

# COVID-19 – What is the Impact for Tourism as a Vehicle of SMME Development and Incentivizing Environmental Management in South Africa?

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**How to cite this article:** Lewis, F., Browne, M. & Houdet, J. (2021). COVID-19 – What is the Impact for Tourism as a Vehicle of SMME Development and Incentivizing Environmental Management in South Africa. African Journal of Hospitality, Tourism and Leisure, 10(3):987-998. DOI: <https://doi.org/10.46222/ajhtl.19770720-144>

## Abstract

The tourism sector is regarded as a modern-day engine of growth and has significant potential to serve as a vehicle for socio-economic upliftment. Evidence also illustrates the potential that pro-poor tourism has for incentivising natural capital protection and ecosystem restoration. This paper explores the impact of the decline in global tourism, as a result of the Covid-19 pandemic, on incentivising environmental management. This is analysed in conjunction with emerging literature on the impact of environmental degradation on exacerbating risks of zoonotic diseases such as Covid-19. A causal loop diagram was developed to map the system and reflect its structure and functioning and capture interactions. The behaviour of the system was used to explore the impacts of the Covid-19 pandemic on SMME development. This informed the re-examination of the key constraints identified as currently limiting development and growth of pro-poor tourism SMMEs. The results re-emphasise the tourism sector's vested interest in investing in the protection of natural capital and restoration of degraded ecosystems. It highlights the need for the sector to act collectively to support recovery from Covid-19, and build resilience by developing a strategic vision for tourism that is more sustainable and equitable, and balances the needs of people and the environment.

**Keywords:** Tourism; Covid-19; natural capital; SMME development; incentivizing environmental management

## Introduction

United Nations World Tourism Organization (UNWTO) reported 10 consecutive years of growth in the global tourism sector, with 1,5 billion international tourist arrivals recorded globally in 2019 (National Department of Tourism, 2020:5). A similar growth trend has been observed in South Africa where the tourism sector is regarded as a modern-day engine of growth, and a key strategic sector for economic transformation for South Africans. According to Statistics South Africa (2018), the tourism sector in South Africa contributed R121 400 million (2.9%) to direct gross domestic product in 2016 and one in every 22 working South Africans was employed in the tourism sector. The number of persons directly engaged with producing goods and services purchased by tourists was estimated to be 686 596 in 2016 (Statistics South Africa, 2016). Tourism is a labour-intensive industry that holds the potential

to drive increases in export earnings in a market generally less volatile than commodity exports. The combination of well-developed infrastructure, scenic beauty, rich biodiversity, sunny climate, cultural diversity and a reputation for value for money experiences, are believed to be what makes South Africa one of the world's fastest growing tourism destinations. The World Travel and Tourism Council (WTTC) (2017) estimated that travel and tourism directly employ more people than the mining, communication services, automotive manufacturing and chemicals manufacturing sectors in South Africa. The travel and tourism direct gross domestic product contribution was to R128 billion (3% of GDP) for 2016.

The tourism sector's importance to South Africa's economy, especially for transformation and pro-poor growth, notably through the support and development of SMMEs throughout urban and rural areas is widely recognised (Kirsten & Rogerson, 2002; Rogerson, 2005; Rogerson, 2006). The critical importance of natural capital for the sustainability of the industry is also recognised (Houdet, Browne & Lewis, 2019), and the tourism sector is seen as a key opportunity to drive the green economy in South Africa (NDT, 2017). However, ongoing ecosystem degradation undermines current and future tourism development, and its potential to deliver as an instrument for socio-economic upliftment (Houdet et al., 2020). Evidence from two tourism system case studies from South Africa, which formed part of a study into the Impact of Degraded Freshwater Ecosystems on Tourism 2030 (Houdet et al., 2020) provided a positive indication of the potential for tourism development to broadly incentivise environmental protection and ecosystem restoration in rural communities through the generation of livelihood benefits such as incomes and jobs.

These findings and the associated recommendations of the study warrant reconsideration in light of the COVID-19 pandemic. The UNWTO (2020) reports that the COVID-19 pandemic caused a 22% fall in international tourist arrivals globally during the first quarter of 2020, and suggests that the crisis could lead to an annual decline between 60% and 80% compared with 2019 figures. UNWTO estimated 67 million less international tourists in the first quarter of 2020 which translates into US\$80 billion in lost exports. According to UNWTO (2020: 1), the impact of COVID-19 on the tourism sector "places millions of livelihoods at risk and threatens to roll back progress made in advancing the Sustainable Development Goals (SDGs)".

A survey of the impact of COVID-19 on the tourism sector in South Africa, with a focus on Small, Medium and Micro-enterprises (SMMEs), highlighted that the tourism supply side experienced a drastic revenue decline in March 2020 with 83% of firms reporting a revenue decline of more than 50%, and 34% reporting revenues of 100% less (NDT, 2020). With ongoing revenue reductions of this order, businesses in the tourism sector have little room to absorb their variable and fixed costs. For example 58% of businesses in the tourism sector in South Africa could not service their debt in March 2020, and 54% of the businesses were unable to cover their fixed costs. A significant percentage of medium-sized businesses had resorted to salary reductions as a result of COVID-19 impacts, while a large percentage of small businesses resorted to making employees redundant (NDT, 2020).

