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Lessons from the application of sustainability indicators to community-based ecotourism ventures in Southern Africa

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Globally, human activities are under pressure to strive towards sustainability. This movement towards greater sustainability is influencing all aspects of our lives on a daily basis including our holiday and travel decisions. This paper presents a portion of the results and findings of a larger study which applied a series of sustainability indicators to a number of community-based tourism ventures across southern Africa. An evaluation framework was constructed making use of a number of sustainability issues and their associated indicators to measure the sustainability of six community-based ecotourism ventures across southern Africa. The evaluation framework was tested for its applicability to investigate the social, economic and environmental sustainability of the six case studies. The utility of the constructed evaluation framework was subsequently commented on and changes recommended. A number of important lessons were learnt during the application of the sustainability indicators to the investigated case studies. These lessons provide valuable insights and benefits for the subsequent application of the evaluation framework to future case studies. Besides providing valuable lessons for the application of sustainability indicators to rural base tourism ventures a number of important baselines for future benchmarking of sustainability performance also result from this study.

Key words: Sustainable tourism indicators, community-based ecotourism, Southern Africa.

INTRODUCTION

The emergence of sustainable development has had a profound influence on the way people now perceive themselves as an integrated part of the environment: people are increasingly aware that their activities have a significant impact on the environment. The Brundtland Report (World Commission on Environment and Development, 1987: 43) defines sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs". In an attempt to minimize these impacts, sustainable development has called for the measurement and mitigation of these impacts and the use of indicators as a means of measuring the impacts has been recommended. All human activities, including our travel and tourism decisions, are now being carefully considered for their impacts on the environment. Community-based ecotourism (CBE), *a very specific form of ecotourism*, has emerged as a valuable tool for poverty alleviation, biodiversity conservation and the

delivery of responsible and sustainable tourism offerings. Ecotourism is a form of tourism where the needs of the tourist, the community and the conservation of the environment are mutually interdependent (Okech, 2009). The International Ecotourism Society (2010: 1) defines ecotourism as "responsible travel to natural areas that conserves the environment and improves the well-being of local people". CBE therefore "implies that the community has substantial control and involvement in the ecotourism project and that the majority of the benefits remain in the community" (Epler, 2002: 41). CBE is clearly a specific type of ecotourism in which the community approach to tourism is followed. Within a southern African context a large number of CBE ventures have emerged as a result of the devolution of natural resource management responsibilities to communities. Together with this, communities also receive from governments the right to utilize the natural resources for the alleviation of poverty and the generation of income for

rural communities. Ecotourism provides an excellent opportunity for these communities to benefit from natural resources. Ecotourism ventures managed by communities for the benefit of communities are called community-based ecotourism ventures. The tourist offerings of CBE ventures have to be considered within the larger context of global and African tourism trends. The rapid rate at which international tourist arrivals and receipts to Africa, and more particularly southern Africa, have increased and created very favourable circumstances for CBE ventures to capitalize on. The international demand for sustainable nature-based tourism products also creates an important niche market that CBE ventures can now fill. However, it is fundamental that these CBE ventures take place in a sustainable way in order to ensure their longevity.

In an attempt to improve the sustainability of CBE ventures a measuring tool is needed to establish their present sustainability. Sustainable tourism indicators have been identified as such a tool. The implementation and measurement of sustainability using indicators takes place within specific contextual social, political, policy, climatic and infrastructural background over which the CBE ventures have no control. The development and use of sustainable tourism indicators through a cyclic adaptive learning approach provides for stakeholder engagement and continuous improvement. The application of an evaluation framework utilising sustainable tourism indicators provides an important feedback mechanism for improvements to managers of CBE. The feedback needs to be carefully considered by the management of the CBE venture so that appropriate actions may be implemented to improve their sustainability performance. Through the communication of the results of the sustainability investigation and the associated actions taken for the improvement of the sustainability, community members become involved and empowered.

