

The Context and Approaches of Biodiversity Conservation: A Debate of its Impacts on Poverty Alleviation in Communities Close to Skukuza Game Reserve, South Africa

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Abstract: Biodiversity conservation is linked with poverty alleviation globally. It is believed to be paramount in terms of creating employment opportunities, producing revenue, creation of small businesses and entrepreneurial prospects to help in terms of escaping poverty. Alleviating poverty has mostly been a main goal to be achieved by several countries. Numerous researchers contended that biodiversity conservation could assist in accomplishing the process of poverty alleviation. Biodiversity conservation was perceived into an economic channel for poverty alleviation in South Africa. In 1994, after government of South Africa gained its democratic dispensation, laws and policies such as the Constitution of South Africa of 1996, the White Paper on the Conservation and the National Environmental Management: Biodiversity Act of 2004 were presented on paper to promote participation of communities in matters concerning conservation. However, none of the acts introduced were brought into practice and communities continued to be left out during decision-making processes. Therefore, the purpose of this theoretical paper is to extensively discuss the context and approaches of biodiversity conservation and debating its impacts on poverty alleviation in communities close to Skukuza Game Reserve in South Africa. The literature-based methodology approach was used from which data was extracted from private documents, scholarly articles, newspaper articles and government publications. The theoretical paper found that the challenging debate between biodiversity conservation and poverty alleviation is still far from reaching a balanced solution. The economy of the country is not flourishing. That is because poverty unemployment and inequity remain the tripartite of South Africa. The Gross Domestic Product (GDP) does not factor biodiversity into the equation. As a result, a balance between biodiversity conservation and poverty alleviation should be created. Considering the above discussion, the paper concludes that the conservation of biodiversity negatively affects the process of poverty alleviation and simultaneously works as a strategy for achieving poverty alleviation only if the negative impacts have been ameliorated.

Keywords: Biodiversity conservation, Poverty alleviation, Community development, Environmental sustainability and South Africa

1. Introduction

Biodiversity conservation is linked with poverty alleviation globally (Snijders, Stanley, Franks & Blumstein, 2015; Lo & Wang, 2018; Schutte, 2018). It is believed to be paramount in terms of creating employment opportunities, producing revenue, creation of small businesses and entrepreneurial prospects to help in terms of escaping poverty. Through it, income to assist in terms of poverty alleviation is generated (Nedu, 2018) Alleviating poverty has mostly been a main goal to be achieved by several countries (Kangalawe & Noe, 2012, cited in Nedu, 2018). Numerous researchers contended that biodiversity conservation could assist in accomplishing the process of poverty alleviation. Biodiversity conservation was perceived into an economic channel for poverty alleviation in South Africa (Ge,

Yuan, Hu, Re & Wu, 2017; Liu, Lui & Zhou, 2017; Lo & Wang, 2018). In Uganda and South Africa, biodiversity conservation and poverty alleviation were at the center of debates between the methodical community and policy makers (Guerra, Sanches de Oliveira, De Oliveira Roque, Rosa, Ochoa-Quintero, Guariento, Colman, Dib, Maioli, Strassburg & Garcia, 2020). It has been argued that the development of local communities and biodiversity conservation are inseparable which makes the better tackled in an amalgamated technique (Kangalawe & Noe, 2012; Guerra *et al.*, 2020). Biodiversity conservation was perceived into an economic channel for poverty alleviation in South Africa (Mthembu, 2012, cited in Apps, Dimmock *et al.*, 2018).

Biodiversity conservation in South Africa originated during the apartheid era, whereby it was