This paper explores the potential impact of the decline in global tourism as a result of the Covid-19 pandemic in terms of foreclosing opportunities to harness the potential that the tourism sector holds for incentivising the improved management and protection of the natural environment. Evidence from (Houdet et al., 2020) on incentivising investment in natural capital protection through pro-poor tourism development is analysed in conjunction with emerging literature on the impact of environmental degradation on exacerbating risks of zoonotic diseases such as Covid-19.

## Literature review

### *Pro-poor growth, SMMEs and transformation in the tourism sector*

The 1996 White Paper on the Development and Promotion of Tourism in South Africa identifies tourism as having significant potential to serve as a tool for socio-economic upliftment. Pro-poor tourism is described as ‘tourism that generates net benefits to the poor’ and seeks to ‘ensure that tourism growth contributes to poverty reduction’ (Ashley, Roe & Goodwin, 2001: viii). Pro-poor tourism is not a specific type or sector of tourism, but rather an approach that seeks to “unlock opportunities for the poor – whether for economic gain, other livelihood benefits, or participation in decision-making” (Ashley et al., 2001: viii). Despite challenges and constraints, the tourism sector, and particularly its SMMEs, is uniquely placed to address some of historical inequalities facing many South Africans (Kirsten & Rogerson, 2002; Rogerson, 2005). On 20 November 2015, the Amended Tourism B-BBEE Sector Code in terms of Section 9 (1) of the Broad-Based Black Economic Empowerment Amendment Act No. 46 of 2013 was gazetted. This made Tourism the first sector in the economy of South Africa to develop and align a B-BBEE Sector Code.

### *Tourism as a complex adaptive system*

Multiple models attempt to explain how tourism systems work. The tourism system is comprised of both social and natural elements and their interactions. In this way, tourism can be described as a complex adaptive system, akin to a socio-ecological system, consisting of multiple interacting components. Such systems are “dynamic, operational realities, being changeable, largely unpredictable, and only minimally explainable by linear cause and effect science” (Farell & Twining-Ward, 2005: 113). The alteration or disturbance of one component, from within or without the system, is likely to have repercussions throughout the system. Cochrane (2010: 175) argued that tourism systems are excellent examples of complex socio-ecological systems, given the “dependency of tourism on natural resources, its interlinked elements of economics, politics, psychology, anthropology and ecology, its cross-cultural, cross-sectoral and multi-scalar characteristics and its international linkages”

From this perspective, an understanding of complex systems and the associated systems thinking are seen as vital in tourism management for transitioning towards sustainability (Farell & Twining-Ward, 2004). This implies that a broader view of what constitutes the tourism system is needed in moving toward sustainable tourism. Systems’ thinking is increasingly applied to model the tourism system in the context of global change, both environmental and socio-economic. For example, in protected area management, Miller, Carter, Walsh & Peak (2014) applied systems’ thinking to model drivers of change within iconic national parks. Additional applications include modelling the impacts of climate change on tourism (Becken, 2013; Hamilton, Maddison & Tol, 2005; Luthe & Wyss, 2014) and the impacts of drought on tourism (Thomas, Wilhelmi, Finnessey & Deheza, 2013).

This view of the tourism system expands the more traditionally considered tourism system, ‘the core tourism system’. Where the core tourism system is an “assemblage of structures, goods, services, and resources directly contributing to the sector”, the comprehensive tourism system includes “significant social, economic, geological, and ecological components, along with processes and functions that complement its totality and are essential to its sustainability” (Farell & Twining-Ward, 2004: 279). The comprehensive tourism system “gives far greater significance to vital ecosystem goods and services, structures and functions, local society, its perceptions and aspirations, and a host of other components” than the core system view.

### ***Conceptualising the relationships between tourism and natural capital***

All businesses both depend and impact on natural capital, directly and indirectly, which can generate positive (benefits) and negative (costs) consequences for themselves and / or their stakeholders / society as a whole (Hanson, Ranganathan, Iceland & Finisdore, 2012; Houdet, Trommetter & Weber, 2012; Natural Capital Coalition, 2016; TEEB, 2012). Natural capital can be defined as “the stock of renewable and non-renewable natural resources (e.g. plants, animals, air, water, soils, minerals) that combine to yield a flow of benefits to people” (Natural Capital Coalition, 2016: 2). Natural ecosystems are the complex of living organisms, their physical environment, and all their interrelationships in a particular unit of space. Ecosystem services relate to the flow of benefits derived by humans from nature; the concept was popularised by the 2005 Millennium Ecosystem Assessment. Cultural ecosystem services are often drivers of tourism activities, either directly or indirectly by attracting other activities. Provisioning services provide inputs to many tourism businesses. Regulation and maintenance ecosystem services are critical for site-specific activities and the associated tourism assets which rely on them. There is growing concern that ongoing degradation of natural capital, due to various global and local drivers of change, will compromise the delivery of the ecosystem services on which the Tourism Sector in South Africa relies. Biodiversity loss and ecosystem collapse, water crises, failure of climate-change mitigation and adaptation and extreme weather events are some of the primary global risks identified in the ‘Global Risks Report 2019’ (World Economic Forum, 2019).

