.49) score. It implied that variables with high mean value are important for the development of water-based tourism. On the other hand, awareness and training had below the

average mean, whereas they had low importance compared with others. Besides, water-based tourism development with a low mean value shows that the development of an area is influenced by the above factors, which is why the responses indicated low development.

Then, linear multiple regression is undertaken to confirm the above importance of variables. Hence, prior to running the analysis of the multiple linear regression model, data exploration is an important step.

4.6.2. Multicollinearity

Gujarati (2005) establishes a rule of thumb which says that multicollinearity is a serious problem when the correlation coefficient is 0.8 or above. For this study, there is no correlation coefficient range above the baseline. Moreover, Field (2009), if there is perfect co-linearity between predictors, it becomes impossible to obtain the unique estimates of the regression coefficients because there are an infinite number of combinations of coefficients that would work equally well. Moreover, tolerance and VIF are also used for indications of multicollinearity. A variance with a very low tolerance contributes little information to a model in which very low values of tolerance (0.1 or less) and very high values of VIF (10 or more) indicate a problem. But in this study, there are no variables with a value tolerance of less than 0.10 and no variables whose VIF values are greater than 10. This means there is no evidence of multicollinearity in this study (see table: 4.6.3).

4.6.3. Test of Normality of Residuals

Brook (2008) noted that in order to conduct a single or joint hypothesis test about the model parameter, the normality assumption must be fulfilled. This is because normality is used to describe how the data on the dependent variable is normally distributed for each of the possible combinations of the level of the independent variables or how each of the variables is normally distributed. According to Pallant (2005), there are different means of normality testing. For this study, graphical testing of normality was done. Thus, the histogram and Q-Q plots show most collected around zero and straight line respectively (See Appendix).

In addition, linearity and homoscedasticity were also analyzed.

4.6.1. Model Summary

Table 4. 9: Model summary

Model		R	R Square	Adjusted R Square	Std. Error of the Estimate
1		.716 ^a	.513	.501	.43545

a. Predictors: (Constant), Conservation and protection, Awareness and training, Finance and funds, Accessibility, Infrastructure and services

b. Dependent Variable: Water based tourism development

Source: Survey (2021)

As indicated from table 4.9 above, the value of R was 0.716, which is larger than the value of R displays that there is a strong relationship between observed and predicted values. To evaluate the study models, the value of R² has been considered to determine the amount of variance in the dependent variable which is explained by all the independent variables in the formula (Pallant, 2007). In this study, the specification correlation R² reached 0.513; this means that the independent variables explain 51% of the dependent variable. Typically, practical experience indicates that values of R² below 0.2 are considered weak, between 0.2 and 0.4, moderate, and above 0.4, strong. Therefore, this value (51.3%) is strong enough to explain or the researcher assures us that the model does fit. The remaining ratio, 48.7%, is called the unexplained variation, meaning that it can be explained by other variables.

4.6.2. ANOVA Test for Model Fit

ANOVA tells us whether the model, overall results is significantly good degree of predication of the outcome variables in regression. The information used in ANOVA is F-value and P- value which proves the predictive power of independent variables on dependent variable.

Table 4. 10: ANOVA Result

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	41.874	5	8.375	44.167	.000 ^b
	Residual	39.819	210	.190		
	Total	81.693	215			

a. Dependent Variable: Water based tourism development

b. Predictors: (Constant), Conservation and protection, Awareness and training, Finance and funds, Accessibility, Infrastructure and services

Source: Survey (2021)

As indicated in table 4.10, the value of the sum of squares is 41.874, the value of the degree of freedom is 5, and the value of the mean squares is 8.375. The most important part of the table is the F-value, with a value of 44.167, which is the ratio of regressed variance to unexplained variance and best fits the data at a significance level of .000. The F-ratio is a measure of how much the model has improved the prediction of the dependent variable (water-based tourism development). Thus, the ANOVA table shows that the combination of the variables significantly predicts the dependent variable and the model is fit that enables the researcher to proceed to further analysis. Generally, a good model should have a large F-ratio because the mean square of the regression will be bigger than the mean square residual.

4.6.3. Regression Coefficients of Independent Variables

Table 4.11. shows that the values of all B- coefficients are positive. B- Value indicates the level of influence of independent variables over dependent variable.

Table 4. 11: Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	.059	.336		.175	.861		
Awareness and training	.060	.029	.103	2.099	.037	.967	1.034
Finance and funds	.189	.071	.152	2.679	.008	.719	1.391
Infrastructure and services	.479	.067	.458	7.174	.000	.569	1.758
Accessibility	.078	.079	.060	.989	.324	.626	1.598
Conservation and protection	.196	.066	.186	2.943	.004	.578	1.729

a. Dependent Variable: Water based tourism development

Source: Survey (2021)

According to the above table, the coefficient of regression shown between independent variables (facilities and services, accessibility, awareness and training, conservation and protection, and finance and funds) and the dependent variable (water-based tourism). The above "coefficients" table 4.6.3 provides the regression equations. Beta Coefficients were used to compare the contribution of each independent variable. Thus, "the constant" (0.059) is the "a" coefficient. The remaining values in this column are the "beta" coefficients. Rewriting this in standard algebraic form, the linear multiple regression equation is as follows:

$$Y = a + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_5 + e \dots \dots \dots \text{i.e}$$

$$0.059 \text{ (constant term)} + .103 \text{ (Awareness and training)} + .152 \text{ (Finance and funds)} + .458 \text{ (Infrastructure and services)} + .060 \text{ (Accessibility)} + .186 \text{ (Conservation and protection)}.$$

Accordingly, the study found that, except for "Accessibility", the four variables; Awareness and training, finance and funds, infrastructure and services, and conservation and protection, are the main factors affecting water-based tourism development.

Awareness and Training: This variable statistically significant at 5% level of significance and registered a positive sign. For every one-unit increment in the awareness and training of stakeholders, the percentage of water-based tourism development will be increased by 10.3%. This indicates that if tourism stakeholders are well informed, they can make rational decisions on the development of water-based tourism.

Finance and Funds: Statistically significant at 5% of significance level and with a positive sign. For every one-unit increment in budget allocation and funds, the development of water-based tourism increases by 15.2% on average. This implies an increase in budget allocation and funds for water-based tourism development and vice versa.

Infrastructure and Services: For every one-unit increment in infrastructure and services, the development of water-based tourism increases by 45.8%, keeping others constant. It is statistically significant at 5% and has a positive sign. This indicates that attention to infrastructure and service development is needed from all stakeholders for success in development.

Conservation and Protection: Keeping others constant, every one-unit increment in conservation and protection of water reservoirs increases the development of water-based tourism by 18.6%. It is statistically significant at 5% of significance level and with a positive sign.

Accessibility: This variable is not statistically significant but registered a positive sign. Even though it has positive signs and some contributions, which is 6%, the impact on the development of water-based tourism is minimal. From the result, it is possible to conclude that the distance of the reservoir from the center of the country, the main road, and other tourist attractions is not the same.

The constant value (B: 0.059) implies that, if the independent variables mentioned in this study were kept as they exist or made unavailable, water-based tourism development of water reservoirs would be at this percentage. This implies that the factors mentioned above are very important for the development of water-based tourism. So, from the regression results, it could be possible to point out that infrastructure and services were the first variables which had a high impact on the outcome variable, followed by conservation and protection with a beta coefficient of (0.186), awareness and training (0.103), and finance and funds (0.152) respectively. In general, it is possible to conclude that, except for accessibility, all predictor variables under this model had a positive impact on the response variable, even if they differ by magnitude.

