

Optimising the Economic Weight of Thermal Springs for Rural Tourism Development in Zambia

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Abstract

Zambia is rich in natural, environmental, cultural and heritage resources which could be developed into sustainable tourism sites. However, these resources, for example thermal springs, have not been fully optimised as such, local communities that host them have not benefited both socially and economically. This study aimed to explore how the Chinyunyu thermal springs could be optimally used as an economic input to contribute to the cause of rural tourism development and fight poverty and unemployment in the local economy. The research followed an inductive qualitative research methodology and employed a thematic analysis of data with a sample size of thirty participants purposively collected from local community members. The study found that the Chinyunyu thermal springs were undeveloped and underutilised for economic benefit of the local community. This failure to optimise the economic weight of these thermal springs has undermined the development imperatives of the Chinyunyu Village and the district at large. The local community members' perception is that the thermal springs could be developed into a community-based tourism resort by commercialising the thermal springs. The Zambian authorities should explore means and ways of developing and commercialising tourism activities at the Chinyunyu thermal springs.

Keywords: Chinyunyu village; Chinyunyu thermal springs; commercialisation; tourism; rural development; Zambia

Introduction

The Republic of Zambia, hereafter referred to as Zambia, is a southern African country rich in natural, environmental, cultural and heritage resources. Environmental and natural resources such as caves, thermal springs, mountains and valleys, numerous waterfalls, and rivers are found in the country and could be developed into sustainable tourism sites. Despite these resources, Zambia has not fully optimised the economic weight of these resources present to contribute to its economic development imperatives. Zambia is one of the poorest countries in the world (World Bank, 2018). Statistics by the World Population Review (WPR) (2021) revealed that the country sits on position number 15 from the bottom on the global poverty rating. Poverty levels in rural Zambia are even worse hovering around 78.8 percent compared to the 60 percent of the national average (Zambia Statistics Agency, 2023).

This paper argues that thermal springs, if sustainably developed could be used to benefit the local communities that host them, especially in the rural areas. This assertion is corroborated by Mafukata (2020), who contends that maximisation of the use of environmental and cultural resources - especially among resource-poor rural communities in Africa could trigger community-led entrepreneurship development which in turn could promote rural tourism development. Kapur (2019) urges that the development of rural communities translates into the development of the whole country at large. Development of rural communities by the way of sustainably exploiting local resources is, therefore, crucial for the economic welfare of a country at large.

Thermal springs in Zambia are spread all over the country but mostly in far flung rural areas. These thermal springs in Zambia are not fully optimised to contribute to sustainable

development in the communities that host them (Bwembya et al., 2018; Kapasa, 2014; Niles, 2012). Out of approximately 80 thermal springs in the country, only one thermal spring is fairly developed namely, the Kapishya thermal springs. The private developer has constructed a lodge which has created employment opportunities for the local villagers at Kapishya thermal springs (Chisala, 2007; Chisala, 2021, Musonda & Sikazwe, 2005, Zambia Tourism Agency (ZTA), 2019). The natural resources in Zambia have remained untapped for rural development mainly because of poor access road infrastructure leading to these sites (Government of the Republic of Zambia [GRZ], 2018). However, some thermal springs such as the Chinyunyu thermal springs are located 80 kilometres from the city, Lusaka and accessible by a tarred road although remains underutilised to its full potential. This study used the Chinyunyu thermal springs as a case study for optimising their use for rural tourism development. The site was selected due its suitable mineral composition which is favourable and safe for bathing, swimming and balneology (Kapasa, 2014; Musonda & Sikazwe, 2005). The temperature of the fluid at the thermal springs is around 60 degrees Celsius. This can be regulated to lower temperatures to serve various tourist activities such as sauna, spa and swimming. This study, therefore, posits that the Chinyunyu thermal springs' economic weight can be optimised through commercialisation of the resource. This would in turn maximise the socio-economic benefits for the local communities hosting them. Commercialisation of the Chinyunyu thermal springs resource into a viable community-based tourism enterprise would encourage the growth of domestic and international tourist arrivals in Chinyunyu Village and beyond. The main aim of this study was to explore the optimal use of Chinyunyu thermal springs which can be an economic input to help the cause of rural tourism development. The specific objectives were: to investigate the current and potential/future uses of the Chinyunyu thermal springs; and to identify the most perceived ideal type of development that would optimise the use of the thermal springs and offer a strategy for rural development in Chinyunyu Village.

