



tourism

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TRANSFORMATION OF THE SOUTH AFRICAN TOURISM VALUE CHAIN TOWARDS SUSTAINABLE AND RESOURCE EFFICIENT AND INCLUSIVE GROWTH POST COVID-19

TABLE OF CONTENTS

GLOSSARY OF TERMS	v
1. SUMMARY	1
2. INTRODUCTION AND BACKGROUND OF THE STUDY	2
3. RATIONALE OF THE STUDY	5
4. PROBLEM STATEMENT	6
5. PURPOSE OF THE STUDY	6
6. RESEARCH QUESTIONS.....	7
7. OBJECTIVES OF THE STUDY	7
8. THEORETICAL BACKGROUND AND LITERATURE REVIEW	9
8.1 Understanding rural tourism.....	9
8.1.1 Definition of rural tourism	10
8.1.2 The value of rural tourism	12
8.1.3 Sectors to which rural tourism contributes	14
8.1.4 Key challenges to value creation from rural tourism	15
8.1.5 Opportunities created by the tourism industry.....	16
8.1.6 Rural tourism in South Africa	16
8.2 Transformation in Tourism	18
8.2.1 The meaning and purpose of transformation in rural tourism.....	18
8.2.2 Initiatives in transformation in tourism.....	19
8.3 Tourism Value Chains.....	21
8.3.1 What is understood by 'Value'?	21
8.3.2 Value in the context of tourism.....	22
8.3.3 What are value chains?	23
9. RESEARCH DESIGN AND METHODOLOGY	24
9.1 Research design	24
9.2 Data collection instrument.....	26
10. ANALYSIS AND FINDINGS.....	26
10.1 Defining the scope of the value chain mapping exercise	26
10.2 Mapping of the rural tourism value chain	28
10.3 Value creation relationships between tourism activities and different types of service providers.....	35
10.4 Socio-economic and environmental relationships in the rural tourism value chain	38
10.5 Lifecycle inventory and impact analysis of rural tourism activities.....	41

10.6 Hotspot analysis of the lifecycles of rural tourism enterprises and their activities	43
10.7 Interventions for transformation of the rural tourism value chain towards a sustainable, resource efficient and inclusive growth path	63
10.7.1 INTERVENTION 1: Green transportation options for rural tourism.....	63
10.7.2 INTERVENTION 2: Powering rural tourism enterprises with sustainable energy options	65
10.7.3 INTERVENTION 3: Sustainable sourcing of food and beverage by rural tourism enterprises	67
10.7.4 INTERVENTION 4: Reducing food waste from rural tourism enterprises	69
10.7.5 INTERVENTION 5: Waste reduction and management by rural tourism enterprises	70
10.7.6 INTERVENTION 6: Saving water by rural tourism enterprises	73
10.7.7 INTERVENTION 7: Sustainable harvesting of natural resources for curios	74
10.7.8 Further interventions for social transformation and inclusivity	76
11. CONCLUSION AND RECOMMENDATIONS	79
11.1 Conclusion	79
11.2 Recommendations	80
11.3 Limitations	81
12. REFERENCES	81
APPENDIX 1: Life cycle inventories for value creation activities along the rural tourism value chain.....	76
APPENDIX 2: Inventory of environmental and social aspects associated with rural tourism activities	35
APPENDIX 3: Tourism associations and organisations.....	47
Tourism associations and organisations	48
(https://smetoolkit.businesspartners.co.za/en/content/tourism-associations-and-organisations).....	48

LIST OF TABLES

Table 1. Scope of the study and the research approach applied (table developed by authors)	8
Table 2. Description of tourism activities that lead to value creation in the rural tourism sector. (Table developed by authors)	30
Table 3. Rural tourism value chain activities and tourism enterprise service providers associated with the value creation tourism activities.	33
Table 4. Rural tourism value chain activities and associated secondary tourism enterprise service provides and supporting and enabling service providers.	34
Table 5. Activities of tourist for each province, highlighting that eating out is a main activity. Data in this table was generated from figures as per South African Tourism (www. www.southafrica.net)	46
Table 6. Identified hotspots in the rural tourism value chain associated with the services provided by primary rural tourism enterprises. The sub activities for each rural tourism value creation activity are presented in each column. The different colours represent different hotspots. (Table produced by the authors)	51
Table 7. Summary of the sustainability issues of concern in the rural tourism value chain and for which rural tourism value creation activities they are of concern. (Table produced by the authors)	61

LIST OF FIGURES

Figure 1. The goal and scope of mapping the South African rural tourism value chain. (Figure developed by authors)	28
Figure 2. Interconnected value creation relationships between rural tourism value chain activities. Figure developed by the authors.	36
Figure 3. System diagram of the relationships between rural tourism activities that lead to socio-economic benefits and environmental impacts in rural areas. (Figure developed by authors)	41

Figure 4. Occupancy rate of tourist from January 2018 until August 2021.

(www.statssa.gov.za)

45

GLOSSARY OF TERMS

Term	Definition
Hotspot	A priority area on the value chain which accounts for a significant proportion of the negative environmental and social impacts in the value chain.
Hotspot analysis	An analytical technique used to help identify areas of significant impacts for which to target interventions that will address sustainability along the value chain.
Inclusive growth	Economic growth that is distributed fairly across society and creates opportunities for all.
Lifecycle	Stages in the development of a product or service and includes acquisition of raw materials, design, production, transportation/delivery, use, end of life treatment, and final disposal.
Lifecycle view	Consideration of the environmental and social aspects associated with activities, products, and services that are needed to create value.
Lifecycle inventory	An inventory of inputs and outputs required to produce a product or service. It is the process of identifying raw material and energy requirements, atmospheric emissions, land emissions, water emissions, resource uses, and other releases over the life cycle of a product or service.
Mapping	A process used to discover and visualise activities and stakeholders associated with value creation in a value chain.
Resource efficiency	The use of resources in a sustainable manner while minimising impacts on the environment.

Term	Definition
Rural tourism	<p>Rural tourism is an umbrella definition capturing aspects of tourism that include:</p> <ul style="list-style-type: none"> • ecotourism, which is focused around the natural environment; • agrotourism, which allows tourists to participate in traditional agricultural practices; • cultural tourism, which enables tourists to experience the places and activities that signify both the history and heritage of local people; • Community-based tourism, which enables tourists to immerse themselves and experience village life; and adventure tourism, which involves action-based activities for tourists.
Rural tourism enterprise	A business that offers a service to a tourist.
Transformation	Changes in the rural tourism value chain that have positive social and environmental impacts.
Sustainability	A situation or state, where the conditions conducive to / necessary for long term survival are created.
Value	A measure of the positive benefits that are gained from a wide range of interactions, activities, relationships and cause and effects amongst various stakeholders including consumers, employees, stakeholders, regulators, suppliers, shareholders, and even the physical environment.
Value chain	A full range of value-adding activities required to bring a product or a service from conception, through the different phases of production all the way to delivery to final consumers and final disposal after use. It is also a visual representation of how the tourism sector operates.

Term	Definition
Value chain mapping	A process that identifies the main activities associated with a company's service or product line.

1. SUMMARY

The COVID-19 global pandemic has caused unprecedented socio-economic impacts and, at the same time, raised awareness of the role social and environmental sustainability need to play in our everyday life and economic activities. Despite the significant negative impacts of the pandemic on tourism in South Africa, the crisis provides an opportunity to transform tourism value chains towards responsible consumption and production needed for a sustainable and inclusive recovery of the sector.

Rural tourism is ideally placed to respond to this. With South Africa's unique, diverse and unspoilt rural areas there are a wealth of opportunities for small, medium and micro enterprises to grow and develop sustainable tourism products in rural areas. However, in doing so, tourism growth in rural areas needs to be decoupled from the depletion of natural resources and contribute towards livelihoods and wellbeing of communities through the growth of local economies. Within the rural tourism sector, local economic development and environmental protection should not be seen as opposing forces—they should be pursued together as aspirations that can and should be mutually reinforcing.

The purpose of this study was to systematically gain an understanding of the rural tourism value chain to identify transformation opportunities for a sustainable, resource efficient and inclusive growth path post COVID-19. The study involved mapping the rural tourism value chain by identifying all the economic activities and the associated tourism enterprise service providers that lead to value creation. Further to this, the interconnecting value creation relationships between the various rural tourism activities were identified, followed by the interconnecting relationships that lead to socio-economic value and environmental concerns. This whole value chain analysis provided an understanding of how value is pervasive throughout the rural tourism value chain, specifically the implications of this value on rural communities and the environment. Lifecycle inventories that investigated the components of each value creating rural tourism activity enabled the identification of all the social and

environmental aspects of the services provided by the rural tourism service providers. Secondary data were then used to identify hotspots in the value chain specifically in terms of resource use, emissions and effluents, and solid waste.

The hotspots along the rural tourism value chain include greenhouse gas (GHG) emissions from vehicles travelling to and around rural areas; use of energy in rural tourism products; sourcing of food and beverage; food waste; lack of capacity in waste infrastructure to deal with solid and hazardous waste; water use; and unsustainable harvesting of natural resources. Interventions that support the sustainable transition of these hotspots were determined. These include:

- Intervention 1: Green transportation options for rural tourism
- Intervention 2: Powering rural tourism enterprises with sustainable energy options
- Intervention 3: Sustainable sourcing of food and beverage by rural tourism enterprises
- Intervention 4: Reducing food waste from rural tourism enterprises
- Intervention 5: Waste reduction and management by rural tourism enterprises
- Intervention 6: Saving water by rural tourism enterprises
- Intervention 7: Sustainable harvesting of natural resources for curios

These interventions have the potential to be implemented directly by rural tourism enterprises or via initiatives/partnerships between the enterprises and the supporting and enabling stakeholders (i.e there may be a requirement for supportive government policy and strategy frameworks). A road map/framework developed with input from key tourism stakeholders is required in order to make the interventions a reality.

2. INTRODUCTION AND BACKGROUND OF THE STUDY

The tourism sector is complex, involving a wide range of stakeholders and businesses that work together at different levels to provide a service for people travelling (Department of Tourism, 2017). The tourism value chain includes transporters;

accommodation providers; all forms of entertainment, events and attractions (such as parks and heritage sites); tour guiding services; restaurants and less formal food service companies; travel agents, tour operators and other intermediary services such as meetings of professionals; casinos, and shopping centres (Department of Tourism, 2017). A multitude of “indirect” goods and services providers support the tourism economy, such as those providing food supplies, security, laundry, marketing and other services to the tourism industry (Department of Tourism, 2017).

There are numerous opportunities along this value chain where sustainability issues can be addressed such as greenhouse gas (GHG) emissions, waste generation as well as the high levels of consumption of resources such as water and energy. A transformational change directed at the principles of sustainability and social transformation will place the tourism sector in the position that it is able to contribute towards meeting the global Sustainable Development Goals.

Since the onset of the COVID-19 pandemic in 2020, there has been a profound impact on the entire tourism value chain in South Africa. The complete shutdown of all travel during the lockdown period has resulted in the tourism sector experiencing disruptions in the generation of value in the sector, employment, domestic and international movements, sectoral linkages, cost servicing ability, and the ability to generate foreign reserves, amongst other variables. Now that the lockdown restrictions have been eased, allowing people to travel locally and internationally again, there is a need to re-stimulate and re-vitalise the sector and its associated value chain. However, the recovery of the tourism sector cannot just mean a return to business as usual, but rather the whole tourism value chain needs to position itself on a trajectory that specifically focuses on an inclusive, robust, and sustainable recovery for the sector. Among the recommendations by the Organisation for Economic Co-operation and Development (OECD) for supporting sector recovery are increasing bilateral visa-waiver agreements, reduction of red tape and regulatory burdens for entrepreneurs and small enterprises and improving and aligning transport and tourism infrastructure to connect tourists to tourist destinations (OECD, 2020).

Pre-COVID-19, the tourism value chain was acknowledged as a significant contributor to South Africa’s national GHG emissions, waste generation and consumption of water

and energy. Other impacts include the high concentration of people in sensitive ecosystems, insufficient or inadequate infrastructure or development plans to handle it, and the displacement of cultures in desirable destinations (Ewert & Shultis, 1997, Martin et al., 2017). Some of the socio-economic challenges include the slow transformation of inclusive growth at all points along the value chain. The COVID-19 crisis has shown that environmental and social challenges have significantly weakened the sector's ability to be resilient in times of crisis. Now is the perfect time to choose a new direction and move forward by adopting a more sustainable path.

The tourism sector is ideally placed to contribute towards a more inclusive and sustainable post COVID-19 economy in South Africa. Inclusive and sustainable tourism is not a new concept to the tourism sector, as it is firmly incorporated in existing national policies and plans. For example, the National Tourism Sector Strategy (NTSS) 2016-2026 vision has specific reference to these environmental and socio-economic challenges. The NTSS vision is directed towards *“rapidly and inclusively growing tourism economy that leverages South Africa’s competitive edge in nature, culture, and heritage, underpinned by Ubuntu and supported by innovation and service excellence.”*

Research and development directed at transitioning the South African tourism value chain towards a sustainable, resource efficient, low carbon and inclusive growth path will contribute towards meeting the NTSS vision and building a resilient sector. For tourism to have greater inclusive growth, incorporating small, medium, and micro enterprises (SMMEs) and Broad-based Black Economic Empowerment (B-BBEE), employment and ownership, there is a need to identify opportunities in line with the resource efficiency, sustainability, and low carbon challenges of the sector, along the entire tourism value chain. Moreover, through the transformation of the tourism sector, the opportunities identified will create sustainable and lasting changes, not only in the sector itself, but also in communities associated with tourism. Mapping the tourism value chain provides a systems perspective of the sector such that priorities/hotspot areas in which actions that should have the largest effect towards supporting inclusive growth, reducing GHG emissions and improving resource efficiency and sustainability can be determined. The United Nations (UN) Environment's project 'Transforming tourism value chains in developing countries and Small Island Developing States' is

anexampleofasimilarproject(<https://www.oneplanetnetwork.org/initiative/transforming-tourism-value-chains-developing-countries-and-small-island-developing-states>).

For the purpose of this research project, the rural tourism value chain of South Africa was mapped and analysed such that intervention points for transformation towards sustainable and inclusive growth post COVID-19 can be realised. Due to the tourism sector being so complex, involving a wide range of stakeholders and businesses that work together at different levels to provide a service for people travelling (DoT, 2017), it was felt that the identification of hotspot areas and associated strategic interventions for transformation may be lost in the complexity of the whole value chain. Focusing on the rural tourism sub-sector would enable the concentration on an extremely important component of the tourism sector in South Africa. Rural South Africa offers some of the most unique tourist destinations, including unspoilt wilderness, abundant wildlife, rugged coastlines, diverse and vibrant cultures and distinctive heritage. As such, much of the tourism sector of South Africa falls under the rural tourism definition with diverse rural tourism products. In addition, rural tourism products offer much opportunity for SMME's, in that rural tourism can stimulate financial gains through much needed jobs and can create investments into rural lifestyles and traditions. Identifying opportunities for strategic interventions will enable black-owned SMME's to grow their operations, such that they can meet sustainability objectives and be directly aligned with those of the SDGs, the NTSS and the tourism sector's recovery plan.

3. RATIONALE OF THE STUDY

South Africa's Economic Reconstruction and Recovery Plan aims to build a new economy and unleash South Africa's true potential. The overarching goal of the plan is to create a sustainable, resilient and inclusive economy. This will increase understanding and appreciation of core responsible tourism concepts, community engagement and environmental protection. To contribute to a more inclusive and sustainable economy post COVID-19, it is important to transform the tourism sector towards a sustainable, resource efficient, low carbon and inclusive growth path. This will contribute to meeting the vision of the NTSS and building a resilient sector. Such inclusive growth requires the generation of opportunities for SMME's in the tourism value chain. To achieve this, research is required to map the tourism value chain and

identify priority/hotspot areas in which interventions should have an effect towards supporting inclusive growth, reducing GHG emissions and improving resource efficiency and sustainability as part of the sector's recovery plan post COVID-19.

4. PROBLEM STATEMENT

A tourism value chain map graphically illustrates all the components of the value chain and the relationships between the components along the value chain. It is a visual tool that ultimately helps with the understanding as to how a particular sector works. Without a comprehensive map of the rural tourism value chain in South Africa, it becomes a challenge to systematically identify where in the value chain transformational changes could be recommended to address resource efficiency, waste management, reduction in GHG emissions, inclusivity, etc.

There is a lack of systematic analysis of rural tourism value chains. This presents South Africa with the opportunity as part of its economic recovery to ensure that tourism is inclusive of local growth and contributes towards meeting the objectives of the Sustainable Development Goals.

5. PURPOSE OF THE STUDY

The purpose of this research was to explore the rural tourism value chain to determine opportunities for transformation specifically with regards to sustainable, resource efficient and inclusive growth for SMME's, particularly black owned enterprises. Within this research project, the project team determined broad based interventions. A framework for strategic intervention based on the identified hotspot areas will need to be developed in succeeding years.

Ultimately the research project will support the decoupling of rural tourism growth as part of the sector's economic recovery from the COVID-19 pandemic. This will contribute towards meeting the vision of the NTSS and building a resilient sector.

6. RESEARCH QUESTIONS

- What does the rural tourism value chain for South Africa look like?
- What impacts can be identified between components and relationships along the rural tourism value chain that conflict with the objectives of sustainability, resource efficiency and inclusive growth?
- What are the key hotspot areas in the rural tourism value chain where interventions would transform the value chain towards being more sustainable and inclusive?
- What would interventions towards a sustainable and inclusive transformation look like?

7. OBJECTIVES OF THE STUDY

The objective of the research project was to graphically map the rural tourism value chain, to determine hotspot areas along the rural tourism value chain for transformation, and to provide broad intervention measures that will lead to the required transformations.

Reasons for addressing the rural tourism value chain include:

- A large majority of tourism in South Africa is due to the country's unique rural features including our vast wildlife and wilderness areas, our diverse and vibrant cultures and heritage and our wealth of agricultural establishments;
- Rural tourism products can be established and run by SMME's thereby growing local economies and creating job opportunities;
- Rural tourism products can be broken down into various categories based on the type of rural experience the product offers, i.e., ecotourism, agritourism, cultural and heritage tourism. This provides the opportunity for in-depth mapping of various rural tourism products in the value chain mapping activity.

Table 1 outlines the scope of the study as well as the research approach that was used to meet the scope.

Table 1. Scope of the study and the research approach applied (table developed by authors)

Scope of the study as per the Request for Quotation (RFQ)	Research approach
To map out the tourism value chain and relationship between the sector and sustainability, resource efficiency and inclusive growth	<p>Define the goal and scope of the value chain to be mapped.</p> <p>Map the rural tourism value chain including:</p> <ul style="list-style-type: none"> ○ activities contributing to value creation; ○ types of service providers associated with these activities, relationships between the activities and the service providers with environmental and social resources.
To examine social, economic and environmental opportunities that may be leveraged for SMME's, particularly black-owned enterprises, along the tourism value chain in support of resource efficiency, sustainability and inclusive growth	Using the mapped rural tourism value chain: identify social, economic and environmental risks and opportunities that would benefit SMME's, using a lifecycle view.

Scope of the study as per the Request for Quotation (RFQ)	Research approach
To explore strategic interventions (short, medium and long term) required to support resource efficiency, sustainability and inclusive growth	Based on the risks and opportunities identified through the lifecycle view, use hotspot analysis to determine strategic interventions in the value chain needed for transformation.
To identify priorities/hotspot areas in which strategic interventions should have an effect towards supporting resource efficiency, sustainability, and inclusive growth	Add the strategic intervention to the rural tourism value chain map. The strategic interventions were described in broad terms.
To develop a framework on how strategic interventions should be implemented to support resource efficiency, sustainability and inclusive growth, and as part of the sector's recovery past COVID 19.	The proposal and research plan stated that this component would not be achieved during the 2021/2022 financial year due to time and financial constraints.

8. THEORETICAL BACKGROUND AND LITERATURE REVIEW

8.1 Understanding rural tourism

Most rural areas attract tourists because of their inherent, exhibited cultural value, historical significance, and natural beauty or amusement opportunities. Examples of these tourist attractions include historical places, monuments, cultural villages, cultural events, national parks, forests, beaches, mountains, farms, and many more. These assets provide the base on which to create rural tourism products that can create

employment and contribute to the livelihood and wellbeing of rural communities (Mutambaro and Mthembu, 2018).

8.1.1 Definition of rural tourism

Rural tourism is a concept for which there are numerous definitions. A list of these definitions include:

“The ‘country experience’ which encompasses a wide range of attractions and activities that take place in agricultural and/or natural environments” (Pearce, 1989).

“Tourism located in rural areas, functionally rural - built upon the rural world’s special features of small-scale enterprise, open space, contact with nature and the natural world, heritage (traditional societies and traditional practices)” (Lane, 1994).

“The ‘country vacation’ where the tourists spend the vast proportion of their vacation period engaging in recreational activities in a rural environment on a farm, ranch, country home, or the surrounding areas” (Fleischer and Pizam, 1997).

“Encompass a huge range of activities, natural or manmade attractions, amenities and facilities, transportation, marketing and information systems (Sharpley and Sharpley, 1997).”

“Concern aspects of culture and heritage such as oral history, folklore, and local and family traditions” (MacDonald and Jolliffe, 2003).

“Gives visitors personal contact with, or a taste of, the physical and human environment of the countryside and, as far as possible, allows them to participate in the activities, traditions and lifestyles of the local people” (Petric, 2003).

“Any form of tourism that showcases the rural life, art, culture and heritage in a rural location, thereby benefiting the local community economically and socially as well as

enabling interaction between the tourists and the locals for a more educational tourism experience” (UNDP, 2005).

“Rural tourism is tourism in the countryside, not in the town” (Fons, Fierro and Patino, 2011).

“Tourism not only located in sparsely populated areas which people farm or depend on natural resources, including former homelands, small towns and villages, but involves poor rural communities” (National Tourism Sector Strategy, 2012).

“A tool for rural revitalisation for socio-economic benefit” (de la Torre et al, 2014).

“All cultural resources, that is historic places, traditional music and art performances, cultural/religious views, local craft making, etc. and natural resources, that is, village traditional atmosphere, agriculture, traditional foods and fruits, topography etc.” (Fatimah, 2015).

“Tourism in areas characterised by poverty, unemployment, falling income levels and lesser job opportunities” (Todes and Turok, 2017).

In spite of the fact that there are various ideas as to what rural tourism is, it can be agreed that there are several catchphrase that emerge from these various definitions, including ‘country experience’, ‘cultural and/or natural resources’, ‘farm or agricultural activities’, ‘heritage’ and ‘traditional practices’.

For the purpose of this research rural tourism is, therefore, an umbrella definition capturing terminology such as:

- ecotourism, which is focused around the natural environment;
- agrotourism, which allows tourists to participate in traditional agricultural practices;
- cultural tourism, which enables tourists to experience the places and activities that signify both the history and heritage of local people;

- community-based tourism, which enables tourists to immerse themselves and experience village life; and adventure tourism, which involves action-based activities for tourists (Martínez et al. 2019; Lwoga & Maturo 2020).

8.1.2 The value of rural tourism

Rural tourism is one of the tourism products that has attracted much attention from governments, nongovernmental organisations and economic activists (Nooripoor et al. 2020). This form of tourism is recognised as a solution to many challenges experienced in the rural areas, including migration, unemployment, low productivity, marginalization, poor service provision and lack of infrastructure. Hence it is regarded as a rural development tool as it can be effective in improving the social and economic wellbeing of rural areas.

According to Nooripoor et al. (2020), rural tourism plays an important role in directing economic activities and helping to increase local communities' income. It is reported that increased local communities' income results in reduced unemployment, poverty, inequality and migration, and encourages protection of natural landscapes of rural areas as well as involvement of the community (Lane and Kastenholz, 2015). Rural tourism depends on various sectors including transport, infrastructure, accommodation as well as food and beverages. If poorly managed, rural tourism can have adverse impacts on the quality of the physical environment, social structures, and cultures.

