

**INFLUENCE OF COMMUNITY BASED ASTROTOURISM AS AN INITIATIVE FOR
EMERGING TOURIST DESTINATION TANZANIA: A CASE OF MBOZI
METEORITE**

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ABSTRACT

Astrotourism is one of special interest tourist products which are growing in demand in recent times. It focuses on activities related to observing night skies and celestial phenomena in natural spaces, as well as terrestrial meteorites relicts. Astrotourism development in Tanzania, specifically the Mbozi Meteorite is an emerging opportunity for tourism destination in the country. This study was conducted to assess the level of community awareness on astrotourism and Cultural Heritage as tourism products, examine potential factors likely to influence community behavior to participate on astrotourism and cultural heritage, and establish the relevant entrepreneurial skills needed in astrotourism and cultural tourism business. This study used a mixed approach with structured questionnaires, in-depth interviews, and observation as tools for data collection. A sample size of 62 key informants was purposefully selected from Mbeya and Songwe regions including local community leaders/elders, tourism entrepreneurs (Travel agents, tour guides, shopkeepers, curio, transport owners, art & crafts religion leaders), and government officials. Both inferential and thematic analyses were used to analyze quantitative and qualitative data. Findings revealed that the level of community awareness, community behavior, entrepreneurial skills and knowledge is the most important dimension to explain astrotourism performance as opportunities for rural communities and promoting domestic tourism in Tanzania. This research shows that Astrotourism has an important contribution in growth of tourism. Thus, as Tanzania is rapidly becoming a major tourist destination, it is worthwhile to examine the effects of this astrotourism and cultural heritage in the industry through the enhancement of the Mbozi Meteorite and survey method can be used for broader appreciation of Astrotourism and cultural Heritage in the country.

Key words: Astrotourism, Cultural Heritage, Meteorite, Emerging Tourist, and Destination

INTRODUCTION

Mbozi is currently classified as ungrouped iron meteorite found in Tanzania. It is one of the world's largest meteorites by nature, variously estimated as the fourth-largest to the eighth-largest; it is located near the city of Mbeya in Tanzania's southern highlands. The meteorite is 3 meters (9.8 ft) long, 1 meter (3 ft. 3 in) high, and weighs an estimated 16 metric tons (16 long tons; 18 short tons). Mbozi has been long known to locals, who call it Kimondo, yet became known to outsiders only in the 1930s. It is named after Mbozi District, in Mbeya Tanzania.

Reflecting to Astro-tourism is a new phenomenon that is currently taking place across the world especially Sab-Sahara countries. Capturing people's inherent interest in the mysterious provides the drive for tourism through the ages. Astronomy provides numerous opportunities to catch the interest of different stakeholders. A chance to combine the thrills of the visiting new parts of the world with viewing the unknown world of space can be exhilarating. Although people have always looked at the stars,

LITERATURE REVIEW

THE COMPLEXITIES OF ASTROTOURISM

The phenomenon, whereby people travel to areas where light pollution is low to gaze at the stars, is known in tourism marketing literature and the academic community as astro tourism (Collison, 2012; Spennemann, 2008). Several definitions of astrotourism

stargazing as a tourist activity is relatively new and has been largely overlooked by the academic community, rendering the need to understand the behavior and experiences of this hitherto neglected emergent tourist (Marques and Santos 2014).

The current study highlights and bring together a number of activities and attractions to enhance tourist satisfaction and consumption under a combined brand and joint marketing by using the level of community awareness, potential factors likely to influence community behavior to participate, and the relevant entrepreneurial skills and knowledge on astrotourism and cultural heritage. Along with Tanzanian government's mandate to develop rural areas, the public's general interest in astronomy is slowly but steadily rising and coupled with effective integration of public and private sector initiatives, this study may hold great socio-economic benefits through integrating scientific facilities alongside the local tourism industry. It also aligns with the worldwide trend toward niche marketing by destinations as unique selling propositions (Espiner, Orchiston and Higham 2017).

have emerged over the past decade, each of which highlight aspects of the activity and illustrate the complex nature of this emergent form of tourism, but none individually captures the full breadth and complexity of the subject. Reviewing these definitions highlights that Spennemann (2008), defines astrotourism as 'astro tourism is the travelling of private individuals to specific locations to satisfy a desire to view the planets and stars either

unaided (naked eye) or with the aid of an optical device, e.g. telescope'. However, this definition lacks the breadth of the astrological experience and the spiritual connection that astrotourists can experience when gazing at the night sky. Cater (2010) referred simply to astrotourism as space travel, neglecting terrestrial (land based) astro tourism in his definition. Ingle (2010:4) refers to astro tourism, as 'creating a tourism asset from nothingness', one could argue that the night sky is far from nothing as the universe is inextricably linked to life on this planet. In contrast, Collison (2012) viewed the phenomenon of stargazing as people travelling to a destination where dark skies, free from artificial light pollution, can be enjoyed, naming it astronomical tourism or simply astro tourism, a simple but accurate description of the activity. Najafabadi (2012) refers to astronomical tourism, as the potential of sites to attract astro tourists to a particular destination, focusing on the destination rather than the

