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Influence of Traditional Medicine as Initiative for Rural Tourism and Poverty Reduction Strategy Tanzania: A Case of Kisarawe District

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Abstract

Despite recent scientific advancement and globalization, traditional medicines and complementary/alternative medicine are still primary sources of health care, livelihoods and income generation among local communities falling under Rural Tourism (RT). This study assessed the influence of traditional medicine initiative as a rural tourism strategy inter alia for poverty reduction in Kisarawe district in Tanzania. The main objective was to examine the local community perception on traditional medicine administered by traditional healers whether it has impact in promoting community health compared to modern medicines; but also, as eco-tourism strategy for poverty reduction; while sustaining environmental protection and conservation of various bio-diversities. The study employed mixed methods included structured questionnaires, key informants' interviews, application of Likert scale range from 1 to 7 in data collection from a sample size of 100 respondents. Other methods entailed direct field observation and reviews of relevant literature. SPSS software version 20 was used to analyze multivariate analysis. Results showed willingness of community members to undergo training on improvement of knowledge on traditional medicines supported by tourism programmes, government policies and regulations for sustainable RT, poverty reduction, environmental protection and conservation. The study concluded that, community perception on traditional medicine positively moderates the relationship between rural tourism development and poverty reduction; however, there was limited co-ordination of tourism activities; and insufficient collaboration between the public and private sector. It recommended that; future research should network with traditional healers in order to know more indigenous medicinal plant species in order to formalize their application in public health while promoting eco-tourism for social economic development of local communities in Kisarawe district.

***Keywords**: Rural tourism, poverty reduction, perception, traditional medicine, Tanzania*

1.0 INTRODUCTION

Tourism is a social, cultural and economic phenomenon which entails the movement of people to countries or places outside their usual environment for personal or business/professional purposes. These people are called visitors

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they can be either tourists or excursionists; residents or non-residents and tourism has to do with their activities, some of which involve tourism expenditure.

The contemporary trend of moving from the concept of mass tourism to the individual forms of tourism opens to rural tourism the position in the world market of the 21th century. Rural tourism has no characteristics of massiveness; and it is compatible with the aspects of sustainable tourism (Lun dberg, 2017). Rural tourism in rural regions, tourism takes place as a business set up for the local community. The earliest study of rural tourism began in the 1950's, with farm tourism study by Ager (1958) (cited in Opermann, 1997) by emphasizing the importance of tourism in mountainous areas. Then, in the following decades, the study of rural tourism, particularly in regards to farmers, mostly focused on the economic contribution, problems faced by farmers and the social and psychological impacts of tourism to the farmers (Oppermann, 1996). Studies in rural tourism were more concentrated in wilderness areas or National Parks, rather than in the other attractions of the rural areas, such as farm tourism and non-farm tourism (Owens 1984, as cited in Oppermann 1996). Oppermann also supported this argument by classifying different types of tourism in rural areas in terms of the level of involvement by the community.

Globally, rural tourism dates back to the Romanticism movement era which began in the late eighteenth century. Romanticism developed as a counter to industrialism; it began in the natural world. The first creative tours in rural areas were based on the holiday concept, but modern rural tourism began after World War II (Lane, 2009). Additionally, this movement's influences on the development of rural tourism can be bilaterally thought of as the tourist side (demand) and the organizer side (supply). The needs of both sides revealed rural tourism. According to many tourism researchers, tourists seek wholeness in different things that they cannot see in their lives (Nilsson, 2002). People care about health and well-being more, they want to escape from their daily routines, preferring more personal and authentic experiences rather than the standard holidays provided by mass tourism, and realize their influence putting pressure on tour companies.

Traditional medicinal plants or so-called alternative medicine as the preferred form of health care are an important element of indigenous medical systems in Tanzania and the rest of the world. African Traditional Medicine has defined as the sum of all knowledge and practices, whether explicable or not, used in diagnosis, prevention and elimination of physical, mental, or societal imbalance, and relying exclusively on practical experience and observation handed down from generation to generation, whether verbally or in writing (WHO, 2002). Indigenous people have been using the unique approach of their traditional system of medicine for centuries and among the most renowned are the Chinese, Indian, African systems of medicine.

Kayombo (2012) argues that man learnt to distinguish edible plants from the poisonous ones by observing animals. Traditional medicinal plants are readily available and culturally acceptable. They offer an accessible and affordable health care regime and serve as an important source of livelihood for indigenous rural populations in Kisarawe district. Research on plant and use of traditional medicinal information has again received considerable interest. Indeed, herbal medicine is an integral part of any traditional system of medicine, and the present review becomes more significant from this viewpoint. The main objective of the present review is to explore the significance of traditional system of medicine, in particular traditional medicinal plants as a source of employment and primary health care modality in developing and resource-poor countries. It is also very important to identify the existing major values and the opportunities to preserve this valuable resource of nature to humankind in Kisarawe district.