The development of rural tourism internationally can be traced back to the 1970s and 80s. The growth of rural tourism was driven by declining agricultural production and the need for diversification of sources of income in rural areas. The decline in agricultural production which is the main source of income in many rural areas meant that the government and the rural people had to come up with alternative ways of generating income in rural areas. Hence, rural tourism was considered as a supplement to the income of rural residents. Unlike urban tourism which is based on large-scale capital investment and property development, rural tourism is based on the use of existing properties and heritage resources as tourist accommodation and

attractions (Dinis et al. 2019). It is developed by rural people at low cost and on a small scale (Lane and Kastenholz, 2015).

Rural tourism has been growing rapidly in developed countries. Many national governments issued guidelines and policy documents to support the growth of rural tourism (Lane and Kastenholz, 2015). In line with international trends, rural tourism in South Africa has been viewed in the context of rural development. Tourism as a tool for rural development is recognised in the National Tourism Sector Strategy and the National Development Plan. There are many rural tourism initiatives in South Africa, however, the impact of those initiatives is not well documented. Research on rural tourism in South Africa has focused on the potential for development of rural tourism initiatives in different areas (Mthembu and Mutambara, 2018; Mafunzwaini and Hugo, 2005; Mthembu, 2018).

It is widely recognised that rural tourism has positive effects in rural communities. Rural tourism plays an important role in improving the local people's livelihoods through economic growth and job creation (Alberta Department of Agriculture and Rural Development and Irshad, 2010; Dinis et al. 2019; Lane et al. 2013). For example, in Europe rural tourism supports 900,000 direct and indirect jobs and generates €150 billion in gross income each year (Lane et al. 2013). Linked to job creation Alberta Department of Agriculture and Rural Development and Irshad (2010) identify job retention as one of the benefits of rural tourism. Rural tourism cash flows can assist job retention in services such as retailing, transport, hospitality and medical care. Service retention is another positive impact of rural tourism which ensures that income generated from rural tourism is kept in the community. For example, visitor information services can be provided by existing outlets, such as shops (Alberta Department of Agriculture and Rural Development and Irshad, 2010). Rural tourism also supports the growth of local handicrafts. Arts and crafts have a special place in the cultural heritage of the rural communities.

Furthermore, rural tourism assists rural areas by diversifying their income sources (Alberta Department of Agriculture and Rural Development and Irshad, 2010). Also, the main reason people travel to rural areas is to enjoy natural and undisturbed landscapes. Hence, conservation of the landscape is of crucial

importance to rural tourism and has become an important form of heritage protection. Lonela et al. (2015) suggest that developing tourism activities involves controlling the consequences of such activities to assure the sustainable use of resources.

Other benefits of rural tourism include preservation of rural culture and heritage, increased arts and crafts sale, improved service provision (roads and basic services) and strengthened community identity (Dinis et al. 2019). However, Ibănescu et al. (2018) argue that it is difficult to achieve most of the documented positive impacts of rural tourism because the benefits of tourism for rural areas are not always evident and are often overestimated. Ibănescu et al. (2018) add on to report that availability of tourist infrastructure does not always lead to rural tourism development. Conducting a study in Taiwan, Chang (2011) revealed that tourism can only ease the pressure of rural decline, rather than make great impacts on the growth of local economy. This is particularly true for the developing countries where the benefits of tourism may have difficulties in reaching the poorest members of the communities.

8.1.3 Sectors to which rural tourism contributes

Rural tourism depends on a wide range of complementary businesses including accommodation, transport, food, beverages, and local businesses. In terms of accommodation, tourists look for different types of accommodation and these may include working farms or farms that have been converted to accommodation facilities, rural apartments, bed-and-breakfast cottages, self-catering cottages, and homestays. For example, in Germany 80% of accommodation is provided by working farms or farms that have been converted to accommodation facilities. In African rural areas there are some commercial guest farms and home stays in traditional huts (Lonela et al. 2015). Food and beverages are also an important part of any tour experience. Dinis et al. (2019) report that the participation of the visitor in the local food and drink allows them to experience the culture and identity of a rural destination. As a result, in some areas food has been used as a tourist attraction. Rural tourism also contributes to small local businesses such as transport as well as arts and crafts businesses.

8.1.4 Key challenges to value creation from rural tourism

Rural tourism has several challenges that have the potential to act as barriers to value creation. One of the main challenges is the low visibility of rural tourism products on national and international markets. Khartishvili et al. (2019) highlight that rural tourism products need to be visible with dedicated websites where products can be presented to attract tourists. Haldar (2007) suggests the use of professional marketers who understand the complexity of the tourism market and can assist in promoting rural tourism products. Marketing of rural tourism products is a specialist job requiring specialised skill necessary for marketing to be effective and successful.

Little or no experience in hospitality or in tourism initiative is another challenge. Rural communities still face problems in communication, business planning and management, price calculation, and (digital) marketing (Khartishvili et al. 2019). Training and educational programmes to make rural communities active and effective in the rural tourism supply chain is required. This may include training in hospitality, marketing, business planning and management.

Tourism is known for its role of promoting socio-economic development and environmental protection. However, if not properly managed, rural tourism may benefit outsiders coming from urban and foreign origins and have little effect on the wellbeing of local communities, particularly when the jobs available for local people are low-paying services (Dinis et al. 2019). Furthermore, rural tourism has negative environmental and socio-cultural impacts. Poorly planned tourism can affect the villagers by disrupting the rural culture, traditional and cultural practices and other activities (Dinis et al. 2019). Conducting a study on developing an assessment for enhancing sustainability in rural tourism products in South Africa, Haywood et al. (2020) identified crime, water scarcity, electricity shortages, waste generation in the hospitality industry and the COVID-19 pandemic as key challenges experienced in South Africa. Other challenges include lack of innovative rural tourism products, lack of infrastructure, poor transport facilities and other infrastructure.

8.1.5 Opportunities created by the tourism industry

Rural tourism leads to employment diversification, which improves the local people's livelihoods through economic growth and job creation. Rural tourism generates new business opportunities for the industry and for other sectors that benefit from tourism. This includes new business opportunities created to cater for tourist needs such as hospitality services, recreational activities and arts/crafts. Alberta Department of Agriculture and Rural Development and Irshad (2010) report that local businesses can benefit from tourist activity through developing close relationships with tourist facilities where for example local food can be used as part of the tourism offering in a locality. Youth gain access to better opportunities through business skills improvement and training for new career opportunities and direct involvement in running tourism businesses. Rural tourism may also attract external funding, infrastructural development and provision of basic services in rural areas.

8.1.6 Rural tourism in South Africa

South Africa is committed to rural tourism. With the release of the Rural Tourism Strategy in 2012, the South African Department of Tourism (NDT) has committed to stimulating tourism growth and economic development within rural areas of the country. Since rural areas in South Africa offer some of the most unique tourist destinations, including unspoilt wilderness, abundant wildlife, rugged coastlines, diverse and vibrant cultures, and distinctive heritage, there is much opportunity for rural tourism products to stimulate financial gains through much-needed jobs and also by creating and attracting investments in rural ways of life, traditions and local identities of rural areas (Bennett 2000; Mafunzwaini & Hugo 2005; Viljoen & Tlabel 2007; Trukhachev 2015; Department of Rural Development and Land Reform, 2015; Mtembu & Mutambara 2018).

The main benefit from rural tourism is the improvement to rural areas and sustainability of those improvements (Feng et al., 2018 & Greffe, 1994). Improvements include monetary value to the rural dwellers and some infrastructure such as better access road. The Department of Rural Development and Land Reform, (2015) reiterated that those people whose land, culture and natural resources are used for tourism related

activities must benefit meaningfully to achieve sustainable development. The tourism industry in rural regions can possibly give new economic benefit for rural people through its capacity to create jobs and ultimately add to monetary enhancement (Haywood et al., 2020 & Guzman-Parra et al., 2015). According to Haywood et al., (2020), the South African tourism industry contributed 1.5 jobs and R425.8 billion to the economy in 2018. In addition, the tourism industry contributes one in every 10 jobs created globally (Department of Tourism, 2018).

The policies and frameworks that support rural tourism in South Africa include:

- Tourism Act No.3 of 2014;
- Tourism Act No. 72 of 1993;
- Department of Tourism Research Series Research Report 2018 “Sustainability of Rural Tourism Products in South Africa”;
- Draft National Norms and standards for safe operations of tourism sector in the context of the Coronavirus COVID-19 and beyond.

The key aspects in these policies which support the key objectives of rural tourism include:

- i. Department of Tourism Research Series Research Report 2018 “Sustainability of Rural Tourism Products in South Africa”

This research dealt with the definition of rural tourism, identified the RTPs and categorised them. It further explained how to keep the RTPs sustainable.

- ii. Tourism Act No.3 of 2014

The main intention of the act was to give guidance throughout the tourism chain. It defines who the tourist is, tourist destinations and tourist attractions. It regulates some parts of the tourism chain including pricing of services such as accommodation, transportation and catering.

- iii. Draft National Norms and standards for safe operations of tourism sector in the context of the Coronavirus COVID-19 and beyond

These National Norms and Standards were meant to give guidance on how the tourism sector can start operating after the inactive period because of the COVID-19 lockdown. The tourism sector has now start operating and all those that are involved are guided by these norms so that all the activities they are doing are compliant to National COVID-19 protocols.

8.2 Transformation in Tourism

8.2.1 The meaning and purpose of transformation in rural tourism

Transformation in tourism and other sectors in the South African context has typically been understood as a process of redress of the injustices of the past. The issue of inclusivity and equity in opportunities for economic participation and for all people to be able to create sustainable livelihoods is at the core of the understanding of transformation. The meaning has more recently evolved to incorporate a broader developmental purpose, and the intention is for rural tourism in particular, to be used to meaningfully address poverty. Abrahams (2019) has argued that there is a risk of transformation in tourism being limited in its reach because of the development of a myopic culture of compliance with regulatory and policy mandates for Black Economic Empowerment, and their efforts need to be aimed towards more “aspirational” and “innovative” actions that bring about true inclusivity at the grassroots in the sector.

Furthermore, transformation is also needed with regards to the management and care of the natural resource base upon which so much of our tourism is based and therefore dependent upon. In the context of this project, a broader definition of transformation is therefore necessary, so that we can address sustainability, resource efficiency and inclusivity in rural tourism. Because of the significant impacts of tourism on natural resources, including water, land, and biodiversity, and the GHG emissions from energy use as well as impacts from waste management practices, there is an imperative for resource efficiency and sustainability encapsulated in SDG 12 which addresses Sustainable Production and Consumption (<https://tourism4sdgs.org/sdg-12->

responsible-consumption-and-production/). In rural contexts the impacts of tourism may be diffuse and distributed, but cumulatively can become significant. However, the remoteness of rural contexts can also offer unique opportunities for resource efficiency and sustainability practices.

According to the NDT (2018), transformation entails:

- The balancing of inequalities (cultures and gender);
- The creation of an inclusive economy and shared value, where structural provision is made for people who were historically excluded to now be included i.e., beyond mere intention;
- The implementation of a new character of tourism where role players and stakeholders across all cultures and genders are educated, skilled and empowered to participate and benefit from opportunities in tourism;
- A focus on localisation i.e., prioritising local community empowerment and reinvestment, bringing about local economic revitalisation;
- Social and cultural revitalisation including being able to retain youth in local communities;
- Specific interventions and provisions for bringing about resource efficiency in the use of water and energy in tourism, including fuel use for transportation, as well as environmentally benign waste management;
- Protection of cultural heritage and diversity;
- The influence of tourism on other economic sectors in rural environments to improve their sustainability e.g., agriculture.

8.2.2 Initiatives in transformation in tourism

The Department of Tourism has a vision to develop rural tourism with a transformational and developmental focus. These intentions are outlined primarily in two strategies, viz. the Rural Tourism Strategy (NDT, 2012) and the Transformation Strategy for the Tourism Sector (NDT, 2018). Strategic objectives for transformation outlined in these strategies are mainly focused around significantly improving Black Economic Empowerment in tourism, including in rural tourism specifically. The objectives include to facilitate the formation of supporting partnerships and

collaborative relationships that enable the access of black owned tourism businesses to providing facilities management services for state owned tourism establishments; of black owned SMME's and entrepreneurs to supplier development opportunities, working with larger tourism operators; to preferential procurement from black-owned tourism products and services; to support for gaining access to markets in the tourism sector; and to funding and skills development opportunities.

Examples of specific initiatives of Government in transformation of the tourism sector include:

- The Tourism Transformation Fund (TTF) of the Department of Tourism, a partnership with the National Empowerment Fund (NEF): R340m, initially over three years (from 2018), to bring about meaningful transformation. Businesses owned by black women, youth and people with disabilities can access up to R5m. Projects submitted by applicants had to trigger empowerment, destination development, job creation and skills development <https://www.tourismupdate.co.za/article/progressive-transformation-sa-tourism-sector>.

A new restructured TTF fund was launched in January 2021 - designed to provide a combination of debt finance and grant funding to facilitate equity acquisition as well as new project development in the tourism sector by enterprises with 51% black ownership. Combined value of the Tourism Equity Fund is +/- R1.2 billion inclusive of debt from the Small Enterprise Finance Agency (SEFA) and its commercial banking partner (<https://www.iol.co.za/capetimes/news/tourism-transformation-fund-to-get-complete-overhaul-30f35d12-ffb6-4265-9ba2-97b5b8817746>).

- Women in Tourism Programme - a platform for socio-economic transformation and integration of women from different socio-economic backgrounds.
- The Department of Tourism also has a Tourism BEE Charter and Scorecard for developing and advancing sector initiatives to empower black South Africans.
- The NDT runs a Resource Efficiency Programme through which energy and water use efficiency and proper waste management are prompted throughout the tourism industry <https://tkp.tourism.gov.za/rt/greening/Pages/Resource-Efficiency.aspx>

There are also several private sector and non-governmental initiatives that have been specifically designed to facilitate transformation in tourism, including some focused on rural tourism. One example is Fair Trade Tourism (<https://www.fairtradetourism.org/>), which enables members to capitalise on a niche market, by providing proof that they offer fair wages and working conditions, fair purchasing and operations, equitable distribution of benefits, and respect for human rights, culture and the environment. Another initiative is the National Youth Chef and Food Safety Programme ([https://www.tourism.gov.za/CurrentProjects/Pages/National Youth Chefs Training Programme.aspx](https://www.tourism.gov.za/CurrentProjects/Pages/National%20Youth%20Chefs%20Training%20Programme.aspx)), which promotes the training and employment of youths as chefs, energy efficiency officers, food safety assurers, and tour guides nationwide in partnership with the SA Chef's Association. The Umzi Wethu Training Academy of the Wilderness Foundation of South Africa (<https://www.wildernessfoundation.co.za/projects/umzi-wethu-training-academy>) offers a similar programme through which training and employment placement opportunities are provided in the ecotourism sector. The programme targets vulnerable youth between the ages of 19-27 and rural and urban youth from informal settlement areas.

8.3 Tourism Value Chains

8.3.1 What is understood by 'Value'?

Value is hard to describe. If you asked a business to describe what they mean by 'value', many would say that value is a measure of their profit margin. But value, in essence, is not a monetary amount. It is rather a measure of the positive benefits that are gained from a wide range of interactions, activities, relationships and cause and effects amongst various stakeholders including consumers, employees, regulators, suppliers, shareholders, and even the physical environment (IIRC, 2013).

Value is created through an organisation's business model, which takes inputs from capital and transforms them through business activities and interactions to produce outputs and outcomes that, over the short, medium and long term, create or destroy value for the organisation, its stakeholders, society and the environment.

Ultimately value is interpreted by reference to thresholds and parameters established through stakeholder engagement and evidence about the carrying capacity and limits of resources which stakeholders and companies rely on for wellbeing and profit. Interconnections between corporate activity, society and the environment and the purpose of the corporation should be understood in terms of what the organisation, society and the environment can tolerate and still survive – that will be the main determinant of value. The challenges will be to reach agreement at corporate, national and international level on what those thresholds and limits are, how the resources within those limits should be allocated, and what action is needed to keep activity within those limits so that value can continue to be created over time.

8.3.2 Value in the context of tourism

Considering that tourism is mainly a service sector in which a service is provided to a tourist and that tourist gains an experience, value is thereby a measure of:

- The tourist experience;
- The financial gain by the service providers;
- The environmental impact of the service; and
- Environmental and socio-cultural value if the activities are properly guided.

Tourism can and should help to protect biodiversity and this is a value created.

If no value is created for the tourists, no demand will emerge. And if no value is created for the providers, they will withdraw from the field and allocate their resources and initiative elsewhere (Hjalager et al., 2016).

Tourism value is generated directly or indirectly by many very diverse actors, who may have very different interests. While companies want to make money, other actors such as public institutions have the interest of citizens at heart and nature conservation groups have the interest of protecting natural resources. As such, there is a need for collaboration between the actors so that value is created in a positive way.

8.3.3 What are value chains?

The concept of a value chain is nothing new. It was first brought to light by Michael Porter in 1985 in his book titled 'Competitive Advantage, Creating and Sustaining Superior Performance'.

A value chain has been defined as a full range of value-adding activities required to bring a product or a service from conception, through the different phases of production all the way to delivery to final consumers and final disposal after use (Kaplinksy and Morris 2001). A value chain cannot and should not be seen as a linear process. It is rather a value chain system which is a complex system with cross-links between actors and activities at various levels of the value chain. This is especially true for tourism as it is a sector comprising of many inter-dependent subsectors containing a large number of components and part-services that are provided or shaped by many different actors (Mete and Acuner, 2014). Examples of services that make up the value chain include transportation, accommodation, recreational facilities, food and beverage.

Mapping and managing tourism value chains is all about extending the line of sight and influence beyond the traditional areas of focus and looking to limit risk and add value at each stage. Mapping the value chain considers all activities required to deliver the tourism products by understanding what is happening at different stages of the value chain as well as how the value chain operates as part of a system. Mapping the value chain and adopting the hot spot analysis approach helps to identify strategic intervention points and shape corresponding actions that improve natural resource management and achieve multiple sustainability objectives simultaneously.

9. RESEARCH DESIGN AND METHODOLOGY

9.1 Research design

For the purpose of this research a qualitative research approach was applied. The methodology described by One Planet (How to map tourism value chains and identify key actions) and GIZ (Tourism Value Chain: Analysis and practical approaches for development cooperation projects) was adapted and applied for mapping the rural tourism value chain and the associated hotspot analysis. Secondary data were used for the hotspot analysis. The focus was on the interpretation of the value chain rather than the quantification of it. This enabled a closer evaluation of the social and environmental impacts and consequences of the tourism activities.

The methodology applied consisted of four core activities.

Activity 1: Mapping the value chain

Step 1: Defining the goal and scope of the value chain to be mapped

This involved identifying the intention and purpose for the value chain analysis and the scope at which the value chain was to be mapped.

Step 2: Populating the rural tourism value chain and the relationships between the different service providers

This involved making use of secondary data to identify tourism enterprise service providers, secondary tourism enterprise service providers and supporting and enabling tourism providers for whom value is directly and indirectly created along the rural tourism value chain. This also involved identifying the environmental and societal resources needed for the rural tourism activities and the relationship that the rural tourism enterprises have with each other and these resources.

Activity 2: Description and analysis of lifecycle stages for each activity in the value chain

Step 3: *Characterise what happens at each step in the value chain looking at the lifecycle stages for each activity.*

This involved describing what was happening in each value chain activity mainly in terms of the assets, risks and rural tourism enterprises associated with each activity.

Step 4: *Use secondary sources of information to further assist in characterising what happens at each lifecycle stage of each activity.*

This involved using secondary information to verify and augment the descriptions.

Activity 3: Identifying the hotspots/priorities

Step 5: *Based on the lifecycle view, identify areas on the value chain map, where there are potential high significance impacts (positive and negative) that may require interventions (these are the hotspots/priorities).*

Secondary data were used to identify hotspots. These data were sourced from tourism satellite accounts, South African Tourism, and Department of Tourism.

Step 6: *Identify and describe potential impacts for each hotspot/priority.*

Step 7: *Evaluate the impacts on resource efficiency, sustainability and inclusive growth from secondary sources of information to determine high, medium and low significance.*

Step 8: *Select the points of high significance (can be positive or negative) which will then be the hotspots/priorities for interventions.*

Activity 4: Broad interventions for transformation in the value chain

Step 9: *Broad recommendations for strategic interventions towards resource efficiency, sustainability and inclusive growth for each of the hotspots/priorities.*

9.2 Data collection instrument

The data collection method used was that of desktop research and analysis. This involved collecting data from existing and publicly available resources (i.e. secondary data). Data were extracted from secondary data sources including previous research, peer-reviewed journal articles, reputable grey literature, policies and legislation, as well as tourism statistics reported by Statistics South Africa (StatsSA), Department of Tourism and South African Tourism.

10. ANALYSIS AND FINDINGS

10.1 Defining the scope of the value chain mapping exercise

The intention and purpose of mapping the rural tourism value chain was to provide a 'bigger picture' in terms of all the rural tourism products, services and service providers that lead to value creation. This also led to the identification of the relationships and interconnections between the tourism activities, the service providers and that of natural and social resources. The value chain is in essence a management tool that helps in the understanding of the complexity in the processes and structures that lead to value creation. Further, by using hotspot analysis on the value creation system mapped for rural tourism, areas for which there are significant impacts on inclusive growth and resource efficiency were identified.

The goal was to make use of value chain mapping and hot spot analysis to identify key areas in the value creation system where interventions for transformation can be made. Interventions were sought for inclusive growth, greenhouse gases emissions, waste and pollution prevention and resource efficiency.

Rural tourism, as discussed in the literature review section of this report, has many different definitions. For the purpose of this research, rural tourism has been defined

to comprise tourism products that fit within the categories of ecotourism (tourism products related to guests experiencing an encounter with nature), agritourism (tourism products related to guests experiencing an encounter with agricultural practices, lifestyles and products) and cultural and heritage tourism (tourism products related to guests experiencing cultural and heritage engagements and encounters).

The scope for mapping the rural tourism chain was confined to these three categories of rural tourism. It was envisaged that for the most part, the value chains for each of these rural tourism categories would be very similar and as such, the hotspots and interventions identified could potentially be applied to all three of the rural tourism categories.

While the value chain mapping and analysis highlighted the different services for all stages in the value chain, it also provided broad insight into providers of the services. These service providers have context in terms of the different functional levels at which they provide value in the value chain. There are three distinct levels or types of service providers in the value chain:

1. Primary rural tourism enterprise: These are service providers that provide services and goods directly to tourists and thereby directly contribute to tourism value add.
2. Secondary rural tourism enterprise: These are service providers that provide support functions that primarily benefit the primary tourism enterprise service providers. Their value is created from the services they offer primary tourism enterprises.
3. Supporting and enabling services to rural tourism: These are service providers and entities that provide the enabling and support environment for tourism in the country.

Figure 1 provides an overview of the goal and scope towards mapping the rural tourism value chain.