As emphasised by Everard, Johnston, Santillo and Staddon (2020), many contemporary human activities degrade ecosystems, “driving a cycle of degradation in increasingly tightly linked socio-ecological systems”. This cycle of degradation compromises the natural regulating capacities of ecosystems to limit disease transfer from animals to humans. Everard et al. (2020) applied the Drivers-Pressures-State change-Impact-Response (DPSIR) framework to reflect on the role of ecosystems and the associated disease regulation ecosystem services in the context of Covid-19 and other zoonotic diseases. The analysis highlighted that ecosystem degradation exacerbates the risks of zoonotic diseases such as Covid-19. Conversely, well-functioning ecosystems enhance the capacity of the natural environment to provide security against threats of zoonotic diseases such as Covid-19 (Everard et al., 2020). The authors emphasise that “the Covid-19 pandemic should stimulate far greater recognition that causal linkages between pressures on natural systems and outcomes for people are far from merely theoretical” (Everard et al., 2020:13).

### **Method**

Several tools and concepts developed for the study of ecology, sustainability science and global change science are useful in analysing tourism SMME development from the perspective of a complex social-ecological system. Conceptualizing tourism as a complex social-ecological system can support the identification of catalytic points of intervention to strengthen the pro-poor tourism sector, particular opportunities for SMME development along the tourism value chain, in the light of external shocks such as COVID-19. A social-ecological system approach is holistic and acknowledges the interconnected relationship between society and the natural environment. Díaz, Demissew, Carabias et al. (2015), Ostrom (1990) and Stuart-Hill & Schulze (2010) argue that the complex interdisciplinary nature and integrated knowledge of the biophysical/ecological system and the socio-economic system cannot be adequately understood through simplified analytical models. Rather they need to be explored through interdisciplinary frameworks, such as social-ecological systems thinking which constructs frameworks for understanding and assessing the interactions and connections between society and the environment (Díaz et al., 2015). Mullis & Figart (2011: 16) argue that a systems

approach applied to sustainable tourism reveals multiple interrelated factors that change over time and influence both the demand and supply sides of tourism. The interdisciplinary approach of systems thinking supports the development of an understanding of the interrelationships, causes and effects within these complex systems and how different aspects of the human and the natural environment interrelate through feedback loops (Haraldsson, 2000).

System dynamic modelling, which has emerged from social-ecological systems theory, has been employed in this research as it supports an integrative approach, which analyses and illuminates the interdependencies in a system and the dynamic effects of these connections (Collste, Pedercini, & Cornell, 2017; Williams, Máñez Costa, Sutherland, Cilliers, & Sheffran, 2019). System dynamics modelling is a methodology to develop an understanding of the elements of a system and the patterns of behavior and interconnections between them (Collste et al., 2017). It is an approach which can be applied in a variety of ways depending on the theoretical framework and the aim of the model.

System dynamics models support the conceptualization of the nonlinear behaviour of complex systems over time, and can be developed to represent real world systems using stocks, flows between these stocks, feedback loops and time delays. They can also incorporate information that determines the values of the flows (Currie, Fowler, Kotiadis et al., 2020). System dynamics models map out the critical nodes and underlying structure of the system (Williams et al., 2019) and various methods can be used in developing them. System dynamic causal loop diagrams can help to understand the relationships between system components and associated directional influences, which therefore help to inform users of leverage points (Hjorth & Bagheri, 2006). System dynamic models have been used in several studies to model or examine the relationships between tourism, ecosystems, the economy, policy and cultural change (Miller et al., 2014; Thomas et al., 2013; Walsh, Carter, Lieske, et al., 2014).

The point of departure for this paper was recent research by Houdet et al. (2020), which has drawn attention to the tourism sector's importance for economic transformation and pro-poor growth in South Africa, notably through the support and development of SMMEs throughout rural areas, and highlighted the importance of healthy ecosystems in supporting tourism and the potential for growth in tourism to incentivise environmental protection and restoration. As part of this research, two case studies informed the assessment of perceptions among entrepreneurs and rural communities of tourism development opportunities and the connections with changes in ecosystem condition. A soft systems thinking and social-learning approach was applied to engage target community stakeholder groups within the case study communities. Soft systems thinking is an approach to analyse complex problem situations and identifying acceptable changes to manage or improve the situation. This involves participatory information gathering, analysis and debate in order to carefully understand the problem and its intricate components, and to identify alternative scenarios for tourism and SMME development. This process also incorporated innovative techniques such as simulation games and experiential-based learning activities. The findings and the associated recommendations of this recent research warrant reconsideration in light of the COVID-19 pandemic.