Recent studies on the thermal springs in Zambia have focused on determining the mineral composition of the thermal springs' fluid and the feasibilities of geothermal energy generation (Bwembya et al., 2018; Kafuwe, 2018; Kapasa, 2014; Musonda & Sikazwe, 2005; Nawa, 2018; Niles, 2012). Results of these studies were mixed, while some studies deduced that geothermal energy generation were not technically feasible due to unsuitable physical and chemical properties of the thermal spring fluid (Bwembya et al., 2018). Kapasa (2014) found the Chinyunyu thermal springs to be feasible for generation of electricity using the binary cycle system. While, Kapasa's study was based on the water samples collected from the thermal spring without taking into consideration of the views of the local people in Chinyunyu Village, this study has taken a participatory approach of engaging the local people of Chinyunyu Village to determine their preferred use of the thermal springs.

Research design and approach

The study employed a constructivist research paradigm where knowledge is co-created and influenced by the social environment in which people live (Denzin, 2018). The research followed an inductive qualitative research methodology. The study was taken in two phases, the first one being a transect walk to Chinyunyu Village and the Chinyunyu thermal springs. Secondly, the study comprised of collecting primary data through semi-structured interviews. Thirty participants (n = 30) to this research were purposively collected from local community members, local authority, local traditional leaders, faith-based organisations, civil society organisations, and government institutions. The sample comprised 14 key informant interviews (KIIs) (n = 14) and two (2) focus group discussions comprising eight local community members each (n = 16). Data were collected and recorded as field notes. The primary data was

complemented by the secondary data from various sources of publications. The data collected were thematically analysed by looking for patterns, such as similarities, common and different experiences that emerged from the data (Braun & Clarke, 2006). The choice of thematic analysis was motivated by the need to produce a report based on an insightful analysis that answers particular the research questions of this study.

Study setting

The study area is geographically located some 80 kms from Lusaka central business area, along one of the main highways in Zambia, the Great East Road. It shares its borders with Chongwe District to the west and Luano and Chisamba Districts on its northern border, with Luangwa and Nyimba Districts to the east. It covers an area of approximately 7,500 square kilometres. Figure 1 below shows the location of Chinyunyu Village in the Rufunsa District.

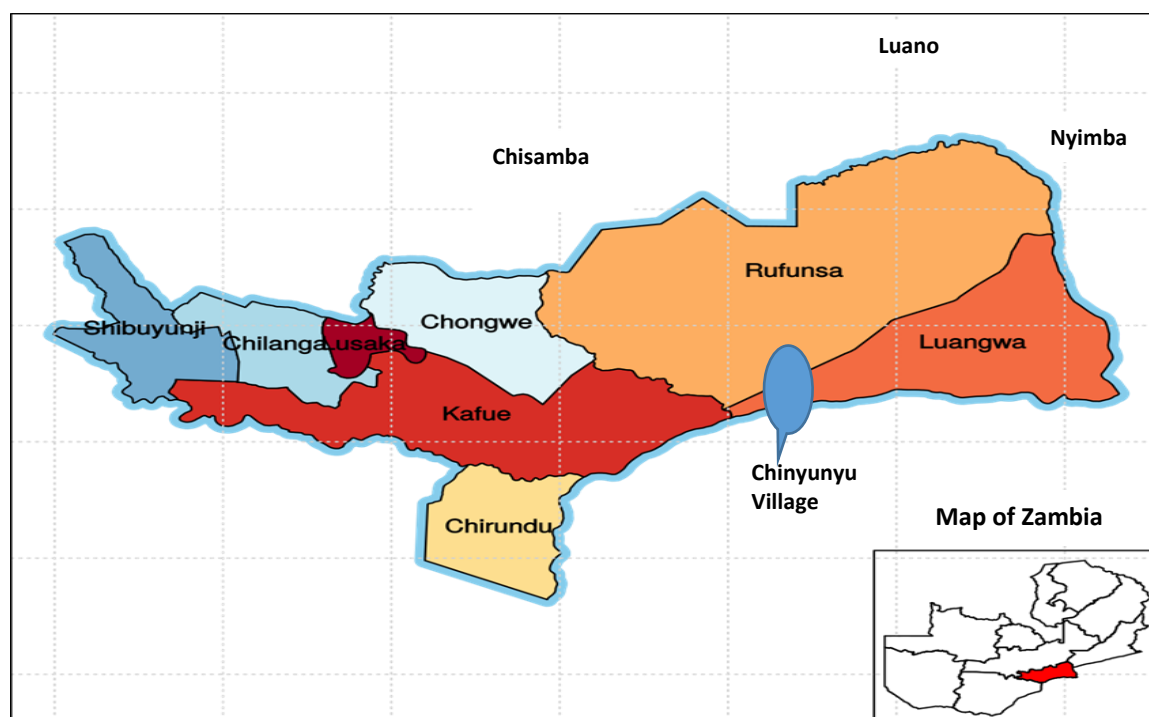


Figure 1: Location of Chinyunyu Village
Source: Lusaka Administrative Office, 2019.