4.7. Discussions

Water contributes a lot in shaping the overall-life style of the world communities. But the way it contributes for the community's development is vary based on types of waterbodies. Koka water reservoir is an artificial lake found in central Rift valley of Ethiopia, it was formed as a construction of hydro power plant on Awash River in 1960. It benefits the local communities through irrigation, fishing, cattle watering and slight tourism activities. As a result, the benefits through tourism 4 (1.9%) which implies that the introduction of tourism services as a business is not customized in the area. The study by Muryani, Santoso & Utomowati (2016) stated that water reservoirs used for various purposes such as for irrigation, drinking water, electric power, fishing, and also tourism beyond the main purpose of their construction. Moreover, the studies on multipurpose uses of water reservoirs revealed that hydropower reservoirs provide services beyond electricity power

generation, they serve as water supply, flood and drought management, navigation, fishing, environmental services, and recreational activities which support tourist receipts (Branche, 2017; Duda-Gromada, 2012).

Furthermore, the survey result of this study indicates that there is a minimal tourist visit of Koka water reservoir, for the reasons that there is lack of information, absence of welcoming body for the tourists, government restrictions were the issues mentioned for limited tourist visits. In the other way, the tourists who came to visit the reservoir were experienced boating, bird watching and sightseeing. This implies that Koka water reservoir has the potential to develop it for birdwatching, boating and sightseeing.

In addition, the more identification of water-based tourism potential of water bodies is the necessary step to protect, conserve and develop water-based tourism activities in and around them. It also indicates the ability of the area to attract tourists. Most developed countries consider architectural design of the powerplant as touristic potentials, and as well as the general landscape and scenic view of the reservoir as a tourism potential of an area. According to the key informants interviewed from local communities and experts from the Lume culture and tourism office, Koka water reservoir is a place where the arrays of water birds are quite exceptional, and offers a great variety of bird species. There are different types of bird species found in and around the Koka water reservoir. The birds in Koka water reservoir are migratory birds in which the number of birds is increasing in winter and decreasing in summer seasons. This seasonality of birds has a direct relationship with the water level of the reservoir.

Koka is one of the important bird areas among 69 registered birdlife areas in Ethiopia. As a result, there are fifty-one (51) bird species with a total number of (3,744) birds found on Koka water reservoir. The number of birds ranges from one (1), which is the lesser Black-backed Gull (1), Whiskered Tern (1), to African Fish Eagle (21), White pelicans (49), Gull-billed Tern (505), white winged tern (567), Ruff (10,068). The availabilities of as such resources clearly shows the touristic potentials of the reservoir for bird watchers.

Moreover, the islands with their acacia trees and different fish species, and the existence of aquatic animals like hippopotamus and crocodiles are potentials for the development of water-based

tourism. In line with this, previous studies regarding the touristic potential of reservoirs (Muryani et al., 2018; Kolawole, Samson & Ibukun, 2018; Hristi, Stefanovi & Petri, 2018) are consistent with this study that reservoirs have touristic potential such as different indigenous and exotic tree species, the landscape of the site, swimming, rowing, sailing, and fishing for tourists.

In the other ways, since the Koka water reservoir is in the initial stage of tourism destination development, the residents do not currently experience any negative impacts from tourism development in the area. The local communities adjacent to the reservoir perceive that water-based tourism development of the Koka water reservoir enhances the image of the local culture, creates more jobs for the local community, increases the standard of living, attract investment to the village, and improve infrastructure and facilities with the high mean scores ranging from 3.50 to 4.40. This indicates positive perceptions of the local communities, that they reported high concern about the development of water-based tourism around the reservoir. The results of these findings regarding the perception of residents towards tourism development are consistent with previous studies (Jaafar et al., 2015; Látková and Vogt, 2012; Sharma and Dyre, 2012). However, according to Sharma and Dyre (2012), the local communities are experiencing fewer negative impacts at the early stage of tourism development, reporting few issues such as pollution of the reservoir, increasing the cost of living, creating deterioration of culture, destroying the natural environment, and increasing crime, with mean scores ranging from 1.48 to 1.95. In line with this, previous studies showed the local communities who perceive high positive impacts and low negative of tourism development resulted in success and support for the development process (Ko and Stewart, 2002; Nicholas et al., 2009).

Moreover, the findings regarding factors affecting water-based tourism development were summarized using principal component analysis. To extract and decide the number of factors to be extracted, the scree plot and Eigenvalue were used. Hence, five components were extracted and labelled as "facilities and service," with seven correlated items. Accessibility, with four items, awareness and training have four loaded components with a reliability close to 1. The fourth factor is conservation and protection, which consists of four items, whereas the last and fifth component is a factor of finance and budget. Generally, from the results, all factors summarized under this study achieved an acceptable value and they have a strong relationship with water-based tourism development.

The impact of those variables was identified using linear multiple regression. Thus, infrastructure and service were the first variables which had a statistically significant impact on the development of water-based tourism. This result is consistent with the study conducted by Imikan & Ikpo (2012) that found a significant relationship between the sets of infrastructures such as electricity, water, transport, accommodation and communication, and tourism development. In addition, Seetanah et al., (2011) investigated the significance of infrastructure in which tourism development would not be possible without electricity, roads, sewage, and potable water. Another major factor indicated by this study was finance and funding. To initiate and facilitate tourism development on the site, many tourists and tourism-related activities necessitate finance and budget. Funding assists in the support of less competitive tourist destinations, which generally have a limited number of tourists and have less significant economic impacts from tourism (Wang, Yamada, & Brothers, 2011). In addition, finance and budget, awareness and training, and conservation and protection also statistically contribute to the development of water-based tourism.

In the other hand, accessibility has no statistically significant impact on the development of water-based tourism in Koka water reservoir. Geographical accessibility is the distance of the site from the rest of the country or isolation from other tourist destinations. The scholar argues that distance matters for the development of tourism resources. It limits tourists to visiting a destination. It is an important factor influencing all kinds of human spatial behavior, including travel (Lee et al. 2012). This affects not only the volume of visitors but also, more importantly, the type of people who visit certain locations, the role of the destination, and, notably, what the visitors do. In this study accessibility has no statistically significant impact on the development of water-based tourism. This contradicts the findings of the previous study. The result implies that Koka water reservoir is accessible and unaffected by its geographic remoteness and distance from the other tourism resources.

CHAPTER FIVE

5. CONCLUSION AND RECOMMENDATIONS

This chapter gives conclusions based on the central findings of the study. It provides some recommendations and ways forward for water-based tourism development potential of water reservoirs. The use of water reservoirs for tourism development is a new and growing phenomenon in different countries around the world, but limited study has been conducted on reservoir potential for water-based tourism development. As the identification of reservoir tourism potential is the basis for the development of water-based tourism, it again requires an exploration of community perceptions for the success of the development. Moreover, the development of water reservoirs for tourism is affected by different factors.

5.1. Conclusion

This study mainly focuses on an attempt to identify the water-based tourism development potential of the Koka water reservoir, one of the artificial lakes found in the central rift valley of Ethiopia. Moreover, local communities' perception of water-based tourism development and factors affecting water-based tourism development were assessed in this study. Koka water reservoir is one of the oldest artificial lakes located in the upper awash basin in the central Ethiopian Rift Valley, East Shewa of Oromia National Regional State, 75 km south-east of Addis Ababa. The reservoir is the only artificial lake in Ethiopia included in the list of the Birdlife International organization as an important birdlife in Ethiopia. Yet, no efforts have been made to prepare Koka water reservoir for its future as a tourist destination. Hence, it would be appropriate to assess its potential to designate Koka water reservoir as being in the initial development stages of tourism development.

Focusing on the main objective of the study, basic research questions: -1. What are the benefits of the Koka water reservoir for the local community? 2. What is the water-based tourism development potential of Koka water reservoir? 3. What is the community perception towards the water-based tourism development potential of Koka water reservoir? 4. What are the factors affecting the water-based tourism development potential of Koka water reservoir? were answered in this study

This study is the first time that research of this nature has been carried out on water reservoirs in terms of water-based tourism development. As a result, this study assessed water-based tourism development potential, and community perceptions, and also identified factors affecting water-based tourism development in the context of the Koka water reservoir. The research study applied exploratory and descriptive research design and a mixed approach to carry out the study.