World Tourism Organization (WTO) considers that there is an important potential market for rural tourism; however little research has been done to date into the size of this segment. It is estimated that 3% of all international tourists travel for rural tourism purposes and rural tourism is estimated to be growing at an annual rate of around 6%. African traditional medicine (ATM) is an important part of African culture that is recognized and accepted by Africans as tourist product despite conventional health practice. Scientific validation of the safety and efficacy of plant extracts derived from African medicinal plants based on African Indigenous Medical Knowledge has been facilitated by the use of WHO technical support tools.

African countries have embraced the sustainable development goals (SDGs) and of specific reference to health is SDG3—good health and well-being which has as one of its 13 targets: to achieve universal health coverage (UHC). UHC is defined as ensuring that all people have access to needed health services of sufficient quality to be effective, while ensuring that the use of these services does not expose the user to financial hardship. The current use of African traditional medicines (ATMs) and associated expenditures in seeking care from traditional health practitioners (THPs) implores the researcher to examine the influence of TM in contributing towards RTs in poverty reduction in Tanzania. UHC and SDG-3 can only be achieved with a stronger emphasis on primary healthcare (PHC). Since over 60% of people in sub-Saharan Africa (SSA) live in rural areas where conventional healthcare is scarce, exploring the role of ATM to achieve the goals of UHC becomes important. Given the economic reality and cultural beliefs, empowering THPs will enable more people to access quality healthcare, which is a critical component of UHC.

In principal, ATM is regarded as more accessible, affordable and acceptable to local populations and can therefore contribute to the attainment of UHC. For instance, the average ratios of THPs and medical doctors per population in SSA

are respectively 1:500 and 1:40 000 (Mhame *et al.*, 2010). Evidence shows significant use of ATM as high as 88% of respondents in a Zambian study expressing preference to visit a traditional healer when sick, for patients with AIDS symptoms in Malawi, South Africa, Uganda and Zimbabwe and as the main source of healthcare for mental illnesses in Uganda. Due to the high proportion of patients using herbal medicines (70% in Ghana), some health facilities have initiated the use of herbal medicines as a component of healthcare delivery. Significant out-of-pocket health expenditure on THP has been reported in the literature. For example, a study conducted by Semenya & Bapendi (2014) in Limpopo Province South Africa reported that out-of-pocket health expenditure on THP accounted for 10% of monthly expenditures among three-quarter of the poorest quantile.

Recognizing that Africans continue to patronize THPs and use ATMs, the WHO developed a set of tools and guidelines to support the scientific development of ATMs through the identification of their medicinal components and standardization of procedures for their use. The WHO African Regional Strategy on '*Enhancing the Role of Traditional Medicine in Health Systems*' provided the impetus and direction vis-à-vis promotion of ATM.

Promotion of traditional medicine on rural tourism development in this study refers to health practices, approaches, knowledge and beliefs incorporating plant, animal and mineral based medicines, spiritual therapies, manual techniques and exercises, applied singularly or in combination to treat, diagnose and prevent illnesses or maintain well-being as attractions for RTs development and employment on poverty reduction in Kisarawe district. The focus of the implantation strategies for the promotion of traditional medicine as initiative development and practice in Kisarawe require a number of factors to be considered. They include formulation of policy and regulation for the proper use of traditional medicine and its integration into areas health care systems for poverty reduction; establish a regulatory mechanism to control the safety and quality of products of traditional medicine practice. Other factors engross create awareness about safe and effective traditional medicine therapies among the public and consumers, cultivate and conserve medicinal plants to ensure their sustainable use. However, little research in the study area is known about the levels of return on this matter.

The Tanzania herbalist, often referred to as *'bwana mganga'* 'medicine man' or *daktarin wa miti shamba* 'doctor of plants', is normally passed on orally from one generation to the next (Runyoro, 2006). Despite the various research outputs of economists, anthropologists, sociologists, geographers and a range of development practitioners, there is little understanding and no consensus on what impact rural tourism has had from traditional medicine on poverty in the developing world (Lundberg, 2015). The World Tourism organization (WTO) and many European organizations agree that, rural tourism is "a form of tourism

that includes any tourist activity in rural areas organized and led by the local population, exploiting local tourism resources (natural, cultural-historical, human) and facilities, tourist structures, including hostels and agro-tourism farms." In light of this definition; it is obvious that there is still much untapped potential for rural tourism development in Tanzania bearing the diversity of the country's cultures; heritage, social structures and ecosystems provide the backdrop for unique visitor experiences that are unmatched anywhere else in the world. In the same vein, it can be argued further that the rural tourism development efforts in Tanzania and particularly in Kisarawe are not fully tapped for local community social economic development despite the efforts and interventions so far made by local communities, central government, non-governmental and other stakeholders since 1960s (URT, 2012).

There are many reasons to pursue rural tourism initiatives by using traditional medicine strategy. Rural tourism is considered by stakeholders as a viable strategy to assuage poverty (UNWTO, 2015). The main issue still facing many developing countries in Africa including Tanzania is the problem of poverty. Although the government has made great strides in the formulation of poverty reduction policy and strategies; the problem of poverty is still critical as the number of poor people is increasing (NBS, 2012).