Astro-tourism is a new phenomenon that is taking hold across the world including Mbozi Meteorite. Capturing people's inherent interest in the mysterious provides the drive for tourism through the ages. Astronomy provides numerous opportunities to catch the interest of young and old alike. Astro-tourism has traditionally been associated with actual travel to space, for example, by Dennis Tito who was the first 'tourist' who in 2001 visited the International Space Station orbiting 400 km above Earth (Wikipedia, 2014a). In such cases it is also termed "space tourism"

activity. Although stakeholders have always looked at the stars, stargazing as a tourist activity is relatively new and has been largely overlooked by the academic community, rendering the need to explore the behavior and experiences of this hitherto neglected emergent tourist (Fayos *et al*, 2014). In a world of change, one constant in the last quarter of the twentieth century has been the sustained growth of tourism both as an activity and industry. It is clear that tourism is a major force in the economy of the world, an activity of global importance and significance (UNWTO 2015). Over the decades, tourism has experienced continued growth and deepening diversification to become one of the fastest growing economic sectors in the world. Modern tourism is closely linked to development and encompasses growing number of new destinations. These dynamics have turned tourism into a key driver for socio-economic progress (UNWTO,2013).

(Duval, 2005; Cater, 2010). Astro-tourism is referred to as tourism for watching the night skies from suitable places on earth as discussed in Ingle (2010), Jiwaji (2010a). According to Duval (2005) such niche tourism is the fastest growing sector in the tourist industry.

Weaver (2011) further elaborates on the idea that Astro tourism or, as it is called in the article, celestial tourism, can be defined as a type of ecotourism through activities which are focused on observation and appreciation of celestial phenomena. Kaniaska *et al*. (2020), agree with this idea and add that since its greatest assets don't need

maintenance and development and are always available and unique, it is one of the most sustainable forms of tourism. Tanzania is endowed with tourist attractions such as natural, cultural, including Mbozi Meteorite, historical and archaeological sites in high demand in international tourism markets. Nowadays stakeholders continue to wonder about the universe, and this is reflected in the creation of Astro tourism. However, there is no formal astro-tourism industry in Tanzania which highlights the level of

LEVEL OF COMMUNITY AWARENESS ON ASTROTOURISM AND CULTURAL HERITAGE

Tanzania has several advantages in exploiting this potential to attract more tourists depending on the level of a certain community. The level of awareness on astrotourism and cultural heritage depends also on the status of development of the country because information dissemination and level of understanding depends on the social- economic status of the society (Espiner, 2017). In this study, the sustainability in the astrotourism development could be achieved if the stakeholders implement the rural astrotourism initiatives this is because they are the ones whose lives largely depend on natural resources and bear the cost of conservation.

POTENTIAL FACTORS LIKELY TO INFLUENCE COMMUNITY BEHAVIOR TO

PARTICIPATE ON ASTROTOURISM AND CULTURAL HERITAGE

community awareness, potential factors likely to influence community behavior to participate, and the relevant entrepreneurial skills and knowledge on astrotourism and cultural heritage in Mbeya and Songwe region hence this type of tourism has a great potential of increasing tourist revenue for Tanzania. The successful implementation of astrotourism will, among other factors depends on the involvement of rural communities in the initiatives at the micro level.

The view of the local community must be taken into consideration so that it will aid attain worthy decision making process and manage resource competently and effectively (Barnes, 2007). Involvement and participation of communities in the tourism industry can be viewed in the decision making process and in the sharing of tourism benefits, community participation through employment brings more economic benefits directly to the household level. Astro tourism can attract tourists to the peripheral areas, which can bring economic benefits to those areas and can reduce the loss of population there. Local community participation is also open to a variety of interpretations arising from the fact that a ladder encompassing different levels of participation exists which often range from ‘only being told of’ to being able to influence or determine every aspect of the tourism development (Lundberg, 2017). The community behavior and participation can help connect Astro tourism to sustainability in various ways: Astrotourism through Mbozi meteorite can provide a place to work (job creation), a time to play and a space for wellbeing, as it

contributes to altering the daily routine of constant communication, work, family and life balance. It is argued by Paskova et al. far more. For some it provides a career, a place to achieve professional growth and of family and friends, whereas for others it is time to experience something new, exciting, and possibly an opportunity to learn something and/or a life affirming (2018).

Astrotourism philosophy, this can also spread awareness and inspire both the tourists and the local people to take responsibility and make efforts to reduce light pollution and to develop an

(2021), that tourism involves mobility, ‘the mobility of people from one place to another’. However, tourism is about flourish, for others it represents a break from daily routine, a chance to enjoy the company experience, thus illustrating that contemporary astrotourism in Songwe region can be ‘all things to all people’ (Sharpley,

environmental consciousness. The preservation of nature is tightly connected to education, awareness and social transformation, skills and knowledge these can be used as tools in that process.



