

# HISTORICAL AND ANTHROPOLOGICAL STUDY OF NATURAL HOT SPRINGS: HEALING WAYS AND ITS ROLE TO HEALTH TOURISM, THE CASE OF OROMIA SPECIAL ZONE, AMHARA REGIONAL STATE, ETHIOPIA

Dagnachew Tolessa ,  
Negash Abebe

SeLecturer, Wollo University, Department of History and Heritage Management, dagnachewtolessa@yahoo.com  
Lecturer, Wollo University, Department of Social Anthropology

## ABSTRACT

*This article primarily focuses on Historical and Anthropological study of Natural Hot Springs: Healing ways and its role to Health Tourism, in Oromia Special Zone, Amhara Regional State. The roles of natural hot springs as an important natural resource in health, wellness and health tourism with special consideration of the health and wellness sector are also got emphasis. Besides, elements of the hot spring experience were examined including their historical and cultural background and their contribution to the health and medical tourism. This contribute to knowledge about the role of natural hot springs in tourism which will support and add value to the discussion about health and medical tourism as an area of increasing importance in national medical tourism.*

*There have been some attempts to study the natural hot springs which found in Amhara Regional State and Oromia Special Zone. They tried to assess temperature gradient, anthropogenic impacts, physicochemical parameters and other environmental variables on macro invertebrate communities. Likewise, others focus on the study of natural radio activity level in water and soil at Kemissie Hot Spring, North-Eastern Ethiopia. Their study emphasis on evaluation of the level of radio activity in soil and water collected from Kemissie Hot Springs by using high resolution gamma-ray spectrometry. However, until now, there is no comprehensive study that deeply examines the healing ways and the role of natural hot spring in health tourism or wellness tourism. Thus, this article is intended to fill this gap left in particular emphasis on the natural hot springs found in the districts of Jille Dhumuga (Aweyitu), Dawacheffa (Borkena) and Bati (Chachatu) which are found in Oromia Special Zone of Amhara Regional State. The findings of the study revealed that even though the Zone has a plenty of natural hot springs, they did not get proper protection, attention and developments which disable them to give maximum profits both for the local society and the country in general.*

*In making this study, we came across with serious shortage of written sources or literatures in relation to the hot springs. The scarcity of written materials obliged us to use other sources like pamphlets, which we found in some government offices. Also, we tried our best in using other different literatures that are, in one way or another, related to our topic.*

**KEYWORDS:** Hot Springs, Aweyitu, Borkenna, Chachatu, Wollo, Oromo, Hydrotherapy, Health Tourism, Thermal Springs

## INTRODUCTION

Hot spring water issuing from the earth's surface has been a subject of wonder since the dawn of humankind. Hot springs, also referred to as thermal springs, occur on every continent on earth. They are usually found in regions with recent volcanic activity where percolating water is heated by hot molten rock (magma) and is released to the surface through channels in the rock (World Book Encyclopedia, 1982).

The first contacts of Hominids (Homo Habilis, Homo Erectus and Homo Sapiens) with the earth's heat go back to

prehistoric times. In Africa, several thermal springs are known to exist in the northern zone: Algeria, Morocco and Tunisia. But the largest concentration of geothermal manifestations is found in the East African Rift Valley (Lund, 1999). This geographical site is believed to be the cradle of humanity where ancestors of humans were in close contact with all kind of geothermal phenomena for two million years. Lund (1999) reported that human fossil remains and footprints, corresponding to the Homo Habilis, have been found and preserved in volcanic ash in northern Tanzania. Many tools made from volcanic rocks, such as hammer stones, cobbles

and choppers, were found on the shore of Lake Turkana in northern Kenya. Both are about two million years old. About 200 human fossil remains of the Homo Erectus, dated at about 1.6 million years ago, were discovered at Lake Turkana (ibid).