The development and implementation of sustainable tourism indicators through stakeholder engagement and involvement within rural areas could be a very expensive and time-consuming process. An alternative time- and cost-efficient approach is needed for investigating the sustainability of CBE ventures within rural settings. This research aims to develop a framework for monitoring the sustainability of CBE in southern Africa and to test its applicability.

For the purposes of this study southern Africa is composed of all the Southern African Development Community (SADC) countries, namely, Angola, Botswana, the Democratic Republic of Congo, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, United Republic of Tanzania, Zambia and Zimbabwe. This paper argues that the development of an evaluation framework using sustainable tourism indicators is an effective means for measuring the sustainability of community-based

ecotourism ventures in southern Africa.

ORIGIN OF SUSTAINABLE DEVELOPMENT

Sustainable development originated from the modern-day environmental movement whose origins stem in part from 19th-century Europe where the traditional philosophy that humans have dominion over nature was replaced with a 'preservation ethic' (Hall and Lew, 1998). Influential publications in the 1960s and 70s such as Carson's (1962) *Silent Spring*, Hardin's (1968), *The Tragedy of Commons* and Schumacher's (1973), *Small is Beautiful*, made the world aware of the detrimental effects that human activities were having on the environment. Through the work of international organizations such as the World Conservation Union that is, International Union for Conservation of Nature (IUCN) and the United Nations Educational, Scientific and Cultural Organization (UNESCO) humans started to be understood as part of nature and not separate from it. These organizations started to take steps to embrace social and environmental issues and to group them under one umbrella. This paved the way for the integration of social and environmental concerns that are critical for sustainable development.

During the post-World War II period, and up to the 1970s, development policies had an almost exclusive economic focus. Development policies of the time were based on the idea that humans could overcome poverty through economic development, which would lead to an eventual trickle-down effect to the poorest people in society. Large-scale industrialization and agricultural development projects were often not suited to the environment and the culture of the countries where they were imposed. Development initiatives often left developing countries with debt, thus widening the gap between the rich and the poor, and a seriously degraded environment rather than an improvement in quality of life (Woodhouse and Chimhowu, 2005).

The failure of economic development theories and the associated environmental degradation, together with the growth in the environmental movement, laid the foundations for the emergence of sustainable development. In 1972 the United Nations (UN) conference on the Human Environment was held in Stockholm. This was the first time global environmental issues were discussed in a systematic and comprehensive manner. At this meeting, representatives of developing nations made it clear that environmental issues would not be part of their agenda until active steps were taken to alleviate poverty and bring about greater equity in trade relations, effectively linking environmental degradation and poverty alleviation (Miller and Twining-Ward, 2005; Dwivedi et al., 2007). Although the Stockholm Conference was of limited scope, it started a new wave of environmentally conscious international

conventions and treaties such as the 1973 International Convention for the Prevention of Pollution from Ships and the 1980 Convention on the Conservation of Antarctic Marine Living Resources. The UN General Assembly adopted the recommendations of the Stockholm Conference and established the UN Environmental Programme (UNEP) to serve as an environmental monitoring agency (Dwivedi et al., 2007). Several years later the Stockholm Conference also led to the establishment of the World Commission on Environment and Development (WCED).

