RURAL RESIDENTS' PERCEPTION OF RESTRICTIONS TO SELECTED ECOTOURISM SITES AND WELL-BEING IN NORTH CENTRAL NIGERIA

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CERTIFICATION

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DEDICATION

‘Now unto Him, that is able to do exceeding abundantly above all that we ask or think, according to the power that worketh in us, Unto Him be glory…’ Ephesians 3:20-21 (KJV)

This study is dedicated to the memory of my late parents James I. Oladipo and Rachael A. Oladipo; to my lovely wife Adenike Abigail; and to my precious children Lois Olamide, Timothy Ademide, Eunice Ayomide and Juan Iremide.

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ABSTRACT

Rural residents depend on the same natural resources on which tourism thrive for survival. However, ecotourism involves restriction of access to resources within ecotourism sites (ES). Previous studies have largely focused on conservation of resources within ES but paid scant attention to how restrictions affect the well-being of residents close to the sites. This study, therefore, investigated how restriction to selected ES affects rural residents' well-being in North Central Nigeria, with the view to enhancing support for ecotourism development.

The study was anchored to Len Doyal and Ian Gough's Theory of Human Needs, while mixed method design was adopted. Four ES owned and operated by the governments of Plateau state (Jos Wildlife Park and Pandam Game Reserve) and Nassarawa state (Farinruwa Waterfall and Peperuwa Lake) were purposively selected for the study. The two states were selected based on the presence of ES identified for development by the Nigeria tourism development master plan. Systematic sampling was used to select a total of 331 respondents from seven purposively selected rural host communities based on their proximity to the ES. Close-ended questionnaire was used to collect data on respondent's socioeconomic characteristics, awareness of ecotourism principles (r=0.74), benefits of ecotourism (r=0.89), perceived influence of restrictions on well-being (r=0.88) and residents' well-being status (r=0.89). Eighteen key informant interviews were conducted with four site managers, seven community heads and seven youth leaders. Quantitative data were analysed using descriptive statistics, ANOVA and linear regression at $\propto$=0.05, while qualitative data were content-analysed.

The respondents' age was 48.0±13.7 years and 59.1% earned below ₦20,000/month. Also, 75.3% of the respondents were married and 82.4% were literate. More than half (56.3%) were aware that hunting, farming, logging and erection of buildings are restricted in ES. Although preservation of forests (83.0%) and interaction with people of other cultures (65.2%) were identified as benefits of ecotourism, 51.4% admitted that the benefits they derived from the sites had reduced. Restriction was perceived to have negative influence on education (20.00±4.6), health and safety (19.19±3.97) and material (18.53±4.64) well-being. Overall, 52.2% of the respondents had low well-being status. Perceived influence of restriction on well-being domains varied significantly across ES ($F_{(3, 243)}$ =5.14). It was higher in Peperuwa lake ($\bar{x}$=109.3) than Pandam Wildlife Park ($\bar{x}$ =104.4), Farinruwa Waterfall ($F_{(}\bar{x}$ =97.0) and Jos Wildlife Park ($\bar{x}$ =96.2). Non-tourism-related employment (β=0.184), monthly income (β=0.182), awareness of ecotourism principles (β=0.214) and benefits of ecotourism (β=0.157) were predictors of well-being status. Although ecotourism managers perceived that natural resources were at risk of depletion owing to poor economic state of the people, community and youth leaders believed that more residents need to be involved in the running of the sites so that they could derive more benefits.

Rural residents in selected ecotourism sites in North Central Nigeria perceived restrictions to have imparted negatively on their education, health and safety, and material well-being. Therefore, government should use participatory engagement to identify possible alternative economic activities for residents close to these sites.

Keywords: Ecotourism sites, North Central Nigeria, Natural resources, Rural residents' well-being

Word count: 489

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FFI:	Full Frame Initiatives
GDP:	Gross Domestic Product
HDI:	Human Development Index
IATA:	International Air Transport Association
IUCN:	International Union for the Conservation of Nature
NPS:	National Park Service
QoL:	Quality of life
SET:	Social Exchange Theory
SZCP	Support Zone Community Programme
SDG:	Sustainable Development Goal
TIES:	The International Ecotourism Society
THN:	Theory of Human Need
UNEP:	United Nations Environmental Program
UNWTO:	United Nations World Tourism Organisation
WCED:	World Commission on Environment and Development
WTTC:	World Travel and Tourism Council
WWF:	World Wildlife Fund

CHAPTER ONE

INTRODUCTION

1.1 Background to the study

Tourism is a travel-based industry that contributes significantly to human development. Its benefits are felt at two main levels. At the national level, it generates revenues and foreign exchange for many countries; and at the local level, it creates jobs and distributes income to local people, thereby improving their lives (Dieke, 2003). Prior to the global Covid pandemic, in 2019, tourism contributed US$9.2 trillion to the global economy (10.3 per cent of global GDP) (WTTC, 2022). Fragile economies are capable of being supported by the large incomes generated by this industry. This underscores the significance of travel and tourism to the GDP of some sub-Saharan African (SSA) countries. In 2017, it accounted for 17.2, 9.5 and 4.8 per cent of the GDP of The Gambia, South Africa and Nigeria respectively (WTTC, 2018)

Tourism also creates a lot of small-and medium-scale jobs. It engages thousands of people, including unskilled and female labour (International Air Transport Association-IATA, 2019). Jobs are created to satisfy tourists' need for transportation, feeding, accommodation, leisure, entertainment, education and other ancillary services. Tourism was responsible for 333 million jobs in 2019 worldwide, representing 1 out of every 10 jobs. It has been responsible for 1 out of every 4 new jobs created in the last five years (WTTC, 2022). In Nigeria, tourism directly supported 1,219,000 jobs and a total of 3,316,000 employments (4.8% of all employments) in 2017(WTTC, 2018). This resilient industry recovered by 6.7% in 2021 from a decline of 18.6% in job losses at the peek of the pandemic in 2020 (WTTC, 2022)

The most critical aspect of tourism to developing countries is the ability to create useful enterprises from natural and anthropological resources, such as caves, historical relics, rivers, mountains, waterfalls, rare animals, biodiversity and cultural activities (Neth, 2008;

IATA, 2019). In sub-Saharan African countries, Nigeria inclusive, these resources are part of the rural economy. They exist mainly in rural areas whose inhabitants are often plagued by poor health, low capital, low education and insecurity. The people depend directly on the same resources on which tourism thrive for their existence (Esu, 2013; Acquah et al., 2017). This underscores the implication of sustainable tourism growth to rural people's ability to survive. Rural people expect tourism to improve their lives sustainably (Snyman, 2014). Studies have shown that where tourism has been well developed, it has enhanced the lives of the local people by placing value on their socio-cultural practices and stimulating the growth of economic activities (Okech, et al., 2012; Wambura et al. 2022). It has brought about improvement in social services and infrastructure, increased sense of pride and self-awareness, and decreased emigration and depopulation of a locality (Neth, 2008).

The opportunity for enhanced rural livelihood is possible when visitors are drawn to rural places because of the uniqueness of their physical and cultural resources. However, a decline in the lives of the people is also possible where rural tourism development is not properly managed (Pullin et al., 2013). This is because tourism increases the pressure on biodiversity and the ecosystem on which the livelihood of the people depends (Acquah et al., 2017; UNWTO, 2018). As a result, to strike a balance between the rural people's natural resource needs for survival and the natural resources' integrity for tourism, there is continued advocacy for change in developing countries; away from the traditional form of tourism called 'mass tourism' to 'alternative' tourism forms, which simultaneously emphasizes preserving the environment and expanding the opportunities of the residents to live well, rather than just promoting tourism for profits (Christou, 2012; Triarchi & Karamanis, 2017).

Ecological tourism (also known as ecotourism) is a non-consumptive kind of alternative tourism that focuses primarily on the preservation of the local people's natural environment and culture. It is distinct from other types of nature tourism, such as wildlife tourism. Its inherent characteristics have endeared it to the promoters of sustainable development through tourism (Kiper, 2013, Wondirad, 2019). Ecotourism offers the potential in bridging the gaps between tourists' satisfaction, meeting the need of local people and conserving the environment (Neth, 2008; Carter et al., 2015).

Ecotourism sites are characteristically sizeable areas of land and water preserved by law for tourism because of their immense natural and cultural value (Duke, 2008). The living conditions of rural residents in and around these attractions are tied to the success of ecotourism projects around them because they are the first to bear the impacts (Kiper, 2013; Acquah et al., 2017). They are stewards of the bio-geographic resources and are custodians of the cultural values that exist in the ecotourism destinations. Their communities form places of social interaction, which can create receptive attitudes that promote ecotourism principles. So, they usually expect compensation for these roles, and sometimes they exploit ecotourism resources for their personal uses (Fennel, 2009; Miller, 2017).

Studies have shown that through careful management and involving the rural residents in decision-making and benefit-sharing, ecotourism projects can achieve simultaneous objectives of conserving natural resources and improving the lives of local people (Matthews, 2002). Ecotourism has been particularly successful in South Africa because shared benefits help local people to meet their needs (Spenceley, 2006). When local peoples' needs are met, they willingly support other objectives of ecotourism (Wambura et al. 2022). In Ngorongoro Conservation Area in northern Tanzania, a generated sum of up to USD45 million is reportedly shared annually between the local Masaai communities and other key stakeholders, to successfully enlist their support for long-lasting tourism development initiatives in the area (Tairo, 2015). Many studies on ecotourism projects in sub-Saharan Africa suggest that enhancing the condition of life of residents in tourism destinations is at the centre of the sustainability of those projects. This has been reported in Kenya (Rutten, 2002; Nelson, 2004; Okech et al, 2012), Namibia (Emptaz-Collomb, 2009), South Africa (Chirozva, 2015), Zimbabwe (Mutanga et al., 2015a), Ghana (Eshun et al., 2015; Acquah et al., 2017) and Nigeria (Tijani, 2005a; 2005b; Adetoro, 2008; Meduna et al., 2009 and Adetoro et al., 2011).

The condition of life and characteristics of the people in and around ecotourism sites are considered important indicators of ecotourism and sustainable development success (Andriotis, 2000; Kim 2002; WTO, 2004; Rastegar, 2018; 2019). However, evaluating people's life conditions and progress is not easy. Studies have shown that the common use

of economic terms such as GDP alone in expressing life progress is inadequate, due to the multidimensional nature of human needs (Stiglitz et al., 2009). For this reason, well-being and concepts related to the quality of life (QoL) are growing globally as human development measures (Smith & Diekmann, 2017). It has also been used in tourism studies (Kim, 2002; Emptaz-Collomb, 2009; Andereck & Nyaupane, 2011). Well-being is recommended as the best measure of human progress because it is holistic. It provides information of people's observable physical and environmental conditions, their expression of happiness and satisfaction with these conditions, and with different aspects of their life (Stiglitz et al., 2009). The well-being of people around ecotourism sites will determine tourism acceptability, development and success.

Well-being has been described in different ways; according to Helne & Hirvilammi, (2015), it is an expression of doing well, a reflection of how people's individual and collective needs are met and their perspective of the future. It has also been described in terms of multidimensional poverty, not only as an objective expression of deprivation in education, health and living standard (OPHI, 2013) but also as insecurity, powerlessness, lack of opportunity and exclusion of individuals, households or the entire community (Aidelunuoghene, 2014). Well-being captures conditions that are required for a fulfilling life and that are emotionally important to people. This can be used to understand how well specific individuals or groups are doing in relation to important dimensions of life or their life as a whole (Adler & Seligman, 2016).

Ecotourism is a complex phenomenon and requires a pragmatic approach to studying its effects on rural residents. The use of a self-evaluation method, such as the subjective approach to measuring well-being is important in this regard. It helps in comprehending the relationship between meeting the needs of the people and their satisfaction, which, according to Costanza et al. (2007), can be affected in quite complex ways by the cultural context, their education, their temperament, and their mental capacity, information and many other factors. This can generate unique and useful information for different categories of people.

1.2 Statement of the research problem

Tourism development has been advocated as a supplementary or substitute livelihood approach that has the potential of reducing poverty and improving well-being in rural areas (Honey & Gilpin, 2009; Carter et al., 2015). It has been well acknowledged in Nigeria as a rural development strategy (UNWTO, 2006; Oruonye, 2013). This is predicated on its huge potential. Nigeria has numerous rural tourism sites and destinations spread across the country (Esu, 2013; Odeleye and Oyekanmi, 2013). But comparatively, North Central Nigeria offers a kaleidoscope of unique wildlife and biodiversity, cultures and intriguing land formations. The region is arguably the ecotourism hot spot in Nigeria. This was acknowledged in the Nigerian tourism development master plan and has informed the idea to have the region as the major part of two, out of the five proposed tourism clusters; the scenic nature cluster and the capital conference centre cluster. The other three clusters are tropical rainforest cluster in the South South, sahara gateway in the North West and the Atlantic gateway cluster in the South West (UNWTO, 2006). However, it is a paradox that in spite of its huge natural resources, the region also has a high level of youth restiveness linked to income inequality and poverty. It had a higher poverty level (45.7%) in 2010 as compared to 19.3% in the South West, 25.2% in South-South and 27.36% in the South-East (Ndako et al., 2018).

Within the North Central region is Plateau State, nicknamed the state of Peace and Tourism. Plateau State is an important tourism destination in Nigeria. It houses the museum of traditional Nigerian architecture; one of the flagship projects of the Nigeria Tourism Master plan (UNWTO, 2006). It is also uniquely blessed with rock formations, a large variety of flora and fauna, and temperate-like weather conditions that attract domestic and international tourists in large numbers (Gunap, et al., 2017). Plateau State has strong historical, cultural, geographic and touristic linkages with Nassarawa State, also known as the Home of Solid Minerals. The two were one State until 1996. They both have similar geography, biodiversity and many state-owned ecotourism attractions. Typical examples are Pandam Games Reserve in Plateau State and the Farin Ruwa Ecotourism Site in Nassarawa State which is one of the flagship projects of the Nigeria Tourism Master plan (UNWTO, 2006). However, in addition to poverty, these two states

also have a history of herder-farmer crises over land and water resources (Ogbozor et al., 2018). This calls to question the purpose of reserving natural resource assets for ecotourism in this region.

Many ecotourism-related studies in Nigeria, such as Tijani (2005a; 2005b), Adetoro (2008), Meduna et al. (2009), Adetoro et al. (2011), Tunde (2012) and Adebayo et al. (2014), have shown that ecotourism is useful for the preservation of land and water resources, but its sustainability is threatened by unmet expectations of the rural host communities, which manifest in poaching of game, ecotourism site encroachment, deforestation and habitat destruction. These studies have failed to show clearly how ecotourism development initiatives satisfy the expectations of people living within and near the site boundaries, and how ecotourism connects with various aspects of their well-being that they value the most. For instance, because ecotourism takes place within protected areas (PAs) there are regulations and prohibitions often placed by local authorities to restrict the local people from exploiting natural resources in their vicinity to favour conservation and tourism, without providing suitable livelihood alternatives for the local residents to meet their needs. These have implications on the personal well-being of the local people, their households as well as on their community as a whole (Nsukwini & Bob, 2016), which are yet to be fully understood.

Establishing the connections between the natural resources and the well-being of local people is imperative for the sustainable development of tourism destinations. The extent to which the needs of rural residents within catchment areas of ecotourism sites are met, and their viewpoints are taken into cognizance, determine how receptive they become to tourism development in their locality (Nunkoo, 2016; Rastegar, 2019). According to Dombroski (2005:99), ‘it cannot be assumed that tourism development has necessarily contributed to sustainable local development until it is clear what the local people value and how developing tourism has affected these things that they value’. This is also important since enhanced well-being is a prerequisite for gaining the support of individuals in tourism destinations. It becomes less tedious to gain the support of people in tourism destinations when tourism is seen to affect the characteristics that are personally important to them (Andereck & Nyaupane, 2011; Wambura et al.,2022).

For Nigeria's ecotourism destinations, there are prohibitions restricting use of natural resources for their livelihood even though the positive effects of tourists' visitations to the sites are not being felt by the residents, due to low visitor patronage (Marguba, 2008). Considering that such restrictions are critical to the development of tourism in rural natural resources-rich destinations, empirical evidence of its influence on the well-being of the recipient rural population is necessary. It will help to ascertain the salient concerns of the people in the communities around the ecotourism sites and understand how tourism can alleviate their suffering. Therefore, this study examined how ecotourism affects the life of rural residents by studying their well-being.

This research was guided by the following questions:

i. What is the level of awareness of ecotourism principles among the rural residents in the study area?
i. What is the level of benefits derived from ecotourism by rural residents in the study area?
ii. What are the constraints faced by the rural residents in the study area?
iii. What is the perceived influence of restriction on the well-being of the rural residents in the study area?
iv. What is the well-being status of the rural residents in the study area?

1.3 Research objectives

The aim of the study was to investigate rural residents' perception of restriction to selected ecotourism sites and well-being in North Central, Nigeria. The specific objectives were to:

i ascertain the rural residents' level of awareness of ecotourism principles in the study area,
ii. examine the level of benefits derived from ecotourism by rural residents in the study area,
iii. examine the constraints faced by the rural residents in the study area,
iv. examine the perceived influence of restrictions on the well-being of the rural residents in the study area, and
v. determine the well-being status of the rural residents in the study area.

1.4 Statement of hypotheses

The hypotheses of the study are stated in the null form as follows:

$H_0$1: There is no significant relationship between residents' awareness of ecotourism principles and the well-being status of residents in the study area.

$H_0$2: There is no significant relationship between the benefits of ecotourism and the well-being status of the rural residents in the study area.

$H_0$3: There is no significant relationship between the perceived influence of restriction on the well-being and the well-being status of the rural residents in the study area.

$H_0$4: There is no significant difference in the perceived influence of restriction on the well-being across the ecotourism sites in the study area

$H_0$5: There is no significant difference in the well-being status of the respondents across the ecotourism sites in the study area.

$H_0$6: There is no significant contribution of the independent variables to the well-being status of the respondents in the study area.

1.5 Justification for the study

To address Nigeria's rural poverty, it is essential to develop tourism as a substitute/complementary livelihood approach. Ecotourism is promoted as being sustainable because it is focused on environmental conservation and the enhancement of local people's well-being. These objectives have been adjudged to be more theoretical than practical in developing countries, one major reason for this is the restriction from accessing natural resources within ecotourism sites placed on local people within the catchment areas of the sites which sometimes have negative developmental consequences on the people's lives (Pullin et al., 2013). This deserves exploration due to its implication for sustainable development, specifically, sustainable development goal (SDG) 15, that is, sustainable management of land ecosystems (Kry et al., 2020; Mnisi & Ramoroka, 2020). Also, it is necessary to justify investment in tourism projects by the different levels of government who enforce restriction rules in their effort in balancing the use of land resources and promoting sustainable development in rural areas.

In addition, there is a dearth of empirical evidence of the influence of existing tourism development activities on various aspects of the well-being of the rural population within the catchment areas of ecotourism sites. The study not only revealed how ecotourism sites have affected the overall personal well-being of rural residents but also examined its influence on different well-being domains of the residents. Therefore, the rural host communities can hinge on the findings of the study in their agitation for further development in specific areas of their lives. Or, it might be cited as justification for their lack of interest in supporting other tourism-related initiatives. Likewise, the research will assist government, non-governmental organisations and individuals who want to target specific aspects of the well-being of the people for genuine intervention in making quality decisions in their roles as partners in sustainable development delivery

Finally, even though the study revealed what is obtainable at the selected ecotourism sites in Plateau and Nassarawa States, the findings characterise features of ecotourism practices in North Central Nigeria and provides bases for the well-being situations of people in close proximity of ecotourism sites, which can further be explored by the academia and other tourism development stakeholders.

1.6 Scope of the study

This study investigated the effects resulting from controlled use of natural resources earmarked for ecotourism on the well-being of rural residents, within proximity of the selected ecotourism sites located in North Central Nigeria. The sites were selected due to high valued and unique natural resources. Their touristic value is complemented with good weather conditions and man-made tourism attractions within the States in which they are located.

The rural residents within the catchment areas of the selected sites formed the population for the study. Residents within a 5km radius adjoining Jos Wildlife Park and Pandam Wildlife Park in Plateau State as well as those around Farinruwa Lake, and Peperuwa Lake and Game Reserve in Nassarawa State formed the study's sample frame. Specifically, the perception of rural residents of restrictions to the selected ecotourism sites and well-being was studied. To enable an objective and contextual comprehension of

how the people's well-being and their access to ecotourism sites in the study area relate to one another, a mixed-methods approach that prioritized quantitative analysis of primary data from a survey was utilized. It was complemented with qualitative data from key informant interviews and non-participant observation but focus group discussion was not engaged in the study.

There is a limit to how much the result of the study may be generalized amongst rural residents in Nigeria, due to diversity in culture, ecology and the effect of climatic conditions on livelihood resources as well as the dependence on natural resources, which differ from the northern to southern parts of the country.

1.7 Operational definitions of terms

Awareness: This is having knowledge of the existence of something. Being fully appreciating its importance and mindful of the need to take cautious sensible decisions as a result.

Benefits: This refers to both material and immaterial things that accrue to people living within tourism destinations that enhances their lives

Constraints: These are things or concerns that cause a reduction in the quality of lives of people within or near ecotourism sites

Development: This refers to processes or activities that aim at meeting the human needs for survival, self-determination, education and health.

Domains of life: These refer to the different facets or aspects of an individual's life that together determine his/her well-being. They are also called dimensions of life (Andereck & Nyaupane, 2011).

Ecotourism: A type of tourism considered as responsible travel to natural areas that conserves the environment and improves the well-being of the local people.

Ecotourism principles: These are ethical measures and activities used to promote and enhance ecotourism.

Restriction: It is the restrain placed by authorities on the exploitation of resources within ecotourism sites to aid its sustainable use and preservation. It is sometimes referred to as protection.

Rural well-being: It is a general term for the social, economic, psychological, spiritual or medical conditions of an individual or group living in a rural area.

Perception: An expression of opinion about an issue based on comprehension and experiences.

Protected Area (PA): A geographical space that has unique values and is legally or traditionally set apart for special purposes, including tourism and conservation.

Poverty: The complexity resulting from lack of basic necessities of life; it includes poor physical and mental health, inadequate access to clean water and sanitary facilities, lack of physical security, voice, and a capacity and the chance to better one's life.

Residents: People who live within or near the boundaries of ecotourism sites

Sustainable tourism: Tourism activities that can be done in the same way for the indefinite future in minimizing damage to the environment. Such also bring about the revitalization of social-cultural structures and continues to contribute in enhancing the lives of local residents

Tourism: Activities of individuals who travel and remain outside their usual place of residence for less than a year for any primary reason other than to work for a resident organization in the country or location visited. An overnight traveller on tourism is a `tourist', while a day traveller on tourism is known as an `excursionist'.

Tourist attraction: Refers to a place where tourists visit for its beauty and inherent or exhibited natural, historical and cultural value. It consists of one or both site attractions and event attractions.

Tourism destinations: These are the main locations of tourist activities and tend to account for most of the tourists' time and spending. They refer to villages, towns, cities, countries, regions, and other areas which attract tourists.

CHAPTER TWO

LITERATURE REVIEW, THEORETICAL AND CONCEPTUAL FRAMEWORK

2.0 Chapter overview

This chapter is devoted to literature review. It focuses on relevant concepts, related theories, as well as empirical and methodological issues relevant to this study.

2.1 Conceptual review

2.1.1 The concept of tourism

Tourism comes from the word 'tour', which was simply known to be the act of departing from and returning to the original starting point; and anyone who undertakes such a journey is simply referred to as a tourist (Theobald, 1998). Tourism has evolved to become a complex multidisciplinary phenomenon which is defined in different ways for conceptual, accounting or other technical purposes (Hall & Lew, 2009). According to Vanhove (2004), the earliest accepted conceptual definitions of tourism were for the purpose of distinguishing it from related activities. In 1942, Hunziker and Krapf defined tourism as 'the sum total of the phenomena and relationships arising from the travel and stay of non-residents, in so far as they do not lead to permanent residence and are not connected with any earning activity' (Vanhove, 2004:2).

The social impact of tourism is the focus in the definition offered by Jafari (1977) (cited in Theobald, 1998:8) as 'the study of man away from his usual habitat, of the industry which responds to his needs, and of the impacts that both he and the industry have on the host socio-cultural, economic, and physical environments'. For the purpose of measuring the contributions of tourism to the income of nations, many new tourism definitions have

been proposed. The most important is the definition of tourism offered by the World Tourism Organization -WTO (1991):

> The activities of persons travelling to and staying in places outside their usual environment for less than a year, for any main purpose (leisure, business or other personal purpose) other than to be employed by a resident entity in the country or place visited (Candela & Figini, 2012:26).

This was accepted in 1994 as the UNWTO official tourism definition (Candela & Figini, 2012).

2.1.2 Categories of tourism

Tourism has been categorised based on many characteristics. For instance, it has been classified based on the mode of movement of tourists into either international tourism or domestic tourism (Christou, 2012). Classification may also be based on the uniqueness of places visited such as those motivated by the desire to experience evidences of death as well as war-torn areas, called 'dark' tourism (Benedetto, 2018), and tourism in outer space called space tourism (Yazici & Tiwari, 2021). The main purpose of a trip has also been used to classify tourism into several types. These include business tourism, such as meetings and conferences; sports tourism, such as travelling to watch the Olympics; religious tourism, such as the annual pilgrimage to the Holy Land; culinary tourism, such as food fairs; sex tourism, and agritourism, which includes farm visits (Tezcan, 2014).

The most important is its categorization into two forms in line with the changes it brings to the destinations' socioeconomic and physical environment, namely mass tourism and alternative tourism (Kiper, 2013). Both forms may be desirable in a destination at the same time or independently, based on the initiators' goals for developing tourism in the destination and the environmental conditions. Mass tourism is an environmentally-irresponsible form of tourism which is concerned with generating maximum profit for the initiators. The need to strike a balance between the beneficial effects of tourism and the negative impact of tourism on a destination has brought about a gradual shift to 'alternative' tourism (Sharpley, 2009). Alternative tourism on the other hand is a slowly developing, socially and environmentally considerate form of tourism aimed at optimizing

benefits. It stresses the importance of protecting the natural, historical and social assets of tourism destinations (Triarchi & Karamanis, 2017).

2.1.3 Ecotourism as a concept

Ecotourism is one of the well-known types of alternative tourism; others are cultural tourism and creative tourism (Triarchi & Karamanis, 2017). The reasons for the increasing emphasis on ecotourism worldwide are growing scientific research linking human existence to biodiversity, the desire of developing nations to earn foreign exchange with minimal environmental problems, as well as an increase in environmentally conscious tourists (IATA, 2016; Triarchi & Karamanis, 2017). Others are the concepts of sustainability and ethics (Wondirad, 2019; Liu & Li, 2020). Hector Ceballus-Lascurain is credited with coining the phrase ecotourism in 1983, while Hetzer first used it in 1965 to describe the link between visitors and the environments/cultures with which they engage (Anandaraj, 2015).

Being a social phenomenon, there are numerous definitions of ecotourism (Wondirad, 2019); most of which emerged in order to delineate it from other types of nature-based tourism. Hector Ceballos-Lascurain (cited in Matthews 2002:4) defines ecotourism as 'travelling to relatively undisturbed or uncontaminated natural areas with the specific objective of studying, admiring, and enjoying the scenery and its wild plants and animals, as well as any existing cultural manifestations (both past and present) found in these areas.'

Wallace and Pearce quoted in Fennel (2008:54) view ecotourism as

> travelling to relatively undisturbed natural areas for the study, enjoyment, or volunteer assistance. It is travel that concerns itself with the flora, fauna, geology, and ecosystems of an area, as well as the people (caretakers) who live nearby, their needs, their culture, and their relationship to the land. It views natural areas both as home to all of us in a global sense ('eco' meaning home) but 'home to nearby residents specifically. It is envisioned as a tool for both conservation and sustainable development, especially in areas where local people are asked to forgo the consumptive use of resources for others.

The International Ecotourism Society (2015) defines ecotourism as ‘responsible travel to natural areas that conserves the environment and sustains the well-being of local people and involves interpretation and education' (TIES, 2019). Through the principles of sustainable development and sustainable tourism, ecotourism has been promoted as a strategy for rural development in underdeveloped nations.

2.1.4 Sustainable development concept

Historically, the sustainable development concept began from the understanding that development, like ecotourism, is dependent on natural resources (Neth, 2008). The two early known variations of development that is, economic growth in the Western countries and economic development of poor nations, were both identified to be damaging to the environment. This made the global community give attention to the limits of the environment in supporting the increasing global economic demand (Neth, 2008). According to Iwona (2012) and Purvis et al. (2018), a series of writings in the 1960s by environmentalists were responsible for the emergence of the word ‘sustainability’ on the global stage. They created awareness on the earth’s vulnerability to unchecked socio-economic development. During this same period, similar reports were being written by development experts. These writings triggered international discussions on the possibility of a human development-environment reconciliation, which was previously thought impossible (Purvis et al, 2018).

The 1972 United Nations Conference on Human Environment held in Stockholm introduced the notion of eco-development, it was the first important discussion that led to the concept of sustainable development (Purvis et al., 2018). Following this, there were calls in the West for more socially responsible development, devoid of inequalities, lack of opportunity and poverty. This led three international organizations, the World Wildlife Fund (WWF), the United Nations Environmental Program (UNEP), and International Union for Conservation of Nature (IUCN), to produce in 1980, a joint environmental-based document called *World Conservation Strategy* (Dangi & Jamal, 2016). This document represented the first in which sustainable development as a concept occurred prominently in the literature. It was subtitled *Living Resource Conservation for Sustainable Development* (Purvis et al., 2018). But it was the World Commission on

Environment and Development (WCED) which popularized the concept of sustainable development. The Commission, also known as the Brundtland Commission was created in 1983 by the United Nations to build on the issues of the Stockholm Conference. The Brundtland report of 1987 produced the widely acknowledged definition of sustainable development as:

> development that meets the needs of the present without compromising the ability of future generations to meet their own needs ...a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development, and institutional change are all in harmony and enhance both current and future potential to meet human needs and aspirations (Andriotis, 2000:22).

Sharpely (2009:43) argues that the terminology 'sustainable development' is oxymoronic because 'development' implies resource exploitation while 'sustainability' implies conservation of resources. As a result, sustainability differs from sustainable development. Sustainability is the capacity to continue indefinitely, whereas sustainable development is a process of achieving sustainability. Another definition of sustainability that is targeted at conserving natural resources offered by Gray and Milne cited in Reddy and Thompson (2015:3) is 'the efficient and equitable distribution of resources intra-generationally and inter-generationally over time with the operation of economic activity within the confines of a finite ecosystem'.

Sustainable development is believed to be achievable by having harmony, integration or balance in environmental/ ecological sustainability, social sustainability and economic sustainability. These three are the dimensions of sustainability; they are also known as the triple bottom line (Sharpely, 2009). The best mode of integration or harmony is, however, yet to be well understood (Reddy & Thompson, 2015; Purvis et al*;* 2018).

Environmental sustainability is the bedrock of sustainable development (Helne & Hirvilammi, 2015). Reddy and Thompson (2015) view it as a situation where the earth's ecosystem returns to a state of equilibrium by itself after some form of disturbance, such as air pollution and the destruction of biodiversity. Some authors (Bac, 2008; Reddy & Thompson, 2015) hold the view that sustaining the environment is superior to all other aspects of life because it provides sustenance for social functioning and society in turn

provides sustenance for the economic systems. For social sustainability, the attention is on maintaining social structures, respecting human rights and revitalizing cultures in a society. It also focuses on poverty reduction by enhancing equality of benefits and opportunities. Economic sustainability is focused on ensuring the viability of production enterprises, their cost-effectiveness and promoting societal prosperity in the long run (Dangi & Jamal, 2016). These three are the bedrock of the eight millennium development goals (MDGs) and the subsequent seventeen sustainable development goals (SDGs) (Purvis et al., 2018).

2.1.4.1 Sustainable tourism

The influence of the Brundtland report on all aspects of development including tourism planning and policies is acknowledged by many tourism authors (Sharpely, 2009; Iwona, 2012; Dangi & Jamal, 2016). Tourism and its hospitality sub-sector adopted many recommendations for sustainable development (Iwona, 2012).

The term ‘sustainable tourism development’ first came to be used in March 1990 at a conference in Vancouver (Sharpely, 2009). Tourism thus evolved from an agent of economic growth to a time-and place-specific ‘better’ alternative tourism concept, and further to a broad sustainable tourism development concept, described by UNWTO as tourism that ‘meets the needs of present tourists and host regions while protecting and enhancing opportunity for the future’ (Dangi & Jamal, 2016:4). The three bottom-line, that is, harmony between environmental, social and economic sustainability also applies to sustainable tourism (Hall & Lew, 2009).

Sharpely (2009) asserts that two conceptions of sustainable tourism development have emerged. One is the ‘sustainable development of tourism’ or ‘sustainable tourism’, which was considered a direct offshoot of alternative tourism. Its primary objective is to conserve the natural, built and socio-cultural environment that tourism depends on in a destination, so as to enhance indefinite tourism viability. The other refers to sustainable development through tourism, which has the objective of using tourism as a development tool to develop a destination sustainably. This has overridden the former through the adoption of the sustainable development concept in tourism planning, guidelines and

policy formulation. However, according to Sharpely, the practice of sustainable tourism differs from one place to another owing to this ambiguity.

2.1.4.2 Sustainable development and ecotourism connections

Ecotourism is now being promoted as an ideal sustainable development form of tourism, even though it predates the operationalisation of the concept (Triarchi & Karamanis, 2017). The preservation of the environment and conservation of biological resources, on which both human development and tourism depend, is the genesis and the meeting point between the two concepts. Ecotourism is conceived as a sustainable tourism development tool, respecting all sustainable development principles (Kiper, 2013). Studies such as those of Carter et al, (2015) and (Kalaitan et al. (2021) have affirmed that ecotourism is able to deliver sustainable social, economic and environmental benefits to people when it is well managed. The Rio summit of 1992 acknowledged the sustainability value of ecotourism (Dangi &Jamal, 2016). The year 2002 was declared the International Year of Ecotourism by UNWTO; it culminated in the World Ecotourism Summit in Quebec Canada and the Oslo Global Ecotourism Summit in 2007. A global NGO, the International Ecotourism Society-TIES, promotes the following ecotourism and sustainable tourism principles worldwide (TIES, 2019):

i reducing the physical, social, behavioural, and psychological effects,
ii increasing respect for and awareness of culture and the environment,
iii ensuring enjoyable experiences for guests and hosts,
iv generating immediate financial gains for conservation,
v bringing about financial gains for the community's residents and business owners,
vi providing tourists with insightful interpretive experiences that increase awareness of the political, environmental, and social climates of host countries
vii creating, building, and maintaining low-impact structures and
viii respecting the rights and religious convictions of the indigenous people living in the community, and collaborating with them to foster empowerment

Tourism, according to UNWTO (2018), has the potential to support all seventeen of the SDGs, either directly or indirectly. In particular, Goals 8, 12, and 14 on equitable and sustainable economic growth, sustainable consumption and production (SCP), and the

sustainable use of oceans and marine resources have tourism as targets. Ecotourism enterprises also have the specific ability to impact directly towards the realization of goal 15 (Kry et al., 2020; Mnisi & Ramoroka, 2020) which is, to 'protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss' UNWTO (2018:103). This goal also aims at sharing the benefits of ecological resources gotten through appropriate means equitably among the people involved and assisting to generate financial support for conservation (Kry et al., 2020; Mnisi & Ramoroka, 2020).

2.1.5 Protected areas and ecotourism

Ecotourism sites occupy large spaces usually in rural locations which are owned by the state, communities or individuals (Neth, 2008). One major concern of ecotourism in developing countries is the fact that the natural tourism resources within the sites are protected by way of local or national laws (Bokov et al.., 2020). In 2008, the International Union for Conservation of Nature (IUCN, 2019) defined a protected area (PA) as 'a clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means to achieve the long-term conservation of nature with associated ecosystem services and cultural values.' Nigeria's protected areas include 28 game reserves, a biosphere reserve, 12 strict nature reserves, 445 forest reserves and 7 national parks, many of which are rich in biodiversity, and archaeological and cultural value (FGN, 2010).

At the Federal level, seven national parks were established in 1991 by law. They are the foremost ecotourism centres spread across Nigeria (Marguba, 2008). They have also served as study sites for majority of ecotourism related studies in Nigeria (Tijani, 2005a; 2005b; Adetoro et al., 2011; Adebayo et al., 2014). State and local council laws are also used to protect smaller sites with high ecotourism resource value in rural areas, where necessary. Altogether, very large pieces of land and component resources are therefore given up as PAs by the people who reside close to or inside such PAs. Over 13% of the earth's land is being protected worldwide (Pullin et al., 2013). The reasons for such protection are primarily connected to human activity. They include the need to reduce the exploitative harvest of forest resources especially timber, save the extinction of

endangered species of plants and animals, secure cultural sites of value, and for tourism purposes (Usman & Adefalu, 2010).

Effective protection against depletion of resources has been a challenge for protectionists as well as for the local residents who are dependent on the resources for livelihood (Bokov et al., 2020). Studies have shown that PAs also have negative livelihood effects on people living around such protected areas (Pullin et al., 2013; Nastran, 2015) and have become the major objects in ecotourism research worldwide (Liu & Li, 2020) . The reason is that many of the PAs, especially in SSA, were developed by compelling the traditional occupants to move to peripheral locations, without offering them adequate alternatives. This forces them to adopt new methods of livelihood, which may have different effects on their opportunities, social capital, access to resources and empowerment (Rutten, 2002; Pullin et al., 2013; Mutanga et al, 2015b). At the Federal level in Nigeria, the National Park Service (NPS) initiated a system of relating to host communities called Support Zone Community Programme (SZCP) also known as Out Reach Programme in 1981 (Marguba, 2002). The effectiveness of the programme addressing the needs of residents near PAs is an issue for unending evaluation (Tijani, 2005b).

According to Fenell (2008), for ecotourism to thrive, protection must be effective. The sites should be seen to be intact for it to keep attracting visitors. But if this is to happen, the positive impact of protection on the local people must also be high.) What is most important for policy reasons is the balance of the positive versus negative impacts, the sharing of its associated costs and benefits as well as the factors that are responsible for such impacts (Pullin et al., 2013). Restriction is a principle that is meant to promote the ecotourism and must be implemented with this in mind. ‘The purpose of restrictions in ecological tourism is: to ensure the harmony of the relationship between man and nature; to establish human responsibility for the preservation of nature; to create conditions for recreation tourists in the natural environment; etc’ (Bokov et al., 2020:46)

2.1.6 Rural residents’ awareness of ecotourism

Awareness is having knowledge of the existence of something. It usually indicates that someone is conscious, fully appreciating the importance of something and being mindful

of the need to take cautious sensible decisions as a result. It is a function of exposure to relevant information within the existing environment. Thus, it creates mental images that reflect in many areas of people's lives (Ojong et al., 2013). When people have low awareness of ecotourism principles and objectives, there is often conflict over resource usage, the wrong perception about its consequences, low participation, especially in important decision-making activities that would benefit their lives, and doing little to exploit fully the opportunities offered by ecotourism to improve their lives. This is common in most developing countries. These situations have been reported in Nigeria in such places as Old Oyo National Park (Tijani, 2005b) and Kainji National Park (Adetoro, et al., 2011). Poor understanding of ecotourism principles and objectives has been traced to the high level of illiteracy amongst the rural people as well as a low level of public enlightenment on the part of the ecotourism managers and other stakeholders.