Wellness tourism is travel for the purpose of promoting health and wellbeing through physical, psychological, or spiritual activities. Likewise, medical tourism is defined as “tourism that involves people who travel to a place to undergo treatment for a disease, ailment or condition, and who are seeking lower cost of care, better access to care, or different care from what they could receive at home” (Global Spa Summit, 2011: 20). As a worldwide, natural hot springs are centers of wellness tourism. As recreational areas, too, they are one of the best economic centers of the world (Megersa, 2007). It is a natural feature resulting when ground water is heated by geothermal force, typically becoming diluted with cool surface water on the way and many are in attractive location.

In the world, there are hot spring recreational areas that found in many countries that are renowned for their hot spring. China and Japan have traditionally been as the global Hot spring’s Champions, generating more than 50% of the industry profits. China is the leader in terms of the world highest revenue generation, but Japan holds the record for the world’s highest number of hot spring establishments.

In Africa, there are many countries those are very known by very attractive hot springs. These are –Algeria, Egypt, Uganda and Zambia. Each of these countries is getting more benefits from hot spring water recreational area. Likewise, Ethiopia is one of the most beautiful countries in the world with oldest civilization and unique geographical features that situated in the Horn of Africa. The country is the home of hot springs that is produced by emergency of geothermal heated ground water from the earth’s crust. There are hot springs that are more attractive for tourist, because the great rift valley passing through the country and there is the short distance from the crust of the earth to actual ground, making many hot springs available, for example, Awasa, Arba Minch and Dalol are few to mention. Thus hot springs are the main tourist attraction center of Ethiopia (www.ethio.net). However, irrespective of the country’s potential, development of the sector is still at infant stage.

Currently, some hot springs are used for hydrotherapy. Hydrotherapy or water therapy is defined as the treatment of diseases and afflictions by using water at different temperatures and in different ways. The healing methods include drinking mineral water at spas, spraying water onto the body, bathing and underwater massage. Hydrotherapy is said to be the oldest, safest and most affordable method of treating common ailments such as fatigue and body strain (Spicer & Nepgen, 2005).

The natural hot spring in Oromia Special Zone of Wollo,

particularly in the districts of *JilleDhumuga* (Aweyitu) *DewaChefa* (*Borkena*) and *Bati* (*Chachatu*) are important for the use of health tourism as well as for tourist attraction areas, which could contribute to a country economic development.

## HEALTH TOURISM AND HOT SPRINGS

Hot spring, also called thermal spring, is spring with water at temperatures substantially higher than the air temperature of the surrounding region. Most hot springs discharge groundwater that is heated by shallow intrusions of magma (molten rock) in volcanic areas. Some thermal springs, however, are not related to volcanic activity (Chuamuangphan, 2016).

Health tourism can be a pattern of tourism concerning about environmental conservation. They also mentioned that when the visitors take benefit from nature such as hot spring, they then would think about value of the hot spring. This can be a way for environmental conservation, hot water, and related activities in particular. Therefore, hot spring tourism can be one of these three levels of health tourism. It can be the way treatment by hot water, as well as it could help to improve the visitor’s body and make them relaxed while bathing in the hot water.

Hot springs can be found in every corner of the world. China and Japan have traditionally been seen as the Global Hot spring’s Champions, generating more than 50% of the industry revenue. China is the leader in terms of the world highest revenue generation, but Japan holds the record for the world’s highest number of hot spring establishments. Until now, the hot spring industry has continued to grow and attract more and more visitors and is expected to achieve nearly USD 60 Billion. However, opportunities are still out there as many hot spring locations are undeveloped and underdeveloped.

The Peace Medical Tourism website, found in India, defines Medical Tourism as where people who live in one region or country move to another region to get medical, dental and surgical care. People are traveling for medical care because of low or affordable cost, better access to care or a higher level of quality of care. While “Domestic Medical Tourism” is where people who live in one country voyage to another city, region or state to obtain medical, dental and surgical care. They may move in a traveling because of inexpensiveness, better contact to care or a higher grade of quality of care. (<https://peacemedicaltourism.com/pages/faqs-for-patient>).