Drawing on the key findings of Houdet et al. (2020), Everard et al. (2020), and the statistics on the impact of the Covid-19 pandemic on global and South African tourist arrivals and associated impacts (UNWTO, 2020; NDT, 2020), a causal loop diagram was developed as a map of the system incorporating the key constituent components (stocks) and their connections (flows). The causal loop diagram reflected the structure and functioning of the system by capturing interactions and consequently the feedback loops (causes and effects). This understanding helps to explore the behaviour of the system over a certain time period, in particular the impacts of the Covid-19 pandemic on incentivising the protection and restoration

of ecosystems and enhancing the capacity of the environment to support tourism development as well as provide security against future pandemics such as Covid-19. This informed the discussion and conclusions on the implications for growing a more equitable and sustainable tourism sector that balances the needs of people and the environment.

## Results and discussion

All tourism activities along the value chain have impacts and dependencies on natural capital. Such inter-dependencies occur at the local, provincial, national and international levels. Cultural ecosystem services are drivers of tourism activities, either directly (tourism assets and destinations, accommodation, leisure, excursions and tours, travel organisations) or indirectly by attracting other activities (food and beverages, transport, infrastructure support). Provisioning services are enablers of many of these tourism businesses (e.g. food, textile, materials, fuels), and are often imported from elsewhere. Regulation and maintenance ecosystem services are critical for site-specific activities (e.g. river and coastal-based tourism) and the associated tourism assets which rely on them (e.g. regulation of extreme weather events, regulation / assimilation of wastes, regulation of erosion processes) (Houdet et al., 2020). There is growing concern that ongoing degradation of natural capital will compromise the delivery of these critical services.

Securing natural capital is vital to sustaining and growing South Africa's tourism sector. SMME development along the tourism value chain has the potential to create significant livelihood benefits for example through job creation, income generation, skills and capacity development. Case studies undertaken by Houdet et al. (2020) provided a positive indication of these benefits from tourism development to broadly incentivise environmental protection and restoration. While the South African government recognises the importance of the tourism sector for economic transformation and pro-poor growth, notably through the support and development of SMMEs; Houdet et al. (2020) identified three key constraints currently limiting the development and growth of pro-poor tourism SMMEs in rural areas in South Africa.

*Awareness about livelihood benefits from alternative development pathways such as tourism* A common view among communities is that formal employment in one of the mainstream economic sectors (e.g. mining, retail, and manufacturing) is the best way to achieve financial security and prosperity. Self-employment and entrepreneurship in alternative sectors such as tourism are seen as less desirable and inferior in terms of securing prosperity (in its currently held definition). There is little understanding or motivation in these communities, particularly among the youth, to explore alternative development pathways and opportunities such as those in tourism and the blue-green economy. Opportunities in the tourism sector are, therefore, not recognised nor their potential to contribute to alternative development concepts and issues, such as empowerment, self-reliance, and sustainable livelihoods. One of the pillars of the alternative development paradigm is local empowerment and how this can be driven through tourism development. However, the absence or scarcity of demonstrated cases of successful pro-poor tourism SMMEs in rural areas in South Africa means that there is little local awareness of the potential for generating meaningful livelihood benefits from tourism. This evidence is needed to stimulate socio-economic interest and innovation in alternative development pathways, such as the blue-green economy and the tourism sector.

*Knowledge and capacity to harness potential for tourism enterprises:* The level of awareness and information on the tourism sector among many rural communities is extremely limited, including among the youth. Even those employed in the tourism sector have little understanding of the sector and the types of development opportunities it can stimulate. Without this awareness and understanding it is almost impossible for people to harness enterprise opportunities that may be available in the tourism sector. Ecological literacy is

equally limited and in particular the links between environmental condition and the delivery of critical ecosystem services that are crucial for business in general, including tourism. For tourism to become a catalyst for improving the condition of critical ecosystems, a fundamental level of capacity development is required. Not only capacity relating directly to the tourism sector, but also on the issues needed to provide an enabling environment for tourism such as waste management, pollution clearing and crime control. The lack of demonstrated cases of successful pro-poor tourism SMMEs in rural areas in South Africa limits awareness of opportunities along the tourism value chain and the potential benefits and spin-offs from tourism that could increase the incentives for environmental management, protection of natural capital and ecosystems restoration.