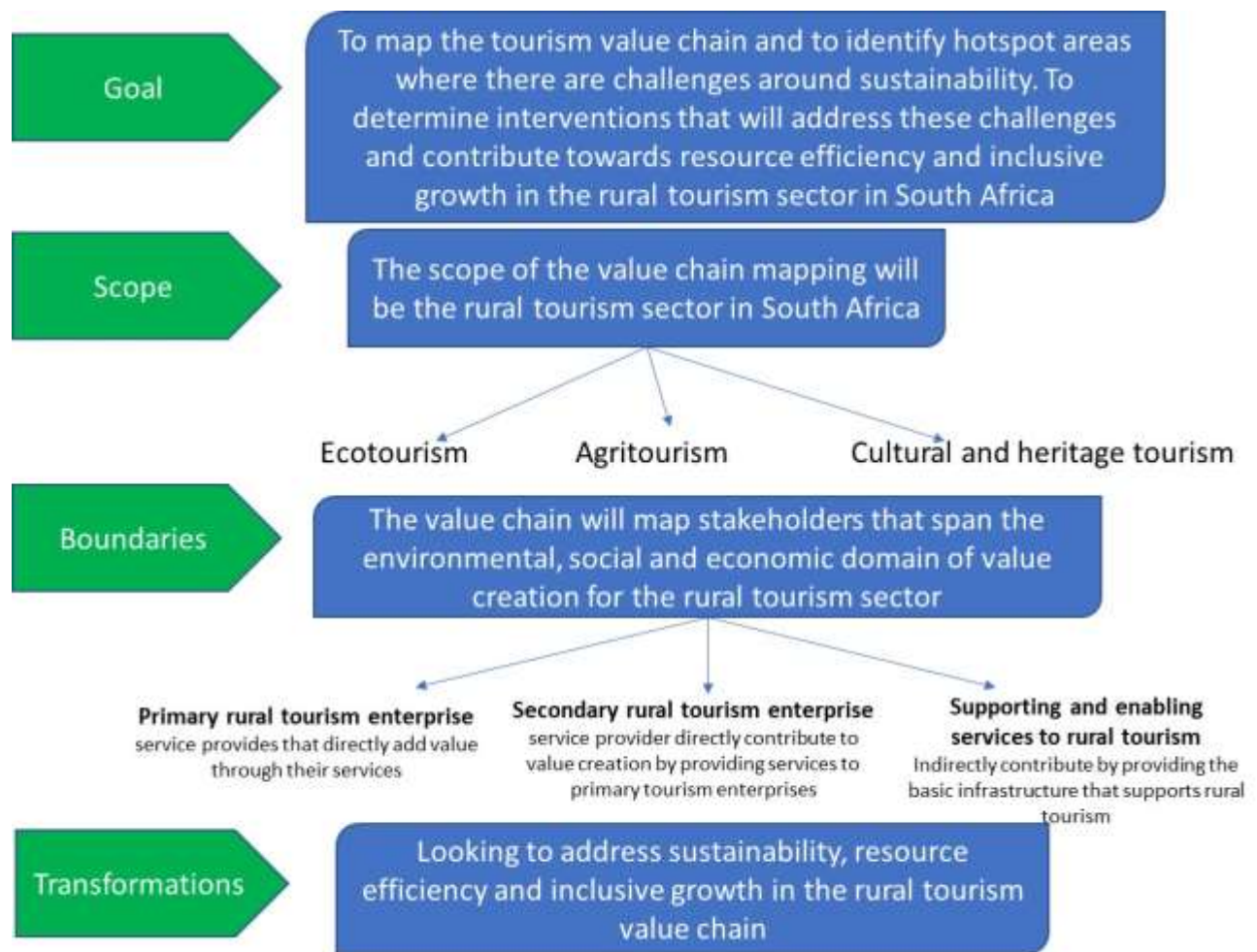


FIGURE 1. THE GOAL AND SCOPE OF MAPPING THE SOUTH AFRICAN RURAL TOURISM VALUE CHAIN. (FIGURE DEVELOPED BY AUTHORS)

10.2 Mapping of the rural tourism value chain

The first component to mapping a value chain is to define the main activities that lead to value creation. Tourism is not actually an industry in its own right but rather an amalgamation of different sectors which provide services that translate into a tourism activity (Statistics South Africa, 2019). In this regard tourism is not measured in its own right in the national accounts, because tourism is not a clearly defined industry in the International Standard Industrial Classification of all Economic Activities (ISIC), but rather an amalgamation of sectors such as transportation, accommodation, food and beverage services, recreation and entertainment, travel

agencies, etc. The Tourism Satellite Account (TSA) documents published by Statistics South Africa provide insight into the main tourism activities within South Africa that create value.

As per the TSA, the tourism enterprise activities include:

- Accommodation services
- Restaurants and similar
- Passenger transport services
- Rail passenger transportation services
- Road passenger transportation services
- Water passenger transportation services
- Air passenger services
- Transport equipment rental services
- Travel agencies and similar agencies services
- Cultural services
- Sport and recreational services
- Tourism connected products
- Non-specific products

Secondary tourism enterprise activities as per the TSA include:

- Retail sales of food, beverage, and tobacco
- Retail sales of textiles, clothing, footwear, and leather goods
- Retail sales of pharmaceutical and medical goods, cosmetics, and toiletry articles
- Retail sales of furniture, appliances, articles, and equipment
- Retail sales of automotive fuel

The tourism activities described by the TSA typically fit into the 8 tourism sub sectors. These include:

- Accommodation
- Adventure tourism and recreation
- Tourism attractions
- Events and conferences
- Food and beverage
- Tourism services
- Transportation
- Travel trade

For the purposes of this research, the rural tourism value chain in South Africa was mapped according to the tourism value chain mapping methodology in the Tourism Value Chain Approach of the One Planet Network (UNEP), using the TSA tourism categories and the main sub-sectors described above. The value creating tourism activities according to which the mapping was done, are described in Table 2.

Table 2. Description of tourism activities that lead to value creation in the rural tourism sector. (Table developed by authors)

Value creation activities in the rural tourism value chain	Explanation of the value creation activities
Travel organisations and booking services	Travel organisations such as travel agents and booking services are tourism business services that operate as the intermediary between the travel industry (supplier) and the traveller (purchaser). Part of the role of these service providers is to market pre-packaged travel tours and holidays to potential tourists. Travel organisations can be small and privately owned or part of a larger entity.

Value creation activities in the rural tourism value chain	Explanation of the value creation activities
Transportation services	Transport is an essential component of all tourism activities. Transportation services refers to all modes of transport that enable the movement of tourists to, from and around tourist destinations and activities.
Accommodation services	Accommodation services refers to the provision of overnight shelter for a fee in appropriately equipped rooms, including at least a bed. The provision of overnight accommodation may include the provision of food services, fitness activities and/or green areas.
Food and beverage services	Food and beverage services include all types of establishments and services that supply food and beverages for consumption to tourists and travellers including fine dining enterprises, ethnic restaurants and institutional food outlets, fast food outlets to catering firms, pubs and lounges.
Creative industries	Creative industries refers to all enterprises that provide products and services to tourists that contain elements of artistic or creative endeavours.

Value creation activities in the rural tourism value chain	Explanation of the value creation activities
Tourism assets	Tourism assets refers to the physical tourism attraction associated with ecotourism, agritourism and cultural and heritage tourism. These tourism assets in most instances would require the tourist to pay a fee of some sort, i.e., entry fee, conservation fee, administrative fee.
Leisure tours and excursions including to tourist attractions	This refers to enterprises that offer services that specialise in providing informative and entertaining tours that enable tourists to experience tourist attractions.
Tourism support services	These refer to other services that tourists may make use of as part of their travel which are not directly provided for in the other value creation tourism activities.

Table 3 illustrates the key tourism enterprise service providers that directly derive value from tourism products that they offer (This table was developed by the authors). The service providers identified represent the majority of service providers associated with rural tourism activities in South Africa. It is noted that other more specialised service providers may not be included in Table 2 but this is not a concern as the hotspots identified make reference to more generalised components of the rural activity for which all service providers will provide.

The tourism activities and service providers associated with 'tourism organisations and bookings' can take place in an outbound country as well as the host country of the rural tourism products. The service providers associated with the remaining value creating rural tourism activities, are services and products that directly create or support the rural tourism sector in South Africa.

Table 4 shows the secondary rural tourism enterprises who typically create value from the products and services they provide to primary tourism enterprises (this table was developed by the authors). These service providers thereby indirectly benefit from the rural tourism sector. As such they create value by means of a direct relationship with a rural tourism enterprise and not the tourist directly. Also presented in the Table 4 are those service providers that provide the supporting and enabling environment for rural tourism. These service providers create the legal and policy environment that enables and supports tourism, provide the infrastructure and financial support to enable tourism, conduct the marketing and promotion of tourism destinations and associated tourism products, and support the overall growth and development of the sector.

Table 3. Rural tourism value chain and tourism enterprise service providers associated with the value creation tourism activities.

	Travel organisations and booking agents	Transportation Services	Accommodation	Food and Beverage	Creative industries	Tourism assets	Leisure, tours, excursions and attractions	Support Services
Primary tourism enterprise service providers	Travel agents	Airlines/planes	Hotels and motels	Local stalls/vendors	Local artists	Physical cultural and heritage assets and attractions for which an entry fee is required such as museums, monuments, historical structures, cultural villages, archeological sites, world heritage sites	Concerts and music festivals	Travel clinics
	Tour operators	Trains	Bed and breakfasts	Restuarants and cafes	Local musicians		Spa, healing (i.e. isinuka) and wellness	Travel insurers
	Internet based booking agents (i.e. airbnb)	Taxis	Self catering guest houses and farms	Cottage industry food and drink stalls and shops	Local crafters and crafts		Game drives and safaries	Banks, ATMs and other financial service providers
	Vacational rental companies	Ferries and pongs	Homestays	Retail shops including grocery, butchery and liquor stores	farm markets and artisal cuisine	Ecotourism assets for which an entry fee is required such as local, provincial and national parks, protected areas, scenic landscapes, etc	Sport events and festivals	Communication service providers (telephone, wifi, internet, data)
	Call centre reservations	Cars	Backpackers and hostels	Shisanyama	Cottage industries (handmade goods, gifts and clothing)		Religious and spiritual tours and retreats	Power suppliers to charge electronic devices
	Subsidiary suppliers linked to booking agent	Animals (horses and donkeys)	Camping and caraven sites	Shebeen and bars	Film and photographic studios		Arts and cultural tours, festivals and retreats	Wifi hotspots
	Airline, bus, train bookings	Shuttle services	Lodges	Fast food outlets	Performing artists (theatre)	Agrltourism assets for which an entry fee is required such as farms and associated infrastructure	Rural desitnation events such as weddings	Health insurance
	Timeshare bookings	Buses	Chalets	Farm markets	Craft distillaries, brewries and wineries		Rural conference destinations	Sports and adventure equipment service providers
	Travel management companies	Bicycles	Farmstays	Catering services	Local and foreign filmmakers		Township and village tours and operators	Camping equipment service providers
			Timeshare		Game hunting and sales		Educational tours	Tech equipment service providers (i.e. photograhic equipment)
			Guest house		sport actvities including parkrun		Historical tours	Medical and wellness service providers
							Adventure and outdoor activities and sport including hiking, mountain biking	Laundry service providers
							Food and drink festivals	Security service providers
							Trade fairs and exhibitors	Legal services
							Casinos	Education and training services
							Shopping facilities	Postal service
							Theme parks	
							Marine tours and activities	

TABLE 4. Rural tourism value chain activities and associated secondary tourism enterprise service providers and supporting and enabling service providers.

	Travel organisations and booking agents	Transportation Services	Accommodation	Food and Beverage	Creative industries	Tourism assets	Leisure, tours, excursions and attractions	Support Services
secondary tourism enterprise service providers	General office service provides including ICT services, banking and insurance	Manufactories and dealers of cars, buses, trains and aeroplanes	Marketing services	Farms (small and large scale)	Redistributors of crafts	Restoration services	Tourism destinations	Marketing services
	marketing services and goods	Tour operators	External cleaning services	Fresh produce markets	Manufactures of goods used in crafts	Management services	Booking agents and managers	Communication and cellular service providers
	Media services	Animal feed providers	External laundry services	Retail shops including grocery, butchery and liquor stores	Marketing services and goods	Information service providers	Media	Internet service providers
	Public relations and promotional services	Fuel companies	Consumable suppliers	Cottage industries providing food and beverage services	Promotional activities	Tour guides and operators	Marketing services	Construction and maintenance services
		Filling stations	Maintenance services	Food and drink suppliers	Cottage industry suppliers	Marketing and brochures	Equipment and service providers	Waste collection services including pigwills
			ICT services	storage and distribution suppliers	Booking agents and managers	Construction and maintenance services	Goods and services providers	water supply
			furniture and equipment suppliers	Food and beverage producers and factories	Furniture and equipment suppliers	Marketing services	Conservational language courses	
			Good and services suppliers	Furniture and equipment suppliers	Real Estate		Construction and maintenance services	
			Real Estate	Real Estate	Construction and maintenance services			
			Construction services	Construction and maintenance services	Marketing services			
				Marketing services				
Supporting and enabling tourism service providers	National Government: Department of Tourism, Department of Fisheries, Forestry and Environment, Department of Transportation, Department of Trade, Industry and Competition, Department of International Relations and Cooperation, Department of Agriculture, Land Reform and Rural Development, Department of Water and Sanitation, Department of Sport, Arts and Culture, Department of Small Business Development, Department of Health, Department of Minerals and Energy, Department of Women, Youth and Disabilities, Department of Social Development, Department of Employment and Labour, Department of Home Affairs							
	Public sector organisations such as South African Tourism							
	All Provincial Tourism Authorities and Local Government Tourism Structures							
	All tourism boards, tourism administration agencies							
	All tourism councils and associations							
	Community Tourism Organisations							
	Natural resources: climate including air and weather; physical environment/landscape; soil; water; energy resources such as oil, gas and coal; biodiversity; ecosystem services and infrastructure							
	Intangible cultural, heritage and social resources: oral traditions, local knowledge and expression, traditional skills, traditional language, traditional representation							

10.3 Value creation relationships between tourism activities and different types of service providers

As discussed above the tourism sector is made up of different tourism activities which themselves fit into different economic sectors. For the sector to function, these different activities are interdependent and interconnected. Value creation by the various tourism enterprises along the value chain, is dependent on the interconnected relationships between them.

Figure 2 illustrates the interconnected relationships between the rural tourism value chain activities.

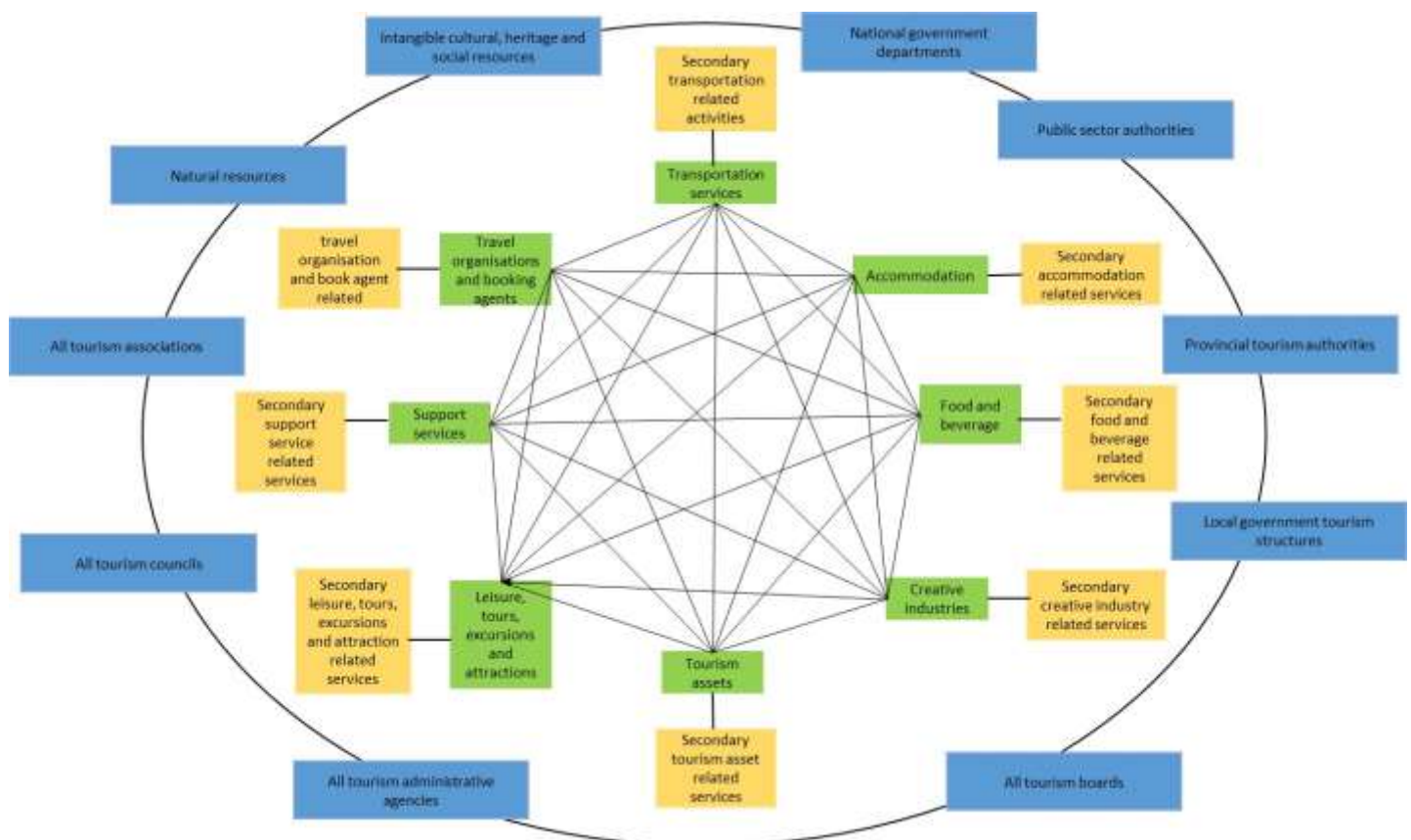


FIGURE 2. INTERCONNECTED VALUE CREATION RELATIONSHIPS BETWEEN RURAL TOURISM VALUE CHAIN ACTIVITIES. (FIGURE DEVELOPED BY THE AUTHORS).

Transport enterprises are central to tourism because they facilitate the movement of tourists from their place of origin to their destination and back and provide the means of movement within a destination (Sorupia, 2005). Transport enterprises create value by providing tourists with access to rural tourism products. The interconnected relationship between the enterprise and the tourist, is to get the tourist to their chosen rural destination, thereby enabling other rural tourism enterprises to create value.

Travel organisations and booking agents have the knowledge about rural tourism products to enable them to make the necessary bookings for rural tourism products. However, for these enterprises to provide such a service, the rural tourism enterprises offering tourism products must provide their information to the travel organisations and booking agents so that this information can be captured onto their portfolios and platforms. The travel organisations and booking agents create value from selling rural tourism products and in turn, the rural tourism products create value from the tourists that purchase their products. The travel organisations and booking agents depend on secondary rural tourism enterprises in marketing, media, and promotions to attract potential tourists to their services.

Accommodation is the foundation of the rural tourism sector as it provides the services that enable tourists to lodge, rest, sleep and unwind so that they may enjoy all aspects of their travel (Sharpley, 2021). There are relationships between accommodation service providers and all other tourism products. Accommodation tourism enterprises create value by means of the lodging services they provide for tourists. In turn, other rural tourism enterprises create value due to tourists lodging in the area and then making use of their services. In many instances accommodation enterprises offer other services in other rural tourism activities such as shuttle services (transport), food and beverages, creative industries, and package tours.

Food and beverages are necessities for all tourists as everyone needs to eat and drink at all stages of their travel experience. Food and beverage enterprises thereby create value when tourists purchase and enjoy meals and refreshments. Other rural tourism enterprises create value due to the fact that meals and drinks are a necessity for tourists during travel, when spending time in their chosen accommodation, and when they are out and about exploring the rural location, they are visiting.

Tourists are attracted to rural destinations by the creative industries and rural tourism assets in rural areas. Tourists will make use of the services of other rural tourism enterprises such as accommodation and the supply of food and beverages such that they may enjoy the products offered by the rural tourist attractions and creative industries.

Rural leisure tours and excursions are tourism packages which include a variety of other rural tourism enterprises which create value due to their relationship with the enterprises offering tours and excursions.

Support services offer tourists services that may not be directly linked to the rural tourism product for which they are visiting the rural area. While the rural tourism product attracts tourists, there are often other services that are required by the tourist, but that are not dependent on tourists for their existence or value creation. They do, however, benefit from the tourist's business. These support services include banks, medical facilities, and shops.

There is a reciprocal dependency between primary and secondary rural tourism enterprises. The secondary rural tourism enterprises are dependent on primary rural tourism enterprises and the joint value created by them due to the interconnectedness between all rural tourism activities. But the primary rural tourism enterprises would also find it challenging to offer their tourism products without the support of the secondary rural tourism enterprises. The two levels work hand in hand and are interconnected in terms of their ability to create value.

Supporting and enabling tourism enterprises connect across the types of enterprises. They provide the financial, policy, informational, environmental, and social platforms

that support and encourage rural tourism within the country. All the types of rural tourism enterprises are thereby in some way or form directly or indirectly connected to one of the rural tourism activities.

10.4 Socio-economic and environmental relationships in the rural tourism value chain

Rural tourism activities and their associated tourism products along the rural tourism value chain, contribute to socio-economic value creation not only for those individuals directly associated with the tourism activity, but indirectly for the whole rural community. Socio- economic value creation can, however, lead to a loss of value to the receiving natural environment. By addressing all aspects of sustainable development along the rural tourism value chain, it is possible and necessary to ensure socio-economic benefit as well as positive outcomes for the receiving environment so that the rural tourism sector in the country can flourish. The system of interconnected socio-economic benefits associated with rural tourism activities (blue arrows) is illustrated in Figure 3. The green arrows in the diagram indicate the environmental consequences of rural tourism which need to be avoided and / or managed, to ensure responsible and sustainable rural tourism products. In some instances the relationships are depicted by + or – which means the relationship is reinforcing or balancing respectively.

Figure 3 suggests that rural tourism products provided by rural tourism activities along the rural tourism value chain, will bring tourists to rural areas, due to the attractiveness of the products, as well as marketing efforts, affordability, accessibility, and service delivery. As tourist density increases, employment opportunities and the opportunities for creating jobs for women, youth and individuals with disabilities improve. Being employed gives individuals the opportunity for personal growth through the learning of new skills and the transfer of knowledge, which could ultimately lead to new employment opportunities in the future. Income in rural households, as a result of employment from rural tourism products, can lead to improved quality of life, mainly due to households being able to access better food, education, health services and

housing. This could ultimately decrease migration to urban areas and contribute towards poverty alleviation in the rural area. Having an income and skills can also facilitate entrepreneurship in rural areas. Growing local economies are better able to provide basic services and infrastructure, reduce crime and enhance the general attractiveness of rural areas for tourists. As a consequence, new business investment is more likely in the rural area and the possibilities for establishment and growth of SMEs, and increased numbers of tourists, improve.

It is acknowledged that the systems diagram in Figure 3 is a theoretical representation of the rural tourism context, and in it, all things are considered to be equal. However, rural tourism in South Africa is struggling. It is difficult for poverty-stricken rural communities to take advantage of tourism enterprise opportunities mainly because they do not know how to initiate and manage a rural tourism product and they also do not have the financial resources to establish tourism products. The COVID-19 pandemic has also hindered tourism significantly over the past two years. The supporting and enabling service providers, namely government, as well as tourism boards and associations, have a role to play in assisting rural communities with the resources needed to establish and grow tourism activities that could make the potential positive outcomes illustrated in the systems diagram a reality.

While tourism activities contribute to socio-economic value creation, they can also have significant consequences in compromising the value of the receiving environment (green arrows). When the value of the environment is eroded to such an extent that it can no longer provide the tourism attraction and services required by tourists, then the socio-economic value will also diminish. Some of the main impacts of tourism on the environment include (Habibullah et al., 2016):

- *Pressure on water resources:* South Africa is a water scarce country prone to drought. Tourism products and activities could impact on the availability of water, especially in rural communities, who often have limited and failing water infrastructure and associated water supply.
- *Pressure on local resources:* Tourists create added pressure on resources in rural communities, such as energy, food and raw materials.

- *Land and ecosystem degradation:* Tourism-related activities can lead to landscape transformation, impacting the functioning of ecosystems.
- *Pollution and waste:* Tourism-related activities can contribute significantly to air, water, soil noise and aesthetic pollution; and generate, significant volumes of solid waste, sewage and other wastewater, oil and chemicals which require handling and disposal.
- *Loss of biodiversity:* Tourism-related activities can have negative impacts on biodiversity and increase numbers of threatened and endangered species.
- *Contribution to climate change:* Tourism-related activities all generate emissions of greenhouse gases in some way.