Rufunsa, formerly a satellite office for Chongwe Municipal Council was declared a district in 2012. The district draws its name from the Rufunsa Stream that runs in some parts of the district. The district has a population of approximately 100,000 inhabitants (World Population Review, 2021). Of these, 50.6 percent are males while 49.4 percent are females. The district is made up of has one constituency and 10 wards. This entails that there is one elected area member of parliament, one council chairperson and 10 elected councillors. There are three chiefdoms in Rufunsa District, namely Mpanshya, Shikabeta and Bunda-Bunda. These are assisted by headmen and women in various villages who act as arbitrators. Chinyunyu Village, where the thermal springs are located, falls under Chief Bunda-Bunda. The local settlers in Chinyunyu Village are the remnants of the Soli people who are the indigenous settlers (Simbao, 2014). Most residents of Chinyunyu Village are unemployed and poor (Simbao, 2014). The main source of livelihood in the village is small-scale informal mixed-systems agriculture and remittances from other household members engaged in various forms of economic activities outside the district -especially from the capital Lusaka. Rufunsa district is one of the poorest

districts in Zambia, with poverty levels at around 79 percent (De la Fuente et al., 2015). The locals can be described as the working poor - persons that are engaged in the labour force but do not earn enough income to bring them out of poverty.

Theoretical underpinning

Growth-pole theory

Francois Perroux, a French economist developed the growth-pole theory in 1950 which was used as a model for economic planning in France (Perroux, 1955; Vladoš & Chatzinikolaou, 2020). The theory advocated for regional development especially in the regions that were disadvantaged soon after the World War 2 (Leigh & Blakely, 2017). This theory criticises the assertions made by classical theorists that argued that low-cost of factors of production triggered growth. Perroux argued that for a country to develop to higher levels of growth, a precursor was to develop one or more regional centres to stimulate economic strength within itself, i.e., cutting-edge/ propulsive industries (the pole), firms or other designated actors in their field. The commercialisation of the Chinyunyu thermal springs into a community-based tourism enterprise can be justified by the growth-pole theory. This study argues that the Chinyunyu thermal springs can be transformed into a growth pole that can spur rural economic development in Chinyunyu Village. The growth-pole theory clearly outlines how the spread effects of growth poles help to develop lagging regions, especially in rural setups such as Chinyunyu Village.

Tourism and rural development

Tourism is considered as one of the most labour-intensive economic sectors with a great potential to create sustainable jobs, contribute to foreign exchange earnings and public revenues and stimulate local economic development (LED) in rural areas (Hall, Kirkpatrick & Mitchell, 2005; United Nations World Tourism Organisation (UNWTO), 2019). It is therefore seen as a linchpin in several rural development strategies and a powerful engine for economic growth (Hall et al., 2005). The concept of ‘rural development’ is used and understood differently by different people. The philosophy of the West considers “rural” to be “underdevelopment”, a state of backwardness, primitive, and a place of misfortune (Plaatjie, 2020). Ndlovu (2017) strongly argued against the Western approach to rurality and proposed to allow rural people to define “rural” themselves and hence rural development. This study adopted Adejumo-Ayibiowu (2020) definition of rural development as a process of improving the standards of living of people living in the rural areas. Rural development is an imperative undertaking, especially in African countries where over two thirds of the population live in rural areas (International Fund for Agricultural Development (IFAD), 2016). However, rural areas in Africa are underdeveloped, characterised by high unemployment levels, high poverty levels, poor infrastructure, poor living standards and protracted years of policy neglect (Timbuleng, 2009). These phenomena are no different from Zambia’s situation, where 78.8 percent of its people living in rural areas are poor (ZSA, 2023; World Bank, 2018) compared to sub-Saharan Africa with an average poverty rate of 41 percent (Africa Development Bank (AfDB), 2019). The area of study for this research is rural-based Chinyunyu Village, where poverty levels are among the highest in the country (De la Fuente et al., 2015). Chinyunyu Village could be ideal for a community-based tourism project leveraging the thermal springs resource to reduce the poverty levels in the village. Community-based tourism (CBT) is a form of tourism in which local people, often in poor rural areas, invite tourists to visit their communities while providing various facilities and recreation activities (Giampiccoli & Saayman, 2018). Put differently, the CBT is a self-participatory community development initiative where the locals initiate, control, drive and collectively own the development of local

tourism assets. Therefore, CBT ensures that the local community participates and owns the tourism assets in the local area. Although Ivan (2009) asserts that rural communities may not possess a culture that supports new business development, scholars like Giampiccoli and Saayman (2018) suggested external stakeholder support of rural communities to be critical in achieving rural development. However, this should not come at the expense of their environment, social and cultural values and ignoring their indigenous knowledges embedded in these communities. Mafukata (2020) contends that such development should ensure that they do not disrupt the environmental, social and cultural values of the local community members. Similar to this, is Zukulu's (2016) assertion that "a development that divides a community is not development" (cited from Plaatjie, 2021:14). In addition, CBT are only sustainable if the model respects the socio-cultural dimensions and the indigenous knowledge systems (IKS). Monaheng (1995) argued that local indigenous people possess the appropriate knowledge and skills that are critical to sustainable rural development. Indigenous knowledge refers to unique knowledge confined to a particular culture or society that has been accumulated over generations of living in an exact environment (Berkes, 2009). Nonetheless, the objectives of the CBT are in sync with those of rural development strategies as they both focus on poverty alleviation and job creation. The development of a CTB enterprise in Chinyunyu Village through the commercialisation of the Chinyunyu thermal springs should therefore be implemented in a sustainable manner.