An important United Nations' environmental education document, the Tbilisi declaration (1977), suggests that environmental education is panacea to low awareness to environmental issues if it is adopted in developing countries. It broadens people's understanding and capacity. The ability to make educated decisions and take responsible action is fostered by awareness of their environment and the challenges it presents. Adetoro (2008) opines that, in Nigeria, ecotourism managers ought to be grounded in biological and social sciences, nature and cultural issues, and resource management, including practical diplomacy, because their job requires all of these. The main objectives emanating from the fundamental principles of ecotourism outlined by TIES (2015) that require awareness and understanding by rural people may be grouped into the following:

i) **Minimize impact**

This refers to the strategies necessary to minimise damage to the environment and the culture of the communities within or around the sites. Ecotourism involves strict regulations of all activities that will make the soil, plants and animals remain as they are, that is to preserve the ecosystem (Healey, 2018). Activities that compromise the integrity of the ecotourism sites include the killing of animal species, felling of trees, trampling of plants, wastage and pollution of water, building of structures that will hinder drainage and

water percolation, forest fires and litter. These are the reasons for limiting ecotourists' number to only a few individuals or small groups of people at one time.

ii) **Education**

This objective involves building awareness of both environmental and cultural issues. This is achieved when ecotourism raises the consciousness of tourists through active ecosystem and ecology experiences (Kiper, 2013). Both the tourists and local people become informed on the need for and methods of conservation of local resources. Tour guides and ecotourism managers help the process. Cultural exchange is important to ecotourism. Visitors learn through this exchange the social behaviours and customs of the local people. It should enable them to become sensitive and careful not to upset local people's values (Healey, 2018)

iii) **Economic empowerment**

When ecotourism is practised, financial benefits are expected. These may be small in the beginning but it is expected to grow afterwards. This is useful for conservation projects, environmental protection and helping the local population to meet their needs. Finance is expected directly or indirectly from accommodation, taxes and donations, or through charges for admission fees to tourist attractions and for tours. The local people also make gains when they are employed in the sites as skilled and non-skilled workers. When connections of electricity, roads, pipe-borne water and health services are made for the ecotourism sites, productive activities of the local people are facilitated and their lives improve (Kiper, 2013).

iv) **Human rights and democracy**

This is controversial, yet an important objective (Healey, 2018). Local people are expected to be part of important decision-making in the management of ecotourism sites. They thereby learn management skills and become powerful advocates of their rights as owners of the sites. With the help of education and financial empowerment, they can form democratic movements in host communities. More so, ecotourism supports small-scale businesses of the local people, and the struggle to control their land resources. This is

premised on the notion that ecotourism practices owned and managed by the locals are the most important for sustainability

2.1.7 Benefits of ecotourism to rural people

There is a high expectation from all forms of tourism development activities to generate positive benefits that meet local community needs (Tijani 2005a). Benefits from tourism development are not only a 'buying in' for residents within and people in close proximity to a rural tourism site but are demanded by the people for the sake of their own well-being (Eshun & Tichaawa, 2019). From the perspective of individuals and their households within the vicinity of a tourism project, personal benefits of any kind (social, economic, cultural and environmental) and need satisfaction are the most important determinants of support for any tourism project (Munikrishnan et al., 2014; Wambura et al., 2022).

Rural people benefit from ecotourism primarily by being involved in its activities and decision-making. This is hinged on their desire to improve their well-being through income, employment and education. Sharing of benefits as community members is also possible (Tairo, 2015). In Nigeria, ecotourism initiatives in national parks are sponsored by the federal government, while state governments maintain protected areas they own through annual subventions (Ijeomah & Ayodele, 2009). So, local people benefit mainly indirectly through incentive provision of clinics, schools and pipe borne-water to the concerned local community (Marguba, 2008).

Ecotourism is based on the idea that benefits such as ecological/cultural integrity and economic viability can be sustained; experience shows that in reality, there is a lot of compromise at the point of implementation, which adversely affects the actual benefits to rural people (Rutten 2002; Kibria et al., 2021). So, instead of the benefits to improve the lives of the people, sometimes their lives may become worse off (Kiper, 2013). Previous studies by Rutten (2002) in Kenya, Nelson (2004) in Tanzania, and Medunna et al. (2009) in Nigeria have suggested that individuals who do not benefit from tourism projects in any way especially when their physiological needs are not satisfied are highly likely to perceive tourism negatively or even behave in ways antagonistic to its development (Nastran, 2015).

What rural people benefit from ecotourism are interrelated but may differ for each individual or group of people (Egbali et al., 2011). The benefits of ecotourism may be discussed under three broad headings:

i) **Conservation**

Conservation denotes the wise use of resources. One reason why ecotourism mainly takes place in protected areas is for tourists to take part in conservation efforts. Ecotourism provides supplementary livelihood options that prolong the existence of useful natural resources for the local people to use (Miller, 2017; Eshun & Tichaawa, 2019). There is the restoration of habitat helping different species of wild animal to multiply rapidly. The use of indigenous knowledge and learning of new techniques of conservation also produces a positive attitude towards conservation (Kiper, 2013). Eco-tourists and conservationists become aware of local cultures through ecotourism and make donations for the preservation of cultural resources which they respect. Ecotourism through conservation contributes to pollution-free air, clean water, and an aesthetically hygienic environment bringing about a healthier environment for the rural people.

ii**)** **Employment**

The ability of ecotourism to create jobs for the local people is its greatest benefit linked to sustainable development (Miller, 2017). It has the capacity to secure employment for the residents (as tour guides, security officials, eco-lodge attendants, cooks and administrators) within the management structure of the ecotourism project. The ability also to induce jobs in the different sectors linked to tourism, especially for women and low-skilled workers, endears it to sustainable development advocates (Honey & Gilpin, 2009). Ecotourism jobs are said to be a more reliable source of income than other livelihood options (Snyman, 2014). When local people are employed, they can afford good education and health for themselves and their family members. This will, in future, enhance their earning capacity beyond exploiting their natural resource.

iii) **Infrastructure**

Ecotourism development brings about three kinds of infrastructure to residents; these include technical infrastructures such as energy, fuel and electricity. This helps the local

people to reduce their dependence on forest resources such as firewood, and to power cottage industries (Snyman, 2014). The local people also benefit from telecommunication infrastructure and roads. Infrastructure, such as health facilities and schools, are made possible through ecotourism for the development of the local people (Miller, 2017).

2.1.8 The concept of human well-being

Well-being is an anthropological concept that has become significant in the understanding of how participants are doing in a particular industry (Smith & Clay, 2010). Historically, the concept goes beyond 2300 years, to the era of the philosopher Aristotle (Jackson, 2007), who posited that eudaimonia as against hedonism alone, is the supreme goal of human existence. These are Greek words traditionally translated to mean happiness and now modernised to mean doing well, well-being or flourishing (Dodge et al., 2012).

Eudaimonism is concerned with human life as made up of purpose, meaning, and fulfilment in life, functioning and development. It is the income-consumption approach that is focused on resources and what they can provide (Dodge et al., 2012). Hedonism on the other hand is the psychological concept of well-being. It is a concept based on life experience, life satisfaction, positive and negative affect. It is the achievement of well-being (Ryan and Deci, 2001). This multidimensional and multidisciplinary nature of well-being makes defining it problematic (Dodge et al., 2012). Well-being has been described as 'individuals' thoughts and feelings about how well they are doing in life, contentment with material possessions and having relationships that enable them to achieve their goals' (Ashton & Jones, 2013:2). Michaelson et al. (2012:6) of New Economic Foundation (NEF) described well-being as 'how people feel and how they function, both on a personal and a social level, and how they evaluate their lives as a whole'

After considering many descriptions, Dodge et al. (2012:230) proposed a definition of well-being as 'the balance point between an individual's resource pool and the challenges faced'. They derived this from the study of three important ideas by well-being scholars, that is, well-being is not static but there is a set point range for every individual, every individual strive at equilibrium in life after a challenge and each individual develops skills

or resources (psychological, social and physical) to cope with the challenges they face. This was considered the preferred definition of well-being for the purpose of this study.

Well-being is universally used in relation to the quality of people's lives (Stratham and Chase, 2010). For instance, Shin and Johnson (cited in Dodge et al., 2012:224) define well-being as a 'global assessment of a person's quality of life according to his own chosen criteria'. Also, Stratham and Chase (2010:2) opine that 'well-being is generally understood as the quality of people's lives. It is a dynamic state that is enhanced when people can fulfill their personal and social goals'. WHO, in 1993 (quoted by Rockika, 2014) defines the QoL as 'an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns'. Massam (2002) argues that QoL is a very complex concept made up of two sets of processes and components. The first is the set that relates to the internal psychological mechanism, often referred to in many ways (subjective well-being, individual/ personal quality of life or life satisfaction). The other is the set of external conditions that set off the internal processes referred to at different levels as the urban QoL, community QoL, QoL of place, and environmental QoL. Thus, well-being is the constituent of QoL (Galloway et al., 2006).

According to Galloway et al. (2006), QoL and well-being are distinct in evaluation. Whereas well-being evaluation requires only people's self (subjective) assessment of their well-being; QoL encompasses both objective (non-personal assessment) and subjective well-being. As noted by Galloway et al. (2006), well-being is to be regarded as 'subjectively perceived quality of life'. Dodge et al. (2012) views well-being as a much larger construct than QoL. However, extant literature suggests that well-being is the common proxy used in the evaluation of the QoL. The objective well-being measure of the QoL is a major purview of economists and is termed welfare or social well-being, while psychologists focus on subjective well-being (Cummins, 2010 and Rockika, 2014). Well-being as used in this study is comprised of both internal and external conditions of an individual.

2.1.9 Objective well-being and subjective well-being

Well-being is synonymous with QoL and can be broadly grouped into objective well-being and subjective well-being based on measurement attributes (Costanza et al., 2007; Freimann, et al., 2014; Vouketou et al., 2021). These attributes are sometimes used individually or in combination to represent measures of well-being depending on the approach employed (Stiglitz et al, 2009; Vouketou et al., 2021)

i) Objective well-being

This refers to well-being obtained from the raw data of external statistical sources about the social, economic and environmental living conditions, their function and consequences within a community. It signifies an external view of well-being that has both a material dimension and a non-material dimension (Freimann et al., 2014; Vouketou et al., 2021). Objective well-being data are usually gathered without subjective assessment of the individuals involved, that is, economic, social and health indicators, such as indices of production, literacy rate, and life expectancy (Costanza et al.,2007; Freimann et al., 2014). Examples include income, employment, recreation opportunities, family structure, social networks, cultural integrity, historical infrastructure and environmental factors such as crowding, noise, litter, and traffic. Vouketou et al. (2021) suggest six dimensions of well-being that are usually measured objectively through surveys to include health, politics, safety environment, socioeconomic development and job opportunities

ii) Subjective well-being (SWB)

This is based on internal components of well-being as described by the individual. Subjective well-being is regarded as supplementary to objective well-being because its focus is on the perception of the individuals about their well-being (Cummins, 2013; Vouketou et al. (2021). According to Diener (2000:34), subjective well-being refers to ‘a person’s cognitive and affective assessment of his or her life, and it is borne out of the desire that individuals feel themselves that they are living a good life’. The emotions and mood of people which reflect in their reactions to the things happening to them is what is captured in a measure of the three components of SWB, namely: satisfaction with life as a whole or satisfaction with domains of life, positive affect (experience of pleasant mood

and emotions or happiness) and low negative affect (the experience of unpleasant mood and emotions). Subjective well-being is subjective not only because it is reported by the individual but also because the subject matter, such as life satisfaction or happiness, is subjective; it is a rating of feelings and experiences, and not a recall of factual information (Hicks, 2011). Five dimensions of subjective well-being often highlighted by Vouketou et al. (2021) include economic environment, role of human genes, education, health political environment, and basic and psychological needs

2.1.10 Domains of well-being

The primary elements of well-being operate within several spheres of human life known as domains (Rojas, 2004). According to Rojas (2004), a man's life consists of several domains and so a person's well-being is expected to be related to the situation of these domains of life. Studies such as that of Loewe et al. (2014) have shown that the overall well-being of an individual is predicted predominantly by the combined effect of the well-being of the different domains of life. Grant et al. (2009) study of the effect of personality traits such as autonomy, personal growth, positive relations and mastery on well-being can best be seen through their effect on different domains of life. Well-being dimensions are expressed within domains of human life. The two terms are sometimes used interchangeably in the literature (Rojas 2004; Galloway et al., 2006). Domains can also be thought of as different spheres of human need. Costanza et al. (2007) argue that life domains are the structuring and organization of human cognitive and affective experiences that are focused on specific human needs. They identified such need areas as subsistence, reproduction and care, participation, identity and freedom, creativity or emotional expression, security, leisure, spirituality, affection and understanding. People's experience of each domain is deep and personal. This experience is influenced by several factors such as gender, values, community, history, race and age (FFI, 2015)

Many domains of well-being have been studied. A review of thirty-two studies by Cummins in 1997 (cited in Kim, 2002) shows that researchers have used over 173 different names to describe different domains of life, but suggested that it is possible to fit them into seven important domains for measuring well-being-related concepts and QoL. They are material, health, productivity, intimacy, safety, community, and emotional well-

being. Fullframe initiative (FFI, 2011; 2015) proposed five interdependent, universal and non-hierarchical domains of well-being as social connectedness, meaningful access to relevant resources, stability, mastery and safety (Figure 2.1).

In Nigeria, rural well-being is seen as the composite result of interactions amongst these domains. The quality-of-life study of Zaid and Popoola (2010) in Ekiti State focused on housing, occupation, income, health, education, neighbourhood/ community, family life, government, social status and spiritual life. In their study, Oni and Adepoju (2014) focused on security, education, nutrition, housing, health, asset/socio-economy, and information flow.

Figure 2.1: **Fullframe's five interdependent, universal and non-hierarchical domains. FFI (2011, 2015)**

2.1.11 Importance of well-being domains

Domains of life differ in importance from place to place. Loewe et al. (2014) assert that cultural influence is a major reason for this difference because it shapes the individuals' values, attitudes and the goals that they pursue. It determines what they consider important and the values they attach to them. Such values suggest opportunities for policy intervention in meeting the needs of the people because they are created by existing cultural behaviours (Costanza et al; 2007).

Many scholars, such as Massam (2002), Rojas (2004), Gollaway (2006), Costanza et al. (2007), Emptaz-Collomb (2009), and Andereck and Nyaunpane (2011) agree that not all aspects of life contribute equally to the determination of individual well-being. As such, it is necessary to recognize that well-being domains not only weigh differently according to their relative value or importance in their contribution to individual well-being, but also the weights should count in the measurement of well-being. Two broad groups are commonly identified in terms of attaching values to domains: those cultures that prioritize individualistic (independent) behaviours and the collectivist cultures that prioritize interdependent behaviours. Examples are societies in Western Europe and Africa, respectively (Diener, 2000; Loewe et al., 2014).

The relative importance of the well-being dimensions or domains is first reflected in the process of identifying domains for well-being studies. According to Rojas (2004), although the objectives of a study are the priority in the selection of well-being domains, consideration must be given to their meaning and usefulness. The most common process in selecting domains for the study of well-being is the use of participatory approaches, such as focus groups or in-depth literature reviews, to identify the indicators of an individual's well-being, after which the indicators are grouped theoretically and/or statistically into measurable domains as is found in the studies of Dombroski (2005), Emptaz-Collomb (2009), and Andereck and Nyaunpane (2011). Sometimes indicators have also been simply selected because they appear well in the literature to be relevant to objectives of specific well-being studies and may double as domains (Oni and Adepoju, 2014). A well-being study in Nigeria by Adisa et al. (2008) focused only on house ownership as a measure of well-being among retirees because of the importance the

Yoruba attach to the housing needs of the old. For some tourism-related studies such as Kim (2002) and Aref (2011), the focus was on four domains that are related to tourism impact, namely: material, community, emotional, and health and safety well-being domains.

This study focused on five interrelated well-being domains to portray the five domains of well-being suggested by the Fullframe Initiative (FFI, 2011; 2015). They include the health and safety domain, material well-being domain and education well-being domain. These three have been described as core well-being by Cahyat et al. (2007). They have also been used in the measurement of multidimensional poverty in Nigeria (OPHI, 2013; OPHI, 2017). Two others, the community well-being domain and the emotional well-being domain, are included in this study based on the premise that they relate tourism impact to the cultural life of local people (Kim, 2002; Aref, 2011).

2.1.12 Indicators of well-being

(i) Material well-being

The material well-being domain in this study portrays the domain referred to by FFI (2011:314) as 'meaningful access to relevant resources.' This largely determines the extent to which people have access to resources with which they satisfy the needs they consider important to them. The report of Stiglitz et al. (2009) shows that material domain is made up of income, consumption and wealth considered together as the standard of living. According to Kim, (2002) material well-being can be classified into two important components; income and employment, and the standard of living. Income is money received for work done over a period. It is more important in poverty-laden environments as a result of its influence on the quality of other components of standard of the living for an individual. Studies have shown that income was strongly positively correlated when regressed against well-being in Nigeria (Oni and Adepoju, 2014). Loss of income and unemployment have been associated with high blood pressure, depression and anxiety. Loss of income impacts subjective well-being less negatively than the loss of employment (Hooghe & Vanhoutte, 2009).

Standard of living connote the level of material comfort enjoyed by an individual or a group of people, or society. It is the satisfaction with material goods that individuals can consume and possess. This domain is based on the importance of materials to the preconceived goal or aspiration of an individual (Kim, 2002). In developing countries, the living standard is indicated by access to electricity, cooking fuel, sanitation, drinking water, floor type and asset ownership (OPHI, 2013; OPHI, 2017) This also includes ownership of cattle, vehicles and quality of the house. A study of communities in the Caprivi tourism region in Zambia shows that people with greater access to clean water had better well-being than others that relied only on insufficient ground untreated water (Emptaz-Collomb, 2009).

(ii) Health and safety well-being

This domain portrays the safety well-being domain defined by the FFI (2011:314) as 'the degree to which a person can be his or her authentic self and not be at heightened risk of physical or emotional harm.' Health affects overall well-being by affecting people's ability to satisfy their needs (Kaliterna & Larsen, 2016). It is possible to have an objective statistical measure of health in a community, such as mortality and morbidity rates or a combination of the two (Stiglitz et al., 2009). However, according to Hooghe and Vanhoutte (2009), research on health-related QoL suggests that the personal appreciation of one's health status has a stronger effect on well-being than objective measures of physical health. People who have reported illness, disability and health disorders were associated with poor satisfaction with life (Chanfreau et al., 2013). Health is also indicated by the quality of drinking water (Kim, 2002) and access to health services (Oni and Adepoju, 2014)

(iii) Education well-being

This represents the mastery domain, as defined by FFI (2011:314), to be 'the degree to which a person feels in control of her or his fate and the decisions she or he makes, and where she or he experiences some correlation between efforts and outcomes.' Mastery is expert knowledge and outstanding skill acquired through education and experience. Continued formal and informal education generates some form of confidence in the pursuit of life aspiration and has been associated with greater individual subjective well-

being (Yakovelev and Leguizamon, 2012). The activities that improve people's awareness, talents, skills and potential, generate mastery and control in decision-making and are important to their well-being. The way people evaluate their lives is also strongly associated with their education (Stiglitz et al., 2009)

It is difficult to assess informal education, indigenous knowledge and skill but formal education is very useful in rural traditional environments because it provides advantages in the adoption of innovations and improvement of indigenous knowledge. Formal education is indicated by the number of enrolments into schools, the resources available for it or its cost. It can also be determined by the respondent's number of years in school or the most educated member of the household (Emptaz-Collomb, 2009)

(iv) Community well-being

Communities are pivotal to the well-being of their residents because they represent systems of social relations. A community is a locality formed through a sense of belonging and solidarity resulting from competition for economic, political and social interests (Mchenry, 2011). Community well-being, otherwise called social well-being (Mchenry, 2011), portrays the well-being domain of social connectedness or social networks of the individuals within the tourism destination communities. Social connectedness is defined by FFI (2011:314) to be 'the degree to which a person has and perceives a sufficient number and diversity of relationships that allow her or him to give and receive information, emotional support, and material aid; create a sense of belonging and value and foster growth.'

There are many aspects of the community that can bring about satisfaction or dissatisfaction to the individual's social networks or connectedness. One may result from the perceptions of quality, access and use of natural resources, such as water, land and air, and including people's access to physical facilities, such as recreational facilities, markets, clinics and schools (Kim, 2002). Another is based on people's community life in general, such as the level of support available in distress, participation in decisions that affect life within the community and the nature of conflict occurrence and resolution (Mchenry, 2011). Emptaz-Collomb's (2009) study shows that tourism is positively related to

available infrastructure in communities proximal to tourism destinations and people employed or households that have at least a person employed in tourism have stronger social well-being than others that do not.

(v) Emotional well-being

Emotions could be defined as expressions of heightened general feelings that can be caused by any agitation of the mind or body; these feelings are central to the measurement of individuals' well-being (Cahyat et al, 2007). If emotional well-being is positive, it makes people to cope with the rigors of daily existence, including ill health. Negative emotion, on the contrary produces sleep disorders, stress, negative energy and anxiety (Fredrickson & Joiner, 2002). FFI (2011; 2015) likens the stability well-being domain to a resource (material, economic or emotional) that can be used for support or help to cope with difficult situations in life. Instability in any sphere of life can trigger negative emotions that may have a negative influence on sphere of life of the individual. Although measurements in the stability domain seem not to appear specifically in the literature, the emotional well-being dimensions are portrayed through satisfaction with spiritual (religion) and leisure activities (Kim, 2002).

Spiritual (religious) activities: There is consensus on the belief that spirituality is at the centre of the human experience. Fisher (2011) suggests that, although man's spirituality is subjective, its fundamentality to human health and well-being is embedded in the four-dimensional relationship man has with self, with other people, with his environment and with a transcendent other/God. Spirituality has been indicated by access to religious activity, preservation of cultural relics and religious life (Kim, 2002; Sreekumar, 2008). In many surveys, spiritual well-being has been positively linked to a life of purpose and coping with chronic illnesses and circumstances. It has also been negatively linked to anxiety, depression and other psychological problems (Sreekumar, 2008). According to Lun and Bond (2013), the type of connection that exists between religion or spirituality and subjective well-being varies based on the cultural context in which it is measured as well as the type of measurement used. Royo and Velazco (2005), and Lun and Bond (2013) hold the view that, in areas where religion is considered important, religious people are happier with their lives than less religious people.

Leisure activities: Leisure activities are also important to emotional well-being; participation in leisure brings about peace, tranquility and development (Marafa, 2007). Leisure has been suggested to be more satisfying than work and a significant antecedent of pleasure and achievement (Korotkov, et al., 2011). Leisure has been indicated by the amount of leisure time, satisfaction with leisure life and type of leisure activity (Kim, 2002). Leisure is described by Newman et al. (2013) as the time spent and/or activities engaged outside obligatory work time. It also includes engagement in leisure as subjectively defined by the individual. Newman et al. (2013) also subscribe to the view of Yarnal, et al. (2008) and Kaliterna and Larsen (2016), that leisure correlates positively with subjective well-being and promotes well-being by triggering some psychological mechanisms referred to as detachment-recovery, autonomy, mastery, meaning, and affiliation (DRAMMA) (Newman et al., 2013). The study of Lu and Hu (2005) of 423 Chinese university students shows that leisure activity has a positive relationship with leisure satisfaction when other variables are controlled. There is the suggestion, to the effect that many other variables work together to predict satisfaction with leisure such as personality, leisure constraints or facilitators, and leisure activity or participation. It is, however, difficult to isolate the effect of one of these factors from others (Korotkov, et al., 2011).

2.1.13 Socio-economic factors associated with predicting well-being.

Several socioeconomic and demographic factors have been associated with well-being. They are however not sufficient enough to represent the well-being of a society (Vouketou et al., 2021). The Natcen Social Research discussed nine factors as predictors of subjective well-being: age; gender; identity (ethnicity and identity); general health (illness and disability); marital status (partnership and social relation); education; employment status and working conditions; household income and managing financially; housing and neighbourhood (Hansen & Slagsvold, 2012; Chanfreau et al., 2013). Royo and Velazco (2005) organized the socioeconomic factors that are associated to well-being into four in their study in rural Thailand, namely personal characteristics (age, gender, sex, level of education, marital status, religious membership, number of kids and location); objective well-being variables (access to health care facilities and education and

housing characteristics); social capital variables (connections to community and access to public information) and self-evaluated income. In relations to tourism, Emptaz-Collomb (2009) also included the perception of benefits and attitude towards tourism.

Many of these factors have served as independent variables in research involving tourism impact on subjectively measured well-being for which differing results were obtained. For instance, Emptaz-Collomb (2009) and Andereck and Nyaupane (2011) note that employment is the most important predictor of well-being in tourism destinations because people who are employed in tourism-related businesses tend to perceive benefits more positively than those who are not, but the researchers differ in the case of age, for which Emptaz-Collomb reported a positive influence of an increase in age on the well-being of residents in rural Caprivi Namibia.

2.1.14 Well-being and sustainable development nexus

Helne and Hirvilammi (2015) believe that both well-being studies and sustainable development should be viewed as two sides of a single coin because they address ethical concerns that relate to living good lives and preventing damage to the ecosystem. They claim that sustainability cannot be achieved if the well-being issue is not well addressed. Achieving well-being is seen as a major objective of developmental efforts both in the present as well as in the future. Well-being measures the QoL of individuals or groups as perceived by them, at specific periods in time. This indicates developmental performance in terms of improvement in overall QoL of people, or in their different domains, when done periodically (Stiglitz et al. 2009). Fukuda et al. (2016) studied the relationship between reducing poverty, a major sustainable developmental goal, and subjective well-being, their result shows that there is a direct and positive linkage between them. Torres et al. (2019) demonstrated that the MDGs and as well the SDGs are geared towards achieving QoL and protecting the environment. For instance, they considered that an issue such as health is being addressed directly by SDG: goal 1, ending all forms of poverty; goal 2, eradicating hunger; goal 3, promoting health and well-being; goal 6, ensuring sustainable use of water resources; and goal 13, combating climate change impacts. According to Gazzola and Querci (2017), both sustainable development and well-being are well connected by the fact that they are both concerned with ensuring that people in a

community have equal access to livelihood resources to enhance their QoL in future. It is expected that the environmental, social and economic systems of a community, that is, the three pillars of sustainability, should be able to supply resources that would enhance livelihood in the areas of transportation, health and safety, education and housing of the people. The most important relationship between the concepts of well-being and sustainability is the priority placed on environmental sustainability. Both emphasis the idea that there are ecological boundaries to the enhancement of well-being. According to Helne and Hirvilammi (2015), the dependence of well-being on a virile ecosystem must be very well understood before the movement to sustainable development begins. The environment provides natural stocks, which are the most critical in determining the well-being of future generations (Stiglitz et al., 2009; Torres et al., 2019).

2.1.15 Conceptual framework

A conceptual framework is defined by Miles and Huberman (1994:18) as a visual or written material, which explains, ‘either graphically or in narrative form, the main things to be studied in research: the key factors, concepts, or variables and the presumed relationships among them’. It explains how the researcher intends to go about exploring the problem. Specifically, this framework is a map and a guide of the conceptualised study focused on understanding the effects of ecotourism on the well-being of residents in North Central Nigeria. Three categories of variables were identified in this study: the dependent, independent and intervening variables. The schematic representation (Figure 2:2) depicts the interface and relationships that exist among the three variables.

The dependent variable was presumed within the research to depend on or to be caused by another variable; it is the outcome variable. The dependent variable in this study was the well-being status of residents in communities adjoining the selected tourism sites in North Central Nigeria. This was presumed as a summation of the importance and satisfaction with five economic and non-economic domains of individuals’ life. The domains are community domain, education domain, health and safety domain, material domain and emotional domain. The well-being status was represented as either high or low.

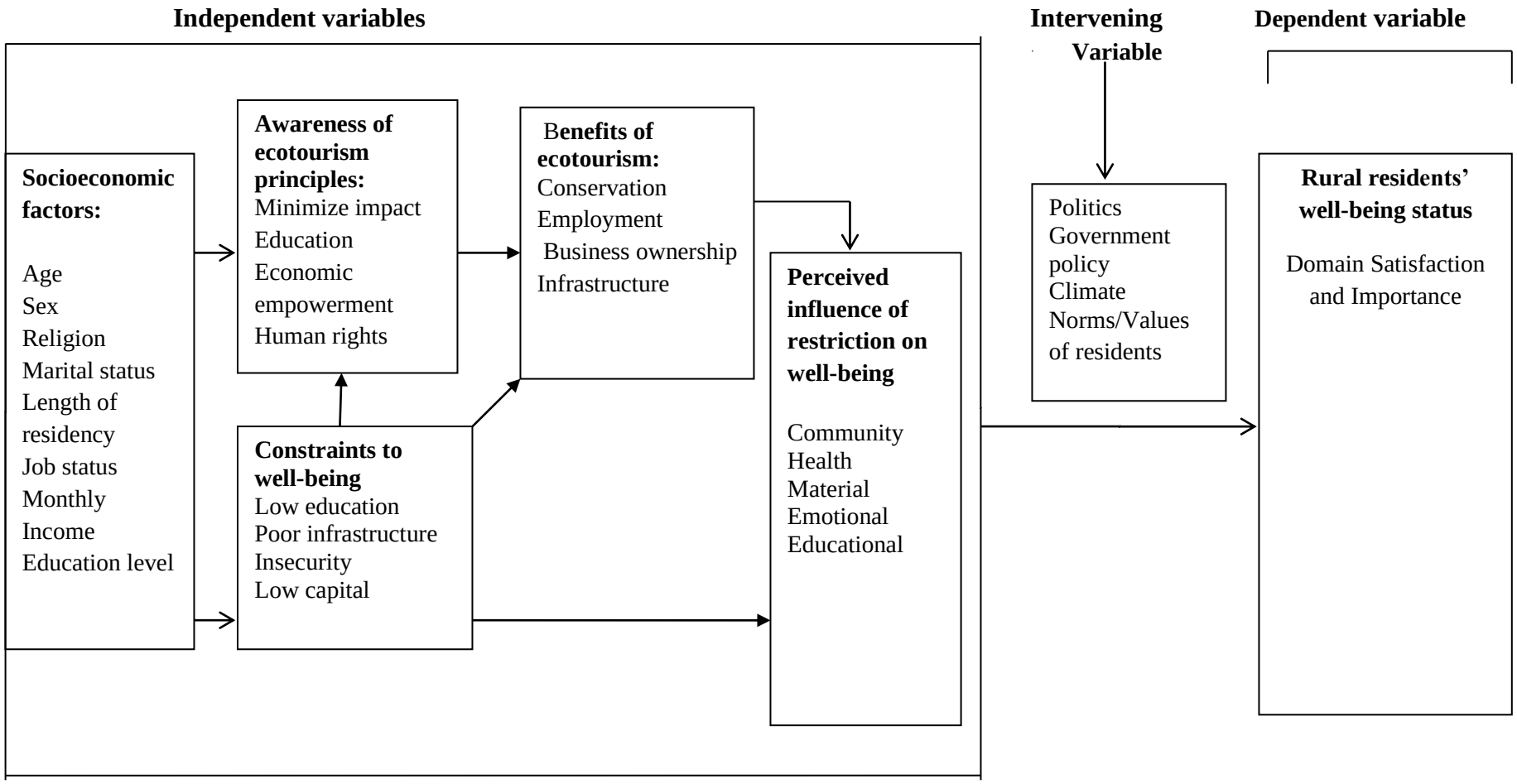

Figure 2.2: Conceptual framework on rural residents' perception of restrictions to selected ecotourism sites and well-being in North Central, Nigeria

Source: Author, 2018

The independent variables were assumed to affect the dependent or outcome variable. In this study, the independent variables which were presumed to influence the well-being of the residents in the tourism rural destinations included socioeconomic characteristics of the residents, awareness of the objectives of ecotourism, personal benefits derived from ecotourism, constraints to well-being and the perceived influence of restriction on the well-being of individuals.

Intervening variables were not measured in the study. Nonetheless, they may affect both the dependent and independent variables indirectly and tend to influence the outcome of the study. In this regard, the framework recognizes the importance of government, nongovernmental organizations (NGOs), cultural values and climate as having an indirect effect on the well-being of local populations. Dieke (2003) argued that tourism development as a strategy in developing countries is important to the extent that policy guidelines are required so that the growth is within national and sectorial objectives. In Nigeria, the three levels of government: the national, state and local take responsibility for the development of tourism destinations by formulating and implementing policies and promoting and financing the development of tourism projects.

This framework, built on the extant literature, shows the presumed relationships among the variables. For instance, education as well as other socioeconomic factors has a direct effect on the respondents' awareness of the different principles and objectives of ecotourism, as well as the constraints to well-being faced in their local communities. Education and awareness also directly influence the respondents' capacity to benefit from ecotourism endeavours. The framework further shows, that respondents' benefits from ecotourism and their well-being constraints, in turn, determine the levels of perceived influence restriction has on their well-being. In the overall analysis, the relationships among all of the dependent variables are indirectly influenced by the intervening variables to bring about an overall perception of restriction and well-being of the sampled respondents.

2.2 Theoretical framework

In this study three theories were considered relevant in the explanation of the variables utilized. They are

1. Doyal–Gough theory of human needs
2. Theory of well-being homeostasis
3. Social exchange theory

2.2.1 Doyal–Gough theory of human needs (THN)

This theory is the title of the work on human development by the philosopher Len Doyal and political economist Ian Gough conceptualized in 1991. The theory suggests that fulfilling needs of well-being is hierarchical and precedes social participation, such as support for ecotourism development (Emptaz-Collomb, 2009). The premise of the theory is that an individual's self-conception and capability (well-being) is built by interacting with others (Gough, 2003; 2004), it then posits that the universal goal of all human beings is social participation, that is interactions, without serious limitations.

The theory begins by distinguishing between a 'need' and a 'want', both of which are goals that apply to everyone, although the latter refers to goals that are specific to a person's preferences and cultural surroundings. When needs (wants) are not met, there's a severe risk of objective injury or obstruction to successful social participation (Gough, 2003, 2004). The theory also identifies 'physical health' and 'autonomy' as two basic requirements that must be met to some extent in every society before people may take part in activities required to attain other goals they value. The theory argues that, beyond being alive, a minimal physical health level is required for individuals to deliberate and to make decisions in life in order to meet their needs. Also of equal importance is the autonomy of agency, described as having a knowledge-based capacity to decide or choose what to do and how to go about satisfying one's basic needs. Gough (2004) refer to a more advanced level of this as critical autonomy.

Furthermore, the authors suggest that in specific cultures, there exists various material things, activities and interrelationships which are useful in meeting the basic needs of an individual, these they referred to as 'culture-specific satisfiers.' There exists also 'satisfier characteristics' that cut across all cultures, which are the 'collection of all characteristics that have the traits for the satisfaction of basic needs in one or any cultural setting'

(Gough, 2003:10). Another subcategory of this is called 'universal satisfier characteristics', consisting of characteristics that apply to satisfiers of all cultures. These form the bridge between basic needs and satisfiers that are culturally specific, these have been labelled 'intermediate needs.'

The eleven Intermediate needs are adequate nutritional food and water, adequate protective housing, non-hazardous work environment, non-hazardous physical environments, appropriate health care, security in childhood, significant primary relationships, physical security, economic security, and safe birth control and childbearing, and appropriate basic and cross-cultural education. The first six are related to health, while the others are related to the autonomy of agency (Fig. 2.3).

In addition, the theory postulates that need satisfaction is achieved in any society under some developmental preconditions, that is, production, reproduction, cultural transmission, and political authority. These preconditions give access to culture-specific satisfiers, which in turn help individuals or groups to meet any (or all) the categories of the intermediate needs, culminating in the achievement of the two basic needs and social participation without harm.

Royo and Valezco (2005) suggest that THN theory may serve as bases for assessing the well-being achieved by an individual or a society. Indicators of objective need satisfaction can display the extent to which basic needs are met as well as progress with regard to intermediate needs. It suggests that the levels to which these needs are met are indicative of well-being. The theory has, however, been criticized for prioritizing survival and organic needs over other comprehensive need definitions and justification for rights (Dover, 2013).

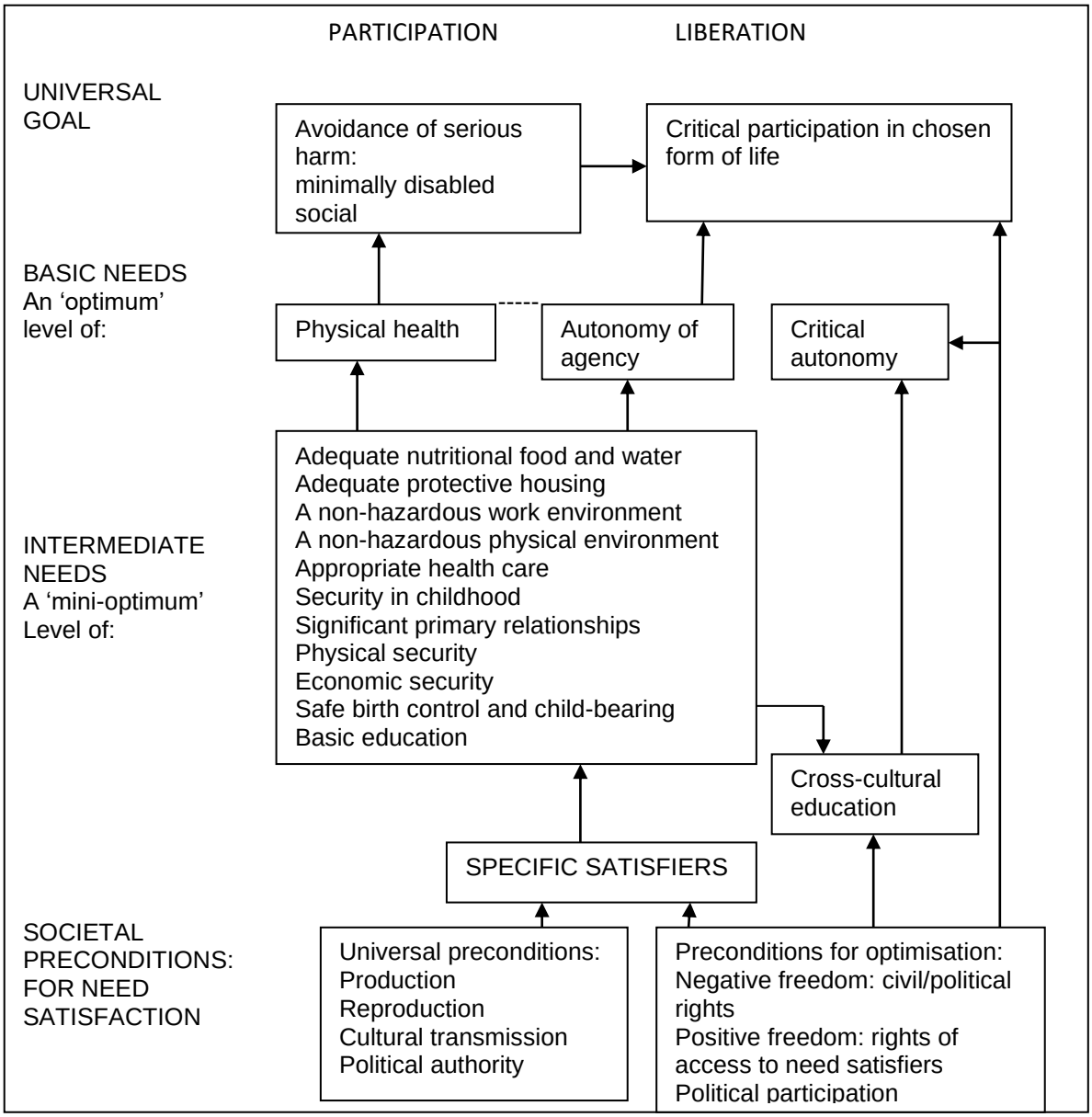

Figure 2.3: Doyal and Gough's theory of human needs

Source: Gough (2003:9)

2.2.2 Theory of subjective well-being homeostasis

Robert A. Cummins conceptualized the theory of subjective well-being homeostasis to account for SWB stability and adaptation (Luhmann & Intelisano, 2018). This psychological theory suggests that in the same manner that the human body regulates temperature, neural devices actively maintain and automatically modulate SWB around a "set-point" (Cummins, 2013). This point is different for every individual; it is within 70-90-point range of a continuum starting from complete dissatisfaction (0) to complete satisfaction (100). This causes humans to reflect mildly positive, deep and stable well-being (Tomyn et al., 2014).

The foundational postulation for the theory is that when satisfaction is used to measure SWB, both its affect and cognitive components are involved but the affect component, a deep and stable mood state called Homeostatically Protected Mood (HPM) is dominant. It has been described as a genetically inherent neurophysiological trait. It is not an emotional response but the most basic way in which individuals can sense themselves in a personal and abstract way. It is a combination of pleasant and arousal values (Tomyn et al., 2014; Luhmann & Intelisano, 2018). The theory suggests that, when questions on satisfaction are being asked in a normal situation, the responses are the reflection of HPM rather than personality because people formulate their answers based on their level of HPM information.

Figure 2.4 shows the relationship between HPMood (y-axis) and the strength of challenges to the homeostatic system (x-axis). Phase A shows a normal condition of an individual with no challenge; HPMood fluctuates within 70 and 80, which is the set point range. When challenges are mild, HPMood moves to the range's thresholds, but a strong homeostatic defence keeps it within the established point range, as seen in Phase B. Phase C shows when homeostasis is overwhelmed by very strong challenges and HPMood falls below the threshold. In real life situations, individuals are confronted with unusually good or bad experiences. Therefore, their HPM moves within a certain range of 9 points below or above their set point (18 points range) for a relatively short period, before it is made to return automatically to normal by the use of homeostatic control.