Plate. 3.1 Stakeholders examine the nature and the values of Mbozi Meteorite

Source: Researcher, 2023

Astrotourism is a part of the dark sky experience, because they link together all the visual aspects and help people reconnect back to nature, to the way the stakeholders from the past used to look at and use the sky, and to the natural way of sharing knowledge

through human exchange. The astronomy activities can connect various themes and topics together and can be used to help local community to understand better complicated phenomena related to sustainability while at the same time they create an enjoyable,

memorable and inspiring experience from other forms of tourism. The night sky and the cosmic bodies have played an important role in the development of human civilization through orientation, navigation, agriculture, calendars, celebrations, storytelling, telling the time for harvest and seasons (Paskova, et al., 2021).

THE RELEVANT ENTREPRENEURIAL SKILLS NEEDED IN ASTROTOURISM AND CULTURAL TOURISM BUSINESS

Tourism sector often operate in fast-paced environments where they provide quality service to both domestic and international customers. There are many skills required in the different sectors of the astrotourism industry. The wide range of skills includes:

LAND MANAGEMENT, HUMAN SETTLEMENT AND DEMOGRAPHICS

Land in Tanzania is an essential resource on which human beings and other living creatures depend. Despite its importance, the Songwe region lacks a detailed land-use activities away from the fragile areas like Mbeya and Songwe Regions where the Mbozi Meteorite is found (Jiwaji, 2010).

THE DEVELOPMENT OF THE DEMAND-ORIENTED PRODUCTS

The tourism industry in Tanzania encourages persons with skills in creating and offering well-packaged high-quality experiences that exceed the customers' expectations. There is also a need for skills in developing competitive and versatile

plan for demarcating different uses for astrotourism activities. Demographic processes play a great role in the development of the region by optimizing the allocation of tourism resources, which fuel the acceleration of economic growth. The challenges faced by the sector include inadequate surveyed and mapped land for human settlement; inadequate land parcels development and investments, as well as functional procedures for securing and use of land. It is estimated that over 70 percent of the Tanzanian population live in unplanned settlements, and over 60 percent of the urban housing stock is recorded in these settlement areas (Tanzania Commission for Science and Technology, 2021). Therefore, astrotourism skills and knowledge should focus on developing effective and efficient novel approaches to facilitate rapid national socio-economic development and national land-use priorities, promotion of equitable distribution and ensuring access and productive use of land together with special attention in guiding potentially hazardous

offerings from the interfaces of astrotourism and other fields. Product development is often defined as skills in designing and developing innovative and customer oriented tourism concepts and services and experiences connected to business opportunities of the multi-sectoral environment (Hall et al., 2015).



Plate 3.2The Brand of Mbozi Meteorite

Source: Researcher, 2023

MATERIAL AND METHODS

STUDY AREA

Mbozi District is a district in Songwe Region, Tanzania. It is located at the south western part of Mbeya Region, between latitudes 8° and $9^{\circ} 12'$ south of the Equator and Longitudes $32^{\circ} 7' 30''$ and $33^{\circ} 2' 0''$ East of the Greenwich Meridian. It shares borders with Mbeya district to its eastern part, Ileje district to the south, Momba district to its western part and Chunya

district to the north, and to the west by Rukwa Region. The major ethnic groups in terms of their number are Nyiha. They account for over 50% of the total population. The other ethnic groups are Nyamwanga, Wanda, Nyakyusa, Ndali, Lambya, Malila, and Safwa.

Social-economic status the production sectors include; agriculture, livestock production and marketing, conservation and harvesting of existing natural resources and small industrial production.