The study results show that the Koka water reservoir benefits the local communities through irrigation, fishing, cattle watering, and slight benefits from tourism beyond the main purpose of its construction. Low level of income was generated from Koka water reservoir through water-based tourism development of Koka. In addition, the respondents indicated that limited job opportunities were created due to tourism in Koka water reservoir. According to the data from Lume culture and tourism office small number of tourists were visited Koka water reservoir from the year 2012 to 2016. This was resulted from problems such as lack of information about the touristic potential of the reservoir, absence of a responsible body in an area, and assumption of government restrictions.

On the other hand, the respondents indicated that Koka water reservoir is the stopover place for the tourists travel to southern and south eastern parts of the country, and they experience bird watching, boating and sightseeing. In line with this, the existence of different bird species, fish species and other water animals play a greater role in contributing to this. There are fifty-one (51) bird species with a total number of (3,744) birds found on Koka water reservoir. The number of birds ranges from one (1), which is the lesser Black-backed Gull, to (10,068) Ruff. There are also fish species, water animals like Hippopotamus and Crocodiles, Irrecha cultural ceremony and the hot spring used for medication purposes on Dhungugi island of Koka water reservoir are the potential tourism resources of an area. In addition, agricultural farm and the overall landscape of the reservoir are among the water-based tourism potentials of the reservoir.

Moreover, local community perceptions play a greater role in the success of water reservoir tourism development. The local communities with high positive perceptions and low negative perceptions regarding the impacts of tourism development have supported and engaged in tourism business activities. As a result, the local communities in the vicinity of Koka water reservoir perceive that water-based tourism development in the area enhances the image of the local culture, create more jobs for the local community, increase the standard of living, attract investment to the

village, and improve infrastructure and facilities. On the other hand, factors such as infrastructure and services, conservation and protection, finance and funds for water-based tourism development, and awareness and training are an important factor for the success or failure of water-based tourism development.

The result of this study indicates infrastructure and services have a highly significant impact on the development water-based tourism, followed by conservation and protection, awareness and training, and also finance and funds. Positive improvement in these factors has a statistically significant contribution to the development of water-based tourism. Besides this, accessibility related to the distance of the reservoir has no statistically significant impact on its development.

5.2. Recommendations

Concerns about water-based tourism development are not limited to the tourism industry; they extend well beyond that, especially because the water reservoirs were built for other purposes. Consequently, this study provides preliminary insight into the Koka reservoir's water-based tourism potentials, as well as community perception, and factors affecting water-based tourism development. Hence, several recommendations were made based on the findings for further utilization of the water reservoir for tourism purposes.

- Beyond the slight current tourist activities in Koka water reservoir its potentials for fishing tourism, agrotourism, culture related tourism should have to get emphasis during planning for future development.
- The study found that residents have a positive perception of the development of water-based tourism. The government, environmental NGOs, culture and tourism offices should have to work on sustainable financial support for water-based tourism development.
- Culture and tourism offices at regional and federal levels should recognize the reservoir as a potential tourism resource of the region as well as the country.
- The finding of this study shows that the reservoir has the potential for water-based tourism development. But, more research on the reservoir's flora and wildlife is needed for future development.
- An integrated plan for multipurpose use of the water reservoir should be prepared to enhance tourist visits, job opportunities and income generated from the reservoir.

- To cope with complexity of the use of water reservoirs for multipurpose, awareness and training, water reservoir conservation plan and integrated water use plan are important in pursuing sustainable development of the area.
- Strong partnership and cooperation work is needed between the government and private sectors to complete infrastructure and facilities in surrounding of Koka water reservoir shore areas.

References

- Africa Development Bank, 2015. Maximizing the benefits from water for Tourism in Africa.
- Andereck, K.L., Valentine, K.M. and Richard, C., 2005. Knopf. & Christine A. Vogt., Residents' perception of tourism impacts. *Annals of Tourism Research*, 32(4), pp.1056-1076
- Akele T, S., 2011. The practice and challenges of lake management in Ethiopia-the case of lake Koka.
- Ayalew, D.W., 2018. Theoretical and empirical review of Ethiopian water resource potentials, challenges and future development opportunities. *International Journal of Waste Resources*, 8(4).
- Ayenew, T.,2009. Natural Lakes of Ethiopia. Addis Ababa University press.
- Arghode, V., 2012. Qualitative and Quantitative Research: Paradigmatic Differences. *Global Education Journal*, 2012(4).
- Bahri, A., 2012. Integrated urban water management. *TEC Background Papers*, 16, pp.1-89.
- Balasubramanian. A.,2015. Classification of lakes. University of Mysore (24-7-2015)
- Balmford, A., Beresford, J., Green, J., Naidoo, R., Walpole, M. and Manica, A., 2009. A global perspective on trends in nature-based tourism. *PLoS Biol*, 7(6), p.e1000144.
- Băndoi, A., Jianu, E., Enescu, M., Axinte, G., Tudor, S. and Firoiu, D., 2020. The Relationship between Development of Tourism, Quality of Life and Sustainable Performance in EU Countries. *Sustainability*, 12(4), p.1628.
- Baoying, N. and Yuanqing, H., 2007. Tourism development and water pollution: Case study in Lijiang Ancient Town. *China Population, Resources and Environment*, 17(5), pp.123-127.
- Becken, S., 2010. The importance of climate and weather for tourism: literature review.
- Benyamine, M., Bäckström, M. and Sandén, P., 2004. Multi-objective environmental management in constructed wetlands. *Environmental monitoring and assessment*, 90(1), pp.171-185.

- Berhanu, B., Seleshi, Y. and Melesse, A.M., 2014. Surface water and groundwater resources of Ethiopia: potentials and challenges of water resources development. In Nile River Basin (pp. 97-117). Springer, Cham.
- Birdlife International.,2021. State of the world's birds: indicators for our changing world. Birdlife International.
- Branche, E., 2017. The multipurpose water uses of hydropower reservoir: The share concept. *Comptes Rendus Physique*, 18(7-8), pp.469-478.
- Brown, G., Kangas, K., Juutinen, A. and Tolvanen, A., 2017. Identifying environmental and natural resource management conflict potential using participatory mapping. *Society & Natural Resources*, 30(12), pp.1458-1475.
- Bulsara, C., 2015. Using a mixed methods approach to enhance and validate your research. *Brightwater Group Research Centre*, pp.1-82.
- Campbell, M., Cooper, M.J., Friedman, K. and Anderson, W.P., 2015. The economy as a driver of change in the Great Lakes–St. Lawrence River basin. *Journal of Great Lakes Research*, 41, pp.69-83
- Celata, F., 2007. Geographic marginality, transport accessibility and tourism development. *Global Tourism and regional competitiveness. Bologna*.
- Çelik, S. and Rasoolimanesh, S.M., 2021. Residents' Attitudes towards Tourism, Cost–Benefit Attitudes, and Support for Tourism: A Pre-development Perspective. *Tourism Planning & Development*, pp.1-19.
- Center for Responsible Travel.,2018. The Case for Responsible Travel: Trends and Statistics 2018. Retrieved from: <https://www.responsibletravel.org/trends-and-statistics>.
- Cooke, G.D., Welch, E.B., Peterson, S. and Nichols, S.A., 2016. Restoration and management of lakes and reservoirs. CRC press.
- Cooper, C., Fletcher, J., Fyall, A., Gilbert, D., and Wanhill, S., 2008, *Tourism, Principles and Practice* (4th Eds). Harlow: Pearson Education.