*Access to finance business support:* Access to financial and business support is critical to unlocking the potential that tourism holds for delivering economic transformation and development that incentivises environmental management and restoration of critical ecosystems. This is a real constraint currently experienced by entrepreneurs and innovative and efficient financing opportunities aligned with the supporting SMME development in the tourism sector need to be explored. The lack of adequate and effective access to start-up capital severely constrains entrepreneurship in disadvantaged communities. These entrepreneurs seldom have the collateral needed to secure loans, and if they do, they can seldom afford the commercial interest rates for repayment of loans. Even where start-up capital can be secured, the sustainability and growth of the enterprises is severely constrained by lack of capacity or resources for adequate business support such as marketing, advertising and promotion. As a result, enterprises often flounder and their sustainability or growth potential is compromised. Those enterprises that are able to survive tend not to fulfil their potential in terms of growth and capacity to employ more people to support the start-up of complementary enterprises along the tourism value chain. This contributes to the perpetuation of the perception that tourism enterprises and self-employment opportunities cannot contribute meaningfully to prosperity and are inferior to employment in the mainstream economic sectors. Limited demonstrated cases of successful pro-poor tourism SMMEs in rural areas in South Africa translates into a lack of confidence for adequate financing and business support (by government and private lending agencies) for the startup of SMMEs along the tourism value chain. Access to financial and business support is therefore critical to unlocking the potential that tourism holds to delivering economic transformation and development that incentivises environmental management and restoration of critical ecosystems.

These constraints simultaneously erode new opportunities for SMME development in the tourism sector in the short, medium and even potentially the long term. Addressing these challenges is therefore important for unlocking the potential that the tourism sector holds for incentivising protection of natural capital and restoration of degraded ecosystems, which in turn is fundamental for sustaining the tourism sector itself. Everard, et al. (2020) demonstrated that ecosystem degradation is driving disservices and exacerbating the risks of zoonotic diseases such as Covid-19. While conversely the protection and restoration of ecosystems provides an investment in capital which in turn enhances the capacity to provide security through the services ecosystems provide in risk management. They also highlight that Zoonotic disease risks are interlinked with biodiversity loss and water insecurity. This further highlights the need to incentivize the protection and restoration of ecosystems broadly. Houdet et al. (2020) demonstrate that pro-poor tourism development in rural areas of South Africa provides a potential vehicle to drive this protection and restoration of natural capital and ecosystems.

However, as the UNWTO (2020) and the NDT (2020) have demonstrated, the Covid-19 pandemic has had a devastating impact on tourism globally, including in South Africa. The 22% fall in international tourist arrivals globally during the first quarter of 2020, and the

associated loss in revenue have devastated livelihoods of those engaged in the sector. The South African tourism sector relies on both the domestic and international tourism markets, and generates significant socio-economic benefits to South Africa. The sector is based on a complex value chain with significant contributions of SMMEs, which explains why almost 10% of the SA workforce can be linked to tourism. Its success and future are subject to numerous local and international factors and trends that influence how tourists make decisions (Houdet et al., 2020). The survey conducted by the South African Department of Tourism in collaboration with the Tourism Business Council of South Africa (TBCSA) and International Finance Corporation (IFC) to quantify the impact of COVID-19 on the tourism sector in South Africa with a focus on SMMEs (NDT 2020), confirmed the impacts highlighted by the UNWTO. With 83% of tourism enterprises in South Africa reporting a reduction of more than 50% of revenue, and 34% reporting 100% loss in revenue, the impact has been catastrophic. A significant percentage of medium-sized businesses had resorted to wages cuts for staff in order to cope with the impact of COVID-19 impacts. A large percentage of small businesses in the tourism sector resorted to making employees redundant (NDT, 2020). Based on the findings reported by NDT (2020) the outlook for pro-poor tourism enterprises surviving the impact of the Covid-19 pandemic appears poor, and the business failure rate is likely to be high.

Drawing together these primary relationships emerging from the research of Houdet et al. (2020) and Everard et al. (2020), and the recent impact assessments of the UNWTO (2020) and the National Department of Tourism (2020), Figure 1 demonstrates the interdependencies and highlights critical relationships between the condition of ecosystems and natural capital, a robust tourism sector and the generation of meaningful benefits from pro poor tourism to incentivise ecosystem restoration and protection. The following were identified as the primary elements of the causal loop analysis:

- Constraints to harnessing opportunities for pro-poor rural tourism development in rural areas in South Africa (Houdet et al., 2020);
- Exacerbation of risk on zoonotic diseases due to reduced capacity of environment to provide security associated with the loss of foundational natural capital (Everard et al., 2020).
- Reduction in tourism and associated loss of revenue, jobs and livelihood support particularly in the SMME sector, as a result of the Covid-19 pandemic (UNWTO, 2020; NDT, 2020).

The interrelationships shown in the causal loop diagram (Figure 1) demonstrate that the context of disease pandemics such as COVID provides further impetus for maintenance of natural capital and ecosystem restoration. These relationships also highlight that the catalytic points of intervention recommended by Houdet et al. (2020) have not changed in the context of Covid-19, but rather have become more important. This re-emphasises the relevance of the recommendations by Houdet et al. (2020) on supporting pro-poor tourism SMME development (i.e. though improving access to finance and business support, improving knowledge about meaningful livelihood benefits that can be generated through tourism, and building capacity to harness potential for tourism enterprises) as a mechanism to incentivise interventions and practices that reverse current trends in the loss of natural capital and degradation of ecosystem function.