used to fund various projects (Guerra *et al.*, 2020). The rationale for conserving biodiversity was also based on the notion that, black communities pose a threat to biodiversity due to their exploitative nature towards the natural environment (Snijders *et al.*, 2017). Conservation areas were created, and this led to a forceful relocation of local communities that caused them to lose access to their land and livelihoods (Kamuti, 2015; Nedu, 2018). In 1994, after government of South Africa gained its democratic dispensation, laws, policies and acts such as the Constitution of South Africa of 1996, the White Paper on the Conservation and the National Environmental Management: Biodiversity Act of 2004 were presented on paper to promote participation of communities in matters concerning conservation (Republic of South Africa, 1994; Republic of South Africa, 1996; Mnguni, Giampiccoli & Mtapuri, 2020). However, none of the acts introduced were brought into practice fully. Communities continued to be left out during decision-making processes (Mnguni *et al.*, 2020). Biodiversity conservation was associated with several negative impacts. Those are, restriction to access natural resources, inequity in sharing benefits from biodiversity conservation and human-wildlife conflicts (Nwammuo & Salawu, 2018). Furthermore, South Africa continues to experience high rate of unemployment (35,313%) and poverty with 40% of the total population living in poverty (Statistics of South Africa, 2020: n.p), with rich biodiversity in the country. For this reason, the study seeks to discuss the context and approaches of biodiversity conservation and debating its impacts on poverty alleviation in communities close to Skukuza Game Reserve in South Africa. The nature of the paper is theoretical and as a result, it relied on literature review and the existing information from numerous sources such as private documents, scholarly articles, newspaper articles and government publications on the context and approaches of biodiversity conservation in debating its impacts on poverty alleviation in communities close Skukuza Game Reserve in South Africa. For the purpose of achieving the aim of this paper, cooperativeness of scholarship combination and content examination will be espoused. The paper is divided into six sections inclusive of this introduction and the conclusion. The first section provides a detailed introduction of the paper on the context and approaches of biodiversity conservation and debating its impacts on poverty alleviation. The second one provides a brief discussion on the theoretical foundations of biodiversity conservation. In the third section, the context and approaches of

biodiversity conservation are discussed. The fourth section gives an outline of the debate on the impacts of biodiversity conservation on poverty alleviation meanwhile the fifth section provides the findings from literature review and endorsements to serve solutions to the findings. The last one concludes the paper by stating that biodiversity conservation negatively affects the process of poverty alleviation and simultaneously works as a strategy for achieving poverty alleviation only if the negative impacts have been ameliorated (a state of bettering or amending).

2. The Theoretical Foundations of Biodiversity Conservation

Endangered areas are the main areas biodiversity could be conserved (Borkowski, Banul, Jurkiewicz, Holdynski, Swieczkowska, Nasiadk & Zaluski, 2019). For this study, economic and sustainability theories are adopted in order to provide theoretical foundations of biodiversity conservation. Economic theory puts emphasis on the need for biodiversity conservation to play a part in the development of social, economic and cultural aspects of developing and developed countries (Ngqaka, 2001). The theory argued that most developing countries are faced with issues of unemployment, inequity in the distribution of income and wealth, heavily reliant on agriculture and small amounts of their local markets (Ngqaka, 2001). As a result, it hopes that benefits from biodiversity conservation are shared with communities residing close to reserves. The sustainability theory seeks to create a balance between development and the environment (Van Zijl, Wöstmann & Maroun, 2017). It puts emphasis on the need to ensure sustainable development, whereby the desires of the present cohort are encountered without cooperating those of the future generations (Jenkins, nd). For the purpose of this paper, an ecological model is adopted. That is, creating a balance between the well-being of people and environmental activities (Van Zijl *et al.*, 2017).

3. The Context and Approaches of Biodiversity Conservation

In South Africa, biodiversity conservation is frequently utilized as a way in which income could be produced. On the same hand, biodiversity conservation is believed to be capable in fixing difficulties hindering the process of alleviating poverty (Youdelis, 2013). It seeks to promote the need to guard the environment for sustainable development

purposes. In the country, there are still challenges associated with biodiversity conservation (Mthembu, 2012). There are still animals running away from the conservation areas to communities to eat their livestock's (Sun & Cao, 2018). This has made measures used for biodiversity conservation to be deemed as ineffective at Skukuza Game Reserve (Nwammuo & Salawu, 2018). There is no harmony between the biodiversity conservation and community development (Briana, Van Rooyen, Lopez, Knobel, Simpson, Wikes & Conrad, 2016). This is because, biodiversity conservation is known to be favoring more of the people with descent standards of living, particularly the elites. Trophy hunting is regarded as essential in the country because it contributes much on biodiversity conservation as compared to the other conservation payments (Foxcroft, Richardson & Wilson, 2008). South Africa is still regarded as the home of ninety percentages (90%) of the world's rhino population (Bale, 2018: n.p). However, there is continuous poaching of those rhino's in their conservation areas. Mnguni *et al.* (2020) had put emphasis that, private land ownership also serves as an important way of contributing towards biodiversity conservation in South Africa.