## HEALTH PROFITS OF HOT SPRINGS

The medicinal powers of hot springs have been used for the past many years and have been widely acknowledged in Europe and Japan as natural treatment alternatives for an assortment of common sicknesses. Hot springs are presumed to have a number of therapeutic profits, with many scientists from around the world studying the “treatment of disease by bathing.” Scholars delineated some of the top benefits of dropping into a hot spring.

**Boosting Blood Circulation:** The water found in natural hot springs holds a variety of diverse minerals, including calcium and sodium bicarbonate. Our bodies marinate up these minerals when we are in a hot spring, which enlarges circulation and overall oxygen transfer.

**Diminishing Anxiety and Encourage Sleep:** The mineral water in hot springs can also help diminish stress by relaxing stressed muscles. Meanwhile as your body temperature get higher in the bath, and then cools once you way out can also help you relax and fall into a deeper sleep or rest.

**Alleviating Soreness:** An Israeli study published in the journal Rheumatology International found that hot mineral baths may give support to in pain reprieve and exhaustion caused by extensive pain. This is because the heat, although sometimes intense, can boring our perception of pain by overcrowding the pain receptors in our bodies. Also being floating in the water often permits for freer movement as the water supports the body's joints.

**Nursing Skin Tribulations:** Dry and rough skin can become smooth and softer by the high silica content found in the hot springs. Meanwhile the Sulphur found in the water can also take hold of medicinal properties that may relieve conditions such as eczema and psoriasis (<https://www.aasparesort.com/health-benefits-sulphur-water/>, Pope, 2017).

## HOT SPRING TOURISM

Hot spring tourism is an important subsector of nature-based tourism, but also includes links to the historical and the cultural heritage related use of natural hot springs (Erfurt-Cooper and Cooper, 2009). The natural hot spring resource represent a complex of physical, biological and informational element and physical agents which are used for recovery and development of physical and spiritual power of person, his working abilities and health. Particularly those human made and natural recreational resource possess a recreational and tourist potential, but the degree of its usage varies and depend on recreational demand and specialization of the region.

With reference to the healing benefits of natural hot springs, Ross (2001) stated that such springs were used during the Middle Ages and are today characterized by a firmly established belief in the curative powers of geothermal springs in the countries in which they happen. Health tourism based on natural hot springs includes both medical and wellness components. In a review of the use of health tourism, Ross (2001) suggests that there is no single definition for health and wellness tourism as many kinds of travel contain elements that contribute towards making oneself or family members healthier.

According to La Moreaux and Tanner (2001), the medicinal value of hot springs can be traced back to two and a half thousand years ago. During this period, Chinese people used the Huang hot spring on the Shahe River for treatment for various

ailments (La Moreaux & Tanner, 2001; Spicer & Nepgen, 2005). The International Union of Tourist Organizations (IUOTO, 1973:7) interprets health tourism as the provision of health facilities utilizing the natural resources of a country or region, in particular mineral water and climate, which refers directly to the use of natural hot springs in tourism.

## HOT SPRING WATER IN AFRICA AND ETHIOPIA

In many countries natural hot springs are recognized as an important part of local tourism resources (Altman, 2000). Africans have also used thermal springs since ancient times. The Ancient Egyptians are believed to have used thermal baths for therapeutic purposes since 2000 BC. Many of these springs became known as sacred sites, and later evolved as healing centers (Spicer & Nepgen, 2005). In Africa, thermal springs also contributed to tourism (Pankhurst, 1986).

The 20th -21st century wellness movement is combining lifestyle, health and medical aspects and represents a more recent development of these markets which are now catering for a much wider range of visitors than ever before (Pilzer, 2002) with natural hot springs as an integrated part of this growing trend for health and wellness.