Several studies have reported various rural tourism initiatives as potential opportunities for poverty reduction at the local community level (Kulcsar, 2009). Studies conducted in 2011 in South Africa show that (78%) of the local respondents perceived rural tourism development as a mechanism for economic development that needed to be implemented (Mthembu, 2011). Besides, a study done by Kibicho (2008) in Kenya also observed that, some demographic variables such as age, gender, and education among different groups of residents held different perceptions about rural tourism. In that study residents who had positive perceptions on the impact of rural tourism to local community development included the youths, female, and of higher education achievers. It concluded that, rural tourism inter alia can serve as a panacea for reducing stresses of modern day living causing people unprecedented levels of strain and anxiety. A study which was conducted in Indonesia demonstrates that the perceived importance of community participation in rural tourism could influence perception towards sustainability by (Nazzura, 2016). From a demand side, the appeal of rural tourism is summed up as peace, solitude, nature, scenery, traditional people, recreation and adventure (UNWTO, 2015).

Runyoro *et al,* 2006 conducted a survey on an ethnomedical in Coast, Dar es Salaam, Morogoro and Tanga regions of Tanzania has resulted in the identification of 36 plant species belonging to 21 plant families that are used traditionally for the treatment of Candida infections. Twenty-one plants constituting 58.3% of all collected plants are used to treat oral candidiasis (*Utando in Kiswahili*) one of the symptoms of HIV/AIDS. The knowledge of

traditional healers for the treatment of Candida infections has been highly supported by literature; for 13 (36.1%) out of the 36 plants identified have been proven to be active against Candida albicans and/or other species of Candida. Some of the plants were reported to be active against other species of fungi including Cryptococcus neoformans which is among pathogenic fungi in HIV/AIDS. It can be seen that ethnomedical information from traditional healers provides guidance towards development of new drugs than sheer random screening. In fact, it simplifies to the screen task by obtaining extracts identified from indigenous knowledge and performs a bioassay and other medicinal processes. These data testify the importance of rural tourism industry in providing income opportunities to traditional healers through sales of medicinal plants to local communities for their social welfare and poverty reduction in Kisarawe district in general.

This study established that tourism sector in Kisarawe was evaluated as a pacemaker for globalization and locomotive for development. Rural tourism is viewed as an engine for economic growth rather than as a mechanism for poverty reduction; and that assumption has especially indebted developing nations in the 21st Century (Plüss and Backes, 2002). The development vision on tourism, as a development engine, still has reflections on multi-national agencies. The UN Conference on the Least Developed Countries (UN-LDC) adopted their first program of action on tourism, in which the LDCs were urged to promote a climate conducive to tourism (Plüss and Backes, 2002). However, rural tourism development thinking mostly emphasized on 'trickle-down' benefits. Trickle-down approach implies vertical flow from the rich to the poor that happens on its own accord. Benefits of economic growth go to the rich first, and then in the second round the poor begin to benefit when the rich start spending their gains. Thus, the poor benefit from economic growth only indirectly through a vertical flow from the rich (Kakwani and Ernesto, 2000).

It was important to first assess the effect of traditional medicine as a factor of rural tourism development on poverty reduction within the community's development perspective in their areas. Poverty still remains the confounding major obstacle to optimum utilization of tourism resources for both social and economic development of nations (Kudi, 2015). It will help not only in identifying gaps in the community's understanding of the concept, but also in developing tourism programmes and tourism policies for the community to better understand the process and importance of rural tourism development (Byrd et al. 2008). This knowledge gap made Cloke (2015) categorically state that, nothing is known about the long-term impact of traditional medicine for poverty reduction. Therefore, this study is intended to contribute towards narrowing this gap by providing some knowledge and exposing income opportunities that can be accrued from medicinal plants while promoting rural tourism.

2.0 MATERIALS AND METHODS

2.1 The Study Area

This study was conducted in Kisarawe District Tanzania. The District is one among 8 Districts in Coast Region; it is 25km on the outskirts of Dar es Salaam City towards the East North. Its headquarters is about 15 minutes' drive from Julius Nyerere International Airport. The district is endowed with abundant and unique natural resources to include reasonably fertile soil (heavy red loams on the rising ground of the foreland ridge and black soil in many valleys) together with miombo type and savannah natural vegetation in some parts especially in Chole and Mzenga Divisions. The natural forest reserves of Kazimzumbwi, Pugu and part of Selous Game Reserve in Vikumburu Ward are of special importance. Kisarawe is situated between latitude 6^0 50^0 S, and 35^0 and between longitude 38^0 15^0E and 39^0 30^0E. It borders Mkuranga District in the East and Morogoro district in the West and Ilala Municipal of Dar es Salaam City to the Northeast, Kibaha District to the North and Rufiji District to the South. The district covers an area of 4,464 square kilometers and is 100 m above sea level with the total population of 101,598 males 50,631 and female 50,967 with the average growth rate of 2.1% and the average household size is 4 people (NBS, 2012.