- Creswell, J. W., & Plano Clark, V. L., 201. Designing and conducting mixed methods research. Sage Publications.
- Dias-Sardinha I, Ross D., 2015. Perceived impact of the Alqueva dam on regional tourism development. *Tourism Planning & Development*. Jul 3;12(3):362-75.
- Deribsa, A., 2018. Research methodology: hand book for research students and practitioners.
- Dokulil, M.T., 2014. Environmental impacts of tourism on lakes. In *Eutrophication: causes, consequences and control* (pp. 81-88). Springer, Dordrecht.
- Duda-Gromada, K., 2012. Use of river reservoirs for tourism and recreation case study: Solińskie lake in Poland. *Polish Journal of Natural Sciences*, 27(4).
- Ekanayake, E.M. and Long, A.E., 2012. Tourism development and economic growth in developing countries. *The International Journal of Business and Finance Research*, 6(1), pp.61-63.
- El-Shabrawy, G.M. and Al-Ghanim, K.A., 2012. Aquatic Habitats in Africa. Animal Resources in Africa and Their Biodiversity. *Encyclopedia of Life Supporting Systems (EOLSS)* UNESCO.
- Fenet M ,2015. Local community involvement in tourism development in Bushoftu town, Oromia Regional State, Ethiopia. Master's thesis, Addis Ababa University, Addis Ababa
- Folgado-Fernández, J.A., Di-Clemente, E., Hernández-Mogollón, J.M. and Campón-Cerro, A.M., 2019. Water Tourism: A New Strategy for the Sustainable Management of Water-Based Ecosystems and Landscapes in Extremadura (Spain). *Land*, 8(1), p.2.
- Fufa, T., 2016. *Addis Ababa Institute of Technology School of Graduate Studies* (Doctoral dissertation, Addis Ababa University Ethiopia).
- Gnanapala, A.C. and Karunathilaka, T.P., 2016. Community perception on tourism development and its impacts: A study on Passikudha, Sri Lanka. *Tourism, Leisure and Global Change*, 3, pp.164-178.
- Gulelat, Y., Yimer, E., Asmare, K. and Bekele, J., 2013. Study on parasitic helminths infecting three fish species from Koka reservoir, Ethiopia. *SINET: Ethiopian Journal of Science*, 36(2), pp.73-80.

- Hailemichael, A. and Raju, A.S., 2010. Challenges and opportunities of chamo lake-wetland biodiversity, Ethiopia.
- Hall, C.M. and Harkonen, T.U.I.J.A., 2006. Lake tourism: an introduction to lacustrine tourism systems. *Aspects of Tourism*, 32, pp.3-26
- Halkos, G., 2012. Assessing the economic value of protecting artificial lakes. https://mpra.ub.uni-muenchen.de/39557/1/MPRA_paper_39557.pdf
- Halkos, G. and Matsiori, S., 2016. Determining public attitudes and willingness-to-pay for artificial lakes protection. *Water Resources and Economics*, 15, pp.15-27.
- Hanafiah, M.H., Jamaluddin, M.R. and Zulkifly, M.I., 2013. Local community attitude and support towards tourism development in Tioman Island, Malaysia. *Procedia-Social and Behavioral Sciences*, 105, pp.792-800
- Hayombe, P.O., Agong, S.G., Mossberg, L., Malbert, B. and Odede, F., 2012. Up scaling ecotourism in Kisumu City and its environs: local community perspective.
- Haugland, S.A., Ness, H., Grønseth, B.O. and Aarstad, J., 2011. Development of tourism destinations: An integrated multilevel perspective. *Annals of tourism research*, 38(1), pp.268-290.
- Higgins-Desbiolles, F., 2018. Sustainable tourism: Sustaining tourism or something more. *Tourism management perspectives*, 25, pp.157-160.
- Homsud, N., 2017. The effect of residents' attitude toward tourism on their pro-tourism behaviour: a case study of Hua-Hin Prachubkirikhan. *Mediterranean Journal of Social Sciences*, 8(6), pp.135-135
- Hsu, C.H., Lin, H.H. and Jhang, S., 2020. Sustainable tourism development in protected areas of rivers and water sources: A case study of Jiuqu Stream in China. *Sustainability*, 12(13), p.5262.
- Israel, Glenn D., 1992. Sampling the Evidence of Extension Program Impact. Program Evaluation and Organizational Development, IFAS, University of Florida.
- Jennings, G., 2007. Water-based tourism, sport, leisure, and recreation experiences. Routledge.

- Kalu, F. A., & Bwalya, J. C., 2017. What makes qualitative research good research? An exploratory analysis of critical elements. *International Journal of Social Science Research*, 5(2), 43-56.
- Kapera, I., 2018. Sustainable tourism development efforts by local governments in Poland. *Sustainable cities and society*, 40, pp.581-588.
- Kauffmann, A., 2008. Challenges and future perspectives for tourism development in the central rift valley, Ethiopia. Unpublished Master of Science Dissertation). Wageningen University, the Netherlands
- Ketema, T.D., 2015. Development of community-based ecotourism in Wenchi Crater Lake, Ethiopia: Challenges and prospects. *Journal of Hospitality Management and Tourism*, 6(4), pp.39-46.
- Kitur, E.C. 2009. A comparative study of the influence of variations in environmental factors of Phytoplankton properties of selected reservoirs in Central Kenya. PhD Thesis, Kenyatta University, Nairobi, Kenya
- Kim, K.H. and Park, D.B., 2017. Relationships among perceived value, satisfaction, and loyalty: Community-based ecotourism in Korea. *Journal of Travel & Tourism Marketing*, 34(2), pp.171-191.
- Kim, K., Uysal, M. and Sirgy, M.J., 2013. How does tourism in a community impact the quality of life of community residents? *Tourism management*, 36, pp.527-540
- Kunasekaran, P., Ramachandran, S., Samdin, Z. and Awang, K., 2012. Factors affecting farmers' agro tourism involvement in Cameron Highlands, Pahang. *OIDA International Journal of Sustainable Development*, 4(1), pp.83-90.
- Kurleto, M., 2013. Sustainable management of lakes taking into consideration the tourism and nature conservation in Australia and New Zeland. PUBLISHER UWM, 91.

- Lasisi, T.T., Alola, A.A., Eluwole, K.K., Ozturen, A. and Alola, U.V., 2020. The environmental sustainability effects of income, labour force, and tourism development in OECD countries. *Environmental Science and Pollution Research*, pp.1-12.
- Látková, P. and Vogt, C.A., 2012. Residents' attitudes toward existing and future tourism development in rural communities. *Journal of Travel Research*, 51(1), pp.50-67.
- Lavanchy, G.T., 2017. When wells run dry: Water and tourism in Nicaragua. *Annals of Tourism Research*, 64, pp.37-50.
- Lee, T.H., 2013. Influence analysis of community resident support for sustainable tourism development. *Tourism management*, 34, pp.37-46.
- LEE, Tsung Hung; JAN, Fen-Hauh. Can community-based tourism contribute to sustainable development? Evidence from residents' perceptions of the sustainability. *Tourism Management*, 2019
- Lehmann, L.V., 2009. The relationship between tourism and water in dry land regions.
- Lin, H.H., Lee, S.S., Perng, Y.S. and Yu, S.T., 2018. Investigation about the Impact of Tourism Development on a Water Conservation Area in Taiwan. *Sustainability*, 10(7), p.232
- Lume Woreda Administration office., 2018. Annual report on the determinants of farming through irrigation. (Unpublished document in Afana Oromo).
- Maftuhah, D.I. and Wirjodirdjo, B., 2018, June. Model for developing five key pillars of sustainable tourism: A literature review. In *AIP Conference Proceedings* (Vol. 1977, No. 1, p. 040009). AIP Publishing LLC.
- Major, Y., Kifle, D., Spooof, L. and Meriluoto, J., 2018. Cyanobacteria and microcystins in Koka reservoir (Ethiopia). *Environmental Science and Pollution Research*, 25(27), pp.26861-26873.
- Marczyk, G.R., DeMatteo, D. and Festinger, D., 2010. *Essentials of research design and methodology* (Vol. 2). John Wiley & Sons.
- Marshall, C., & Rossman, G. B., 2014. *Designing qualitative research*. Sage publications.
- Million, E.U.R., OECD Tourism Trends and Policies 2020.