Commercial models in tourism

Johnson et al. (2008) describe a commercial model as interrelated elements that show the proposed value, the formula for profit, the main processes of the firm and resources needed to create and deliver the value. Osterwalder and Pigneur (2010) defined a commercial model as the rationale of how a firm creates, delivers, and captures value. Szromek and Naramski (2019) found that most tourism business entities worldwide rarely made use of commercial models. Ambrož and Omerze (2018) in their study of business model innovation in the tourism sector deduced that many firms in the sector were not aware of their commercial models and never articulated them, even if they were implicitly possessed.

In the past decade, tourism firms that continued to do business in their own traditional ways faced various challenges, including unexpected competition from their rivals, technological advancement, change in consumer behaviours (tourist habits), government regulations, and sustainable ways of serving their clients (Reinhold et al., 2017). The need for the tourism sector to adopt modern practices of creating, capturing, and disseminating value of the offered goods and services can therefore not be overemphasised.

The Osterwalder canvas commercial model gives a deeper understanding of an ideal commercial model for the tourism sector as it outlines the main building blocks of a business entity (Ambrož & Omerze, 2018; Szromek & Naramski, 2019). According to the Osterwalder, a commercial model has a framework called the canvas which has nine building blocks. The blocks on the left side of the canvas represent 'efficiency', the right side 'value' (Maurya, 2010). The nine building blocks are named as follows: key partners, key activities, key resources and cost structure - on the left side of the canvas (the efficiency side) and value proposition, customer segments, customer relationships, channels and revenue streams on the right side of the canvas (the value side). The efficiency side of the canvas emphasises the feasibility of the projects and how the value can be delivered effectively. The value side is about enticing customers. The firm asks itself whether the value proposition offered to the customers is desirable. Firm managers better understand their business eco-system by analysing these elements and therefore have a better perspective and vision of their business environment. Ambrož and Omerze (2018) argued all tourism firms need to adopt the

Osterwalder commercial model as it has proved to be a useful tool for analysing business performance. Wensveen and Leick (2009) added that the Osterwalder commercial model was flexible and was perfect for the tourism industry since this domain faced constant changes in global challenges as a result of internal and external forces which forced firms to be innovative and make constant changes to their commercial models. Szromek and Naramski (2019) also proposed tourism companies should apply the Osterwalder commercial model as it was flexible, easy to use, practice-oriented and served as a support in the decision-making process of a firm.

Thermal springs tourism

Thermal springs also known as hot springs or geothermal springs are heated groundwater that gushes out from the earth's crust to the surface through a crack distinguished by specific properties, for example higher mineralisation, dissolved gas, radioactivity or temperature (Krejovichova, 1999). These thermal springs are classified as either of volcanic or meteoric origin. Some thermal springs occur in volcanic areas where the discharged water is heated by shallow intrusions of molten magma (rock) (volcanic thermal springs) while others are not associated with volcanic activity but are due to the effect of geothermal gradient (Tshibalo, 2011). The meteoric thermal springs occur when water from rain, rivers or lakes percolates along a fault or permeable rocks underground to depths before re-surfacing. The water is then heated to temperatures above boiling point by the hot rock and conveyed through cracks to the surface of the earth in the form of steam or thermal springs to complete the water cycle (Olivier & Jonker, 2013). Zambia has this type of thermal springs - the meteoric thermal springs (Bwembya et al., 2018; Kapasa, 2014; Niles, 2012). Figure 2 below demonstrates the entire cycle of a typical meteoric thermal spring.