Support for SMME development along the tourism value chain that leads to demonstrated cases of the meaningful benefits that could be generated through the tourism sector would likely generate confidence in the sector and attract new participants and investors. This could start to produce impact at a scale that is significant for landscape level protection and restoration of ecosystems and natural capital. These improvements in turn support functioning ecosystems that create security against zoonotic diseases and the incidence of

pandemics such as Covid-19, and create an environment that is conducive for tourism development.

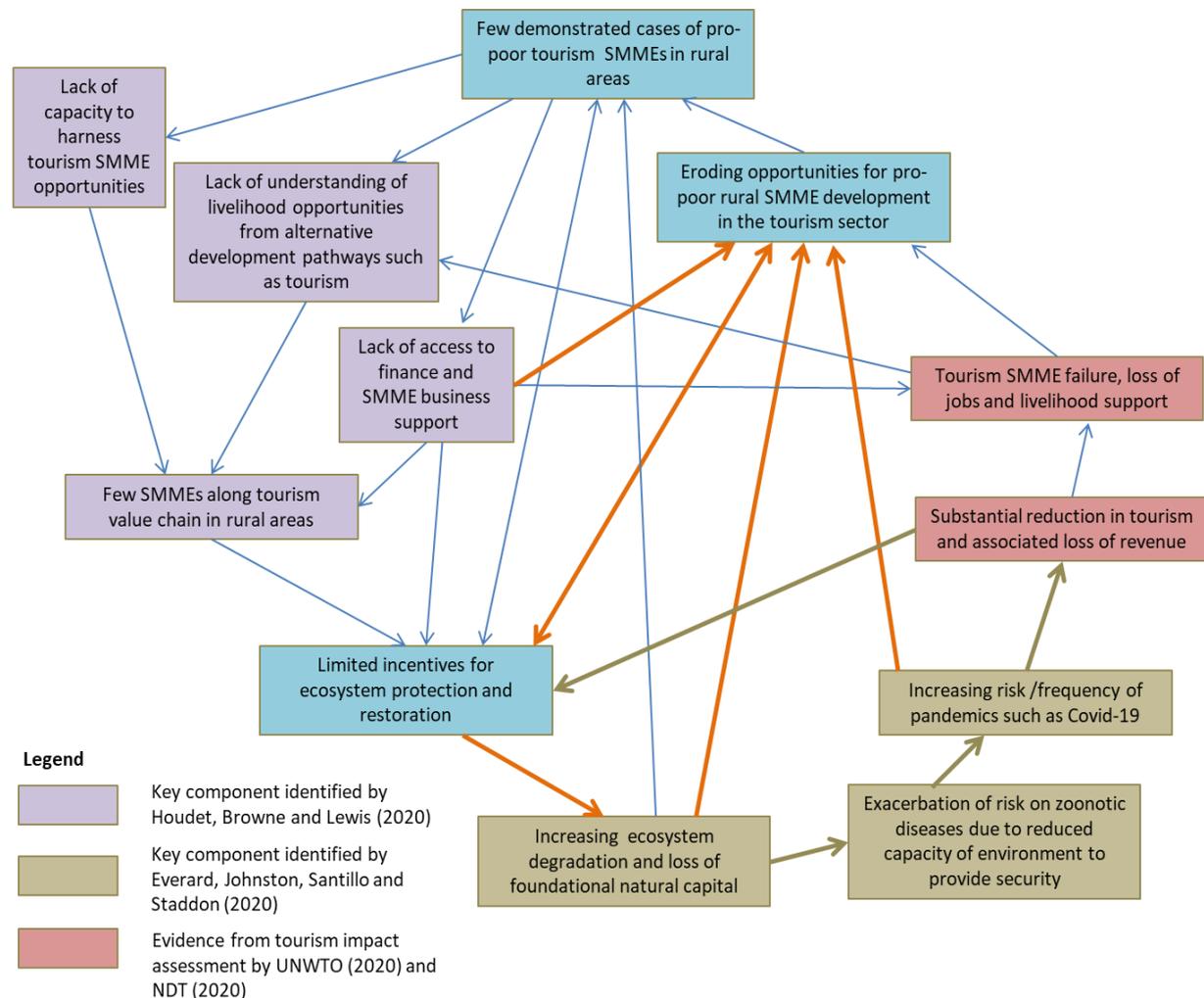


Figure 1: Interdependencies and causal relationships between the key components of the tourism-livelihoods-ecosystems system in the context of disease pandemics such as COVID-19