- Mitchell, J. and Coles, C., 2009. Enhancing private sector and community engagement in tourism services in Ethiopia. *ODI project report for the World Bank*.
- Mishra, S. and Kahssay, A., 2015, September. A Hydroelectric Project and its Impact on Development Indicators in Ethiopia. In *Forum for Development Studies* (Vol. 42, No. 3, pp. 489-505). Routledge
- Meimand, S.E., Khalifah, Z., Zavadskas, E.K., Mardani, A., Najafipour, A.A. and Ahmad, U.N.U., 2017. Residents' attitude toward tourism development: A sociocultural perspective. *Sustainability*, 9(7), p.1170.
- MOCT (Ministry of Culture and Tourism), 2015. Sustainable tourism master plan 2015-2025 the Federal Democratic Republic of Ethiopia
- MOCT (Ministry of Culture and Tourism), 2020. Culture, Tourism and sport sector 10 years development plan (2020-2030). Addis Ababa: s.n. (Unpublished Document in Amharic).
- MoFED, 2006. Ethiopia: Building on Progress. Plan for Accelerated and Sustained Development to End Poverty (PASDEP) (2005/06-2009/10), Volume I
- Nassaji, H., 2015. Qualitative and descriptive research: Data type versus data analysis.
- Ngunyi, R.N ,2009. Ecotourism and Sustainable Development in Kenya.
- OECD, 2020. Tourism Trends and Policies
- OCTB (Oromia Culture and Tourism Bureau), 2015. Assessment of data for hotel star rating, Addis Ababa: (Unpublished document in Afan Oromo).
- Ouma, O.J., Hayombe, P.O. and Agong, S.G., 2014. Assessing water-based recreational activities to project beach ecotourism potentials in Kisumu County.
- Pihie, Z.A.L. and Akmaliah, Z., 2009. Entrepreneurship as a career choice: An analysis of entrepreneurial self-efficacy and intention of university students. *European journal of social sciences*, 9(2), pp.338-349.
- Prideaux, B. and Cooper, M. eds., 2009. River tourism. Cabi.
- Rademaker, L. L, 2011. Qualitative research from start to finish: A book review. *The Qualitative Report*, 16(5), 1425.

- Rahaman, M., 2004. EU Water Framework Directive vs. Integrated Water Resources Management: The Seven Mismatches, *International Journal of Water Resources Development*.
- Ramazanov, M. and De Freitas, I.V., 2020, March. Water and the city: Valorising Guimarães water heritage for tourism. In ICTR 2020 3rd International Conference on Tourism Research (p. 213). Academic Conferences and publishing limited.
- Rasoolimanesh, S.M., Dahalan, N. and Jaafar, M., 2016. Tourists' perceived value and satisfaction in a community-based homestay in the Lenggong Valley World Heritage Site. *Journal of Hospitality and Tourism Management*, 26, pp.72-81.
- Ravitch, S.M. and Riggan, M., 2017. Reason & rigor: How theoretical frameworks guide
- Richardson, R.B., 2010. The contribution of tourism to economic growth and food security (No. 1093-2016-88021).
- Rodrigues, A.I., Correia, A. and Kozak, M., 2013. The Alqueva reservoir in Portugal: towards the development of a new lake destination. *Polish Journal of Natural Sciences, Olsztyn*, 28(1), pp.131-143.
- Riungu, G.K., Hallo, J.C., Backman, K.F., Brownlee, M., Beeco, J.A. and Larson, L.R., 2020. Water-based recreation management: a normative approach to reviewing boating thresholds. *Lake and Reservoir Management*, 36(2), pp.139-154.
- Saarinen, J. and Tervo, K., 2006. Perceptions and adaptation strategies of the tourism industry to climate change: the case of Finnish nature-based tourism entrepreneurs. *International Journal of Innovation and Sustainable Development*, 1(3), pp.214-228
- Saarinen, J. and Rogerson, C.M., 2014. Tourism and the millennium development goal: Perspectives beyond 2015. *Tourism Geographies*, 16(1), pp.23-30
- Sæþórsdóttir, A.D., Hall, C.M. and Wendt, M., 2020. Over tourism in Iceland: Fantasy or Reality? *Sustainability*, 12(18), p.7375.
- Safarabadi, A., 2016. Assessing ecotourism potential for sustainable development of coastal tourism in qeshm island, iran. *European Journal of Geography*, 7(4), pp.53-66.

- Sefrin, C., 2012. Ecotourism in Lake Tana region, Ethiopia potentials for the implementation of community-based ecotourism. *Geographisches Institut der Rheinischen Friedrich-Wilhelms-Universität*.
- Selamta, 2021. Lakes of Ethiopia. [Online] Available at: <http://www.selamta.com> [Accessed 02 February 2021].
- Sharma, B. and Dyer, P., 2012. A longitudinal study of the residents' perceptions of tourism impacts using data from the sunshine coast Australia. *PASOS. Revista de Turismo y Patrimonio Cultural*, 10(2), pp.37-46.
- Sharpely, R., 2014. Host perceptions of tourism. *Tourism Management*, 42(2014), pp.37-49.
- Sharpley, R., 2020. Tourism, sustainable development and the theoretical divide: 20 years on. *Journal of sustainable tourism*, 28(11), pp.1932-1946.
- Shen, C.C., Liang, C.F., Hsu, C.H., Chien, J.H. and Lin, H.H., 2020. Research on the Impact of Tourism Development on the Sustainable Development of Reservoir Headwater Area Using China's Tingxi Reservoir as an Example. *Water*, 12(12), p.3311
- Singh, A.S. and Masuku, M.B., 2014. Sampling techniques & determination of sample size in applied statistics research: An overview. *International Journal of economics, commerce and management*, 2(11), pp.1-22.
- Solís, A.F. and Zhu, X., 2015. Water markets: Insights from an applied general equilibrium model for Extremadura, Spain. *Water Resources Management*, 29(12), pp.4335-4356.
- Spenceley, A. and Goodwin, H., 2007. Nature-based tourism and poverty alleviation: Impacts of private sector and parastatal enterprises in and around Kruger National Park, South Africa. *Current Issues in Tourism*, 10(2-3), pp.255-277
- Stebbins, R.A., 2001. *Exploratory research in the social sciences* (Vol. 48). Sage.
- Sun, Q. and Liu, Z., 2020. Impact of tourism activities on water pollution in the West Lake Basin (Hangzhou, China). *Open Geosciences*, 12(1), pp.1302-1308
- Swarbrooke, J., Beard, C., Leckie, S. and Pomfret, G., 2003. *Adventure tourism: The new frontier*. Routledge.