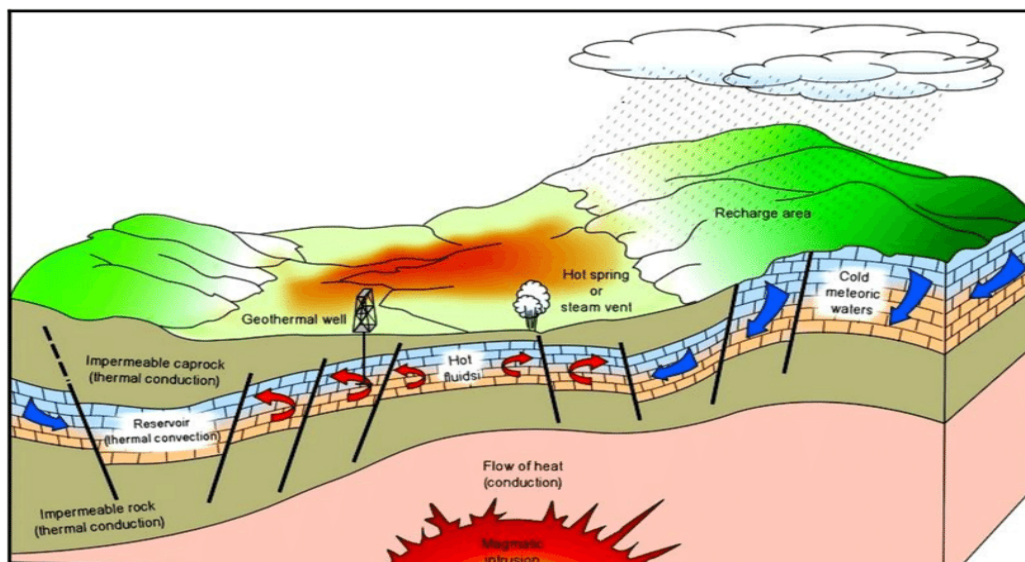


Figure 2: Schematic representation of an ideal thermal system
Source: Dickson and Fanelli, 2004.

The above schematic geothermal system, which is meteoric in nature, shows the typical type of thermal springs in Zambia that are a result of convective circulation of ground water heated by reef failure formation. Zambia's thermal springs are mainly found in northern, eastern, and southern parts of Zambia. These thermal springs are used by the locals mainly for religious rituals, and spiritual and health benefits (Niles, 2012).

Archaeological evidence indicates that thermal springs have been in use since before 1000 BC in countries such as India, while countries such as Greece, Egypt, China, Japan, Italy, Turkey, and America have been using thermal springs for hundreds of years, mainly for religious and medicinal purposes (Tshibalo & Olivier, 2010). The thermal springs were considered as sacred places and neutral by the native American Indians where Indian warriors could go to rest and recuperate from battle in safety without worrying about being molested by other tribes (Lund, 2000). These sites later evolved into healing centres where people go for treatment of physical ailments (Olivier & Jonker, 2013).

In Italy for example, the Saturnia thermal spring located in Tuscany are some of the most famous thermal springs in the country attracting over 200,000 visitors annually. The entrance to the Saturnia is completely free, however, visitors enjoy the facilities within the sites such as a bar (le Cascade di Saturnia), fee paying storage lockers, fee paying showers, changing rooms and toilets. The site is located nearby a spa resort that attracts the same visitors. Thermal springs in Zambia have been known to exist as far as the 19th century and were mostly used for salt production by the villagers (Legg, 1974). To date, Zambia is known to have approximately 80 thermal springs (Kapasa, 2014; Musonda & Sikazwe, 2005) spread all over the country. Some are in highly isolated areas. Figure 3 shows the location of the documented thermal springs in Zambia.

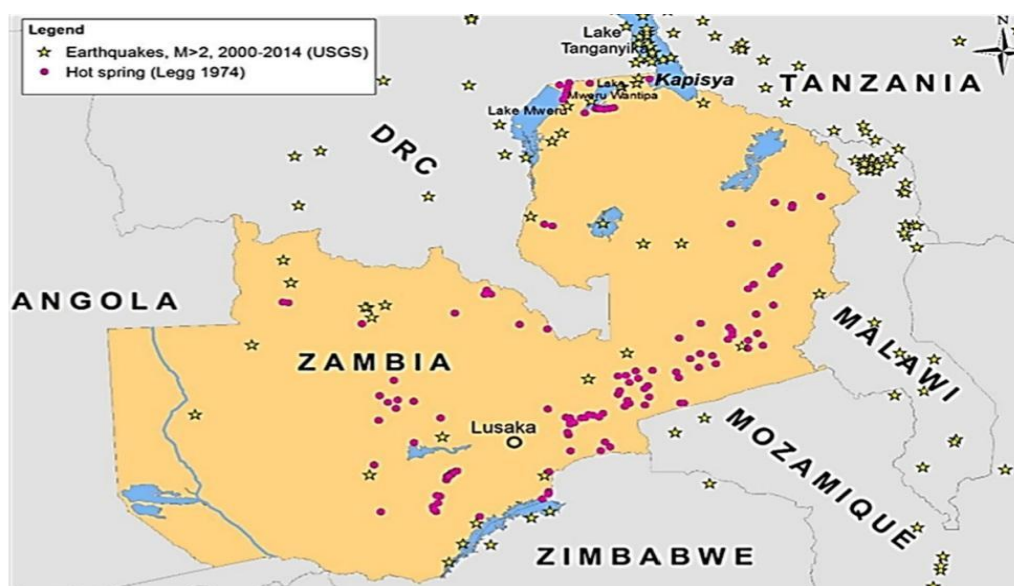


Figure 3: Location of thermal springs in Zambia

Source: Kafuwe, 2018.