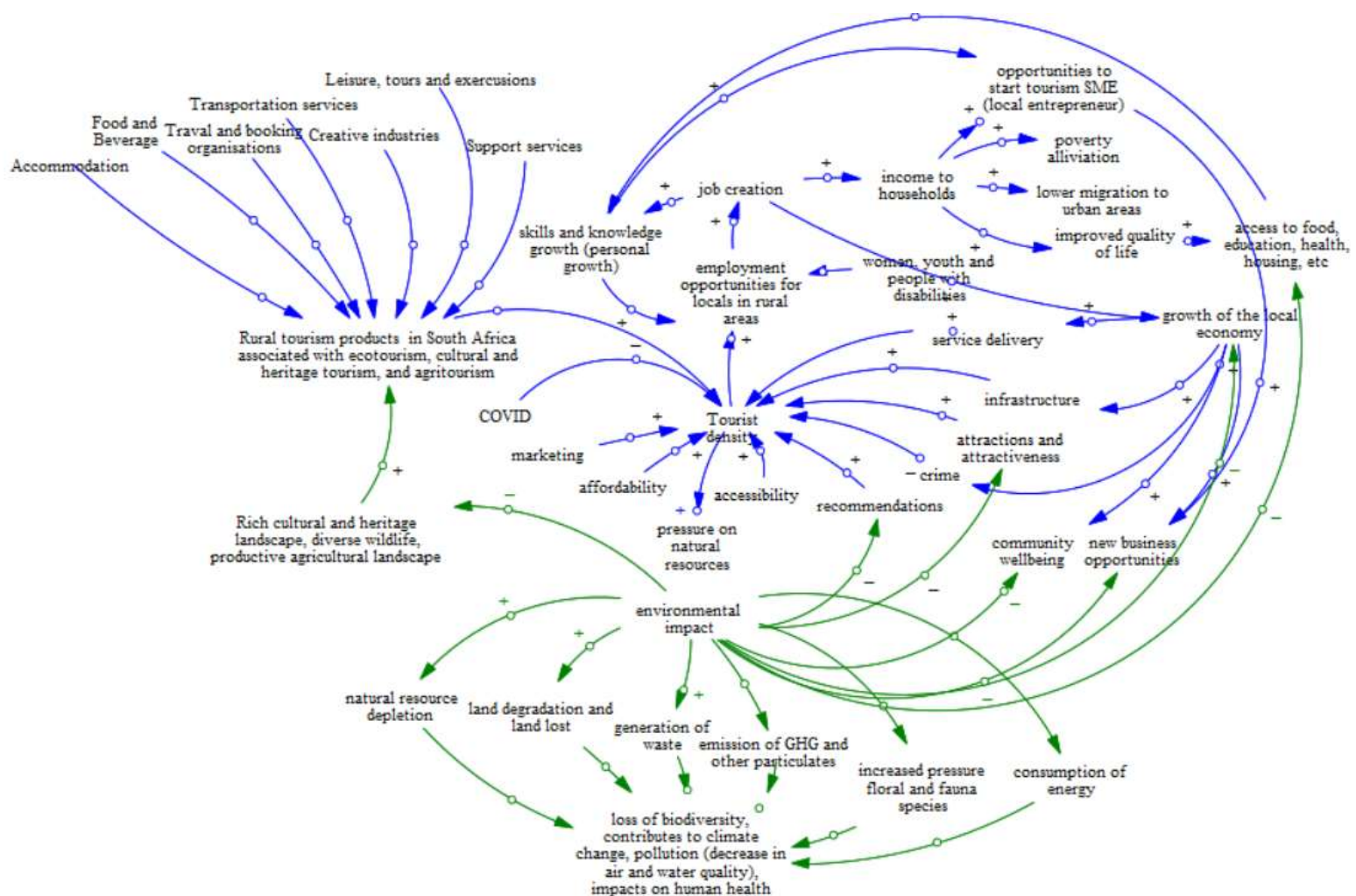


FIGURE 3. SYSTEM DIAGRAM OF THE RELATIONSHIPS BETWEEN RURAL TOURISM ACTIVITIES THAT LEAD TO SOCIO-ECONOMIC BENEFITS AND ENVIRONMENTAL IMPACTS IN RURAL AREAS. (FIGURE DEVELOPED BY AUTHORS)

10.5 Lifecycle inventory and impact analysis of rural tourism activities

From the analysis of the relationships between rural tourism value creating activities, it is clear that the rural tourism enterprises create the greatest and most direct value in the rural tourism value chain. It is primarily through the tourism activities of these enterprises that the socio-economic and environmental impacts in rural areas will manifest. Hence transformation efforts should be focused on these enterprises to drive sustainability along the value chain. Lifecycle inventories were therefore focused only on the activities of these enterprises. A lifecycle inventory is a tool that enables the systematic identification of the environmental and socio-economic impacts of each service provided by the tourism enterprise.

A lifecycle inventory was not conducted for rural tourism assets since the rural tourism products and services included in this category are incorporated in the other rural tourism activities such as accommodation, tours, food and beverage, and creative industries. Support services were also not included since, although these service providers provide services to tourists, they do not form part of nor are they directly engaged in the rural tourism value chain.

For each value creation activity identified in the rural tourism value chain, key sub-activities that are undertaken to provide the service were identified. Environmental and socio-economic aspects of these sub-activities were then identified, so that the potential environmental and social impacts of the value creation activities could be identified in turn.

Impacts, arising out of the sub activities were identified in relation to natural resource use, emissions and effluents, solid waste, and inclusivity and social transformation. Impacts can be positive or negative and of local, national or global relevance. Local

impacts have consequences in the local area; national impacts are those that have implications for the whole country; and global impacts are the result of a cumulative effect of the impact occurring in many places or at a sufficiently high intensity to cause a global impact.

Appendix A contains the lifecycle inventories for each of the primary rural tourism enterprises. These lifecycle inventories were used as the basis of the hotspot analysis. By understanding the impacts associated with the environmental aspects of all sub activities within each value creation activity, the hotspot analysis identifies which sub-activities are a priority in the value chain in terms of the impact on the environment.

10.6 Hotspot analysis of the lifecycles of rural tourism enterprises and their activities

The life cycle inventories revealed that there are a large number of social and environmental impacts associated with all the value creation activities of the rural tourism value chain. The full range of impacts on resource use, climate change, waste, and social inclusivity are not all equally significant. The impacts also manifest at different scales and intensities, which need to be taken into account. It was necessary to determine which of the impacts are most significant and therefore require interventions. The areas in the value chain where significant impacts occur as a result of specific rural tourism activities within the various enterprises, are referred to as hotspots.

To assist with the hotspot analysis an inventory was made of all the environmental and social aspects of the activities of rural tourism enterprises (Appendix B). The extent to which resources are required for rural tourism activities, is shown in the inventory. The inventory illustrates that most rural tourism activities require electricity to operate appliances or other electrical equipment. Lots of rural tourism activities also require water; and all of them generate waste. This resource use is one of the sources of potential social and environmental impacts identified in the analysis.

The availability of rural tourism data is extremely limited to non-existent. Much of the national tourism data that is collected relates to numbers of tourists (domestic and international), bed nights, and activities of tourists in general. There are no data relating to the number of tourists visiting rural areas or data relating to natural resource use by tourists in rural areas. As such there are no specific rural tourism data that could be used to quantify the hotspots along the value chain. Assigning significance to specific impacts was, therefore, estimated based on information from secondary data sources.

Tourism expenditure data in the *Tourism Satellite Accounts for South Africa* (final 2016 and provisional 2017 and 2018) indicates that the greatest domestic supply (based in Rands) for the tourism sub sectors, was passenger transportation services. From these data we can infer that the largest consumption expenditure made by tourists is

in transportation, implying that the value created in this tourism enterprise could have significant cumulative environmental impacts, especially in terms of GHG emissions and the use of natural resources to make the necessary fuels for the various modes of transport. Three quarters of GHG emissions (namely CO₂) from tourism are transport-related. Emissions from transporting tourists have grown steadily over the past decades, reaching almost 1,600 million tonnes of CO₂ globally in 2016, amounting to 5% of all energy-related CO₂ emissions (UNWTO, 2019). Emissions from the transport sector in South Africa account for 10.8% of the country's total GHG emissions (Department of Transport, 2018). Of this, the road sub-sector in South Africa contributes 91.2% of the transport sector's total emissions (Department of Transport, 2018). Since most rural destinations in South Africa do not have commercial airports, the main means of transportation to, from and in rural areas are vehicles that use roads (i.e., cars, buses, taxis, etc). The GHG emissions from transportation associated with rural tourism will thus accordingly be an important consideration, especially due to the cumulative national and global impact. From a cumulative perspective GHG emissions from transportation must be reduced. Transportation associated with rural tourism is thus a hotspot area in the rural tourism value chain. This transportation includes for example, the value creation activities involved in the conveyance of tourists to and within rural tourism areas, as well as staff within these areas, and transportation associated with deliveries to the various rural tourism enterprises.

South African Tourism (www.southafrica.net) provides data relating to the main activities of tourists for each province. Eating out features as a top activity (Table 5) in all provinces. As per the *Tourism Satellite Accounts for South Africa* (final 2016 and provisional 2017 and 2018), food and beverage related activities are the second largest consumption expenditure associated with tourism. This is not surprising considering that the supply of food and beverages are a key value creation activity in the tourism sector as all people need to eat. Provision of food and beverages associated with rural tourism in South Africa is a hotspot area in the rural tourism value chain considering that the impacts of this activity are not only associated with the rural tourism product (in terms of food and solid waste generated), but also that agricultural processes associated with the production of all food and beverages can have significant environmental impacts. The hotspot activities include the sourcing of food

and beverages and then the consumption by tourists, leading to food waste. The food waste hotspot is further justified by Matinise et al. (2018) who conducted a study in thirteen restaurants in eThekweni municipality and found that food waste accounted for close to 50% of all the waste that was generated in the restaurants. Conducting a study on the impact of waste management in the hospitality industry in Johannesburg, Edoun et al. (2019) found that food waste was the main cause of wastage at 34 % followed by water and energy usage (30%). Serving methods (21%) in the hotel and theft from the property (15%) were two of the contributors to food waste.

TABLE 5 Activities of tourist for each province, highlighting that eating out is a main activity. Data in this table were generated from figures as per South African Tourism ([www. www.southafrica.net](http://www.southafrica.net))

Western Cape	Northern Cape	Eastern Cape	Free State	KwaZulu Natal	Gauteng	Mpumalanga	Limpopo	North West
Eating out	Eating out	Eating out	Shopping	Eating out	Shopping	Shopping	Shopping	Eating out
Visiting natural attractions	None	Visiting natural attractions	Social	Shopping	Eating out	Social	Eating out	Shopping
Shopping	Social	Wildlife	Eating out	Social	Social	Eating out	Social	None
Beach	Shopping	Shopping	None	Beach	Cultural, historical and heritage	Wildlife	Wildlife	Social
Cultural, historical and heritage	Visiting natural attractions	Social	Church	Visiting natural attractions	Business	Visiting natural attractions	Visiting natural attractions	Wildlife

Social	Wildlife	Beach	Education and training	Cultural, historical and heritage	None	Cultural, historical and heritage	None	Visiting natural attractions
Wildlife	Cultural, historical and heritage	Cultural, historical and heritage	Nightlife	Wildlife	Entertainment	None	Church	Nightlife
Adventure	Business	Adventure	Entertainment	adventure	Church	Church	Cultural, historical and heritage	Church
Nightlife	Adventure	Nightlife	Medical	Theme Park	Visiting natural attractions	Adventure	Adventure	Entertainment
Theme Park	Nightlife	entertainment	Visiting natural attractions	Business	nightlife	nightlife	Entertainment	Cultural, historical and heritage

The occupancy rates for rural tourist accommodation from 2018 to late 2019 (namely that of caravans and camping sites, and guest houses and farms) was on average just over 30% prior to the onset of the COVID – 19 pandemic (Figure 4) (Statistics South Africa, 2021). When this pandemic hit South Africa, tourism came to a halt. As lockdown restrictions were lifted, tourists were able again to travel. By August 2021 caravans and camping had the highest occupancy rate. This implies that domestic tourists in South Africa are opting for a more rural experience in terms of their choice of accommodation, for whatever reason. Tourists and the various accommodation establishments all generate solid waste. Tourists have a tendency to produce up to twice as much waste as local residents. This can put a strain on local waste management systems especially in rural areas where waste management poses a major challenge to local government. Solid waste associated with rural accommodation is thus a hotspot area in the rural tourism value chain.

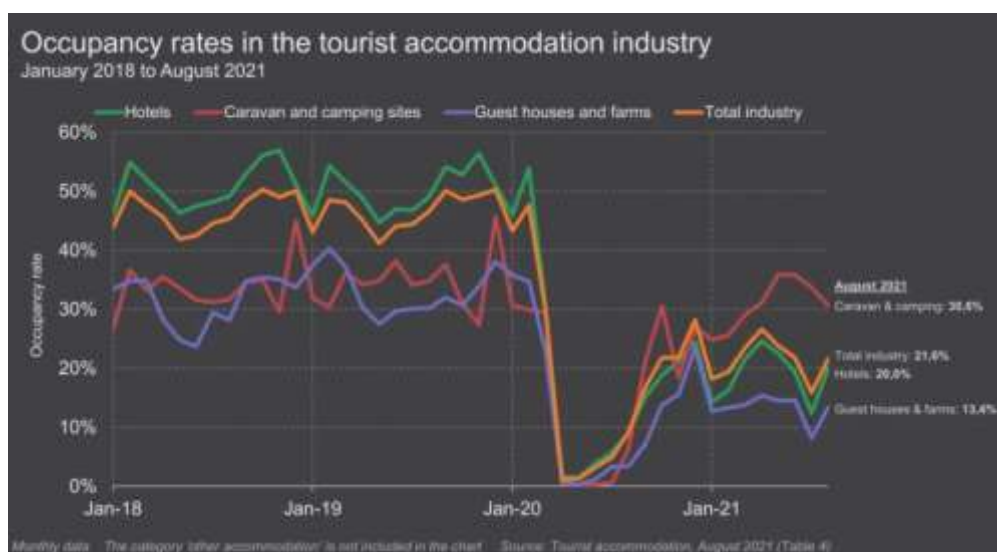


FIGURE 4 OCCUPANCY RATE OF TOURIST FROM JANUARY 2018 UNTIL AUGUST 2021.
(STATISTICS SOUTH AFRICA, 2021)

While rural tourism can be a major source of income and livelihoods for many rural communities, it poses a significant threat to water resources. Since South Africa is a

water scarce country, much emphasis must be put on avoiding the over-consumption of water. In a study conducted on the water use associated with wildlife tourism in southern Africa, it was found that 2.073 litres of water were used per tourist per night, whereas staff would use 503 litres per bed night (Grobler and Mearns, 2019). The average consumption of water by tourists in lodges in southern Africa is three to four times that of hotels in developed countries (Grobler and Mearns, 2019). Water use, especially that associated with rural accommodation, is a hotspot in the rural tourism value chain. Rural tourism activities should always manage their water usage with the local community's need in mind.

Eskom provides South Africa with 90% of its electricity requirements. In South Africa, most electricity is produced from the combustion of fossil fuels, namely coal. The emissions from this process contribute to climate change. In addition, at times the demand for electricity exceeds Eskom's ability to deliver and the grid becomes unstable. All tourism activities have a substantial demand for electricity. In this regard, electricity use is a hotspot on the rural tourism value chain, both in terms of its cumulative impacts on climate change and also in terms of reliable supply for tourists.

Curio trading is appealing in rural communities as it offers a means of taking what is perceived to be a free product from nature and then selling it in some form to tourists (Shackleton et al. 2008). Despite the curio trade being viewed as important by local communities it can in fact be detrimental to ecosystems if resources are overharvested or overexploited. For example, in KwaZulu-Natal crafters have been accused of depleting the local coastal forest of large trees to use as raw material for making curios (Zululand Observer, 2015). In some instances, some curios are considered illegal (i.e. ivory, rhino horn, etc) as they undermine the country's efforts to protect its natural resources. Although there are no firm estimates of the impact of curio trading on South Africa's indigenous and natural resources, it is unlikely that it is minimal. In supporting and growing curio traders in rural areas there is a need to ensure the sustainable harvesting of natural resources to maintain ecosystems and the supply of resources.

The hotspots identified in the rural tourism value chain for the sub-activities of the primary tourism enterprises, are summarised in Table 6. The sub activities for each rural tourism value creation activity are presented in each column. The hotspot areas

are highlighted in different colours. Each colour represents a different hotspot and the sub activity of rural enterprises in which they occur.

A summary of the different hotspots in the various value creation activities in the rural tourism value chain, is given in Table 7. In the table it can be seen where interventions are required for transformation towards sustainability.

TABLE 6 Identified hotspots in the rural tourism value chain associated with the services provided by primary rural tourism enterprises. The sub activities for each rural tourism value creation activity are presented in each column. The different colours represent different hotspots. (Table produced by the authors)

RURAL TOURISM VALUE CHAIN VALUE CREATION ACTIVITIES						
	Travel organisat ions and booking services (Sub activities)	Transport ation (Sub activities)	Accommo dation (Sub activities)	Food and beverage (Sub activities)	Leisure tours, excursions , and attractions (Sub activities)	Creative industrie s (Sub activities)
Sub activities for each rural tourism value creation activity	Office manage ment / operation s manage ment / administr ation / procurem ent, including use of office supplies such as paper, printer	General administra tion associate d with operating a transporta tion business associate d the movement of tourists including office managem ent /	General administrat ion associated with operating an accommod ation enterprise including use of office supplies such as paper, printer cartridges,	General administration associated with operating a food and beverage enterprise including ordering and purchasing of food and beverage/ Office management / operations management / administration / procurement/	General administra tion associated with operating a tour and excursion enterprise including use of office supplies such as paper, printer cartridges, electronic	Creating visual art (painting s and other artworks); arts and crafts other than woodwo rk; Interior design e.g., architect ural

RURAL TOURISM VALUE CHAIN						
VALUE CREATION ACTIVITIES						
	Travel organisations and booking services (Sub activities)	Transport ation (Sub activities)	Accommo dation (Sub activities)	Food and beverage (Sub activities)	Leisure tours, excursions , and attractions (Sub activities)	Creative industries (Sub activities)
	cartridge s, electronic equipme nt, electricity and/or other forms of energy, ICT connectiv ity, food, beverage s, kitchen appliance s etc	operations managem ent / administra tion / procurem ent, including use of office supplies such as paper, printer cartridges, electronic equipment , electricity and/or other forms of energy, ICT	electronic equipment, electricity and/or other forms of energy, ICT connectivit y, food, beverages, kitchen appliances etc	stocktaking and inventory checking/ managing budgets and sales including use of office supplies such as paper, printer cartridges, electronic equipment, electricity and/or other forms of energy, ICT connectivity,	equipment , electricity and/or other forms of energy, ICT connectivit y, food, beverages , kitchen appliances etc	paint effects

RURAL TOURISM VALUE CHAIN						
VALUE CREATION ACTIVITIES						
	Travel organisations and booking services (Sub activities)	Transport ation (Sub activities)	Accommo dation (Sub activities)	Food and beverage (Sub activities)	Leisure tours, excursions , and attractions (Sub activities)	Creative industries (Sub activities)
		connectivity, food, beverages, kitchen appliances etc				
	Travel and booking services	Conveyance of tourists / visitors / staff in cars, buses, boats, trains, and light and large aeroplane s either using own, rented, or public	Provision of room / board this also includes informal structures such as tents and the like thereof [Resource use: electricity] [Solid waste]	Transportation/ delivery of food and beverage to the rural food and beverage enterprise [GHG Emissions]	The transportation of tourists for the duration of their tour, excursion and visit to attractions within the rural area [GHG Emissions]	Creating visual art (sculpting; ceramic s; and glass blowing as well as land art [Resource use: natural materials]

RURAL TOURISM VALUE CHAIN VALUE CREATION ACTIVITIES						
	Travel organisat ions and booking services (Sub activities)	Transport ation (Sub activities)	Accommo dation (Sub activities)	Food and beverage (Sub activities)	Leisure tours, excursions , and attractions (Sub activities)	Creative industrie s (Sub activities)
		vehicles (Private transport/ public transport) – to and from rural tourism destinatio ns, around the rural area, rural tourism tours [GHG Emissions)				
	Delivery of travel documen ts	Collection and delivery of materials, consumab les etc for	Ablution / bathroom facilities associated with rural tourism	Storage and safety of food and beverage within the rural food and	The provision of food and beverage to tourist while on	Woodwo rk and wood carving [Resour ce use:

RURAL TOURISM VALUE CHAIN						
VALUE CREATION ACTIVITIES						
	Travel organisations and booking services (Sub activities)	Transport ation (Sub activities)	Accommo dation (Sub activities)	Food and beverage (Sub activities)	Leisure tours, excursions , and attractions (Sub activities)	Creative industries (Sub activities)
		the rural tourism enterprise – products being brought to the rural tourism enterprise from outside rural area and within the rural area [GHG Emissions]	enterprise this includes shared and private ablution facilities [Natural resource use: Water use and wastewater r]	beverage enterprise [Food Waste] [Natural resources: Food production, electricity]	their tour within a rural area [Food Waste] [Natural resources: Food production , electricity]	natural material s]
		Conveyan ce of tourists / visitors / staff using	Food preparatio n and beverage services	Preparation, serving and consumption of food and beverage which	The provision of accommo dation for	Cottage industries (handma de

RURAL TOURISM VALUE CHAIN						
VALUE CREATION ACTIVITIES						
	Travel organisations and booking services (Sub activities)	Transport ation (Sub activities)	Accommo dation (Sub activities)	Food and beverage (Sub activities)	Leisure tours, excursions , and attractions (Sub activities)	Creative industries (Sub activities)
		animals (carts and carriages drawn by animals) or riding horses within the rural area	associated with the rural accommod ation enterprise [Food Waste] [Natural resources: Food production, electricity]	in a rural enterprise [Food Waste] [Natural resources: Food production, electricity]	the tourist while on their tour in a rural area [Resource use: electricity] [Solid waste]	goods, gifts and clothing (including dyeing of wool and other yarns for weaving, embroid ery, knitting etc; dyeing of textiles etc) Tanning of leather [Natural resource use:

RURAL TOURISM VALUE CHAIN						
VALUE CREATION ACTIVITIES						
	Travel organisations and booking services (Sub activities)	Transport ation (Sub activities)	Accommo dation (Sub activities)	Food and beverage (Sub activities)	Leisure tours, excursions , and attractions (Sub activities)	Creative industries (Sub activities)
						Water use and wastewa ter]
		Maintenan ce and repairs of vehicles, etc in the rural area	Laundry services associated with the rural accommod ation enterprise [Natural resource use: Water use and wastewate r]	Laundry services for the rural food and beverage enterprise [Natural resource use: Water use and wastewater]	The experienc e and engagem ent of the tourist with the rural tourism attraction associated with ecotouris m, agritouris m, and cultural and heritage	

RURAL TOURISM VALUE CHAIN						
VALUE CREATION ACTIVITIES						
	Travel organisations and booking services (Sub activities)	Transport ation (Sub activities)	Accommo dation (Sub activities)	Food and beverage (Sub activities)	Leisure tours, excursions , and attractions (Sub activities)	Creative industries (Sub activities)
					tourism products i.e., game drives, concert or music festival, spa treatments , museum	
			Garden services and machine maintenan ce associated with the rural accommod ation enterprise			Artisanal food (farmers Markets) [Food Waste] [Natural resource s: Food producti on,

RURAL TOURISM VALUE CHAIN						
VALUE CREATION ACTIVITIES						
	Travel organisations and booking services (Sub activities)	Transport ation (Sub activities)	Accommo dation (Sub activities)	Food and beverage (Sub activities)	Leisure tours, excursions , and attractions (Sub activities)	Creative industries (Sub activities)
						electricity]
			Cleaning services associated with the rural accommodation enterprise			Cottage/ craft industry distillery, wineries breweries
			Other services – electronic devices, wi fi, sport facilities			[Natural resource use: Water and wastewater]
						Film and photographic studios

RURAL TOURISM VALUE CHAIN						
VALUE CREATION ACTIVITIES						
	Travel organisations and booking services (Sub activities)	Transport ation (Sub activities)	Accommo dation (Sub activities)	Food and beverage (Sub activities)	Leisure tours, excursions , and attractions (Sub activities)	Creative industries (Sub activities)
			such as a gym, swimming pool, etc associated with the rural accommod ation enterprise [Natural resources use: Water and wastewater]			
			Transporta tion service offered from the rural			

RURAL TOURISM VALUE CHAIN						
VALUE CREATION ACTIVITIES						
	Travel organisations and booking services (Sub activities)	Transport ation (Sub activities)	Accommo dation (Sub activities)	Food and beverage (Sub activities)	Leisure tours, excursions , and attractions (Sub activities)	Creative industries (Sub activities)
			accommodation enterprise [GHG Emissions]			
			Security services for the rural accommodation enterprise			

TABLE 7 Summary of the sustainability issues of concern for rural tourism value creation activities in the rural tourism value chain (Table produced by the authors)

	Travel organisati ons and booking services	Transportat ion	Accommodat ion	Food and bevera ge	Leisure tours, excursio ns, and attraction s	Creativ e industri es
GHG emission s		X		X	X	
Resource use: electricity			X	X	X	X
Solid waste			X		X	
Natural resource use: water			X	X		X
Wastewa ter			X	X		X
Food waste			X	X	X	X
Natural resource use: food productio n			X	X	X	X
Resource use: natural materials						X

In summary the priority environmental hotspots identified in the rural tourism value chain include:

- 1) GHG emission from vehicles travelling to and around rural areas;
- 2) Use of energy in rural tourism products;
- 3) The sourcing of food and beverages;
- 4) Generation of food waste;
- 5) The lack of capacity in waste infrastructure to deal with solid and hazardous waste;
- 6) Water use by rural tourism products; and
- 7) Unsustainable harvesting of natural resources to produce curios.