## Conclusion

This paper has applied system dynamic causal loop diagram to analyse the interrelationships between the tourism- livelihoods-ecosystem components in the system, to explore the tourism sector’s potential to deliver on the dual goals of economic growth and transformation in rural areas, as well as incentivising natural capital protection and restoration ecosystem. The Covid-19 pandemic has highlighted remaining inequities globally and in South Africa, and the consequences in terms of vulnerability to zoonotic diseases and the economic fallout. The current pandemic has also revealed a number of weaknesses in the global and national tourism system that have made them economically fragile and vulnerable to the impacts of the pandemic, which has resulted in severe livelihood impacts. Given the importance of tourism to the South African economy, and its potential to contribute to achieving the 2030 Sustainable Development Goals, the tourism sector has an opportunity to influence national decision making and policy to actively address key constraints currently constraining SMME development along the tourism value chain. In so doing it can positively influence the sector’s

potential for pro-poor tourism development in rural areas to generate meaningful livelihoods benefits and incentivise ecological restoration and protection of natural capital at an effective scale. The importance of natural capital to the tourism sector is clearly evident, and the sector as a whole has a vested interest in investing in the protection of natural capital and restoration of degraded ecosystems: All tourism activity depends on natural capital and ecosystem services, and not on specific tourism assets and destinations alone. Degradation of natural capital and ecosystems caused by many anthropogenic factors is threatening the future of the tourism. The challenge is therefore for the tourism sector to act collectively to support recovery from the impact of Covid-19, and build resilience by developing a new vision for tourism in South Africa that is more sustainable and equitable, and balances the needs of people and the environment.

## References

- Ashley, C., Roe, D., Goodwin, H. (2001). *Pro-poor tourism strategies: Making tourism work for the poor*. London: Overseas Development Institute.
- Becken, S. (2013). Developing a framework for assessing resilience of tourism sub-systems to climatic factors. *Annals of Tourism Research*, 43, 506-528.
- Cochrane, J. (2010). The sphere of tourism resilience. *Tourism Recreation Research*, 35 (2), 173-185.
- Collste, D., Pedercini, M. & Cornell, S.E. (2017). Policy coherence to achieve the SDGs: using integrated simulation models to assess effective policies. *Sustainability Science*, 12, 921–931.
- Currie, C.S.M, Fowler, J.W., Kotiadis, K., Monks, T., Onggo, B.S., Robertson, D.A. & Tako, A.A. (2020). How simulation modelling can help reduce the impact of COVID-19. *Journal of Simulation*, 14(2), 83-9.
- Díaz, S., Demissew, S., Carabias, J., Joly, C., Lonsdale, M., Ash, N., Larigauderie, A., Adhikari, J.R., Arico, S., Báldi, A., Bartuska, A., Baste, I.A., Bilgin, A., Brondizio, E., Chan, K.M., Figueroa, V.E., Duraiappah, A., Fischer, M., Hill, R., Koetz, T., Leadley, P., Lyver, P., Mace, G.M., Martin-Lopez, B., Okumura, M., Pacheco, D., Pascual, U., Pérez, E.S., Reyers, B., Roth, E., Saito, O., Scholes, R.J., Sharma, N., Tallis, H., Thaman, R., Watson, R., Yahara, T., Hamid, Z.A., Akosim, C., Al-Hafedh, Y., Allahverdiyev, R., Amankwah, E., Asah, S.T., Asfaw, Z., Bartus, G., Brooks, L.A., Caillaux, J., Dalle, G., Darnaedi, D., Driver, A., Erpul, G., Escobar-Eyzaguirre, P., Failler, P., Fouda, A.M.M., Fu, B., Gundimeda, H., Hashimoto, S., Homer, F., Lavorel, S., Lichtenstein, G., Mala, W.A., Mandivenyi, W., Matczak, P., Mbizvo, C., Mehrdadi, M., Metzger, J.P., Mikissa, J.B., Moller, H., Mooney, H.A., Mumby, P., Nagendra, H., Nesshover, C., Oteng-Yeboah, A.A., Pataki, G., Roué, M., Rubis, J., Schultz, M., Smith, P., Sumaila, R., Takeuchi, K., Thomas, S., Verma, M., Yeo-Chang, Y. & Zlatanova, D. (2015). The IPBES Conceptual framework — connecting nature and people. *Current Opinion in Environmental Sustainability*, (14),1-16.
- Everard, M., Johnston, P., Santillo, D. & Staddon, C. (2020). The role of ecosystems in mitigation and management of Covid-19 and other zoonoses. *Environmental Science & Policy*, 111, 7-17.
- Farrell, B. & Twining-Ward, L. (2004). Reconceptualizing tourism. *Annals of Tourism Research*, 31 (2), 274-295.
- Farrell, B. & Twining-Ward, L. (2005). Seven steps towards sustainability: Tourism in the context of new knowledge. *Journal of Sustainable Tourism*, 13 (2), 109-122.
- Hamilton, J.M., Maddison, D.J., & Tol, R.S.J. (2005). Climate change and international tourism: A simulation study. *Global Environmental Change*, 15, 253-266.