In recent times, thermal springs have been used as important touristic sites bringing in revenues in the local communities. The Global Wellness Institute (GWI), (2018) estimated that there were 37,057 thermal springs in the world, employing approximately 1.8 million people. These thermal springs earned revenues in excess of USD 56 billion per year (GWI, 2018). The thermal spring sector accounted for seven million visitors to sub-Saharan Africa who spent approximately USD 800 million per year (GWI, 2018).

South Africa stands out as one of the few sub-Saharan Africa countries that has sustainably developed its natural resources such as thermal springs into economic assets (Olivier et al., 2008). The country is known to have over 31 known thermal springs that were commercialised and developed into family leisure, recreational resorts, and other tourism activities (Boekstein, 2014; Olivier & Jonker, 2013; Tshibalo, 2011). For example, the Aventura Resorts in Mpulanga; Bela Bela resort, Klein Kariba and Sagole in Limpopo;

Cradock Spa in Eastern Cape, Natal spa and Shu-Shu thermal springs in KwaZulu-Natal are some of the well-known thermal springs in South Africa that are well developed and contributing to socio-economic development of the local communities (Kent, 1946; Olivier & Jonker, 2013; Tshibalo, 2011). Other countries have used thermal springs for sustainable tourism. In Japan, the famous *onsen* bathing located at the onsen thermal springs is a tourism magnet which attracts over 151 million people per annum. This has immensely contributed to the local economic development. The United States of America (USA) hosts one of the largest thermal springs in Wyoming, the Yellowstone thermal springs, that attract over four million tourists annually (Olivier & Jonker, 2013). In other countries such as Turkey and China, thermal springs are popular and contributed to rural tourism development since the 1960s and have been commercialised and developed into recreational facilities and wellness (Lee & King, 2008; Olivier & Jonker, 2013). Thermal springs, therefore, have the potential to contribute to Zambia's rural tourism development. Tshibalo (2011), in a study undertaken in a rural-based community in northern South Africa, developed an attractive and persuasive argument demonstrating that thermal springs could be of beneficial returns for resource-poor communities. This study assumes that thermal springs commercialisation has become a major tool of promotion of sustainable rural tourism.

Results and discussion

The transect walk and interaction with the tour guide revealed that the Chinyunyu thermal springs are known by a local dialect, Soli, as *kalungula*, which means "hot". The main thermal spring on the eastern side is referred to as *kalungula kamuna* while the one on the western side is referred to as *kalungula kakazi*. *Kamuna* in Soli language means male and *kakazi* means female. These gender names were given because only men were allowed to bathe at the main thermal spring (*kalungula kamuna*) and the women were allowed to use the western thermal spring (*kalungula kakazi*) for bathing. The researcher was informed that this separation was a cultural issue of not mixing the two genders in a single pool.

It was observed that only one of the two thermal springs in Chinyunyu was functional as a hot spring while the other one on the western side has cooled off, transformed into what can be called a cold spring. The researcher learned that the cooling off of the other thermal spring located on the western side occurred circa in 1990. The KII informed the researcher that there were many beliefs regarding how/why the other thermal spring cooled off. Firstly, an Italian attempted to install a pipe from one of the thermal springs so that he could pump water to his private swimming pool in the 1980s. This was done without the approval of the local community members. The Italian farmer, however, did not succeed in executing his plan to pipe the hot water from the spring. The locals believed that the ancestral spirits were not happy with what they called tampering of the natural flow of the thermal springs by a foreigner. According to the locals, their ancestors commanded the thermal spring to cool-off because of this interference. The scientific explanation, by one of the key informants, was that the cold spring was because of earth's movements caused by tsunamis and earthquakes that ended up closing the cracks underneath. Although Zambia has never experienced tsunamis and earthquakes, the KII revealed that the occurrences of such calamities in other distant countries still had a bearing on Zambia's underground system when the earth was shaken. The KII explained that when the faults closed underneath, the heat ceased to be transmitted from the hot magma and therefore the thermal springs became cold. This particular cold spring does not attract visitors. The cold spring was used as a source of water for animals.

The KII explained that the local community members have dug-out pools on the eastern-side of the Chinyunyu thermal spring - *kalungula kamuna*, where they take their bathes and also use it for religious and ritualistic activities. It was revealed that visitors to the thermal

springs especially those of Asian origin carry their own bathtubs and fill them with water from the thermal spring. They then soak themselves in the water to nourish their skins and also perform rituals. This finding collaborates Kapasa's (2014) findings that the local people in Chinyunyu Village use the Chinyunyu thermal springs for bathing, spiritual, religious and ritualistic activities.