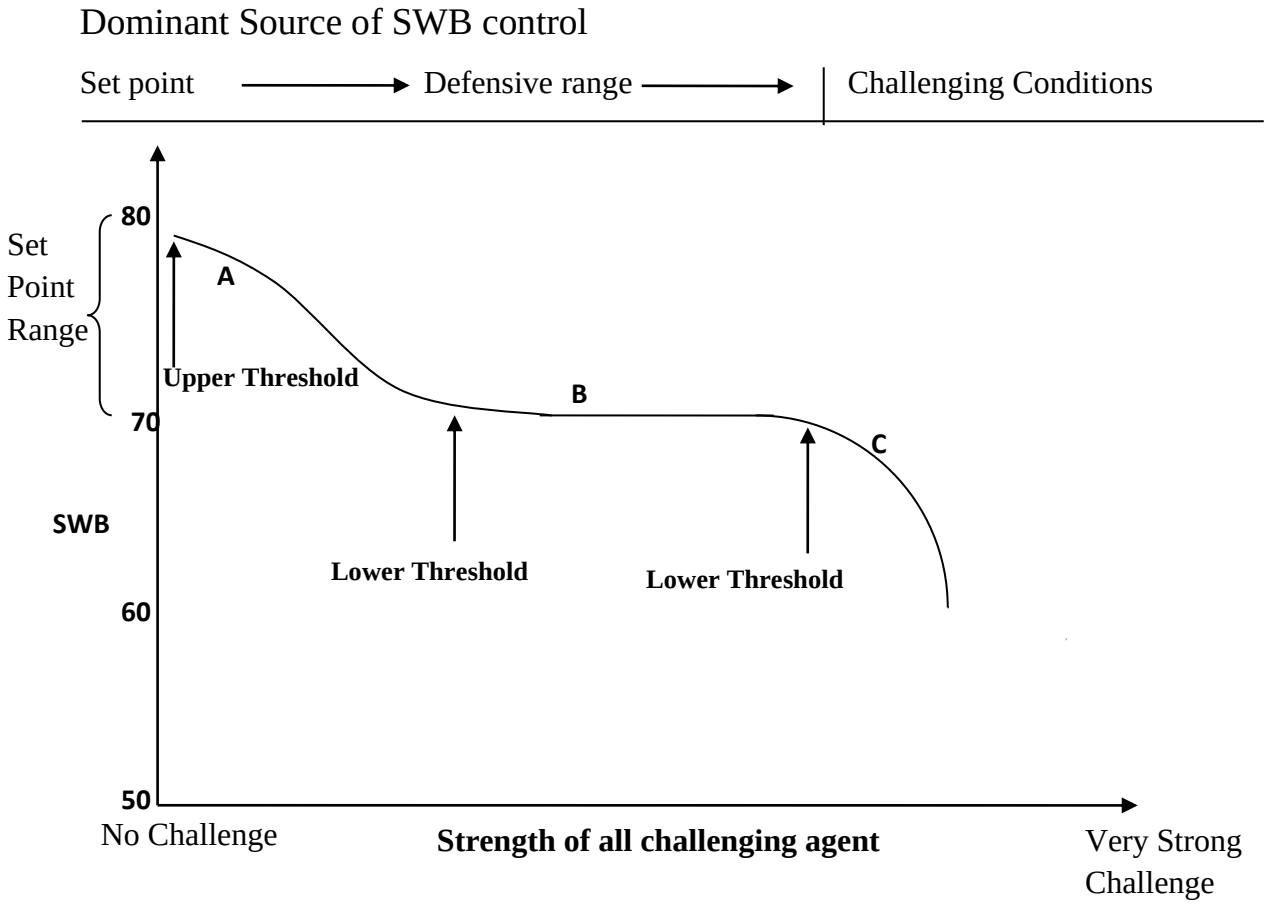

Figure. 2.4: SWB homeostasis system

Source: Luhmann and Intelisan, (2018:14)

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People's ability to do this is unique and defines their resilience (Cummins, 2013), and may change as they age. Individual routine patterns of behaviour are the first line of defence in response to such fluctuations, making adaptation possible (Luhmann and Intelisano, 2018).

However, the homeostatic mechanism can be overwhelmed by critical situations, such as sufficiently adverse environmental conditions or disease, which can move the set point below the individual's normal range. When this occurs, SWB becomes highly sensitive to the strength of external and internal resources, referred to by Cummins (2013) as the second and third lines of defence, respectively. External resources refer usually to strength of relationships and money. Cummins emphasizes the fact that money cannot perpetually raise SBW above its upper range but can assist in the homeostatic mechanism in many ways especially, among poor people.

Where external resources become inadequate in restoring SWB during a crisis situation, internal resources are made active to help the homeostatic process. Internal mechanisms are psychological. In this situation, positive emotions are activated to counteract prolonged negative ones; this is a non-conscious coping mechanism. Individuals also consciously use secondary coping mechanisms which work by diverting the negative challenge away from self (Cummins, 2013).

Using this theory, it was successfully predicted by Tomyn et al. (2014) that it would be challenging to considerably raise SWB in individuals operating normally within their set-point range. However, interventions could successfully raise each person's SWB in conditions of homeostatic defeat, where SWB is lower than usual, such that it recovers to normal levels. They concluded that in the world of scarce resources, the theory is useful in the distribution of intervention resources efficiently. This theory has been used to provide useful insight into the stability of rural residents' well-being within proximity of ecotourism sites (Emptaz-Collomb, 2009). A group of people with multiplicity of well-being challenges may benefit more from appropriate interventions such as ecotourism development in terms of improving subjective well-being, than people that are less poverty stricken.

The theory has, however, been criticized for lacking biology-based evidence for the existence of HPM and set point (Cummins, 2013).

2.2.3 Social exchange theory (SET).

This theory is often used to explain the reaction of residents to tourism impact (Andereck & Nyaupane, 2011). It has contributed the most to the theoretical explanation of residents' perception of tourism (Nunkoo, 2016).

George Homans proposed the social exchange hypothesis in the 1960s. This theory is underpinned by studies in psychology, sociology, and economics. It explains societal stability and evolution as a series of bargained trades between members of the society. It contends that subjective cost-benefit analysis and comparative evaluation are the foundation of all human relationships. It implies that the value of any relationship is determined by the examination of this cost-benefit analysis. If the outcome of this analysis is positive, it implies a positive relationship is possible between the parties, which means people will stay in the relationship, unless the costs and rewards of such relationships are not equal, in which case they terminate it; an equitable relationship is one in which the costs and benefits are equal. According to Nunkoo (2016), the theory tries to give understanding to how resources are exchanged among individuals and groups in the society. In the case of tourism, resources can be material or immaterial, such as natural resources, labour or capital, which are necessary for development. For exchange to take place the resources offered for exchange must be perceived to have value by the parties. There must also be a mutual dispensation of rewards and costs between parties involved. An individual or party who perceives benefits resulting from an exchange is likely to evaluate the exchange positively, while one who perceives costs is likely to evaluate it negatively (Ap, 1992).

In addition, Nunkoo (2016) posits that SET is built on the exchange of power and trust. Power is described as control over resources other people need and value. When two parties have a high level of power, the exchange is mutually beneficial. Trust refers to the conditions were, in a situation of uncertainty or risk, an exchange partner is expected to behave favourably towards the other partner. In order words, a social exchange takes place in an atmosphere of trustworthiness.

Harrill (2004) reported that by the use of SET, studies have shown that peoples' perception toward the effects of tourism development are influenced by realized or anticipated social, economic, and environmental development trade-off (Wambura, 2022). According to Ap (1992), need satisfaction, exchange relationships, and exchange repercussions, in connection to local people's perceptions of tourism, are the most crucial elements of the social exchange process. People are more likely to take part in a transaction in which they anticipate a positive outcome. Residents who live near tourist attractions are more inclined to be favorable toward tourism and support its expansion if they believe the exchange will benefit them and improve their well-being.

2.3 Empirical review

2.3.1 Well-being of rural Nigerians

The overall well-being of rural dwellers may differ from that of urban dwellers. According to a 2015 study by Rigon et al. on well-being and citizenship in urban Nigeria, people's well-being in urban settings is more diverse and complex than it is in rural Nigeria., it is determined by issues relating to quality of governance, changing demographics and indigeneity. Studies on the QoL and well-being of rural Nigerians are founded on the premise that the environmental characteristics such as access to resources and capacity define well-being. A study by Adepoju and Oni (2014) based on secondary data revealed that capability indicators of well-being for rural Nigeria, such as health, nutrition and security, are not well developed. The rural dwellers had just 27% of the people having the ability to transform the resources at their disposal into functionings they value. Thus, human capital development and an increase in productivity were advocated. The comparative study between oil-producing communities and non-oil-producing communities of selected states in the Niger Delta by Etuk and Odebode (2016) shows that most households in both types of communities had poor levels of well-being. The situation was attributed to poor access to material living conditions, poverty alleviation programmes, and unavailability of credits to improve their livelihood activities.

A study in Ikeji-Arakeji, a rural community of Osun State by Badiora and Abiola (2017) shows that the QoL of the residents was poor; the people were not satisfied with the

indicators such as potable water, cleanliness, waste disposing, quality of recreational facility and electricity availability.

Another QoL study by Zaid and Popoola (2010) in Ekiti State focused on the role information plays in the QoL of rural women. The study claims that the low QoL of rural women could be due to a lack of required information in certain domains of life, such as housing, occupation, income, health, education, neighbourhood/community, family life, government, social status and spiritual life.

2.3.2 Ecotourism effect on destinations

It has been demonstrated that tourism development has effects on origin, transit and destination environment but its impact on the destination environment is the most widely studied (Sharpely, 2009). In order to understand the full effect of ecotourism initiatives in all its ramifications, the socio-cultural, economic and physical environment must be taken into consideration together when the impact on the destination is being assessed. In many investigations, scholars have often chosen aspects relevant to the objectives of their study. Matthews' (2002) attempt using a case study of fourteen projects located in South America, reported that minimizing ecological impact is at the centre of ecotourism projects' success at achieving its two main objectives: conservation and enhancing the lives of the residents. Other success factors centre on host community well-being, coordination between the local community and the authority, training of residents, equality in the distribution of benefits and gaining the support of the residents. The study result as also seen in that of Kibria et al. (2021) shows that in practice, ecotourism does not generate income sufficient enough for an entire local people to benefit, and in many instances ecotourism projects that did not succeed are basically due to their lack of suitable mechanisms to encourage the residents' participation in decision making.

Neth (2008) studied the possibility of using ecotourism as a supplementary livelihood strategy for communities around the Tonle Sap Biosphare Reserve in Cambodia. The focus was to assess ecotourism both for conservation and potential for community development. The study acknowledged that the framework for existing ecotourism management emphasized the conservation of resources at the expense of developing the people. The dual objective could be achieved if the relevant stakeholders, most

importantly, the local host community, participate in decision-making and fair distribution of benefits. The adoption of ecotourism as a livelihood option must first start with a short-term plan followed by an evaluation and control of the process before a long-term one could be drawn. The plans must include the indigenous knowledge offered by the local people.

In Nigeria, many empirical evaluations of ecotourism success are motivated by concerns for the conservation of ecological resources. The studies of Tijani (2005a; 2005b) in Old Oyo National Park noted that the support zone conservation method adopted by the Nigeria Park Service in the management of ecotourism sites is failing in its effort to conserve the environment. This is a result of the failure of the programme to provide sufficient infrastructural benefits to the surrounding local people who lack the power to act responsibly over the park resources: Similarly, Adetoro et al. (2011), in a study on Kainji Lake National Park (KLNP) identify lack of involvement in the management of the park by residents as being responsible for resource exploitation of the park resources.

Ijeomah et al. (2013), in a study on poaching activities in KLNP, shows that ecotourism resources in protected areas are endangered by members of the communities nearest the park, because of economic reasons. The study specifically identified lack of employment and financial capital as major reasons for poaching. It suggested that better relationships with host community members and stronger policing of parks may reduce poaching activities.

2.3.3 Ecotourism impact on the well-being of rural residents

A study of literature by Pullin et al. (2013) on the net effect of protection on human well-being, revealed that protected areas (PAs) of different categories which, in most cases, function as ecotourism sites, impact the people within and around them, positively or negatively based on mode governance of the PAs and the mode of implementation of protection. The well-being issues that are often affected are environmental capital, access to land, economic capital, social capital and health.

Concerning ecotourism studies focused on poverty alleviation and residents' well-being, Ijeomah's (2012) study in Plateau State revealed that the protection of ecotourism sites

has denied local community residents' farmlands. The study further noted that lack of access to forest products, like firewood, game animals and fishing activities, are the major ways in which the lives of the people were affected. It also denied them the cultivation of some kinds of crops and rearing domestic birds for fear of being destroyed by straying wild animals. Therefore, the research indicated that tourism reduces poverty only in some ecotourism destinations through educational development, employment, protein supplement and infrastructure. Thus, concluding that the positive impacts of ecotourism are location-and vocation-specific. Eco-destinations that have water bodies impact more positively on their fishing communities, while some also benefited from electricity.

In Ghana, the study of Eshun et al. (2015) in Owabi wildlife sanctuary revealed similar findings to that of Neth (2008) on the effect of the ecotourism framework on the local people. Similarly, it was found that management structure limits the involvement of the local people. In addition, well-being was understood in a variety of ways by the local people. To the majority, it means prosperity and good neighbourliness, and hardship is interpreted as a lack of access to forest resources, including herbs and tree barks. The study of Acquah et al. (2017), focused on the socio-cultural impact of three parks in Ghana on the communities around them. Considering the positive impacts of the parks, such as respect for culture, spotlighting their community and support for conservation, the research concluded that the communities viewed the parks as having a positive impact on their lives. The study by Mnisi and Ramoroka (2020) in South Africa shows that communities adopting ecotourism for development have remained socioeconomically backward with poor skills set, low education and poor health suggesting no signs of achieving the sustainable development goals.

Other studies such as Kim (2002), Emptaz-Collomb (2009), Aref (2011) and Andereck and Nyaupane (2011) on the impact of tourism on QoL used well-being as proxy. In these studies, the well-being of an individual was separated into its constituent domains. The goal was to comprehend the nature of tourism's impact on specific life domains of the residents within tourism destinations. Different domain sets were arrived at based on specific methods used, specific objectives of their study and study area. However, they all included the social, psychological, and physical aspects of human well-being. The four

studies noted that local people's perceptions on how tourism affects them significantly influenced their satisfaction with life along certain domains and this also had an influence on their overall well-being. Kim's research in Virginia USA, however, demonstrated that the stages of development of tourism in the destination did not influence the outcome of residents' satisfaction with tourism impact. Emptaz-Collomb's study in rural Botswana concluded that the individuals that had higher well-being showed support for ecotourism in the region. Andereck and Nyaupane's research in the State of Arizona, the USA involving both rural and urban respondents, showed that tourism benefits are important mediators in predicting the roles that tourism plays in an economy.

2.4 Methodological review

2.4.1 Approaches to assessing ecotourism effects

To study ecotourism effects, there has been use of quantitative methods, qualitative methods and a combination of both methods. The multidisciplinary nature of the concept has made many approaches inevitable. This has helped to take advantage of salient aspects of the different approaches and to back up the findings of one approach with the other. The type of research, purpose, objectives and scope of the studies are often considered in determining the approaches.

Some researchers of ecotourism from the standpoint of its conservation objectives have used purely qualitative approaches, such as the participatory rural appraisal approach, to better understand the experiences, motives, values, attitudes and beliefs of the respondents (Tijani 2005a; 2005b; Neth, 2008). This involves a combination of focus group discussion, key informant interviews, and observations to elicit data in a study. The study of Matthews (2002) used secondary data to generate qualitative evidence about the success of ecotourism projects from multiple case studies in six countries of South America. The qualitative study of ecotourism often centres on criteria identified by Matthews (2002) to include ecological preservation and the impact of ecotourism activities on the environment. Others are access to restricted area, management structure, household income, distribution of benefits, types of employment, infrastructural

development, local business revenue leakages, local people participation and capacity building, respect for local culture and local attitude towards conservation

Other ecotourism studies that have gauged local people's attitudes, level of awareness and involvement in conservation adopted a quantitative approach in addition to qualitative methods, such as Adetoro (2008); Adetoro et al. (2011) and Ijeomah (2013). Likewise, ecotourism studies evaluating its effect on community development and local people's well-being are often quantitative in approach but qualitative methods are also included to make the findings robust by reducing biases and making them more credible. Examples are Empaz-Collomb (2009); Ijeomah (2012) and Eshun et al. (2015).

A purely quantitative approach has also been applied to this kind of study. Majority of studies on perception of tourism development use quantitative method (Andriotis, 2000). Examples of qualitative studies include Aref (2011), Andereck and Nyaunpane (2011) and Acquah et al. (2017). The sampling frame often consists of owners of tourism enterprises, the local people, tourists and the managing authority who are usually the government officials. Quantitative studies involve the use of at least one descriptive and inferential statistical tools.

2.4.2 Approaches to measuring well-being

Well-being has been traditionally measured using GDP. This is so because the QoL is believed to be significantly related to the influence of money on production, income and wealth of individuals and/or groups. Its adequacy has been heavily criticized because not all that gives a good life can be monetized objectively, like the value of relationships, health and capacity to convert resources into well-being (Stiglitz et al., 2009). Consequently, other methods have developed, namely, the capability approach and the subjective well-being approach (Stiglitz et al., 2009)

i) Capability approach

This is a well-being measure developed by the economist Amartya Sen. It emphasizes the non-material component of objective well-being. Capability is the ability of the individual to function, to take up opportunities, to make choices and take decisions (Croes, 2012).

This is a complex combination of the individual's physical resources, physiology, social norms and physical environment, which together determine various things the individual does or experiences, called functionings and achievement (Croes, 2012; Wells, 2016). Thus, capabilities provide opportunity and freedom to choose amongst the functionings. This freedom is what is measured as well-being. The capability framework has helped in the understanding of poverty as multidimensional and not just depravity in resources alone but also in lack of capability. This approach, according to Wells (2016), is the basis for other measures of development, prominent of which is the Human Development Index (HDI).

However, to Croes (2012), capabilities cannot be measured by observable variables, they can only be measure through the use of latent variables as indicators. This approach uses data from national surveys to estimate well-being (Croes, 2012; Oni and Adepoju, 2014). Thus, the approach has been criticized for difficulty in conceptualization (Emptaz-Collomb, 2009; Wells, 2016).

ii) Subjective well-being approach (SWB).

This is the utilization of data obtained from individuals' perception of feelings and moods about their well-being from self-completed questionnaires and Likert scales of different kinds (Hicks, 2011). The use of three methods singly or in combination is possible using the subjective well-being measurement approach. The methods are the evaluative method, experience method and eudaimonic method (Tinkler and Hicks, 2011). The most common is the use of the evaluative method. It uses 'life satisfaction' for SWB measurement for individuals and household well-being (Tinkler and Hicks, 2011, Andereck &Nyaunpane, 2011). With this, respondents are expected to make a cognitive appraisal of their lives. A single global question may suffice such as, 'how satisfied are you with your life these days?' or a combination of several questions (Tinkler and Hicks, 2011:7). The focus may also be on just one aspect of life such as health or employment, or a combination of several aspects.

Nevertheless, the satisfaction method has been criticized for reasons such as cognitive and emotional biases, specifically compromise due to memory bias, bias due to mental illness,

lack of information, internalization of cultural norms and transitory effect of affection. Yet, it has been well recommended because it correlates well with other measures of well-being, it is pragmatic and simple to operationalize (Bronsteen et al., 2009; Croes, 2012).

The experience approach measures the moment intensity of emotion or positive affect, for example, happiness and excitement or negative affect such as sadness and anxiety. The 'Day Reconstruction Method' (DRM) and the 'Experience Sampling Method' (ESM), are two dairy-based techniques that can also be used to gather data. Respondents are required to describe their emotions at various times throughout the day while engaging in various activities or by simply answering questions about their emotions throughout a brief period of time, such as a day (Hicks, 2011; Tinkler and Hicks, 2011).

The eudaimonic method captures a number of variables that may be significant but are not often reflected in evaluations or experience assessments, including autonomy, control, competence, engagement, healthy interpersonal relationships, a sense of meaning, achievement and purpose (Tinkler and Hicks, 2011).

2.4.3 Choice of well-being measurement approach

The subjective well-being approach was the choice for this study. This method is used commonly as a measure of intervention effectiveness (Cummins, 2013). Galloway et al. (2006) claims that well-being is a subjective affair, usually assessed at the individual level using self-rated questionnaires. This is premised on the argument of Layard, cited in Tinkler and Hicks, (2011:4) that 'human perception is fundamental to understanding an individual's well-being, as the only person who knows whether a person is feeling well is that person themselves.' Subjective ratings can also apply to objective conditions, thereby inculcating both subjective and objective well-being indicators in one assessment (Galloway et al, 2006; Andereck & Nyaupane, 2011). An argument by psychologists is that the effect of objective conditions on well-being is moderated by a psychological process that allows individuals to adjust to life circumstances. Therefore, according to Angus Campbell (Easterlin & Sawangfa, 2007), a report of objective well-being conditions can be replaced by reports on the satisfaction people expressed with those conditions. This is supported by the views of Constanza et al. (2007), who used the word

'fulfilment' in place of 'satisfaction' to represent the subjective measure of objective conditions. In addition, this study adopted the evaluative method, using satisfaction with domains of life as the sole subjective measure of individual well-being (Hicks, 2011). The use of satisfaction in various aspects of life has been recommended to be very useful for policy interventions (NEF 2002; Hicks, 2011). Well-being domains relate more to life satisfaction than to happiness alone (Kim, 2002). There has been a preference for life satisfaction over happiness (affect) or eudaimonic measures because it is a more cognitive and stable subjective measure of well-being (Rojas, 2004; Hicks, 2011).

Recent studies have also shown that the expression of well-being by life satisfaction consists of not only a significant cognitive component but a predominant affective component as well (Tomyn et al., 2014). This study incorporated the satisfaction scale with a scale of importance in the measurement of individual well-being status, consisting of items in different well-being domains. This is to recognize the value of the contribution each domain makes to the overall well-being of an individual and to measure well-being as a multidimensional construct as emphasised by Massam (2002), Costanza et al. (2007), Easterlin and Sawangfa (2007), Emptaz-Collomb (2009), Andereck and Nyaupane (2011) and Loewe et al. (2014)

2.5 Summary of literature review and identified gaps

The conceptual literature has underpinned the ecotourism concept as one promoted as an ideal sustainable development tool for rural areas, especially in developing economies, like Nigeria. It has also shown that it may, however, be fraught with issues in its development, especially in fulfilling the objective of improving the well-being of the traditional custodians of the resources despite the projected potentialities. The expectation that it will be an avenue to meeting the needs of the residents in destination communities may be misplaced due mainly to the issues relating to the protection of natural resources. Going by previous experiences in developing countries, it has been shown to alleviate poverty in a few cases but in Nigeria this remains vague. The reviewed literature has been emphatic on the fact that the residents should be involved in decision-making and should

share equally in the benefits that accrue from ecotourism development in their vicinity as a measure of the success of ecotourism endeavours.

The theories surrounding human well-being have shown that the concept consists of meeting both material and immaterial needs of people in different domains of life. The meeting of these needs take priority and precedes their support for ecotourism endeavours. Very few studies focused on the actual consequence of ecotourism impact on the well-being of these rural residents. Even where they have, the researchers have not demonstrated how and the extent to which these needs are met, given that well-being is multidimensional. Well-being is important to the sustainable development discourse. Their meeting point concerns ensuring living good lives in the present, as expected by different individuals, without minimizing future generations' ability to also live equally good or better lives. Well-being is complex and its measurement involves a pragmatic assessment method of the objective and subjective dimensions. The literature shows that standard methodologies have not been established in assessing well-being as being an outcome of tourism initiatives in developing countries, including Nigeria. While these methodologies were being refined in the Southern African countries, the same cannot be said of Nigeria.

CHAPTER THREE

METHODOLOGY

3.1 Research design

This study adopted a mixed method design. This design involves both quantitative and qualitative approaches. The quantitative method was given priority, it served as the dominant method while the qualitative method was the complementary method in this study (Guest & Fleming, 2015). According to Andriotis (2000), majority of studies on perception of tourism development use quantitative method but interviews and observations are included for better comprehension. The purpose is to understand the residents' opinions from statistics obtained from survey data and use qualitative data to corroborate the findings.

The study used a survey research design to gather quantitative data with the aid of a closed-ended questionnaire. The individual household heads (HH) or their representative resident in the study area where the units of analysis and the main source of quantitative data. Qualitative data was collected by the use of non-participants' observations and key informant interviews (KII) with traditional community leaders, the youths and managers of the selected site attractions with the aid of an interview guide with open-ended questions. The collection of both data types was done in one phase.

The quantitative method was useful in measuring the extent to which the identified phenomena existed among the residents in the study area, it has the advantage of replicability as well as providing the opportunity to generalize the results. The collection and analysis of qualitative data was for the purpose of corroborating and providing complementary contextual explanations to the results observed in the quantitative analysis. The mixed method provided a pragmatic and sufficient understanding of the

variables that influence the well-being of residents in close proximity of selected ecotourism sites

3.2. The study area

This study was conducted in North Central Nigeria. This area lies within latitude 7°30′N and 10˚12’ N and between longitude 5°00′E and 010°38' E. It is one of the six geopolitical zones of Nigeria, generally referred to as the Middle Belt. The area is made up of the Federal Capital Territory (FCT) and six other states namely: Nassarawa, Niger, Kwara, Kogi, Benue and Plateau. The area is bordered in the north by Kebbi, Kaduna, Bauchi, and Gombe States, in the east, it is bordered by Taraba State; in the south it is bordered by Oyo, Ekiti, Edo, Enugu and Ebonyi States. The area has the Republic of Benin as its eastern border (Figure 3.1). The 2006 census put the population of North Central Nigeria at 20, 266, 257million (National Population Commission, 2006). The people here are made of a number of ethnic groups, speaking a variety of languages, including English and Hausa. The vegetation of the area is mainly guinea savannah, rich in flora and fauna biodiversity.

The sites for the study fall within two neighbouring states in the North Central geographical zone. Plateau and Nassarawa States were selected for the study owing to the fact that they form a continuous belt of unique, immensely valued and well-recognized ecotourism sites. They also house important tourism attractions named in the Nigerian tourism master plan for the pilot development of tourism clusters. The area covered by the two states lies within latitude 7°30′N and 9˚25’N and between longitude 7°00′E and 010°38' E. Plateau State has a land mass covering 30, 913 square kilometres. This mineral-rich state is situated at a high altitude, with highlands rising between 1,200 metres and 1829 metres above sea level. This gives it a mean temperature of between 13-22º C. The 2006 census put the population of the state at 3,206,531(National Population Commission, 2006). The state has over fifty cultural groups (Gunap et al, 2017), among which are Afizere, Berom Buji, Irchip, Mwaghavul, Jukun Jipal, Montol, Tarok, Mushere, Mutal Fulani and Hausa. The languages spoken in the state is a reflection of their multi-ethnic diversity. The predominant occupations of the people are farming and mining. The vegetation of the area is mainly guinea savannah, rich in flora and fauna biodiversity.

Figure 3.1: Map of North Central Nigeria showing the location of the study sites

Source: Google Earth, 2018; Federal school of surveying Oyo, 2018

This state was selected based on its many active ecotourism sites and its unique tourism characteristics such as good weather, very diverse culture, hospitable people, scenic mountainous features and serenity. It also houses in Jos the state capital, the Museum of Traditional Nigerian Architecture, which is a tourist attraction selected for t development within the 'scenic tourism cluster' proposed by the Nigerian tourism development master plan because of its unique touristic value (UNWTO, 2006). Plateau State thus rightly adopted the slogan 'home of peace and tourism' (Gunap et al, 2008)

Nassarawa State was created out of Plateau State in 1996. The two states share similar geographic features and abundant mineral resources. Nassarawa State is referred to as the 'home of solid minerals' (Yaro and Ebuga, 2013). It covers an area of 27,117 square kilometres. The 2006 census put the population of the state at 1,869,377 (National Population Commission, 2006). The people here are made of a large number of ethnic groups, speaking a variety of languages such as Eggon, Duhwa, Gwandara, Made, Numana, Agatu, Tiv, Eloyi, Alumu- Tesu Kyofia, Fulani and Hausa. Nassarawa State is made up of undulating hills with height of a 600-1200meteres above sea level. It has several rivers that empty into the River Benue. The soils are also very fertile (Yaro and Ebuga, 2013). The majority of the people are farmers planting crops like oil palm, yam, rice, cassava, soya beans, cowpea, sorghum, coconut, beniseed, Irish potato, millet, cowpea and melon. Nassarawa State is blessed with a lot of flora and fauna population and many active ecotourism sites. It is home to Farin Ruwa Waterfall, the ecotourism site listed in Nigeria's tourism master plan as the flagship project for ecotourism development in Nigeria within the proposed 'conference capital tourism cluster' (UNWTO, 2006)

3.3 Population of the study

The population for this study consisted of all the rural residents in the communities enclosed and adjoining ecotourism sites within Plateau and Nassarawa States.

3.4 Sampling procedure and sample size

The selection of the sample size for the study followed a multistage procedure (Andriotis, 2000). Purposive and systematic random techniques were utilized in the study.

First stage: This is the purposive selection of Plateau and Nassararwa States owing to the presence of abundant active natural tourism sites in the states and their possession of tourist attractions selected by the Nigeria tourism master plan for pilot development (UNDP,2006)

Second stage: This stage involves the purposive selection of a total of four ecotourism sites from both Plateau and Nassarawa States. Two important sites owned and protected by their respective state governments were selected among the listed rural sites in Appendix I for each state. The outcome of preliminary investigations involving officials of the Plateau state tourism board and extant literature shows that Jos Wildlife Park, and Pandam Game Reserve and Wildlife Park were very important ecotourism site attractions to the tourism landscape of Plateau State, in terms of available touristic resources, government attention and visitor interest. Similarly, with the assistance of the Tourism unit in the Nassarawa State Ministry of Information, Culture and Tourism both Farin Ruwa Waterfall and Game Reserve, and Peperuwa Lake and Game Reserve were selected as important ecotourism site attractions in Nassarawa State.

Third stage: This stage was the purposive selection of communities within and around the ecotourism sites based on the following criteria suggested by Tijani (2005b) and Ijeomah (2007):

i) Proximity of rural community to the site buffer zone/boundary.
ii) Perceived impact of a rural community on the sites, and
iii) Geographical distribution

The proximity of communities to site boundaries tends to influence its impact on the resources within protected areas, closer communities tend to have more impact (Pullin et al, 2013). In examining such impact, WTO (1996) recommend that communities within a 10km radius would be appropriate. However, in previous studies 2km (Arungbemi, 1984), 5km (Ijeoma and Okoli, 2016) and 10 km (Tijani, 2005) have been used based on the scope and objectives of the study. In this study based on proximity and the perceived impact of communities on the natural resources within selected sites, thirteen communities situated 0-5km of the boundaries of the selected sites formed the sample frame. They include four communities around Jos Wildlife Park (Tudunwada, Kabon, Dong and Federal Housing), four communities around Pandam Wildlife Park, (Kayarda,

Namu, Pandam and Aningo), three communities around Farin Ruwa Waterfall, (Masange, Marhai and Kwara), and two communities located near Peperuwa Lake (Tunganupawa and Tunga daudu)

The adoption of the three criteria with the help of officials of the Plateau State Tourism Board and Nassarawa State Ministry of Information, Culture and Tourism (Tourism Unit) yielded a collective sample of seven rural communities for the study area (Table 3.1).

The selected communities include:

Kabong and Dong. These are two rural communities around Jos Wildlife Park which lie closest to the park boundary. Kabong (Itse Rum) lie north of the park and has encroached into its boundaries. Dong lies about 2km west relative to the park. Residents in both communities are predominantly farmers; many civil servants, traders and artisans also reside there.

Pandam and Kayarda. These are rural communities which by their proximity to the Pandam Game Reserve are perceived to impact the most on the resources of the reserve. Pandam village lies south of the park, at the border of the park (part of the village lies within the park) while Kayarda, the smaller of the two communities, lies within the park towards the northern boundary. Residents are predominantly farmers and fishermen.

Masange and Marhai. These two rural communities are both situated on the western side of FarinRuwa Waterfall. They both have strong historical linkages and claim custody of the waterfall and the surrounding forest. They both have a substantial impact on the park resources and were selected for the survey. The residents of the two communities are farmers

Tunganupawa. This community is the rural community closest to the bank of Peperuwa Lake. It is perceived to impact the lake the most. It is the only community accessible to tourists who desire to visit the Lake through the major Assikio-Lafia road. The residents are predominantly fishermen.

Table 3.1: **Selection criteria for surveyed communities**.

Ecotourism site	Surveyed Communities	Geographical location relative to site boundary	Distance (km) from nearest site boundary
Jos Wildlife Park	Kabon (Itse Rum)	North	<1
	Dong	West	2
Pandem Wildlife Park	Kayarda	East	Within park
	Pandam	South	< 1
Farin Ruwa Waterfall	Masange,	West	3
	Marhai	West	2
Peperuwa Lake	Tunganupawa	North	<1

Source: Field work, 2018

Fourth stage: In this stage, the household population for each community was determined. In Plateau State, youths within the selected communities were engaged to verify, list and identify households in their communities. The exercise revealed that some of the houses had been abandoned by their occupiers and others had moved to urban locations. Insecurity exacerbated by frequent herder-farmer clashes and lack of employment for the younger population were cited as reasons for the migration. The household population obtained for the selected communities in Plateau State were Kabon-504, Dong-553, Pandam-450 and Kayarda-200. Similarly, the selected communities' youth leaders and staff of Nassarawa State Ministry of Information, Culture and Tourism were engaged to verify, list and identify households within the communities. The household population for the selected communities in Nassarawa State were Masange 254, Marhai-152 and Tunganupawa-80. In total, the household population for the seven selected rural communities was 2193.

The sample size for the communities put together was determined using sample size determination table developed by Krejcie and Morgan (1970). A total sample size of 331 was obtained, which is equivalent to fifteen per cent (15%) of the total household population. A proportionate selection of 15% of households was drawn from each community to ensure fair representation (Ijeomah, 2007). Each household was represented by the head of household (HH) or an elderly representative. To ensure that samples were evenly spread out within the communities in the large study area, respondents were systematically selected in each community for the study. Thus, the number of respondents from each community varied from 12 to 83, depending on the size of the community as seen in Table 3.2.

Table 3.2: Summary of sampling

Location of sites	Purposively selected site attraction	Communities around selected site attraction	Selected rural communities around site attractions	Household population in selected communities	15% of HH selected	HH Responses received
Plateau State	Jos Wildlife Park	Tudunwada, Kabon, Dong and Fed. Housing	Kabon	504	76	53
			Dong	553	83	60
	Pandem Wildlife Park	Kayarda, Namu, Pandam and Aningo	Pandam	450	68	41
			Kayarda	200	30	19
Nassarawa State	Farin Ruwa Waterfall	Masange, Marhai and Kwara	Masenge	254	39	39
			Marhai	152	23	23
	Peperuwa Lake	Tunganu-pawa Tung-daudu	Tunga-nupawa	80	12	12
	Total			**2193**	**331**	**247**

Source: Field work, 2018

In total, 331 questionnaires were administered to the HH in all the seven communities. 247 (74.6%) copies of the questionnaire were retrieved and subjected to analysis.

Qualitative data was gathered through key informant interview method with eighteen (18) respondents of three categories. They include four (4) government officials/site, each one overseeing one of the four ecotourism sites selected for the study, seven (7) community heads and seven (7) youth leaders from each of the seven communities selected for the study. Respondents were purposely preselected based on the premise that they had the knowledge and experience to provide supplementary background and contextual information to complement the results of the quantitative study.

The ecotourism sites used in the study, as depicted in Figure 3.2 are the following:

i) Pandam Game Reserve and Wildlife Park (Plateau State)

This park is located in Plateau State's Qua'an Pan Local Government Area. It is believed to be one of the biggest game reserves in Nigeria and the largest in Plateau State. It is situated 60 kilometres along the Lafia-Shendam Road, north of the Benue River and south of Plateau State, at 8.7512° N latitude and 8.9908° E longitude. It was created by the Benue-Plateau State Legal Notice No. 1 of 1972, and it went into effect on October 20, 1975. It has undisturbed savanna, marshes, and forest on an area of land that is around 224 Km2. The Pandam Wildlife Park is a park that has been created out of a portion of the game reserve. Two rivers, River Deb and River Li, drain the game reserve and empty into the Benue River. The land slopes gradually southwards and forms the Pandam Lake – a wetland complex of about 22Km (Ijeoma 2007; Plateau State Tourism Board, 2017).

The area is known to be home to over 217 species of birds. It also boasts of an array of wild animals including antelopes, shy duikers, warthogs and monkeys. Apart from these, the hippopotamus and the rare African manatee are found inside the freshwater of Pandam Lake. Ecotourism activities possible in the park are picnicking, game viewing, bird watching, sport fishing as well as boating and canoeing on the Pandam Lake, with self-guided trails. Facilities available at the park include 20 chalets, a multi-purpose hall. The surrounding communities are Namu and Kayarda to the east, while Aningo and Pandam communities are on the south of the park (Ijeoma, 2007; Ijeoma, 2012; Plateau State Tourism Board, personal communication 2017).

