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Parks, people, planet:

inspiring solutions

Use of sustainability indicators in community-based ecotourism in Southern Africa.

Kevin Mearns

mearnkf@unisa.ac.za



TAPAS GROUP

Tourism and Protected Areas Specialist Group

Sustainable Development has taught us

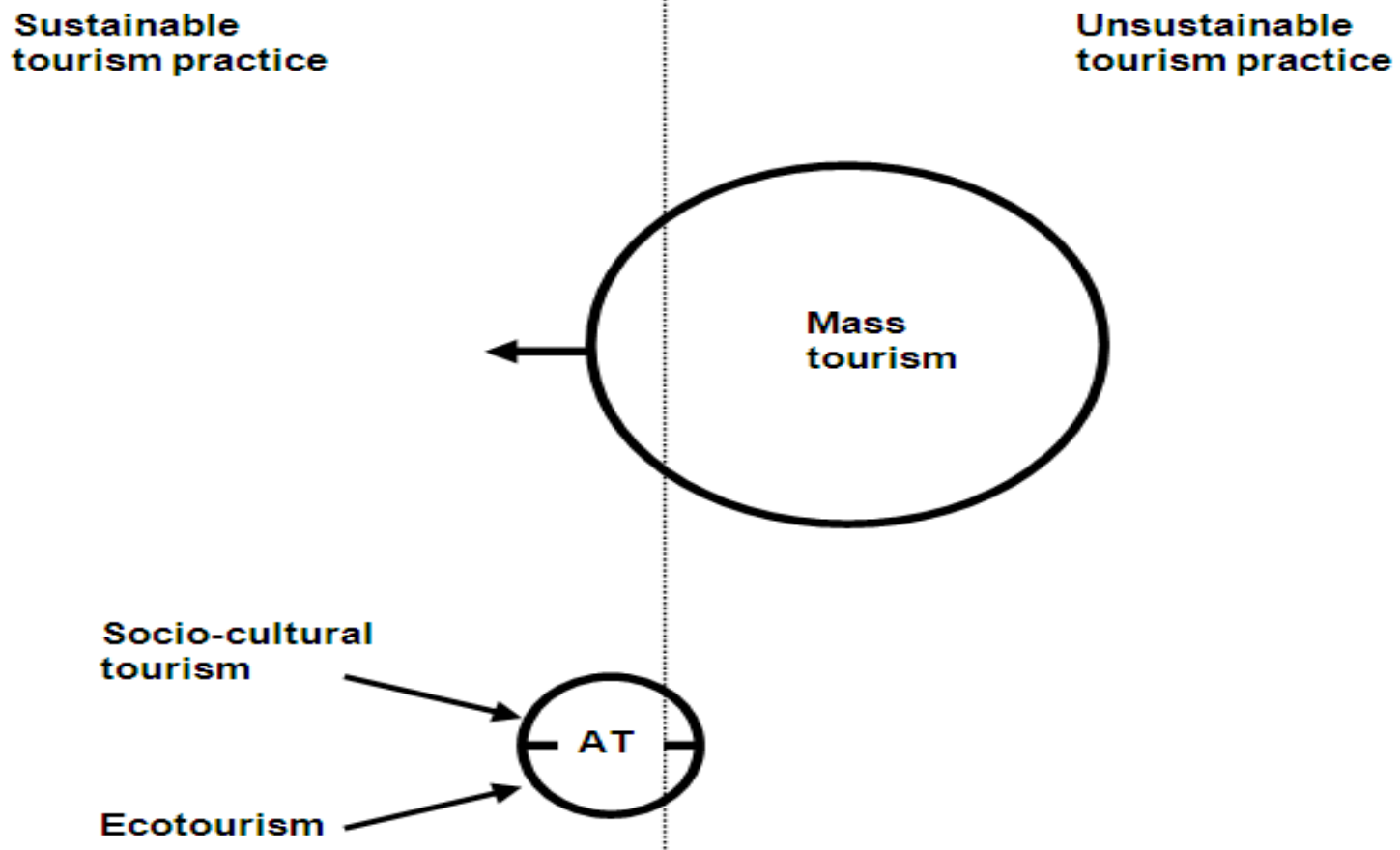
Four important lessons from the emergence of the concept of sustainable development.

- First, sustainable development is not a social, economic and environmental problem but a combination of all three and, as a result, requires interdisciplinary modes of enquiry.
- Second, complex systems such as those involved in sustainable development are inherently unpredictable and therefore require approaches based on non-linear science.
- Third, because of the evolutionary nature of sustainable development, policies and actions need to be continually modified and adapted to evolving conditions.
- Fourthly, in order to reduce the vulnerability of the Earth system to abrupt change, monitoring is required from local to global scales, enhancing systems knowledge and extending human foresight.