3.1 Approaches to Biodiversity Conservation

Biodiversity conservation is undertaken through different approaches namely; community involvement approach, collaboration approach as well as the central approach to resource management and they will be discussed below:

3.1.1 Community Involvement Approach to Biodiversity Conservation

Prior 1994, the participation of local people in the process of conserving biodiversity was rarely prioritized. This was because, the colonial system had a belief in that by excluding individuals living in rural areas from conservation parks could be the greatest way to keep biodiversity conserved (Briana, Van Rooyen *et al.*, 2016). In other words, it was claimed that no member of a community (particularly the non-white people) should be involved in biodiversity conservation (Nwammuo & Salawu, 2018). This has resulted to the establishment of ad hoc biodiversity sanctuaries and most of them were national parks as well as game reserves that were not considering communities' inclusion (Kangalawe & Noe, 2012). It has also been declared that, local communities should be able to benefit from the biodiversity conservation parks (Molewa, 2011). The benefits would

be in forms of employment, financial benefits and business opportunities among others (Nedu, 2018). After 1994, it came to the realization of the new government (democratic government) of the country to enforce and promote the inclusion of the local communities in biodiversity conservation (Guerra *et al.*, 2020). Therefore, the environmental governance also saw the effectiveness and significance of community participation in the process of conserving biodiversity (Nwammuo & Salawu, 2018).

The environmental government is mostly used to the background for the detailed examination of the participation of local people in conserving biodiversity (Nwammuo & Salawu, 2018). On the same hand, the governments suggested that local communities should be allowed to take part in conservation matters (Holechek & Valdez, 2015). The involvement would enable the people to exercise their environmental rights as outlined in section 24 of the constitution of South Africa (Republic of South Africa, 1996, cited in Guerra *et al.*, 2020). It has been stated that the community involvement approach to biodiversity conservation has confidence in that people could ensure that biodiversity is at all times protected if they also gain descent social welfare (Mnguni *et al.*, 2020). In support of this approach, the constitution of South Africa (1996) calls for a need to promote the involvement of people in conservation (Republic of South Africa, cited in Apps, Dimmock *et al.*, 2018). Despite the emphasis of the constitution of South Africa (1996), currently in most conservational areas the level of exclusion of local communities is still high and it has left no choice for the level of poverty but to rise (Snijders *et al.*, 2017).

Furthermore, South Africa is faced with a huge problem of rhino poaching which tends to benefit the poachers. It has been contended that, the income generated from the trades of living rhinos has provided significant income to the country's national parks (Mnguni, Giampiccoli *et al.*, 2020). In addition, it has provided the KwaZulu-Natal Province with about 74,9% between 2008 and 2016. Despite this, the approach seeks to provide benefits from biodiversity to communities living close to reserves (Soeprbowati, 2015). It pays attention in advocating for the protection and reservation of natural resources for the purpose of achieving sustainable development (Sitzenfrei & Raunch, 2014). The approach also put emphasis on the need to ensure inclusiveness of directly or indirectly affected individuals throughout the whole process of planning

for conservation matters (Ramsden *et al.*, 2015). Furthermore, it provides a powerful handle for biodiversity conservation (Kepe, 2016) and it gives a suggestion of perceiving high prices of wildlife such as rhinos, economic sanctification than threat (Bale, 2018). It involves collaborative adaptive management which focuses on dealing with the need for learning processes associated with stakeholders, difficulties and alteration (Lo & Wang, 2018; Kepe, 2016). Lastly, the approach opposes the colonial policies of centralizing ownership of biodiversity (Kepe, 2016).