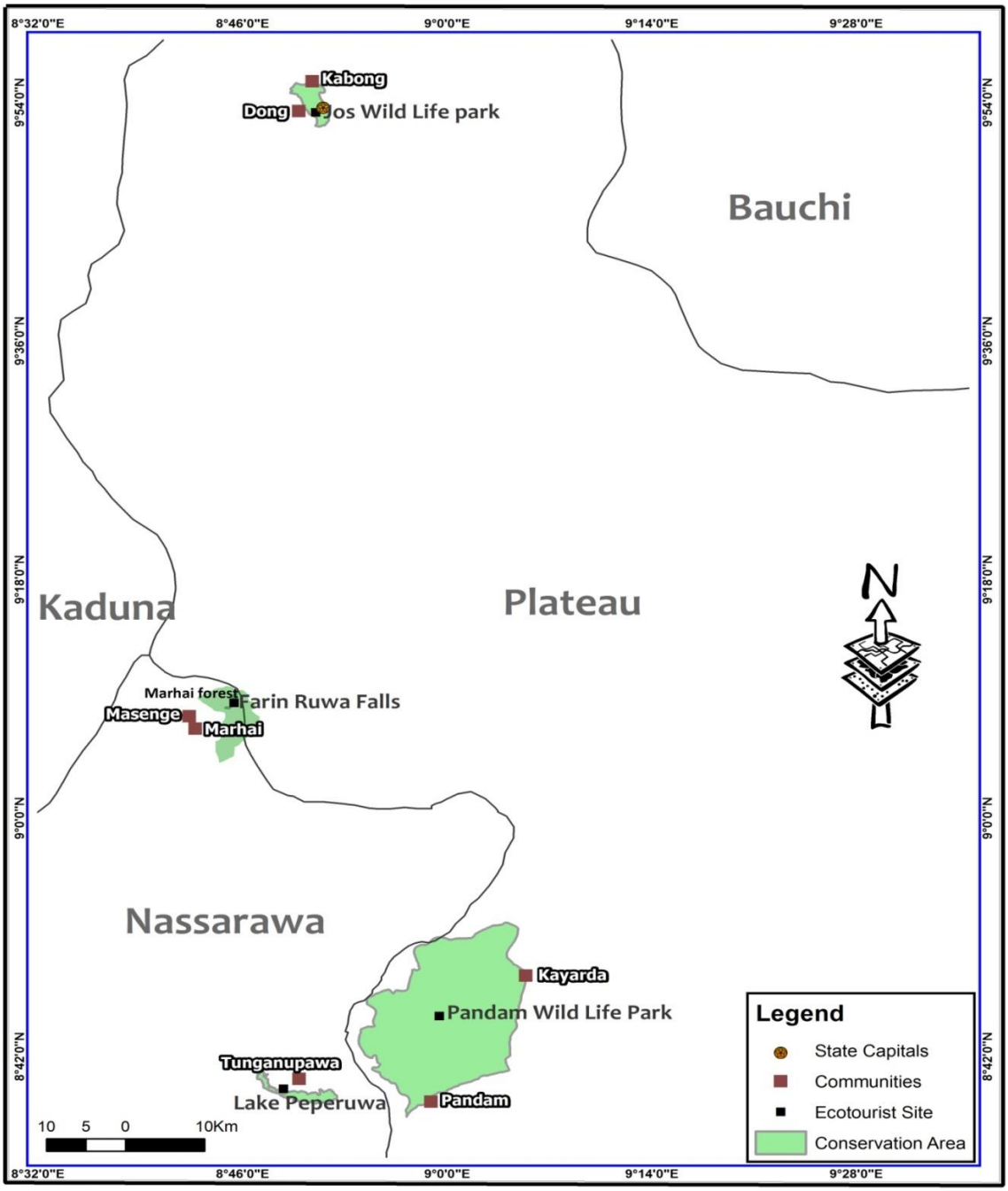

Figure 3.2: Map of the study area showing selected ecotourism sites

Source: Google Earth, 2018; Federal school of surveying Oyo, 2018

ii) Jos Wildlife Park (Plateau State)

This is arguably the most developed wildlife safari park in Nigeria. It is located 4 km east of Jos, on latitude $9^{0}52^{1}$ N and longitude $8^{0}53^{1}$E. Before 1939 it existed for the local people as a place of hunting and farming, and for religious worship (shrine). In 1939, a large portion of the land was made a forest reserved area called Rafin Bauna North Forest Reserve. It covers about 7.2Km square of land. The area was gazetted on the 1st of July 1972 by the Ministry of Natural Resources Wildlife Unit, after which the park was further developed into a safari and zoological garden with some animals kept in captivity and others kept in a semi-intensive manner. It was opened to the public on the 20th January 1977 (Ijeomah, 2007; Plateau State Tourism Board, 2017). The area has a pine paddock that was originally a research plantation which has been preserved as part of the ecosystem. Animals found in the park include pigmy, buffaloes, horses, birds, lions, chimpanzees, baboons, derby eland, python, crocodiles, jackals, leopards, martial eagle, kob, red river hog, elephants, ostriches, and a host of other animals and diverse vegetation that is appropriate for all animals and birds. Ecotourism activities possible in the park include hiking, mountaineering, photography, picnicking, animal viewing, relaxation and studying. Resident communities surrounding the park include Dong, Kabon, Tudun Wada and Federal low-cost housing estate (Ijeomah, 2012; Plateau State Tourism Board, 2017)

iii) Farin Ruwa Waterfall (Nassarawa State)

This waterfall is significant to the development of ecotourism in Nigeria (UNWTO, 2006). It is situated within the Marhai forest reserve, a place located between latitudes $09^{0}31^{1}$ and $09^{0}14^{1}$N and longitudes $08^{0}50^{1}$ and $08^{0}45^{1}$E. The forest has a landmass of 661.11km^{2}. It was gazetted in the 1960s. The waterfall was discovered in the 1950s by the colonial masters. It is situated in a surrounding of several mountains and hills at the border of Bokkos LGA in Plateau State, from where it derives its water. It enters into the Masenge community in an area known as Farin Ruwa Development Area, Wamba Local Government Area of Nassarawa State. The water falls from a height of about 150 meters with a width of about 50 metres. Owing to this height, the water looks whitish on the descent. Thus the local people named it ‘white – fari, water- ruwa’ in their Hausa language (Ijeomah & Okoli, 2016, Nassarawa State Ministry of Information, Culture and Tourism, 2017). Several ecotourism activities that are possible at this site include

mountaineering, fishing, relaxation, camping, photography, medical tourism cultural tours.

iv) Peperuwa Lake and Game Reserve (Nassarawa State)

Peperuwa Lake is a natural lake located in the North West of Assaikio, Lafia LGA, which is about 50km from Lafia along Tunganupawa Road. The lake surface is estimated to be over 7km in length and 3.8km wide. The Peperuwa Lake and Game Reserve is home to a lot of geese, fishes, and ducks among other water creatures. This lake is suitable for camping, speed boating, canoeing, sport fishing, photography and game viewing (Nigeria Galleria, 2017)

3.5. Data collection instrument

i) Quantitative data

The quantitative data were collected with the aid of an interview schedule. The questionnaire was divided into sections A, B, C, D, E, F and G. Section A requested information on selected socioeconomic characteristics of the respondents, that is age, sex, religion, marital status, level of education, job status, length of residency and monthly income. Section B is a two-point scale, it solicited information on residents' awareness of the principles and objectives of ecotourism. The scale was made up of fifteen items derived from literature (Triarchi & Karamanis, 2017; Healey, 2018). Section C was a three-point type scale, it solicited information on the benefits of the ecotourism sites to residents. The fifteen-item scale was based on conservation of natural resources, employment and infrastructure (Snyman, 2014; Miller, 2017). Section D was a three-point scale, it solicited information on constraints faced by the residents that can adversely impact their well-being. The scale of fifteen-items was based on the intermediate human needs profile suggested by Gough (2004).

Section E was a five-point Likert scale of residents' perceived influence of restriction on their well-being. It was used to measure thirty items which have their roots in five domains of human well-being (six items each) previously identified for the study. The domains and items were derived from literature on tourism, well-being and QoL (FFI 2011, 2015; Kim, 2002; Emptaz-collomb, 2009; Andrereck & Nyaunpane, 2011). The

domains include community well-being domain, which is made up of relationships in the community, feeling of belonging, security services in the community, support/help received from people in the community, size and access of market in the community, and condition of infrastructure in the community; health and safety well-being domain consisting of health treatment received when sick, quality of drinking water, food stuff available throughout the year, safety in the day, safety in the night and waste disposal method in the house; material well-being domain consisting of current occupation, income from current job, condition of house (mud or brick), economic future of current job, cost of basic necessity such as food and clothing, and size of farm land; educational well-being domain consisting of level of education, job skills acquired, performance at work based on education, education of spouse and children, opportunity for progress at work, and types of schools available in the surrounding; emotional well-being domain is made up of overall emotional condition, use of leisure time, participation in sporting activities, the way cultural activities take place in in the community, spiritual life and religious tolerance in the community. Sections F and G were the two scales used in combination (during analysis) to assess the residents' well-being status. Each consisted of the same thirty items as section D. They were used to measure how important the items were to residents' well-being' and how satisfied they were with the items, respectively.

Qualitative data

Qualitative data were collected to complement and validate the quantitative data. Two methods were utilized.

i) Direct non participatory observational method. This method allowed the researcher to remain a neutral visitor amongst the respondents in the study area. It is a method in observing residents' social activities without interfering (Williams, 2008). The method was of benefit in capturing accurate behavioural patterns of social interactions within the selected communities. The state of physical infrastructures, boundary encroachment, and the extent of deforestation was also observed.

ii) Key-informants interview (KII) method. This took place with each preselected participant after quantitative data had been collected in each community. Selected participants in their localities were interviewed by the researcher face-face and through an

interpreter where required, using an interview checklist (Appendix II, section H1). The selected informants provided their historical information on the research topic as well as answers to a list of open-ended questions relating to three main objectives of the study, that is to examine the rural residents' level of awareness of ecotourism principles, the level of benefits derived from ecotourism by rural residents and examine the constraints faced by the rural residents in relation to their well-being. A follow-up to this also took place after the quantitative data had been analysed and there was the need for more clarifications on the result. This was done through telephone conversations with managers of Jos Wildlife Park, Pandam Wildlife Park and government officials in both Plateau and Nassarawa states

3.6 Validation of the research instrument

Validation of the instrument of data was to ensure that it measures what it is designed to measure (Taherdoost, 2016). Two types of validation checks were carried out on the questionnaire, face validity and content validity. Face validity is a subjective judgement of the instrument by experts in the field of study, to assess its appearance in terms of clarity, reasonability, non-ambiguity and relevance of the items to the concepts under study (Oluwatayo, 2012). In this study, four staff of the National Institute of Hospitality and Tourism, Osogbo were given the instrument to peruse, their feedback was used for revising the instrument.

Content validity refers to the assessment of the instrument to ensure it covers the concept and the entirety of objectives that are being measured by the study in terms of depth and range (Andriotis, 2000; Oluwatayo, 2012). In this study, the instrument content validity was assessed by experts in sustainability studies and lecturers in rural development from the department of agricultural extension and rural development, faculty of agriculture, University of Ibadan. They were able to check that each item was relevant and fitted well into the content of the instrument. Both the quantitative (questionnaire) and the qualitative (question guide) instruments were subjected to face validity and content validity

3.7 Reliability of the research instrument

Reliability means the degree to which the results obtained from a study will be the same from one occasion to another using the same instrument (Andriotis, 2000). A reliability test is a technical measure of the internal consistency and dependability of an instrument. This study employed the Cronbach alpha measure as a test of reliability. Cronbach alpha measures internal consistency by calculating the degree of correlations between the items in the instrument (Oluwatayo, 2012). A pretest was carried out by administering 25 copies of the questionnaire to people in Aiisu, a rural community within a 2km distance of an ecotourism site, the Osun Osogbo Sacred Grove, Osun State. The data collected were subjected to analysis using a statistical package for the social science (SPSS) to obtain a Cronbach alpha reliability coefficient of 0.723 for all the scales combined. The following were the reliability coefficients for each section. Section B (awareness) 0.744; section C (benefit) 0.890; section D (constraint) 0.685; section E (domain importance) 0.726; section F (domain satisfaction) 0.872 and G (perceived influence of restriction on well-being) 0.884. The Crombach alpha for sections F and G combined, that is, the well-being status is 0.894

3.8 Administration of research instrument

Data collection took place within six weeks between October – November 2018. For the administration of the questionnaire, four different teams were used to cover the selected communities in the catchment areas of the four ecotourism sites. The number of persons constituting a team was based on the number of selected sample respondents in each community. To cover Kabon and Dong, communities with the highest number of selected respondents, three research assistants who were higher national diploma (HND) graduates were employed to work with the researcher. The team (of four people) effectively devoted four days to each of the two communities. However, the research needed only one assistant to administer the questionnaire in Tunganupawa. A day before setting out to the field in each ecotourism site, all research assistants employed were briefed. The Hausa-translated version of the closed-ended questionnaire was studied and the relevance of each scale and item to the entire study were briefly discussed. The Hausa questionnaire was not used to collect data from respondents rather it helped the team to interpret the items

anytime an explanation was requested by the respondents. Most questionnaires were filled by respondents and retrieved on the spot with minimal assistance and oral explanations of some of the items in other native languages. Others were retrieved afterwards. Fieldwork started at about 12.00 pm on each day to give room for working hours.

In-depth interview sessions were conducted by the researcher with the community heads or their representatives and with the youth leader or representative of each of the seven communities. The sessions were aided by a research assistant, who served as an interpreter where necessary. In-depth interview sessions were also held with park managers or their representatives. These sessions were conducted after the questionnaires had been administered in each community. However, in the bid to seek more explanations for some observations in the results, some participants that were engaged in the qualitative data collection process were contacted by telephone for further clarifications.

3.9 Measurement of variables

3.9.1 Dependent variables

The dependent variable for this study was the well-being status of the residents in the study area. The well-being was determined by the method suggested by Massam (2002); Costanza et al. (2007), and Andereck and Nyaunpane (2011), from which the scales were adapted with some modifications. That is, well-being status was taken as the interaction of two measures: relative importance or significance of a need, represented by the importance rating scale and need fulfilment or satisfaction, represented by the satisfaction rating scale.

The Importance Rating Scale (IRS) (Appendix II, Section E) consisted of five well-being domains with six items each (as itemised in section 3.5). With this scale, the respondents were asked to rate the level of importance of each of the items to them as individuals, as EI=Extremely Important, I=Important, N= Neutral, NI=Not Important or NAI=Not at all Important. Scores of 5, 4, 3, 2 and 1 were assigned, from the most important to the least important (Costanza, et al., 2007; Andereck & Nyaunpane, 2011). The Satisfaction Rating Scale (SRS) (Appendix II, Section F) was the level of satisfaction of the respondents with the same six items in each of the five domains of well-being, as used for the importance

scale. The respondents were asked to indicate whether they were VS=Very Satisfied, S=Satisfied, N=Neutral, DS=Dissatisfied or VDS=Very Dissatisfied with each of the item statements. Scores of 5, 4, 3, 2 and 1, respectively, were assigned for the statements (Andereck & Nyaunpane, 2011).

The data of the two scales were harmonised by standardizing them to produce standard scores (Frost, 2020). A mean of these scores is the composite index of the well-being of the respondents, that is, their well-being status.

Well-being status (WS) =$\sum$ (SR + IR),

SR= Satisfaction Rating

IR= Importance Rating

The mean value of WS was used to categorize the respondents into low and high well-being such that the respondents whose scores fell within and above the mean were categorized as high, while those whose scores fell below the mean were categorized as low well-being.

3. 9.2. Independent variables

3.9.2.1 Age: Each respondent was required to state his/her actual age in years.

3.9.2.2 Sex: The respondents were asked to indicate their sex groups either male or female. Nominal values of 1 and 2 were assigned, respectively, to Male and Female

3.9.2.3 Religion: The respondents were asked to indicate their religions from the options provided. Nominal values of 1, 2 and 3 were assigned, respectively, to Christianity, Islam and African Traditional Religion

3.9.2.4 Marital status: The respondents were asked to indicate their marital status. Nominal values of 1, 2, 3 and 4 were assigned, respectively, to single, married, divorced and others.

3.9.2.5 Level of education: The respondents were asked to state their levels of formal education attained. Nominal values of 0, 1, 2 3 and 4 were assigned, respectively, to no formal education, primary, secondary, tertiary/university education, and others.

3.9.2.6 Job status: The respondents were asked to indicate their job status. Nominal values of 0, 1, 2 3 and 4 were assigned, respectively, to unemployed, tourism-related, not-tourism related, retired and others.

3.9.2.7 Length of residency: The respondents were asked to indicate their length of stay as residents. Nominal values of 1, 2, 3, 4 and 5 were assigned, respectively, to less than one (1) year, 1-5 years, 6-10 years, 11-15 years, and above16 years.

3.9.2.8 Monthly income. The respondents were asked to indicate their monthly income in naira from a list of ranges of income.

3.9.2.9 Awareness of ecotourism: The respondents' level of awareness of ecotourism principles was assessed based on the respondents' indication of whether they were aware or not aware. Scores of 1 and 0 were assigned, respectively, for the choices. A mean score was obtained to categorise the respondents into having low (<mean) and high awareness (≥mean).

3.9.2.10 Benefits from ecotourism sites: The benefits to the residents due to ecotourism sites in the study area were assessed based on the respondents' choice on a 3-points scale of high benefit, moderate benefit, and no benefit. Scores of 2, 1 and 0 were assigned respectively for the options. A mean score was obtained to categorise the respondents into having low (<mean) and high benefit (≥ mean).

3.9.2.11 Constraints due to ecotourism site: The constraints faced by the rural residents in the study area were assessed based on respondents' indications on a 3-point scale of high, moderate and low. Scores of 2, 1 and 0 were assigned, respectively, for the options. Constraints with means equal to or above the grand mean were ranked high, while those below were ranked low.

3.9.2.12 Level of the perceived influence of restriction on well-being: This was assessed based on the respondents' indication of whether restrictions on access to ecotourism sites had a high positive influence (HPI), moderate positive influence (LPI), or neutral influence (NI), moderate negative influence (MNI) and high negative influence (HNI) on items particular well-being domains, that is material, education, health and safety, emotional, community. A mean score was obtained to categorize the respondents into having high/positive influence (≥ mean) and low/negative influence (<mean).

3.10 Data analyses

Quantitative data: Descriptive statistics, such as frequencies, percentages and mean were used to analyse the objectives while inferential statistics were deployed in the test of hypotheses.

The statistical package for social science (SPSS) tool was used for quantitative analysis. A Multiple Linear Regression was also employed in this research to model the contribution of the independent variables influencing the well-being status of the residents in the study area explained in Table 3.3.

The model is expressed as follows:

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \ldots \beta_n X_n + \varepsilon,$

Where Y= Well-being status

β_0 = Constant

$\beta_1, \beta_2 \ldots\ldots \beta_n$ =Regression Coefficient

$X_1, X_2 \ldots\ldots X_n$ = Explanatory variables

The hypothesized variables in the regression model include age, gender, marital status, education, employment, monthly income, benefits of ecotourism, constraint to well-being, awareness of ecotourism, and perceived influence of restriction.

The qualitative data were content analysed manually using a procedure suggested by Merriam (2009), Bengtsson (2016). The process includes

Transcription: The responses in the English language captured by voice recording were first carefully transcribed word for word, while the ones that had a mix of Hausa language were transcribed with the help of an interpreter. The data were re-read for a better understanding of the phrases and context. Both transcribed data and field notes were screened to enable easy identification of ‘meaning units’, that is, words that useful in the coding process (Bengtsson, 2016)

Table 3.3 Description of linear regression

Variable	Description	Measurement
Y	Well-being status	Well-being index
$\boldsymbol{\beta 0}$	Constant	
$\boldsymbol{\beta j}$	regression coefficient	j=1 … n
$\mathbf{X_1}$	Age of respondents	In years
$\mathbf{X_2}$	Gender of respondent	Male=1, Female=0
$\mathbf{X_3}$	Single	Yes=1; No=0
$\mathbf{X_4}$	Divorced	Yes=1; No=0
$\mathbf{X_5}$	Widow/widower	Yes=1; No=0
$\mathbf{X_6}$	Length of residency	Years of residency (five levels) (<1, 1-5, 6-10, 11-15, >16)
$\mathbf{X_7}$	Unemployed	Yes=1; No=0
$\mathbf{X_8}$	Tourism related job	Yes=1; No=0
$\mathbf{X_9}$	Non-tourism related job	Yes=1; No=0
$\mathbf{X_{10}}$	Retired	Yes=1; No=0
$\mathbf{X_{11}}$	Income	Estimated monthly income in Naira (five levels)(<5000,5100-20000, 20100-50000,50100-100000,>100100
$\mathbf{X_{12}}$	Education	Formal=1; Informal=0
$\mathbf{X_{13}}$	Benefit	Benefit Index
$\mathbf{X_{14}}$	Constrains	Constrains Index
$\mathbf{X_{15}}$	Awareness	Awareness Index
$\mathbf{X_{16}}$	Perceived influence of restriction	Yes=1; No=0

Source**:** Field work 2018

Open coding: Several codes were generated by identifying these 'meaning words' in phrases, sentences and paragraphs which suggested a linkage to the three objectives of the study for which qualitative data was focused.

Texts describing/related to awareness, knowledge, restrictions, protection, benefits, advantage, challenges, problems and use of sites were marked differently to form small categories. Open coding was done by two people independently to aid validity.

Axial coding**:** At this phase, the codes were linked together as much as possible to generate subcategories. Subcategories became lines of thought that are similar and speak to specific issues related to the objectives.

Selective coding**:** This involves merging the subcategories to form categories/themes that have a base in the data and provide an understanding of the main aim of the study, in this case, 'residents' perception of ecotourism and well-being.'

An overall summary of the themes arrived at, as well as KII responses for each ecotourism site was developed into tabular formats for ease of comprehension (Appendix III)

3.11 Test of hypotheses

The six hypotheses were tested with the following statistical tools

3.11.1 Hypothesis testing tools

1. Hypothesis 1 was tested using Pearson's Product Moment Coefficient (PPMC).
2. Hypothesis 2 was tested using Pearson's Product Moment Coefficient (PPMC).
3. Hypothesis 3 was tested using Pearson's Product Moment Coefficient (PPMC).
4. Hypothesis 4 was tested using Analysis of Variance (ANOVA)
5. Hypothesis 5 was tested using Analysis of Variance (ANOVA)
6. Hypothesis 6 was tested using Multiple Linear Regression.

3.11.2 Use of post hoc analysis

Post hoc analysis refers to the test conducted after the data has been seen, to further uncover significant information about the data (Hilton & Armstrong, 2006). The Duncan multiple range test was used as a post hoc test in the case where the ANOVA result

rejected the null hypothesis. This applied only to hypothesis five in this study. The purpose was to find out how the different ecotourism sites differed from one another in terms of the respondents' perceived influence of restriction on the well-being domains in the study area.

3.12 Ethical considerations

At the preliminary stages of this study, an introductory letter was issued by the Department of Sustainability Studies, University of Ibadan to both the Plateau State tourism board and Ministry of Information (Tourism Unit) Nassarawa State seeking for their consent and support for the research. The researcher was introduced to managers of the selected ecotourism sites and field officials in charge of tourism. The researcher was thereafter taken to selected communities to be introduced to community heads. The researcher sort and got verbal consent to participate in the research from community heads and other participant, after they had been informed of the good reputation of the institution from where the research emanated, the positive expectation of the research outcome and the confidentiality with which the data requested will be treated. They were also assured that their people and environment will not be misrepresented or exposed to harm. The study was conducted with these in mind.

CHAPTER FOUR

RESULTS AND DISCUSSION OF FINDINGS

4.0 Chapter overview

This chapter consists of the presentation, interpretation and discussion of both quantitative and qualitative data collected for the study.

4.1 Socioeconomic characteristics

Table 4.1a and 4.1b presents the distribution of the respondents who took part in the survey based on selected socioeconomic characteristics considered important for the study. These were age, gender, religion, marital status, level of education, job status, length of residency and monthly income.

4.1.1 Age distribution of the respondents.

The result in Table 4.1a shows that 4.0% of the respondents were more than 70 years and 37.7% were between 51-70 years of age. The respondents of age 50 years and below were 58.3%. The mean age was 47.96±13.71 years. Most of the respondents were middle-aged. This implies that their mental and physical capabilities would not have been compromised by age. They were still physically active. Their wealth of experiences and livelihood activities are important primarily to their personal well-being, the people within their households and the developments in their locality as a whole. As a result, they shouldered most of the household responsibilities. Previous studies have shown that the active age range of Nigerian rural farmers is between 30-50 years (Etuk & Odebode, 2016). The studies of Royo and Velazco (2005) and Chanfreau et al. (2013) shows that subjective well-being has a curvilinear relationship with age and people in their mid-age

Table 4.1a: Socio-economic characteristics of respondents (n=247)

Variable	Frequency	Percentage	Mean
Age(Years)			
<31	24	9.7	48.0±13.7 years
31-50	120	48.6	
51-70	93	37.7	
<70	10	4.0	
Gender			
Male	177	71.7	
Female	70	28.3	
Religion			
Christianity	189	76.5	
Islam	50	20.2	
Traditional	8	3.2	
Marital Status			
Single	27	10.9	
Married	186	75.3	
Divorced	10	4.1	
Widowed	24	9.7	

Source: Field survey, 2018

have the lowest subjective well-being. The study of Oni and Adepoju (2014) suggests that the well-being of rural Nigerians begins to decline at the age of 44years. This is likely the case if the resources at their disposal are outweighed by the responsibilities they are expected to meet up with at this stage of their lives (Dodge et al., 2012).

4.1.2 Gender distribution of the respondents.

The result in Table 4.1a revealed that 71.7% of the respondents were males, while 28.3% were females. This implies that both sexes contributed to household well-being but males were dominant in the sampled communities as heads of households. This is similar to the finding of Badiora and Abiola (2017), in rural South West Nigeria. However, studies have also shown that the percentage of women HH is worldwide due to shift in resources away from males as a result unemployment, migration due to economic reasons and separations (Etuk & Odebode, 2016). African societies usually ascribe the role of household heads to the male gender; perhaps they are considered to be stronger than their female counterparts and can contribute more to improving the well-being of their families. Gender is considered significant with respect to predicting well-being but with conflicting results as to which group's well-being is higher (Chanfreau et al., 2013). A study by Eurostat (2016) suggests that European women were found to be generally more satisfied and happier than their male counterparts. Considering the fact that males and females have different needs, roles and access to resources, especially in a developing country like Nigeria, their well-being perception may differ considerably.

4.1.3 Distribution of respondents by the religion

From Table 4.1a it would be observed that most of the respondents were Christians (76.5%), and the Muslims were 20.2%. The result also shows that only 3.2% professed to be followers of African Traditional Religion. The researcher's observation and key informant interviews with community leaders in the study area revealed that, like in most places in Nigeria, religion is important to their culture and there was no hindrance to accessing shrines located within the borders of the ecotourism sites. Religious activities form an intricate part of their daily lives. The adherents of African Traditional Religions held ecotourism sites in the highest regard because the sites preserved some of their places of worship inherited from their forbearers. This is a pointer to the fact that religion enhances their well-being as suggested by Lun and Bond (2013). However, the communities were segregated based on their religious beliefs. In all the seven communities visited for this study, Muslims hardly lived within Christian dominated-compounds. It was also observed that Muslims were dominant in Tunganupawa (near Peperuwa Lake) and Kayarda (near Pandem Wildlife Park).

4.1.4 Distribution of respondents by marital status

The survey result in Table 4.1a shows that 75.3% of the respondents were married. This may suggest that the majority of the respondents were mature and responsible adults. It also shows that marriage is an important cultural institution in all the communities under study. In addition, 10.9% of the respondents were single. Surprisingly, those who were single were male individuals living either alone or with their younger siblings, who considered themselves economically independent of their parents. Only 4.0% of the respondents were divorced, while 9.7% were widowed. Marriage is considered relevant to predicting well-being and is usually positively related to subjective well-being, especially among women (Chanfreau et al., 2013). A previous study by Ijeomah (2007), reported that early marriage is a culturally acceptable practice in Plateau State and that most males marry as early as age 19 in Pandam and Dong communities and between 15-18 years of age for their female counterparts. The companionship of this kind provides some sort of emotional stability. Besides, in Nigerian rural communities, children as products of such

union are useful for the support they provide during farming and other economic activities of the family. But, early marriage also a implies smaller number of years in formal school.

4.1.5 Distribution of respondents by the level of education

The survey result in Table 4.1b shows that 17.4% of the respondents had not had any form of formal education, while 44.1% had primary, 25.9% had secondary and 12.4% had some form of education beyond the secondary level. Although the result revealed that 82.4% of the respondents in the research area had formal education, indicating a high literacy level and access to information that could improve their lives, only 38.5% had education beyond the primary school level. This is similar to the report by Ijeomah and Emodi (2012) on the low education of inhabitants of communities bordering ecotourism sites in Plateau State. Based on the THN (Gough, 2004), basic and cross-cultural education are intermediate need requirements for taking appropriate decisions by individuals, in their quest to enhance their well-being. Therefore, this low level of education is a pointer to low well-being, owing to fact that higher educational qualifications have been found to influence well-being positively (Emptaz-Collomb, 2009; Chanfreau et al, 2013).

4.1.6 Distribution of the respondents based on job status.

The emphasis on the job status captured by this survey was on job relatedness to tourism. The result in Table 4.1b showes that 15.8% of the respondents had jobs that were tourism-related, such as local food vendors, transportation (mostly motorcyclists and tricyclists), and those employed as staff with the ecotourism sites around them as labourers, catering staff, tour guides, forest managers and guards. These groups of people are expected to view initiatives that will enhance ecotourism as having a positive influence on their well-being because it is a source of employment for them. Most (58.3%) of the respondents were engaged in jobs not directly related to tourism, such as farming, fishing, trading and some artistry. This supports the result of Ijeomah and Emodi (2012), showing that most people adjoining ecotourism sites in Plateau State are farmers.

Table 4.1b: Socio-economic characteristics of respondents (n=247

Variable	Frequency	Percentage
Education		
	43	17.4
No formal Education		
Primary	109	44.1
Secondary Education	64	25.9
Tertiary	31	12.4
Job Status		
Unemployed	41	16.6
Tourism-related	39	15.8
Non-tourism-related	144	58.3
Retired	23	9.3
Length of residency		
<1year	12	4.9
1-5years	39	15.8
6-10years	49	19.8
11-15years	40	16.2
>16years	107	43.3
Monthly Income (₦)		
<5000	54	21.9
5100-20000	92	37.2
20100-50000	79	32
50100-100000	18	7.3
>100000	4	1.6

Source: Field work, 2018

Even though job relatedness to tourism tends to influence the perception of rural residents in their assessment of the benefits of tourism to their lives, it is having a stable job of any kind, on its own, that generates positive well-being distinctively different from being unemployed (Chanfreau et al., 2013; Eurostat, 2016). To have a job to do generates a sense of purpose and a feeling of worthiness; this is more important to subjective well-being than the income derived. Non-hazardous employment is a requirement for un-harmful social participation and enhancing well-being (Gough, 2004).

Table 4.1b reveals that 16.6% of the respondents were unemployed. Previous studies have shown that, for people near ecotourism sites, unemployment generates a negative effect on the well-being of the unemployed (Emptaz-Collomb, 2009). Personal communications with some of those in this category revealed that they put the blame on the government for not employing them on the sites. They lived by relying on wages received when they were hired as labourers for farming activities, building and construction or other menial jobs. Additional findings revealed that some of them might be involved in mining activities, as was the case for residents in Dong and Kabong communities around Jos Wildlife Park. Park officials confirmed that unauthorised miners were frequently chased out of the park premises

4.1.7 Distribution of the respondents' length of residency.

The respondents' length of stay in a community will determine their experiences and emotional attachment to it. This causes a difference in their perception of tourism. People that have stayed long may see tourism as a source of growth and development for their community, especially in rural areas (Tijani, 2005a). Their experiences with tourism development in their locality over the period of stay may determine their evaluation (Neth, 2008). This study shows in Table 4.1b that 43.3% of the respondents had lived in the community for over 16 years while those that had lived between 11-15 years were 16.2%. The people that had lived in the community for 6-10 years accounted for 19.8%. Also, those that had lived for 1-5years were 15.8%, while those that had lived for less than 1 year were 4.9%. The people that had lived longer were more likely to have had a greater number of both positive and negative experiences that would shape their opinions about their well-being. An in-depth interview with the community head of Kabong (Jos Wild Park) revealed that there were cases of residents moving out to live outside the community due to a widely reported attack of armed bandits on the community who purportedly hid within the park boundaries. The sense of personal insecurity impedes well-being of individuals (Gough, 2004). Such experiences are also evaluated by the residents to determine their perception of the ecotourism sites and their well-being.

4.1.8 Distribution of the respondents based on monthly income

Income represents an important predictor of well-being because of the influence money has as a commander of goods and services, particularly so in poverty-laden environments, like Nigeria (Oni and Adepoju, 2014). Income dictates lifestyle and generates a sense of achievement. The distribution of household income, captured in Table 4.1b, shows that 21.9% of the respondents earned less than ₦5000. It further shows that 37.2% of the respondent earned between ₦5,100 - ₦20,000, 32% of respondents earn between ₦20,100 – ₦50,000 per month, 7.3% earned between ₦50,100-₦100,000, while 1.6% earned ₦100,100 monthly.

The results show that more than half of the respondents (59.1%) earned monthly income below ₦20,000. It implies that majority earned just a little above Nigeria's minimum

wage of ₦18,000, which was the prevailing rate at the period of data collection. This corroborates the finding of Biodora (2017) in South West Nigeria, which shows that the majority of rural residents live below the poverty line. With such low income, the people might not be able to afford good diets or clothing for their households. Their children were also restricted to schools and medicare provided by the often-ill-equipped local government health facilities. Low income is negatively related to subjective well-being (Chanfreau et al., 2013).

4.1.9 Socio-demographic profile of interviewees

Table 4.1c presents the distribution of the eighteen interviewees with which KII were done to supplement the quantitative data analysis based on selected socio-demographic characteristics. These were gender, age, education, occupation and length of residency. The three categories of respondents were four government officials which include two park managers and two tourism officers; seven community leaders and seven youth leaders. All interviewees were males, above the age of 29 and were residents of the selected communities except three government officials who were non-residents. Each respondent would be identified by the codes 1-18 on the table.

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Table 4.1c: Socio demographic profile of interviewees

Ecotourism site	Community	Code	Gender	Age	Edu	Occupation	Position	Years of residency
Jos Wildlife Park		1	Male	51	Tertiary	Civil servant	Park manger	Non resident
	Kabong	2	Male	>70	Non	Farmer	Community head	>16
		3	Male	38	Tertiary	Teacher	Youth leader	>16
	Dong	4	Male	67	Tertiary	Retiree	Community head	>16
		5	Male	53	Primary	Carpenter	Youth leader	>16
Pandam Wildlife Park		6	Male	36	Tertiary	Civil servant	Ass Park manager	Non resident
	Pandam	7	Male	40	Secondary	Farmer	Community leader	>16
		8	Male	35	Primary	Farmer	Youth leader	>16
	Karyarda	9	Male	56	Non	Farmer	Community leader	>16
		10	Male	41	Primary	Fisherman	Youth leader	>16
FarinRuwa Waterfall		11	Male	38	Tertiary	Civil servant	Tourism officer	Non resident
	Marhai	12	Male	56	Primary	Farmer	Community leader	>16
		13	Male	39	Primary	Farmer	Youth leader	>16
	Masange	14	Male	65	Secondary	Retiree	Community leader	8
		15	Male	29	Secondary	Farmer	Youth leader	>16
Peperuwa lake		16	Male	57	Tertiary	Civil servant	Tourism officer	Non resident
	Tunganupawa	17	Male	>70	Non	Fisherman	Comm unity leader	>16
		18	Male	46	Primary	Fisherman	Youth leader	>16

Source: Field work, 2018

4.2 Awareness of ecotourism

Four major objectives based on principles of ecotourism informed the items of awareness, that is, minimizing the impact through preservation/conservation, education, empowerment through income, and human rights through participation in management.

Table 4.2 shows that 93.3% of the respondents indicated that they were aware that the killing of game and felling of trees on the site were highly regulated. This was closely followed by their awareness that farming and overgrazing activities were also curtailed within the sites (86.2%). Also, 83.8% were aware that buildings and constructions must be eco-friendly and controlled. In addition to this, 80.2% of the respondents had knowledge of the usefulness of the sites for ecotourism activities, such as sightseeing, studying and photography of the environment.

In the KII the respondents were asked the question 'What is your opinion with respect to the reasons for the protection of the sites? Respondents corroborated the survey findings, that the sites were set up primarily to protect the natural resources from exploitative use of residents, specifically to prevent the felling of trees (logging), killing of animals for food (hunting), farming and building of shelters within the designated areas. The people were free to do these things outside of the boundaries. They were also aware that game viewing, research and relaxation are also part of the objectives for protecting the sites. However, their responses suggest that they view tourism as a secondary motive for restriction and of less importance relative to the conservation of forest resources. One respondent said

> The main thing is to prevent people from cutting trees and clearing the place for farming, the animals will be killed if there's no bush for them to hide, it will not be a forest reserve if there is no forest and animals. It is important to do that before we concentrate on tourism. They (residents) cannot do anything to the Waterfall (**KII, Male, 38, Tourism officer (11), Lafia, 2018**)

Table 4.2: Distribution of the respondents' awareness of ecotourism

S/N	Awareness of ecotourism	Not aware	Aware
1	Killing of game and felling of trees on the site are highly regulated	14(5.7)	233(93.3)
2	Buildings and constructions must be eco-friendly and controlled	40(16.2)	207(83.8)
3	Farming and overgrazing are curtailed within the site	34(13.8)	213(86.2)
4	Fishing activities are regulated	54(21.9)	193(78.1)
5	People are allowed only to see, study and photograph the animals	49(19.8)	198(80.2)
6	Visitors interact with chiefs and local people for cultural appreciation and exchange	81(32.8)	166(67.2)
7	Local people interact with site management and visitors to learn sustainable agricultural practices	117(47.4)	130(52.6)
8	Conservation techniques are taught to local people	159(64.2)	88(35.6)
9.	The visitors can buy things from local people and make financial donations for local development	75(30.4)	172(69.6)
10.	Local people get employed to work on the site	76(30.8)	171(69.2)
11.	Local people produce handcrafts and foods to sell to visitors	59(23.9)	188(76.1)
12.	The site can help bring health services, schools, roads, and electricity to the community	102(41.3)	145(58.7)
13	Local people form part of the decision-makers of the sites	155(62.8)	92(37.2)
14	Local people are supported to start their own business	187(75.7)	60(24.3)
15	Local people are expected to own and manage the site for the benefit of their future generations	115(46.6)	132(53.4)

Source: Field survey, 2018

That key informant's response suggests that the respondents were aware of preservation and sustainable use of natural resources as underlying principles and important reasons for the restriction of residents from ecotourism sites.

The result on Table 4.2 further shows that the respondents were aware that visitors could buy things from local people and make financial donations for local development (69.9%), as well as produce handicrafts and foods to sell to visitors (76.1%). This is an indication that the respondents were knowledgeable of the potentialities of the sites to improve their lives economically. The majority were also aware that ecotourism could help them live better through direct employment on these sites (69.2%) and through the provision of infrastructure, like health services, schools, roads and electricity, to their communities, as indicated by 58.7% of the respondents. However, 75.7% of the respondents were not aware that local people can be supported to start their own businesses.

KII with the seven community heads revealed that no one among their residents had ever been supported to do business by the site management as far as they could remember. In this respect the site managers and government officials claimed they had no idea that the management of the sites had any responsibility to assist the residents to obtain loans. One manager said:

> Is it the responsibility of the board to look for loans for the people? Can we even do that? Even this place is looking for money to take care of animals. There will be plenty of trouble if we begin to talk about money with people in the communities. In fact, I myself need the loan…and you know you cannot get them loan from these commercial banks, the interest is too much. What they need is to use their cooperative, which I think some of them are doing already, to get all these Federal Government assistance (**KII, Male, 51, Park Manager (1), Jos, 2018**).

The survey also shows that the respondents' awareness of the education objective of the ecotourism sites near them was lower than for its preservation. Few respondents (35.6%) were aware that conservation techniques are taught to the local people. Only about half of the respondents indicated that they were aware that local people are expected to partly own and manage the sites for the benefit of their future generations (53.4%) and that local people interact with site management and visitors to learn sustainable agricultural

practices (52.6%). This implies that the local people had very little or nothing to do with the running of the park. When asked 'How is your community involved in the management of the sites? Key informants in communities around Jos and Pandam Wildlife Parks revealed the existence of a stakeholders' forum, where conservation issues were often discussed, as agreed to by four out of the seven community leaders (respondents 2,4,7,9). However, they do not meet regularly, in fact such meetings occur only when serious issues of encroachment and illegal activities have taken place by suspected residents. The information available to residents about what is happening within the sites is limited to such meetings, sometimes far-reaching decisions are taken on security issues. Referring to such meetings the community leader of Pandam said

> We are called to be briefed on the happenings in the site only when there is a problem. Maybe someone was caught fishing at wrong time, or cutting down trees. They also meet with the resident when the fishing season begins. Not meeting with us often is causing a lot problem. In the recent past the government allowed one company to come here and they started cutting down some trees inside the park, they did not inform us about it. This caused a lot of problems because they don't allow our people to cut trees. (**KII, Male, 40, Community leader (7), Pandam, 2018**)

Residents are not involved with the day-to-day running of the sites; in their opinion, the managers of the sites do not see the need to carry them along in the running of the sites on daily basis. They have for a long time been alienated from serious decision-making and contributing to the management of the land that belongs to them.

The kind of interactions that exist between the community and the managers of the sites can be described as being infrequent. KII with one of the youth leaders affirmed that the last input in the running of the park through a stakeholder meeting was over ten years back. In the words of the youth leader

> The site is being managed by the State government and they don't do any meetings with us. It was not like that in the past, but the last meeting that I can think of should be over ten years ago, in fact we don't know what is happening now, in the past ten years we have not heard anything from the managers of the place **(KII, Male, 53, Youth leader (5), Dong, 2018**).

Also, Table 4.2 shows that 62.8% of respondents were not aware that local people take part in decision-making in respect of the management of the ecotourism sites. It also denies the management the insights and knowledge of the local people in the sustainable administration of the sites. This according to Tang et al. (2012) puts the environmental sustainability of the sites at risk, the reason being that local people often react by abandoning their roles as custodians of the sites as a result of lack of involvement.

4.2.1 Level of awareness of ecotourism

From Table 4.3, it would be observed that the respondents' level of awareness of important ecotourism principles and objectives was high (56.3%). This implies that more than half of the respondents were quite informed about the purposes for setting up the sites for ecotourism, as well as the rules and regulations including some reasons for restricting access to natural resources within the sites. It is however at variance with a previous finding by Ojong et al. (2013) which shows that level of awareness of ecotourism was neutral for residents the near Cross River-National Park (Cross River National Park and Okwangwo divisions). A high level of awareness of ecotourism principles amongst residents is critical for environmental sustainability because awareness of residents near ecotourism sites is connected to their adherence to ecotourism principles (Acquah et al., 2017). A higher awareness of ecotourism level was reported in a similar study by Adetola (2017) amongst residents in the Oban and Okwangwo divisions of Cross River National Park, which shows that awareness of ecotourism was as high as 68%. The level of awareness in the study area could be higher if residents have a better understanding of tourism. KII with community leaders suggest that poor comprehension of ecotourism still exist among the residents. A community head said:

> Many of our people cannot know what tourism is because they are young in the community. There was a time when the governor of the state used to bring here his friends including Whites to this place. They will bring their boats from Lafia and spend many hours on this lake with their female counterparts., this was about 10years ago during the time of Adamu. That man was interested in developing our community because of those activities (**KII, Male, >70, Community leader (17), Tunganupawa, 2018**).