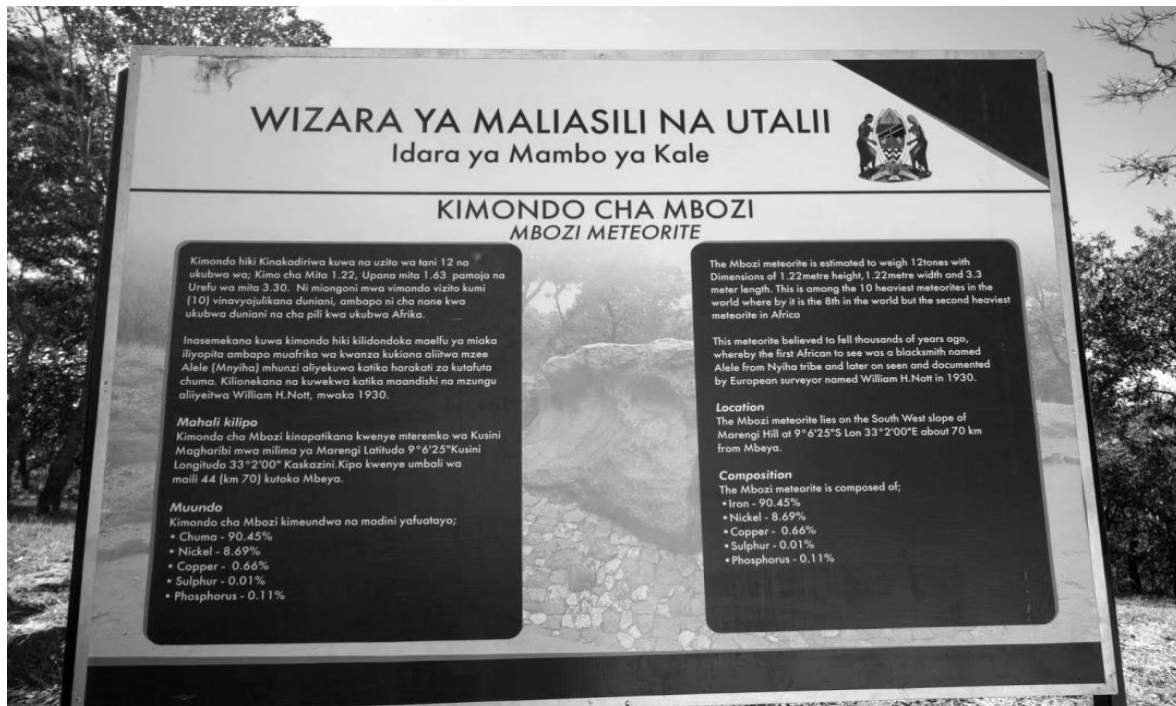


Plate 3.3 Meteorite Interpretation Post
Source: Field survey, 2023

DATA COLLECTION METHODS

The study used a mixed approach with three parts of questionnaires namely: level of Community awareness on astrotourism and cultural heritage, potential factors likely to influence community behavior to participate on astrotourism and cultural heritage, and the relevant entrepreneurial skills needed in astrotourism and cultural tourism business. The other methods are: in-depth interviews, and field observations for data collection and analysis. Mixed methods allowed the researcher to provide a more comprehensive analysis on the research problem, complementing information from multiple methods and minimizing the biases of using single method (Robson, 2011). A purposive sampling technique was employed by

identifying respondents who were directly or indirectly linked to the influence of astrotourism and cultural heritage development as an opportunity for emerging tourist destination Tanzania.

Questionnaires were to collect the quantitative information and interview was to collect the qualitative information with 6 in-depth interviews which last around 30 minutes to 1 hour with a person at a time. The field visit was for preliminary identification of tourism business activities for discussion at selected places. These categories ranged from local government employee, 13 heads of departments, 19 local communities (Leaders of business groups, farmers, women groups) and 22 tourism

entrepreneurs (tour agents, transport owners, curio managers, tour guides, scuba divers and religion leaders from Mbeya and Songwe Regions). Others include; 8 experts from higher learning institutions namely, The Open University of Tanzania (OUT), College of African Wildlife Management (MWEKA), National College of Tourism (NCT), The University of Dar es salaam, and NCA - Mbozi Meteorite center. The target population of this study consisted of sixty-two respondents aged 18 and above from three groups local government

employee, tourism business entrepreneurs and local community. They formed a study sample of 62 respondents. The aimed interviewing respondents of different backgrounds in order to obtain triangulated information captured from perception and opinions of respondents on the influence of Mbozi meteorite in promoting Tanzania destination through Astrotourism and cultural heritage. Questions capturing the perceived impacts of astrotourism development were framed in 7 point Likert scale from the sample of 62 respondents.

Table 3.1: Sample Study of respondents who participated in the interview

Respondents	Category	Sample (n)
Local Government Employee 13 Heads of Dept.	Policy makers and supervisors	13
Tourism Entrepreneurs	Leaders of tourism business practitioners (Travel-agencies, tour-guides, hotel managers, curio shops, Transport owners, air charter operators, scuba divers, camp sites owners, religion leaders)	22
Local community/residents	Leaders of business groups, farmers, women groups	19
Representatives from Institutes of higher learning	Professionals and consultants	8
TOTAL (N)		62

Source: Researchers, 2023.