10.7 Interventions for transformation of the rural tourism value chain towards a sustainable, resource efficient and inclusive growth path

The interventions presented below, are proposed to address the hotspot areas in the rural tourism value chain. The interventions are for implementation mainly at the primary rural tourism enterprise level. Interventions that address social transformation and inclusivity along the whole rural tourism value chain are also identified. All the interventions will however require the assistance of the supporting and enabling tourism stakeholders. Small, medium and micro enterprise entrepreneurial opportunities for each intervention are identified. A framework or roadmap that provides further insight into actions plans, targets and responsibility for each intervention will need to be developed in the future.

10.7.1 INTERVENTION 1: Green transportation options for rural tourism

The optimisation of transportation of tourists and the associated related goods (i.e. food) within rural areas for the benefit the environment and the local economy.

Actions	Explanation
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Increasing the share of hybrid/electric cars in the rental pool	The benefit of a hybrid car is that it utilises both petrol/diesel and a rechargeable electric motor to power it, and in the case of an electric car just electricity. As a result, these cars contribute substantially lower volumes of emissions. An increase in the fleet of hybrid/electric cars at car rental agencies will stimulate tourists to make use of this more sustainable transport option. Rural tourism enterprises will need to ensure that they provide facilities to enable the recharging of electric cars. Rural tourism enterprises should advertise the availability of such facilities.
Ride sharing to rural tourism destination and around rural areas	Sharing a ride does not necessary reduce emissions associated with transportation. It does however, reduce a tourist's personal commute emission. This option is beneficial for the transportation of goods to rural tourism enterprises. It would be beneficial to coordinate logistics in rural areas so as to for example, ensure larger (bulk) shared deliveries to a rural area in preference to several smaller individual deliveries. This would involve planning amongst rural tourism enterprises and the delivery services.
Increase the use of bicycles as a means of exploring rural destinations	Making use of bicycles and walking are modes of transport / mobility that are low in cost, health-improving ways to travel and explore rural destinations and do not produce CO ₂ emissions. Another mode of transportation that would be beneficial in rural areas is that of animal transport such as horses or donkey cart.

SMME entrepreneurial opportunities:

- There are very few to no bicycle rental opportunities in rural tourism destinations. There exist opportunities for local entrepreneurs to establish bicycle rental businesses, giving tourists the opportunity to rent a low impact vehicle or other means of mobility to get around and explore rural areas.
- Many people do bring their own bicycles when going on holiday to rural destinations. There are opportunities for locals to establish bicycle repair businesses, offering tourists the option to make use of such as service to repair their bicycles and even wash and service their bikes.
- There are opportunities for locals to establish car wash businesses. When on holiday tourists do not want to wash their own vehicles but do want to drive a clean car.
- The establishment of walking excursions to view rural sights and attractions provides opportunities for locals to provide services as guides.
- Animal tours such as horse riding is also an entrepreneurial opportunity for locals with the necessary animal welfare credentials, to enable tourists to view the rural destination from a different perspective.

10.7.2 INTERVENTION 2: Powering rural tourism enterprises with sustainable energy options

Optimisation of energy efficiency and the production of renewable energy by rural tourism enterprises for the benefit of the environment and the local economy.

Sustainable energy options for rural tourism enterprises implies actions that are able to maintain the current operations without jeopardising the energy needs or climate of future generations.

Actions	Explanation
Improve energy efficiency	Energy efficiency refers to using less energy and only the minimum amount of energy necessary to provide an energy service. For example, making use of energy-

	<p>efficient LED light bulbs using 75 to 80 percent less electricity. Since energy generation typically creates pollution and greenhouse gases, improving the energy efficiency of electric appliances and equipment has the potential to significantly reduce energy consumption and consequently reduce emissions from the energy sector. Rural accommodation enterprises as well as rural food and beverage enterprises make use of large amounts of electricity or other types of fuel (such as wood and gas). Using energy efficient appliances and equipment will reduce overall consumption of energy.</p>
Invest in renewable energy supply	<p>Tourism-related CO₂ emissions can be mitigated through the use of renewable energy such as that generated from solar, wind, biomass and hydropower sources. The capital cost of installing renewable energy technology is still however relatively high. The Green Tourism Incentive Programme (GTIP), an initiative of the Department of Tourism, encourages and assists privately-owned tourism enterprises to adopt responsible tourism practices through installing renewable energy infrastructure.</p>
Stimulate energy saving behaviour with staff and guests	<p>Train staff and inform tourists on behaviour that promotes reduction in the use of energy through awareness raising campaigns.</p>

SMME entrepreneurial opportunities:

- There are opportunities for locals to start their own renewable energy ventures offering services to rural tourism enterprises. Such entrepreneurs would be encouraged to make contact with the South African Renewable Energy Business Incubator.
- The Green Tourism Incentive Programme (GTIP) is an initiative of the Department of Tourism with a key objective of encouraging and assisting privately-owned tourism enterprises to adopt responsible tourism practices through installing solutions to reduce their energy and water consumption and costs. There is opportunity for rural tourism enterprises to apply for funding through this programme to initiate renewable energy options within their operations.

10.7.3 INTERVENTION 3: Sustainable sourcing of food and beverage by rural tourism enterprises

Promoting green procurement by sourcing food and beverages from local suppliers and products that are at least grown according to sustainability and environmental principles, and even certified according to standards where possible.

The food system is known to have significant negative impacts on natural resource depletion and damage, as well as contributing to climate change. These impacts manifest throughout the value chain from where food is produced on farms, through to consumption by the general public. Sustainable sourcing is thus of critical importance in rural tourism and should take into account issues such as food miles, dietary preferences and types, and localisation.

Actions	Explanation
Buy local	Sourcing locally from local farmers and producers is the cornerstone of providing sustainable food options. Sourcing food products locally reduces the environmental impact of GHG emissions that come from long-distance transport of produce and food product.

Grow your own and partnerships	Accommodation and food and beverage enterprises can grow a portion of their own fresh produce. In addition, these enterprises can enter into partnership contracts with growers / farmers for sustainable and / or exclusive supply – thereby providing further resilience in local economies. Self-sufficiency also strengthens resilience of rural enterprises and lowers the risks associated with broken or interrupted supply chains.
Prioritise sustainably produced food	Sustainable farming generates lower levels of GHG emissions, sequesters carbon, and requires much lower levels of inputs including financial inputs. Natural, sustainable, and organically produced food is increasingly sought after by tourists, and this can be a competitive advantage for rural tourism enterprises that offer this.

SMME entrepreneurial activities:

- Opportunities for small scale and emerging farmers to undertake contract farming for rural tourism enterprises such as accommodation and food and beverage businesses.
- Opportunity for small scale and emerging farmers to obtain concessions and form partnerships with local food producers and growers, caterers and others.
- Opportunity for entrepreneurs to set up culinary tourism establishments that showcase local / culturally distinctive foods and beverages where these are sustainably produced – includes cookery skills development in food preparation.
- Opportunity for translators that enable communication between rural/small scale farmers and their relevant market opportunities, in the context of for example culinary tourism.

10.7.4 INTERVENTION 4: Reducing food waste from rural tourism enterprises

The implementation of measures to reduce food waste in rural tourism enterprises for the benefit of the environment and the local economy.

Actions	Explanation
Buy local to ensure fresh food and only the quantity needed	By having local suppliers, rural tourism enterprises can form close relationships with local farmers that will enable them to purchase fresh food and quantities required at a given time. By buying smaller volumes more often spoilage associated with transport and storage can be reduced significantly and increases benefits for local farmers.
Training of staff on food waste management and food safety	Food is wasted due to it not being stored properly, not being cooked properly, and general over-serving. Training staff on food waste reduction will ensure that less food is wasted and will improve enterprise productivity and profitability.
Establish local partnerships to support alternatives to sending food waste to the bin	There are many alternative uses for surplus food or spoilt food. These should be taken into consideration as alternatives to throwing food away and ending up in illegal dumpsites or landfill sites. Donating surplus food to local communities improves food security in these communities. Spoilt food can be donated to pig farmers as a food source for their pigs, if still safe and fit for consumption. In addition, food can be composted.

SMME entrepreneurial activities:

- There are opportunities for digital-savvy local entrepreneurs to develop digital platforms and mobile apps to connect rural tourism food and beverage enterprises which have surplus food with food banks serving people in need.
- There are opportunities for local entrepreneurs to start worm farms, also known as vermiculture, to process organic waste which they get from rural tourism food and beverage enterprises. The period taken to process this organic waste is generally sixty to ninety days. The compost produced by the worms can be further sold for future use to local farmers and nurseries and is exceptionally nutrient dense and beneficial to soil health and fertility.
- Making use of food waste from rural tourism food and beverage enterprises, entrepreneurs can start their own composting facility selling compost to local farmers and gardeners.
- Opportunities for entrepreneurs to salvage surplus food from rural tourism food and beverage enterprises and provide a platform for locals to purchase leftovers.

10.7.5 INTERVENTION 5: Waste reduction and management by rural tourism enterprises

Promotion of waste prevention and waste management by rural tourism enterprises for the benefit of the environment and local economy.

Waste management in rural areas in South Africa poses a major challenge to local governments. Rural tourism enterprises need to ensure that they manage their waste streams effectively, such that they reduce their waste production and ensure no waste impacts the environment and local communities.

Actions	Explanation
Eliminate the use of single use plastic	Single use plastic commonly associated with rural tourism enterprises include water bottles, disposable packaging and containers for toiletries, plastic bags, bin liners, food packaging and takeaway cups. To reduce the leakage of

Actions	Explanation
items in rural tourism enterprises	this plastic into the environment, rural tourism enterprises need to reduce their dependency on single use plastic products by eliminating or replacing these with alternatives wherever possible.
Prevent untreated wastewater and sewage from rural tourism enterprises entering water bodies	The deteriorating state of municipal wastewater and sewage treatment management in South Africa is one of the most significant contributing factors to the numerous water pollution problems experienced in most parts of the country and a major contributor to environmental and human health problems. The first principle of wastewater management is to focus on reducing the production of wastewater. Wherever possible waste greywater should be reused. Wastewater can also be treated biologically to render it safer for more beneficial uses or return to water sources.
Establish and participate in recycling of waste	Recycling of waste items like plastic, metal, glass and paper ensures that the waste product re-enters the economy and thereby does not leak into the environment. To achieve recycling there is a need for commitment of the municipality, households, rural tourism enterprises and the community, as well as the producers of products that generate recyclable products. Recycling programmes will lead to the reduction in burning, dumping and littering of recyclable material.
Compost organic waste	Composting is a means of transforming different degradable organic wastes into products that can be used safely and beneficially as an organic fertilizer. Backyard

Actions	Explanation
	composting of food waste is a beneficial means to returning nutrients to the environment.
Handling of hazardous waste	Leakage of hazardous chemicals from rural tourism enterprises including chemicals from detergents, oil from vehicles repairs, etc has the potential to threaten human health and the environment. Measures must be taken to contain hazardous waste and dispose of it safely as recommended.

SMME entrepreneurial activities:

- There are numerous entrepreneurial opportunities in waste which span the full scope of waste management including waste collection, waste handling, waste storage, waste sorting, waste transport, waste recycling, waste upcycling, and even energy recovery from waste.
- Since waste collection is a challenge especially in rural areas, there is an opportunity for entrepreneurs that have their own transport to offer a private waste collection service in which they collect solid waste and dispose of it safely and properly at a registered landfill.
- Collecting valuable waste for recycling, such as metal, paper and plastic is beneficial for recycling entrepreneurs as they are able to exchange such waste material for money at buy-back centres.
- Creative entrepreneurs have the opportunity to make souvenirs for tourists from solid waste items such as plastic bottles.
- There are opportunities for entrepreneurs to install and maintain biofiltration and other forms of biological wastewater treatment infrastructure in rural areas and for rural tourism enterprises.

10.7.6 INTERVENTION 6: Saving water by rural tourism enterprises

Careful management of the water resources available in rural areas is extremely important – also in the light of challenges with municipal water supply. Judicious water management by rural tourism enterprises also enables self-sufficiency and will lower operational costs, thereby enhancing resilience of these enterprises.

South Africa is a water scarce country and also significantly vulnerable to the effects of climate change, which is already manifesting in changes in rainfall patterns.

Actions	Explanation
Rainwater harvesting	Challenges in obtaining a piped municipal water supply in most rural areas makes rainwater harvesting an imperative for all such enterprises. Enterprises offering accommodation must have such facilities for security of supply for use by visitors. Many other types of enterprises would also need a secure supply of water for drinking purposes, food preparation, cleaning and other uses. In a water scarce country such as South Africa every rural tourism enterprise should have rainwater harvesting facilities.
Water saving devices	Installing water saving devices such as low flow shower heads, dual flush toilets, and shower timers in ablution facilities at accommodation enterprises is very important in rural areas since water supply is generally challenging for rural tourism or tourism in remote locations, where a connection to municipal water supply is not available.
Recycling and reuse of water	Using volumes of water several times for different uses is an effective way of saving water – therefore not depleting the resource – but also saves on the costs of abstraction

	of supply. For example, grey water from showers and bathroom basins, can be recycled to be used for outdoor wash water, toilets, or to water gardens.
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SMME entrepreneurial activities:

- Opportunity for entrepreneurs to start a small business in which they supply, install, and maintain rainwater harvesting systems.
- Opportunity for entrepreneurs to start a small business in which they supply, install, and maintain grey water systems.
- Opportunity for entrepreneurs to start a small business in which they supply, install and maintain water saving devices for various applications in rural tourism enterprises.
- Opportunities for local enterprises to make personal care products, as well as non-toxic detergents and other cleaning products for use by amongst others, the accommodation enterprises (e.g. soaps) from local sustainably harvested natural ingredients, to avoid toxic pollutants entering water sources.

10.7.7 INTERVENTION 7: Sustainable harvesting of natural resources for curios
Ensuring that harvesting indigenous vegetation or other natural resources does not cause deforestation or ecosystem damage.

Includes harvesting of animal products such as feathers, eggs, etc and plants such as trees and plants, but also collection of deadwood which then progressively depletes soil nutrients, weakening resilience of the ecosystem which is the resource on which these enterprises depend.

Actions	Explanation
Replanting of harvested species in the same area (trees and other plants)	Damaging biodiversity and depletion of natural resources used for example, for wood carving, will undermine the viability of the enterprise.
Limit collection of deadwood	Ensuring that sufficient deadwood is left in the ecosystem, will retain nutrients in the soil ecosystem and help to maintain the resilience and viability of the ecosystem so that these enterprises can continue to use the resource.
Limit volumes of natural clay and other minerals harvested from the environment	Mining large volumes of clay or other minerals could eventually deplete the resource on which local ceramic / sculpting enterprises are dependent. Clay is considered to be a non-renewable resource since it can take hundreds of thousands of years to form and thus to be replaced.
Use recycled materials such as glass in preference to virgin materials	Using recycled glass in for example glass blowing, eliminates the need for mining natural silica sand.

SMME entrepreneurial activities:

- Opportunities for the establishment of local indigenous plant nurseries to support reforestation and ecosystem integrity.
- Opportunities abound for the upcycling and recycling of waste products in rural tourism enterprises – from accommodation to the food and beverage sector, and from for example, leisure tours. Much of this material such as various plastics, steel, aluminium and glass, could be used to create art and crafts, rather than to be disposed of to landfill, and in preference to the use of natural

materials taken from the environment. Partnerships could be formed with waste pickers to collect and then supply specific materials.

- Opportunities for skills development and training of both local artists and specialist rural tourism visitors in sustainable arts and crafts (e.g., art workshops and events) including the upcycling and reuse of waste materials, in preference to the use of natural materials taken from the environment.
- Opportunity for the establishment of souvenir shops which only sell arts and crafts made from sustainably harvested materials.

10.7.8 Further interventions for social transformation and inclusivity

For rural tourism development to translate into inclusive growth, transformation and equality, there is a need for the sector to be integrated into the local economy and the benefits of rural tourism must spread geographically to create economic opportunities in less travelled and less prosperous regions of the country (Glocker and Haxton, 2020). The ideal of a transformed rural tourism sector is one where there is emphasis on opportunities for black South Africans (especially for women, those with disabilities and the youth), inclusivity and empowerment in every dimension along the rural tourism value chain. To achieve the desired outcome of a socially transformed sector, certain critical issues need to be addressed throughout the rural tourism value chain. These critical areas as defined by the Department of Tourism include (DoT, 2017):

- Ownership of tourism products (i.e. percentage of shares owned by black people);
- Management control of tourism products (i.e. the percentage of black people in management positions);
- Skills development that is real and relevant to ensure the success of rural tourism products.

The main challenges around transformation in rural tourism products throughout the value chain as discussed in numerous journal articles include (Saunders, 2018; Hlengwa and Thusi, 2018; Litheko, 2021):

- SMME tourism enterprises have limited to no market access due to high market entry barriers. Being small and with no reputation, a startup SMME is not able to penetrate the established supply chain and reach customers;
- SMME's must compete with large tourism enterprises, which in most instances have competitive dominance;
- SMME tourism enterprises have limited to no marketing ability. Given the cost of marketing and in some instances the size of the product offering, SMMEs are not able to market their products and as such customers are not aware of their products;
- SMME's have limited to no access to finances to start up a tourism enterprise;
- The SMME sector is more vulnerable to all the fluctuations and insecurities in the economy than big businesses;
- Shortage of willing and able role models for SMME tourism enterprises;
- Government regulations are barriers to conducting business for SMME's, mainly because dealing with multiple government agencies and acquiring permits and licenses is a long onerous process;
- SMME tourism enterprise start-ups in most instances have limited access to expertise in core business disciplines and other vital skills required for a business to succeed;
- Lack of trained staff due to skills shortages;
- General lack of proper training and skills transfer among employees;
- In rural areas literacy levels can be low. This puts people at a disadvantage in terms of participating in tourism enterprises;
- Often in rural areas the lack of availability of basic services such as water and electricity hinders opportunities for tourism enterprises.;
- Crime is a serious social problem in South Africa. Crime can impact tourism enterprises especially of SMME's;
- Low investment in tourism SMME's due to lack of confidence in the capacity and ability of the enterprise to supply the required goods and services.

While the challenges associated with transformation in the rural tourism value chain are substantial, there are also numerous opportunities that can help alleviate and

reduce the challenges, thereby assisting with and contributing to social transformation of the rural tourism value chain. The follow opportunities need to be addressed:

- The formation of community based rural tourism products which the community work together to grow and promote;
- Entrepreneurs to contact rural tourism enterprises and discuss the opportunity of becoming goods and service suppliers to these enterprises;
- Joint ventures offer the opportunity in which to grow rural tourism enterprises by working together;
- By joining tourism associations there is an opportunity to make use of their services to help to grow the rural tourism enterprise (Refer to Appendix 3 for more information on tourism associations in South Africa). This would include aspects such as financial assistance, improved access to markets, business mentoring support, capacity building, training in basic business skills, support for networking and the development of partnerships, assistance to comply with grading requirements, assistance to comply with industry regulatory standards, etc;
- Rural tourism enterprises need to be encouraged to buy local, e.g. fresh produce from local farmers, who are then able to develop their own SMME's;
- Rural tourism enterprises need to employ local community members and upskill these individuals;
- Partnerships between the more established hotel groups and tourism service providers in rural areas with community-based rural tourism enterprises can provide resilience and skills development opportunities;
- Promote the concept of leisure or lifestyle entrepreneurs among the black community by profiling successful (small and medium) black or white-owned leisure entrepreneurial businesses in tourism.

11. CONCLUSION AND RECOMMENDATIONS

11.1 Conclusion

Rural tourism in South Africa has the potential to stimulate and grow a local economy by reducing unemployment and improving the living standards of local communities. In recovering from the economic downturn of tourism during the peak of the COVID-19 pandemic, the rural tourism value chain is well positioned to support opportunities to increase the contribution of tourism in South Africa to reach the Sustainable Development Goals, particularly SDGs 8 (decent work and economic growth), 13 (climate action); 14 and 15 (life below water and on land).

Rural tourism value creation is systemic, with systemic socio-economic and environmental implications. The aim of the study was therefore to provide a systems perspective of value creation in relation to rural tourism in South Africa, through the mapping of the rural tourism value chain and the identification of hotspots along this value chain, for which interventions would support the transitions towards sustainability, resource efficiency and inclusive growth.

Tourism is a service orientated sector implying that it is people driven. But just as tourism is dependent on people, it is also dependent on vast amounts of natural resources required to produce inputs needed by tourism enterprises to offer a service. Tourists in turn, also indirectly use these resources when enjoying the tourism products provided by these enterprises. By means of mapping the rural tourism value chain and through life cycle inventories, it was possible to identify hotspots in the value chain. Hotspots range from activities that have cumulative impacts to those that have local impacts.

A range of proposed interventions were identified to address the hotspots. The interventions specifically address GHG emissions, energy use, sourcing and consumption of natural resources and reducing all forms of waste. Interventions proposed can be implemented directly by rural tourism enterprises or via initiatives/partnerships between the enterprises and the supporting and enabling stakeholders (e.g. there may be a requirement for supportive government policy and

strategy frameworks). The interventions include making use of entrepreneurial opportunities which can either directly or indirectly assist rural tourism enterprises with the required sustainable transformation to sustainability and inclusivity.

There are opportunities for social transformation and inclusivity along the entire rural tourism value chain. To increase opportunities for rural communities there is a need to strongly promote rural tourism attractions throughout the country. Increasing tourist density in rural areas opens up the opportunity for the employment of members of local rural communities.