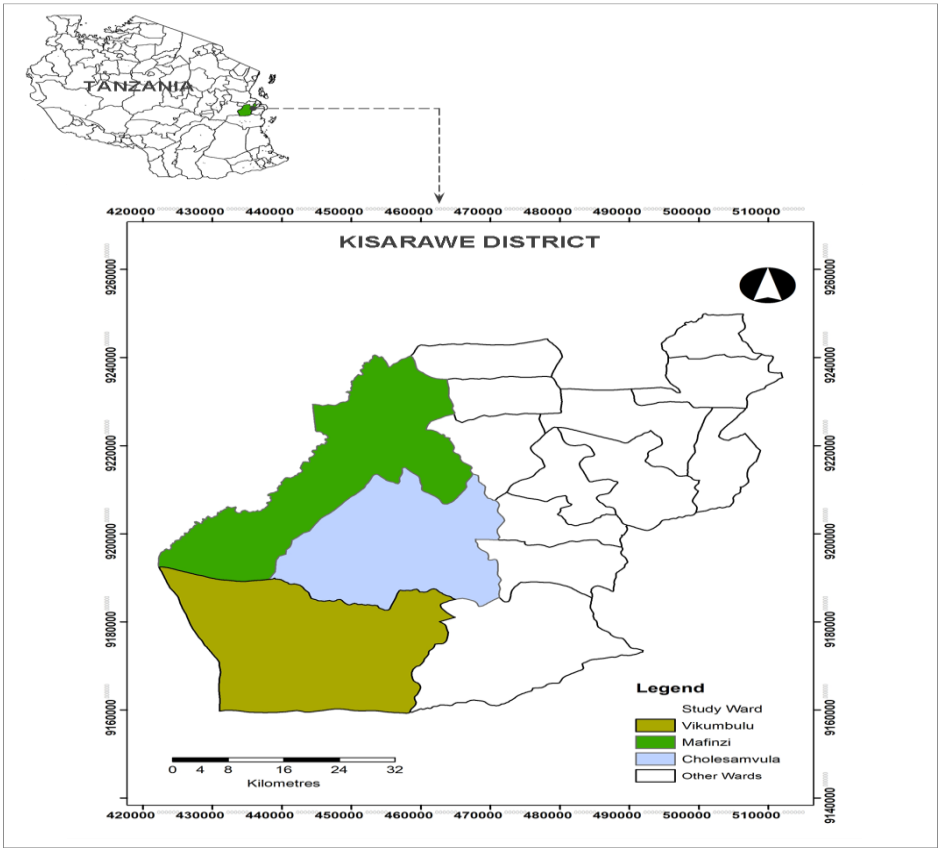

Figure 1: Locational map of the case study areas
Source: GIS Department Kisarawe

2.2 Data Collection Methods

The study used questionnaires, interviews, and direct field observation techniques to obtain information from respondents of different categories in Kisarawe district. Purposive sampling was employed by identifying respondents who were directly or indirectly linked to the influence of traditional medicine on RTs development for poverty reduction. Questionnaires were used to collect the quantitative information; and interviews were employed to collect qualitative information while field observation was used for preliminary identification and sample collection of the medicinal plants for discussion. Respondents ranged from local 13 government employees, 45 heads of departments, 34 traditional healers and their assistants from different wards, and 34 tourism entrepreneurs. Others include; a total of 8 experts selected from different institutions of higher learning namely, the College of African Wildlife Management (MWEKA), Muhimbili University of Health Allied Science, National College of Tourism (NCT), The Open University of Tanzania, and the University of Dar es salaam. The sample size for the study constituted 100 respondents. The justification for conducting interviews with respondents from different backgrounds was to triangulate information captured from different people. They were regarded to have varied perceptions and opinions on the influence of traditional medicine as a rural tourism component towards poverty reduction among rural communities.

Table 1: Respondents who participated in the study

Respondents	Category	Sample (n)
Local Government Employee 13 Heads of Dept.	Policymakers and supervisors	13
Tourism Entrepreneurs	Business practitioners	34
Local community	Traditional Healers	45
Representatives from Institutions of higher learning	Professionals and consultants	8
TOTAL (N)		100

Source: Field survey data (2021).

Descriptive methods were employed to analyze and present the results backed by resolutions reached in the workshop discussions, from the interview and from the field survey.

3.0 RESULTS AND DISCUSSION

A total of 100 questionnaires were administered to the respondents of Kisarawe district Table 1 above. The results are presented in the following sub-section. Generally, the results showed traditional medicine has significant effect on poverty reduction. The results correlated with those related studies previously reported by Karunamoorthi et al. (2012) and Runyoro, (2006).