During the transect walk, it was discovered that most locals that have settled around the Chinyunyu thermal heritage land and believed that they owned the land. These citizens are from the third and fourth generations of the settlers and poses very rich cultural beliefs and indigenous knowledge about the thermal springs. Chikaire et al. (2012) agree that indigenous knowledge is an important factor for sustainable development. It is common in the developing regions to have local citizens to associate natural features such as such as thermal hot springs – with cultural beliefs. For example, Mafukata (2020) reported a similar incident in a community in rural Limpopo Province, South Africa. These beliefs would impact on the efforts of rural development in such areas as most locals would invoke the beliefs to stop such advances by rural development practitioners. Maluleke (2018) reported this incident in Makuleke community in Vhembe District of South Africa. The thermal springs premises are used as a sacred place for traditional rituals. The researcher was told that the people of Chinyunyu believed that the water from the thermal springs were spiritual and had healing powers. Some church organisations usually went to draw water from the springs for use as anointing water and baptism in their churches. Others went to pray within the premises of the thermal springs and undertook baptism of immersion in the dug-out pools or sprinkling on the heads of their congregants.

Other visitors come to drink and steam themselves with the hot fluid to get healed from various ailments. It was revealed that the water had health benefits exceptionally good for the skin, rheumatism and stress. Further, the area was used for other rituals where traditional doctors took their patients, normally at night, for healing bathes or to communicate with their ancestors. The locals believed that the water was heated by ancestral spirits that intervened to heal their patients. Rituals such as killing of chickens as a sacrifice to their ancestral spirits were normally performed around the premises of the thermal springs. Buckets containing charms and clothes were left behind and often discovered around the thermal springs. In addition, trees within the thermal springs area were believed to have healing powers. One could therefore observe several trees with their outer layers peeled off. The bark was cut off for use in spiritual and ritual activities. Some trees within the area were tied with plastic and beads. These findings corroborated numerous other studies that found thermal springs around the world that are considered as sacred places and associated with ritual spirits (Boekstein, 2012, 2014; Olivier & Jonker, 2013; Tshibalo & Olivier, 2010; Olivier et al., 2013; Mafukata, 2020).

The researcher smelt an odour of rotten eggs from one of the Chinyunyu thermal springs. It was explained that the chemical composition in the thermal springs, in particular the hydrogen sulphite, causes the fluid to smell like rotten eggs. It was explained that the problem of the smell can be corrected if the fluid is exposed to air for some time. The fluid was said to be non-toxic for recreation and tourism purposes. It can be assumed that since local people use some dug-out pools to bathe in the fluid the health and safety of people that swim in the Chinyunyu thermal springs are guaranteed. Other chemicals in the Chinyunyu thermal springs were said to be silica, calcium, and manganese. This chemical composition of the thermal spring fluid could scientifically explain why thermal springs have some healing properties that could be ideal for health tourists.

In terms of infrastructure around the premises of the Chinyunyu thermal springs, the researcher observed a toilet, a reception office for tour guides and a wire fence that was erected to protect the thermal spring on the western side. These structures were not connected to the

national grid for electricity and used solar power, especially at night. The researcher was informed that this infrastructure was built in 2015 when the custodians, the National Heritage Conservation Commission (NHCC), a government agency in charge of conservation of Zambia's natural and cultural heritage, decided to start charging people who were visiting the thermal springs. The NHCC employed four locals to staff the thermal springs- two tour guides and two general workers. With this infrastructure around the thermal springs, the visitors from the local community used a different entrance to enter and exit the heritage area free of charge at any time whilst the “external” domestic visitors outside Chinyunyu Village area paid K8.00 (0.38 USD). The external visitors were visitors from outside Chinyunyu Village. Unlike the Saturnia thermal spring in Italy, the Chinyunyu thermal springs charged foreign visitors 15.00 USD.

The researcher was found that the inflow of visitors was low as most people did not see the need to travel to Chinyunyu to view the thermal springs without recreation facilities around the area. The KII said that the thermal springs received approximately 10,000 visitors a year with its peak period in cold seasons from April to July. Of this number of visitors, the researcher was informed, approximately 95 percent were Zambians – external domestic visitors and approximately five percent were foreigners. It was observed and revealed that the average time taken by each visitor at the thermal springs was 25 minutes as there was nothing else to do after viewing the thermal springs. Unlike other developed thermal springs, there were no refreshments, nearby spa facilities, a bar, nearby hotels, swimming pools, nor locker rooms at the site.

Qualitative data was further collected through FGDs and KIIs. Since the FGDs and KIIs were open-ended, the responses were categorised into themes. As guided by Ryan & Bernard (2003) and Braun and Clarke (2006), four important themes emerged from these discussions: (i) the thermal springs were underutilised and underdeveloped, hence the locals have not benefited; (ii) as a result, the people of Chinyunyu were living in extreme poverty; (iii) it is important to consider indigenous knowledge systems or traditional knowledge when designing policies around sustainable rural tourism development (iv) the ideal preference by the locals, is that the thermal springs should be developed into a tourism resort industry. It was deduced that the people of Chinyunyu Village lack opportunities that would assist them in improving their livelihoods. A number of participants bemoaned the deep state of poverty of people in the village.