Sustainable development was first popularized by the Brundtland Commission Report of the World Commission on Environment and Development (WCED) entitled 'Our Common Future' (WCED, 1987), in which the integration of economic and environmental issues was highlighted. The report made statements that warranted serious attention, such as "failure to manage the environment and to sustain development threatens to overwhelm all countries. Environment and development are not separate challenges, they are linked. Development cannot subsist upon a deteriorating environmental resource base" (WCED, 1987: 37). Five years after the Brundtland Report, the 1992 UN Conference on Environment and Development (UNCED) took place in Rio de Janeiro and popularly became known as the 'Rio Earth Summit'. According to Woodhouse and Chimhowu (2005) this event may be seen as the high point of the environmental movement worldwide. In the 20 years between the Stockholm Conference and the Earth Summit, the world had changed significantly. The cold war had ended, the Soviet Union had broken apart, globalization was rapidly expanding, scientific advances had emerged at an accelerated rate, the Internet had emerged and many environmental disasters had taken place, spilling over national borders, proving that national borders have become meaningless with respect to environmental issues (Dwivedi et al., 2007). The Rio Earth Summit also had a much higher level attendance: while the Stockholm Conference was attended by two heads of state, 134 Non-Governmental Organizations (NGOs) and a handful of journalists, the Earth Summit was attended by 166 heads of state, 7 892 NGOs and over 8 000 journalists. The Earth Summit emphasized that environmental protection could no longer be seen as a luxury but as a necessity alongside economic and social issues.

The Rio Earth Summit also succeeded in putting together five documents, one of which was Agenda 21, which outlines the basis for implementing sustainable development at local, national and international level into the twenty first century (UN, 1993). The Earth Summit also led to the creation of a new UN Agency, the United Nations Commission on Sustainable Development (UNCSD), which was tasked with collecting data on the environment and development and monitoring progress towards the goals of Agenda 21.

Despite the apparent success at Rio, the UNCSD reported to the follow-up meeting (Earth Summit+5) that very little progress had been achieved and that things were still moving in the wrong direction (UNCSD, 1997). The meeting called for improved international co-operation and stronger political will. Three years later, in 2000, the Millennium Development Goals (MDGs) were signed by all 191 UN Member States. The MDGs listed eight goals that are to be achieved by 2015:

- 1) Eradicate extreme poverty and hunger
- 2) Achieve universal primary education
- 3) Promote gender equality and empower women
- 4) Reduce child mortality
- 5) Improve maternal health
- 6) Combat HIV/AIDS, malaria and other diseases
- 7) Ensure environmental sustainability
- 8) Develop a global partnership for development.

The emphasis of the MDGs on poverty and human development rather than on the environment illustrates a shift in focus from Stockholm and Rio.

The World Summit of Sustainable Development (Rio+10) in Johannesburg in 2002 continued this trend, building on the Agenda 21 and the MDGs. The main areas addressed in the Rio+10 Plan of implementation were poverty, production and consumption, protecting and managing the natural resource base, sustainable development in a globalizing world, health, and the means and framework for implementation.

Like the MDGs, the Rio+10 Plan of implementation was outcomes-based and placed emphasis on establishing partnerships, networks and implementing change through clear goals, targets and indicators. The use of indicators as a means of gauging progress towards the attainment of sustainable development has gained momentum over the last 20 years (Bell and Morse, 1999, 2003; Morse, 2004).

The Rio+10 Conference achieved general agreement that three main pillars of sustainability exist, namely environmental protection, social development and economic wellbeing. Through the all-encompassing nature of sustainable development (multi-disciplinary, multi-scale, multi-perspective) it has perhaps become the culmination of all development theories (Morse, 2004). Development theory would never be the same again.

The emergence of sustainable development has promoted the sustainable development of tourism. Agenda 21, together with the seventh session of the UNCSD in 1999, promoted a wider focus on the sustainable development of tourism to include economic and social aspects.

The development of the alternative approaches to development theory not only resulted in the emergence of sustainable development but also in a move towards the devolution of responsibility and the increased focus on the community.

The use of sustainability indicators in tourism

Indicators are defined by Hart (2010: 1) as “something that helps you understand where you are, which way you are going and how far you are from where you want to be”. An indicator also has the ability to reduce a large quantity of information to its simplest form, without losing the essential information in order to answer questions being asked. Indicators are therefore variables that summarize relevant information to make visible phenomena of interest. Whereas statistics provide raw data with no meaning attached, indicators of sustainable development provide meaning that extends beyond the attributes directly associated with the data.