3.1 Effect of Traditional Medicine on Poverty Reduction

The research revealed diverse beneficiaries of medicinal plants. In fact, medicinal plants were part and parcel of daily livelihood practices and cultural heritage of different societies in Kisarawe district. They covered economic growth, employments and environmental conservation in the district as 51% of

the respondents strongly agree with this contention that, traditional medicine had diverse positive impacts on RTs compared to only 10% respondents who disagreed with the same statement. The use of plants in the treatment of various diseases, as specific antidotes to witchcraft and for religious ceremonies has been an integral element of African society for centuries. Likewise, as commented previously by Cloke (2015); this study also established that, the long-term impact of traditional medicine for poverty reduction is not known due to various institutional factors. For traditional medicinal knowledge like a myriad of indigenous knowledge in many African traditions including Tanzania; the herbalist in Kiswahili it is known as *'bwana mganga'* (traditional 'medicine man'); or *'daktari wa miti shamba'* ('doctor of plants'), usually is the one who possesses the knowledge of medicinal plants and is not obliged to passed it on to the next generation through orally tradition. The same scenario was observed by Runyoro, (2006). If the possessor of such knowledge decides not to pass it to the next generation they die with and it becomes the thus the end of it.

Table 2: The effect of traditional medicine on poverty reduction

Statements	Strongly Disagree	Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Agree	Strongly Agree
Traditional Medicine increase Tourism Awareness of Local Community	4%	.3%	.0%	4%	17%	19%	53%
TMs Development Plays a Vital Role in Preserving Environment and expansion of Employment	1%	4%	3%	0%	16%	23%	53%
Promotion of Traditional Medicine Preserve Cultural and Natural Heritage	0%	0%	2%	1%	3%	10%	84%
Implementation of Herbal Medicine Generate Revenues to Community Income	0%	0%	1%	4%	7%	12%	76%
No Land Conflict Over the Use of Herbal Medicine	1.2%	1.3%	4%	6%	11%	31%	42%
TMs can influence Tourist of Special Interests	3%	9%	20%	0%	0%	36%	76%
Traditional medicine can have Diverse Impact on RTs	0%	10%	5%	3%	6%	25%	51%

Source: Researcher, 2021

These results largely focused on factors related to traditional medicine and rural tourism development they give an outcome on various effects of traditional medicine on poverty reduction in Kisarawe district. The study revealed that the role of government policies and regulations could reshape the perception and behaviour in solving the illegal activities among the society. The effects of rural tourism were therefore considered in terms of contribution to rural communities' livelihood needs and employment. The respondents were therefore asked to state the contribution of TMs on a variety of their livelihood outcome goals. Although

the study interviewed several traditional healers, it was discovered that the majority of the respondents did not use plant solely for healing purposes.

In another development, the study in Kisarawe revealed multivariate results somehow unique to globalization and modernization experience in that, a sizable fraction of the local community in the study area relied on the traditional medicines as their primary health care modality. This observation is envisaged to promote RT in future built on dependence on traditional medicinal plants. It may cultivate a health care system founded on viable culture of affordable plant medicines, nurtured amidst traditional beliefs in power of herbs, easy access to traditional cure compared to costly existing modern health care service as implied in Table 2.

3.1.1 Traditional provision of primary health care)

The study revealed plant- based remedies, commonly used in Kisarawe and other parts of Coast region; they included those which treat women complication such as infertility, early pregnancy complications, late labour pains. They were reported to be treated by a number of tree species including *Adansonia digitata* (mbuyu-kiswahili), *Pterocarpus angolensis* (mninga- mawe). Although they could not totally cure especially certain chronic diseases at least provide relief for such diseases. Other diseases curable by plant medicine include coughs, colds, flu, fevers, sore throats and African wormwood. Also, some medicinal plants can support immune system hence act as supplementary medication.

Even more importantly, it is a fact that most of the natural herbs have minimal or less side effects as compared to modern pharmaceutical drugs arising from industrial chemicals involved during manufacturing processes. Traditional medicines are usually safe for use by patients except for those who are allergic to certain herbs. Currently, traditional remedies are often used in conjunction with mainstream medicines as complementary treatments (Table 4).

3.1.2 The Influence of Traditional Medicine on Eco-Tourism

Eco-tourism refers to integrating conservation, communities and sustainable travel to ensure socio-economic, environmental benefits and empowerment of local communities while ensuring tourists' satisfaction. This study determined how these sectors were linked to conducting tourism value chain analysis, actor assessment, relationship and profit margins; and sustainable carrying capacity of the ecosystems. This concern was partly shared with in-depth views of respondents. It established the fact that, sustainability of the rural tourism depended on various factors basically inclusion of environmental protection and conservation. For: rural tourism could not stand alone without environmental protection and conservation against physical environment degradation factors such as improper solid waste disposal pollution, deforestation and erosion caused by irresponsible human activities; consequently, the drying of water sources due to encroachment of catchment area. These symptoms, though at

small scale, were observed to have started taking place in the study area. On the basis of this, the study probed the respondents to look for ways of achieving sustainable rural tourism and the quality environment which is the essence eco-tourism. Traditional medicine featured to be among the factors which influenced eco-tourism along with ideas of natural environment protection and conservation. To this effect, other factors included; change of communities' mindset, attitudes and behavior through awareness raising, application of ICT and promotion of service provision, business and market linkages.