3.1.2 Collaboration Approach to Biodiversity Conservation

The collaborative approach to biodiversity conservation puts emphasis on the need to ensure corporation between all stakeholders in conserving biodiversity. It puts emphasis on the need to ensure and promote collaboration in decision making pertaining the conservation of biodiversity. Literature stated that, the former minister of the Department of Environmental Affairs (Dr. Edna Molewa) in South Africa made a statement that South Africa has been committed to working in collaboration with other countries for the sustainability of biodiversity conservation in the country (Lo & Wang, 2018, cited in Mnguni *et al.*, 2020). It has also been promulgated that, working in collaboration is good because it helps in avoiding hunting of animals as well as ensuring safety of the biodiversity (Wu *et al.*, 2018). However, in practice there is still lack of collaboration in biodiversity conservation. In 2018, two (2) men were shot dead in Mpumalanga Province because they were found at Skukuza poaching and picking up certain plants (Sun and Cao, 2018). In addition, about five (5) men were also arrested in September 2018 in Skukuza (Bale, 2018). The communities such as Nyongane, Mantangaleni, Belfast and Calcutta Villages (just to mention a few) living next to Skukuza Game Reserve in made complaints that, whenever there were decision making processes with regards to biodiversity conservation, they were not included whereas the management of the conservation parks argues to be ensuring collaboration with community members.

3.1.3 The Central Approach to Resource Management

The central approach to resource management provides a wide division between the local communities and the environment (Van Loeper *et al.*, 2016). The approach proceeds by uttering that decisions based on the environment should be made

bureaucratic (Swanepoel, Swanepoel & Smith, 2018). As a result, people get to be deprived of the opportunity to exploit and use the environment according to their desires. Local communities are often restricted from taking part in the resource management authority (Maneveldt, Maneveldt & Baard, 2016). It is believed that only those of superior positions such as the management are allowed to make decisions based on the environment (Van Loeper *et al.*, 2016). By using the central approach to resource to management, costs and time would be saved in a way that planning and decision-making process become too easily and fast (Nedu, 2018).

This approach believes that there should be a numerous individual encouraging the increase of private goods civil rights and lessening of administrative protocols on openly detained goods (Mnguni *et al.*, 2020).

4. Biodiversity Conservation on Poverty Alleviation: A Debate on the Impacts

The relationship between the conservation of biodiversity and the alleviation of poverty has been an argument among different scholars (Kepe, Saruchera & Whande, 2004). The argument is frequently categorized by diatribes (A powerful and unpleasant attack against a particular person or item) between diverse sites, more especially on which solution works greatest (Kepe *et al.*, 2004). The developed and developing countries are blaming each other and arguing about the relationship among the conservation of biodiversity and the alleviation poverty (Guerra *et al.*, 2020). The developed countries argued that, it is all because of the human activities on the environment that there is a huge loss of biodiversity. Meanwhile, the developing countries argued that it is all because of biodiversity conservation that they are experiencing massive poverty rate (Kepe *et al.*, 2004). Arguments have been made by different scholars that, the biodiversity conservational areas on paper postulating that, community members are given platforms to perform their daily life activities for the purpose of earning descent standards of living (Merrick & Koprowski 2017; Jinyu, Xiao, Yilei, Jing & Yali, 2015). It is too surprising to find that the same local communities close to the reserves are the ones with high poverty rate. Most local people employed at the conservation parks are still experiencing high level of poverty (Guerra *et al.*, 2020). Biodiversity

conservation reserves are not effective. There are still animals found roaming around local communities eating the residents' livestock, garden plants and also attempting to kill the people. It is very disturbing because most of the residents are heavily reliant on those livestock and garden plants.

South Africa is rich in terms of biodiversity. It has about 250 000 to 1 million species (Kepe *et al.*, 2004). Section 24 of the Constitution of the Republic of South Africa Act 108 of 1996 has treasured biodiversity conservation (Republic of South Africa, 1996). Over seventy percent (70%) of the people in South Africa lived in poverty (Kepe *et al.*, 2004). Regardless of the huge number of people with concerns about the degradation of environment, the government of South Africa tried to ensure that strategies that could be used for poverty alleviation also assist in dealing with factors affecting the environment (Maneveldt *et al.*, 2016). In addition, the government also tried to ensure that the biodiversity of conservation responds to the poverty alleviation dilemmas. However, poverty in South Africa remains a big problem. Numerous complaints have been made in most local communities. For instance, it has been said that conservation of biodiversity does not assist in fighting against the poverty of the country especially of poor local communities. Biodiversity conservation and poverty alleviations are phenomenon that could be used by the government of South Africa as integrated solutions rather than fighting against each other (Maneveldt *et al.*, 2016). The economy of the country is not booming. This is because unemployment, inequity and poverty rates are still increasing. There is no balance between the economic growth and economic development of the country (Nwammuo & Salawu, 2018).