The use of sustainability indicators has been developed by the World Tourism Organisation to help tourism managers obtain and use information in support of better decision making regarding sustainable development for tourism. Indicators are proposed to be the building blocks for more sustainable tourism and they are intended to be used as tools that respond to issues most important to managers of tourism destinations. The World Tourism Organization (WTO, 2004: 8) explains that indicators are measures of the existence or severity of current issues, signals of upcoming situations or problems, measures of risk and potential need for action, and means to identify and measure the results of our actions. Indicators are information sets which are formally selected to be used on a regular basis to measure changes that are of importance for tourism development and management. They can measure: a) changes in tourism’s own structures and internal factors, b) changes in external factors which affect tourism and c) the impacts caused by tourism. Both qualitative and quantitative information can be used for sustainability indicators.

If indicators are used properly they can become important management tools or performance measures which can supply essential information to managers and other stakeholders in tourism. “Good indicators can provide in-time information to deal with pressing issues and help guide the sustainable development of a destination” (WTO, 2007: 4).

According to the World Tourism Organization (WTO, 2004: 9) some of the benefits of good indicators are the following:

- 1) Better decision making – lower risks and costs
- 2) Identification of emerging issues – allowing prevention
- 3) Identification of impacts – allowing corrective action when needed
- 4) Performance management of the implementation of plans and management activities – evaluating progress in the sustainable development of tourism
- 5) Reduced risk of planning mistakes – identifying limits and opportunities
- 6) Greater accountability – credible information for the public and other stakeholders of tourism fostering

accountability for its wise use in decision making

7) Constant monitoring that can lead to continuous improvement – building solutions into management Indicators were originally developed to assess and monitor changes in national economies.

More recently indicators have been used to monitor progress towards sustainable development. Since the Rio Earth Summit in 1992, many organizations associated with the United Nations have also begun to develop indicators as tools for monitoring progress towards sustainable development (UNCSD, 2001). Bell and Morse (1999: 23) point out that “indicators have been seen by many as the core element in operationalising sustainability”. Agenda 21 strongly emphasizes the need to monitor sustainable development using indicators. The Earth Summit+5 reaffirmed that indicators are important tools to reduce the complexity of information on sustainable development and to support national decision making.

The tourism industry has monitored destination performance for many years by using conventional tourism indicators such as arrival numbers and tourist expenditure (Ceron and Dubois, 2003). In the same way as gross domestic product (GDP) has been found to be an inadequate measure of human welfare, conventional indicators can be seen as inadequate measures of tourism’s true performance.

An increasing number of tourism researchers are stressing the need for the development of sustainable indicators that make the important connection between tourism and wider social, economic and environmental processes within a destination (Mowforth and Munt, 1998; Manning, 1999; Miller, 2001; Sirakaya et al., 2001, Hermann et al., 2011).

In 1993 an initiative began to develop indicators that would aid managers, regulators and communities to better understand future risks associated with tourism. The WTO commissioned a task team to develop indicators which could assist in identifying emerging problems and could act as early warning systems for the tourism industry.

This team was immediately faced with conflicting views on what good indicators for tourism actually were, and scientists suggested hundreds of indicators while potential users wanted a simple and timely set of indicators. The task force quickly realized that no perfect set of indicators existed and that each user would have different needs that would have to be fulfilled in terms of number, accuracy, frequency and timeliness of indicators (Manning, 1999).

Roberts and Tribe (2008), who concur with this view, state that the selection of indicators is very subjective and that each user will have their own set of ideal indicators which is dependent on their intended uses of the information. Mac Gillivray and Zadek (1995) and Miller (2001) contend that the process of indicator selection may be strengthened through open transparent

negotiation of the final selection of indicators.

The WTO undertook five pilot projects (one each in the USA, Canada and Mexico, and two in Argentina) to investigate the development of indicators for sustainability of tourism ventures. These five sites confirmed both the commonalities and diversity in the contexts of each destination.