- Hanson, C., Ranganathan, J., Iceland, C. & Finisdore, J. (2012). *The corporate ecosystem services review: Guidelines for identifying business risks and opportunities arising from ecosystem change*. World Resources Institute, Washington, DC.
- Haraldsson, H.V. (2000). *Introduction to systems and causal loop diagrams*. System analysis course, January 2000. Sweden: Lund University.
- Hjorth, P. & Bagheri, A. (2006). Navigating towards sustainable development: A system dynamics approach, *Futures*, 38 (1), 74-92.
- Houdet, J., Browne, M. & Lewis, F. (2019). In R. Sharma & P. Rao .(Eds). *Environmental impacts of tourism in developing nations* (pp. 280-294). Hershey, Pennsylvania: Engineering Science Reference, an imprint of IGI Global.
- Houdet, J., Browne, M. & Lewis, F. (2020). *Impact of degraded freshwater ecosystems on tourism towards 2030*. Final technical report, report number WRC K5/2620. Pretoria, Water Research Commission.
- Houdet, J., Trommetter, M., Weber, J. (2012). Understanding changes in business strategies regarding biodiversity and ecosystem services. *Ecological Economics*, 73, 37-46.
- Kirsten, M. & Rogerson, C.M. (2002). Tourism, business linkages and small enterprise development in South Africa. *Development Southern Africa* 19(1), 29-58.
- Luthe, T. & Wyss, R. (2014). Assessing and planning resilience in tourism. *Tourism Management*, 44, 161-163.
- Miller, M.L., Carter R.W., Walsh, S.J. & Peak, S. (2014). A conceptual framework for studying global change, tourism, and the sustainability of iconic national parks. *The George Wright Forum*, 31(3), 256–269.
- Mullis, B.T. & Figart, F. (2011). Global tourism, achieving sustainable goals. Sustainable Tourism: International Cooperation for Development, Online toolkit and resource series. Available at <https://rmportal.net/library/collections/gsta/global-tourism-achieving-sustainable-goals/view> [Retrieved October 29 2019].
- National Department of Tourism (NDT) (2017). National Tourism Sector Strategy 2016 – 2026. Available at <https://www.gov.za/documents/national-tourism-sector-strategy-ntss-2016-2026-7-dec-2017-0000> [Retrieved June 29 2020].
- National Department of Tourism (NDT) (2020). Annual Performance Plan 2020/21 - 2022/23. Available at <https://www.tourism.gov.za/AboutNDT/Publications/Annual%20Performance%20Plan%202020-23.pdf> [Retrieved July 03 2020].
- Natural Capital Coalition (2016). Natural Capital Protocol. Available at [www.naturalcapitalcoalition.org/protocol](http://www.naturalcapitalcoalition.org/protocol) [Retrieved October 29 2019].
- Ostrom, E.(1990). *Governing the commons. The evolution of institutions for collective action*. Cambridge: Cambridge University Press.
- Rogerson, C.M. (2005). *Tourism SMMEs in South Africa: A case for separate policy development?* TIPS Working Paper Series (WP2-2005), Pretoria.
- Rogerson, C.M. (2006). Pro-Poor local economic development in South Africa: The role of pro-poor tourism. *Local Environment* 11 (1), 37-60.
- Statistics South Africa (2018). *Tourism Satellite Account for South Africa, final 2014 and provisional 2015 and 2016*. Pretoria.
- Stuart-Hill, S & Schulze. R. (2010). Does South Africa's water law and policy allow for climate change adaptation? *Climate and Development*, 2(2), 128-144.
- TEEB (2012). *The Economics of Ecosystems and Biodiversity in Business and Enterprise*. Edited by Joshua Bishop. London and New York: Earthscan.



- Thomas, D.S.K., Wilhelmi, O.V., Finnessey, T.N. & Deheza, V. (2013). A comprehensive framework for tourism and recreation drought vulnerability reduction. *Environmental Research Letters*, 8,1-8.
- United Nations World Tourism Organization (UNWTO) (2020). Barometer: Latest Impact Assessment. Available at <https://www.unwto.org/news/covid-19-international-tourist-numbers-could-fall-60-80-in-2020> [Retrieved August 05 2020].
- Walsh, S.J. Carter, R.W. (Bill), Lieske, S., Quiroga, D. & Men, C.F. (2014). Examining threats to iconic national parks through modelling global change, biocomplexity, and human dynamics. *The George Wright Forum*, 31(3), 311–323.
- Williams, D.D., Máñez Costa, M., Sutherland, C., Cilliers, L. & Sheffran, J. (2019). Vulnerability of informal settlements in the context of rapid urbanization and climate change. *Environment & Urbanisation*, 31 (1), 157-176.
- World Economic Forum (WEF). (2019). *The Global risks report 2019*. 14th Edition. Geneva, World Economic Forum. Available at <https://www.weforum.org/reports/the-global-risks-report-2019> [Retrieved November 18 2019].
- World Travel and Tourism Council (WTTC) (2017). *Benchmark report 2017: How does travel and tourism compare to other sectors?* Available at at <https://www.wttc.org/-/media/files/reports/benchmark-reports/country-reports-2017/south-africa.pdf> [Retrieved 15 September2019).