- Taddese, G., Sonder, K. and Peden, D., 2003. The water of the Awash River basin a future challenge to Ethiopia. International Livestock Research Institute, Addis Ababa.
- Teklu, B.M., Tekie, H., McCartney, M. and Kibret, S., 2010. The effect of water physical quality and water level changes on the occurrence and density of larvae of Anopheles mosquitoes around the shoreline of the Koka reservoir, Central Ethiopia. *Hydrology and Earth System Sciences Discussions*, 7(4), pp.6025-6055
- Telfer, D.J. and Sharpley, R., 2015. Tourism and development in the developing world. Routledge.
- Tesfahun, A., Dadebo, E. and Temesgen, M., 2018. Morphometric relationships of African big barb, *Labeobarbus intermedius* (Ruppell, 1836) in Lake Koka, Ethiopia. *International Journal of Fisheries and Aquaculture*, 10(2), pp.8-15.
- Timur, S. and Getz, D., 2009. Sustainable tourism development: How do destination stakeholders perceive sustainable urban tourism? *Sustainable Development*, 17(4), pp.220-232.
- Tunde M (2012). Harnessing Tourism Potentials for Sustainable Development: A Case of Owu Water Falls in Nigeria; *J. Sustain. Dev. Afr.* Vol. 14
- Tyrväinen, L., Uusitalo, M., Silvennoinen, H. and Hasu, E., 2014. Towards sustainable growth in nature-based tourism destinations: Clients' views of land use options in Finnish Lapland. *Landscape and Urban Planning*, 122, pp.1-15.
- Uma, O.J., Hayombe, P.O. and Agong, S.G., 2014. Assessing water-based recreational activities to project beach ecotourism potentials in Kisumu County.
- UNECA, 2016. Ethiopia's Sustainable Tourism Master Plan 2015-2025
- UNWTO, 2013. Tourism highlights ,2013 edition
- UNWTO (2017a), UNWTO Tourism Highlights 2017 Edition, World Tourism Organization, Madrid. Retrieved: <https://www.e-unwto.org/doi/pdf/10.18111/9789284419029>
- UNWTO and UNDP (2017), *Tourism and the Sustainable Development Goals – Journey to 2030, Highlights*.
- Vasvari, M., Boda, J., David, L. and Bujboso, Z., 2015. Water-based tourism as reflected in visitors to Hungary's lakes. *GeoJournal of Tourism and Geosites*, 15(1), pp.91-103.

Wang, S., Yamada, N. and Brothers, L., 2011. A Case study: discussion of factors and challenges for urban cultural tourism development. *International journal of tourism research*, 13(6), pp.553-569.

Worku, M., 2017. Ecosystem services and tourism potential in lake tana peninsula: Ethiopia review. *J. Tour. Hosp*, 6, pp.2167-0269.

ANNEXES



**COLLEGE OF DEVELOPMENT STUDIES
CENTER FOR ENVIRONMENT AND DEVELOPMENT STUDIES
PROGRAM OF TOURISM DEVELOPMENT AND MANAGEMENT**

Questionnaire

Dear Participants,

I would like to thank you for your participation in this study in advance. The aim of this research is **to assess the Water based tourism development potentials of Koka Water reservoir**. It also addresses Community benefits, perception and factors affecting water-based tourism development of Koka water reservoir. All information and ideas shared with the researcher will be kept confidential and your name will not be used without your approval. You do not have obligation to accept this invitation. If you decide to participate, you have the right to decline to answer any particular question; withdraw from the study at any point; ask any question about the study at any time during participation; provide information on the understanding that your name will not be used unless you give permission to the researcher.

Are you willing to give your consent to participate? Yes No

Thank you very much for your cooperation!!!

Researcher address: E-mail; debelagemechu5@gmail.com

Phone number; +251912431748

Section I: Demographic characteristics of Respondents

Please” put x” for your responses in the box provided.

No	Items	1	2	3	4	5
1	Sex	Male <input type="checkbox"/>	Female <input type="checkbox"/>			
2	Age	What is your age in year _____				
3	Marital Status	Single <input type="checkbox"/>	Married <input type="checkbox"/>	Divorced <input type="checkbox"/>	Widowed <input type="checkbox"/>	
4	Educational Background	Un-educated <input type="checkbox"/>	Primary <input type="checkbox"/>	Secondary <input type="checkbox"/>	Diploma <input type="checkbox"/>	Degree and Above <input type="checkbox"/>

Section II: Community benefits from Koka water reservoir

Please” Put x” for your responses in the box provided (NB; more than one answer is possible only for questions 2, 6 and 7).

- Do you benefit from Koka water reservoir? Yes No
- If yes, for Question No.1 what are the ways you are benefiting from koka water reservoir?
 - Farming using irrigation
 - Fishing
 - Cattle watering
 - Tourism services
 - Other (specify)-----
- If No for Question No.1, What are the reasons?

- How do you evaluate income you generate from Koka through tourism?
 - Very Low
 - Low
 - Medium
 - High
 - Very high
- How do you evaluate job opportunities created due to tourism in Koka?
 - Very Low
 - Low
 - Medium
 - High
 - Very high
- What are the reasons that limit tourist to visit Koka water reservoir?
 - Government restriction
 - Lack of information
 - No responsible body at an area
 - Others(specify) _____

7) On what activities tourists participate while they come to Koka?

Bird watching

Fishing

Swimming

Others (Specify) _____

Boating

Section III: Community perception towards water-based tourism development of Koka water reservoir.

Please” **Put x**” for your responses for each item under choices provided.

NB: Only one answer for one Item

Perceptions of local community of water-based tourism development	Level of Agreement				
	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
Items					
Water based tourism development creates more jobs for community.					
Water based tourism development enhances the image of the local culture and pride in their culture					
Water based tourism development attracts more investment to the village.					
Standard of living increases considerably with the development of water-based tourism.					
Water based tourism development improves infrastructure and facilities.					
Water based tourism development destroys the natural environment.					
Water based tourism development pollutes the reservoir.					
Water based tourism development increases the costs of living.					
Water based tourism development increases crime.					
Water based tourism development creates deterioration of culture					

Section IV: How do you rate the factors affecting water-based tourism development of Koka water reservoir? Please "Put x" for your responses under the options provided

NB: Only one answer for one Item

Factors affecting water-based tourism development of water reservoir	Level of Agreement				
	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
Items					
Lodging services					
Food and beverage services					
Transport infrastructure(road)					
Boating services					
Telecommunication services					
Water supply					
Electricity supply					
Health care services					
Distance from main city					
Distance from other attractions					
Distance from the main road.					
Transport links					
Awareness of local community about water-based tourism development.					
Awareness of local community on how to use water for tourism purposes.					
Awareness of investors about Koka water-based tourism development.					
Awareness of stakeholders on how to use Koka for multipurpose.					
Skilled human resources					
Attention from government to conserve the reservoir					
Coordination among the user to protect the reservoir					
Guideline how to use the reservoir					
Waste management system					
Budget allocation from government for water-based tourism development					
Income of local community					
NGO support for water-based tourism development					

Thank You again!!!

Interview Questions

Interview questions for Zonal and woreda culture and tourism offices experts.

1. What are the benefits that Koka water reservoir is provided for local communities?
2. For what purpose Koka is currently used?
3. Is it Koka water reservoir used for tourism purposes?
4. Is Koka mapped as one of tourism resources?
5. What are its potentials to attract tourists?
6. What are the factors affecting its development as a tourist destination?
7. Is there any plan to develop the site?

Interview questions for Key informants from local communities

1. What are the benefits you get from Koka water reservoir?
2. Do you earn any benefit from tourism activities in Koka?
3. Have you seen tourist who visit Koka water reservoir?
4. What are the tourism potentials of Koka to attract tourists?

Interview questions for Tourism Ethiopia, Oromia culture and tourism bureau experts.

1. Is Koka water reservoir is mapped as one of tourism resources?
2. What are its potentials to attract tourists?
3. Is there any plan to develop the site?

Interview questions for Ethiopian Wildlife Conservation Authority experts

1. What are the mandates your organization has on Koka water reservoir?
2. Is it Koka water reservoir used for tourism purposes?
3. What are its potentials to attract tourists?