Central to the development of the indicators in each site was a participatory scanning process which identified key assets and the risks associated with each destination.

It has become clear that the management of tourism in any destination cannot be done in isolation but has to be planned and managed in such a way that the interests of all stakeholders are taken into consideration.

Indicators can be an important tool, leading to a more holistic approach to tourism planning and management and creating better understanding between tourism managers, communities and other resource users. Through more effective monitoring of environmental, social and economic factors, indicators provide strategic information that helps prevent unacceptable outcomes, and generally supports decision making (Manning, 1999).

Indicators are those sets of information chosen because they are meaningful to our decisions and can be supported in a way that provides us with the information when needed. The WTO process was designed to assist tourism managers in identifying which information was key to their decisions.

This would help them reduce the risks to their enterprise, the community and the environment. Consequently, the WTO identified a core set of indicators which is likely to be useful in almost any situation which needs additional indicators critical for management in a particular ecosystem or type of destination (WTO, 2004).

Indicators may be categorized as either objective or subjective. Tsaur et al. (2006) state that objective indicators generally refer to quantitative data and the majority of them could be described through various equations. Subjective indicators, on the other hand, are based on personal feelings and attitudes and are usually qualitative in nature.

Objective indicators have been widely used because they are seen to be more rigorous. However, the WTO (1995: 7) states that "indicators of sustainability are not always quantifiable and may necessarily be somewhat subjective. This limitation does not in any way detract from their utility as management information in promoting sustainable tourism." This study utilized both objective and subjective indicators to develop an evaluation framework for determining the sustainability of CBE enterprises in southern Africa.

As tourists become more aware of their impacts on the environment, they are demanding more sustainable tourism experiences (Okech, 2009). These changing market trends, together with the devolution of natural resource management rights and responsibilities from

the state to communities, has placed communities in a very favourable position to harness their natural and cultural assets to capitalize on the growing visitor arrivals and receipts in order to alleviate poverty within rural communities. These CBE ventures can only be successful and sustainable if the three primary elements, community, conservation and tourism, are managed effectively in an interdependent way.

This study made use of both objective and subjective indicators to develop a time and cost-effective framework for monitoring the sustainability of CBE ventures in southern Africa (Table 3). This resultant evaluation framework should be seen as a first step to the development and implementation of sustainable tourism indicators in CBE ventures. This approach identifies, selects and measures sustainability in order to provide feedback to the management of CBE ventures so that they may take the required actions to improve their sustainability. Developing successful CBE ventures based on the three cornerstones of environmental protection and conservation, providing benefits to communities, and sustainable, responsible tourism through effective management and facilitation can go a long way in responding to the trends emerging in the literature. Ongoing benefits have to be provided for communities (social sustainability), while environmental conservation is not compromised (environmental sustainability) and an economically viable tourism product is maintained (economic sustainability).

METHODOLOGY

The emphasis of this research which formed part of a larger doctoral study (Mearns, 2010), was on the development of a sustainable tourism indicator framework to monitor the sustainability of CBE ventures in southern Africa and to test its applicability in a field setting. In order to achieve this aim, the research made use of a mixed method approach which was both exploratory and descriptive in nature and made use of a multiple case study research design.

Construction of the evaluation framework

The sustainable tourism indicator framework was developed in a top-down approach and had to provide a time- and cost-effective means for monitoring the social, economic and environmental sustainability of CBE ventures. According to Bell and Morse (1999), the WTO (2004), and more recently Keyser (2009), indicators are seen as the core element in operationalising sustainability. The use of sustainability indicators provides an objective way of measuring and monitoring sustainability. Before selecting the indicators that were used in the evaluation framework investigation of the sustainability of CBE ventures, two important questions needed to be addressed:

How many indicators need to be selected? Clearly there was no ideal number of indicators to select. Any attempt to address all the aspects of sustainability using too few indicators would leave important gaps, while too many indicators in turn could overwhelm users and the collection of information for the numerous indicators could become too complex and time-consuming. According to the

Table 1. Baseline issues and baseline indicators for monitoring the sustainable development of tourism (adapted from WTO, 2004).