Table 4.3: Level of the respondents' awareness of ecotourism

Awareness	Frequency	%	Mean	SD	Min	Max
Low	108	43.7	9.7	2.9	4	15
High	139	56.3				

Source: Field survey, 2018

The response by the community leader suggests poor visitor patronage of Peperuwa Lake as a reason for low awareness. In addition, the response to the level of awareness of ecotourism by a youth leader corroborated a lack of comprehension of the reasons for restriction and ecotourism principles, it also indicates a resentment of the ideas behind it. In his words:

> We know that we should not farm, kill animals and cut down trees inside the park but conservation and tourism are not good reasons for restriction, it is confusing us because our people need to meet their needs first, how are we going to do so if everything to make our lives better has been taken from us by the government (**KII, Male, 38, Youth leader (3), Kabong, 2018**).

When residents don't have full comprehension of ecotourism and restriction it implies that residents would not fully internalize the possibility of deriving high benefits from ecotourism initiatives that can improve their well-being. The result further shows that meeting their daily needs take priority over any other endeavour in support of ecotourism. It is noteworthy, that, in spite of residents' knowledge of rules guiding the indiscriminate exploitation of both flora and fauna, illegal logging, restriction of farming, overgrazing and erecting of buildings within the ecotourism sites, either or a combination of poaching, illegal fishing activities and illegal felling of trees were reported by the managers of two sites and one tourist officer in charge of three out of the four sites visited. This was also confirmed by the community heads of Pandam and Kayarda. Stumps of illegally felled trees were also observed by the researcher in Pandam Wildlife Park (Plate 4.1)

Plate 4.1: Stump of illegally felled tree within Pandam Wildlife Park

Source: Field work, 2018

4.2.2 Level of restriction to ecotourism sites

The level of access to natural resources in ecotourism sites impacts the well-being of the surrounding residents. The KII revealed the respondents' views on the level of restriction to ecotourism sites being experienced by the residents when asked to describe how the site near them was being managed.

The level of restriction perceived by residents was described by respondents in terms of the quality of personnel engaged in the sites to prevent illegal access to resources within the sites. And also, in terms of what happened to anyone who was caught in violation of such rules with respect to illegal hunting, farming or fishing. The respondents' views differed according to the sites near them (see Appendix III for site-based summaries). The views could be grouped into three as being very strict, strict and not strict. Below is an extract from the interview with one of the respondents whose perception of restriction was regarded as very strict. He said:

> Plateau state government is in charge of this park, we apply very strict rules here, we have rangers that make sure people do not enter the park the way they want and they take permission before they do anything inside here. Anyone caught will be taken to the police and jailed if they go to the court… normally it may not reach that level if the community people intervene. The fishermen are given licenses to do fishing, they get permission from us, very soon the fishing season will start and people will be allowed in to fish…new people can also fish. Even to fetch fire wood is once a year and unless they take permission. You see, if we don't do this, this place will be gone very soon, poverty is much, anything here that can give them money will be attacked (**KII, Male, 36, Ass. park manager (6), Pandam, 2018**)

Thus, very strict restriction implies there are requirements for some form of authorization by site managers for the residents' access to water, firewood and medicinal plants due to the need to maintain a high level of biodiversity. It also implies that livelihood activities including farming, hunting, animal husbandry and so on must be done completely outside the protected site. Access to cultural sites was also regulated. In addition, guards were engaged as game rangers by the government to prevent unauthorized access of residents to the sites and apprehend culprits. Such people were often handed over to the police for

prosecution. Depending on the severity of the damage, culprits could be pardoned, fined or jailed. Jos Wildlife Park and Padam Wildlife Park fall into this category. In the Pandam community access to the forest for firewood is granted only once a year. Fishing licenses are given to residents who are allowed to catch a certain weight of fish per day during the fishing season.

Strict restriction implies that residents have access to water, firewood and medicinal plants without requiring authorization from the managers. Although farming, hunting and animal husbandry must be done completely outside the protected site, there is free access to cultural sites. In addition, guards were engaged by the government to prevent unauthorized access but the interviewees' responses suggest the guards were not very visible. Culprits caught in violation of rules such as illegal hunting and tree felling were usually reprimanded at the community level. FarinRuwa Waterfall and its surrounding forest fall into this category. One community head had this to say:

> There are many guards who look after the forest. It is the government that gives them salary. We always warn our people about the consequences of cutting down trees and farming in the area. We deal with people that disobey the government but my people can fetch firewood wood there. Cultural festivals also take place within the forest, nobody stops us. (**KII, Male, 65, Community head (14), Masange, 2018**)

The no-strict restriction implies there is access to water for household activities and medicinal plants in the forest. Guards were not employed in any official capacity to prevent unauthorized access; this responsibility was with the local traditional leader and assistants. Culprits were merely warned or disgraced in the locality and warned by the community leader to desist from such activities if it infringes on the values of the community. Peperuwa lake and the surrounding forest fall in this category. The lake is yet to be gazzeted by the Nassarawa State government and no restriction is formally being enforced in the community. Nevertheless, community leaders issue guidelines to regulate fishing activities. According to the community leader of Tunganupawa

> I'm the one taking care of this place with the help of my children and other elders in the community. Local government officials use to come to meet us, to advise us on how to maintain the lake and we give them some money too. We have our traditional ways that we use to keep the lake so we can

have fish all year round, fishing is what we do here (**KII, Male, >70, Community leader (17), Tunganupawa, 2018**).

4.3 Benefits of ecotourism

The benefits of ecotourism are germane to the measurement of the satisfaction it impacts on individual lives within tourism environments. Benefits have been found to be a moderator of the effect of employment and demographic variables on the well-being of individuals in tourism environments (Andereck & Nyaupane, 2011). The result presented here is premised on three major benefits of the ecotourism sites critical to the well-being of the rural populace, which are conservation, employment and infrastructure. Table 4.4 reveals that preservation of forest is the most important benefit of the ecotourism sites; this was subscribed to by 83.0% of the respondents. This shows the dependence on the resources within the sites for their survival. This is possible due to conservation being seen by rural people in developing countries as a way of storing up the available natural resources for the future use of their children (Miler 2017). Such conservation also impacts positive psychological benefits on the well-being of local people as long as they are not relocated from their lands (Scheyvens, 1999). This is an example of how ecotourism sites contribute to sustaining the physical environment (Reddy and Thompson (2015).

Interaction with people from other cultures ($\bar{x} = 0.79$) is important to improving well-being as indicated by 65.2% of the respondents. When tourists visit ecotourism sites, it brings the community residents in contact with other cultures thereby giving them a sense that their lives, cultures and environment is special and acceptable. This broadens their social horizon and helps them to accept positive social changes. Even though visitors are not as frequent to the more remote locations such as the Farin Ruwa waterfall, such visitations create unforgettable memories in the mind of the local residents. A little more than half (55.1%) of the respondents claim that they had benefited through improved conservation knowledge of the environment ($\bar{x} = 0.67$). This assertion is important given that a very high level of conservation knowledge amongst residents is necessary to safe guard resources within ecotourism sites.

Table 4.4: Distribution of the respondents' benefits from ecotourism sites

S/N	Benefits of ecotourism	Not at All	Moderate	Extreme	Mean
1.	Gainful employment for you/wife/husband	146(59.1	88(35.6)	13(5.3)	0.46
2.	Increase livelihood diversification	101(40.9)	121(49.0)	25(10.1)	0.68
3	Increase in your income	119(48.2)	100(40.5)	28(11.3)	0.66
4	Access to a bigger market to buy and sell product	124(50.2)	106(42.9)	17(6.9)	0.57
5	The education of your family by providing schools close by	82(33.2)	128(55.9)	27(10.9)	0.78
6	Improved method of farming/fishing	161(65.2)	78(31.6)	8(3.2)	0.38
7	The provision of health services for your family members	91(36.9)	133(53.8)	23(9.3)	0.73
8	Making good drinking water available to your family	110(44.5)	126(51.0)	11(4.5)	0.60
9	Making the community safer in the day and night	141(57.1)	89(36.0)	17(6.9)	0.50
10	Meeting visitors and making new friends	95(38.5)	120(48.6)	32(13.0)	0.75
11	Increased interaction with visitors and understanding of other cultures	86(34.8)	126(51.0)	35(14.2)	0.79
12	Leadership experience working with site management	187(75.7)	41(16.6)	19(7.7)	0.35
13	Improved conservation knowledge	111(44.9)	108(43.7)	28(11.3)	0.67
14	Increase in the rent you get from your house	177(71.9)	43(17.4)	27(10.9)	0.39
15	Preservation of forest resources	42(17.0)	167(67.6)	38(15.4)	0.98

Source: Field survey, 2018

However, to achieve high environmental sustainability in the study area, a higher level of conservation knowledge will be expected. Low conservation education has been linked to low level of education and low interaction with site management (Waylen et al., 2009).

The result on Table 4.4 further shows that 75.7% of the respondents claimed that they never had leadership experience working with the management and 65.2% never benefited from an improved method of farming/fishing. It also shows that over half of the respondents (59.1%), claim that the ecotourism sites never benefited them in terms of gainful employment for them and their families, but, approximately half (51.8%) of them benefit from increased income as a result of the sites. Majority (59.1%) were of the view that the sites provided them with a level of livelihood diversification opportunity. This implies that many respondents' households directly consume whatever they get from the sites, such as fish, game animals and firewood rather than selling them to generate income

In terms of income, KII results showed a disparity among community leaders splitting them into two groups based on whether the sites near them provided income through fishing opportunities. The community leaders near sites where fishing opportunities exist were of the opinion that the sites directly increased their income. They include community leaders of Pandam, Kayarda and Tunganupwa. An extract from the interview with one of them reads

> The fishing season is a good time for our people to make money, I also enjoy more from the site between October and April when our people have access to the lake for fishing (**KII, Male 56, Community leader (9), Kayarda, 2018**)

KII results with community leaders within catchment areas of sites that do not provide residents with fishing opportunities in respect of direct income from the sites are typified by the comments of the community head of Marhai, near Farinruwa Waterfall. He said

> We are not getting anything financially from the site. No money is giving to anybody. No one is making any money from here, even the government because they have not developed the place so people can come here. People are not coming. The road is very bad and there's the fear of herdsmen. Some people are farming within the site, maybe they're the ones making money. Me I have palm trees and farms that is enough for me (**KII, Male, 56, Community leader (12), Marhai, 2018)**

The survey result on Table 4.4 also suggests that the respondents benefited from the ecotourism site in terms of social infrastructure, that is, the education of their family members through the provision of schools close by (66.8%), health services for family (63.1%) and good drinking water for family (55.5%). An example of educational facility which respondents claim is a benefit from the ecotourism site is the primary school in Masenge (near Farin Ruwa Waterfall) which was observed to be in desperate need of repair, a consequence of the lack of maintenance of a structure said to have been built ten years back (Plate 4.2). KII with the community heads in Masange and Marhai revealed that the management of these sites did not provide social amenities to the neighbouring communities. They claimed that amenities were provided several years back by the state government as a result of the public attention the ecotourism site brought to their communities. A respondent said:

> What you see here (school) today was provided by the government of governor Adamu more than ten years ago, since then nothing is happening…the road is not motorable, the bridge is a problem, only motor cycles can come here. It is even better now that the rain is stopping You can see that the electricity project is unfinished. The Waterfall has not brought any meaningful benefit directly in the past several years. If the state government remember us again, we'll be happy (**KII, Male, 65, Community leader (14) Masange, 2018**)

This tallies with the report of Ijeomah and Eniang (2018) with respect to poor infrastructure in communities near Farin Ruwa Waterfall.

Plate 4.2 Secondary school building in Mesenge, Nassarawa State

Source: Authors field work, 2018

. 4.3.1 Level of benefits derived from ecotourism

As could be observed from Table 4.5, more than half (51.4%) of the respondents had experienced overall low benefits from the ecotourism sites near them. This implies that the benefit of conservation was moderated by the lower benefits derived from the sites in-terms of income (also reported by Kibria et al., 2021), infrastructure and participation. Specifically, the lack of gainful employment of the respondents, their wives and children had a negative influence over all other benefits that they derived from the sites. This is in addition to the respondents not being involved in decision-making, as revealed by their lack of leadership experience. The implication of low benefits is critical to the well-being of the respondents; it means a shortfall in their potential physical, social and psychological resource pool necessary to enhance their lives. Gainful employment, according to Snyman (2014), is very important to the welfare of rural people situated in and around ecotourism sites in African countries.

KII with key community representatives in Dong and Kabong (near Jos Wildlife Park) revealed that employment opportunities for the residents were reduced from what it was in the mid-1980s when over 10 persons each of their community residents were employed on a permanent basis in the park, to as low as 4 persons form both Kabong and Dong combined now engaged on casual bases. The community head of Dong referring to the Jos Wildlife Park said:

> The park is no longer having a lot of staff like before, I myself I'm retired from that place. At least ten people from this locality used to work there, but I don't think they are up to four from this community now and they're even casuals. They don't have workers again like before unless security people, I mean rangers that prevent people from cutting down trees, hunting and mining (**KII, Male, 67, Community head (4), Dong, 2018**).

Table 4.5: Level of the respondents' benefits from ecotourism

Benefits	Frequency	%	Mean	SD	Min	Max
Low	127	51.4	9.5	5.7	0	30
High	120	48.6				

Source: Field survey, 2018

The park manager of Jos Wildlife Park (himself not a resident of Dong or Kabong) was of the opinion that the fauna population has substantially reduced from what it was several decades ago and so has staff strength. He said:

> … many old animals have died without being replaced; visitors have reduced drastically from what it was in the '90s. Our staff too have reduced due to retirement, we have been hiring casual workers to do many things pending the time full time staff will be employed by government especially in the area of security (**KII, Male, 51, Site manager (1), Jos, 2018**)

With regard to other benefits, although the respondents attested to the fact that the government provided roads, water and schools sometime in the distant past, these infrastructures were lacking maintenance and were insufficient to meet the needs of the residents. Giving a specific example the community leader of Dong talking about water supply said:

> Not everyone has a well or borehole in their house from which they can fetch water for domestic activities. We have two boreholes provided by government which are supposed to be supplying the community with clean water, but as at today only one is functional, that is why you're seeing the little queue for water (**KII, Male, >70, Community leader (2) Dong, 2018**)

A tourism officer at the Tourism unit, Nassarawa State Ministry of Information, Culture and Tourism is of the view that the most important benefit to the residents around Farinruwa Waterfall is government attention and expectations that the site will be developed as an ecotourism hub by the federal government. He said:

'...residents enjoy little government attention and interest from the government, we're waiting for development by the federal government' (**KII, Male, 57, Tourism officer (16), Lafia, 2018**)

Insufficient benefits from ecotourism to local rural residents have been reported as a major challenge to its sustainable development in Nigeria (Tijani, 2005b; Ijeomah and Enang, 2018).

The KII also requested that respondents suggest how they thought the residents could benefit more from the ecotourism sites near them. The community leaders in Marhai and Masange were of the view that the community had the capacity to manage the site

sustainably, they argued that their forefathers who were in custody of the forests were able to manage them before the government took it over. One of them said:

This place belongs to our forefathers and indirectly to us, the least government can do is to allow our people be part of the people managing the site. This will give us sense of ownership (**KII, Male 56, Community leader (12), Marhai, 2108**)

Youth leaders of Dong, Kabong, Kayarda and Pandam also expressed similar views that residents would benefit more from the sites if they were allowed to be part of the day-to-day running of the sites.

4.4 Constraints of the respondents

Constraints here refer to challenges that may affect the balance of well-being depending on how much impact they have on the physical, physiological or social resources available to an individual (Dodge et al., 2012). A variety of external and internal challenges can weigh heavily on the Homeostatically Protective Mood (HPM) responsible for responses on well-being when answers are requested using satisfaction as a measure. Challenges too high, such as lack and deprivation, may be beyond the control of HPM in the short term, resulting in low SWB (Cummins, 2013). The results in Table 4.6 shows that all the listed constraints existed in the study area. Constraints with means equal to or above the grand mean ($\bar{x} = 0.09$) were ranked high, while those below it were ranked low. The majority of the respondents identified restrictions on hunting within the sites as the most critical ($\bar{x} = 1.58$). Adequate nutritious food was identified by the theory of human need (THN) as being critical to maintaining well-being (Gough, 2003). The absence of which can cause serious physiological harm. Rural people are known for their appetite for eating games called 'bush meat', for their taste and nutritional value. In the absence of domestic animals, bush meat supplements the rural diet with animal protein. Hunting itself is a favourite pastime of many men in rural communities. This deprivation may therefore affect their perception of well-being negatively.

The respondents also considered the lack of loans for farming a high constraint ($\bar{x} = 1.55$). These rural residents are largely farmers who desire inputs to improve productively; this can be greatly enhanced with loans to acquire them. They become

dejected when such loans are not forthcoming year after year. This could affect their food adequacy and economic security (Gough, 2003), which concerns all aspects of their well-being. Etuk and Odebode (2016) reported lack of credit as a hindrance to the well-being of rural farmers in the Niger Delta region of Nigeria. In addition, the respondents were constrained by poor drinking water ($\bar{x} = 1.02$) and poor health (mean=1.19). Health was considered a primary need, without which well-being is considerably affected (Gough, 2003).

Critical infrastructures such as poor telephone network ($\bar{x} = 1.22$) and lack of good roads to the markets ($\bar{x} = 1.38$) were also considered important constraints. A study by Sapkota (2018) in Nepal shows that the perceived impact of road and to a lesser extent water infrastructure had a greater impact on human well-being in remote locations than in less remote areas. Road infrastructure in rural tourism locations has multiple developmental impacts on the well-being of the local populace. It enhances tourists access to ecotourism sites and helps the local people to have access to markets thereby enhancing commercial activities. The researcher noted the particularly unmotorable road leading to the Farinruwa Waterfall.

Losses of cultural artefacts ($\bar{x} = 0.41$), inadequate places of worship, for example, churches/ mosques ($\bar{x} = 0.41$), and dangers posed by wild animals were not considered major problems by the respondents. They did not consider too many visitors coming into the community ($\bar{x} = 0.34$) as a constraint either. This might be a result of low patronage. Low patronage of many ecotourism sites in Nigeria is well acknowledged (Marguba, 2008); hence, the opportunities and benefits that may be linked to their visitation are lost by the host residents.

Table 4.6: Distribution of constraints faced by respondents

S/N	Constraints	Low	Moderate	High	Mean
1.	Poor road infrastructure to the markets	40(16.2)	70(30.0)	133(53.8)	1.38 H
2.	Poor telephone network	67(27.1)	60(24.3)	120(48.6)	1.21 H
3.	Insecurity for farming activities	105(42.5)	77(31.2)	65(26.3)	0.84 L
4.	Too many visitors coming into the community	178(72.1)	53(21.5)	65(26.3)	0.34 L
5.	Loss of cultural artifacts	172(69.6)	50(20.2)	25(10.1)	0.41L
6.	Poor access to loans for farming	38(15.4)	36(14.60	173(70.0)	1.55 H
7.	Illiteracy and poor education	39(15.8)	127(51.4)	81(32.8)	1.17 H
8.	Poor Health	45(18.2)	110(44.5)	92(37.2)	1.19 H
9.	In adequate places of worship e.g. churches/ mosques	169(68.4)	54(21.9)	24(9.7)	0.41 L
10.	Inadequate recreational centers	99(40.1)	98(39.7)	50(20.2)	0.80 L
11.	Government restriction on hunting	31(12.6)	43(17.4)	173(70.6)	1.58 H
12.	Poor drinking water	67(27.1	107(43.3)	73(29.6)	1.02 H
13.	Youth restiveness	124(50.2)	108(43.7)	15(6.1)	0.56 L
14.	Climatic hazards e.g. floods	118(47.8)	108(43.7)	21(8.5)	0.61 L
15.	Danger from wild animals	161(65.2)	67(27.1)	19(7.7)	0.43 L

Source: Field survey, 2018 Grand mean=0.90

Qualitative data shows that poverty and lack of financial resources are the main challenges facing the residents in the area. One site manager (respondent 6), emphasizing the need to prevent residents from illegal entry said:

… if we don't do this, this place will be gone very soon, poverty is much, anything here that can give them money will be attacked **(**KII, Male, **36**, Ass. park manager (6), Pandam, 2018)

A government official in charge of tourism in FarinRuwa Waterfall said:

> The people need money all the time, you can see that the environment is not developed. What they have is only farm produce, after it is finished there's no money again. The youths look for money everywhere to take care of their families. Some leave the village temporarily to ride motorcycle in the other towns on the main road. It is really difficult when you don't have money to buy clothes and go to hospital, in fact life here is not that easy **(KII, Male, 38, Tourism officer (11), Masange, 2018**)

Poverty manifests in the area with frequent health challenges, which persists due to a lack of good medical facilities and health officials, insufficient food all year round and poor housing conditions. It was observed that most residents live in poorly built mud houses which they have to reinforce before the yearly onset of rains. The residents often expressed frustration due to poverty, and resentment towards government officials, illegal entry into ecotourism sites, encroachment, and outright destruction of land resources. These poverty-laden expressions represent the lowest level of well-being manifested by the residents in Marhai and Masenge near FarinRuwa Waterfall

The community leaders were of the view that insecurity was also a major challenge to their well-being. They claimed that robbers, kidnappers and violent herders used ecotourism sites as hideouts. This, in their view, is possible because the residents were not allowed to use the sites as they wished. Respondent 3, whose community shared borders with Jos Wildlife Park gave instances of residents being attacked by headsmen that used the Park as a hideout, leading to them vacating their residents. This has spread fear within many communities in the study area. This was attested to by leaders of Dong, Pandam, Kayarda, Masange and Marhai. The incessant attacks on farm crops by wild animals were also a major challenge for communities near the Pandam Wildlife Park. Residents around the park had to relocate farms to distant places as a result of this

The view of youth leaders in respect of residents' challenges was that opportunities for sustainable economic activities are few in the area all year round. This is most pronounced for farmers after the traditional farming season between April and October each year. For the fishing communities, the situation is slightly different since they can fish after the farming season. The fishing season starts on Pandam Lake in late October based on restriction rules but on Peperuwa Lake some form of fishing takes place all year round therefore they are economically better than people around Jos wildlife Park and FarinRuwa Waterfall.

The youth leaders (respondents 8, 10, 13, 18) claimed that the lack of social infrastructure particularly good roads and telephone networks are challenges that impede their well-being. The horrible state of roads from Lafia to Pamdam, Kayarda, Marhai Masange and Tunganupawa communities was experienced in the process of data collection by the researcher and his team, confirming the challenges faced by residents.

In connection to the challenges that residents faced, KII results show that the sites were perceived to affect the well-being of residents both positively and negatively. The site managers of both Pandam and Jos Wildlife Parks as well as Tourism officials in Nassararwa state claim that the sites had a positive effect on the residents because the sites offered employment to them and a source of income for their households. They argued that conservation based on restriction was also useful to the residents because, without restriction, poverty would have caused them to exploit the natural resources within the sites without any limitations; the condition of the sites would have been worse than they were. The view of the site managers is exemplified by the statement by one park manager. He said:

> This Wildlife Park is a blessing to people here. We're protecting it for them. Every fishing season they enjoy, they catch enough fishes and do many things by that time, more than you can think of. They catch big fishes that time. If we allow them all year round nothing will remain, the fish will not be able to breed and they won't find big ones (**KII, Male 36, Ass Park manager (6), Pandam, 2018**)

Many community leaders agree with this line of argument that conservation had a positive effect and is beneficial in many ways including the preservation of important plants for

their medication and their cultural places. However, all the community heads (except respondent 17) were concerned about the negative effect the sites had on their economic lives. Some community heads (respondents 4 and 7) were of the view that the restriction affected their economic well-being negatively. The majority of the youth leaders were of the view that the ecotourism sites had a negative net effect on their well-being because they could not offer them job opportunities or add to their income considerably. However, the youth leader in Tunganupawa (respondent 18) was of the view that the site near them had a positive effect on residents' well-being. This fishing community had access to fishing opportunities all year round with very little restriction

4.4.1 Alternative uses for the sites

Key informants were asked to suggest alternative uses for the sites near them in view of the challenges they faced (Appendix III). Site managers (respondents 1,6, 11) were of the view that conservation was the only way the natural resources within the sites could be preserved. However, the government needed to step up its participatory efforts to ensure residents become active partners in their conservation efforts. A variety of suggestions were offered for the use of ecotourism sites in the face of challenges perceived by residents. The community leaders were of the view that trees could be planted within the sites to improve their vegetation and cover and serve commercial purposes when they become mature. Already the pine trees within the Jos Wildlife Park have improved the aesthetic and vegetation of the park. Community leaders also suggested that large parcels of land existing within the sites could be used by residents for farming. A number of reasons were cited for this suggestion to include insufficient fertile lands to cater for residents' expanding household farming needs and the far distance of their farms. Also, farmers illegally move into lands inside the border of the ecotourism sites to farm. They sometimes cause cross-border clashes with other communities when community boundaries are crossed. Respondent 3 specifically suggested that the Jos Wildlife Park be given to communities to mine for precious stones and metals he believes abound within the park. He said:

> The park is no longer as it used to be visitors are now few, unlike before, may be 10 or 20 years ago, if not for the place that is used for party. Yes,

> the pine trees, people are not going there like before. The community is not gaining anything. But there is precious metal there. They used to chase people from there. Why won't they just release the place for people to farm and mine precious stones there. We need more land for farming here, can't you see our people near are already farming inside the place? (**KII, 38, youth leader (3), Kabong, 2018**)

To this respondent, the number of visitors to their community on the account of the visits to the site is very low. This has reduced the people's benefits from the park. The touristic value of the park has reduced significantly, several animals have died without being replaced, and even the plant population has become reduced, it does not attract as many visitors as it did two decades back.

4.5 Perceived influence of restriction on well-being

The perceived influence of restriction on the well-being of respondents was measured in order to find out the residents' opinion on the nature of the influence of restriction on different aspects of their well-being. Table 4.7 reveals that restriction had different degree of influence on the 30 items (five domains) of well-being. The grand mean ($\bar{x} = 3.30$) was used to categorise the influence on well-being into high (positive influence) ($\geq$mean) or low (negative influence).

The results in table 4.7 shows each of the items listed 1-6, on community well-being, having mean values greater than the grand mean ($\bar{x} = 3.30$) and more than half (>50%) of the respondents subscribing to its positive influence. This implies that the majority of the respondents' perceived relationship with people in the community ($\bar{x} = 3.71$) and feeling of belonging in the community ($\bar{x} = 3.56$) to be the most influenced by the ecotourism sites. Interview with community leaders reveals that their people understand that restrictions to natural resources in the sites serve to reinforce a sense of togetherness and bonding among community members, a sense of shared gain or pain. Feelings of belonging may also be the result of community pride, a common phenomenon which arises when local destinations receive attention from both visitors and other stakeholders whom they see and interact (Neth, 2008).

Table 4.7: Distribution of respondents' perceived influence of restriction

S/N	Statements	HPI	PI	N	NI	HNI	Mean
1.	Relationship with people in the community	39(15.8)	125(50.6)	55(22.3)	28(11.3)	0	3.71
2.	Feeling of belonging in the community	38(15.4)	108(43.7)	63(25.5)	31(12.6)	7(2.8)	3.56
3.	Security services in the community (vigilante, police, etc)?	36(14.6)	101(40.9)	81(32.8)	19(7.7)	10(4.0)	3.54
4.	Support/help you receive from people in the community	28(11.3)	99(40.1)	89(36.0)	29(11.7)	2(0.8)	3.49
5.	Size and access of market in the community	33(13.4)	86(34.8)	95(38.5)	24(9.7)	9(3.6)	3.45
6.	Condition of infrastructure in community	17(6.9)	104(42.1)	73(29.6)	42(17.0)	11(4.5)	3.30
7.	Health treatment you received when sick	18(7.3)	108(43.7)	72(29.1)	33(13.4)	16(6.5)	3.32
8.	Quality of drinking water	16(6.5)	99(40.1)	82(33.2)	41(16.6)	9(3.6)	3.29
9.	Foodstuff available to you throughout the year	13(5.3)	63(25.5)	107(43.3	61(24.7)	3(1.2)	3.09
10.	Safety in the day	15(6.1)	81(32.8)	94(38.1)	44(17.8)	13(5.3)	3.17
11.	Safety at night	12(4.9)	68(27.5)	103(41.7	56(22.7)	8(3.2)	3.08
12.	Waste disposal method in the house	25(10.1)	61(24.7)	118(47.8	36(14.6)	7(2.8)	3.25
13.	Current occupation	31(12.6)	64(25.9)	83(33.6)	57(23.1)	12(4.9)	3.18
14.	Income from current job	29(11.7)	58(23.5)	79(32.0)	70(28.3)	11(4.5)	3.10
15.	Condition of house (mud or brick)	15(6.1)	57(23.1)	80(32.4)	87(35.2)	8(3.2)	2.94
16.	Economic future of current job	25(10.1)	55(22.3)	100(40.5	60(24.3)	7(2.8)	3.13
17.	Cost of necessity (food and clothing)	20(8.1)	63(25.5)	56(22.7)	96(38.9)	12(4.9)	2.93
18.	Size of your farm land	23(9.3)	71(28.7)	85(34.4)	61(24.7)	7(2.8)	3.17
19.	Level of education (Pri. Sec. Ter.)	32(13.0)	77(31.2)	83(33.6)	48(19.4)	7(2.8)	3.32
20.	Job skills you have acquired in your life	32(13.0)	83(33.6)	81(32.8)	43(17.4)	8(3.2)	3.36
21.	Performance at your job based on your education	31(12.6)	55(22.3)	113(45.7	45(18.2)	3(1.2)	3.27
22.	Education of your spouse and children	37(15.0)	93(37.7)	68(27.5)	44(17.8)	5(2.0)	3.46
23.	Opportunity for progress on your present job	17(6.9)	92(37.2)	98(39.7)	25(10.1)	15(6.1)	3.29
24.	Types of Sch. available (Pri. Sec. Ter.)	17(6.9)	99(40.1)	82(33.2)	42(17.0)	7(2.8)	3.31
25.	Over all emotional condition	20(8.1)	65(26.3)	90(36.4)	64(25.9)	8(3.2)	3.10
26.	Use of leisure time	16(6.5)	86(34.8)	91(36.8)	50(20.2)	4(1.6)	3.24
27.	Participation in sporting and recreational activities	30(12.1)	57(23.1)	118(47.8	31(12.6)	11(4.5)	3.26
28.	The way cultural activities take place in your community	43(17.4)	89(36.0)	75(30.4)	40(16.2	0	3.55
29.	Your spiritual life	48(19.4)	114(46.2)	54(21.9)	25(10.1)	6(2.4)	3.70
30.	Religious tolerance in the community you live	47(19.0)	84(34.0)	65(26.3)	39(15.8)	12(4.9)	3.46

HPI=High Positive Influence HP=Positive Influence N=Neutral NI=Negative Influence HNI=High Negative Influence

Source: Field survey, 2018 Grand mean=3.30

The result also suggest that restriction positively influenced support/help people in the community receive from each other ($\bar{x} = 3.54$), and the size and access to community markets ($\bar{x} = 3.49$).

With regard to the health and safety domain listed in items 7-11, the result suggests that only one aspect was perceived to be positively affected by restriction to ecotourism sites, that is, health treatment received when sick ($\bar{x} = 3.32$). Community health centers are available in all except Kayarda (within Pandam Wildlife Park). However, restriction was perceived to have a negative influence on the quality of drinking water ($\bar{x} = 3.29$), foodstuff availability ($\bar{x} = 3.09$), safety in the day ($\bar{x} = 3.17$) and safety at night ($\bar{x} = 3.08$). It was observed that most of the residents in the seven communities depended mostly on well water. The community leaders in Marhai and Masange were of the view that the well water available may not be the very best in quality but it is sufficiently clean for their consumption and domestic use. Borehole water exists in Dong and Kabong (near Jos Wildlife Park) but was not serving the community adequately.

Regarding the material well-being listed in items 12-18, all the items have been perceived to be negatively influenced by restriction based on the grand mean ($\bar{x} =$ 3.30). In addition, the majority of the respondents seemed to be undecided as to the influence of restrictions on some items. For instance, the result shows that current occupation ($\bar{x} = 3.18$), size of farmland ($\bar{x} =$ 3.17) and economic future of present job ($\bar{x} = 3.13$) respectively have 33.6%, 34.4% and 40.5% of the respondent undecided. This implies that the majority of respondents do not consider the restriction to the sites to be of positive significance to their economic life. This result is in line with the report of Pullin et al. (2013), that the impact of PAs on the economic capital of residents close to them is mostly negative to neutral. This can be connected to the fact that the majority were farmers (Table 4.1), and restriction was likely to affect their productivity. Previous studies have shown that restrictions limit the size of farmland and hinder agricultural practices, such as shifting cultivation, common in the study area (IJeomah, 2007). This often have deleterious effects on the economic well-being of the residents.

For the educational well-being domain, restriction to ecotourism sites had the most influence on the education of spouses and children ($\bar{x} =$ 3.46) and the type of job skills acquired in life ($\bar{x} = 3.36$). It also has a slightly positive influence on level of education ($\bar{x} = 3.32$) and type of schools available ($\bar{x} = 3.31$) This suggests that the majority of the respondents believe that schools around them were provided because of the attention the ecotourism sites have received as protected areas. The sites have also enabled them to learn new skills in other to survive. However, the opportunity to progress on the job ($\bar{x} = 3.29$) as well as their performance on the job ($\bar{x} = 3.27$) were critically affected by their level of education. This implies that the quality of knowledge they received from the schools available to them was insufficient for them to fulfill their aspirations.

For the emotional well-being domain (items 25-30), the respondents' perceptions of the influence of restriction to the ecotourism sites on their spiritual life ($\bar{x} = 3.70$), cultural activities in the community ($\bar{x} = 3.55$) and religious tolerance (mean=3.46) were most positively influenced by the restrictions to the ecotourism. However, it has been perceived to have a negative effect on the respondent's use of leisure time ($\bar{x} = 3.24$) and their participation in sporting and recreation activities ($\bar{x} = 3.27$)

Table 4.8 shows aggregated means for the five well-being domains whose items appear in table 4.7, where items 1-6 measured perceived influence of restriction on community well-being domain, same as items 7-12 for health and safety well-being domain, items 13-18 for material well-being domain, items 19-24 for education well-being domain, and items 25-30 for emotional well-being domain. Using the grand mean ($\bar{x} = 19.87$) as guide, the perceived influence on the domains may be categorized as either positive ($\geq$ mean) or negative (< mean). The greatest positive effect is on the community well-being domain as indicated by the highest aggregated mean ($\bar{x} = 21.05$). The implication of this is that social connectedness (FFI, 2015), among residents in the selected communities, is the most positively affected by ecotourism development initiatives relative to other aspects of the peoples' lives. It suggests that the bond of relationships among residents was strengthened.

Table 4.8: Distribution of means: influence of restriction on well-being domain (n=247)

Domains	Min	Max	Mean	Std. Dev
Community	12.0	30.00	21.05	4.10
Health and safety	9.00	30.00	19.19	3.97
Material	9.00	30.00	18.53	4.64
Education	11.0	30.00	20.00	4.64
Emotional	14.0	30.00	20.32	3.95

Source: Field survey, 2018 Grand mean=19.82

Restriction to ecotourism sites enhanced, more than any aspect of life, their inter-personal support and care for each other's needs, safety, and concern for available social amenities in their communities. This was followed in descending order by the perceived influence of restriction on the residents' emotional domain ($\bar{x} = 20.32$), which represents stability (FFI, 2015). Positive emotion is critical to personal well-being, it indicates the ability to cope with the demands of everyday life including being sick (Fredrickson and Joiner, 2002).

This is rather expected in rural locations where livelihood resources access is curtailed, residents usually develop coping mechanisms such as sports and religious activities to improve their psychological well-being. The perceived influence of restriction on education ($\bar{x} = 20.00$), may be considered to be between moderate and negative. The low level of education of residents have not helped significantly both fishermen and crop farmers who are forced by ecotourism restrictions to improve their agricultural skills for better outputs. However, many residents still aspire to improve on their formal education, so they can take advantage of improved seeds, herbicides and artificial fertilizers gaining popularity amongst the more enlightened residents due to unavailable land for shifting cultivation and to enhance their livelihood opportunities

Health and safety domain ($\bar{x} = 19.19$) may be considered to have been negatively influenced by the presence of the ecotourism site in-spite of the presence of local health centres in the communities. It was observed that medical personnel were seldom available to cater for residents' health needs. Drugs were also costly where available. Residents' health challenges were often compounded by insufficient foodstuffs all year round. The most negatively influenced by restriction is the material domain ($\bar{x} = 18.45$) of the residents. The result suggests that restriction has negatively influenced the residents' capacity to acquire relevant resources necessary for improving their well-being. This is indicated by their observable poor housing, low income, low job prospects and high cost of basic commodities.

4.5.1 Level of perceived influence of restriction on well-being domains

As could be observed from Table 4.9, more than half (51.0%) of the respondents had perceived the ecotourism sites to have contributed less than their desired expectations to

their well-being domains. This may not be unconnected to the fact that residents' perception of its influence on its material domain was the lowest and has caused the reduction in the overall perceive influence of restriction on the residents' well-being as shown in Table 4.8. This is consistent with Ap's (1992) findings that residents' perceptions of tourism impact, as it relates to the social exchange process, are based on their need satisfaction and consequences of their exchanges. The result is also in line with the study of Oni and Adepoju (2014), which shows that indicators of material well-being such as income are low and correlate with well-being in rural Nigeria. However, quite a large part of the respondents was still of the opinion that the ecotourism sites meet their desired expectations.

Table 4.9: Level of the perceived influence of restriction on well-being domains

Awareness	Frequency	%	Mean	SD	Min	Max
Less influence	126	51.0	78.04	14.53	54.0	120.0
High	121	49.0				

Source: Field survey, 2018

4.6 Well-being status of respondents

The well-being status of residents in this study was determined by incorporating the well-being domain importance with well-being domain satisfaction as measured with the same items used with respondents' perception of the influence of restriction (Andereck & Nyaunpane 2011). By this method, a measure of personal value (importance or significance) of each item was incorporated into the respondents' satisfaction (fulfilment) with the same item along different aspects (domain) of life, to determine their well-being (Costanza et al., 2007).

i) A measure of importance

Table 4.10 is the distribution of well-being domain importance, while Table 4.11 is the distribution of the means of well-being domain importance. These two tables provide insight into what is considered the respondents' rankings of how they valued different aspects of their well-being. Table 4.10 reveals that the highest value was attached to relationships with people in the community ($\bar{x} = 3.67$). This implies that social connectedness within the communities was of utmost importance to the respondents. It indicates the premium they place on their expectation of support from other members of the community in distress, for financial assistance and in making decisions that are culturally related, as suggested by Diener (2000). Such social relationships have been found to be significant to the QoL of people in rural ecotourism destinations in Namibia (Emptaz-Collomb, 2009).

Other community well-being indicators also of importance to the respondents were a feeling of belonging in the community ($\bar{x} = 3.48$) and support/help they received from people in the community ($\bar{x} = 3.19$). These items ranked high due, maybe, to the fact that the majority of respondents had lived in their communities for over 16 years (Table 4.1b), and so had developed an emotional attachment to their locality. Table 4.11 also indicates that community well-being ($\bar{x} = 20.20$) ranked the highest. This further implies that circumstances that would break their communal life, such as violence/ famine, or prevent access to shared resources like farmland, water and food will seriously impede their well-being.