The thermal waters of Ethiopia attracted people due to their reputation of having curative powers. This reputation was documented by the British consul, Walter Plowden, who visited Guramba in 1844. He noticed that there were at least 40 people in the water, with about 100 waiting to enter. Other Ethiopian springs that attracted large crowds were Dabamata, Bilen, Berbere Wuha and Wanzagay. "The choice of springs to frequent depended on the type of ailments that they were thought to cure". Small settlements began to develop to cater for regular visitors' needs (Pankhurst, 1990, cited in Tuwani 2011). Ethiopians used thermal springs for the treatment of various diseases such as skin diseases, leprosy and other contagious diseases (Pankhurst, 1986, 1990).

Ethiopian springs also developed as a place for royal relaxation. Emperor Menelik II is reported to have moved his camp from Entotto to thermal springs of Finfinne (Now found in the center of Addis Ababa) in 1885/86 (Pankhurst, 1990). His consort, Queen Taytu, is reported to have built a house near a spring, and the entire court later followed her. The purpose was for relaxation as well as medicinal treatment. The settlement grew and was given the name Addis Ababa, meaning 'New Flower' in 1886 (Pankhurst, 1986, 1990).

In addition, tourism is currently responsible for the development of many thermal springs into spas or resorts, and many spas are changing their focus to recapture the essence of a true spa's contribution to health and well-being. However, while the hot spring tourism industry is growing, there has been little research into the elements that collectively make up the hot spring experience. More specifically, while for example the hot spring industry makes a significant contribution towards health, wellness and recreational tourism, it receives

less attention in the academic and popular literature than the general wellness sector (Erfurt-Cooper and Cooper, 2009).

## RESEARCH METHODOLOGY

### Research Design and Sampling Techniques

Descriptive type of research design with a qualitative approach employed to guide the whole research undertaking process. The type of research approach applied in this study is the qualitative one; because it gives a chance for the researcher to study the phenomenon holistically.

The researchers employed sampling techniques such as simple random and purposive sampling techniques in conducting the research. Simple random sampling was used to select people of the local residents to answer the prepared interview guide. The second sampling technique i.e. purposive sampling used in order to get key informants from various individuals and officials of the government purposively.

### Data Collection Techniques

The desired data for this research collected from both primary and secondary data sources. The primary sources were gathered through interview, semi-structured interview, focus group discussions and observation. Besides, secondary sources written on the role of natural hot springs in health and medical tourism were discussed with.

### Data Analysis and Validity

To assess the role of natural hot springs in tourism, the research methodology followed was interpretive social science standard and qualitative research methods. The qualitative analyses can be applied through triangulation like the data which gathered from the secondary sources and used parallel with the primary sources that obtained from observation, interviews, focused group discussions and informal conversations. In this research, the data obtained from the above mentioned sources were interpreted and analyzed carefully and accordingly by employing systematic approach.

## NATURAL HOT SPRINGS OF THE WOLLO OROMO AND THEIR ROLES TO THE HEALTH TOURISM

### DESCRIPTION OF THE STUDY AREA

The Oromia Special Zone is one of the special zones found in Amhara Regional State. It was founded in 1994. It is divided into five Woredas (districts), two town administrations, 116 rural kebeles (Sub-Districts) and twenty one kebele towns. Kemissie is the largest town of the zone which is found 325 kms far to the North-East direction of Addis Ababa. It is bordered on west and southwest by North Shewa Zone, on North-East by the Argobba Special woreda, on the East by Afar Region, and on the North-

West by South Wollo Zone. The total area of Oromia Special Zone is 399,432 hectares (4,192.09 square kilometers). It is found on the lowest 600 meter above sea level and the highest 3,200 meter above sea level. Of the total area of the zone, 48% is arable land, 39% is terrain and the rest 13% is mountainous.

Religion (particularly, Islamic religion) has a long history among the people of Wollo Oromo. They are adherent of Islam, around 98%, and few are followers of Christianity. All of the people living in the zone are residing in tolerance and harmony with each other irrespective of their religious differences.

Obviously, Ethiopia is a home of various natural, religious and cultural attractive or tourist attractions. She is able to register 13 different world heritages to UNSECO which is one of the indications of her rich cultural and historical resources. There are more than eighty different nations and nationalities living in Ethiopia. Among these, three nations and nationalities are living together in this Oromia Special Zone.