The discussions and FGDs were a clear evidence that the Chinyunyu thermal springs have remained undeveloped and underutilised for economic benefit of the local people. The locals and all stakeholders expressed concern about why this natural wonder was operating at its current sub-optimal state. The sentiments from the participants were that the thermal springs, once developed and commercialised, could benefit the local economy by creating employment opportunities, and as a source of foreign exchange and local revenue for the council. When probed whether the Chinyunyu thermal springs (i.e., NHCC) had a commercial model they followed to operate the thermal springs, the KII revealed that they did not, as they conducted their operations as business as usual. This finding corroborates various studies that found that tourism-based firms ignored the application of commercial models in the operations of their businesses (Ambrož & Omerze, 2018; Reinhold et al., 2017; Szromek & Naramski, 2019).

Respect of indigenous knowledge systems (IKS) or traditional knowledge was reported to be important in developing a workable commercial model for the Chinyunyu thermal springs. Spiritual and cultural beliefs are important in shaping rural tourism development as the locals own useful knowledge. If this were ignored, the project would fail. A convergence of thoughts occurred on this particular issue. It was discussed that most developers or investors ignored the local knowledge in development of their projects in rural areas, hence the local

community members felt disrespected. The following is a verbatim from one participant of the FGDs:

If you want this project to be successful, do not alienate local knowledges, even though they may sound superstitious and outdated to you, they are beliefs that have been there since the evolution of these thermal springs. Therefore, ensure that these issues are taken on board when developing your model. They may not be scientifically proven, but they are important in storytelling and folklore.

Although critics of indigenous knowledge systems have argued that the cultural and traditional values are too archaic to meet the demands of a contemporary scientific world (Oke, 2006), Adejumo-Ayibiowu (2020) counter-argued that culture mattered in policy effectiveness and that indigenous knowledge systems were a major link in achieving rural development in Africa. Adejumo-Ayibiowu's argument was supported by Chikaire et al. (2012); Mafukata (2020) and Tshibalo (2020).

Generally, the key informants and the participants of the FGDs overwhelmingly and unequivocally agreed that the ideal development model for the thermal springs was to transform the area into a giant tourism resort area. The participants proposed facilities such as saunas, jacuzzis, spas, swimming pools, lodges and hotels as some important facilities that needed to be developed around the site. They were quick to mention that, in contrast with the current situation, this development and ownership should benefit the local communities. The following is a verbatim extract from one of the participants:

The current developments at Chinyunyu thermal springs do not benefit the locals in any way. Granted that the manning of the premises has created insignificant employment opportunities for the locals, the community at large does not benefit from this development by the NHCC. When they were erecting this fence, we were promised that some of the proceeds from the gate takings would be channelled to building a school in the village. Five years down the line, nothing tangible has come out of this thermal spring.

It was emphasised that the current developments at the thermal springs have not benefited the local community. The participants discussed and agreed on the idea of modelling the thermal springs into a commercial community-based tourism (CBT) project that would be controlled and managed by local community actors. Once commercialised, the Chinyunyu thermal springs could become a growth-pole that would stimulate economic strength within Chinyunyu Village, the surrounding villages and spur rural tourism development.

Conclusion and recommendations

Chinyunyu has high levels of poverty despite its potential to be developed based on its well-endowed heritage resource, the Chinyunyu thermal springs. The study explored the opportunities of optimising the economic weight of the Chinyunyu thermal springs to assist the cause of rural tourism development. The study revealed clear evidence that the Chinyunyu thermal springs have remained undeveloped and underutilised for economic benefit of the local people. This failure to optimise the economic weight of these thermal springs into a commercial community-based tourism enterprise has undermined the development imperatives of the Chinyunyu Village and the district at large. This study was motivated by the fact that the country of Zambia is made up of various villages located in rural areas. Developing individual villages such as Chinyunyu would in turn contribute to developing the entire country. The study further revealed that the local community members' perception is that the Chinyunyu thermal

springs should be developed into a community-based tourism resort through commercialisation. The results of this study present an opportunity for Zambia to introduce the first ever health tourism centre in the country. This will have many advantages, including creating more employment opportunities for the people in rural Chinyunyu Village, where unemployment and poverty are a major problem. Development of thermal springs is labour intensive and could provide a stable source of employment not only in Chinyunyu but across rural Zambia where these thermal springs are mostly located. The Zambian authorities should explore means and ways of engaging the local community members of Chinyunyu Village to consider developing and commercialising tourism activities at the Chinyunyu thermal springs.

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