3.1.3 Increase in Revenues

The study established that eco-tourism activities in Pugu and Kazimzumbwi forest reserves generated approximately Ths 65,926,650.00 million in July 2021 – May 2022 financial year (Table 3). These revenues were deposited into the Tanzania Forest Services (TFS) Fund for general use and distribution by the central government. During the pre-survey of this study which was partly conducted in some hotels in Kisarawe district showed that; occupancy rates ranged from 12% to 30% indicating that there was substantial capacity for expansion of rural tourism. It could be inferred that, there were diverse beneficiaries of eco-tourism including those engaged in one way or the other in traditional medicines. If a conducive socio-cultural and economic environment could be improved, it would most likely attract many tourists coming for rural tourism hence greatly contributes to the local economic development and the nation at large.

Table 3: Revenues from eco-tourist 2021-2022

Activity	Year	Total (Tsh)
Camping fee & government owned tents	2021/2022	7.547,150.00
Permit for vehicle in the forest reserve per day	2021/2022	4, 055,150.00
Royalties from tourism (entrance)	2021/2022	43,677,500.00
Sport fishing per day	2021/2022	80, 000.00
Day/night walk guide	2021/2022	6,622,000.00
Commercial photograph fee	2021/2022	645,000'00
Commercial filming fee	2021/2022	2,660,000.00
Kayaking per day	2021/2022	50,000.00
Sailing with government owned canoe	2021/2022	340, 000.00
Guide service per day		250,000.00
Total	**2021/2022**	**65,926,65o.00**

Source: TFS, Kisarawe 2021

3.2 Types of Medicinal Plant Species

A total of 24 plant species used in traditional medicine for the treatment of patient infections were identified (Table 4). Plant roots were frequently used followed by leaves, stems and entire herbs. Administration of the plant medicine depended on the type of infection; for some infections were treated using one of these parts of the plant whether applied directly or indirectly whatsoever but oral taking was common.

Table 4: Medicinal plants used by traditional healers in the study area

S/N	Local/vernacular names	Species	Affliction	Parts
1	Zigwa	*Uvaria pandensis*	Athma	Root
2	Kibayi cha nguku	*Vernonia - cinerea*	Eye problem	Leaf
3	Sasuwuyache	*Vernoniahildebrandii*	Headache	Leaf
4	Mkunungo	*Zanthoxylum chalybeum*	Stomach	Root
5	Muttumba	*Strychnos panganensis*	Stomach ache	Root
6	Mkuguni	*Terminalia boivinii*	Gonnorrhea	Root
7	Luwawa	*Tragia kirkians*	Haemorrhoids	Leaf
8	Musaka	*Tinnea aethiopica*	Flu	Leaf
9	Msango	*Ruellia patula*	Fever in children	Loot
10	Galagalasusuwi	*Solenostemon latifolus*	Fever	Leaf
11	Kibudubudu	*Polygala sphenoptera*	Skin disease	Leaf
12	Luvumbampuku	*Ocimum - americanum*	Eye irritation	Leaf
13	Sankwa	*Panicum - latticomum*	Bleeding	Leaf
14	Kisagati	*Mastuea brunonis*	Eye defects	Leaf
15	Mundi /mwegea/	*Kigelia africana*	Headache tooth ache sexual libido	Bark
16	Mkule	*Grewia holistii*	Breathlessness	Root
17	Mbalibali/mgunga	*Acacia drepanolobium*	Sore throats. A root decoction is mixed with milk or tea and given to women after childbirth as a diuretic	Bark & root
18	Mpingo	*Dalbergia melanoxylon*	Blood dysentery	Roots
19	Mnazi	*Cocos nucifera*	Food	Fruits
20	Mpapai	*Carica papaya*	ringworm infection and eczema psoriasis	Seeds and leaves
21	Luvumbampuku	*Ocimum sueve*	Eye irritation	Leaf
22	Kikulagembe (Zaramo)	*Dichrostachys cinerea*	Oral candidiasis	Leaves
23	Msipo (Zaramo)	*Abrutus precatorius*	Oral candidiasis	Leaves
24	Mninga mawe	*Pterocarpus angolensis*	Early pregnancy	Bark & roots

Source: Survey, 2021

Plate 1: Traditional preparations of herbal medicines as tourism product
Source: Survey, 2021

3.3 Effects of Traditional Medicine on Biodiversity Conservation

3.3.1 Ecosystem Conservation support

There are 25 globally recognized biodiversity hotspots including the Eastern Arc Mountain Forests and the Coastal forests of Tanzania. The country accounts for more than one-third of total plant species in Africa. All these attract attention of international community for rural tourism. Thus, any loss of biodiversity becomes a profound concern.