**Sustainable
tourism practice**

**Unsustainable
tourism practice**

**Mass
tourism**

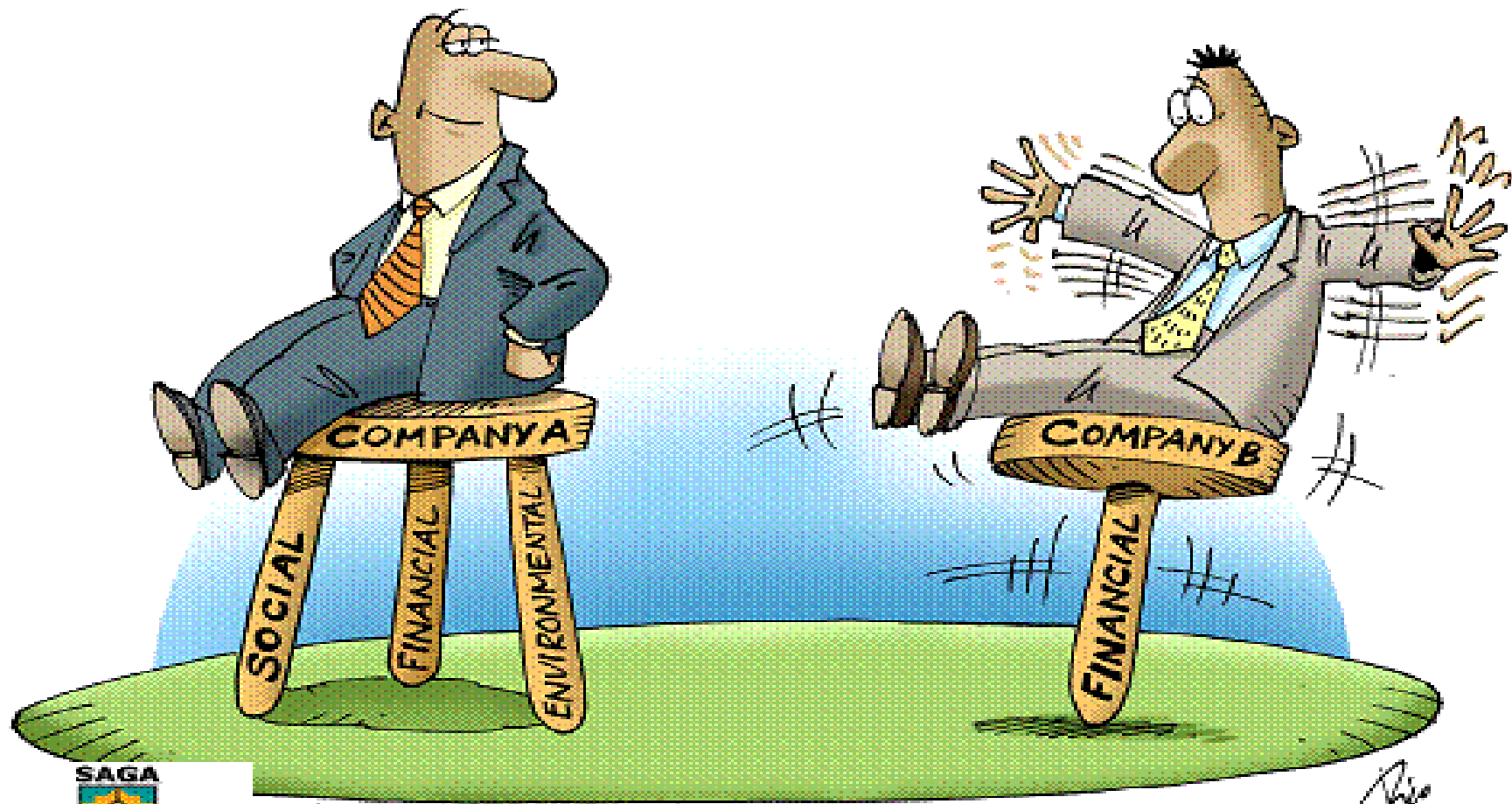


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graph LR; subgraph Sustainable [Sustainable tourism practice]; ST[Socio-cultural tourism]; ET[Ecotourism]; AT((AT)); end; subgraph Unsustainable [Unsustainable tourism practice]; MT((Mass tourism)); end; MT --> DashedLine[ ]; ST --> AT; ET --> AT;
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**Socio-cultural
tourism**