Baseline issues	Baseline indicator
Local satisfaction with tourism [social]	Local satisfaction level with tourism Local community complaints
Effects of tourism on communities [social]	Percentage who believe that tourism has helped bring new services or infrastructure Other effects of tourism on the community
Sustaining tourist satisfaction [economic]	Level of tourist satisfaction Perception of value for money Percentage of return visitors Perception of sustainability Tourist complaints
Tourism seasonality [economic]	Tourist arrivals by month (throughout the year, mean and peaks) Occupancy rates for accommodation by month Percentage of tourist industry jobs which are permanent or full-time (compared to temporary/seasonal jobs)
Economic benefits of tourism [economic]	Number of local people (and ratio of men to women) employed in tourism Revenue generated Revenue spend in area
Energy management [environmental]	Per capita consumption of energy (per person day) Energy-saving measures Percentage of energy consumption from renewable resources
Water availability and conservation [Environmental]	Water use (total water volume consumed and litres per tourist per day) Water conservation measures
Drinking water quality [environmental]	Water treated to international potable standards
Sewage treatment [environmental]	Sewage treatment systems
Solid waste management (garbage) [environmental]	Waste volume produced Waste disposal (landfill, recycling, etc.)
Development controls [crosscutting]	Existence of a development planning process including tourism
Controlling use intensity [environmental]	Number of tourists per square metre of the site

WTO (2004: 41) "most practitioners agree that it is essential to prioritize issues and the indicators that correspond to them, to help create a shorter list". Furthermore, "practitioners agree 12 to 24 indicators are optimal" (WTO, 2004: 42). A central challenge in this investigation was to obtain a shorter list without creating gaps.

Which issues do the indicators need to address? Important issues that needed to be addressed in this sustainability investigation related specifically to the three core issues of CBE, namely community, tourism and conservation. Each of these issues could be linked to the new triple bottom line of sustainability reporting namely social, economic and environmental sustainability,

or otherwise stated as people, profit and planet. Community links to social sustainability, tourism links to the economic sustainability and conservation links to environmental sustainability.

The World Tourism Organization (2004) identified 12 baseline issues and their associated baseline indicators which served as an important point of departure for the identification of indicators (Table 1). The list of baseline indicators covers a range of social, economic and environmental issues likely to be found in most destinations. In Table 1 the social, economic and environmental sustainability dimension has been added in square brackets for each baseline issue.

As the baseline issues and indicators left some gaps with respect

Table 2. Community-based ecotourism specific issues and indicators.

Issue	Indicator
Education [social]	Education of tourists
	Education of community
	Training and skills development of staff members
Community decision making [social]	Community decision-making structures
Community benefits [social]	Community benefits from tourism
Culture [social]	Cultural appreciation and conservation
Biodiversity and conservation [environmental]	Local community involvement in conservation projects in area
Networking and collaboration [crosscutting]	Partnerships and collaborations

to the CBE nature of this investigation, it was deemed important to include additional issues and indicators which relate more specifically to the characteristics of community-based ecotourism. Additional issues and indicators relating to education, community decision making, community benefits, culture, biodiversity and conservation as well as networking and collaboration were included (Table 2). Here again the sustainability dimension of each issue is added in square brackets.

Eighteen issues with 34 associated indicators were selected for the evaluation framework. Each of these indicators required a specific data collection method in order to establish the performance of each CBE venture with respect to each specific indicator. The identified issues and associated indicators were rearranged (Table 3) into social, economic, environmental and crosscutting types in order to create better structure and order.