Tanzania is party to the Convention on Biological Diversity (CBD) with about 14,000 known plant and animal species; she is among top 12 countries with high biodiversity and among 15 countries with the highest number of endemic species. National Forest Policy Implementation Strategy (2021 – 2031) is advancing measures to enhance ecosystem stability with emphasis on conservation of forest biodiversity, water and soil fertility. Three specific areas of policy focus include forest biodiversity conservation, integration of wildlife in forest management, and adoption of environmental impact assessment (EIA) for investments in forest lands. In this case, establishment of new forest reserves and nature reserves in areas of high biodiversity value is essential to ensure forest biodiversity conservation.

Based on these study findings, 89.9% of respondents strongly agreed that the importance of TMs is manifold including conservation of the environment; and offer employment to traditional healers, seed collectors, forest guides, honey practitioners, and attract national and international researchers and research institutions. Examples of national institutions are TAFORI and TAWIRI; while international ones are AWF, WWF, and IUCN. The study further noted that, the country's Ministry of Natural Resources and Tourism involved various stakeholders in the management of watersheds. For example, the Project on Securing Water Services through Sustainable Land Management in Ruvu and Zigi Catchments (2015 – 2020) has involved local communities in the management of watershed. This is partly due to improved coordination between forest and wildlife authorities in Kisarawe district; for EIA is conducted prior to investments in the forest areas.

3.3.2 The Increase of Production of Quality of Indigenous Tree Seed

The study observed that production of quality tree seed and propagation of materials for plantation and community forestry has been increasing in Pugu and Kazimzumbwi forest reserves. The private sector has started to engage in commercial forest plantations and tree growing. It marked a milestone in the development of rural tourism in Kisarawe district. Also, this measure was taken in response to the national call to check the alarming rate of wood consumption estimated at 83.7 million cubic meters for domestic and commercial purposes at the detriment of the environment. To this effect, the Government of Tanzania introduced Participatory Forest Management (PFM) which is being promoted all over the country to improve management of forest resources spearheaded by two

approaches. That is, the Joint Forest Management (JFM) and Community-Based Forest Management (CBFM). JFM is applicable where reserved land is owned and managed by either the central or local government; or the private sector. In this approach, communities adjacent to a forest reserve enter into joint management agreements to share responsibilities, costs and benefits with the owner. Whereas; CBFM takes place where earmarked forest reserves occupy village lands. In this arrangement, the local communities have full mandates to own and manage forests.

While recognizing these efforts made by Kisarawe district authorities; forest ecosystems still faced several challenges. Local communities living adjacent forest reserves generally had low level of awareness on environmental and economic values of forest biodiversity and uncontrolled human activities that lead to deforestation and forest degradation. It was compounded by low baseline and updated data on forest biodiversity, destruction of water sources, created sedimentation and peak floods, spread of invasive and alien species. This study observed lack of and/or inadequate Fire preventive measures such as the placement and management of firebreaks. Similarly, like many places in the country, the study area generally experienced low prevention of pests and diseases. Also, there were no mechanisms to ensure that users of water contributed to the costs of conserving these forests. Moreover, collaboration among the related sectors was weak resulting in destruction or degradation of some catchment forests.

3.3.3 Increased Reliability in Traditional Medicine

The study established that, the use of traditional medicine was widespread among local communities in Kisarawe district especially those located in remote rural area where modern medicine was not available. Besides, a general belief prevailed among several members of local communities supported by various arguments. Some argued that, treatment using traditional medicine was preferred to modern drugs based on a belief that, traditional medicine cured patients more effectively and had fewer side effects compared to the modern one. Perhaps, such beliefs came out of experienced failure of modern treatment cure patients who resorted to traditional medicine and got cured. They may accord various negative factors to modern medicines in order to avoid such health facilities. These negative attitudes could range from perceiving modern medicine as expensive, unfriendly, dangerous, or ridden with corruption. Some respondents avoid modern drugs sold on the market as they believed that, they were counterfeit or ‘‘fake’’ drugs. Additionally, they believe that TMs are affordable; easy to obtain; free from prescription complexities; and they strengthen the overall immune system. Further, traditional medicine stabilizes hormones and metabolism, accessible in nature; easy to harvest and produce. On account of the above, they believe that TMs will continue to be relevant as they have numerous advantages over modern medicines especially in vulnerable communities.

However, there are controversial views regarding TMs reliability in disease prevention and cure which need to be cleared. The optimistic side viewed that, TMs knowledge has been practiced and passed on for generations with fruitful curability records. It has endured the test of time and proven worthwhile. Conversely, the pessimistic side considered TMs inefficient and ineffective due to various scientific reasons given. A neutral standpoint, seeks to consider the merits and demerits of both sides. The mainstream argument is that, TPM and modern medicine complement each other in various cases, a lot remained to be explored from both sides to foster effective and efficient curative practices in promotion of rural based eco-tourism and welfare of local communities at large.

3.4 Major Challenges and Opportunities in Developing Traditional Medicine

The pace of expansion and fortification of TMs globally to sustainable levels; is yet to be achieved. Records show that, only 25 out of 191 WHO member states have in place either policies and/or complementary statements on traditional medicine. This is due to various challenges facing them including the following as established by this study.