Ecotourism

AT



Rio



SEKUTUPAN MAMPUAN SAGAMAH ASSOCIATION

SOUTH AFRICAN NATIONAL STANDARD

Responsible tourism — Requirements

List of indicators

Indicator 1: Local satisfaction with tourism	Social (S)
Indicator 2: Effects of tourism on communities	Social (S)
Indicator 3: Education and awareness	Social (S)
Indicator 4: Community decision making	Social (S)
Indicator 5: Community benefits	Social (S)
Indicator 6: Cultural	Social (S)
Indicator 7: Sustaining tourism satisfaction	Economic (Ec)
Indicator 8: Tourism seasonality	Economic (Ec)
Indicator 9: Economic benefits of tourism	Economic (Ec)
Indicator 10: Energy management	Environmental (Env)
Indicator 11: Water availability and conservation	Environmental (Env)
Indicator 12: Drinking water quality	Environmental (Env)
Indicator 13: Sewage treatment	Environmental (Env)
Indicator 14: Solid waste management	Environmental (Env)
Indicator 15: Controlling use intensity	Environmental (Env)
Indicator 16: Biodiversity and conservation	Environmental (Env)

Sub indicators - Social

Indicator 1: Local satisfaction with tourism
1.1 Local satisfaction with tourism
1.2 Local community complaints
Indicator 2: Effects of tourism on communities
2.1 % who believes that tourism brings new services
Indicator 3: Education and awareness
3.1 Education of community
3.2 Training and skills development
Indicator 4: Community decision making
4.1 Community decision Making structures
Indicator 5: Community benefits
5.1 Community benefits from tourism
Indicator 6: Cultural
6.1 Cultural appreciation and conservation

Sub indicators -Economic

Indicator 7: Sustaining tourism satisfaction

7.1 Level of tourist satisfaction

7.2 Perception of value for money

7.3 % of return visitors

7.4 Perception of sustainability

7.5 Tourist complaints

Indicator 8: Tourism seasonality

8.1 Tourist arrivals

8.2 Occupancy rates for accommodation

8.3 % of tourist industry jobs which are permanent or full time

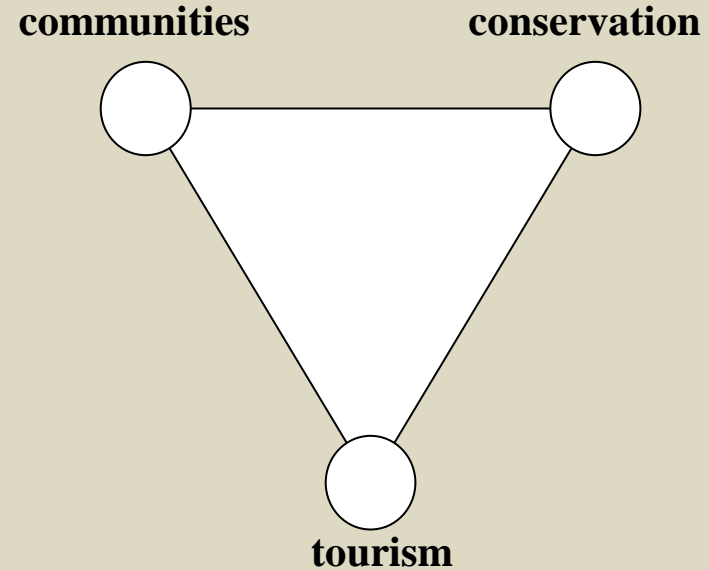
Indicator 9: Economic benefits of tourism

9.1 Number of local people employed

9.2 Revenue generated

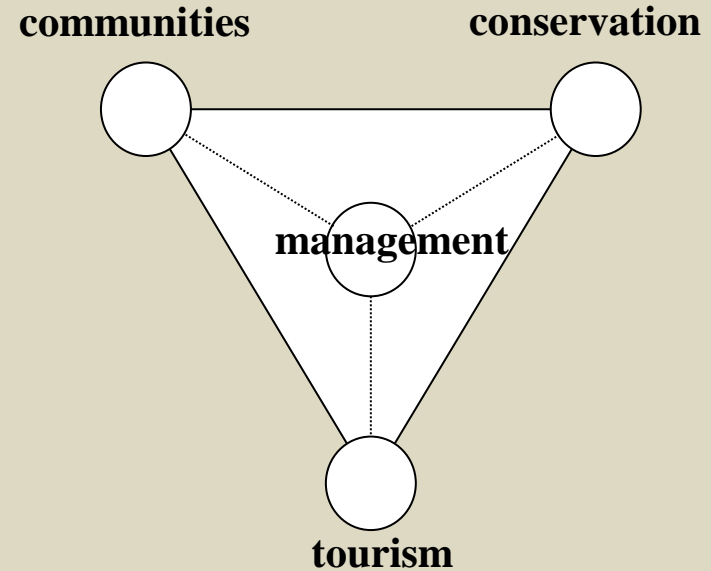
What is community-based Ecotourism ?

- **Communities**
- **Conservation**
- **Tourism**



What is community-based Ecotourism ?