There have been some attempts to study the natural hot springs which are found in Amhara Regional State and Oromia Special Zone. For instance, Sisayet al (2015) study ecological status of hot spring in eastern Amhara Region. They tried to assess temperature gradient, anthropogenic impacts, physicochemical parameters and other environmental variables on macroinvertebrate communities. Likewise, Pradeephet al (2016) focus on the study of natural radio activity level in water and soil at Kemissie Hot Spring, North-Eastern Ethiopia. Their study emphasis on evaluation of the level of radio activity in soil and water collected from Kemissie Hot Springs by using high resolution gamma-ray spectrometry. Until now, there is no comprehensive study that deeply examines the healing ways and the role of natural hot spring in health tourism or wellness tourism. Thus, this article is intended to fill this gap left in particular emphasis on the natural hot springs found in *JilleDhumuga (Aweyitu)*, *DawaChefa (Borkena)* and *Bati (Chachatu)*.

### 1. Aweyitu Hot Spring Water

*Aweyitu* Hot Spring Water is found in Amhara National Regional State, Oromia Special Zone, *Jille-Dhumuga* District, in Merewa-AdereKebele. It is located on the distance of 64 Km Southward from the capital of the zone administration, Kamissie, or 4 Km Eastward from Senbete town, which is administration town of the district, found on 260 Km North of Addis Ababa on the main road that run from Addis Ababa to Dessie. *Aweyitu's* Hot Spring Water covers the area about 11,200m<sup>2</sup>. It has 3 large and 6 small rocky holes from where hot water vapour and sound is coming out.

According to our oral informants, the name *Aweyitu* is comes from Afan Oromo word (Oromo Language) "*Ho'aa*", which means hot. It directly relates with hotness of the spring water.

There are two ways through which we can reach to the *Aweyitu* Hot Spring Water: The first one is from Ataye town southward to the hot spring which takes approximately 30 minutes on foot. The second way is from Senbete town eastward by crossing the GaganhaKebele. The distance in this way covers about 4 Km and somewhat allows to use car transportation.

*Aweyitu* Hot Spring Water is bordered by Marawa and Warra-Lencha kebeles or Ataye Nazaro River in the North, Merewa and Dulla kebeles or SenbeteQebbi River in the South, Dulla and Warra-Lencha kebeles in the East and Merewa kebele and mountains in the West. Three kebeles, i.e. Warra-Lencha, Dulla and Merewa-Adere bordered the hot spring. The geographical features of *Aweyitu* hot spring is so attractive which has mountains, plain areas and main rivers particularly the two main rivers, Senbete and Ataye, join each other on the spot of the hot spring which adds additional beauty or attraction to the hot spring.

During our field observation, as we approach to the hot spring, the temperature of the area rises as it is found in the lowland surrounded by small mountains. The inactive volcano of the area, which is found in the Great Rift-Valley of Ethiopia, also increases the temperature of the *Aweyitu* Hot Spring. This makes the hot spring natural, historical and cultural heritage of the country.

As we mentioned above, the *Aweyitu* Hot Spring Water is found in the place where the two rivers (Ataye Nazaro and Senbete Qabbi) are joining each other which is surrounded by four mountains. The hot water is come out to the surface from the rocky ground with hot and attractive water vapour. Any observer of the area can say that really the place is one of the

potential places which can attract tourists and can be tourist destination. It does not need any further research to conclude this.

The water vapour is clearly visible particularly in the morning. It is also more suitable to use it in the morning. People use it in spite of their difference in age, sex, religion or nation. However, children enjoy *Aweyitu*'s hot spring mostly for recreational purpose. The number of visitors who came to the area increases from time to time. Most visitors came for health purpose. They got the service without any payment or fee.