After obtaining information from the above different stakeholders, the researcher conducted one meeting and one workshop on each group at different levels to discuss the findings. Firstly, the researcher planned

to hold an interview with 13 heads of departments in Mbozi district council aimed at obtaining their really perceptions and opinions on the influence of astrotourism skills and knowledge of local community for

the astrotourism dynamics and if there is any controlling mechanism or policy from the central or local government about training skills and knowledge to local community on RTs development. Secondly, the researcher planned to request a workshop forum with the heads of tourism business entrepreneurs to discuss the role of the entrepreneurial skills and knowledge on RTs business dynamics. Thirdly, the researcher planned to request the tourism stakeholders to conduct a field survey in different locations to observe and identify potential tourism

RESULTS AND DISCUSSION

This section presents the results and discussion on the study of the influence of community based astrotourism as initiatives for emerging tourist destination Tanzania: a case of Mbozi meteorite. The three factors of the framework are a logical roll-out plan that could be applied to implement this new theme-based astrotourism development. The empirical objectives of this research firstly, the framework examined the supply and demand side of the destination as well as its state of readiness to become a tourist destination by determine the level of host community awareness on the Mbozi meteorite attractiveness, which lies within the Mbozi that has the most beautiful clear sky evenings and cosmos, both of which are visible to the naked eye. These natural advantages should be used for the benefits that astrotourism could bring to outlying rural communities, while at the same time bringing economic, technological and scientific benefits to Tanzania as a destination Table 4.1. Second the study examine factors likely to influence community behavior to participate on

facilities they used, the traditional procedures, and the challenges and opportunities in developing astrotourism. The respondents were asked to explain entrepreneurial skills and knowledge they use in their daily routine. Descriptive methods were employed to analyze and present the results backed by resolutions reached in the workshop discussions, from the interview and those from the visited tourist areas.

astrotourism, Thirdly the study examine the relevant entrepreneurial skills and knowledge needed in the interpretation of astrotourism and cultural heritage business as a potential keystone socio-economic initiative that aims to deliver tourism-led economic development in Mbozi district as a destination usually overlooked, but plays an important role in the effective implementation of the astrotourism development.

LEVEL OF COMMUNITY AWARENESS ON ASTROTOURISM AND CULTURAL HERITAGE

In this aspect the study used knowledge on the concept of astrotourism that has a direct and significant correlation with the local community perception and participation in its planning and development. Eight items were used to test the level of community awareness. The study has revealed that local communities in the study area were not much aware in the interaction with place, space, and time in using (meteorite) for astrotourism and cultural heritage for socio-economic development. The study results

revealed that sensitization and community awareness can help connect astro tourism to sustainability in various ways: This factor can educate stakeholders about the socio- and identity creation process and shape the perceptions of both the visitors and the local sustainable competitive advantage since protection of rural cultural assets is the basis of the attraction of villages. The astronomical skills can spread awareness and inspire both the tourists and the local people to take responsibility of climate change and make efforts to reduce light pollution and to develop an environmental consciousness. The preservation of nature is tightly connected to education, awareness, and social transformation. Managerial skills and knowledge helps to improve the level of decision making, community awareness helps in knowing one of the causes of biodiversity loss is pollution, astrotourism halt the drift of young to cities, local

economic and scientific values in the field of astronomy; they can share information about the cultural and natural specifics of the local area and thus take part in the place, value communities; they can promote and preserve the culture of the area while providing a

community bears the cost of conservation, and its greatest assets never need maintenance or development, The study also revealed that the limited of tourism official marketing in southern Tanzania generates little awareness of the region’s unique features and selling points. In this statement result shows that 51.6% of the respondents strongly agreed. Table 4.1 illustrates the plan and answers from the respondents for the implementation of Mbozi meteorite as an opportunity for emerging tourist destination Tanzania.

Table 4.1: The results of the Level of Community Awareness on Astrotourism and Cultural Heritage

Statements	Strongly Disagree	Disagree	Slightly Disagree	Neither Agree	Slightly Agree	Agree	Strongly Agree
Much people are not aware on the socio-economic values of Mbozi meteorite.	1 1.6%	1 1.6%	2 3.2%	5 8%	10 16.1%	18 29%	25 40.3%
Climate change and global warming affects astrotourism in Songwe Region	0 0%	1 1.6%	3 4.8%	2 3.2%	11 17.7%	19 30.6%	26 41.9%
Managerial Skills and Knowledge helps to Improve the Level of Decision Making	2 3.2%	2 3.2%	3 4.8%	5 8%	9 14.5%	17 27.4%	24 38.7%
Causes of biodiversity loss is pollution	1	2	3	6	5	16	29

	1.6%	3.2%	4.8%	9.6%	8%	25.8%	46.7%
Astrotourism Halt the Drift of Young to Cities	0	0	2	4	8	18	30
	0%	0%	3.2%	6.4%	12.9%	29%	48.3%
Local community bears the cost of conservation	0	0	3	4	5	19	31
	0%	0%	4.8%	6.4%	8%	30.6%	50%
Its greatest assets never need maintenance or development	0	1	5	6	5	10	35
	0%	1.6%	8%	9.6%	8%	16.1%	56.4%
The limited of tourism official marketing in southern Tanzania generates little awareness	0	0	1	3	4	20	34
	0%	0%	1.6%	4.8%	4.8%	32.2%	51.6%