4.4.1 Lack of Standardization

Many industrialized nations agree that, herbal medicine is now a multibillion-dollar industry, and in developing countries; for around 80% of people rely on plant-based medicines. However, the identity, authenticity, and quality of crude plants are often uncertain and difficult to assess. The quality of manufactured products varies considerably worldwide, and regulations can be complex or inadequate. Standardization is possible for few herbs especially those with their active ingredients known to traditional healers. The problem arises when similar drugs have to undergo scientific analysis which is complex and costly increasingly making the drugs expensive hence unaffordable to the majority poor in developing nations.

3.4.1.1 Safety

In principle traditional procedure-based therapies are relatively safe, if they are performed properly by well-trained practitioners. But accidents occasionally occur incidentally; or can be caused isolated cases of untrained practitioners. It underscores the fact that, therapies ought to be performed by knowledgeable people and within accepted parameters or indicators. However, there were no supportive data obtained from the in-depth interviews to testify such cases. All he same, there is the need for future studied to evaluate adverse effects arising from mishandling of therapies in order to document the safety of TMs.

3.4.1.2 Efficacy

Traditional medicines are currently under scrutiny in sub-Saharan countries to evaluate their effectiveness and to monitor their adverse effect. Such analyses have often failed to confirm the efficacy of traditional remedies. Traditional and

complementary as well alternative medicine practices have developed within different cultures in different regions. So there has been no parallel development of standards and methods, either nationally or internationally, for evaluating them.

3.4.1.3 Quality

The study also observed that, although traditional medicines are locally and widely used, the efficacy of many herbal drugs is not yet proven. Moreover, many consumers misinterpret the natural origin of herbal medicines as a testimony of safety, without considering the fact that herbal ingredients can cause serious adverse effects. It calls the need that, herbal medicines should be assessed by randomized controlled trials. Majority of the respondents said that, they administered plant products in the form of decoction. However, none of them provided proper information on how such products could formerly be evaluated in order to ‘‘standardize’’ treatments. Since the general assessment of the quality of TM varied in terms of prescriptions from one area to another; it marked lack of feasible standardization and quality of traditional/ complementary and alternative medicine. This is compounded by the fact that in traditional system of medicine, some plant species are mixed with others to make them effective. It makes standardization; analysis, investigation, and monitor TMs become biologically even more complex. Therefore, there is the need to develop efficient quality control methods to attain standardized results.

3.4.2 Conservation of Medicinal Plants

The study findings showed that, medicinal plants were threatened by anthropogenic activities. It is partly due to the fact that, plants have multiple uses and applications including timber, fuel, and construction poles. It observed the need to initiate systematic cultivation of medicinal plants in order to conserve biodiversity and protect endangered species. In the pharmaceutical industry, where the active medicinal principle cannot be synthesized economically, the product must be obtained from the cultivation of plants.

4.0 CONCLUSION AND RECOMMENDATIONS

The study established various evidences to show the existence of traditional medicine as part of eco-tourism sourcing small scale income to locally disadvantaged communities as part of rural tourism in Kisarawe district. TMs plays a pivotal role in promotion of RT as it stimulates local employment opportunities through sales of medicinal plant products to local communities’ members, internal and international tourists; and it promotes cultural tourism. The primary beneficiaries from this interface are members of the local communities and the local government through collection of overall revenue accrued. However, there are challenges which affect the efficiency and efficacy of TMs as an essential component of RT. They can be summed up as the existing mutual mistrust between the TMs and modern medical experts. They are busy in a wasteful competition of marketing their medicines through eco-tourism

transactions. On one side, the local herbalists claim that modern medical practitioners want to steal their traditional medicinal plant expertise and de-firm their reputation as healers of society. On the other side, modern medical practitioners look at TM herbs as neither efficient nor effective as they lack scientific evaluation and analysis hence harmful for human consumption. Yet, the two compromise in some instances; for patients who fail to get cured in modern medicines are quietly referred to traditional healers and recover or improve and vice versa. On this basis, TMs and scientific medical experts ought to work together as they complement each another in the treatment of various diseases affecting society.

There is the urgent need to scrutinize objectively and scientifically the two with a view of exploiting the advantages accrued from both sides for the purpose of promoting RT and improving the general health and economic development of the local communities in particular and the nation at large. Thus, medicinal plants, among others, are part of the cultural aspects which are instrumental in poverty reduction among residents of local communities in Kisarawe district through eco-tourism in RT. The study provides the following recommendations for improvement.

Future research should network with traditional healers and modern medical practitioners in order to know more about indigenous medicinal plant species in order to formalize them for application in public health while promoting eco-tourism for social economic development of local communities in Kisarawe district. Studies should be conducted to sort out the conflict between TMs and modern medicines for the common good of promoting RT in Kisarawe district particularly in improving the social economic condition of vulnerable local communities and the natural environment. Human safety is prime, it must be determined by conducting standardized scientific clinical trials to check whether contamination or overdosage exist in administering TMs by herbalists and other assertions and the likely solutions.

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