Table 4.10: Distribution of well-being: well-being domain importance

S/N	Statements	VI	I	UN	NI	NAI	Mean
1.	Relationship with people in the community	181(73.3)	52(21.1)	12(4.9)	2(0.8)	0	3.67
2.	Feeling of belonging in the community	134(54.3)	99(40.1)	12(4.9)	2(0.8)	0	3.48
3.	Security services in the community (vigilante, police, etc)	174(70.4)	42(17.0)	23(9.3)	7(2.8)	1(0.4)	3.55
4.	Support/help you receive from people in the community	111(44.9)	97(39.3)	18(7.3)	18(7.3)	3(1.2)	3.19
5.	Size and access of market in the community	79(32.0)	97(39.3)	45(18.2)	24(9.7)	2(0.8)	2.92
6.	Condition of infrastructure in community	149(60.3)	62(25.1)	24(9.7)	10(4.0)	2(0.8)	3.41
7.	Health treatment you received when sick	166(67.2)	56(22.7)	11(4.5)	7(2.8)	7(2.8)	3.49
8.	Quality of drinking water	172(69.6)	39(15.8)	26(10.5)	10(4.0)	0	3.51
9.	Foodstuff available to you throughout the year	160(64.8)	50(20.2)	18(7.3)	14(5.7)	5(2.0)	3.40
10.	Safety in the day	153(61.9)	59(23)	7(2.8)	21(8.5)	7(2.8)	3.34
11.	Safety at night	164(66.7)	44(17.8)	13(5.3)	26(10.5)	0	3.41
12.	Waste disposal method in the house	62(25.1)	62(25.1)	73(29.6)	28(11.3)	22(8.9)	2.46
13.	Current occupation	122(49.4)	65(26.3)	20(8.1)	34(13.8)	6(2.4)	3.07
14.	Income from current job	123(49.8)	77(31.2)	22(8.9)	19(7.7)	6(2.4)	3.18
15.	Condition of house you live in (mud or brick)	62(25.1)	136(55.1)	35(14.2)	11(4.5)	3(1.2)	2.98
16.	Economic future of current job	83(33-6)	98(39.7)	43(17.4)	21(8.5)	2(.08)	2.97
17.	Cost of basic necessity such as food and clothing	119(48.2)	87(35.2)	24(9.7)	13(5.3)	4(1.6)	3.23
18.	Size of your farm land	104(42.1)	83(33.6)	29(11.7)	25(10.1)	6(2.4)	3.03
19.	Level of education (prim, sec.,tert)	73(29.6)	118(47.8)	29(11.7)	21(8.5)	6(2.4)	3.26
20.	Job skills you have acquired in your life	66(26.7)	121(49.0)	38(15.4)	18(7.3)	4(1.6)	2.92
21.	Performance at your job based on your education	46(18.6)	101(40.9)	54(21.9)	34(15.4)	12(4.9)	2.55
22.	Education of your spouse and children	112(45.3)	56(22.7)	54(21.9)	20(8.1)	5(2.0)	3.01
23.	Opportunity for progress on your present job	49(19.8)	124(50.2)	48(19.4)	21(8.5)	5(2.0)	2.77
24.	Types of sch. available (Pri. Sec. Ter.)	103(41.7)	75(30.4)	48(19.4)	10(4.0)	11(4.5)	3.01
25.	Over all emotional condition	108(43.7)	65(26.3)	41(16.6)	28(11.3)	5(2.0)	2.98
26.	Use of leisure time	43(17.4)	84(34.0)	84(34.0)	31(12.6)	5(2.0)	2.52
27.	Participation in sporting and recreational activities	42(17.0)	64(25.9)	89(36.0)	23(9.3)	29(11.7	2.27
28.	The way cultural activities take place in your community	72(29.1)	89(36.0)	62(25.1)	21(8.5)	3(1.2)	2.83
29.	Your spiritual life	150(60.7)	64(25.9)	19(7.7)	13(5.3)	1(4.0)	3.41
30.	Religious tolerance in the community you live	172(69.6)	33(13.4)	25(10.1)	8(3.2)	9(3.6)	3.42

VI=Very Important I=Important N=Neutral NI=Not Important NAT=Not At all Important

Source: Field survey, 2018

Table 4.11: Distribution of means: well-being domains importance (n=247)

Domains	Min	Max	Mean	Std.Dev
Community	5.00	24.00	20.20	3.58
Health and safety	5.00	24.00	19.60	4.77
Material	5.00	24.00	18.46	4.74
Education	1.00	30.00	17.52	5.28
Emotional	5.00	24.00	17.45	4.05

Source: Field survey, 2018

For the health and safety well-being domain, quality of water ($\bar{x} = 3.51$), health treatment received when sick ($\bar{x} = 3.49$), safety at night ($\bar{x} = 3.41$), and availability of foodstuff throughout the year ($\bar{x} = 3.40$) were the highest in this domain. They ranked next in importance ($\bar{x} = 19.60$) to the community domain. This shows that health and safety are important in the achievement of the well-being of rural Nigerians. This is in line with the study of Oni and Adepoju (2014) that the most critical well-being needs of rural Nigerians, in descending order are nutrition, health and security. Adisa et al. (2008) also found that health issues ranked the highest among well-being domains of the retirees they studied, but family support was necessary to sustain good health.

The most prominent items in the measures of material well-being domain ranked third in importance ($\bar{x} = 18.46$), were the cost of necessities, such as food and clothing ($\bar{x} = 3.23$), income from current job ($\bar{x} = 3.18$) and current occupation ($\bar{x} = 3.07$). With low income, the economic future of their current job ($\bar{x} = 2.96$) did not look bright. This made the material well-being domain to be ranked lower in importance compared to the community and health and safety well-being domains.

The importance of the education well-being domain was measured by items such as level of education ($\bar{x} = 3.26$), education of spouse ($\bar{x} = 3.01$) and type of schools available ($\bar{x} = 3.01$). In spite of the value of formal education for a better life, the respondents did not consider this very important to their well-being relative to the other previous domains. The ability to ascribe value to these domains may not be unconnected to the low education of the majority of respondents themselves (Ijeomah & Emodi, 2012). Many considered farming and fishing skills (specifically) as being more important in Tunganupawa than formal education since these skills were being informally transmitted from the older generations to the present one. One key informant referred to their fishing skills as ‘God’s gifts for our survival’. Oni and Adepoju (2014) assert that formal education may not be considered the most important need of rural Nigerians. This may be why educational well-being was regarded as fourth in importance, with a mean value of 17.51 in this study.

Emotional well-being captures the stability domain, as suggested by FFI (2015). The majority of the respondents claimed that their spiritual life ($\bar{x} = 3.41$) and religious

tolerance in the communities in which they live (mean=3.42) were very important to their emotional well-being. Leisure activities were not considered of much value by them. The use of leisure time was also considered of the least importance in the survey ($\bar{x} = 2.52$), even though it was observed that most of the respondents had enough time for leisure, the value of which may have been taken for granted. For most of the respondents, their days' work ended at about 3:00 pm. Many of the male respondents preferred to relax after the day's work, chatting about politics or sports with their friends. They would gather in small groups at a central location, sometimes joined by their women folks to enjoy locally brewed alcoholic drinks (especially in Dong and Kabong) and palm wine (Marhai). In addition, most rural communities in the study area are known to have various cultural festivals at different times of the year, which bring all community members together for merriment including drumming, singing and dancing (Ijeomah, 2007). Emotional well-being was regarded as the least important with the mean value of 17.45.

Thus, the importance of the domain of well-being to the respondents as observed in Table 4.11, when arranged in descending order was as follows: community domain ($\bar{x} =$ 20.20), health and safety ($\bar{x} = 19.60$), material domain ($\bar{x} = 18.46$), educational domain ($\bar{x} = 17.52$) and emotional domain ($\bar{x} = 17.45$). Using the domains suggested by FFI (2011; 2015), this implies that to these respondents, the domain of social connectedness was the most important, followed in descending order by health and safety, meaningful access to relevant resources, mastery and stability domains.

ii) Measurement of satisfaction

Table 4.12 is the distribution of well-being domain satisfaction, while Table 4.13 is the distribution of the means of well-being domain satisfaction. These two tables provide insight into the evaluation of the respondents' current satisfaction with their lives according to the different well-being domains.

Community well-being domain which was considered the most important well-being domain was not the domain that conferred the highest satisfaction to the respondents as observed from the mean distribution ($\bar{x} = 21.43$). The respondents were, however, very satisfied with their community relationships ($\bar{x} = 4.35$) and feeling of belonging ($\bar{x} = 4.22$), but conspicuously, the majority of the respondents were dissatisfied with the

condition of infrastructure in their communities ($\bar{x} = 2.65$). They complained of not having good roads, poor telecommunication networks and lack of pipe-borne water as major infrastructure deficiencies in their communities (Table 4.6). These factors have been identified as limiting the positive impact of ecotourism on rural communities (Tijani, 2005a; Nsukwini and Bob, 2016)

Health and safety well-being domain, which was regarded as the second most important domain to the respondents, conferred less satisfaction than the community well-being domain ($\bar{x} = 21.06$). This may not be unconnected to the quality of water and unavailability of foodstuff throughout the year as earlier identified by the respondents.

The material well-being domain, which was previously regarded as the third most important domain was rated the worst in terms of satisfaction ($\bar{x} = 21.06$). The majority of the respondents were not satisfied with the cost of food and clothing in their communities ($\bar{x} = 2.95$). Most of them had low income and did not have access to loans for farming, which implies a low standard of living. However, the majority were indifferent about their satisfaction with income from their current job ($\bar{x} = 3.07$).

Emotional well-being which was previously regarded by the respondents as the least important domain to their well-being was found most satisfactory ($\bar{x} = 22.30$). This is in line with Fisher (2011) who argued that the spiritual aspect of man generates inspiration which influences all other domains of life. Being highly satisfied with this domain implies that the people fall back on their religious life for inspiration and emotional stability. According to Newman et al. (2013), research has shown that leisure activities that completely detach individuals from obligated work help their physiological and psychological recovery from stress.

Table 4.12: Distribution of well-being -well-being domain satisfaction (n=247)

S/N	Statements	VS	S	UN	DS	VDS	Mean
1.	Relationship with people in the community	133(53.8)	84(34.0)	14(5.7)	16(6.5)	0	4.35
2.	Feeling of belonging in the community	109(44.1)	103(41.7)	18(7.3)	14(5.7)	3(1.2)	4.22
3.	Security services in the community (vigilante, police, etc)?	61(24.7)	100(40.5)	52(21.1)	24(9.7)	10(4.0)	3.72
4.	Support/help you receive from people in the community	47(19.0)	101(40.9)	55(22.3)	34(13.8)	10(4.0)	3.57
5.	Size and access of market in the community	15(6.1)	59(23.9)	82(33.2)	72(29.1)	19(7.7)	2.92
6.	Condition of infrastructure in community	12(4.9)	54(21.9)	43(17.4)	111(44.9)	27(10.9	2.65
7.	Health treatment you received when sick	28(11.3)	111(44.9)	44(17.8)	61(24.7)	3(1.2)	3.41
8.	Quality of drinking water	35(14.2)	95(38.5)	56(22.7)	57(23.1)	4(1.6)	3.41
9.	Foodstuff available to you throughout the year	37(15.0)	86(34.8)	62(25.1)	56(22.7)	6(2.4)	3.37
10.	Safety in the day	69(27.9)	119(48.2)	25(10.1)	25(10.1)	9(3.6)	3.87
11.	Safety at night	59(23.9)	85(34.4)	59(23.9)	39(15.8)	5(2.0)	3.62
12.	Waste disposal method in the house	48(19.4)	69(27.9)	72(29.1)	46(18.6)	12(4.9)	3.39
13.	Current occupation	25(10.1)	92(37.2)	65(26.3)	62(25.1)	3(1.2)	3.30
14.	Income from current job	17(6.9)	61(24.7)	94(38.1)	72(29.1)	3(1.2)	3.07
15.	Condition of house you live in (mud or brick)	22(8.9)	84(34.0)	74(30.0)	84(34.0)	22(8.9)	3.23
16.	Economic future of current job	28(11.3)	87(35.2)	68(27.5)	55(22.3)	9(3.6)	3.28
17.	Cost of basic necessity such as food and clothing	20(8.1)	63(25.5)	56(22.7)	96(38.9)	12(4.9)	2.93
18.	Size of your farm land	28(11.3)	83(33.6)	48(19.4)	76(30.8)	12(4,9)	3.16
19.	Level of education (Pri, Sec. &Ter)	38(15.4)	100(40.5)	53(21.5)	50(20.2)	6(2.4)	3.46
20.	Job skills you have acquired in your life	34(19.0)	108(43.7)	58(23.5)	47(19.0)	0	3.52
21.	Performance at your job based on your education	34(13.8)	82(33.2)	72(29.1)	56(22.7)	3(1.2)	3.36
22.	Education of your spouse and children	25(10.2)	95(38.5)	62(25.1)	6526.3	0	3.32
23.	Opportunity for progress on your present job	18(7.3)	80(32.4)	89(36.0)	51(20.6)	9(3.6)	3.19
24.	Types of Sch. available (Pri. Sec & Ter.)	32(13.0)	96(38.9)	55(22.3)	54(21.9)	10(4.0)	3.35
25.	Over all emotional condition	44(17.8)	85(34.4)	63(25.5)	53(21.50	2(0.8)	3.47
26.	Use of leisure time	38(15.4)	91(36.8)	82(33.2)	36(14.6)	0	3.53
27.	Participation in sporting and recreational activities	34(13.8)	89(36.0)	73(29.6)	43(17.4)	8(3.2)	3.40
28.	The way cultural activities take place in your community	59(23.9)	117(47.4)	47(19.0)	20(8.1)	4 (1.6)	3.84
29.	Your spiritual life	108(43.7)	102(41.3)	24(9.7)	13(5.3)	0	4.24
30.	Religious tolerance in the community you live	91(36.8)	67(27.1)	46(18.6)	41(16.6)	2(0.8)	3.38

VI=Very Important I=Important N=Neutral NI=Not Important NAT=Not At all Important

Source: Field survey, 2018 Overall mean =3.47

Table 4.13: Distribution of means: well-being domains satisfaction (n=247)

Domains	Min	Max	Mean	Std Dev
Community	11.00	30.00	21.43	4.07
Health and safety	12.00	30.00	21.06	4.61
Material	11.00	30.00	18.97	4.65
Education	12.00	30.00	20.20	4.36
Emotional	10.00	30.00	22.30	4.00

Source: Field survey, 2018

It also helps them build both psychological and social resources necessary for improved well-being. This result shows that both religious and leisure activities play important roles in the well-being of rural people in the study area.

The grand mean satisfaction of 3.47 was an indication that the general level of satisfaction of respondents remained high on a scale from 1-5, even when the people indicated that they were dissatisfied with some of the items. This aligns with Cummins (2013) theory of subjective well-being which posits that well-being measured through satisfaction is stabilized automatically by Homeostatically Protected Mood (HPM) to between 70-90%. It implies that the respondents have shown a high level of adjustment to the challenging circumstances in their pursuit of well-being.

As observed in Table 4.13, the satisfaction of the domain of well-being to the respondent may be ranked as follows: emotional ($\bar{x} = 22.30$), community ($\bar{x} = 22.20$), health and safety ($\bar{x} = 21.48$), and educational ($\bar{x} = 21.06$), and material ($\bar{x} = 18.97$). Using the domains suggested by FFI (2011; 2015), this implies that, to these respondents, the domain of stability was the most satisfied, followed in descending order by social connectedness, safety, mastery, and meaningful access to relevant resources domains.

iii) Well-being status

Table 4.14 shows the result of the standardization of the well-being domain importance distribution and well-being domain satisfaction distribution. The table reveals that 52.2% of the respondents had low well-being in the study area. Poor well-being may be attributed to inadequate satisfaction with the domains of well-being that the people have identified to be of more importance to them. It indicates that the majority of the residents living around the selected ecotourism sites did not have sufficient social, psychological and material resources to take care of their challenges (Dodge et al., 2012). Similar studies by Tijani (2005a; 2005b) in Old Oyo National Park also shows that most of the residents near the park were not satisfied with the restriction placed on land resources and the large difference between their expected benefits and the actual benefits they derived from the park.

Table 4.14: Level of the respondents' well-being status

Well-being	Frequency	%	Mean	SD	Min	Max
Low	129	52.2	5.0	1.8	0	9.02
High	118	47.8				

Source: Field survey, 2018

4.7 Hypothesis testing

Six hypotheses were tested in the study. Hypotheses one to three were tested using Pearson's Product Moment Coefficient (PPMC)

4.7.1 Hypothesis 1: Awareness of ecotourism principles and well-being status

The null hypothesis ($H_0 1$) states that there is no significant relationship between awareness of ecotourism principles and the well-being status of the residents in the study area. The alternative hypothesis ($H_a 1$) states that there is a significant relationship between awareness of ecotourism principles and the well-being status of the residents in the study area. Thus; $H_0 1$: $r = 0$ and $H_a 1$: $r \neq 0$

Pearson's Product Moment Coefficient analysis of the relationship between awareness of ecotourism principles and the well-being status of residents can be seen in Table 4.15. The result shows that correlation coefficient r = 0.148 and p-value = 0.020. Since the p-value of $0.020 \leq 0.05$, the null hypothesis was rejected and the alternative hypothesis accepted. This suggests that a positive and significant relationship exists between the awareness of ecotourism principles and the well-being status of the residents. This result corroborates the assertion by Ojong et al. (2013) that awareness of ecotourism reflects in many areas of people's lives. This is an indication of well-being responsiveness to awareness and information. According to the theory of human need (THN), people display autonomy of agency, referring to the ability to make informed choices to pursue a primary goal. At a higher level, people can situate their lives, criticize their situation and may work possibly to change it, an ability referred to as critical autonomy (Gough, 2004). These basic human abilities are a function of unhindered access to information. This implies that the more people are aware of issues that affect their well-being, the more they are likely to make efforts to pursue opportunities that will enhance them.

Table 4.15: PPMC analysis of the relationship between residents' awareness and well-being status

	r	p	Decision
Awareness of ecotourism	0.148*	0.020	Significant

Source: Field survey, 2018 *Significant at p<0.05

4.7.2 Hypothesis II: Benefits of ecotourism and well-being status

The null hypothesis ($H_0 2$) states that there is no significant relationship between the benefits of ecotourism and the well-being status of the residents in the study area. The alternative hypothesis ($H_a 2$) states that there is a significant relationship between the benefits of ecotourism and the well-being status of the residents in the study area. Thus; $H_0 2$: $r = 0$ and $H_a 2$: $r \neq 0$

Pearson's Product Moment Coefficient analysis of the relationship between the benefits of ecotourism and the well-being status of residents can be seen in Table 4.16. The result shows that correlation coefficient $r = 0.194$ and p-value = 0.002. Since the p-value of $0.020 \leq 0.05$, the null hypothesis was rejected and the alternative hypothesis accepted. This infers that a positive and significant linear relationship exists between the benefits of ecotourism and the well-being status of the residents. This is in consonance with previous findings that the benefit from ecotourism is important to the well-being of people around ecotourism sites. Andereck and Nyaupane's (2011) study showed that benefits from tourism influences the role tourism plays in the QoL of people in tourism destinations.

Table 4.16: PPMC analysis of the relationship between benefits of ecotourism and well-being status

	R	P	Decision
Benefits of ecotourism	0.194	0.002*	Significant

Source: Field survey, 2018 *Significant at $p<0.05$

4.7.3 Hypothesis III: Perceived influence of restriction and well-being status

The null hypothesis ($H_0$3) states that there is no significant relationship between perceived influence of restriction and the well-being status of the residents in the study area. The alternative hypothesis (H_a3) states that there is a significant relationship between the perceived influence of restriction and the well-being status of the residents in the study area. Thus; $H_0$3: $r = 0$ and H_a3: $r \neq 0$

Pearson's Product Moment Coefficient analysis of the relationship between the perceived influence of restriction and the well-being status of residents can be seen in Table 4.17. The result shows that correlation coefficient $r = 0.326$ and p-value = 0.000. Since the p-value of $0.000 \leq 0.05$, the null hypothesis was rejected and the alternative hypothesis accepted. This suggests that a positive and significant relationship exists between the perceived influence of restriction and the well-being status of the residents

This shows how responsive to ecotourism development the well-being of the people in the study area was. It also shows the severity of their dependence on the natural resources around them and how vulnerable the people would be to deplorable circumstances in the ecotourism sites. For them, there is a high expectation that ecotourism development would provide opportunities to enhance their well-being. This is an indication of the people's high reliance on the natural resources and activities within the ecotourism sites because the majority of the respondents were poor, as indicated by their low income and education. Whatever happens to the resources in the sites is important to the people. It portends further sustainability danger for the resources of the parks if sufficient livelihood options are not available to them (Rutten, 2002).

Table 4.17 PPMC analysis of the relationship between the perceived influence of restriction and well-being status

	r	P	Decision
Perceived influence of ecotourism	0.326	0.000*	Significant

Source: Field survey, 2018 *Significant at $p<0.05$

4.7.4 Hypothesis IV: Difference in perceived influence of restriction on well-being across the catchment areas of ecotourism sites

Analysis of variance (ANOVA) was used to measure the difference in the perceived influence of restriction on well-being across the catchment areas of ecotourism sites. Table 4.18 shows results for the the six sub-indicators that were analysed:

- **i.** Overall perceived influence of restriction on well-being,
- **ii.** Perceived influence of restriction on community domain,
- **iii.** Perceived influence of restriction on health and safety domain,
- **iv.** Perceived influence of restriction on educational domains,
- **v.** Perceived influence of restriction on material domain and
- **vi.** Perceived influence of restriction sites on the emotional domain.

Table 4.18: Analysis of variance across catchment areas of the respondents' perceived influence of restriction on well-being domains

Variables	Perception status	Sum of square	Df	Mean square	F	p	Decision
Community	Between group	198.48	3	66.15	4.07	0.008	Significant
	Within group	3941.87	243	16.22			
Health and safety	Between group	57.11	3	19.04	1.21	0.306	Not significant
	Within group	3813.56	243	15.69			
Material	Between group	521.91	3	173.10	8.85	0.000	Significant
	Within group	4779.55	243	19.67			
Educational	Between group	322.73	3	107.58	5.26	0.002	Significant
	Within group	4967.27	243	20.44			
Emotional	Between group	79.88	3	26.63	1.72	0.163	Not significant
	Within group	3759.49	243	15.47			
Overall Perceived influence of ecotourism	Between group	4226.87	3	1408.96	5.14	0.002	Significant
	Within group	66672.99	243	274.37			

Source: Field survey, 2018 *Significant at $p<0.05$

4.7.4.1 Overall perceived influence of restriction on well-being across the catchment areas of ecotourism sites

The mean values of the respondents' overall perceived influence of restriction on well-being within the catchment areas for the four ecotourism sites were compared using analysis of variance (ANOVA). The null hypothesis ($H_0$4) states that there is no significant difference in the overall perceived influence of restriction on well-being across the catchment areas of ecotourism sites. The alternative (H_a4) states that there is a significant difference in the overall perceived influence of restriction on well-being across the catchment areas of ecotourism.
Thus; $H_0$4: $\mu_1 = \mu_2 = \mu_3 = \mu_4$ and H_a4: At least one mean is significantly different (overall well-being.

ANOVA result of the difference in the overall perceived influence of restriction on well-being across the catchment areas of ecotourism sites can be seen in Table 4.18. The result shows that F (3,243) =5.14 and p=0.002. Since the p-value of 0.002 $\leq$ 0.05 significant level, the alternative hypothesis was accepted. This implies that at least one mean significantly differs from others.

It was necessary to find out through further analysis which of the mean was significantly different from others, using a post hoc multiple comparison analysis. A post hoc analysis is employed only when the ANOVA result shows a significant difference amongst the means being compared. The result in Table 4.19 shows the means of the four ecotourism sites being separated using Duncan multiple range tests (Hilton & Armstrong, 2006). The result reveals that Peperuwa Lake ($\bar{x} = 109.3$) had the greatest overall perceived influence on the well-being of the residents around it, followed in descending order by Pandam Wildlife Park ($\bar{x} = 104.4$), FarinRuwa Waterfall ($\bar{x} = 97.0$) and Jos Wildlife Park ($\bar{x} =$ 96.2). The result is an indication of the influence of water bodies on residents' well-being as well as the degree of strictness being applied to restricting access to resources within the sites. Both the Peperuwa lake and the Padam Lake within Padam Wildlife Park provides opportunity for fishing. KII information revealed that that residents near Peperuwa lake have more access to the lake, restriction is not strict but

residents are likely to be affected the most by rules and regulations that will hinder access to the lake because of their high dependence on the lake. In Tunganupawa (near Peperuwa), the residents in collaboration with officials of the local government area, manage the lake and forest resources, this gives close to completely unlimited access to fishing in the lake. Regulating fishing, their most important livelihood activity is the responsibility of the community head, who with the assistance of his relatives and aides pay some amount of money to the local government authorities on a monthly basis. The Pandam lake also provides opportunity for fishing, however, unlike what happens with Peperuwa, fishing is a strictly regulated activity on the lake, most residents don't depend on fishing. The Farin Ruwa waterfall does not provide opportunity for fishing but has other water related cultural festivals which take place near the waterfall. The Jos Wildlife Park has the least impact on the local residents

Table 4.19 Duncan test of perceived influence of restriction on well-being domains

Ecotourism site	N	Subset for alpha = 0.05	
		1	2
Jos Wildlife Park	113	96.1858	
Farin Ruwa Waterfall	60	97.0333	
Pandem Wildlife Park	62	104.4194	104.4194
Peperuwa Lake	12		109.3333

Source: Field survey, 2018

4.7.4.2 Perceived influence of restriction on community well-being domain

The null hypothesis ($H_0$4) states that there is no significant difference in the perceived influence of restriction on community well-being domain across the catchment areas of ecotourism sites. The alternative (H_a4) states that there is a significant difference in the perceived influence of restriction on well-being across the catchment areas of ecotourism. Thus; $H_0$4: $\mu_1 = \mu_2 = \mu_3 = \mu_4$ and H_a4: At least one mean is significantly different (community well-being).

The result in Table 4.18 shows that F (3,243) =4.07 and p-value=0.008. Since the p-value of $0.008 \leq 0.05$ significant level, the alternative hypothesis was accepted. This implies that at least one mean significantly differs from others. This indicates that the influence of restriction on community well-being domain across the catchment areas differed significantly.

The Duncan test results in Table 4.20 shows that the residents around Peperuwa Lake ($\bar{x} = 24.8$) perceived that their community well-being domain as being the most influenced by restriction, as compared to Pandem Wildlife Park ($\bar{x} =$ 21.3), Farin Ruwa Waterfall ($\bar{x} =$ 21.0) and Jos Wildlife Park ($\bar{x} =$ 20.5). This may be explained by the dependence of residence around Peperuwa lake for daily livelihood. Kim's (2002) asserts that community well-being is enhanced when there is equal access to shared resources. The result is a reflection of residents' accessibility to shared resources for livelihood. The fishing trade involves a lot of interaction on daily basis. Fishes caught must be sold to wholesalers and consumers to avoid being spoiled. The whole value chain involves high level of intermingling and socialization between community members. Here the residents exchange information, provide support for one another and there is a sense of communion that enhances their well-being (FFI, 2011). The influence of the sites on the community well-being domain was lower for Pandam Wildlife Park. This park is being managed directly by the officials of Plateau State Tourism Corporation, who are very strict in restricting resident's access to forest resources as well as fishing in the lake, thereby limiting the regularity of residents' interaction.

Table 4.20 Duncan test of the perceived influence of restriction on community domain

Ecotourism site	N	Subset for alpha = 0.05	
		1	2
Jos Wildlife Park	113	20.5398	
Farin Ruwa Waterfall	60	21.0000	
Pandem Wildlife Park	62	21.3226	
Peperuwa Lake	12		**24.7500**
Sig.		.468	**1.000**

Source: Field survey, 2018

Previous studies have shown that ownership and management styles influence the nature of access to benefits from ecotourism sites by residents (Ijeomah, 2007; Eshun et al., 2015). Both Kayarda and Pandam fishermen are restricted from fishing during certain periods of the year (July- October) for conservation purposes. Farin Ruwa Waterfall and Jos Wildlife Park do not have lakes and are not surrounded by communities that depend on fishing for their livelihood. They are both also being effectively managed by their state governments. Where states manage these ecotourism resources directly, they deploy rangers who ensure that access to the forest resources is fully based on authorizations. In these places, the daily lives of the respondents do not revolve around the ecotourism sites completely, so the influence of restriction on community well-being is higher where fishing opportunities exist. It could be deduced that when restriction is high the influence on the residents' community well-being is low.

4.7.4.3 Difference in perceived influence of restriction on material domain

The null hypothesis ($H_0$4) states that there is no significant difference in the perceived influence of restriction on material well-being domain across the catchment areas of ecotourism sites. The alternative (H_a4) states that there is a significant difference in the perceived influence of restriction on material well-being across the catchment areas of ecotourism.

Thus; $H_0$4: $\mu_1 = \mu_2 = \mu_3 = \mu_4$ and H_a4: At least one mean is significantly different (material well-being)

The result in Table 4.18 shows that F (3,243) = 8.85 and p-value=0.000. Since the p-value of 0.000 $\leq$ 0.05 significant level, the alternative hypothesis was accepted. This suggests that at least one mean significantly differs from others. This is an indication that the influence on the material domain in terms of restriction of access to basic amenities, occupation and income vary significantly across communities around the ecotourism sites.

The Post hoc analysis, as depicted in Table 4.21 shows that the respondents around Peperuwa Lake ($\bar{x} =$ 22.9) had their material domain most influenced by restriction

initiatives when compared to Pandem Wildlife Park ($\bar{x} = 20.1$), Farin Ruwa Waterfall ($\bar{x} = 18.0$) and Jos Wildlife Park ($\bar{x} = 17.5$).

This result underscores the dependence of the residents on the natural resources offered by the ecotourism site under consideration and the importance of water bodies to the economic life of those who live around them (Ijeomah, 2012). The respondents around Peperuwa were mostly fishermen who derived their income principally from selling fish taken from the lake; their economic life is thereby tied to the resources in the lake. Any form of restriction aimed at lowering daily access to fishing may reduce their daily income and adversely affect their well-being. The influence of restriction of residents' economic well-being was not as pronounced on residents around Pandam Wildlife Park, whose major occupation also include crop farming, though fishing on the Pandam Lake is also an important economic activity. The respondents around Farin Ruwa Waterfall and Jos Wildlife Park perceived the least economic benefit of these sites on their income because they were not fishermen and did not depend on the sites for their income.

Table 4.21 Duncan test of the perceived influence of restriction on material domain

Ecotourism site	N	Subset for alpha = 0.05		
		1	2	3
Jos Wildlife Park	113	17.4867		
Farin Ruwa Waterfall	60	18.0167	18.0167	
PandemWildlife Park	62		20.0968	
Peperuwa lake	12			22.9167
Sig.		.633	.062	1.000

Source: Field survey, 2018

4.7.4.4 Difference in perceived influence of restriction on education domain

The null hypothesis ($H_0$4) states that there is no significant difference in the perceived influence of restriction on the education well-being domain across the catchment areas of ecotourism sites. The alternative (H_a4) states that there is a significant difference in the perceived influence of restriction on education well-being across the catchment areas of ecotourism.

Thus; $H_0$4: $\mu_1 = \mu_2 = \mu_3 = \mu_4$ and H_a4: At least one mean is significantly different (education well-being)

The result in Table 4.18 shows that F (3,243) = 5.26 and p-value=0.002. Since the p-value of 0.002 ≤ 0.05 significant level, the alternative hypothesis was accepted. This is an indication that the perceived influence of restriction on the education domain significantly differed across the catchment areas of ecotourism. This implies that the educational influence of the ecotourism sites varied across catchment areas of ecotourism.

The detail in the difference among the means was further revealed in the Duncans' post hoc test in Table 4.22. It shows that Pandem Wildlife Park ($\bar{x} = 21.8$) had more effect on the educational well-being domain than Peperuwa Lake ($\bar{x} = 21.4$), Jos Wildlife Park ($\bar{x} = 19.3$) and Farin Ruwa Waterfall ($\bar{x} = 19.2$). This result implies that perceived influence of restrictions on the education domain in terms of access to basic job skills and formal education were better for both Pandam Wildlife Park and Peperuwa Lake. These are two sites that provide fishing opportunities for residents in their catchment areas. Jos Wildlife Park and Farin Ruwa Waterfall do not provide opportunities for fishing for the communities around them and they are the least influenced in-terms of educational well-being. This result implies that traditional skills are as germane to well-being as formal education. Fishermen need special skills to succeed in their vocation; such skills are usually traditionally transferred from fathers to their children over a period of time. The influence of restriction is reflected on the result to the extent to which residents are able to improve on their fishing skills based on their level of practice. If fishing stops such fishing skill is likely to die off naturally from generation to generation.

Table 4.22 Duncan test of the perceived influence of restriction on education domain

Ecotourism site	N	Subset for alpha = 0.05		
		1	2	3
Farin Ruwa Waterfall	60	19.2162		
Jos Wildlife Park	113	19.2743		
Peperuwa Lake	12	21.4167		
Pandem Wildlifepark	62	21.8065		
Sig.		.066	.730	

Source: Field survey, 2018

4.7.4.5 Perceived influence of restriction on health and safety domain

The null hypothesis ($H_0$5) states that there is no significant difference in the perceived influence of restriction on the education domain across the catchment areas of ecotourism sites. The alternative (H_a5) states that there is a significant difference in the perceived influence of restriction on health and safety well-being domain across the catchment areas of ecotourism.

Thus; $H_0$4: $\mu_1 = \mu_2 = \mu_3 = \mu_4$ and H_a4: At least one mean is significantly different (health and safety)

The result in Table 4.18 shows that F (3,243) = 1.21 and p-value=0.305. Since the p-value of 0.305 > 0.05 significant level, the null hypothesis was accepted. This implies that the perceived influence of restriction on the health and safety domain did not significantly differ across the catchment areas of the selected sites. This is an indication that the restriction did not influence health and safety differently across catchment areas of ecotourism.

4.7.4.6 Difference in perceived influence of restriction on emotional domains

The null hypothesis ($H_0$6) states that there is no significant difference in the perceived influence of restriction on the emotional domain across the catchment areas of ecotourism sites. The alternative (H_a6) states that there is a significant difference in the perceived influence of restriction on emotional well-being domain across the catchment areas of ecotourism.

Thus; $H_0$4: $\mu_1 = \mu_2 = \mu_3 = \mu_4$ and H_a4: At least one mean is significantly different (emotional)

The result in Table 4.18 shows that F (3,243) = 1.72 and p-value=0.163. Since the p-value of 0.163 > 0.05 significant level, the null hypothesis was accepted. This is an indication that the perceived influence of restriction on the emotional well-being domain did not significantly differ across the catchment areas of ecotourism.

The result of Hypothesis 4 as a whole reflects the overwhelming effect of access to natural resources by rural residents around ecotourism on well-being. Peperuwa Lake was significantly perceived to have the highest influence on the inhabitants that surrounded it because the local people depends on it so much for their survival. It has not

been gazetted as state property, therefore, there is little or no use restriction imposed by government authorities in terms of fishing activities at the time of this survey. The traditional authority regulates fishing activities and encourage residents to fish with their future in mind, any form of addition restriction is bound to affect the residents than residents around other selected sites. Pandam Wildlife Park is arguably the richest in terms of biodiversity and water resources amongst the four sites considered in the study, there is strict restriction of the residents from accessing these resources when and how they desire has limited the residents' dependence on its perceived influence on their well-being. Restriction of access for fetching fuel wood, logging, and fishing in Pandam is strictly controlled by the park management. Fishing licenses are issued to individuals to catch a limited quantity of fish during the fishing season (October to April). Although this was meant to curb exploitative resource usage, the residents are not satisfied with these regulations. Illegal fishing is rampant, licensed fishermen are joined by their non-licensed friends and relatives to fish beyond regulated quantities.

Jos Wildlife Park was perceived to have the least influence on the well-being of the resident communities around it; the people did not see the site to be important to their well-being because it did not add significant value to their lives. In-depth interviews with community leaders around it (Dong and Kabong) revealed that the people would prefer an alternative use for the park, other than conservation. They suggested that, since it was not adding to them significantly, rather it constituted a security risk by serving as hideout for criminals, it would be better to allow their people to farm in it and mine for precious metals.

4.7.5 Hypothesis V: Difference in the well-being status of the respondents within catchment areas across ecotourism sites

Analysis of variance (ANOVA) was used to measure the difference in the well-being status of respondents within catchment areas across ecotourism sites.

The null hypothesis ($H_0$5) states that there is no significant difference in the well-being status of the respondents within catchment areas across ecotourism sites. The alternative (H_a5) states that, there is a significant difference in the well-being status of respondents within catchment areas across ecotourism sites.

Thus; $H_0$5: $\mu_1 = \mu_2 = \mu_3 = \mu_4$ and H_a5: At least one mean is significantly different
μ_{1-4} = means of well-being status of respondents across the four ecotourism sites

ANOVA result of the difference in the well-being status of the respondents within catchment areas across ecotourism sites can be seen in Table 4.23. The result shows that F (3,243) = 0.27 and p-value=0.846. Since the p-value of 0.846 > 0.05 significant level, the null hypothesis was accepted. This signifies that there was no significant difference in the well-being status of the respondents within catchment areas across ecotourism sites

This implies that the well-being of the respondents in the selected communities across the catchment areas of Jos Wildlife Park, Pandam Wildlife Park, Farin Ruwa Waterfall and Peperuwa Lake did not differ significantly. This shows that the well-being of the majority of the respondents was low across the two states selected for the study (Nassarawa and Plateau). This is in spite of differences in the perceived influence of restriction (Table4.19). This further corroborates the findings of Tijani (2005a); Oni and Adepoju (2014) and Badiora (2017) on the low well-being of rural Nigerians.

Table 4.23: Analysis of variance of the well-being status of the respondents within catchment areas across ecotourism sites

Variable	Well-being stat us	Sum of square	Df	Mean square	F	p	Decision
Well-being	Between group	2.558	3	0.863	0.271	0.846	Not Significant
	Within group	733.38	243	3.183			

Source: Field survey, 2018 *Significant at p<0.05

4.7.6: **Hypothesis VI**: **Contribution of independent variables to the well-being status of the respondents in the study area**

The significance of independent variables to the dependent variable, that is, well-being status was investigated using a multiple linear regression model. The model includes an analysis of variance (ANOVA) which tested whether all the independent variables would, taken together, have a significant contribution to well-being status. The independent variables taken together were age, sex, marital status, job status, educational qualification, length of residency, income, the benefit of ecotourism, constraints, awareness and perceived influence of restriction index.

Thus, the null hypothesis (H_{06}) states that there is no significant contribution of independent variables to the well-being status of the respondents in the study area. The alternative (H_{a6}) states that there is a significant contribution of independent variables to the well-being status of the respondents in the study area.

Table 4.24 presents the result of the analysis of variance which was showing the overall statistical significance of the multiple linear regression model. It shows that F (22, 224) =3.992 and p-value=0.000. Since p-value =0.000 $\leq$ 0.05 significant level, the null hypothesis was rejected, indicating that the independent variables taken together have a significant effect on well-being status.

Table 4.24 Analysis of variance (ANOVA) for regression model

Model	Sum of square	Df	Mean square	F	p
Regression	218.549	22	9.934	3.992	0.000
Residual	557.414	224	2.488		
Total	775.963	246			

Dependent Variable: Well-being index

The regression model depicted in Table 4.25 shows that R =0.531, implying that there is a fairly strong correlation between the variables put together and well-being status of respondents. Pseudo R^2=0.282 is indicating that the variables have 28.2 % explanatory power in predicting well-being status of respondents. This implies that one or more of the variables are important in predicting the well-being status of the respondents. The model further shows that five variables had p-values that were less than the 0.05 level of significance. They are, non-tourism-related employment (β = 0.184, p-value =0.004 ≤ 0.05), Income ₦50100-₦100000 (β = 0.132, p-value =0.036 ≤ 0.05) and Income >100000 (β = 0.182, p-value=0.003 ≤ 0.05), benefits of restriction (β = 0.157, p-value=0.026 ≤ 0.05) awareness of ecotourism principles (β = 0.214, p-value=0.001 ≤ 0.05) and perceived influence index (β = 0.442, p-value=0.000). This is an indication that these six variables (predictors) had a significant linear relationship with the well-being status of the respondents and contribute to it.

The five predictors had a positive relationship with well-being status because of their positive β coefficients. It could be inferred that when these predictors improve, the well-being status of residents is also likely to improve.

Non-tourism-related employment (β = 0.184): This positive value is an indication that keeping other predictors constant, when more people take up non–tourism-related employment such as farming, fishing and trading, and experience an improvement in these vocations, their well-being status is likely to also improve. These vocations are independent of visitor patronage to ecotourism sites, therefore, the result is an expression of the local people's reliance on these age long vocations, to enhance their well-being. It was observed that, tourism related employment such as transporting tourists, food vending to tourists and employment within ecotourism sites are low, and engage very few people in the study area. Without a steady flow of visitors to the ecotourism sites, the tourism-based vocations cannot cater to the needs of rural residents.