Addis Ababa
University

YUUNIVERSIITII FINFINNEETTI

MUUMMEE GUDDINAA FI BULCHIINSA TUURIZIMII

Gaafannoo

Jaalamtoota Hirmaattota,

Duraan dursee qorannoo kanarratti hirmaachuu keessaniif baay'een isin galateeffadha. Kaayyoon gaafannoo kanaas" Guddina Tuurizimii bishaan waliin walqabate Haroo Namtolchee Qooqaa" irratti odeeffannoofi yaada uummata naannoo irraa sassaabu dha. Kanaafuu, gaaffiilee kanaa gadi jiraniif deebii haqaa kennuun, milkaa'ina qorannichaatiif gahee keessan taphadhaa. Gaaffiin isiinif hin galle ykn ifa hin taanee yoo jiraate, irra taru/ darbuu ykn ibsa dabalataa gaafachuu ni dandeessu. Odeffannoon isiin keennitan icciitidhaan qabatamee qorannaa kanaaf qofa oola.

Deeggarsa taasiftaniif baay'ee galatoomaa!!!

Odeeffannoof: Bil. +251912431748

Email: debelagemechu5@gmail.com

Kutaa 1: Odeeffannoo Dhuunfaa

Deebii keessaniif saanduuqa(box) kennaman keessatti mallattoo" x" barreessuun deebisaa.

Lak	Gaaffilee	1	2	3	4	5	6
1	Saala	Dhiira <input type="checkbox"/>	Dubara <input type="checkbox"/>				
2	Umurii	Umurii keessan waggaan _____					
3	Fuudhaa fi Heeruma	Hinfuune/h inheerumne <input type="checkbox"/>	Kanfuudhe/ heerumte <input type="checkbox"/>	Kan walhiike <input type="checkbox"/>	Boosora ykn Bosortii <input type="checkbox"/>		
4	Sadarkaa Barnootaa	Hin baranne <input type="checkbox"/>	Sadarkaa 1 ^{ffaa} <input type="checkbox"/>	Sadarkaa 2 ^{ffaa} <input type="checkbox"/>	Dipiloomaa <input type="checkbox"/>	Digrii 1 ^{ffaa} fi isaa ol <input type="checkbox"/>	

Kutaa 2: Fayyadamummaa uummataa Haroo Qooqaa irraa

Deebii keessaniif saanduuqa(box) kennaman keessatti mallattoo” x” barreessuun deebisaa.

8) Hara namtolchee Qooqaa irraa fayyadamaa jirtuu? Eeyyeni Lakki

9) Deebiin keessan gaaffii 1^{ffaa} Eeyyeni yoo tahe maaliin irraa fayyadamtan?

Qonna jallisii

Qurxummii baasuu

Horii Bishaan obaasuun

Tajaajila Tuurizimii

Kan biroo _____

10) Deebiin keessan gaaffii 1^{ffaa} Lakki yoo tahe maaliif itti fayyadama dhabdan?

11) Galii gama tuuriimiin Qooqaa irraa argattan akkamitti ilaaltu?

Baay’ee Xiqqaa

Xiqqaa

Giddugaleessa

Ol’aanaa

Baay’ee ol’aanaa

12) Carraa hojii saba tuuriimiin naannoo haroo Qooqaatti uummame akkamitti ilaaltu?

Baay’ee Xiqqaa

Xiqqaa

Gidugaleessa

Ol’aanaa

Baay’ee ol’aanaa

13) Tuuristoonni hara Qooqaa akka hin daaw’anne maaltu godha jettanii yaaddu?

Daawwachuuf dhorkamaadha

Waa’ee haaroo qooqaa odeeffannoon hin jiru

Nammni tuuristii simatu hin jiru

Kan biro _____

14) Tuurtoonni yoo dhufan maal faiI irratti hirmaatu?

Sinbirroota daaw'achuuf

Bishaan daakuuf

Bidiruun bashannanuuf

Qurxummii baasuuf ykn ilaaluuf

Kan biroo _____

Kutaa 2: Ilaalcha uummanni naannoo guddina tuuriimii bishaan bu'ureeffateef qabu

Deebii keessan taarree gaaffitiin filannoowwan kennaman jalatti mallattoo" x" barreessuun deebisaa.

Hubachiisa; Gaaffii tokkoof deebii tokko qofatu danda'ama

Ilaalcha uummatni tuuriimii bishaan bu'ureeffateef qabu	Sadarkaa waliigaltee				
	Gonkumaa waliingaluu	Walii hingalu	Yaada hinqabu	waliingala	Sirrittan waliigala
Gaaffilee					
Guddinni tuimii bishaan bu'ureeffate carraa hojii uuma.					
Guddinni tuimii bishaan bu'ureeffate uummannii akka aadaa isaan boonu deeggara.					
Guddinni tuimii bishaan bu'ureeffate investmentii gara iddoo hawwataatti harkisa.					
Guddinni tuimii bishaan bu'ureeffate sadarkaa jiruu ni fooyyessa.					
Guddinni tuimii bishaan bu'ureeffate bu'uraaleen misoomaa akka fooyya'an taasisa.					
Guddinni tuimii bishaan bu'ureeffate naannoo uumamaa jeeqa.					
Guddinni tuimii bishaan bu'ureeffate bishaan haroo faala.					
Guddinni tuimii bishaan bu'ureeffate gatii jireenyaa olkaasa.					

Guddinni tuumii bishaan bu'ureeffate kashlabummaa dagaagsa.					
Guddinni tuumii bishaan bu'ureeffate aadaan uummataa akka faalamu taasisa.					

Kutaa 3: Rakkoolee guddinni tuuriziimii bishaan bu'ureeffate Qooqaa irratti akka hin dhufne godhan sadarkaa irratti walii galto kaa'i.

Deebii keessan taarree gaaffitiin filannoowwan kennaman jalatti mallattoo" x" barreessuun deebisaa.

Hubachiisa; Gaaffii tokkoof deebii tokko qofatu danda'ama

Lak .	Rakkoolee guddinni tuuriziimii bishaan bu'ureeffate Qooqaa irratti akka hin dhufne godhan.	Sadarkaa Waliigaltee				
		1	2	3	4	5
	Gaaffilee	Gonkumaa walii hin galu	Walii hingalu	Yaada hinqabu	waliingala	Sirritan waliigala
1.	Bu'uraalee fi tajaajila					
	Iddoon bultii					
	Tajaajilli nyaataafi dhugaatii					
	Bu'uraalee geejjibaa(daandii)					
	Tajaajila Yabalaa					
	Tajaajila teelee					
	Dhiyeessii Bishaanii					
	Dhiyeessii Ibsaa					
	Tajaajila fayyaa					
2.	Dhaqabummaa Haroo					

	Fageenya magaala guddoo biyyaa irraa					
	Fageenya hawwata tuurizimii biroo irraa					
	Fageenya daandii guddaa irraa					
	Hanqina geejjiba Qooqaa geessuu fi deebisu					
3.	Hubannoo fi Leenjii					
	Hubannoo hawaasaa waa'ee tuuriimii naannoo haroo.					
	Hubannoo abbootii qabeenyaa waa'ee tuuriimii naannoo haroo.					
	Hubannoo qooda fudhattoota waa'ee tuuriimii naannoo haroo					
	Humni nama baratee kanarratti hojjatu					
4.	Kunuunsaa fi Eegumsa					
	Xiyyeeffaannoon Mootummaan hara Qooqaa kunuunsuuf qabu					
	Qindoomina itti fayyadama haroo.					
	Qajeelfamoota itti fayyadama haroo					
	Sirna balfi/xuraawaan itti dhorkamu.					
5.	Gargaarsa Finaansii					
	Baajata mootummaa guddina turizimii bishaan bu'ureeffateef ramadamu					
	Sadarkaa galii ummataa					
	Gargaarsa dhaabbilee miti mootummaa irraa guddina turizimii bishaan bu'ureeffateef kennamu					

Galatoomaa!!!