The hot spring has high temperature which enables one to cook foods like egg, meat and maize (Corn) within 10 to 15 minutes. According to the oral informants, the smoke that come out of the ground helps or heals patients from different diseases like bone problems and skin diseases. Not only has this, the surrounding communities of the area also used the soil of the place to heal their sick cattle like camels and cows by making them to eat the soil. Therefore, peoples are using the hot spring for medical purposes both for themselves and for their cattle.

However, *Aweyitu* Hot Spring Water is still not used or exploited as it its potential allows. Because the tourists that visit the area are very small and it does not create any social or economic benefit for the local community in particular and for the country in general. For example, it does not create job opportunities or employment for the society. The Senbete district, in which the hot spring is found, claims that there are no enough budgets for the further development of the hot spring.



Figure 1: Photograph of *Aweyitu* Hot Spring Water



*Figure 2: People Use Aweyitu Hot Spring for Both Health and Recreation Purposes*

It's exposure to unnecessary contacts, both by human and animals, which endangers the hot spring water and the absence of no separated service rooms that are constructed for both male and female users of the spring water are some of the main challenges we observed around the resource. Moreover, limited or no infrastructural services like restrooms, roads, transportations, hotels and restaurants are also additional tribulations in utilizing the resource.

Different measures should be taken to solve the above problems and conserve the resource. Among these; creating awareness among the local community both on how to develop the resource and how to use as a source of income, improving infrastructures like roads and others, advertising it by using different means like mass and social medias and to make detailed research that may improve and give suitable solutions for the challenges that

mentioned above and for others. These may help to use the resource effectively and to pass it for the next generations.

## **2. Borkenna Hot Spring Water**

*Borkenna* Hot Spring Water is found on the main road of Kemissie-Addis Ababa highway, 8 Km southward of Kemissie town. It is located aside the *Borkenna* River which is one of the tributary of Awash River. *Borkenna* River reaches to Oromia Special Zone after crossing both Dessie and Kombolcha towns in South Wollo Zone. The *Borkenna* Hot Spring Water also gained its name from this river.

*Borkenna* Hot Spring Water has moderate temperature. The water vapour that comes from the holes every morning creates great pleasure for the users and observers. Peoples use the hot



Figure 3: Borkenna Hot Spring Water

spring for medication, recreation and other services.

### 3. Chachatu Hot Spring Water

Chachatu Hot Spring Water is found in Chachatu 01 Kebele which is located 10 Km Eastward from Bati town. Like Aweyitu Hot Spring Water, Chachatu also found between mountains and very old and historical mosques which makes the area so beautiful. There is road that enables to use car transportation to reach to the hot spring. However, the road needs further improvements.

In comparison with other hot springs, Chachatu affords better services for its users and tourists. Because it has separate services of six rooms for both male and female tourists and medical users of the hot spring water. Since the hotness of the Chachatu water is moderate, users can incur themselves either partially or completely and enjoy the water vapour that

comes from the ground. There are also pension (bed) services for peoples who stay there for some days or weeks, especially for medical users of the water.

### CONCLUSION

There is various number of hot springs existing in Ethiopia and they attract tourists from within the country and abroad. According to information gained from local informants, various people do take bath in the hot springs and using the water for cooking purposes. Moreover, local people believe the water is used to cure various kinds of diseases.

However, the development of those hot spring locations should concern about the suitable pattern with tourism resources in the area. Tourism resources have to be connected with all attractions. Moreover, the participation of the community is a key to a successful development. Future works



Figure 4: Chachatu Hot Spring Water Rooms

related to this study should focus on hot spring tourism sites management for health tourism and also about local community participation in tourism management for sustainability.

Creating awareness among the local communities about the resource, making them to benefit from it, protecting the hot spring, developing and advertising the resource are very important and timely measures that should be taken for the best usage of the resources. Moreover, there is no any organized scientific research that made on these resources. Therefore, making an organized and scientific as well as detailed research concerning the hot springs is very necessary. It further helps to protect the resource and enables the society for its sustainable usage. In addition to these, expanding other tourists' accommodations like hotel services, restaurants, pensions, recreation places and others are needed to be improved because they attract further tourists to the area.

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