Income (β = 0.132; 0.182): The positive values for the two levels of income is an indication that keeping other predictors constant when more people have a household income of over ₦50,100/month which is higher than the monthly income of 90% of respondents in the area as indicated in Table 4.1b, their well-being status is likely to also

Table 4.25 Linear regression of contribution of the independent variables to the dependent variable

Model	β	Standard Error	T	P	Decision
Constant		1.068	-0.176	0.860	
Age	0.005	0.009	0.066	0.947	Not significant
Gender	-0.006	0.242	-0.104	0.917	Not significant
Single	-0.009	0.368	-0.146	0.884	Not significant
Divorced	0.061	0.538	1.029	0.305	Not significant
Widow/widower	-0.040	0.413	-0.580	0.562	Not significant
Residency< 1year	0.011	0.534	0.171	0.864	Not significant
Residency= 1-5years	-0.018	0.319	-0.271	0.786	Not significant
Residency= 6-10year	-0.016	0.294	-0.245	0.806	Not significant
Residency =11-15year	-0.099	0.320	-1.484	0.139	Not significant
Residency>16years	-0.04	0.310	-0.659	0.526	Not significant
Unemployed	-0.69	0.375	-0.876	0.382	Not significant
Tourism related	0.011	0.307	0.182	0.856	Not significant
Non- tourism related	0.184	0.387	2.899	0.004	Significant
Retired	-0.100	0.383	-1.592	0.113	Not significant
Income <₦5000	0.082	0.318	1.111	0.268	Not significant
Income =₦5100-₦20000	0.083	0.250	1.284	0.207	Not significant
Income =₦20100-₦50000	0.052	0.119	2.105	0.259	Not significant
Income =₦50100-₦100000	0.132	0.428	3.004	0.036	Significant
Income >₦100100	0.182	0.852	2.750	0.003	Significant
Education (Formal)	0.028	0.315	0.421	0.674	Not significant
Benefits of ecotourism	0.157	0.022	2.237	0.026	Significant
Constraints	-0.037	0.033	-0.600	0.549	Not Significant
Awareness	0.214	0.041	3.235	0.001	Significant
Perceived influence index	0.442	0.007	7.079	0.000	Significant
$R=0.531$, $R^2=0.282$, Adjusted $R^2=0.211$ S.E of Estimate 1.57748, Significance $p<0.05$					

Source: Field survey, 2018

improve. This corroborates the finding of Oni and Adepoju (2014), that shows that income was strongly positively correlated when regressed against well-being in Nigeria Benefits of ecotourism (β = 0.157): This positive value is an indication that keeping other predictors constant when more people benefit from the ecotourism sites as a restricted area their well-being status is likely to also improve. It is implying that the higher the benefits of ecotourism the better their well-being status would be.

Awareness of ecotourism (β = 0.214): This positive value is an indication that keeping other predictors constant when more people become aware of the objectives the restriction is set to achieve as well as the principles that guide ecotourism, it will help to improve the management of the sites and improve well-being status of the residents. This aligns with Zaid and Popoola (2010) claim that awareness can enhance the well-being status of residents in rural areas.

Perceived influence index (β = 0.442): The result likewise shows that improving the residents' overall perception of the influence of ecotourism initiatives will improve their well-being. In order to influence the residents' support for ecotourism, their perception of its development must be influenced. When residents are convinced that restriction of natural resources is for their own benefits, even when the benefits are not immediate, it would translate to willingness to support it in full. It is possible to enhance the well-being of the respondents by enhancing their perception of the influence of ecotourism on one or more domains of life.

4.8 Summary of findings

The study revealed that the respondents were of middle age with a mean age of 48.0±13.7years. Most of the respondents were males and married. By religion the respondents were mostly Christians, it also has Muslims and followers of ATR. The majority of the respondents were engaged in jobs not directly related to tourism such as farming, fishing and artistry. There was a high literacy level in the study area. But only 38.5% had education beyond the primary school level. Most of the respondents had lived in the community for over 11 years. Residents had experienced poor access to meaningful resources for a long period, with more than half of them earning less than ₦20,000

monthly. Thus, implying that both their physical health and ability to make well-being-enhancing decisions would be impeded (Gough, 2004).

The awareness level of ecotourism principles of 56.3% among the respondents is tied to low education and tourist patronage. The majority were aware of the preservation and sustainable use of natural resources as well as the potential the sites have to improve their lives economically through the sale of foods and souvenirs, and direct employment of residents. However, most respondents were not aware that conservation techniques could be taught to the local people by the site management and that they could be supported to start their businesses. Awareness of ecotourism correlated significantly with well-being status, and it was a positive predictor of the well-being status of the respondents.

Due to a lack of leadership experience working with the management and low employment opportunities, respondents expressed low benefits from ecotourism. There were no functional fora where community members interacted on a day-to-day basis with managers of ecotourism sites in the study area, specifically in Jos Wildlife Park and Pandam Wildlife Park, which was an indication of poor involvement of residents in decision-making and benefit sharing. Benefit from ecotourism sites was significantly related to, and a positive predictor of the well-being status of the respondents.

Major constraints that influence the well-being of residents in the study area include poverty, the restriction on hunting, lack of loans for farming and poor infrastructure. However, constraints posed by too many visitors coming into their communities were considered the lowest; an indication of the low patronage of tourists to the selected ecotourism sites.

The level of influence restriction had on the well-being of residents was perceived by 51.0% of the respondents to be low. The residents desired a more positive influence of restriction on the different aspects of their lives than they were getting. The positive influence of restriction was greatest on the residents' community domain followed by their emotional domain. Its influence on educational, health and safety, and material domains was considered negative. The perceived influence of restriction on well-being

was significantly related to, and a positive predictor of the well-being status of respondents.

The perceived influence of restriction on well-being was significantly different across the catchment areas of the selected ecotourism sites, with Peperuwa Lake being the most perceived to be influenced by restriction, followed in descending order by Pandem Wildlife Park, Farin Ruwa Waterfall and Jos Wildlife Park. The perceived influence of restriction on community, material and education well-being domains differed significantly across the catchment areas. The community and material domains of respondents near Peperuwa Lake were the most influenced by ecotourism, while the education domain of the respondents near Pandem Wildlife Park was the most influenced. Such effects have been attributed to the presence and access to lakes within these two sites, the respondents' fishing skills and other activities involved with the commercial fishing enterprise.

The distribution of means of well-being domain: importance, and the distribution of means of well-being domain: satisfaction, both of which were used to determine the well-being status of residents, shows a disparity in the residents' ranking of the five domains of well-being. The importance of the domains to the lives of respondents was in descending order as follows: community, health and safety, material, education, and emotional. Whereas, respondents' satisfaction with these domains was in the following descending order: emotional, community, health and safety, educational and material. This disparity was considered a reason for discontentment manifesting in unauthorised access to sites. Overall, low well-being status was expressed by 52.2% of the respondents. This implies that there are insufficient social, psychological and material resources to cater for the challenges of the residents.

The independent variables contributed up to 28.2% in explaining the dependent well-being variable. Non-tourism-related employment, household monthly income, benefits from ecotourism, respondents' awareness of tourism principles and perception of the influence of restriction on their well-being domains are predictors of well-being status in the study area.

4.9 Discussion

4.9.1 Awareness of ecotourism principles

The study results have shown that respondents were generally aware of minimizing the human impact on natural resources as a principle of ecotourism by acknowledging being conversant with the prohibitions to hunting, logging, farming and building of structures within the sites. Thus, an important principle of ecotourism which the residents are well aware of is to minimize human impact on environmental resources through restrictions. The environment provides the natural stocks for development (Stiglitz et al., 2009; Torres et al., 2019). Restrictions are placed by the government and its agencies to protect the environment based on the premise that human populations have been destructive to the proper functioning of the ecosystem through encroachment and habitat destruction. The outcome of government protection intention depends to a large extent on the level of enforcement of protection regulations. The study revealed that the enforcement of restriction rules in the study area could be classified into very strict 'strict' and 'not strict'. Respondents in Jos wildlife park and Pandam wildlife park indicated that restriction rules were very strict. It was considered strict by respondents in Farinruwa waterfall and not strict by residents near Peperuwa. However, respondents' perception of restriction as observed in Hypothesis 3 was not in complete congruence with the level of strictness claimed by the key informants. Both Pepeperuwa Lake and Pandam wildlife park were perceived to have the most influence on the well-being of residents, notwithstanding the levels of restriction claimed by key informants, but based on the residents' dependency on the resources within the sites. This suggests that residents are willing to access resources available within ecotourism sites with or without strict restrictions as long as their need for survival is not met.

The study further showed that residents were not conversant with ecotourism's principles of educating host community members and tourists through training in conservation techniques, handicraft production and new farming techniques. Although they were aware that they could make money through the sales of handicrafts to visitors, the result further showed that both residents and site managers were not aware that the management could assist residents in other ways that will empower them by helping them to obtain loan

facilities so they can enlarge their farms. Residents did not also show sufficient awareness of their human rights as owners of the sites who should be part of the decision-makers of the sites. The study findings also show that a higher level of awareness would improve the well-being of the residents. However, more formal education is required. The low level of tourist patronage in the study area makes the ecotourism principle confusing to them; they would have gained a lot of knowledge by interacting with more tourists and could participate in the day-to-day running of the sites. Lack of awareness also generates a form of resentment that may be partly responsible for unauthorized access to the ecotourism sites in Jos and Pandam Wildlife Parks.

4.9.2 Benefits derived from ecotourism sites

The study showed that the major benefit of the ecotourism sites is conservation, which was moderated by the lower benefits derived from the sites in terms of income, infrastructure and participation. Income is an important determinant of well-being in poverty-laden environments (Diener, 2000). The study result suggests a high rate of poverty in the study area; depicted by low income and economic power. Although poverty is not unexpected in rural Africa (Badiora, 2017), there are many places in which such protected sites have been used to improve employment and the income of the surrounding populace (Emptaz-collomb, 2009). This study's result revealed that the sites did not contribute to their economic lives substantially by not providing enough employment opportunities for them or their wards or assisting them to make more consistent income, hence detrimental to the achievement of the sustainable goal of ending poverty everywhere (SDG 1). The result is similar to that of Ijeomah et al. (2013), which specifically identified a lack of employment and financial capital as major reasons for poaching in KLNP. In this study area, the resident majority being farmers have the sales of farm crops as their main source of income; this has been limited by the shortage of land resources for farming due to restrictions placed on lands within the ecotourism sites. A sizeable portion of their farmlands has been taken away by the ecotourism sites. It was observed that the Kabong community had encroached into Jos Wildlife Park by up to 500 metres of the original boundaries of the ecotourism site, and farmlands were clearly within park boundaries. The community heads of Kabong and Dong decried the adverse

effect of the Jos Wildlife Park on the sizes of their farmlands. The ecotourism managers and government officials were unanimous in their opinion that lack of economic resources was the singular most important factor responsible for unauthorised resource exploitation by residents in catchment areas of the sites. Further limiting their farming business and economic status is their inability to access loans for farming, unlike what is obtainable from some ecotourism sites outside Nigeria (Pullin et al., 2013).

Sites which provide fishing opportunities for residents such as Peperuwa Lake and Pandam Wildlife Park were perceived to have a greater influence on the economic lives of residents than where local people have nothing to gain economically from the sites. Thus, indicating that higher benefits in terms of income, as shown by the regression result, can improve the well-being of the residents. Fishermen had the opportunity to make more consistent income during fishing seasons. But owing to the fact that the incomes are still not sufficient to meet their needs, illegal fishing activities were also reported by the community heads around Peperuwa Lake and Pandam Wildlife Park. Overall, the results suggest that restriction policies that do not hinder access to a stable traditional economic life for the local people around ecotourism sites will improve their well-being.

4.9.3 Constraints to well-being in the study area

The major constraints identified by the residents in both the quantitative and qualitative data include restriction on fishing, hunting and logging, poverty, encroachment into ecotourism sites, residents' lack of opportunities to expand their farms, having to trek far distances to farms, having to cope with the attack of wild animals that attack their crops, poor telecommunication networks and poor infrastructure such as access roads causing scarcity of vehicles and high cost of transportation. Poor health facilities, lack of medical personnel and drugs, insufficient number and poor maintenance of boreholes, and poor state of primary and secondary schools. These challenges affect the well-being of residents adversely. These are the reasons for the continuous depletion of available land resources in the study area and unauthorised resource exploitation taking place within the sites as confirmed by the community heads. Specifically, illegal logging and fishing take place in Pandam Wildlife Park, farming takes place illegally within Jos Wildlife Park and FarinRuwa forest, and unauthorised fishing takes place on the Peperuwa lake. If the loss

of natural resources due to unauthorised access continues unchecked, it can further jeopardize the chance to enhance the resident's well-being through tourism development. Such losses have a devastating effect on the achievement of SDGs 12 & 15; ensuring sustainable consumption and production patterns, and protecting, restoring and promoting sustainable use of terrestrial ecosystems respectively (Kry et al., 2020; Mnisi & Ramoroka, 2020).

4.9.4 Influence of restriction on residents' well-being status

The multidimensionality of human well-being is well established (Stiglitz et al., 2009). In this study, the well-being status of the rural residents was based on their five spheres of life, otherwise called domains of well-being. They include material, community, health and safety, and the emotional and educational domains of well-being. It is the outcome of the combination of importance and satisfaction in these areas of residents' lives as perceived by them, at the time the survey was carried out. The peoples' negative perception of the influence of the sites on their material, health and safety, and educational domains overwhelmed all other aspects of their life, notwithstanding the high positive influence the ecotourism sites had on their community and emotional domains. The low well-being status of residents was a combination of the effect of residents' low comprehension of ecotourism principles (Rastegar, 2018; 2019), receiving low benefits from the ecotourism sites (Tijani 2005a; Kibria et al., 2021), and income-based poverty (Pullin et al.,2013) on the domains of well-being. The implication of this is that people's lives have not been improved significantly by the ecotourism sites near them, rather it has limited their opportunity to improve their well-being status. Contrary to the high awareness that was observed in this study, proper comprehension should lead to the acquisition of skills and values that will help residents' participation in site management and enhance the conservation of natural resources (Tbilisi Declaration,1977). Residents did not fully comprehend the complexity of the relationship that is created by their continuous interaction with the natural resources in the ecotourism sites. They seem to have only a very limited understanding of how such interaction can affect the various aspects of their well-being as well as that of their future generations. This finds support from a study finding by Waylen et al. (2009) in Grande Riviere, Trinidad which shows

that awareness of local people can be affected by ecotourism initiatives, such as restricting them from exploitative use of resources, but not their behaviour towards conservation.

Residents deriving low benefits from the ecotourism sites and being unfairly treated in the access to benefits as well as the insufficient employment opportunities and poor state of infrastructure like roads, markets, water supply, and telecommunication in the study area, leaves them with discontent and low well-being; which are often expressed as illegal fishing, poaching, illegal logging and destruction of habitats (Tijani, 2005a). This situation manifested prominently in Pandam community. According to the community head and the staff of Pandam Wildlife Park, illegal logging in the park became more pronounced after the Plateau State Government licensed a Chinese firm to fell some trees. According to Scanlon, (1997), well-being status serves as a reason for a person's rational behaviour, it serves as the basis others use for helping an individual and for supporting someone's area of interest in an argument based on morality. By extension, the rationale for the residents' unauthorised access and exploitative use of natural resources is their low well-being status. It could be argued that restricting access to the ecotourism sites was a detriment to 'the autonomy of agency' (Gough, 2003), a basic well-being condition expressed in THN to mean the ability to make informed decisions. The restriction to the sites hindered the freedom of the residents to make informed choices due to their inability to interact with their environment in a manner they deem suitable for the enhancement of their well-being status.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

The study investigated rural residents' perception of restrictions to selected ecotourism sites and well-being in North Central Nigeria. The aim was to find out whether the ecotourism development activity of restricting access to natural resources within the ecotourism sites affected meeting the individual needs of the residents within ecotourism catchment areas and connected with various aspects of their lives that they value most, with the view to enhancing support for ecotourism development. The specific objectives of the study were to describe selected socioeconomic characteristics of residents in the study area, ascertain their level of awareness of ecotourism principles, and find out the benefits of ecotourism as well as the constraints to well-being faced by rural residents in the study area. The study also determined the residents' perceived influence of restriction on well-being and their well-being status. Their well-being status is composed of their satisfaction with aspects (domains) of their lives that they consider important to their well-being namely: community, material, education, health and safety, and emotional domains. The study was set against the theoretical background that the well-being of individuals in the proximity of ecotourism sites is germane to and precedes support for sustainable tourism development. Both quantitative and qualitative methods of data collection were used in the study.

5.2 Conclusion

From the study findings as indicated in the preceding sections, the following conclusions can be drawn:

The majority of the respondents had poor socioeconomic characteristics typified by low income and education. They had also been exposed to constraints in critical infrastructure. The fact that most of them lived in their communities with these conditions for a long has significantly affected their pool of social, physiological and psychological resources and contributed to their low well-being as suggested by Dodge et al., 2012. This validates the theory of human needs, which holds that depravity can lead to curtailed social interaction and low well-being (Gouth, 2004).

The majority of the respondents were well informed on the rules and regulations that pertain to the preservation of ecotourism sites around them but lacked critical information on the activities on the sites that are necessary to enhance their well-being. Therefore, they were poorly involved in decision-making and knew very little about income-enhancing and training opportunities the sites could offer.

The benefits from the ecotourism sites have indicated that ecotourism has contributed more to environmental sustainability through conservation than to social (education) and economic (employment, income) sustainability. This has negatively affected their overall well-being (Andereck & Nyaunpane, 2011)

The difference between the rankings of how important domains of life were to the respondents and how satisfied they were with each domain, such as the material domain, suggests a possible discontent in well-being, which manifested in habitat destruction and park encroachment as was observed in Pandam Wildlife Park and Jos Wildlife Park respectively.

The influence of ecotourism on well-being domains differed across the ecotourism sites, due to the fact that sites where the people were involved with more commercial activities, such as fishing, were perceived to have a more influence on the well-being of the respondents than others without it. This is evidence that the more livelihood opportunities people can access through ecotourism, the greater the influence it will have on their well-being. Based on the social exchange theory (Nunkoo, 2016), rural people are likely to support the development of ecotourism in an area such as Peperuwa Lake, where they have a greater opportunity to enhance their well-being. The well-being status of the

respondents was low and did not differ across the selected ecotourism sites. This is indicative of the low resources available to the respondents to enhance their well-being in the study areas

Overall, the restriction of residents' access to ecotourism sites has led more to negative consequences on the achievement of sustainable development goal 15 (SDG 15) due to the continuous depletion of available land resources in the study area resulting from unauthorised access by residents, reduced opportunity for economic improvement and their inability to interact with their environment in a manner they deem suitable for the enhancement of their well-being status.

5.3 Limitations of the study

1. Security concerns: It was discovered during data collection that one of the selected communities (Kabong) had recent experiences with bandit attacks. The emotional effect of security issues thus enveloped the entire study area. This elicited caution on the part of the residents in accepting to do interviews with the researcher or his assistants and outright refusal by many, thereby reducing the response rate. However, with frequent visitations and assurances of confidentiality by the research team as well as from the community leaders and the staff of ecotourism sites, more respondents were convinced to take part in the survey.

2. Cultural and language concerns: The residents in the study area span very diverse cultural groups and speak a variety of local languages, even within one local community, an example is Dong (near Jos Wildlife Park). This diversity posed a challenge for data retrieval from illiterate respondents, who were also limited in the use of the Hausa language that was commonly spoken in the study area. To overcome this, the researcher needed to engage different individuals who could interpret the questionnaire adequately to such respondents in the language that they understood most.

3. Poor accessibility due to physical terrain: Bad roads leading to some of the selected communities such as Kayarda (within Pandam Wildlife Park), Marhai and

Masange (near FarinRuwa Waterfall) posed a challenge for data collection in the study area. Due to the nature of the terrain vehicular traffic was poor. Available motorcyclists were engaged at very exorbitant costs to overcome this challenge

5.4 Recommendations

The following recommendations are suggested based on the study objectives and findings, aimed at using participatory engagements to identify possible alternative economic activities for residents.

1. Provision of critical infrastructure. The study revealed that the respondents in the study area had poor socioeconomic characteristics as a result of long exposure to poor social infrastructure. Electricity, access roads, schools, hospitals and telephone networks are critical infrastructural needs of residents that should be provided by State governments, who are responsible for managing these ecotourism sites Specifically, for Farinruwa Waterfall a motorable road is required connecting the waterfall to Masange and Marhai communities

2. Education and Awareness: The study shows that awareness of ecotourism principles influenced well-being status positively. It is therefore critical to improve the local people's awareness of the objectives of ecotourism for residents to take up their roles in the day-to-day running of the sites. The government can partner with the private sector to educate the residents. Ecotourism and conservation education can also be fused into local primary school curricula in the study area. In addition to regular training on improved farming methods, youths can be encouraged to obtain vocational skills.

3. Access to capital and farm inputs: Easy access to capital and farm inputs will improve farm productivity, which would in turn improve material well-being. This will shift residents' attention from the exploitative use of tourism resources. This is critical for the non-fishing communities of Kabong and Dong around Jos Wildlife Park. This also applies to the farming communities of Masenge and Marhai around Farin Ruwa Waterfall.

4. Creation of local resource management fora: The study revealed that where stakeholders exist, they are not very active. Management committees should be created in all the ecotourism sites, that integrate the residents in the day-to day management of the ecotourism resources. These should be created to allow for the free flow of ideas and information between the managers of the sites and the local people. These committees would be responsible for discussing, organizing, planning and taking action from time to time on issues relating to ecotourism resources management, responsibilities, and benefits sharing

5. Specific tourism development framework that could enhance livelihood opportunities: The study shows that the residents were affected differently by the level of livelihood opportunities offered by ecotourism sites around them. It is necessary, therefore, that tourism frameworks be developed by site managers with the involvement of the local people, to reflect the peculiar livelihood and employment opportunities that could be created for the benefit of the residents in and around each ecotourism site.

6. Considering alternative land use at Jos Wildlife Park: The research substantiated that the residents in Kabong, around Jos Wildlife Park have encroached deeply into the Park's initial boundaries with buildings and farms. Given the reduced flora and fauna population, its use as a hideout for criminals and illegal mining taking place within the park puts the park under developmental pressure. The park owners and managers must consider freeing more land for the use of the rapidly expanding local communities around the park for more productive activities such as farming. In addition, growing more forest trees could be done on some sections of the land. A smaller land area of the park which has a high density of flora and fauna could be considered for development into a full-fledged zoo. This may considerably improve the socio-economic activities of the surrounding communities and their well-being subsequently.

7. Development and promotion of ecotourism sites. Low patronage of ecotourism sites hinders residents from benefiting from visitations. The government can

partner with the private sector to promote and develop sites such as the Farin Ruwa waterfall with very poor accessibility and facilities for increased patronage.

8. Safety and Security. Recent security challenges experienced by residents have made it difficult for residents to stay in their traditional homes such as in Kabong near Jos Wildlife Park. The Government needs to improve the security operations within and outside ecotourism sites in north central Nigeria

5.5 Contributions to knowledge

This study has contributed to the study of well-being, tourism and sustainability as separable concepts, and in relation to each other in the following ways

1. On well-being, the study has shown that the well-being status of residents in the study area is an aggregation of both the importance of well-being domains to residents and their satisfaction with those well-being domains.

2. It established also that the restriction on ecotourism sites has negatively influenced the well-being status of the residents.

3. The study further established that restrictions to ecotourism sites have significantly different effects on various well-being domains of the residents. It has a pronounced positive effect on both the emotional and the community well-being, but it reduced the opportunity for the improved economic well-being of the rural residents in catchment areas of ecotourism sites, based on their levels of accessibility to natural resources.

4. Concerning tourism, the study has established that despite the touristic potentials of the study area, ecotourism is not fulfilling its expected role as a sustainable form of tourism in the study area due to its low contribution to the well-being status of the residents and depletion of natural resources.

5. The study has also established that restrictions on natural resources are visible initiatives geared towards establishing environmental sustainability in the study

area. However, this has not imparted meaningfully on both economic sustainability and social sustainability in the study area.

5.6 Suggestions for further research

1. Research has shown that the well-being of residents in rural tourism areas in Nigeria is a multidimensional construct with several domains, however, only five tourism-related domains were identified in the study, further research may explore other important well-being domains.

2. The well-being of residents can be affected not only by their proximity to the sites but also by the actions and inactions of other stakeholders in sustainable rural development. It is, therefore necessary to investigate government activities in their role as managers of the ecotourism sites, and their effect on the well-being of local residents.

3. This study's findings suggest that visitor patronage to the selected ecotourism sites is low and their population pose no constraint to residents' well-being. However, it is very important to investigate the level of tourist patronage and the characteristics of the visitors to each of the selected ecotourism sites. This might provide information on ways by which visitors affect the well-being of residents in close proximity to these ecotourism sites.

4. The scales used in the study to obtain the well-being status were designed specifically for that purpose based on extant literature, it could be further adopted, modified and used in other environments.

REFERENCES

Acquah, E., Nsor, C.A., Arthur, E. K and Boadi, S. 2017. The socio-cultural impact of ecotourism on park adjacent communities in Ghana. *Hospitality, Tourism and Leisure* 6.2:1-14.

Adebayo, W.O., Jegede, A.O. and Eniafe, D. O. 2014.The economic impact of tourism development in Ile-Ife, Osun State, Nigeria. *Journal of Tourism, Hospitality and Sports* 2: 28-33.

Adetola, B. O. 2017. Perspectives on ecotourism in the support zone communities of Cross River National Park. Nigeria. *International Journal of development and Sustainability* 6.5:212-228

Adetoro, A. O. 2008. People's perceptions of old Oyo National Park: Germane issues in park management. *Environmental Research Journal* 2.4:182-186.

Adetoro, A.O., Lawal, M.S. and Jenyo-Oni, A. 2011. Biodiversity conservation and community participation in Kainji Lake National Park, Nigeria. *Advances in Applied Science Research* 2.2:218-226

Adisa, A. L., Agunbiade, O.M., and Akanmu, O.E. 2008. House ownership as a well-being index among retirees in Osun State, Nigeria. *The Journal of International Social Research* 1.5: 30-46

Adler, A., and Seligman, M. E. P. 2016. Using well-being for public policy: theory, measurement and recommendations. *International Journal of Well-being* 6.1: 1-35. DOI:10.5502/ijw.v6i1.429.

Aidelunuoghene, O.S. 2014.The paradox of poverty in Nigeria: what an irony. *Research Journal of Finance and Accounting* 5.4: 116-122.

Anandaraj, M. 2015. Ecotourism: origin and development. *International Journal of Management and Humanities* 2.1: 1-3.

Andereck, K. L., and Nyaupane, G. P. 2011. Exploring the nature of tourism and quality of life perceptions among residents. *Journal of Travel Research* 50.3**:** 248-260.

Andriotis, K. 2000. Local community perceptions of tourism as a development tool: the Island of Crete. PhD. Thesis. Bournemouth University, Greece. XIX + 487pp. Retrieved Mar. 3, 2013, from www.angelfire.com/ks../Chapter0.pdf

Ap, J. 1992. Residents' perceptions on tourism impacts. *Annals of Tourism Research* 19.4: 655-690

Apata, T.G., Apata, O.M., Igbalajobi, O. A., and Awoniyi, S.M.O. 2010. Determinants of rural poverty in Nigeria: evidence from small holder farmers in south-western, Nigeria. *Journal of Science and Technology Education Research* 1.4: 85 – 91.

Aref, F. 2011. The Effects of tourism on quality of life: a case study of Shiraz, Iran. *Life Science Journal* 8.2: 26-30.

Arungbemi, K.M. 1984. The effects of Kainji Lake National Park on the pattern of national resources utilization by the Neigbouring population. K.I.R.I annual report for 1984: 336-347

Asenguah, S. 2017. Your local guide to the North Central region of Nigeria. *My guide Nigeria.* Retrieved June 12, 2017, from www.myguidenigeria.com/regionalinfo/ north-central-region.

Ashton, K., and Jones, C. 2013. *Geographies of human well-being.* Geography Teachers' Association of Victoria Inc (Global Education Project Victoria), Commonwealth of Australia. Retrieved Nov.16, 2015 from www.globaleducation.edu.au/.../ global_ wellbeing

Bac, D. P. 2008. A history of the concept of sustainable development: Literature review. *The Annals of the University of Oradea. Economic Sciences series* 17.2:576-580

Badiora, A.I and Abiola, O.B. 2017. Quality of life (QoL) of rural dwellers in Nigeria: a subjective assessment of residents of Ikeji-Arakeji, Osun-State. *Annals of Ecology and Environmental Science* 1.1: 69-75

Benedetto, M. 2018. *What is dark tourism*? Retrieved on Apr 20, 2020, from www. researchgate.net/publication/339738891_What_is_dark_tourism

Bengtsson, M. 2016. How to plan and perform qualitative study using content analysis *NursingPlus Open* 2:8-14

Bokov, Y; Davydova, M; Zolotovskiy, V; Abezin, D (2020). Legal restrictions in ecotourism. *Advances in Engineering Research, volume 19*:46-50

Bronsteen, J., Buccafusco, C.J., and Masur, J.S. 2009. *Welfare as Happiness*. Retrieved May 5, 2016, from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1397843

Cahyat, A., Gonner, C and Haug. M. 2007. *Assessing household poverty and wellbeing: a manual with examples from Kutai Barat, Indonesia*. Bogor, Indonesia: Center for International Forestry Research

Candela G. and Figini, P. 2012. *The Economics of tourism destinations, texts in business and economics*. Verlag Berlin Heidelberg: Springer DOI: 10.1007/978-3-642-20874.

Carter, A., Durham, W.H., Driscoll, L and Honey, M. 2015. Can ecotourism deliver real economic, social, and environmental benefits? A study of the Osa Peninsula, Costa Rica, *Journal of Sustainable Tourism* 23.3: 339-357.

Chanfreau, J., Lioyd, C., Byron, C., Roberts, C., Craig, R., DeFeo, D. and Mcmanus, S. 2013. *Predicting Well-being*. Natcem Social Research, London. Retrieved Nov. 24, 2015, from http://www.natcen.ac.uk/media/205352/predictors-of-well-being.pdf

Chirozva, C. 2015. Community agency and entrepreneurship in ecotourism planning and development in the Great Limpopo Transfrontier Conservation Area. *Journal of Ecotourism* 14: 2–3

Christou, L. 2012.Is it possible to combine mass tourism with alternative forms of tourism: the case of Spain, Greece, Slovenia and Croatia *Journal of Business Administration Online*- Spring 2012:1-8. Retrieved Aug.4, 2015, from www.atu/edu/jbao

Costanza, R., Brendan F., Saleem, A., Beer, C., Bond, L., Boumans, R., Danigelis, N. L., Dickinson, J., Elliotte, C., Farley, J., Gayer, D.E., Glenn, L. M., Hudspeth, T., Mahoney, D., Mchill, L., McIntosh, B., Reed, B., Rizvi, S.A.T., Rizzo, D.M., Simpatico, T. and Snapp, R. 2007. Quality of life: An approach integrating opportunities, human needs, and subjective well-being. *Ecological Economics* 61:267-276

Cores, R. 2012. Assessing tourism development from Sen's capability approach. *Journal of Travel Research* 51.5: 542-554.

Cummins, R.A. 2010. Subjective well-being, homeostatically protected mood and depression: A Synthesis. *Journal of Happiness Studies* 11:1-7. DOI:10.1007/s10902-009-9167-0

_____. 2013. Fostering quality of life. *Inpsych* 35.1. Retrieved on June 12, 2019, from www.psychology.org.au/publication/inpsych/2013/february/cummins

Dangi, T.B. and Jamal, T. 2016. An integrated approach to "Sustainable Community-Based Tourism" *Sustainability* 8.5: 475. DOI: 10.3390/su8050475

Dieke, P. 2003. Tourism in Africa's economic development: policy. *Management Decision* 41.3: 287-295.

Diener, E. 2000. Subjective well-being: the science of happiness and a proposal for national index. *American Psychologists* 35.1:34-45 DOI:10.1037/0003-066X.55.1.34

Dodge, R., Daly, A., Huyton, J., and Sanders, L. 2012. The challenge of defining well-being. *International Journal of Well-being 2*.3: 222-235. DOI:10.5502/ijw.v2i3.4

Dombroski, K 2005. Exploring the potential of mass tourism in the facilitation of community development: A case study of Jiuzhaigou biosphere reserve, Western China. MPhil. Thesis. Developmental studies. Massey University, New Zealand. xix+187pp.Retrieved Mar.30, 2016, from www.communityeconomics.org/ site/asset/ media/kely_Dombroski/Dombroski-thesis.pdf

Dover, M. A. 2013. Human needs: an overview. *Encyclopedia of social works.* DOI:10.1093/acrefore/9780199975839.013.554

Duke, O. 2008. Nigerian ecotourism: An overview. *Preservation of land, culture and wildlife for the development of ecotourism in Africa.* Ed. D.A. Aremu, Ibadan: Spectrum 24-36.

Easterlin, R.A and Sawangfa, O. 2007. *Happiness and Domain satisfaction: theory and evidence*. No 2584. Institute of Labour Economics (IZA) Discussion paper. Retrieved June 15, 2015 from https://EconPapers.repec.org//RePEc: iza: izads: dp2584

Egbali, N., Nosrat, A.B., and Alipour, S.K.S. 2011. Effects of positive and negative rural tourism (case study: rural Semnan province). *Journal of Geography and Regional Planning* 4.2: 63-76

Emptaz-Collomb, J.G. 2009. *Linking tourism, human well-being and conservation in the Caprivi Strip (Namibia).* PhD. Thesis. University of Florida. 197pp. Retrieved July15, 2015, from http://etd.fela.edu/UF/UFEoo41031/emtazEmptaz-Collomb_j.pdf

Eshun, G., Adjei, P. W and Baah, A. 2015. Where is community well-being in ecotourism research in Africa? A case from Ghana. *African journal of hospitality, tourism and leisure* 4:1-13. Retrieved Sept 18, 2018, from https://www.researchgate.net/publication/281462201

Eshun, G and Tichaawa, T.M. 2019. Reconsidering participation for local community well-being in ecotourism in Ghana. *Geojournal of tourism and geosites* 27.4: 1184–1200. DOI: org/10.30892/gtg.27406-425

Esu, B.B. 2013. Strategies for harnessing investment opportunities through tourism in Nigeria. *Journal of Research in Hospitality, Tourism and Culture* 1.1:1-14

Etuk, E. E. and Odebode, S. O. 2016. Comparative analysis of rural households' wellbeing in selected states of the Niger Delta Zone of Nigeria. *Nigerian Journal of Rural Sociology* 16.4: 61-68.

Eurostat, 2016. *Analytical report on subjective well-being*. Publications Office of the European Union: Luxembourg. DOI: 10.2785/318297

Federal Republic of Nigeria (FGN). 2010. Fourth annual biodiversity report.

Fennell, D. 2008. *Ecotourism.* 3rd ed. New York: Routledge.

Fisher, J. 2011.The Four domains model: Connecting spirituality, health and well-being *Religions* 2.1: 17-28. DOI: 10.3390/rel2010017.

Fredrickson, B. L. and Joiner, T. 2002. Positive emotions trigger upward spirals towards emotional well-being. *Psychological Science* 13.2):172-175 DOI:10.1111/1467-9280.00431.

Freimann, A., Ham, M and Mijoc, J. 2014. Measuring objective well-being and sustainable development management. *Journal of Knowledge Management, Economics and Information Technology* 4.2: 1 - 29.

Frost, J. 2020. Standardization in statistics. statisticsbyjim.com. Retrieved May 15, 2020 from http://statisticsbyjim.com/glossary/standardization/

Full frame initiatives-FFI. 2011. *The five domains of well-being: definitions*. Retrieved May17, 2016 from http://www.transformcommunities.org/sites/default/files/

_____ 2015. *The five domains of well-being: overview*. Retrieved May17, 2016 from http://fullframeinitiative.org/wp-content/uploads/2011/ 05/Five-Domains-of-Well-being-Overview.pdf

Fukuda, S., Murakami,M., Noda, K and Oki, T. 2016. How achieving the millennial development goals increase subjective well-being in developing nations. *Sustainability* 8.189:1-19

Galloway, S., Bell, D., Hamilton, C., and Scullion, A. 2006. Quality of life and well-being: Measuring the benefit of culture and sports: a literature review and think piece, *Scottish Executive Social esearch*.
Retrieved Mar.8, 2016 from dera.ioe.ac.uk/7276/1/0021350.pdf

Gazzola, P and Querci, E. 2017.The connection between the quality of life and sustainable ecological development. *European Scientific Journal* 13.12:361-375

Gough, I. 2003. *Lists and thresholds: comparing our theory of human need with Nussbaum's capabilities approach.* Working Paper 01. The Well-being in Developing Countries Research Group. University of Bath, Bath UK

Gough, I. 2004. Human well-being and social structures: relating the universal and the local DOI: *Global Social Policy* 4.3: 289-311.

Grant, S., Langan-Fox, J and Anglim, J. (2009). The big five traits as predictors of subjective and psychological well-being. *I Psychological reports* 105.1: 205-231

Guest, G. and Fleming, P.J. 2015. Mixed Methods Research. *Public Health Research Methods.* G..Guest and E .Namay Ed. Sage: 581-610 DOI: 10.4135/9781483398839.n19

Gunap, E.G., Chuma, V., Dante, A. B and Gontul, T. 2017.Tourists motivations to Plateau State. *International Journal of Development Research* 7.12:18024-18029.

Hansen, T and Slagsvold, B. 2012. The age and subjective well-being paradox revisited: a multidimensional perspective. *Norsk Epidemiologi* 22.2: 187-195

Hall, C.M. and Lew, A.A. 2009. *Understanding and Managing Tourism Impacts: an integrated approach*. New York: Routledge

Harrill, R. 2004. Residents' Attitudes towards tourism development: A Literature Re-view with implications for Tourism Planning. *Journal of Planning Literature*. 18.3: 251-266.

Healey, M. 2018. *Aims and Objectives of Ecotourism.* Travel tips - *USA Today*. Retrieved May 20, 2018, from http://traveltips.usatoday.com/aims-objectives-ecotourism

Helne, T. and Hirvilammi, T. 2015. Well-being and sustainability: a relational approach. *Sustainable Developmen*t 23.3: 167–175

Hicks, S. 2011. The measurement of subjective well-being. paper for measuring national well-being. Technical advisory group. 4 February, 2011. Retrieved July 6, 2016, from measurementwellbein_tcm77-225913%20(5).

Hilton, A & Armstrong, R.A.2006. Statnote :6 post-hoc anova tests. Microbiologist 2006:34-36

Honey, M., and Gilpin, R. 2009. Tourism in the developing world promoting peace and reducing poverty. Special Report. United States Institute for Peace. Retrieved Nov. 8, 2015, from www.usip.org

Hooghe M. and Vanhoutte, B. 2009. Subjective well-being and social capital in Belgium communities. Subjective and objective indicators in Flanders (Belgium). *From GDP to Well-being Conference*, 3-5, December, 2009, Ancona, Italy

International Air Transport Association - IATA. 2016. *Foundation in travel and tourism course textbook* Geneva: IATA

International Union for Conservation of Nature–IUCN (n.d). *About* protected a*reas*. Retrieved Oct.10, 2010 from www. iucn.org.

Ijeomah, H.M. 2007. Impact of tourism on perceived poverty alleviation in Plateau State, Nigeria. PhD. Thesis. Department of Wildlife and Fisheries Management. University of Ibadan, Nigeria. xix -301pp

_____. 2012. Impact of tourism on livelihood of communities adjoining ecodestintions in Plateau state, Nigeria. *Revista de Cultura e Turismo* 6.3: 55-71

_____. and Ayodele, I. A. 2009. Assessment of revenue generation avenues in ecotourism destinations of Plateau State, Nigeria. *An International Multidisciplinary Journal*. 3.4: 441-452.

_____. and Emodi, A. I. 2012.Socioeconomic characteristics and needs assessment of households adjoining ecotourism centres in Plateau State. *Nigerian Journal of Agriculture, Food and Environment* 8.4:16-25.

_____. and Eniang, E.A. 2018. Ecotourism and National Development in Nigeria: Prospects and Challenges. *Proceedings of 6th NSCB Biodiversity Conference*, Uniuyo :1 – 12.

_____. Ogogo, A. U and Ogbara, D. 2013. Analysis of poaching activities in Kainji Lake National Park of Nigeria. *Environmental and Natural Resources and Research* 3.1:51-61.