Source: Researchers, 2023

4.2 Potential factors likely to influence community behavior to participate on astrotourism and cultural heritage

The study used eleven items to test the factors that influence community behavior. Factors likely to influence community behavior to participate on astrotourism activities by using Mbozi meteorite as a tourist product includes; job creation, community awareness, availability of right incentives, experiences from other forms of tourism, astronomy interpretation and attractions, effective integration of public and private sector initiatives, right incentives, improved tourism value chain and infrastructure development this means that, improve the quality of services such as the four A's in the destination (attraction, accommodation, access, and amenities) i.e. restaurant, ATMs, fuel stations, and improved service standards, of market non astrotourism attraction and activities this

means that develop complimentary tourism activities such as paleo-tourism, culture and heritage, outdoor and adventure, eco-and nature and Agri-tourism. Agritourism and ecotourism form a crucial part of tourism development in rural areas and should, therefore, be taken into account alongside astrotourism development. Local resident perceptions will determine attitudes towards tourism development

The overall perception from the respondents indicated that astrotourism niche cannot be observed in isolation as it also requires improvements to the non-astrotourism products and services in the southern circuit. The Mbeya and Songwe regions have a great number of available offerings but they need to be packaged and marketed as the “star gazing regions of Tanzania”.

Therefore, the study revealed that ensuring effective participation especially at the community level requires motivations. Their responses were motivations, rewards, and

empowerment. Motivation obviously make human begins to be dedicated. However, the participants did not only rely on financial motivate, they pressed on that, it

could also be in kind. This was the priority of the villages as per their motivation desires
Table 4.2

Table 4.2: The results of the Potential factors likely to influence community behavior to participate on astrotourism and cultural heritage

Statements	Strongly Disagree	Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Agree	Strongly Agree
Astrotourism provide a place to work (job creation)	0 0%	1 1.6%	2 3.2%	0 0%	7 11.2%	21 33.8%	31 50%
Astronomy Interpretation and Attractions (methods of interpretation)	0 0%	3 4.8%	4 6.4%	9 14.5%	7 11.2%	15 24.1%	24 38.7%
Effective integration of public and private sector initiatives	2 3.2%	2 3.2%	3 4.8%	5 8%	12 19.3%	18 29%	21 33.8%
Preservation of nature and culture in the peripheral areas,	1 1.6%	2 3.2%	3 4.8%	2 3.2%	5 8%	15 24.1%	34 54.8%
Right incentives	0 0%	0 0%	2 3.2%	7 11.9%	8 12.9%	14 22.5%	31 50%
experiences from other forms of tourism	0 0%	0 0%	3 4.8%	4 6.4%	17 27.4%	13 20.9%	25 40.3%
Supporting aspect - Improved Tourism Value Chain e.g. local art & crafts, fresh produce, shuttle services, laundry services	0 0%	1 1.6%	1 1.6%	1 1.6%	3 4.8%	20 32.2%	36 58%
Market non astrotourism attraction and activities	1 1%	2 2%	2 2%	5 5%	8 8%	20 20%	62 62%
Market small towns events (e.g.Tunduma)	0 0%	0 0%	2 3.2%	1 1.6%	11 17.7%	20 32.2%	28 45.1%
Astro-tour guides can be trained locally and monthly	1 1.6%	2 3.2%	1 1.6%	2 3.2%	17 27.4%	18 29%	21 33.8%
Requires improvements to the non-astrotourism products and services (culture, agritourism, ecotourism)	1 1.6%	3 4.8%	4 6.4%	2 3.2%	4 6.4%	21 33.8%	27 43.5%

Source: Researchers, 2023

Therefore, in the case of astrotourism and cultural heritage creativity brings together three interrelated aspects of destination dynamics, the intensification of the experience economy and commoditization of the social, secondly, the individual's capacity and responsibility to innovate and respond to societal changes, and thirdly the socio-spatial embeddedness of economic activities.

THE LOCAL COMMUNITY'S SKILLS AND RELEVANT KNOWLEDGE TO THE ASTROTOURISM AND CULTURAL HERITAGE

The study examined and focused on the relevance of local community's entrepreneurial skills and knowledge based on their perception of impacts of astrotourism and cultural heritage in Tanzania, the case of Mbozi Meteorite in Mbeya and Songwe Regions. A total of 62 questionnaires were administered to the respondents in the study area Table 4.4. The results are presented in the following subsection. This part presents the findings on

the perception of the respondents regarding the relevant entrepreneurial skills and knowledge needed in astrotourism and cultural heritage business.

The results of the study revealed that individual skills and knowledge are the key tools to handle the astrotourism business in the following aspects; customer-care and services positively affect astrotourism business, managerial skills and knowledge helps to improve and manage the level of decision making, astrotourism halt the drift of young to cities, environmental conservation skills and knowledge are helpful to identify and manage astrotourism resources, financial skills and knowledge are helpful to increase the vacancy of astrotourism products, financial skills supports the development of astrotourism and cultural heritage, business skills and knowledge are helpful to influence transport owners and tour operators in Mbeya and Songwe region, anatomy skills and knowledge helps to sensitize the awareness on Mbozi meteorite, and land management skills helps to change and manage unused land into business units.