The opportunity for social transformation and inclusivity is very much dependent on being able to get tourists to a rural destination. If tourists come, then the opportunities exist for growth in tourism activities and products, leading to the employment and upskilling of rural community members. The transformation strategic thrusts as discussed in the Transformation Strategy for the Tourism Sector (2018) still have application and include (Department of Tourism, 2018): transformation through the ownership and management of tourism enterprises for black individuals; transformation through the provision of funding and empowerment to support black owned enterprise to grow rural tourism products and activities; transformation through rural tourism enterprises gaining access to tourism markets; transformation through rural enterprise and supplier development; transformation through community-based tourism; and transformation through skills transfer and training.

11.2 Recommendations

A road map/framework developed with input from key tourism stakeholders is now required in order to make the interventions a reality. Such a roadmap will need to include an action plan for the implementation of the interventions, targets against which to monitor and measure progress, and the identification of those responsible for addressing the interventions. Ultimately the implementation of the interventions for transformation will require collective work and partnerships to ensure the success and sustainability of rural tourism enterprises and all the enabling and supporting tourism stakeholders.

11.3 Limitations

The key limitation to this research has been the lack of data specific to rural tourism. The success of the transformation of the rural tourism value chain to a more sustainable and inclusive growth path, will require the collection of data such that progress can be measured and monitored.

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APPENDIX 1: Life cycle inventories for value creation activities along the rural tourism value chain

Lifecycle inventory for travel organisations and booking services (table developed by the authors)

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with solid waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
Travel Organisations and Booking Services								
Office management / operations management / administration / procurement, including use of office supplies	Electronic equipment including that of computers, printers, etc Electronic appliances including aircons, heaters, kettles, etc	Functional office / agency	Choice of all electronic equipment and appliances used in the office Choice of all office furniture	Depletion of natural resources including minerals, metals, water, fibre used to produce office equipment and	GHG emissions associated with the use of electricity contribute towards global warming/climate change which impacts global weather patterns and the overall balance	Illegal dumping, burial, burning of solid waste (i.e., e waste, food waste, office waste) leads to air pollution	Local and national economic growth Lower poverty rate Lower unemployment rate	Promote and sell sustainable rural tourism packages Provide tourists with conservation

such as paper, printer cartridges, electronic equipment, electricity and/or other forms of energy, ICT connectivity , food, beverages, kitchen appliances etc	Communication equipment including that of telephones, modems and servers Water supply Chemical for cleaning of office Paper Printer toner and cartridge		Use of water Use of electricity Choice of stationary including paper, printer toner and cartridges Production and management of solid waste including office	appliance which ultimately impacts: -soil health, -reduces biodiversity, -water shortage, -food insecurity' -global warming' -damages ecosystem services. Such impacts ultimately impact human	of nature to be able to support life. (<i>Local action with global impact</i>) GHG emissions and other emissions (such as from waste) contribute towards the degradation of air quality which ultimately affects human health by means of respiratory and heart problems/disorders	due to emissions, ground water, fresh water, and soil pollution due to leaching and runoff of chemicals and particulates which ultimately affects human health, ecosystem services and	resources for the rural environment. Promote sustainable activities and tours in the rural environment such as cycling, bird watching, etc AAA+ appliances
Travel and booking	Electricity/energy supply	Rural tourism					

services including: -creation and preparation of rural tour/travel programmes and packages - Consultations - Rural tourism vendor negotiations - Finding best rural tourism	Stationary Ablution services Skilled and unskilled employees	travel packages	waste, food waste and e-waste Production and management of wastewater and sewage from office facilities Employment of skilled and unskilled individuals	health, wellbeing, and security of societies <i>(Local action with global impact)</i> Overuse of resources contributes to energy shortages and water scarcity challenges in South Africa. This ultimately impacts	<i>(Local action with local and national impact)</i> Pollution of water, soil and air due to office activities leaking into the environment either via emissions or effluent impacts human health as well as the health of aquatic and terrestrial ecosystems. <i>(Local action with local impact)</i>	functioning, etc <i>(Local action leading national impact)</i> Poorly managed waste is contaminating the oceans, clogging drains and causing flooding, transmitting diseases, increasing respiratory	for energy efficiency Avoid printing wherever possible and when you do make use of greyscale printing and economy mode Go paperless
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Lifecycle inventory for transportation associated with rural tourism (table developed by the authors)

fares for clients - Production and provision of rural travel information - Making rural tourism bookings and reservations / selling travel packages to tourists				human health, wellbeing, and security of societies <i>(Local action with local and national impact)</i>		problems from burning, harming animals that consume waste unknowingly, and affecting economic development such as in tourism <i>(Local action with national and global impact)</i>		Shut down electronic equipment when not in use Use reusable cutlery and crockery Choose LED light bulbs Renewable energy as a means of energy supply
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								Use eco- friendly cleaning supplies
								Install water saving devices
								Start recycling
								Source locally
								Employment of local youth, women,

								and those with disabilities
								Aim for higher BBEE rating.
Delivery of travel documents	Refer to 'Transportation' for details relating to inputs and impacts associated with food services	Delivered travel documents to tourists	Refer to 'Transportation'					

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
Transportation								
General administration associated with operating a transportation business associated the movement of tourists including	Refer to ' <i>office management</i> ' in 'Travel organisations and Booking Services'	Functional office supporting the operations of the transportation service	Refer to ' <i>office management</i> ' in 'Travel organisations and Booking Services'					

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
office management / operations management / administration / procurement, including use of office supplies such as paper,								

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
printer cartridges, electronic equipment, electricity and/or other forms of energy, ICT connectivity , food, beverages, kitchen appliances etc								

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
Conveyance of tourists / visitors / staff in cars, buses, boats, trains, and light and large aeroplanes either using own, rented, or	Vehicle i.e., car, bus, boat, train, aircraft, etc Fuel(s) for vehicles (petrol, diesel, electric, jet fuel)	Conveyance of tourists / visitors / staff to tourism enterprise s and rural tourism areas	Choice of vehicle Use of a fuel (petrol or diesel, jet fuel, electricity, coal) to power vehicle	Depletion of natural resources including minerals, metals, water, fibre used to produce vehicles and associated fuel	GHG emissions associated with the combustion of fossil fuels in vehicles contribute towards global warming/climate change which impacts global weather	Illegal dumping, burial, burning of solid waste such as scrap metal, tyres, etc leads to air pollution due to emissions, ground	Local and national economic growth Lower poverty rate Lower unemployment rate	Use of hybrids or electric vehicles will reduce or potentially eliminate fuel costs and impacts of fossil fuel use – hence profitability

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
public vehicles (Private transport/public transport) – to and from rural tourism destinations , around the rural area, rural	lubricants, oil, and other transmission fluids Licenced driver/qualified pilots		Use of oil and other lubricants required by the vehicle Production and management of toxic exhaust emissions containing	ultimately impacts: -soil health, -reduces biodiversity, -water shortage, -food insecurity' -global warming' -damages ecosystem	patterns and the overall balance of nature to be able to support life. (<i>Local action with global impact</i>) GHG emissions and other emissions (i.e., particulate	water, fresh water, and soil pollution due to leaching and runoff of chemicals and particulates which ultimately affects human health,		Look for options to offset carbon Promote walking or the use of bikes as part of the rural tourism product especially

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
<p>tourism tours</p> <p>Collection and delivery of materials, consumables etc for the rural tourism enterprise – products being</p>			<p>hazardous particulates</p> <p>Water use for washing and cleaning vehicles.</p> <p>Production and management of wastewater</p>	<p>services. Such impacts ultimately impact human health, wellbeing, and security of societies (<i>Local action with</i></p>	<p>matter from engine testing, paint spraying, and dry polishing processes.) contribute towards the degradation of air quality which ultimately affects human health by</p>	<p>ecosystem services and functioning, etc (<i>Local action leading national impacts</i>)</p> <p>Poorly managed waste is contaminating the</p>		<p>to get around rural areas.</p> <p>Make use of car windows instead of the aircon</p> <p>Make use of animal transportation options,</p>

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
brought to the rural tourism enterprise from outside rural area and within the rural area			Employment of drivers/pilots	<i>global impact)</i> Overuse of resources contributes to energy shortages and water scarcity challenges in South Africa. This ultimately	means of respiratory and heart problems/disorders <i>(Local action with local and national impact)</i> Pollution of water, soil and air due to the leakage of fuel,	oceans, clogging drains, and causing flooding, transmitting diseases, increasing respiratory problems from burning, harming animals that		especially those that promote good welfare practices Make use of alternative fuels such as biofuels Start recycling,

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
				impacts human health, wellbeing, and security of societies <i>(Local action with national impact)</i> Damage to ecosystem	oil, engine coolant, waste paint or lubricants into the environment either via emissions or effluent impacts human health as well as the health of aquatic and	consume waste unknowingly, and affecting economic development such as in tourism <i>(Local action with national and global impacts)</i>		especially that of oil and plastics Regular services and maintains of the vehicle so to ensure that limited emissions and leakage.

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
				function from contamination of soil and water (freshwater and marine) due to hazardous chemicals and particulates from	terrestrial ecosystems. <i>(Local action with local impact)</i>			When engine runs at peak this reduces impact on the environment Change oil regularly

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
				lubricants, coolants, solvents, batteries, scrap metal, plastic motor oil, and tyres leaking into the environment ultimately				Source local supplies Employment of local youth, women, and those with disabilities

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
				impacting flora, fauna and human health. <i>(Local actions with national impact)</i>				
Conveyance of tourists / visitors / staff using	Hoofed animal (horse,	Short distance / on-site transport	Choice of animal	Depletion of natural resources mainly	GHG emissions associated with manure	Illegal dumping, burial, burning of	Local and national economic growth	Ensure that there is enough natural feed

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
animals (carts and carriages drawn by animals) or riding horses within the rural area	donkey, camel, etc) Necessary equipment on which to transport tourist on the animal such a saddles, carts, carriage, wagons etc	of tourists, visitors and staff	The welfare of the animal Feed for animals Water for animals Production and management of wastewater	from agricultural process to produce animal feed ultimately impacts: -soil health, -reduces biodiversity , -water shortage,	and gastroenteric releases (methane) contribute towards global warming/climate change which impacts global weather patterns and the overall balance of nature to be	solid waste such as feedbags, medical waste, organic waste leads to air pollution due to emissions, ground water, fresh water and	Lower poverty rate Lower unemployment rate	for the animals and that they are not over grazing pastures as this leads to erosion Make sure you do not have more animals than what

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
	Animal feed Water Medicines / veterinary services Bedding material (straw, sawdust, etc)		Management of animal excretion Employment of drivers/pilots	-food insecurity' -global warming' -damages ecosystem services. Such impacts ultimately impact human health, wellbeing,	able to support life. (<i>Local action with global impact</i>)	soil pollution due to leaching and runoff of chemicals and particulates which ultimately affects human health, ecosystem services and		your pasture/grazing areas can sustain. Rotate the feed areas of the working animals Emphasis on animal welfare,

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
	Employees to manage, feed and operate tourism animals			and security of societies <i>(Local action with global impact)</i> Grazing by work animals contributes to soil erosion,		functioning, etc <i>(Local action leading national impacts)</i> Manure (animal waste) attracts a host of different insects and		including ensuring waters have constant supply of clean water, sufficient food as per dietary requirement, clean living areas and proper grooming

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
				compaction, damage of vegetation and the spread of invasive species in manure which damages ecosystem function.		rodents which increase vector borne diseases which have consequences on human, animal and plant health. <i>(Local actions with</i>		as a minimum, space to roam. Keep animal waste out of rivers Use manure as a fertiliser

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
				<p><i>(Local actions with local impacts)</i></p> <p>Contamination / eutrophication of surface and groundwater from concentrati</p>		<i>local impacts)</i>		<p>Do not stockpile manure.</p> <p>Recycle wherever possible</p> <p>Source local feed</p> <p>Employment of local youth,</p>

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
				on manure ultimately impacts flora, fauna and human health. <i>(Local actions with national impact)</i>				women, and those with disabilities

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
Maintenance and repairs of vehicles, etc in the rural area	<p>Vehicles parts and tyres</p> <p>Tools</p> <p>Lubricants, transmission fluids and oils</p> <p>Skilled and semi-skilled mechanics</p>	<p>Vehicles repaired on site at the transportation establishment or at workshop external to the enterprise</p>	<p>Choice of tools</p> <p>Choice of lubricants, transmission fluid and oils</p> <p>Choice of tyres and other vehicle parts needed for</p>	<p>Depletion of natural resources including minerals, metals, water, fibre used to produce vehicles and associated fuel</p>	<p>GHG emissions associated with the combustion of fossil fuels in vehicles contribute towards global warming/climate change which impacts global weather patterns and</p>	<p>Chemical leaching</p> <p>Illegal dumping, burial, burning of solid waste such as scrap metal, tyres, etc leads to air pollution due to emissions,</p>	<p>Local and national economic growth</p> <p>Lower poverty rate</p> <p>Lower unemployment rate</p>	<p>AAA+ appliances for energy efficiency</p> <p>Ensure the use of oil traps so that hazardous liquid and materials do not contaminat</p>

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
	Water Electricity/energy		<p>maintenance and repairs</p> <p>Use of water</p> <p>Use of electricity/energy supply</p> <p>Employment of skilled individuals</p>	<p>ultimately impacts:</p> <ul style="list-style-type: none"> -soil health, -reduces biodiversity , -water shortage, -food insecurity' -global warming' -damages ecosystem 	<p>the overall balance of nature to be able to support life. (<i>Local action with global impact</i>)</p> <p>GHG emissions and other emissions (i.e., particulate matter)</p>	<p>ground water, fresh water and soil pollution due to leaching and runoff of chemicals and particulates which ultimately affects human</p>		<p>the soil and water</p> <p>Avoid harmful chemical and rather use eco-friendly cleaning products or even dry clean up products</p>

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
				services. Such impacts ultimately impact human health, wellbeing, and security of societies (<i>Local action with</i>	contribute towards the degradation of air quality which ultimately affects human health by means of respiratory and heart problems/disorders	health, ecosystem services and functioning, etc (<i>Local action leading national impacts</i>) Poorly managed waste is contaminating		Purchase products with less packaging Use non-toxic degreasers Recycling whatever is possible

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
				<p><i>global impact)</i></p> <p>Overuse of resources contributes to energy shortages and water scarcity challenges in South Africa. This ultimately</p>	<p><i>(Local action with local and national impact)</i></p> <p>Pollution of water, soil and air due to the leakage of fuel, oil or lubricants into the environment either via emissions or</p>	<p>ting the oceans, clogging drains and causing flooding, transmitting diseases, increasing respiratory problems from burning, harming</p>		<p>Use refillable spray containers</p> <p>Employment of local youth, women, and those with disabilities</p>

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
				<p>impacts human health, wellbeing, and security of societies <i>(Local action with national impact)</i></p> <p>Damage to ecosystem</p>	<p>effluent impacts human health as well as the health of aquatic and terrestrial ecosystems. <i>(Local action with local impact)</i></p>	<p>animals that consume waste unknowingly, and affecting economic development such as in tourism <i>(Local action with national and global impacts)</i></p>		

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
				function from contamination of soil and water (freshwater and marine) due to hazardous chemicals and particulates from				

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
				lubricants, coolants, solvents, batteries, scrap metal, plastic motor oil, and tyres leaking into the environment ultimately				

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
				impacting flora, fauna and human health. <i>(Local actions with national impact)</i>				

Lifecycle inventory for rural tourism accommodation (table developed by the authors)

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
Accommodation								
Office management / operations management / administration / procurement, including use of office supplies	Refer to 'office management' in Travel organisations and Booking Services	Functional office supporting the operations of the transportation service	Refer to 'office management' in Travel organisations and Booking Services					

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
such as paper, printer cartridges, electronic equipment, electricity and/or other forms of energy, ICT connectivity, food, beverages, kitchen								

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
appliances etc								
Provision of room / board this also includes informal structures such as tents and the like thereof	Beds and other furniture (either provided by the service provider or by the tourist in the event	Sleeping and shelter for tourist	Choice of origin of bed linen etc Choice of electronic appliances Use of electricity	Depletion of natural resources including minerals, metals, water, fibre used to make furniture and amenities which	GHG emissions associated with the use of electricity contributes towards global warming/climate change	Chemical leaching Illegal dumping, burial, burning of solid waste leads to air pollution due to emissions,	Regular income for those employed Lower unemployment rate in local community	Encourages and facilitates environmentally responsible behaviour and activities, and provides environment

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
	of camping) Clean linen (either provided by the service provider or by the tourist in the event		Production and management of solid waste such as single use plastic, e-waste, etc Emission of chemicals	ultimately impacts: -soil health, -reduces biodiversity, -water shortage, -food insecurity' -global warming' -damages ecosystem services.	which impacts global weather patterns and the overall balance of nature to be able to support life. <i>(Local action with global impact)</i>	ground water, fresh water and soil pollution due to leaching and runoff of chemicals and particulates which ultimately affects	Lower poverty rate in local community	al education for guests through on-site activities and courses Make use of sustainable linen (i.e., natural fibres) such as bamboo, hemp,

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
	of camping) Lighting Electricity supply Amenities including mosquito repellent, etc (either provided		from mosquito repellent canisters. Employment of housekeepers	Such impacts ultimately impact human health, wellbeing, and security of societies <i>(Local action with global impact)</i> Overuse of resources	GHG emissions and other emissions (i.e., particulate matter) contribute towards the degradation of air quality which ultimately	human health, ecosystem services and functioning, etc <i>(Local action leading national impacts)</i>		recycled materials Make use of AAA+ appliances for energy efficiency Choose LED light bulbs Implement renewable

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
	by the service provider or by the tourist in the event of camping) Electric appliances such as fridge, kitchen,			contributes to energy shortages and water scarcity challenges in South Africa. This ultimately impacts human health, wellbeing,	affects human health by means of respiratory and heart problems/disorders <i>(Local action with local and national impact)</i>	Poorly managed waste is contaminating the oceans, clogging drains and causing flooding, transmitting diseases, increasing respiratory		energy sources If solid waste is not able to be collected on a regular and timeously base, make use of bins/skips, drop off facilities,

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
	hair dryer, fan, microwave, air conditioner, television, etc (either provided by the service provider or by the tourist in			and security of societies <i>(Local action with national impact)</i>		problems from burning, harming animals that consume waste unknowingly, and affecting economic development such as in tourism		recycling collection points, etc for the purpose of not dumping and keeping the rural area neat and tidy. Do not let cattle and any other

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
	the event of camping)					<i>(Local action with national and global impacts)</i>		<p>animals rumble through waste.</p> <p>Participate in recyclable collection activities and support other community members that can use</p>

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
								<p>the recyclables</p> <p>Use of essential oil's etc instead of chemical repellents</p> <p>Employment of people from local community</p>

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
								with preference for women, youth, disabilities.
Ablution / bathroom facilities associated with rural tourism enterprise	Water supply Consumables/amenities including	Ablution facilities for tourists	Choice of origin of consumables/amenities	Resource extraction and use result in the depletion of natural resources	GHG emissions (mainly from the use of electricity) contribute towards	Illegal dumping, burial, burning of solid waste leads to air pollution	Local and national economic growth Lower poverty rate	The purchase of eco-friendly amenities and toiletries i.e., organic and

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
this includes shared and private ablution facilities	<p>soap, shampoo, toilet paper and other personal care products</p> <p>Electricity supply (for water heating)</p>		<p>Use of water</p> <p>Use of electricity for all electric appliances</p> <p>Production and management of wastewater</p>	<p>including minerals, metals, water, fibre used to make bathroom fittings and amenities which ultimately impacts: -soil health, -reduces biodiversity,</p>	<p>global warming/climate change which impacts global weather patterns and the overall balance of nature to be able to support life.</p>	<p>due to emissions, ground water and soil, soil pollution due to leaching of chemical that ultimately affects human health,</p>	<p>Lower unemployment rate</p>	<p>packaged in biodegradable containers and packaging</p> <p>Use of renewable amenities rather than single use.</p> <p>The purchase of</p>

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
	and lighting)		<p>r and sewage</p> <p>Production and management of solid waste such as single use plastic, e-waste, etc</p>	<p>-damages ecosystem services.</p> <p><i>(local action with global impacts)</i></p> <p>Overuse of resources contributes to energy shortages and water scarcity</p>	<p><i>(local action with global impacts)</i></p> <p>GHG emissions and other emissions (i.e. from aerosols) contribute towards the degradation of air quality</p>	<p>ecosystem services, etc <i>(local action with national impacts)</i></p> <p>Untreated wastewater contains pathogenic organisms and/or chemicals</p>		<p>locally produced amenities</p> <p>AAA+ appliances for energy efficiency</p> <p>Choose LED light bulbs</p> <p>Installation of water saving</p>

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
			<p>Emission of chemicals from the spraying of chemicals from air freshener and other aerosols canisters.</p> <p>Employment of</p>	<p>challenges in South Africa (<i>local action with national impacts</i>)</p> <p>Damage to ecosystem function from contamination of soil and water (freshwater and marine)</p>	<p>which ultimately affects human health by means of respiratory and heart problems/diseases (<i>local action with national impacts</i>)</p>	<p>which impacts flora, fauna and human health (<i>Local action with local impacts</i>)</p> <p>Poorly managed waste is contamin</p>		<p>devices on water fascist</p> <p>If solid waste is not able to be collected on a regular and timeously base, make use of bins/skips, drop off facilities,</p>

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
			housekeepers	due to waste water (grey water) and other bathroom related chemicals leaking into the environment ultimately impacting flora, fauna		ating the oceans, clogging drains and causing flooding, transmitting diseases, increasing respiratory problems from burning, harming		recycling collection points, etc for the purpose of not dumping and keeping the rural area neat and tidy. Do not let cattle and any other

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
				and human health. <i>(Local actions with national impact)</i>		animals that consume waste unknowingly, and affecting economic development such as in tourism. <i>(Local action with national and</i>		animals rumble through waste. Participate in recyclable collection activities and support other community members that can use

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
						<i>global impacts)</i>		<p>the recyclables</p> <p>If the rural tourism enterprise makes use of a septic tank, have it regularly emptied so to prevent overflowing</p>

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
								<p>Report the leakage of sewage and greywater into waterbodies at the local municipality.</p> <p>Renewable energy as a means of energy supply</p>

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
								Install a rainwater recycling system that supplies internal water demand, or a greywater recycling system that supplies internal or

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
								<p>external water demand</p> <p>Employment of people from local community with preference for women, youth, disabilities.</p>

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
Food preparation and beverage services associated with the rural accommodation enterprise	Refer to 'Food and Beverage' for details relating to inputs and impacts associated with food services	Meals and drinks for visitors / tourists provided at the accommodation facility	Refer to 'Food and Beverage'					

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
Laundry services associated with the rural accommodation enterprise	Washing machines and other associated appliances such as dryers, irons Water use	Clean bed linen and towels Clean clothes	Choice of electronic appliances and energy efficiency rating thereof Choice of washing and drying methods	Resource extraction and use result in the depletion of natural resources including minerals, metals, water, fibre used to make electric appliances	GHG emissions contribute towards global warming/climate change which impacts global weather patterns and the overall	Illegal dumping, burial, burning of solid waste leads to air pollution due to emissions, ground water and soil, soil pollution due to	Local and national economic growth Lower poverty rate Lower unemployment rate	AAA+ appliances for energy efficiency Use cold water when washing Wash less often and always do full loads

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
	Detergent / washing powder Chemicals such as bleach Electricity to power for washing machines		Use of water Use of electricity for all electric appliances Choice of detergents Production and	and detergents ultimately impacts: -soil health, -reduces biodiversity, -damages ecosystem services. <i>(Local action with global impacts)</i>	balance of nature to be able to support life. <i>(local impacts with global impacts)</i> GHG emissions and other emissions (i.e., from	leaching of chemical that ultimately affects human health, ecosystem services, etc <i>(local action with national impacts)</i>		Avoid harmful chemicals and rather use eco-friendly products/ natural detergents Choose LED light bulbs