_____. and Okoli, C. I. C. 2016. Assessment of tourists' visitation and host communities' participation in the management of selected ecotourism destinations in Nigeria. *International journal in research in Tourism and Hospitality (IJRTH)* 2.1:19-33

_____. and Okoli, C. I. C. 2016a. Challenges of ecotourism in selected destinations of Nigeria. *International journal of Agriculture and rural development* l19.2: 2655-2668.

Iwona, F. 2012. Sustainable tourism development, regional formation and development studies. *Journal of Social Sciences*. 157-166. Doi 10.1007/3-540-25815-9_16'

Jaafar, M., Bakri, N.M. and Rasoolimanesh S.M. 2015. Local community and tourism development: A study of rural mountainous destinations. *Modern Applied Science* 9.8: 399-408.

Jackson, R. A. 2007. Aristotle on what it means to be happy. *Richmond Journal of Philosophy* 16 (Winter 2007): 1-8. Retrieved Oct.2, 2016. from https://studylib.net

Kaliterna L. and Larsen, Z. P. 2016. What differs between happy and unhappy people? *Springer Plus* 1-9 DOI: 10.1186/s40064-016-1929-7

Kalaitan, T. V., Stybe, V. V., Gutyj, B. V., Hrymak O. Y., Kushnir1 L. P., Yaroshevych N. B., Vovk1 M. V., Kindrat, O. V. (2021). Ecotourism and sustainable development. Prospects for Ukraine. *Ukrainian Journal of Ecology*11.1:373-383, DOI: 10.15421/2021_55

Kibria, A. SMG., Behie, A., Costanza, R., Groves, C and Farrell, T. 2021. Potentials of community-based-ecotourism to improve human wellbeing in Cambodia: an application of millennium ecosystem assessment framework. *International Journal of Sustainable Development & World Ecology* 28.5:461-472, DOI: 10.1080/13504509.2020.1855606

Kim, K. 2002. The effects of tourism impact upon quality of life of residents in the community. PhD. thesis. Faculty of the Virginia Polytechnic Institute and State University. Blacksburg, Virginia. V+274pp. Retrieved July 28, 2015, from http://schplar.lib.vt.edu/theses/available/etd-12062002123337/unrestricted/Titleand _ Text.pd

Kiper, T. 2013. Role of ecotourism in sustainable development. *Advances in Landscape Architecture* 773-802. DOI:10.5772/55749

Korotkov, D., McLean, H., Hamilton, L. 2011. Predicting leisure satisfaction: a comparative analysis of the agency and communion model and the five-factor model of personality. *American Association of Behavioral and Social Sciences Journal* 15:1-20

Krejcie, R. V. and Morgan, D. W.1970. Determining sample size for research activities *Educational and Psychological Measurement* 30.3: 608

Kry, S. Sasaki, N., Datta, A., Abe, I., Ken. S. and Tsusaka, T.W. 2020. Assessment of the changing levels of livelihood assets in the Kampong Phluk community with implications for community-based ecotourism. *Tourism Management Perspectives* 34: 100664

Liu, S. and Li, W. (2020). Ecotourism Research Progress: A Bibliometric Analysis During 1990–2016 *SAGE Open April-June 2020*: 1–12. DOI: 10.1177/2158244020924052

Loewe, N., Bagherzadeh, M., Araya-Castillo, L., Thieme, C.and Batista-Foguet, J. M. 2014. Life domain satisfactions as predictors of overall life satisfaction among workers: evidence from Chile. *Social Indicators Research* 118.1:71–86. DOI:/10.1007/ s11205-013-0408-6

Lu, L. and Hu, C. 2005. Personality, leisure experience and happiness. *Journal of Happiness Studies* 6:325-342. DOI: 10.1007/s10902-005-8628-3

Luhmann, M. and Intelisano, S. 2018. Hedonic adaptation and the set point for subjective well-being. E. Diener, S. Oishi, and L. Tay. Eds., *Handbook of well-being*. Salt Lake City, UT: DEF Publishers

Lun, V.M. and Bond, M. H. 2013. Examining the relation of religion and spirituality to subjective well-being across national cultures. *Psychology of religion and spirituality* 5.4:304-315 DOI: 10.1037/a0033641

Marguba, L.B. 2008. National parks and their benefits to local communities. *Preservation of Land, Culture and Wildlife for the development of Ecotourism in Africa*. Ed D. A Aremu. Ibadan: Spectrum Books Limited 37-55

Marafa, L. M. 2007. Tourism, leisure and the MDGs: the relevance to Africa's development. Unpublished paper, the Chinese University of Hong Kong, Hong Kong. Retrieved on Oct.19, 2015 from http://www.iipt.org/africa2007/ PDFs/Tourism% 20Leisure%20and%20the%20MDGs_IIPT2007_Marafa.pdf

Massam, B. H. 2002. Quality of life: public planning and private living. *Progress in Planning* 58.1: 141-227

Matthews, E. J. 2002. Ecotourism: Are current practices delivering desired outcomes? a comparative case study analysis. Master Thesis. Faculty of the Virginia Polytechnic Institute and State University, Blacksburg, Virginia. iv+106pp. Retrieved July 30, 2013 from http://schoolar.lib.vt.edu/theses/availableetd-05132002-090008

Mchenry, J.A. 2011. The arts and social well-being in rural communities: a qualitative and quantitative assessment in the Mid-West region of Western Australia. PhD. Thesis. Centre for regional development, school of earth and environment. University of Western Australia. 251pp. Retrieved on Mar.24, 2016 from www.dca.wa.gov.au/.../Creative%20communities/RegionalWell_Being_ THESIS

Meduna, A. J, Ogunjinmi, A.A. and Onadeko, A.S. 2009. Biodiversity conservation problems and their implications on ecotourism in Kainji Lake National Park, Nigeria. *Journal of Sustainable Development in Africa* 10.4: 59-73

Merriam, S. (2009). Qualitative research: A guide to design and implementation. San Francisco, CA: Jossey-Bass

Michaelson, J., Mahony, S.and Schifferes, J. 2012. *Measuring well-being: a guide for practitioners.* New Economic Foundation-NEF

Miles, M.B. and Huberman, M.A. 1994. Qualitative data analysis: an expanded source book. 2nd ed. Beverly Hills: Sage

Miller C. C 2017. Challenges and potentials of ecotourism as a form of conservation and sustainable development on Zapatera Island. Master Thesis. Department of Urban and Rural Development. Swedish University of Agricultural Sciences. 250pp Retrieved Sep.23, 2017, from http://stud.epsilon.slu.se

Mnisi, P. & Ramoroka, T. 2020. Sustainable Community Development: A Review on the Socio-Economic Status of Communities Practicing Ecotourism in South Africa. *International Journal of Economics and Finance Studies* 12.2: 505-519. Doi: 10.34109/ijefs.202012216 5

Munikrishnan, U.T., Rajaratnam, S.D., Mura, P. and Nair, V. 2014. Local residents' involvement in rural tourism: the case of KOPEL in Kinabatangan, Sabah, Malaysia. *Best Education Network Think Tank* 13: 208-226.

Mutanga, C. N., Vengesayi, S., Muboko, N., and Gandiwa, E. 2015a. Towards harmonious conservation relationships: A framework for understanding protected area staff-local community relationships in developing countries. *Journal for Nature Conservation 25*: 8-16.

Mutanga, C. N., Vengesayi, S., Gandiwa, E. and Muboko, N. 2015b. Community perceptions of wildlife conservation and tourism: A case study of communities adjacent to four protected areas in Zimbabwe. *Tropical Conservation Science* 8.2: 564-582.

Nastran, M. 2015. Why does nobody ask us? Impacts on local perception of a protected area in designation, Slovenia. *Land Use Policy* 46: 38-49.

National Population commission (NPC). 2006. *Census priority list*, Retrieved Mar.3, 2018, from http://www.population.gov.ng/index/state-population

Nelson, F. 2004. *The evolution and impact of community-based ecotourism in Tanzania*. IIED, London, paper No181:1-40

Neth, B. 2008. *Ecotourism as a tool for sustainable rural community development and natural resource management in the Tonle Sap Biosphere Reserve*. Kassel: University Press.

Ndako.Y. S., Yelwa, M., Obansa S.A.J. and Magaji, S. 2018. Manifestation of income inequality and poverty prevalence in selected North Central States of Nigeria. *Journal of Economics and Public Finance* 4.2:4-9 DOI: 10.22158/jepf.v4n2p130

Nsukwini, S and Bob, U. 2016. The socio-economic impacts of ecotourism in rural areas: a case study of Nompondo and the Hluhluwe-iMfolozi Park (HIP). *Journal of Hospitality and Tourism Management* 5.3:1-15

Newman, D.B., Tay, L., and Diener, E. 2013. Leisure and subjective well-being: a model of psychological mechanisms as mediating factors. *Journal of Happiness Studies.* DOI: 10.1007/s10902-013-9435-x

Nigeria Galleria 2017. *Pandam Game Reserve Plateau State, Nigeria*. Retrieved June12, 2017, from nigeriagallageria.com/Nigeria/State Nigeria/Plateau/Pandam

_____. 2017. *Peperuwa Lake Nassarawa State, Nigeria*. Retrieved June12, 2017, fromnigeriagallageria.com/Nigeria/State_Nigeria/Nassarawa/Peperuwalake

Nunkoo, R. 2016. Towards a more comprehensive use of social exchange theory to study residents' attitudes to tourism. *Procedia Economics and Finance* 39:588-596

Odeleye D.A. and Oyekanmi A.O. 2013. Tourism and rural development as a means of combating economic meltdown in Nigeria: implication for counselling practice. *Universal Journal of Education and General Studies* 2.1: 021-025

Ogbozor, E.N., Omale, D. J. and Umar, M.M. 2018. Building bridges between herders and farmers in Plateau, Nassarawa, and Kaduna States. Final Evaluation Report, Peace studies & conflict resolution network (PS&CRN). Retrieved Oct.16, 2019, from www.sfcg.org

Ojong, F.E., Eja I. E., Undelikwo, V.A. and Agbor, E. A. 2013. Indigenous peoples' perception of Ecotourism in Cross River state, Nigeria. *Social Sciences and Humanities* 4.1: 275-281.

Okech, R., Haghiri, M. and George, B. P. 2012. Rural tourism as a sustainable development alternative: an analysis with special reference to Luanda, Kenya. *Cultur: Revista De Cultura eTurismo* 6.3: 36–54.

Oluwatayo, J. A. 2012. Validity and Reliability Issues in Educational Research. Journal of *Educational and Social Research* 2.2:391-400

Oni, O. A. and Adepoju, T.A. 2014. A capability approach to the analysis of rural households' well-being in Nigeria. *International Journal of Social Economics*. 41.9:1-24 DOI: 10.1108/IJSE-02-2013-0034

Oxford Poverty and Human Development Initiative-OPHI 2013.*Multidimensional Poverty Index: A new Approach to global poverty*. Retrieved Mar.11, 2016, from http://www.un.org/en/ga/second/65/docs/foster.pdf

Oxford Poverty and Human Development Initiative-OPHI 2017. *OPHI Country Briefing: Nigeria-Data for all.* Retrieved Apr.1, 2018, from www.dataforall.org/dashboard/ ophi /index.php/mpi/download_brief_files/NGA

Oruonye, D.E. 2013. The challenges of rural tourism development in Nigeria: a case of Yorro lga, Taraba State Nigeria. *International Journal of Social Sciences Arts and Humanities* 1.1: 1-6

Pullin, A.S., Bangpan, M.., Dalrymple, S., Dickson K., Haddaway, N.R., Healey, J. R., Hauari, H., Hockley, N., Jones, J.P.G., Knight, T., Vigurs, C. and Oliver, S. 2013. Human well-being impacts of terrestrial protected areas. *Environmental Evidence* 2.19: 1-41 DOI: 10.1186/2047-2382-2-19

Purvis, B., Mao, Y and Robinson, D. 2018.Three pillars of sustainability: in search of conceptual origins. *Sustainability Science*. DOI:10.1007/s11625-018-0627-5

Rastegar, R. 2018.Tourism development and local community wellbeing: Understanding the needs. *Tourism Innovations* 8.2:66-70

Rastegar, R. 2019. Tourism development and conservation, do local residents attitude matter. *International Journal of Tourism Sciences*19.3:181-191

Reddy, T.L and Thomson R. J. 2015. Environmental, social and economic sustainability: implications for actuarial science. *Presented to the Actuaries Institute, ASTIN, AFIR/ERM and IACA Colloquia 23-27 August 2015*. Sydney

Rigon A., Abah S., Dangoji S., Walker J., Frediani A. A., Ogunleye O., and Hirst L. 2015. Well-being and Citizenship in Urban Nigeria. Urbanisation Research Nigeria (URN) Research Report. London: ICF International. Creative Commons Attribution-Non-Commercial-ShareAlike CC BY-NC-SA

Rojas, M. 2004. The complexity of well-being: A life-satisfaction conception and a domain of life approach. Paper for the International Workshop on Researching Well-being in Developing Countries Hanse Institute for Advanced Study Delmenhorst, near Bremen, Germany 2-4th July 2004. Retrieved on Jan.3, 2018, from:https://pdfs.semanticscholar.org/2bcb/841d0bf4bdce01cd18c878fbccd28342 4c67.pdf

Rockika, E. 2014. The concept of quality of life in the context of economic performance and social progress. *Welfare State at Risk –Rising inequality in Europe* D. Eibel., E. Rockika and J. Leaman Eds. Basel: Springer Chapter 2:11-34. DOI. 10.1007/978-3-19-01481-42.

Royo, M. G., and Velazco, J. 2005. Exploring the relationship between happiness, objective and subjective well-being: Evidence from rural Thailand. ESRC Research Group on Well-being in Developing Countries. University of Bath, Great Britain Paper presented at the Capabilities and Happiness Conference 16-18 June 2005. Retrieved on Apr.1, 2016, from: https://www.researchgate. net/.../237250856

Rutten, M. 2002. P*ark beyond parks: genuine community-based wildlife ecotourism or just another loss of land for the Masaai pastoralist in Kenya*? IIED, London Issue paper No. 111:1-27

Ryan, R. M. and Deci, E. L. 2001. On happiness and human potentials: a review of research on hedonic and eudaimonic well-being. *Annual Review Psychology* 52:141-66

Sapkota, J. 2018. Access to infrastructure and human well-being: evidence from rural Nepal. *Development in practice* 28:182-194 DOI:10.1080/0961524.2018.1424802

Scalon Jr, T.M. 1996.The status of well-being. The Tanner lectures on human value. University of Michigan. October 25, 1996. Retrieved May 24, 2021, from https://tannerlectures.utah.edu/_resources/document/a-to-z/s/Scanlon%20well-being.pdf

Sharpely, R. 2009. *Tourism development and the Environment: Beyond sustainability?* London: Earthscan

Smith, C.L. and Clay, P.M. 2010. Measuring subjective and objective well-being: analyses from five marine commercial fisheries. *Human Organization* 69.2:158-168.

Smith, M.K. and Diekmann, A. 2017.Tourism and wellbeing. *Annals of Tourism Research* 66: 1–13.

Snyman, S. 2014. The impact of ecotourism employment on rural household incomes and social welfare in six southern African countries. *Tourism and Hospitality Research* 14.1-2: 37-52.

Spenceley, A. 2016. Ecotourism: benefits for conservation and local people. *African Wildlife* 60.3:15-18

Sreekumar, R. 2008.The pattern of association of religious factors with subjective well-being: a path analysis model. *Journal of the Indian Academy of Applied Psychology*, 34:119-125

Stratham, J. and Chase, E. 2010. *Childhood well-being a brief overview*. Briefing Paper 1, Childhood Well-being Research Centre. Loughborough University. London

Stiglitz, J., Amartya, S. and Fitoussi, J. 2009. *Report by the commission on the measurement of economic performance and social progress*. Commission on the Measurement of Economic Performance and Social Progress

Taherdoost, H.2016. Validity and reliability of research instrument; how to test the validity of a questionnaire/survey in research. *International Journal of academic Research in Management* 5.2:18-25

Tang, C., Zhong, L., and Cheng, S. 2012. Tibetan attitude towards community participation and ecotourism. *Journal of Resources and Ecology* 3.1:8-15. DOI:10.5814/ j. issn.1674-764x.2012.01.002.

Tairo, A. (2015, February 16). Maasai communities share tourist benefits in Tanzania. *ETN Tanzania Global Travel Industry news*. Retrieved from http://www.eturbonews.com/ 55593/maasai-communities-share-tourism-benefits-tanzania

Tezcan, B. 2014. Developing alternative modes of tourism inTurkey. MSc Thesis. Department of Political Science and Public Administration. Middle East Technical University, Turkey. 128pp. Retrieved Mar.31, 2019, from http://citeseerx.ist.psu.edu/ viewdoc/download?doi10.1.1.633.2596&rep=rep1& type=pdf

Tbilisi Declaration.1977. Intergovernmental conference on environmental education: October 12-26, 1977. Retrieved, Feb. 20, 2018, from https://cdn.naaee.org

The International Ecotourism Society-TIES .2015. *TIES announces ecotourism principles revision.* Retrieved Feb. 2, 2018, from www.ecotourism.org/news/ecotourism definition.

_____.2019. *What is ecotourism?* Retrieved May 3, 2022 from https://ecotourism.org/what-is-ecotourism/

Theobald, W.F. Ed. 1998. *Global tourism.* 2nd ed. Oxford UK: Butterworth-Heinemann

Tijani, N. 2005a.Challenges and Imperatives of community-based conservation in Old Oyo National Park, *Biological and Environmental Science Journal for the Tropics* 2.2:112-118.

_____.2005b. Local community perception of the wildlife conservation in Old Oyo National Park, *Biological and Environmental Science Journal for the Tropics* 2.2:119-125

Tinkler, L. and Hicks, S. 2011. *Measuring subjective well-being*, Office of National Statistics. Retrieved Apr. 23, 2016, from https://www.ons.gov.uk/.../well-being/well-being...well-being/measuring-subjective-well

Tomyn, A. J., Weinberg, M. K. and Cummins, R. A. 2014. Intervention efficacy among 'at risk' adolescents: A test of subjective well-being homeostasis theory. *Social Indicator Research.* DOI 10.1007/s11205-014-0619-5

Torres, L. D. B., Seixas, S. R da C and Asmus G. F. 2019. Quality of life and sustainable development. *Encyclopedia of Sustainability in Higher Education.* Ed. W.L Filho. Switzerland: springer nature. Retrieved Apr. 1, 2021, from http://doi.org/10.1007/978-3-319-63951-2_26-

Triarchi E. and Karamanis K. 2017. The evolution of alternative forms of tourism: a theoretical background. *Business & Entrepreneurship Journal.* 6.1: 39-59

Tunde, A.M. 2012. Harnessing tourism potentials for sustainable development: a case of Owu waterfalls in Nigeria. *Journal of Sustainable Development in Africa*, 14.1:119-133

United Nations World Tourism Organization. 2006. *Nigeria Tourism Development Master Plan Executive Summary*. Retrieved on Oct.15,2015, from http://www.ibadektyma. com/tourism_masterplan.plan

United Nations World Tourism Organisation-*UNWTO. 2018. Tourism and Sustainable Development Goals-Journey to 2030*. DOI: 10.18111/9789284419701. Retrieved Aug.5, 2019, from www.e-unwto.org

Usman, B.A. and Adefalu, L. L. 2010. Nigerian forestry, wildlife and protected area: Status report. *Tropical Conservancy and Biodiversity* 11.3-4: 44-52.

Vouketou V., Gabrielli, L., Miliou, I., Cresci, S., Sharma, R., Maurizio T and Pappalardo, L. 202). Measuring objective and subjective well-being: dimensions and data sources *International Journal of Data Science and Analytics* 11:279–309 DOI.org/10.1007/s41060-020-00224-2

Vanhove, N. 2004. *Economic characteristics of the tourism sector*. Retrieved Feb.16, 2017, from http://v5.books.elsevier.com/bookscat/samples/9780750666374/ 9780750666374

Wambura G., Maceci N and Jani D. 2022. Residents' perception of the impacts of tourism and satisfaction: evidence from Zanzibar. *Journal of the Geographical Association of Tanzania* 42(2): 104–118

Waylen, K. A., McGrowan, P. J. K., Milner-Gulland, E.J. 2009. Ecotourism positively affects awareness and attitude but not conservation behavior: a case study of Grande Riviere, *Trinidad. Flora and Fauna International Orynx* 43.3:343-351

Wells, T. 2016. Sen's capability approach. *Internet Encyclopedia of Philosophy*. Retrieved June17, 2018, from www.iep.utm.edu/sen-cap/&sa=oahUKE wicprflyZLNAhUKIc AKHcwIlUQFggQMAA&usg.

Williams, P.J. 2008. *Non participant observation*. L.M Given. Ed. Sage encyclopedia of qualitative research methods. Sage publications: 561-562

Wondirad, A. (2019). Does ecotourism contribute to sustainable destination development, or is it just a marketing hoax? Analyzing twenty-five years contested journey publications. *Asia Pacific Journal of Tourism Research* 24(11):1047-1065

World Tourism Organisation. 1996. What tourism managers need to know, a practical guide to the development and use of indicator of sustainable tourism. Madrid-Spain:WTO project No.570-0872:44-51

WTTC 2018. Travel and tourism economic impact Nigeria 2017 Retrieved Apr.11, 2019, from www.wttc.org/-/media/files/reports/economic

_____. 2019. Travel and tourism economic impact SSA 2018 Retrieved Sep. 11, 2019, from www.wttc.org/-/media/files/reports/economic

_____.2022. Travel and tourism economic impact 2022 Global trends. Retrieved July 31, 2023 from www.developmentaid.org/api/frontend/cms/ EIR2022-Global-Trends.pdf (developmentaid.org)

Yakovelev, P. A and Leguizamon, S. 2012. Ignorance is not bliss: on the role of education in subjective well-being. *Journal of Socio-Economics*. 41(6):806-815

Yarnal, C.M., Chick, G., and Kerstetter, D. L. 2008. 'I did not have time to play growing up…so this is my play time. It's the best thing I have ever done for myself: What is play to older women? *Leisure Sciences* 30.3:235–252

Yaro, O.O and Ebuga, E.A. 2013. An assessment of the development potentials of Nasarawa state in Nigeria. *Journal of Environmental Science, Toxicology And Food Technology* 6.6:1-5

Yazici, A and Tiwari, S. 2021. Space tourism: An initiative pushing limits. *Journal of Tourism, Leisure and Hospitality*. DOI: 10.48119/toleho.862636

Zaid, Y.A and Popoola, S. O. 2010. Quality of life among rural Nigerian women: the role of information. *Library Philosophy and Practice* (e- Journal). Retrieved May 23, 2017, from http://digitalcommons.unl,edu/libphilprac/513/

APPENDIX 1

NATURAL/ECOTOURISM ATTRACTIONS IN NORTH CENTRAL NIGERIA

S/No	State/Attraction	Location
	Benue State (Capital-Makurdi)	
1	Montane Game reserve	Montane
2	Mela Game Reserve	Mela
3	Enemabia Warm spring	Enemabia
4	Anwase Anbande ranges	Kwande
5	Ushongo Hills	Ushongo
6	Aketa Lake	Katsina-ala
7	The Rare Manatee	Katsina-Ala
8	Mkar hill	Mkar
9	Ikyongen Hill (Cattle ranch)	Adikpo
	Federal Capital Territory	
1	Jabi Lake and Park	
	Kwara State (Capital- Ilorin)	
1	Owu Falls	Ilere
2	Imoleboja Rockshelter	Odo-owa
3	Extension of Kainji Lake	Borgu and Zugur
	Kogi State (capital- Lokoja)	
1	Confluence of River Niger and Benue	Lokoja
2	Ofejiji Fall	Okura-Olafia
3	Agbaja Plateau	
4	Koton-Karfe Cave	Koton-karfe

5	Eganja Warn Spring	Eganja-Bassa
6	Ogengen-Osi	Magongo
7	Okoro-Agbo mount	Ogidi-Ijumu
	Nasarawa State (Capital-Lafia)	
1	Mail Numa Rock	Doma
2	Captain Meloney Hills	Keffi
3	Efugogiri Hills	Doma
4	Numa rock	Akwanga
5	Mada and Rukubi hills	Akwanga
6	Oku Akpa rock and picnic center	Nasarawa vill.
7	Hunku Ox- bow Lake	Hunki-Awe
8	Farin ruwa water fall	Farin ruwa
9	Peperuwa lake	Assikio- Lafia
	Niger State (Capital- Minna)	
1	Zuma Rock	Suleja
2	Mayanka Falls	Suleja
3	Shiroro Dam Tourist resort	Shiroro
4	Bina Footprints	Bina
5	Nagwamatse Well	Nagwamatse
6	Kainji Lake National Park	Borgu
7	Gurara falls	Gurara
	Plateau State (Capital-Jos)	
1	Wase Rock	Wase
2	Jos Wildlife Park	Jos

3	Riyom Rock Formation	Riyom
4	Kurra Falls	Kurra
5	Assop Falls	Hawan- Kibo
6	Kurang volcanic mountain	Kerang
7	Pandam Game reserve	Pandam
8	Rumfan-Gwamna Forest Reserve	Rumfan-Gwamn
9	Shere hills	Durbi

APPENDIX 2: QUESTIONNAIRE

CENTRE FOR SUSTAINABLE DEVELOPMENT

UNIVERSITY OF IBADAN, IBADAN

Dear respondent,

This research work is titled 'Rural Residents' Perception of Restriction to selected Ecotourism sites and Well-being in North Central Nigeria' The questionnaire is to solicit your assistance for relevant information for the research work. All information will be treated with absolute confidentiality and used for the purpose of this research work only. Your co-operation is appreciated.

Thank you.

Oladipo, F.M.

Section A

Age: Please state your actual age in years_____

Gender: Please tick the right option Male ( ) Female ( )

Religion: Please tick the right option Christianity ( ); Islam ( ); Traditional African Religion ( )

Marital Status: Please tick the right option Single ( ), Married ( ), Divorced ( ) others Specify_____

Level of Education: No formal education (), Primary (); Secondary () Tertiary education (), others (Specify)_____

Job Status: Please tick the right option Unemployed (), Tourism related () Non Tourism related () Retired (4), Others (Specify)

Length of Residency: Please tick the right option, Less than one () year () 1-5 years () 6-10years (),11-15 years () and above16years ().

Monthly income Less than ₦5,000:00 () ₦5100:00-20,000:00 () ₦20,100:00 - ₦ 50,000:00 () ₦ 50, 000:00 – ₦ 100,000:00 (), Above ₦100, 000:00 ()

Section B: **Residents' Level of Awareness of Ecotourism**

Please tick the option that best expresses your level of awareness of ecotourism

	Statements	Aware	Not aware
	Minimizing environmental/cultural impact		
1	Killing of game and felling of trees on the site are highly regulated.		
2	Buildings and constructions must be eco-friendly and controlled.		
3	Farming and overgrazing are curtailed within the site.		
4	Fishing activities are regulated.		
	Education		
5	People are allowed only to see, study and photograph the animals.		
6	Visitors interact with chiefs and local people for cultural appreciation and exchange.		
7	Local people interact with site management and visitors to learn sustainable agricultural practices.		
8	Conservation techniques are taught to local people.		
	Economic empowerment		
9	The visitors can buy things from local people and make financial donations for local development.		
10	Local people get employed to work on the site.		
11	Local people produce handcrafts and foods to sell to visitors.		
12	The site can help bring health service, schools, roads, electricity to the community.		
	Human rights and democracy		
13	Local people form part of the decision makers of the site.		
14	Local people are supported to start their own business.		
15	Local people are expected to own and manage site for benefit of their future generations.		

Section C: Level of Benefits Derived from Ecotourism by the Rural Residents

Please tick the option that best expresses the level of benefits you derive from ecotourism

	Statements	Extremely	Moderately	Not at all
	Variable: Benefits of ecotourism			
	The ecotourism site nearby has benefited you in terms of:-			
1	gainful employment for you/ wife/husband			
2	increased livelihood diversification			
3	increase in your income			
4	access to a bigger market to buy and sell products			
5	the education of your family by providing schools close by			
6	improved method of farming/fishing			
7	the provision of health services for your family members			
8	making good drinking water available to your family			
9	making the community safer in the day and night			
10	meeting visitors and making new friends			
11	increased interaction with visitors and understanding of other cultures			
12	leadership experience working with site management			
13	improved conservation knowledge			
14	increase in the rent you get from of your house			
15	Preservation of forest resources			

Section D: Constraints Faced by the Rural Residents

Please tick the option that best expresses the level of constraints you face in your community.

	Statements	High	Moderate	Low
1	Poor road infrastructure to the markets			
2	Poor telephone network			
3	Insecurity for farming activities			
4	Too many visitors coming into the community			
5	Loss of cultural artifacts			
6	Poor access to loan for farming			
7	Illiteracy and poor education			
8	Poor health			
9	Inadequate places of worship e.g., churches/ mosques			
10	Inadequate recreational centers			
11	Government restriction on hunting			
12	Poor drinking water			
13	Youth restiveness			
14	Climatic hazards, e.g., floods			
15	Danger from wild animals			

Please state any other apart from those mentioned above

_____

_____

Section E. Composite well-being: Domain Importance

Please tick the extent to which the under listed well-being objective and subjective conditions are important to you. VI-Very Important, I-Important, N-Neutral, NI-Not Important and NAI-Not At all Important

		VI	I	N	NI	NAI
	Community					
	To what extent is the following important to you:					
1	relationship with people in the community?					
2	feeling of belonging in the community?					
3	security services in the community (vigilante, police, etc)?					
4	support/help you receive from people in the community?					
5	size and access of market in the community?					
6	condition of infrastructures in the community?					
	Health and Safety					
1	health treatment you received when sick?					
2	quality of drinking water?					
3	food stuff available to you throughout the year?					
4	safety in the day?					
5	safety at night?					
6	waste disposal method in the house?					
	Material					
1	current occupation?					
2	income from current job?					
3	condition of the house you live (mud or bricks)?					
4	economic future of your current job?					
5	cost of basic necessities such as food, clothing?					
6	size of your farm land?					
	Education					
1	level of education (primary, secondary, tertiary)?					
2	job skills you have acquired in your life?					
3	performance at work based on your education?					
4	education of your spouse and children?					
5	opportunity for progress on current job?					
6	type of schools available (primary, sec, tertiary)?					
	Emotional					
1	over all emotional condition?					
2	use of leisure time?					
3	participation in sporting and recreational activities?					
4	the way cultural activities take place in your community?					
5	your spiritual life?					
6	religious tolerance in the community you live?					

Section F. Composite well-being: Domain Satisfaction

Please tick the option that best expresses your level of satisfaction with the under listed well-being objective and subjective conditions. That is VS-Very Satisfied, S-Satisfied, N-Neutral, DS-Dissatisfied-VD- Very Dissatisfied

		VS	S	N	DS	VDS
	Community					
	To what extent are you satisfied with the following:					
1	relationship with people in the community?					
2	feeling of belonging in the community?					
3	security services in the community (vigilante, police, etc)?					
4	support/help you receive from people in the community?					
5	size and access of market in the community?					
6	condition of infrastructures in the community?					
	Health and Safety					
1	health treatment you received when sick?					
2	quality of drinking water?					
3	food stuff available to you throughout the year?					
4	safety in the day?					
5	safety at night?					
6	waste disposal method in the house?					
	Material					
1	current occupation?					
2	income from current job?					
3	condition of the house you live (mud or bricks)?					
4	economic future of your current job?					
5	cost of basic necessities such as food, clothing?					
6	size of your farm land?					
	Education					
1	level of education (primary, secondary, tertiary)?					
2	job skills you have acquired in your life?					
3	performance at work based on your education?					
4	education of your spouse and children?					
5	opportunity for progress on current job?					
6	type of schools available (primary, sec, tertiary)?					
	Emotional					
1	over all emotional condition?					
2	use of leisure time?					
3	participation in sporting and recreational activities?					
4	the way cultural activities take place in your community?					
5	your spiritual life?					
6	religious tolerance in the community you live?					

Section G: Perceived influence of restriction on well-being domains

Please tick the option that best expresses your opinion of the effect of ecotourism on your life. High Positive Influence =HPI, Positive Influence=PI, Neutral=N, Negative Influence=NI, High Negative Influence =HNI

		HPI	PI	N	NI	HNI
	Community					
	What kind of effect does ecotourism have on your:					
1	relationship with people in the community?					
2	feeling of belonging in the community?					
3	security services in the community (vigilante, police, etc)?					
4	support/help you receive from people in the community?					
5	size and access of market in the community?					
6	condition of infrastructures in the community?					
	Health and Safety					
1	health treatment you received when sick?					
2	quality of drinking water?					
3	food stuff available to you throughout the year?					
4	safety in the day?					
5	safety at night?					
6	waste disposal method in the house?					
	Material					
1	current occupation?					
2	income from current job?					
3	condition of the house you live (mud or bricks)?					
4	economic future of your current job?					
5	cost of basic necessities such as food, clothing?					
6	size of your farm land?					
	Education					
1	level of education (primary, secondary, tertiary)?					
2	job skills you have acquired in your life?					
3	performance at work based on your education?					
4	education of your spouse and children?					
5	opportunity for progress on current job?					
6	type of schools available (primary, sec, tertiary)?					
	Emotional					
1	over all emotional condition?					
2	use of leisure time?					
3	participation in sporting and recreational activities?					
4	the way cultural activities take place in your community?					
5	your spiritual life?					
6	religious tolerance in the community yo live?					

Section H: Checklist for in-depth interview for community heads, youth leaders and site managers

Introduce myself and purpose of study

Please introduce yourself (Name, Age, Occupation, Position and Years of residency)

Please could you tell me a brief history of this community/Ecotourism site

1 What is your opinion with respect to the reasons for the protection of the site?

To what extent do you think your people/staff understand these reasons?

2 Please would you describe how the site is managed?

How is your community involved in the management of the site?

Do you have any forum where you meet with site manager /community members in respect of the site?

3 Describe the most important benefits that community members enjoy as a result of living close to the site

How can the residents benefit more from the site?

4 Describe the most important challenges that community members face as a result of living close to the site

5 In your opinion would you say the site has affected the lives of people in area positively or negatively? Please explain

6 What would you consider as better alternative uses for the site apart from ecotourism? Why?

Thank you very much for your time.

APPENDIX 3

A: Summary of KII

Perception on	Interviewees Responses
Level of awareness	
Site manager	Residents are fully aware that the sites are restricted from unauthourised access because of conservation and tourism
Community Head	Residents do not fully understand the reasons for restriction other than for conservation
Youth leader	Conservation and tourism are not good reasons for restriction, it is confusing because people need to meet their needs first.
Level of restriction	
Site manager	Very strict (Jos and Pandam Wildlife Park), strict (Farin Ruwa Waterfall), not strict (Peperuwa)
Community Head	The same as above
Youth leader	The same as above
Level of involvement	
Site manager	Residents are not involved in management but stakeholder's forum exist, where matters related to restrictions and access to sites are discussed
Community Head	Residents are not part of management but community heads are consulted when there are issues relating to unauthourised access into the site.
Youth leader	Residents are not part of managing the site
Level of benefits	
Site manager	Residents enjoy little government attention and interest, employment Conservation fishing, fetching herbs/ firewood and mixing people from other tribes
Community Head	Government recognition, visitor interaction, employment. Site should be managed by residents so they can benefit more since it belonged to their fore fathers
Youth leader	Fishing and fetching fire wood. Residents will benefit more if they are allowed to manage together with government.

Source: Field work, 2018

Summary of KII

Perception theme	Responses of Interviewees
Constraints	
Site manager	Poverty and poor financial resources cause residents to encroach into sites for farming, hunting and logging and fishing
Community Head	Insecurity from herders who hide in the sites, insufficient farm land, wild animals destroy farms, bad roads and poor telephone network, lack of hospitals and drugs, water problem
Youth leader	Lack of jobs after farming season. Poor infrastructure especially road and telephone network
Alternative uses for sites	
Site manager	No need for alternative but there is need for provision of infrastructure and empowerment of local residents to stop encroachment
Community Head	Tree plantation, Farming
Youth leader	Give community for farming. Mine for precious metals.
Effect on well-being	
Site manager	Positive: Employment opportunity
Community Head	Positive: The forests are preserved for our children, recognition Negative: Our farms have reduced
Youth leader	Positive: Government recognition Negative: Low benefits, especially lack of jobs

Source: Field work, 2018

B. KII findings for Jos Wildlife Park (Dong and Kabong communities)

	Site Manager	**Community leaders**	**Youth leaders**
Reasons for restriction	Conservation and tourism	Conservation and tourism	Conservation and tourism
Site manager	State tourism board	State government	State government
Strictness of access to site	Very strict	Very strict	Very strict
Forum for collaboration	Available and functional	Available but not functional	Available but not functional
Most important benefit(s)	Conservation of forest.	Conservation of forest	
How can residents benefit more	Provide jobs to the people and empower them.	Involvement in management to provide more employment	Involvement and more employment
Critical Challenge	Encroachment	Insecurity	Insecurity
Impact of site (Positive or Negative)	Positive	Negative and positive	Negative
Alternative usage	Zoo		Farming/Mining

C. KII findings for Pandam Wildlife Park (Pandam and Kayarda communities)

	Site Manager	**Community leaders**	**Youth leaders**
Reasons for restriction	Conservation and tourism	Conservation and tourism	Conservation and tourism
Site managers	State tourism board	State government	State government
Strictness of access to site	Strict	Strict	Strict
Forum for collaboration	Available	Available but non functional	Available but not functional
Most important benefit(s) to residents	Conservation, Fishing. Visitors from other tribes	Conservation, Fishing, Seeing visitors	Conservation, Seeing visitors
How can residents benefit more	Provide jobs to the people and social amenities.	Employment. social amenities. Involvement in management	Employment, Involvement in management
Critical Challenge	Poverty, Encroachment, Infrastructure	Restrictions on fishing/logging, Insecurity, Telephone network, Borehole and Secondary school, Hospital	Restrictions on fishing/logging Insecurity, Telephone network, orehole and Secondary school
Impact on well-being	Positive	Both positive and negative	Both positive and negative
Alternative usage		Farming, hunting and fishing	Farming and fishing

D.KII findings for FarinrRuwa Waterfall (Masange and Marhai communities)

	Government official/tour guide	**Community leaders**	**Youth leaders**
Reasons for restriction	Conservation and tourism	Conservation and tourism	Conservation and tourism
Site managers	State government	State government	State government
Strictness of access	Not strict	Not strict	Not strict
Forum for collaboration	Available	Not available	Not available
Most important benefit(s) to residents	Fishing	Fishing	Fishing
How residents can benefit more	Provide jobs to the people and social amenities	Road and electricity infrastructure	Road and electricity infrastructure
Critical Challenge	Infrastructure	Insecurity, telephone network, borehole and secondary school, hospital	Insecurity, telephone network, borehole and secondary school
Impact on well-being	Positive	Positive	Positive
Alternative usage		Farming	Farming

E.KII findings for Peperuwa Lake (Tunganupawa community)

	State government official	**Community leader**	**Youth leader**
Reasons for restriction	Conservation and Tourism	Conservation and Tourism	Conservation and tourism
Site manager	Local government authority/traditional head	Local government authority/traditional head	Local government authority/traditional head
Strictness of access to site	Not strict	Not Strict	Not strict
Forum for collaboration	Not available	Non available	Not available
Most important benefit(s)	Government recognition and fishing	Fishing	Fishing
How residents can benefit more	Economic empowerment	Financial assistance	Financial assistance
Critical Challenge	Infrastructure	Infrastructure	Infrastructure
Impact-Positive or Negative	Positive		Negative
Alternative usage			

APPENDIX 4: PLATES

Plate 1: Jos Wildlife Park, Plateau State. Entrance gate.

Source: Author's field work, 2018

Plate 2: Community head of Dong (right), near Jos Wildlife Park

Source: Author's field work, 2018

Plate 3: A Monkey at the Pandam wildlife park, Nassarawa State

Source: Author's field work, 2018

Plate 4: Community head of Pandm (left), near Pandam Wildlife Park

Source: Author's field work, 2018

Plate 5: Farin Ruwa Waterfall, Nassarawa State

Source: Author's fieldwork, 2018

Plate 6: **Community head of Marhai (right), near FarinRuwa Waterfall**

Source: Author's field work, 2018

Plate 7: **Community head of Massange (left), near FarinRuwa Waterfall**

Source: Author's field work, 2018

Plate 8: Peperuwa Lake, Nassarawa State

Source: Author's field work, 2018

Plate 9: **Community head of Tunganupawa (right), near Peperuwa Lake**.

Source: Author's field work, 2018