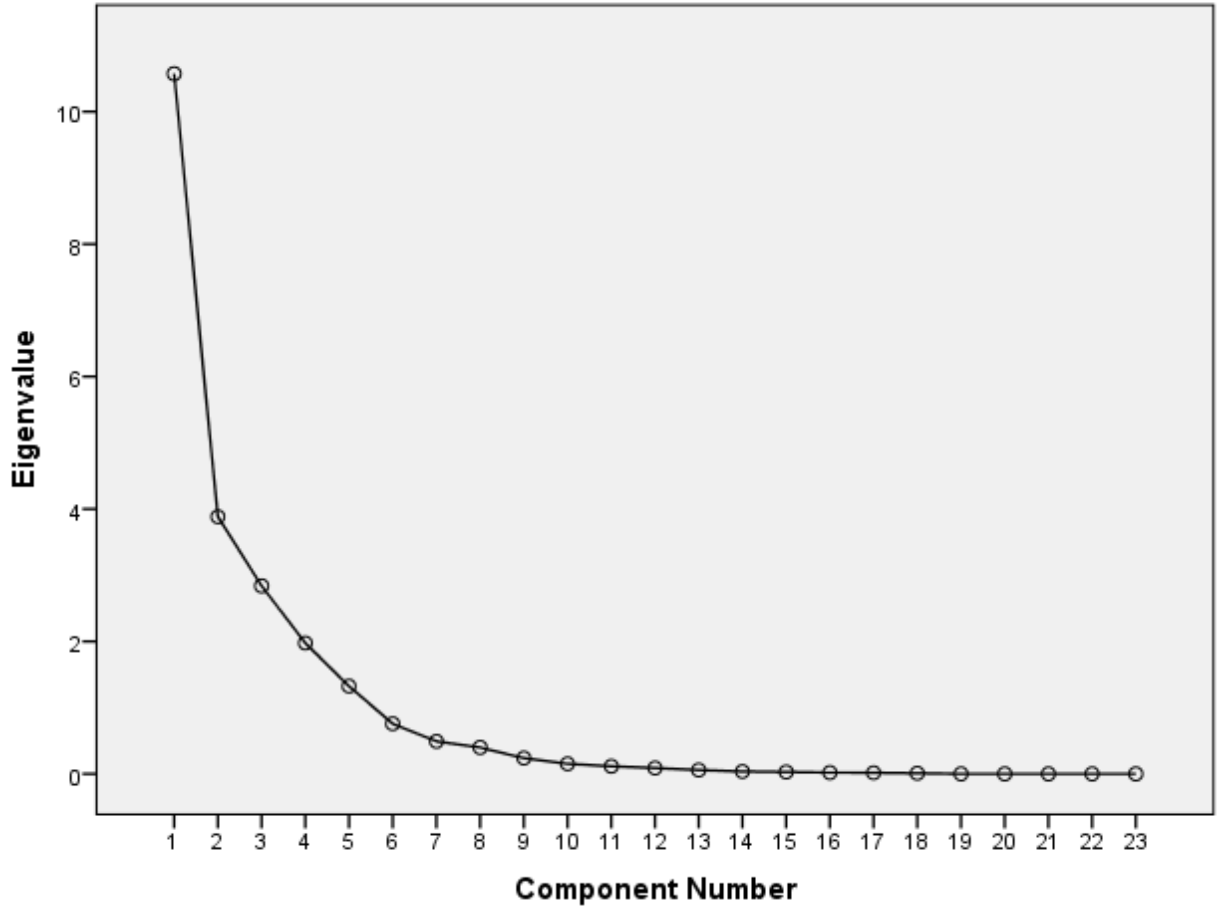
APPENDIXES

Exploratory factor analysis outputs

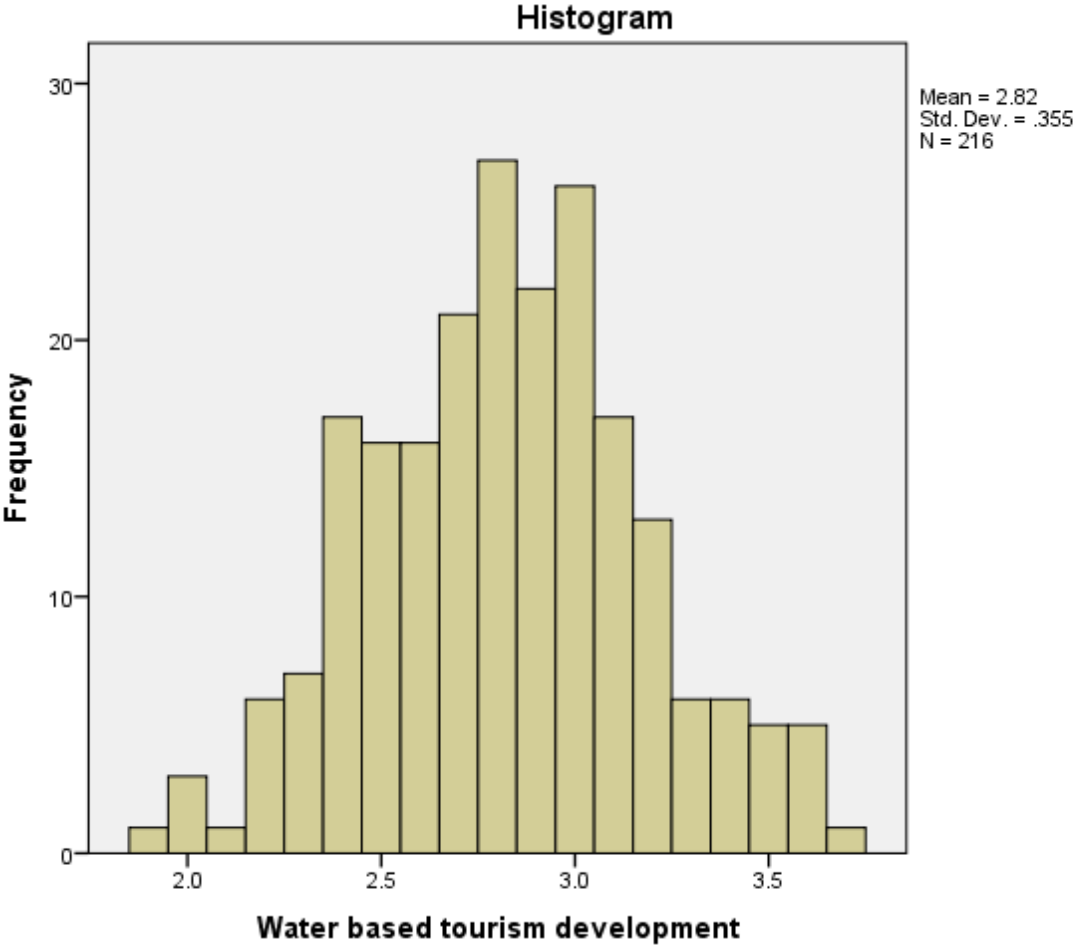
Communalities	Initial	Extraction
Lodging facilities and services	1.000	.661
Food and beverage services	1.000	.918
Road	1.000	.890
Boating facilities and services	1.000	.845
Telecommunication services	1.000	.913
Water supply	1.000	.906
Electric supply	1.000	.967
Health care services	1.000	.771
Distance from main city	1.000	.924
Distance from other attractions	1.000	.955
Distance from the main road	1.000	.967
Transport links	1.000	.967
Awareness of local community	1.000	.918
Awareness of investors	1.000	.890
Awareness among stakeholders	1.000	.845
Skilled human resources	1.000	.913
Attention from government to conserve the reservoir	1.000	.968
Coordination of the users to protect the reservoir	1.000	.968
Guidelines how to use the reservoir	1.000	.908
Waste management system	1.000	.880
Budget allocation from government	1.000	.795
Income level of local community	1.000	.973
Funds from NGO	1.000	.853

Extraction Method: Principal Component Analysis.

Scree Plot



Assumptions of multiple regression



Normal Q-Q Plot of Water based tourism development