Table 4.3: The results of local communities on the relevant entrepreneurial skills needed in astrotourism and cultural heritage

Statements	Strongly Disagree	Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Agree	Strongly Agree
Land management, human settlement and demographics skills are helpful in astrotourism business	0 0%	0 0%	0 0%	2 8%	10 16.1%	28 45.1%	22 35.4%
Customer-Care and Services Skills	0	1	3	1	6	15	36

Positively Affect Astrotourism Business	0%	1.6%	4.8%	1.6%	9.6%	24.1%	58%
(Digital) sales and marketing communication	2	2	3	2	9	23	21
	3.2%	3.2%	4.8%	3.2%	14.5%	37%	33.8%
Astrotourism Skills and Knowledge are helpful in environmental conservation	3	2	3	7	5	17	25
	1.6%	3.2%	4.8%	11.2%	8%	27.4%	40.3%
Astrotourism Halt the Drift of Young to Cities	0	0	2	4	11	24	21
	0%	0%	3.2%	6.4%	17.7%	38.7%	33.8%
Conservation Skills and Knowledge are helpful to Identify and Manage Tourism Resources	0	0	0	3	7	15	37
	0%	0%	0%	4%	11.2%	24.1%	59.6%
Communication skill and knowledge are helpful in Astrotourism Products interpretation	0	1	1	2	6	22	30
	0%	1.6%	1.6%	3.2%	9.6%	35.4%	48.3%
Religion institutions Support the Development of Astrotourism and Cultural Heritage	0	0	0	0	3	22	37
	0%	0%	0%	0%	8%	35.4%	59.6%
Astronomy Skills and Knowledge helps to Sensitize Community Awareness on Mbozi Meteorite	0	2	1	2	15	23	19
	0%	3.2%	1.6%	3.2 %	24.1%	37%	30.6%
Land Management Skills Helps to Change Unused land into Business Units	0	0	0	1	8	26	28
	0%	0%	0%	1.6%	12.9%	41.9%	45.1%
Business Skills are Helpful to Influence Transport Owners, and Tour Operators	0	0	3	2	11	25	21
	0%	0%	4.8%	3.2%	17.7%	40.3%	33.8%

Source: Researcher, 2023

This research complements and reflects the study conducted by Manwa, Saarinen, Athlopeng and Hambira (2017), which demonstrates that the tourism industry is a phased-in guidance that can be considered by tourism decision-makers and developers to ensure sustainable development in rural areas. The proposed framework links the

CONCLUSION AND RECOMMENDATIONS

Tanzania is blessed with astrotourism potentials that can successfully brand the

vital vehicle for sustainable development. The proposed Astrotourism through Mbozi meteorite presents very specific

less familiar types of tourism within an area together by adding value to the existing local tourism products and offerings.

country a tourism destination if properly explored and managed. This study accessed the awareness and willingness of the communities, examine the factors that influencing behavior change, and also

examine and focused on the potential skills and knowledge needed for astrotourism planning and development considering the fact that, it is a newly created socio-economic aspect and that the development of such venture will restrain their main source of livelihood. Based on the study results, the study established various evidence of the influence of community awareness, involvement, and participation thus offering support to the astrotourism business dynamic and low income people in Mbeya and Songwe regions. These are the key tools for emerging tourist destination Tanzania; stimulating employment and economic growth in developing southern circuit in Tanzania. Boosts economic growth, enhances educational attainment and increases the rate of economic growth through financial management, customer care, and environmental conservation skills. Tourism has been known to be one of the The study findings show that the local communities did not have a comprehensive skills and knowledge of the concept of Astrotourism but perceived it will be a source of development for their communities thus are willing to participate in the growth of Astrotourism due to the already established positivism of the concept of Astrotourism as a socio-economic aspect. The potential economic benefits were the most important factor influencing the willingness to participate. These findings supported the views view that, projects perceived to be of potential financial and developmental benefits, the communities willfully participate toward its realization (Espiner, 2017). Understanding of the Mbozi meteorite project was also influential to their participation. Despite incomprehensive

social issues which are so apparent among Tanzanians.

Despite the numerous efforts of the government to control this situation, lack of community awareness, poor participation and low level of skills and knowledge, still persists among the stakeholders. The effect of these factors on the society is greatly dehumanizing. To this effect, the awareness and understanding of the concept was accessed to have an understanding of their perception about the practical implementation of Astrotourism. These factors were also analyzed in conjunction with their collaboration with other stakeholders so as to establish an understanding of their willingness to get involved and also the factors influencing their participation in the planning and development of Astrotourism and the realization of the goal in general.

knowledge about the project, local community held a general view that, Astrotourism was meant to increase their standard of living after receiving incentives form NGOs as for tourism business and conservation. This supported the view that, lack of community knowledge of a project, hinders reduces willingness to participate postulated by in a study carried out in Tanzania by Jiwaij (2010) in Tanzania.