A variety of data collection instruments were brought together for the collection of the data needed to investigate the sustainability issues and indicators listed earlier. As a result of the wide variety of issues and indicators that were investigated, a variety of data collection instruments were designed. These ranged from questionnaires and interviews, direct observations and photographic records, field notes, secondary data, water sampling and analysis to data collected by a global positioning system (GPS). The results obtained from different methods were often utilized in combination to arrive at results. The resultant evaluation framework was tested at 6 CBE sites across southern Africa.

FINDINGS AND DISCUSSION

The purpose of this paper is not to discuss the specific findings relating to the testing of the evaluation framework at the six test sites, but rather to elaborate on some of the lessons learnt from the implementation of the evaluation framework. The evaluation framework has proved very useful in collecting valuable information on the sustainability of the investigated case studies within a relatively short period (Mearns, 2010, 2011). The evaluation framework has succeeded in establishing areas of present and possible future concern that need to be addressed in order to ensure the long-term sustainability of the CBE ventures. The constructed evaluation framework was very useful for the monitoring of the sustainability of CBE ventures. It should however be remembered that each specific CBE venture may have unique aspects and issues affecting its sustainability.

The framework therefore only serves as a generic framework which may be applied across various types of CBE ventures – specific adaptations and additions to specific sites may be necessary. This study has succeeded in constructing an evaluation framework for monitoring the sustainability of CBE ventures in southern Africa. Through the use of indicators, the framework provides a means for collecting empirical evidence for the measurement of the sustainability of CBE ventures in southern Africa. The framework also facilitates the identification of key areas that need to be addressed in order to achieve better performance in terms of sustainability and effective management.

The overall sustainability of any CBE venture is dependent on progress being made simultaneously in terms of the social, economic and environmental aspects of sustainability. Progress in only one or two categories is insufficient. The social sustainability of CBE ventures within a southern African context presents an additional challenge above the normal aspects of community decision making and community benefits. This challenge relates to the fact that, historically, communities in the southern African context have been disempowered and disenfranchised with respect to natural resource management and governance. These governance rights and responsibilities have only recently been devolved from central government back to communities. Communities need to be empowered through various interventions so that they may take responsibility for the governance and management of their own natural resource assets. Decision-making structures are lacking, and these have to be established and supported to fulfil their functions. The economic sustainability, which is the very driver of CBE ventures, is also presented with a unique challenge as community members are expected to deliver levels of service and quality for tourism with which they may be totally unfamiliar. Appropriate training is necessary to provide community members with the necessary skills to be able to deliver the expected levels of service. The environmental sustainability of CBE ventures, which are often located in fragile ecological environments, is dependent on the continuous monitoring

Table 3. Evaluation framework listing the selected evaluation issues and indicators.

Issue	Indicator
Social issues	Social indicators
Local satisfaction with tourism	Local satisfaction level with tourism Local community complaints
Effects of tourism on communities	Percentage who believe that tourism has helped bring new services or infrastructure Other effects of tourism on the community
Education	Education of tourists Education of community Training and skills development of staff members
Community decision making	Community decision-making structures
Community benefits	Community benefits from tourism
Culture	Cultural appreciation and conservation
Economic issues	Economic indicators
Sustaining tourist satisfaction	Level of tourist satisfaction Perception of value for money Percentage of return visitors Perception of sustainability Tourist complaints
Tourism seasonality	Tourist arrivals by month Occupancy rates for accommodation by month Percentage of tourist industry jobs which are permanent or full time (compared to temporary/seasonal jobs)
Economic benefits of tourism	Number of local people (and ratio of men to women) employed in tourism Revenue generated Revenue spent in area
Environmental issues	Environmental indicators
Energy management	Per capita consumption of energy (per person day) Energy-saving measures Percentage of energy consumption from renewable resources
Water availability and conservation	Water use (total water volume consumed and litres per tourist per day) Water conservation measures
Drinking water quality	Water treated to international potable standards
Sewage treatment	Sewage treatment systems
Solid waste management	Waste volume produced Waste disposal (landfill, recycling, etc.)
Controlling use intensity	Number of tourists per square metre of the site
Biodiversity and conservation	Local community involvement in conservation projects in area

Table 3. Contd.