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
	, dryers, irons, etc		management of wastewater Production and management of solid waste such as single use plastic, e-waste, etc	Overuse of resources contributes to energy shortages and water scarcity challenges in South Africa (<i>Local action with national impacts</i>)	aerosols) contribute towards the degradation of air quality which ultimately affects human health by means of respiratory and heart	Untreated wastewater contains pathogenic organisms and/or chemicals which impacts flora, fauna and human health		Installation of water saving devices on water faucet Participate in recyclable collection activities and support other community members that can use

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
			Employment of housekeeper	Damage to ecosystem function from contamination of soil and water (freshwater and marine) due to wastewater (grey water) and other bathroom related	problems/disorders <i>(local action with national impacts)</i>	<i>(local action with local impacts)</i> Poorly managed waste is contaminating the oceans, clogging drains and causing flooding,		the recyclables If the rural tourism enterprise makes use of a septic tank, have it regularly emptied so to prevent overflowing

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
				chemicals leaking into the environment ultimately impacting flora, fauna and human health. <i>(Local actions with national impact)</i>		transmitting diseases, increasing respiratory problems from burning, harming animals that consume waste unknowingly, and affecting		Report the leakage of sewage and greywater into waterbodies at the local municipality. Use a clothesline or dryer balls to reduce

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
						economic development such as in tourism. <i>(local actions with global impacts)</i>		energy consumption Avoid ironing where possible Renewable energy as a means of energy supply

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
								Employment of people from local community with preference for women, youth, disabilities.
Garden services and	Machinery such as lawn	Maintained gardens for	Choice of garden machinery	Resource extraction and use	GHG emissions (from the	Illegal dumping, burial,	Local and national	Conserve water and control water

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
machine maintenance associated with the rural accommodation enterprise	movers and weed eaters Fuel or electricity for machinery Garden tools such as spades,	tourists to enjoy Fresh fruit and vegetables for use in tourist establishment	Choice of garden tools Use of electricity Choice of soil replenishment methods	result in the depletion of natural resources including minerals, metals, water, fibre used to make electric appliances, tools and fertilisers which	use of electricity and other fossil fuels) contribute towards global warming/climate change which impacts global weather	burning of solid waste, such as garden waste, plastic bags, etc, leads to air pollution due to emissions, ground water and soil, soil	economic growth Lower poverty rate Lower unemployment rate	runoff such as only watering late in the afternoon and only when needed by plants. Select native drought tolerant

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
	forks, rakes Compost, fertiliser, mulch Water supply Vehicle to remove garden waste		Water use Production and management of wastewater Production and management of solid waste such as single	ultimately impacts: -soil health, -reduces biodiversity, -damages ecosystem services. <i>(Local action with global impacts)</i> Overuse of resources	patterns and the overall balance of nature to be able to support life. <i>(local action with global impacts)</i> GHG emissions and other emissions	pollution due to leaching of chemical that ultimately affects human health, ecosystem services, etc <i>(local action with</i>		grasses and plants Compost organic waste Do not use chemical fertilisers and pesticides, rather use

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
			<p>use plastic, e-waste, etc</p> <p>Production and management of organic residues</p> <p>Production and management</p>	<p>contributes to energy shortages and water scarcity challenges in South Africa (<i>Local action with national impacts</i>)</p> <p>The spread of invasive species due</p>	<p>(i.e. from garden waste, particulate matter, etc) contribute towards the degradation of air quality which ultimately affects human health by</p>	<p><i>national impacts</i>)</p> <p>Untreated wastewater contains pathogenic organisms and/or chemicals which impacts flora, fauna</p>		<p>natural products</p> <p>Use energy efficient machinery such as electric or manual mower</p> <p>Participate in recyclable collection</p>

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
			ent of waste oil Employment of gardeners	to them being introduced into gardens threatening native species and altering natural habitats and ecosystem function. <i>(Local action with national impacts)</i>	means of respiratory and heart problems/diseases <i>(local impact with national impacts)</i>	and human health <i>(Local impact with national impacts)</i> Poorly managed waste is contaminating the oceans, clogging		activities and support other community members that can use the recyclables install a rainwater harvesting systems in which rainwater

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
				Damage to ecosystem function from contamination of soil and water (freshwater and marine) due to wastewater (grey water) and other bathroom		drains and causing flooding, transmitting diseases, increasing respiratory problems from burning, harming animals that consume waste		can be used to water the garden maintain or increase on-site biodiversity by planting native species, creating refuges for

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
				related chemicals leaking into the environment ultimately impacting flora, fauna and human health. <i>(Local actions with national impact)</i>		unknowingly, and affecting economic development such as in tourism. <i>(local actions with global impacts)</i>		local animal species, Employment of local youth, women and those with disabilities

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
Cleaning services associated with the rural accommodation enterprise	Use of cleaning products such as soaps, detergents, bleach etc to clean rooms, bathrooms, public spaces,	Clean accommodation and public spaces for tourists	Choice of electronic appliances and energy efficiency rating thereof Choice of cleaning products and detergents	Resource extraction and use result in the depletion of natural resources including minerals, metals, water, fibre used to make electric	GHG emissions (from the use of electricity) contribute towards global warming/climate change which impacts	Illegal dumping, burial, burning of solid waste leads to air pollution due to emissions, ground water and soil, soil pollution	Local and national economic growth Lower poverty rate Lower unemployment rate	AAA+ appliances for energy efficiency Avoid harmful chemicals and rather use eco-friendly products/

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
	dining areas, lounges, kitchen, etc Appliances such as vacuum cleaners, carpet cleaners, etc		Use of water Use of electricity for all electric appliances Production and management of	appliances and detergents ultimately impacts: -soil health, -reduces biodiversity, -damages ecosystem services. <i>(Local action with global impacts)</i>	global weather patterns and the overall balance of nature to be able to support life. <i>(local action with global impacts)</i> GHG emissions	due to leaching of chemical that ultimately affects human health, ecosystem services, etc <i>(local action with national impacts)</i>		natural detergents Installation of water saving devices on water faucet Freshen the air in rooms by opening windows rather than

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
	Cleaning accessories such as mops, brooms, dustpans, etc Electricity supply for vacuum cleaners etc		wastewater Production and management of solid waste such as single use plastic, e-waste, etc	Overuse of resources contributes to energy shortages and water scarcity challenges in South Africa <i>(Local action with national impacts)</i>	and other emissions contribute towards the degradation of air quality which ultimately affects human health by means of respiratory and heart	Untreated wastewater contains pathogenic organisms and/or chemicals which impacts flora, fauna and human health		using air freshers Participate in recyclable collection activities and support other community members that can use the recyclables

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
	Water supply		Employment of housekeeper	Damage to ecosystem function from contamination of soil and water (freshwater and marine) due to wastewater (grey water) and other bathroom related	problems/disorders <i>(local action with national impacts)</i>	<i>(Local action with national impacts)</i> Poorly managed waste is contaminating the oceans, clogging drains and causing		Rather use cloth towels than paper towels for cleaning Renewable energy as a means of energy supply Employment of local

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
				chemicals leaking into the environment ultimately impacting flora, fauna and human health. <i>(Local actions with national impact)</i>		flooding, transmitting diseases, increasing respiratory problems from burning, harming animals that consume waste unknowingly, and		youth, women and those with disabilities

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
						affecting economic development such as in tourism. <i>(local actions with global impacts)</i>		
Other services – electronic devices, wi	Water supply	Services commonly offered by accommodati	Choice of electronic equipment	Resource extraction and use result in the	GHG emissions contribute towards	Illegal dumping, burial, burning of	Local and national economic growth	Switch use of chlorine and make use of more

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
<p>fi, sport facilities such as a gym, swimming pool, etc associated with the rural accommodation enterprise</p>	<p>Chemicals for swimming pool maintenance</p> <p>Electricity for electrical devices</p>	<p>on service providers</p>	<p>Choice of chemical for swimming pool</p> <p>Choice of sporting equipment</p> <p>Use of electricity for all</p>	<p>depletion of natural resources including minerals, metals, water, fibre which ultimately impacts:</p> <p>-soil health, -reduces biodiversity,</p>	<p>global warming/climate change which impacts global weather patterns and the overall balance of nature to be able to support life.</p>	<p>solid waste leads to air pollution due to emissions, ground water and soil, soil pollution due to leaching of chemical that ultimately</p>	<p>Lower poverty rate</p> <p>Lower unemployment rate</p>	<p>environmentally friendly products for your swimming pool</p> <p>Use pool covers to reduce loss if water</p> <p>Renewable energy as a</p>

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
	Sport equipment		electric appliances Production and management of wastewater Production and management of solid	-damages ecosystem services. <i>(Local impacts with global impacts)</i> Overuse of resources contributes to energy shortages and water	<i>(local impacts with global impacts)</i> GHG emissions and other emissions contribute towards the degradation of air quality which	affects human health, ecosystem services, etc <i>(local action with national impacts)</i> Untreated wastewater contains pathogenic		means of energy supply AAA+ appliances for energy efficiency Participate in recyclable collection activities and support other

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
			waste such as single use plastic, e-waste, etc Employment	scarcity challenges in South Africa <i>(Local action with national impacts)</i>	ultimately affects human health by means of respiratory and heart problems/disorders <i>(local impact with national impacts)</i>	organisms and/or chemicals which impacts flora, fauna and human health <i>(Local action with national impact)</i>		community members that can use the recyclables Employ local youth, women and those with disabilities

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
						Poorly managed waste is contaminating the oceans, clogging drains and causing flooding, transmitting diseases, increasing respiratory		

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
						problems from burning, harming animals that consume waste unknowingly, and affecting economic development such as in tourism.		

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
						<i>(local actions with global impacts)</i>		
Transportation service offered from the rural accommodation enterprise	Refer to 'Transportation' for details relating to inputs and impacts associated	Transportation of tourists provided by the accommodation service providers	Refer to 'Transportation'					

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
	d with food services							
Security services for the rural accommodation enterprise	Alarm system Security guards	The provision of security to the accommodation service providers and their tourists	Choice of security system Use of electricity for all electric appliances	Resource extraction and use result in the depletion of natural resources including minerals, metals, water, fibre	GHG emissions contribute towards global warming/climate change which impacts global	Illegal dumping, burial, burning of solid waste leads to air pollution due to emissions, ground water and	Local and national economic growth Lower poverty rate Lower unemployment rate	Eco friendly lighting system including the use of LED bulbs Make use of motion detector for lights

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
			Employment of security guards	<p>which ultimately impacts:</p> <ul style="list-style-type: none"> -soil health, -reduces biodiversity, -damages ecosystem services. <p><i>(Local impacts with global impacts)</i></p>	<p>weather patterns and the overall balance of nature to be able to support life.</p> <p><i>(local impacts with global impacts)</i></p> <p>GHG emissions</p>	<p>soil, soil pollution due to leaching of chemical that ultimately affects human health, ecosystem services, etc</p> <p><i>(local action with</i></p>		<p>AAA+ appliances for energy efficiency</p> <p>Employ local youth, women and those with disabilities</p>

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
				Overuse of resources contributes to energy shortages and water scarcity challenges in South Africa <i>(Local action with national impacts)</i>	and other emissions contribute towards the degradation of air quality which ultimately affects human health by means of respiratory and heart	<i>national impacts)</i> Poorly managed waste is contaminating the oceans, clogging drains and causing flooding, transmitting		

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
					problems/disorders <i>(local impact with national impacts)</i>	diseases, increasing respiratory problems from burning, harming animals that consume waste unknowingly, and affecting economic		

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
						development such as in tourism. <i>(local actions with to global impacts)</i>		

Lifecycle inventory for food and beverage services associated with rural tourism

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
Food and Beverage								
Ordering and purchasing of food and beverage/ Office management / operations management / administration / procurement/ stocktaking and inventory	Refer to 'office management' in Travel organisations and Booking Services	Functional office supporting the operations of the transportation service	Refer to 'office management' in Travel organisations and Booking Services					

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
checking/ managing budgets and sales including use of office supplies such as paper, printer cartridges, electronic equipment, electricity and/or other forms of energy, ICT connectivity,								

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
Transportation/delivery of food and beverage to the rural food and beverage enterprise	Refer to 'Transportation' for details relating to inputs and impacts associated with food services	Food and beverage delivered to establishment where it will be prepared for consumer	Refer to 'Transportation'					
Storage and safety of food and beverage within the rural food and	Electrical appliances including	The safe storage of food and beverage	Choice of electronic appliances and energy	Depletion of natural resources including	GHG emissions, especially that from	Illegal dumping, burial, burning of	Local and national economic growth	AAA+ appliances for

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
beverage enterprise	fridges and freezers Electricity/energy supply Water supply Chemicals for the cleaning of storage area	before consumption by consumer	efficiency rating thereof Use of electricity for all electric appliances Use of water	minerals, metals, water, fibre, food which ultimately impacts: -soil health, -reduces biodiversity, -damages ecosystem	agriculture and food waste, contribute towards global warming/climate change which impacts global weather patterns and the overall balance of nature to be able to support life.	solid waste leads to air pollution due to emissions, ground water, fresh water, and soil pollution due to leaching and runoff of chemicals and	Lower poverty rate Lower unemployment rate	energy efficiency Participate in recyclable collection activities and support other community

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
	Paper/stickers for labelling of food and beverages Stationary Kitchen utensils such as knives, scissor Packaging / wrappings /		Choice of detergents Choice of packaging Production and management of wastewater	services. Such impacts ultimately impact of human health, wellbeing, and security of societies <i>(Local action with</i>	GHG emissions and other emissions contribute towards the degradation of air quality which ultimately affects human health by means of	particulates which ultimately affects human health, ecosystem services and functioning, etc <i>(Local action leading national impacts)</i>		members that can use the recyclables Organic waste to go to composting facilities or self-

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
	plastic or other containers Food and beverages for storage Employees		Production and management of solid waste such as single use plastic from packaging, e-waste, food waste, etc	<i>global impacts</i>) Unsustainable agricultural practices impact -soil health, -reduces biodiversity,	respiratory and heart problems/disorders Polluted water impact human health as well as the health of aquatic ecosystems.	Food waste contributes to food insecurity (Local impact with local and national impacts) Chemical leaching into soil due to		composting Make use of 100% recycled and reusable packaging Renewable

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
			Choice of and sourcing thereof of food and beverage Employment of kitchen staff	-damages ecosystem services. Such impacts ultimately impact of human health, wellbeing, and security of societies		electronic equipment not being correctly disposed. These chemicals get taken up in food chains affecting flora, fauna and human health.		energy as a means of energy supply Only purchase food that is necessary to prevent food

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
				<p><i>(Local action with global impacts)</i></p> <p>Overuse of resources contributes to energy shortages and water scarcity challenges in South</p>		Chemical leaching into water bodies affects aquatic health which ultimately impacts upon flora, fauna and human health.		<p>going off before it can be used.</p> <p>Store food at the correct temperature to prevent it going off.</p>

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
				Africa. This ultimately impacts human health, wellbeing, and security of societies <i>(Local action with national impacts)</i>		Poorly managed waste is contaminating the oceans, clogging drains and causing flooding, transmitting diseases, increasing respiratory		Employ local youth, women and those with disabilities

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
				Damage to ecosystem function from contamination of soil and water due to hazardous chemicals and particulates are not being		problems from burning, harming animals that consume waste unknowingly, and affecting economic development such as in tourism		

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
				<p>managed properly (<i>Local actions with local impacts</i>)</p> <p>Chemical leaching from fertilisers and pesticides into water</p>				

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
				bodies affects aquatic health (marine and freshwater) which ultimately impacts upon flora, fauna and human health.				

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
				<i>(Local actions with national impacts)</i>				
Preparation, serving and consumption of food and beverage which in a rural enterprise	Electric equipment including stoves, ovens, microwaves, etc	Food and beverage prepared to the requirements of the tourist	Choice of electronic appliances and energy efficiency rating thereof	Depletion of natural resources including minerals, metals, water, fibre, food	GHG emissions, especially that from agriculture and food waste, contribute towards global	Illegal dumping, burial, burning of solid waste leads to air pollution due to	Local and national economic growth Lower poverty rate	AAA+ appliances for energy efficiency Participate in

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
	<p>Kitchen utensils such as knives, wooden spoons, chopping boards etc</p> <p>Cooking equipment like pots, pans and saucers</p>	Food and beverages served to tourists	<p>Use of electricity for all electric appliances</p> <p>Use of water</p> <p>Choice of detergents</p> <p>Choice of packaging</p>	<p>which ultimately impacts: -soil health, -reduces biodiversity, -damages ecosystem services. Such impacts ultimately</p>	<p>warming/climate change which impacts global weather patterns and the overall balance of nature to be able to support life. GHG emissions and other</p>	<p>emissions, ground water, fresh water, and soil pollution due to leaching and runoff of chemicals and particulates which ultimately affects</p>	Lower unemployment rate	<p>recyclable collection activities and support other community members that can use the recyclables</p>

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
	<p>Workbenches and worktops</p> <p>Cloth and paper towelling</p> <p>Food and beverage to be prepared and then served</p>		<p>Production and management of wastewater from the washing of items used in the kitchen</p> <p>Production and</p>	<p>impact of human health, wellbeing, and security of societies (<i>Local action with global impacts</i>)</p> <p>Unsustainable</p>	<p>emissions contribute towards the degradation of air quality which ultimately affects human health by means of respiratory and heart problems/disorders</p>	<p>human health, ecosystem services and functioning, etc (<i>Local action leading national impacts</i>)</p> <p>Food waste contributes to food</p>		<p>Organic waste to be separated and diverted from landfill by sending it to a composting facility,</p>

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
	<p>Soap and disinfectant for hands, dishes and general cleaning of the kitchen</p> <p>Electricity/gas for energy supply</p> <p>Water supply</p>		<p>management of solid waste such as single use plastic from packaging, e-waste, food waste, etc</p> <p>Choice of and sourcing</p>	<p>agricultural practices impact -soil health, -reduces biodiversity, -damages ecosystem services.</p> <p>Such impacts ultimately</p>	<p>Polluted water impact human health as well as the health of aquatic ecosystems.</p>	<p>insecurity (Local impact with local and national impacts)</p> <p>Chemical leaching into soil due to electronic equipment not being correctly</p>		<p>self-composting, or sending it for anaerobic digestion or alternative energy recovery</p>

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
	Aprons and other clothing required for food safety i.e., gloves and head nets Cutlery; metal and plastic		thereof of food and beverage Employment of kitchen staff	impact of human health, wellbeing, and security of societies <i>(Local action with global impacts)</i> Overuse of resources		disposed. These chemicals get taken up in food chains affecting flora, fauna and human health. Chemical leaching into water bodies		Make use of 100% recycled and reusable packaging Renewable energy as a means of

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
	<p>Crockery: plastic, paper, porcelain</p> <p>Takeaway containers (plastic, metal, other)</p> <p>Skilled and unskilled employees</p>			<p>contributes to energy shortages and water scarcity challenges in South Africa. This ultimately impacts human health, wellbeing, and</p>		<p>affects aquatic health which ultimately impacts upon flora, fauna and human health.</p> <p>Poorly managed waste is contamin</p>		<p>energy supply</p> <p>Employ local youth, women and those with disabilities</p>

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
				<p>security of societies <i>(Local action with national impacts)</i></p> <p>Damage to ecosystem function from contamination of soil and water</p>		<p>ating the oceans, clogging drains and causing flooding, transmitting diseases, increasing respiratory problems from burning, harming</p>		

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
				due to hazardous chemicals and particulates are not being managed properly <i>(Local actions with local impacts)</i>		animals that consume waste unknowingly, and affecting economic development such as in tourism		

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
				Chemical leaching from fertilisers and pesticides into water bodies affects aquatic health (marine and freshwater				

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
) which ultimately impacts upon flora, fauna and human health. <i>(Local actions with national impacts)</i>				

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
Laundry services for the rural food and beverage enterprise	Refer to ' <i>laundry services</i> ' as described in Accommodation	The cleaning of kitchen cloths, aprons, serviettes, tables clothes, etc	Refer to ' <i>laundry services</i> ' as described in Accommodation					

Lifecycle inventory of leisure tours, excursions and attractions associated with rural tourism (table developed by the authors)

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
Leisure Tours, excursions, and attractions								
Office management / operations management / administration / procurement, including use of office supplies such as	Refer to 'office management' in Travel organisations and Booking Services	Functional office supporting the operations of the tour, excursion or attraction	Refer to 'office management' in Travel organisations and Booking Services					

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
paper, printer cartridges, electronic equipment, electricity and/or other forms of energy, ICT connectivity, food, beverages, kitchen								

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
appliances etc								
The transportation of tourists for the duration of their tour, excursion and visit to attractions within the rural area	Refer to Transportation' for details relating to inputs and impacts associated with food services	Transportation of tourists on their tour or excursion	Refer to Transportation' for details relating to inputs and impacts associated with food services					

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
The provision of food and beverage to tourist while on their tour within a rural area	Refer to Food and Beverage for details relating to inputs and impacts associated with food services	Provision of food and beverage to tourist while on their tour or excursion	Refer to Food and Beverage for details relating to inputs and impacts associated with food services					
The provision of accommodation for the	Refer to Accommodation for details	The provision of accommodation to tourist	Refer to Accommodation for details relating to inputs and impacts associated with food services					

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
tourist while on their tour in a rural area	relating to inputs and impacts associated with food services	while on their tour or excursion						
The experience and engagement of the tourist with the rural tourism attraction	Rural tourism attraction i.e., wildlife, cultural village, wine farm, etc for which the	Experience associated with the rural tourism attraction	Choice of electronic appliances Choice of equipment to be used	Depletion of natural resources including minerals, metals, water, fibre, food	GHG emissions, especially that from agriculture and food waste, contribute towards global	Illegal dumping, littering, burial, burning of solid waste leads to air pollution due to emissions,	Local and national economic growth Lower poverty rate	Tourist to choose tours that operate on responsible and sustainable

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
associated with ecotourism, agritourism, and cultural and heritage tourism products i.e., game drives, concert or music festival, spa	tour centres round Necessary equipment needed for the enjoyment of the tours such as binoculars, safety equipment, sport		during the tour Use of electricity Use of water Production and management of solid waste	which ultimately impacts: -soil health, -reduces biodiversity, -damages ecosystem services. Such impacts ultimately impact of	warming/climate change which impacts global weather patterns and the overall balance of nature to be able to support life. GHG emissions and other	ground water, fresh water, and soil pollution due to leaching and runoff of chemicals and particulates which ultimately affects human health,	Lower unemployment rate	environmental principles Tour operator and tour guides to raise awareness of conservation issues and other sustainability

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
treatments, museum	equipment, lights, books, etc Tour guides		Production and management of wastewater Employment of tour guides	human health, wellbeing, and security of societies <i>(Local action with global impacts)</i> The overuse of land by	emissions contribute towards the degradation of air quality which ultimately affects human health by means of respiratory and heart problems/disorders	ecosystem services and functioning, etc <i>(Local action leading national impacts)</i> Chemical leaching into soil due to electronic equipment		e behaviour within the rural area Follow leave no trace principle which implies that tourist just leave

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
				tourists at rural areas leads to soil erosion or the compaction of soil, displacement of wildlife, pollution of water, modification of		not being correctly disposed. These chemicals get taken up in food chains affecting flora, fauna and human health. Chemical leaching into		footprints and no impact on the environment AAA+ appliances for energy efficiency

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
				habitats, and damage to vegetation which impacts natural features and ecosystem functions <i>(Local action with</i>		water bodies affects aquatic health which ultimately impacts upon flora, fauna and human health. Poorly managed waste is contaminat		Participate in recyclable collection activities and support other community members that can use the

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
				<i>local impacts)</i> Increased tourist activity in sensitive rural environments increased the risk of fire and vandalism		ing the oceans, clogging drains and causing flooding, transmitting diseases, increasing respiratory problems from burning, harming animals that		recyclables Organic waste to go to composting facilities or self-composting

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
				<p>which would impact wildfire and ecosystem functioning. <i>(Local action with local impacts)</i></p> <p>Overuse of resources contributes</p>		consume waste unknowingly, and affecting economic development such as in tourism		<p>Make use of 100% recycled and reusable packaging</p> <p>Renewable energy as a means of energy supply</p>