Furthermore, if Tanzania wants to reach its full potential in terms of economic and social development, it cannot afford to ignore the importance of its indigenous entrepreneurs and their contributions that they make to the country's economy. Community awareness, direct participation, and entrepreneurial skills and knowledge

remain the principles to sustainable wealth creation in Tanzania. It is also an effective means for astrotourism development and poverty reduction in impoverished and lower income region in Sub-Saharan countries.

With pristine protected areas (Pas) and established infrastructure, astrotourism would be a natural extension of daytime nature tourism into the night time stargazing. These three factors if implemented can indeed speed-up the development and the preservation of nature and culture in the peripheral areas, but they can also

RECOMMENDATION

From the literature reviewed and related studies, it is evident that the Tanzania government through the Ministry of Natural Resources and Tourism, NGOs based in Tanzania, and other stakeholders have conducted research on the impact and contribution of the astrotourism in Mbeya and Songwe regions in Tanzania and on the community development in other destinations. However, there is no evidence of any research specifically focusing on the effect of the level of community awareness, there is also no information the potential factors in the literature likely to influence community behavior to participate on astrotourism also no reliable information establish the relevant entrepreneurial skills needed in astrotourism and cultural heritage business performance on local community development in a micro economic level in the study area and this is a gap that this study was intended to fill. Finally, if

communicate important ideas about sustainability to the visiting tourists and can help them to reconnect back to nature and the views of the ancient stakeholders about the night sky, and to appreciate nature. To achieve a more sustainable future it is good to take into account both the peripheral areas, where there are problems with lack of job opportunities, loss of population, disappearance of culture and traditions, and the urban areas, where the society and the surrounding flora and fauna suffer from the effects of light pollution and human being lose connection with ecosystem.

Tanzania desire to move out of the disturbing low level of awareness on astrotourism business mentioned, adequate attention must be given to the growth of entrepreneurial skills and knowledge from the household level.

Tanzania's geographical location and light-pollution free skies allows us to offer astro-tourist attractions within the existing tourism setup. With Mbozi meteorite and established infrastructure, astro-tourism would be a natural extension of daytime nature tourism into the night time stargazing. With readily available optical telescopes, binoculars and peripherals at extremely economical prices, combined with training of astro-tour guides supported by available expertise, Tanzania can quickly and sustainably exploit the benefits of this novel, rapidly growing brand of tourism without undue waste of time and resources.

They can indeed help with the development and the preservation of nature and culture in the peripheral areas, but they can also communicate important ideas about sustainability to the visiting tourists and can help them to reconnect back to nature and the views of the ancient people about the night sky, and to appreciate nature. To achieve a more sustainable future it is good

MANAGERIAL AND POLICY IMPLICATION

This study assessed how astrotourism and cultural heritage policies and regulations can contribute towards Mbozi district astrotourism strategy in a sustainable manner. Generally, the results from this study indicate that tourism policies and regulations on Mbozi Meteorite have high significance for astrotourism and cultural heritage development in southern circuit in destination Tanzania. Therefore, these policies should seriously be amended according to the needs of the society.

DIRECTION FOR FURTHER RESEARCH

Due to the time limitations, the method the researchers have chosen to conduct this study and the data was received from the questionnaire, interviews and the field survey, there are still areas in connection to examine and sustainability in Astro tourism that have been left unexplored.

Firstly, the study suggests further investigation be made to ascertain how can Mbozi meteorite be considered as the right option to meet individual needs of tourism dependent communities in the environment of land scarcity. The study has demonstrated

to take into account both the peripheral areas, where there are problems with lack of job opportunities, loss of population, disappearance of culture and traditions, and the urban areas, where people and the surrounding animals and plants suffer from the effects of light pollution and people lose connection with nature and the past.

that land is becoming scarcer and scarcer over time mainly caused by high population growth. Nevertheless, the agricultural production in developing countries like Tanzania has been too unreliable, caused by poor farm implements, low technology and unpredictable rains, making rural farmers more vulnerable to climate change impacts. As a result, some have relied on existing natural resources to earn their living. Astrotourism will not be successful unless efforts are made to meet demands of such rural communities. Secondly, research is also suggested to identify specific, accessible sites with dark skies for astrotourism activities, to determine the magnitude and impact of economic benefits for public and private sectors, to specification of locally suitable technological and equipment needs, and assess the benefits to science development at the micro level. Thirdly, Research professionals should conduct more investigation on Mbozi Meteorite as an Astronomy Project Management Institution in Tanzania. Lastly, the study suggests investigation be made on the proper conservation policy and strategies that can be introduced to make Mbozi meteorite benefit communities living adjacent to protected area as the means to fight encroachment and illegal demographic factors.

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