Crosscutting issues	Crosscutting indicators
Development controls	Existence of a development planning process including tourism
Networking and collaboration	Partnerships and collaborations

and management of the impacts these ventures have on the natural environment. These impacts need to be managed to ensure that CBE ventures do not become caught up in a self-destructive process, thus destroying the very basis on which the venture was established. The continual improvement of the sustainability performance of CBE ventures in southern Africa is critical for the alleviation of poverty while simultaneously providing an impetus for the conservation of natural areas (Baker and Eric, 2008).

The research has also highlighted the highly critical role the managers of the CBE play in ensuring that a mutually interdependent relationship between the three core elements of ecotourism, namely community, conservation and tourism, are maintained. Besides maintaining this critical relationship, the managers of the CBE ventures are also responsible for implementing the recommended actions for the improvement of the sustainability performance emanating from the application of the evaluation framework. These recommendations fall under the three broad categories of sustainability: social sustainability (communication and liaison; training and development; community benefits), economic sustainability (tourism operation; tourism offer; tourist information) and environmental sustainability (resource management).

Although the researcher developed the evaluation framework according to a top-down approach, it is important that community members be enabled to take ownership of the evaluation framework. The evaluation framework and the associated results from the field testing provide a useful tool and valuable starting point to encourage community-based ecotourism ventures to embark on the process of indicator development and use. The framework should not be seen as a fixed, rigid framework but rather as an adaptable tool which will be amended continuously to fit local circumstances and conditions. The framework provides a time- and cost-effective method of monitoring the sustainability of community-based ecotourism ventures, which may be applied by CBE ventures worldwide.

This research has provided a time- and cost-effective evaluation framework for monitoring the sustainability performance of community-based ecotourism ventures in a southern African context. The framework may be applied by tourism managers, tourism developers, joint venture partners and non-governmental organizations to monitor the sustainability of CBE ventures across southern Africa. The framework can also be utilized, with

minor amendments if necessary, by communities involved in community-based ecotourism to measure their sustainability. As a result of the generic nature of the evaluation framework it is foreseeable that the framework can be applied to community-based ecotourism ventures worldwide. The constructed evaluation framework therefore provides a means to monitor the sustainability of community-based ecotourism ventures.

The constructed framework makes an important contribution as a departure point in the development and implementation of sustainable tourism indicators for community-based ecotourism ventures. Although the framework includes 12 baseline issues and their associated indicators (as well as six specific community-based ecotourism issues and their indicators), it does not include local site-specific indicators. The site-specific indicators should be added after stakeholder involvement and engagement. The evaluation framework should therefore be seen as an evaluation framework that may be adapted and amended to fit a wide range of local circumstances.

Conclusion

The sustainability of community-based ecotourism ventures can be monitored effectively through the use of an evaluation framework incorporating specific sustainable tourism performance indicators. The results from the field testing of the evaluation framework also provide information relating to a number of performance indicators that need to be acted upon in order to achieve effective management. It is recommended that the evaluation framework be compared with the now agreed upon Global Sustainable Tourism Criteria (GSTC) to evaluate their alignment. The framework resulting from this investigation may have to be amended to include criteria from the GSTC which have not been included. Future applications of the evaluation framework also need to include climate change indicators and indicators evaluating the preparedness of community-based ecotourism ventures for changes associated with climate change.

Dr Nelson Mandela highlighted the view that conservation is ultimately about people: "If you do not have sustainable development around these wildlife parks, then people will have no interest in them, and the parks will not survive." However, the success of community-based ecotourism in southern Africa will be

determined by the extent to which all the relevant role players are able to take collective responsibility for achieving more sustainable forms of tourism in order to create better place for people to live in and to visit. Reaching agreement on suitable monitoring tools forms an important first step in such collective action.

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