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
				to energy shortages and water scarcity challenges in South Africa. This ultimately impacts human health, wellbeing, and				Employ local youth, women and those with disabilities

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
				<p>security of societies (<i>Local action with national impacts</i>)</p> <p>Damage to ecosystem function from contamination of soil and water</p>				

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
				due to hazardous chemicals and particulates are not being managed properly <i>(Local actions with local impacts)</i>				

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts

Lifecycle inventory for creative industries associated with rural tourism (table developed by the authors)

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
1. Creative Industries								
Creating visual art (paintings and other artworks)	Paints (acrylic, oil, water colour), pencils, markers, pastels, crayons	Paintings	Toxic emissions and leachates from e.g. coatings on outdoor art can contaminate surface runoff and	Wastage of water	Damage to aquatic and terrestrial ecosystems ; mortality of aquatic and terrestrial organisms; health effects on	Non-recyclable plastic entering the environment (microplastics, choking of marine animals, mortality of livestock and	Maintenance of livelihoods from income generated from sale of paintings	private waste management services

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
			affect air quality		people and livestock using water for drinking and other uses; reduced productive capacity of soils – due to entry of contaminants into fresh	wild animals eating plastics....) Recyclable plastic not recycled – entering the environment Poisoning of organisms and		

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
					water sources or soils – leachates, left over paints, used turpentine / solvents and other cleaning agents	people, and contamination of ecosystems by hazardous chemicals on masking tape not properly disposed of		

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
					Also from washwater (from cleaning brushes, water based paint container, etc)			

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
			Disposal needs for left over paints (oil, acrylic, water colour paints)		Respiratory health effects of toxic emissions – human and other organisms			
			Solid waste disposal needs for discarded / waste wax		GHG emissions and leachates from			

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
			crayons, dry markers, pastels and pencils		landfills - Landfill of art materials such as crayons, brushes and foam (metal parts and wood, and nylon bristles)			

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
					waste wax crayons, dry markers, pastels and pencils, used paper contributing to climate change and toxic effects on aquatic			

Activity	Inputs	Product / Service Outputs	Environment al and Socio- economic Aspects of the Activity	Environme ntal impacts associated with natural resources	Environme ntal impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformati on	Options to reduce impacts
					and soil organisms and ecosystems			
	Brushes (oil, acrylic and foam)		Solid waste disposal needs for old brushes (could be plastic, wood, metal parts)					

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
	Glue (craft glue, hot glue, glue sticks)		Disposal needs for containers (glass, plastic)					
	Painters tape / masking tape		Disposal needs for tape contaminated with paint, solvents etc					
	Paper		Disposal needs for					

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
			drafts (non-recyclable)					
	Canvas (made of cotton and PVC)		Disposal needs for drafts (non-recyclable?)					
	Cleaning agents (turpentine , thinners)		Toxicity of vapours of solvents and thinners					
			Disposal of used					

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
			solvents and turpentine					
	Water		Washwater effluent from cleaning brushes and containers					
Creating visual art (sculpting; ceramics)	Clay including natural sources	Ceramics Sculptures	Depletion of natural clay					

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
	Energy (wood, coal, gas, electricity) to operate kilns (very energy intensive)		GHG emissions; toxic emissions (heavy metals) from glazes and oxides Emission of particulates Ash Radiation					

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
Creating visual art (glass blowing)	Energy (wood, coal, gas, electricity) to operate furnaces (very energy intensive)	Glass art pieces	GHG emissions; toxic emissions (heavy metals) from glazes and oxides Emission of particulates Ash Radiation					

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
Interior design e.g. architectural paint effects	Paints Solvents / Turpentine	Buildings / interior spaces	Toxic emissions Left over paint Used brushes and containers Used cleaning agents e.g. turpentine Washwater effluent from					

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
			washing paint brushes					
Environmental art	Use of natural materials, objects from the natural environment	All types of art including land art	Depletion of sources of materials from nature					
	Timber from	Wooden carvings	Wood shavings and					

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
Woodwork and wood carving	natural forests Timber from plantations Collected driftwood	and other art pieces and functional objects (e.g. kitchen utensils and bowls)	offcuts of wood					
	Energy used for woodworking machinery		GHG emissions from energy usage					

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
	Varnishes, wood oils and other coatings and treatments		Used turpentine Old varnishes Left over wood oils					
Locals Arts and Crafts	All of the above for painting including: Tempera paints		Disposal needs for potentially hazardous substances like glue, paints					

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
	(powder paint) Chalk Oil pastels Textiles (e.g. felt, fabric, wool etc) Modelling clay		Solid waste disposal needs for pastels, textiles, other materials Polymer modelling clay ¹					

¹ PVC contains the chemical dioxin, a proven carcinogen, and phthalates. Exposure to phthalates has been linked to conditions such as infertility, attention disorders, autism, and cancer. Also, PVC contributes to global plastic pollution when it is discarded or when it gets into our natural environment

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
	(polymer clay) Aluminium foil Wood Glitter, sequins, buttons Natural fibres and materials (e.g. feathers,		contains PVC – disposal needs Disposal needs for aluminium foil (especially contaminated)					

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
	leaves, sticks, acorns, pine cones, flowers, seeds and seed pods, nuts, cork etc). Floral wire Oasis sponge for		Disposal needs for non-recyclable plastic items (sequins, buttons etc) and other combination items like plastic coated floral wire					

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
	flower arranging Paper (various) including wax paper and highly coloured (e.g. tissue paper, crinkle paper....)		Recyclable plastic items Overexploitation / depletion of materials taken from nature Disposal needs of					

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
	Various plastics (containers etc) – some recyclable / some not		floral foam - fine-celled thermoset phenolic plastic foam (contains toxic substances) ²					

² Oasis is made with **OASIS® Floral Foam Maxlife**. Floral foam is an open cell plastic. It is a green fine-celled thermoset phenolic plastic foam. It contains many hazardous substances including formaldehyde smoke, oxides of carbon, phenol, cresols, xylenols, and sulfur dioxide.

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
			Disposal need for wax paper ³					
Cottage industries (handmade goods, gifts and clothing)	Similar to Local Arts and Crafts above including Leather Textiles		Tannery effluent Effluent from dyeing processes (textiles and yarns)					

³ Some wax paper can be compostable – but unlikely this is available in SA and esp in rural areas

Activity	Inputs	Product / Service Outputs	Environment al and Socio- economic Aspects of the Activity	Environme ntal impacts associated with natural resources	Environme ntal impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformati on	Options to reduce impacts
(including dyeing of wool and other yarns for weaving, embroidery, knitting etc; dyeing of textiles etc) Tanning of leather	Water used for dyeing of fabrics and yarns Natural (sources?) and synthetic dyes							

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
Artisanal food (farmers Markets) <i>Origins of ingredients</i> <i>Beverages</i> <i>Meats</i> <i>Cheese</i> <i>Fish</i> <i>Baked goods (breads,</i>	Energy used for cooking, baking, heating / reheating, refrigeration Water Food ingredients Packaging /	Artisanal food and beverages for local consumption and tourists	GHG emissions from burning of fossil fuels					

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
<i>cakes, pastries, biscuits, rusks)</i> <i>Preserve/ condiments / food pastes/ oils</i> <i>Fermented foods</i> <i>Vegetables</i> <i>Sweets / chocolates</i>	wrappings / plastic or other containers							

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
Cottage/craft industry distillery, wineries breweries	Water Energy for distilling, brewing (heat) Energy for refrigeration	Alcoholic and other craft beverages for local consumption and export	High water use in small craft breweries Energy demand / GHG emissions					

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
	Yeast, grains, hops, berries, herbs, grapes Containers : glass, plastic, wooden kegs, and corks and		Organic waste Disposal needs for containers for beer, wine and spirits (plastic, glass)					

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
	aluminium screw tops Stainless steel vats and tanks							
Film and photographic studios	Camera equipment , acetate film, digital technology Catering: Meals and	Films (movies, TV shows, documentaries etc)	More Toxic chemicals used for developing acetate film: developer,			disposing of environmentally hazardous batteries, like lithium-ion or lead-acid, can result		

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
	drinks (including water) for production staff and actors including containers for food and drinks Generator fuel	Photographic services and images	stop bath, fixer incl. silver Used (exposed) cellulose acetate film – only biodegrades under ideal conditions			in chemical leaching in landfills and waterways		

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
	Energy for refrigeration Energy for heating and cooling Energy for lighting and recharging		Disposal of batteries (rechargeable and non-rechargeable) ⁴					

⁴ disposing of environmentally hazardous batteries, like lithium-ion or lead-acid, can result in chemical leaching in landfills and waterways.
<https://www.shutterreleaseworld.com/analogue-or-digital-photography-is-more-environmentally-friendly/>

Activity	Inputs	Product / Service Outputs	Environment al and Socio- economic Aspects of the Activity	Environme ntal impacts associated with natural resources	Environme ntal impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformati on	Options to reduce impacts
	batteries of equipment and other technology Batteries Lighting equipment including light bulbs / LED Set materials							

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
	and construction Transport of people, sets, photographic equipment, etc Printing (toners, energy							

Activity	Inputs	Product / Service Outputs	Environmental and Socio-economic Aspects of the Activity	Environmental impacts associated with natural resources	Environmental impacts associated with emissions and effluents	Environmental impacts associated with waste	Impacts associated with inclusivity and social transformation	Options to reduce impacts
	use, paper) Developing chemicals and water (for analogue photography)							

APPENDIX 2: Inventory of environmental and social aspects associated with rural tourism activities

Key aspects needed by rural tourism enterprises	Service Output	Tourism activity
Choice of electronic equipment and appliances	Functional office	Travel organisations and booking services
		Transportation
		Accommodation
		Food and beverage
		Leisure tours, excursions, and attractions
	rural tourism travel packages	Travel organisations and booking services
	provision of room	Accommodation
	laundry services	Accommodation
		Food and beverage
	garden services	Accommodation
	cleaning services	Accommodation
	storage and safety of food and beverage	Accommodation
		Food and beverage
		Leisure tours, excursions, and attractions
	preparation, serving, and consumption of food	Accommodation
		Food and beverage
		Leisure tours, excursions, and attractions
	other services at accommodation	Accommodation
	The experience and engagement of tourists with rural attraction	Leisure tours, excursions, and attractions
	Security services	Travel organisations and booking services
		Transportation
		Accommodation
		Leisure tours, excursions, and attractions

Choice of furniture i.e., beds, couches	Functional office	Travel organisations and booking services
		Transportation
		Accommodation
		Food and beverage
		Leisure tours, excursions, and attractions
	rural tourism travel packages	Travel organisations and booking services
	provision of room	Accommodation
	preparation, serving, and consumption of food	Food and beverage
Choice of stationary i.e. paper, printer toner and cartridges	Functional office	Travel organisations and booking services
		Transportation
		Accommodation
		Food and beverage
		Leisure tours, excursions, and attractions
	rural tourism travel packages	Travel organisations and booking services
Use of water	Functional office	Travel organisations and booking services
		Transportation
		Accommodation
		Food ad beverage
		Leisure tours, excursions and attractions
	Conveyance of tourists and staff in rural area using animals	Transportation
		Transportation

	maintenance and repairs of vehicles	Leisure tours, excursions and attractions
	Ablution/bathroom facilities	Accommodation
		Leisure tours, excursions and attractions
		Food and beverage
	laundry services	Accommodation
		Food and beverage
		Leisure tours, excursions and attractions
	garden services	Accommodation
	cleaning services	Accommodation
		Food and beverage
	other services at accommodation	Accommodation
	storage and safety of food and beverage	Food and beverage
		Accommodation
		Leisure tours, excursions and attractions
Use of electricity	preparation, serving, and consumption of food	Food and beverage
		Accommodation
		Leisure tours, excursions and attractions
	The experience and engagement of tourists with rural attraction	Leisure tours, excursions and attractions
	Conveyance of tourists and staff to and from rural areas and within rural areas	Transportation
		Leisure tours, excursions and attractions
	Functional office	Travel organisations and booking services
		Transportation

		Accommodation
		Food and beverage
		Leisure tours, excursions and attractions
	maintenance and repairs of vehicles	Transportation
		Leisure tours, excursions and attractions
	provision of room	Accommodation
		Leisure tours, excursions and attractions
	Ablution/bathroom facilities	Accommodation
		Leisure tours, excursions and attractions
		Food and beverage
	laundry services	Accommodation
		Food and beverage
		Leisure tours, excursions and attractions
	garden services	Accommodation
	cleaning services	Accommodation
		Food and beverage
		Leisure tours, excursions and attractions
	other services at accommodation	Accommodation
	Security services	Travel organisations and booking services
		Transportation
		Accommodation
		Food and beverage

		Leisure tours, excursions and attractions
	storage and safety of food and beverage	Food and beverage
		Accommodation
		Leisure tours, excursions and attractions
	preparation, serving, and consumption of food	Food and beverage
		Accommodation
		Leisure tours, excursions and attractions
	The experience and engagement of tourists with rural attraction	Leisure tours, excursions and attractions
Production and management of solid waste including plastic, food waste and e-waste	Functional office	Travel organisations and booking services
		Transportation
		Accommodation
		Food and beverage
		Leisure tours, excursions and attractions
	maintenance and repairs of vehicles	Transportation
		Accommodation
		Food and beverage
		Leisure tours, excursions and attractions
	provision of room	Accommodation
		Leisure tours, excursions and attractions
	Ablution/bathroom facilities	Accommodation
		Food and beverage

		Leisure tours, excursions and attractions
		Travel organisations and booking services
	laundry services	Accommodation
		Food and beverage
		Leisure tours, excursions and attractions
	garden services	Accommodation
	cleaning services	Accommodation
		Food and beverage
		Leisure tours, excursions and attractions
	other services at accommodation	Accommodation
	storage and safety of food and beverage	Accommodation
		Food and beverage
		Leisure tours, excursions and attractions
	preparation, serving, and consumption of food	Accommodation
		Food and beverage
		Leisure tours, excursions and attractions
	The experience and engagement of tourists with rural attraction	Leisure tours, excursions and attractions
production and management of waste water	Functional office	Travel organisations and booking services
		Transportation
		Accommodation
		Food and beverage
		Leisure tours, excursions and attractions

	Conveyance of tourists and staff to and from rural areas and within rural areas	Transportation
		Accommodation
		Leisure tours, excursions and attractions
	Conveyance of tourists and staff within rural area using animals	Transportation
		Accommodation
		Leisure tours, excursions and attractions
	maintenance and repairs of vehicles	Transportation
		Accommodation
		Leisure tours, excursions and attractions
		Food and beverage
	Ablution/bathroom facilities	Food and beverage
		Accommodation
		Leisure tours, excursions and attractions
	laundry services	Food and beverage
		Accommodation
		Leisure tours, excursions and attractions
	garden services	Accommodation
	cleaning services	Food and beverage
		Accommodation
		Leisure tours, excursions and attractions
	other services at accommodation	Accommodation
	storage and safety of food and beverage	Food and beverage
		Accommodation
		Leisure tours, excursions and attractions
		Food and beverage

	preparation, serving, and consumption of food	Accommodation
		Leisure tours, excursions and attractions
	The experience and engagement of tourists with rural attraction	Leisure tours, excursions and attractions
Choice of vehicle	delivery of travel documents	Travel organisations and booking services
	Conveyance of tourists and staff to and from rural areas and within rural areas	Transportation
		Accommodation
		Leisure tours, excursions and attractions
	transportation/delivery of food and beverage	Food and beverage
		Accommodation
Leisure tours, excursions and attractions		
Use of a fuel (petrol/diesel, jet fuel)	delivery of travel documents	Travel organisations and booking services
	Conveyance of tourists and staff to and from rural areas and within rural areas	Food and beverage
		Accommodation
		Leisure tours, excursions and attractions
	transportation/delivery of food and beverage and other products	Food and beverage
		Accommodation
Leisure tours, excursions and attractions		
Use of oil and other lubricants required by vehicles	delivery of travel documents	Travel organisations and booking services
	Conveyance of tourists and staff to and from rural	Food and beverage
		Transportation
		Accommodation

	areas and within rural areas	Leisure tours, excursions and attractions
	transportation/delivery of food and beverage and other products	Food and beverage
		Transportation
		Accommodation
		Leisure tours, excursions and attractions
	maintenance and repairs of vehicles	Travel organisations and booking services
		Transportation
		Accommodation
		Leisure tours, excursions and attractions
production and management of toxic exhaust emissions containing hazardous particulates	delivery of travel documents	Travel organisations and booking services
	Conveyance of tourists and staff to and from rural areas and within rural areas	Food and beverage
		Transportation
		Accommodation
		Leisure tours, excursions and attractions
	transportation/delivery of food and beverage and other products	Food and beverage
		Accommodation
		Leisure tours, excursions and attractions
Choice of animal	Conveyance of tourists and staff using animals	Food and beverage
		Transportation
		Accommodation
		Leisure tours, excursions and attractions
welfare of animals	Conveyance of tourists and staff using animals	Food and beverage
		Transportation
		Accommodation

		Leisure tours, excursions and attractions
Feed for animals	Conveyance of tourists and staff using animals	Food and beverage
		Transportation
		Accommodation
		Leisure tours, excursions and attractions
management of animals	Conveyance of tourists and staff using animals	Food and beverage
		Transportation
		Accommodation
		Leisure tours, excursions and attractions
Choice of tools	maintenance and repairs of vehicles	Food and beverage
		Transportation
		Accommodation
		Travel organisations and booking services
		Leisure tours, excursions and attractions
Choice of tyres and other vehicle parts	maintenance and repairs of vehicles	Food and beverage
		Transportation
		Accommodation
		Travel organisations and booking services
		Leisure tours, excursions and attractions
Choice of linen and towels	provision of room	Accommodation
		Leisure tours, excursions and attractions
Choice of consumables and amenities	Ablution/bathroom facilities	Accommodation
		Food and beverage
		Leisure tours, excursions and attractions

Emission of chemicals from sprayin of air fresher, mosquito spray, etc	Ablution/bathroom facilities	Accommodation
		Food and beverage
		Leisure tours, excursions and attractions
	provision of room	Accommodation
		Food and beverage
		Leisure tours, excursions and attractions
Choice of cleaning products	Ablution/bathroom facilities	Accommodation
		Food and beverage
		Leisure tours, excursions and attractions
Choice of garden machinery	garden services	Accommodation
Choice of garden tools	garden services	Accommodation
Choice of soil replenishment	garden services	Accommodation
Production and management of organic residue	garden services	Accommodation
	food waste	Accommodation
		Food and beverage
		Leisure tours, excursions and attractions
choice of chemicals for swimming pool	other services at accommodation	Accommodation
choice of sporting equipment	other services at accommodation	Accommodation
choice of security system	Security services	Accommodation
		Food and beverage
		Leisure tours, excursions and attractions
Choice of packaging	storage and safety of food and beverage	Food and beverage
		Accommodation

	preparation, serving, and consumption of food	Leisure tours, excursions and attractions
		Food and beverage
		Accommodation
		Leisure tours, excursions and attractions
Choice of and sourcing of food and beverage	storage and safety of food and beverage	Food and beverage
		Accommodation
		Leisure tours, excursions and attractions
	preparation, serving, and consumption of food	Food and beverage
		Accommodation
		Leisure tours, excursions and attractions

APPENDIX 3: Tourism associations and organisations

Tourism associations and organisations

(<https://smetoolkit.businesspartners.co.za/en/content/tourism-associations-and-organisations>)

Association of Southern African Travel Agents (ASATA)

ASATA is a representative forum that promotes professional service with security for both members and their clients. Their emphasis is on free trade without violating rules and regulations. Over 500 travel agents, wholesalers and tour operators are members of ASATA. It also has nearly 200 Associate Partners, which include companies such as airlines, hotels, car rental companies and other suppliers and industry partners.

For more information visit: <http://www.asata.co.za/>

Fair Trade in Tourism South Africa (FTTSA)

The FTTSA is an independent project of the World Conservation Union and aims to facilitate improved access to tourism markets for structurally disadvantaged tourism enterprises. Qualifying businesses are able to use the FTTSA Trademark as a marketing tool, as it is an independent symbol of fairness in the tourism industry and is only awarded to establishments that meet stringent criteria.

The FTTSA also encourages and publicises fair and responsible business practice by South African tourism establishments, such as fair wages and working conditions, fair operations, respect for human rights, culture and the environment. For more information visit: <http://www.fairtourismsa.org.za/>

National Accommodation Association of South Africa (NAA-SA)

The NAA-SA brings together all local and provincial accommodation associations. NAA-SA membership assures that those looking for accommodation in smaller establishments can expect quality, reputable service and value for money - and recourse if this is not the case. For more information visit: <http://www.naa.co.za/>

South African Association for the Conference Industry (SAACI)

SAACI is dedicated to maintaining and improving the standards of efficiency and professionalism for the conference industry in southern Africa. For more information visit: <http://www.saaci.co.za/>

Southern Africa Tourism Services Association (SATSA)

SATSA is a non-profit member driven association, representing major role players including airlines, coach operators, tour operators, accommodation establishments, vehicle-hire companies and so on. By doing business with a SATSA accredited member, one has peace of mind and a guarantee that they are receiving the best possible services within the tourism industry. For more information visit: <http://www.satsa.com/>

South African Tourism (SAT)

SAT is the official international marketing organisation for South Africa as a tourist destination. SAT participates in travel shows, presents workshops for members of the travel trade, produces a variety of promotional material and co-ordinates marketing campaigns to create a positive climate for the effective marketing of South Africa's many excellent tourism products. For more information visit: <http://www.southafrica.net/>

Tourism Enterprise Programme (TEP)

TEP facilitates the growth, development and sustainability of small tourism businesses. This is achieved through a number of products and services that provide hands-on, step-by-step support and guidance, ultimately leading to improved product quality, operational efficiency and market reach. For more information visit: <http://www.tep.co.za/>

Tourism Business Council of South Africa

The Tourism Business Council of South Africa is the umbrella organisation representing the tourism business sector. Its primary purpose is to engage with all stakeholders in developing macro strategies that create an enabling environment for tourism development.

These strategies require the development and maintenance of an environment in which tourism will prosper and the business sector will be able to achieve successful

growth and development, while ensuring the protection of our natural and cultural heritage. For more information visit: <http://www.tbcsa.travel/>

Tourism Grading Council of South Africa (TGCSA)

The TGCSA was established to create a star grading system that promotes an overall improvement and standards across all areas of the tourism industry. The TGCSA represents the entire tourism industry and performs a vital role in ensuring a standard of quality is achieved across all the services and facilities offered by the South African tourism industry. For more information visit: <http://www.tourismgrading.co.za/>

Tourism, Hospitality and Sport Education and Training Authority (THETA)

THETA is the Sector Education and Training Authority (SETA) established under the Skills Development Act (No 97 of 1998) for the Tourism Hospitality and Sport Economic Sector.

THETA aims - among other things - to develop the skills of workers in the sector, increase the levels of investment in education and training, encourage employers to train their employees, provide opportunities for work experience and employ new staff in co-operation with the South African Qualifications Authority. For more information visit: <http://www.theta.org.za/>

The Restaurant Association of South Africa (RASA)

RASA is a non-profit organisation that was formed in the interest of the South African restaurateur and to ensure that there is a lobby and a voice to speak on his/her behalf. RASA is the information and communications hub that introduces and maintain ethical business and employment practices and introduces compliance to a regulatory framework. For more information visit: <http://www.restaurant.org.za/>

Federated Hospitality Association of South Africa (FEDHASA)

The role of FEDHASA is to ensure a sustainable and profitable business environment for the South African Hospitality Industry. In its role as a Trade Association, FEDHASA represents member interests on most recognised public and private sector economic, business and environmental forums.

Close ties with organisations such as South African Tourism, the Tourism Business Council of South Africa, the Department of Environmental Affairs, the Department of

Forestry & Water Affairs and many others, ensure member participation and input at the highest possible levels. For more information visit: <http://www.fedhasa.co.za/>