In South Africa, most conservational areas are privately-owned, and their main aim is to make profit for themselves. South Africa has about five game ranches and more than four thousand game ranches including a mixture of games and stock. As a result, too much income is generated each year (Stats SA 2013; Merrick & Koprowski, 2017). It remains a concern on how the poverty level of the country is still high. Majority of the people in local communities are heavily reliant on subsistence farming, Small Medium and Micro Enterprises (SMMEs) and other informal businesses such as salons. Nature reserves such as Skukuza have occupied huge land. This has left the nearby local communities with scant or no space to practice their livelihoods.

5. Findings from Literature and Endorsements

This paper found that, there are still many poor local communities in South Africa situated next to Skukuza Game Reserve which contributes to the high levels of poverty (Guerra *et al.*, 2020). The balance among biodiversity conservation and poverty alleviation is still far from reaching being reached (Mnguni *et al.*, 2020). Therefore, the paper recommends a need to conserve biodiversity and simultaneously provide communities with descent standards of living. Continuous monitoring and evaluation at Skukuza Game Reserve should be done to ensure that their benefits from biodiversity conservation are shared with nearby local communities. In addition, Corporate Social Responsibility should be put in a priority list and practiced. The paper found that Skukuza Game Reserve has occupied too much land that could be used for livelihood diversification by the nearby communities (Snijders *et al.*, 2017). On the same line, the local municipality continues to sell the remaining land in the poor communities to people with descent standards of living who wish to use the land for profit and pleasure purposes (Snijders *et al.*, 2017). Therefore, the paper recommends that local government should consider giving the land to the poor nearby communities for free. This will enable them to practice their economic and social activities to improve their standards of living. The Skukuza Game Reserve should find other ways to help the nearby local communities fight against poverty.

The economy of the country is not flourishing (Nwammuo & Salawu, 2018). That is because poverty, unemployment and inequity remain the tripartite challenges in South Africa. The Gross Domestic Product does not factor biodiversity into the equation (Guerra *et al.*, 2020). As a result, an equilibrium among biodiversity conservation and poverty alleviation should be created. The paper has also found that there are still animals found roaming around local communities eating the residents' livestock, garden plants and also attempting to kill the residents (Mnguni *et al.*, 2020). It is very disturbing because most of the residents are heavily reliant on those livestock and garden plants. Therefore, continuous monitoring by internal and external reserve evaluators and monitors should be done daily and more solutions to deal with rhino poachers should be put into place.

6. Conclusion and Recommendations

Biodiversity conservation and poverty alleviation are themes that could be used by the government of South Africa as integrated solutions rather than fighting against each other. The economy of the country is not flourishing, and this is because unemployment, inequity and poverty rates are increasing. There is no balance between economic growth and economic development of the country. The Gross Domestic Product does not factor biodiversity into the equation. Many local communities in South Africa situated next to Skukuza Game Reserve are still experiencing dire conditions of poverty. This has left poverty at a high level. The balance among biodiversity conservation and poverty alleviation seems far from reaching an amicable solution. This has affected other processes such as sustainable and community development. The developed and developing countries are pointing fingers at each other and quarreling about the link between the conservation of biodiversity and the alleviation of poverty. Developed countries argued that it is all because of the human activities on the environment that there is a huge loss of biodiversity. Meanwhile, developing countries argued that it is all because of biodiversity conservation that they are still experiencing high poverty rates. In light of the overhead discussion, the paper concludes that, the conservation of biodiversity has a negative effect on poverty alleviation, but it could concurrently and simultaneously work as an approach for achieving poverty alleviation only if the negativity is dealt with.

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