- **Communities**
- **Conservation**
- **Tourism**
- **Management**











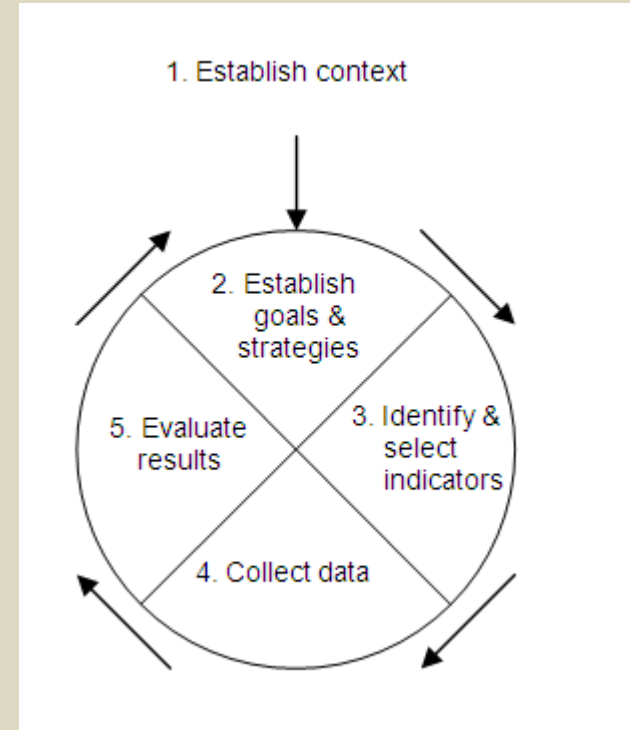






Utilising Sustainable Tourism Indicators

1. Establishing context
2. Establish goals and strategies.
3. Identify and select indicators.
4. Collect data
5. Evaluate results
6. Repeat 2-5.



Issue 1: Local satisfaction with tourism	Individual Operated	Community operated	Informal Joint Venture	Formal Joint Venture	Triple Joint Venture	Organ. operated
	Aba-Huab Campsite	Kaziikini & Shandreka	Malealea Lodge	Damaraland Camp	Tembe Elephant Lodge	!Khwa ttu
1.1 Local satisfaction with tourism						
Staff and community responses	SI	CI	SI	CI	SI	CI
<i>Is tourism good for the community</i>						
<i>Do you want more or less tourism in your area?</i>						
1.2 Local community complaints						
Staff and community responses	SI	CI	SI	CI	SI	CI
<i>Is there anything that bothers you about tourism in your community?</i>						
<i>Do you know of any complaints received from local residents regarding tourism?</i>						

[illegible]

Issue 7: Sustaining tourism satisfaction	Individual Operated	Community operated	Informal Joint Venture	Formal Joint Venture	Triple Joint Venture	Organ. operated
7.1 Level of tourist satisfaction						
Visitor responses	VQ	VQ	VQ	VQ	VQ	VQ
Enjoyment sub-indicators						
<i>I enjoyed my experience</i>						
<i>[Destination] provided a good variety of experiences</i>						
<i>I would recommend [destination] to my friends.</i>						
Access sub-indicators						
<i>The state of the roads made travel easy.</i>						
<i>The state of the signage made travel easy.</i>						
<i>It was easy to get to [destination] for my visit</i>						
Environment sub-indicators						
<i>I found [destination] to be clean.</i>						
<i>I was bothered by noise.</i>						
<i>I was bothered by solid waste.</i>						
<i>The state of the natural environment was good.</i>						
<i>[Destination] has an interesting and varied landscape.</i>						
Service sub-indicators						
<i>The quality of the local cuisine was good.</i>						
<i>The quality of accommodation was good.</i>						
<i>The level of service provided was high.</i>						
<i>Service staff was competent and helpful.</i>						
Safety sub-indicators						
<i>I felt safe and secure during my visit.</i>						

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	Aba-Huab Campsite	Kaziikini & Shandreka	Malealea Lodge	Damaraland Camp	Tembe Elephant Lodge	!Khwa ttu
7.2 Perception of value for money						
Visitor responses	VQ	VQ	VQ	VQ	VQ	VQ
<i>I feel I received good value for money.</i>						
7.3 % of return visitors						
Visitor responses	VQ	VQ	VQ	VQ	VQ	VQ
<i>% of return visitors</i>	0	30	10	10	50	33.3
<i>I would visit [destination] again.</i>						
<i>% that intend visiting again</i>	60	63.6	50	80	80	58.3
<i>Ave. No of nights stay next time</i>	1.83	2.14	3.4	2.5	4.38	2.25
7.4 Perception of sustainability						
Visitor responses	VQ	VQ	VQ	VQ	VQ	VQ
<i>Do you perceive [destination] as sustainable?</i>						
7.5 Tourist complaints						
Visitor responses	VQ	VQ	VQ	VQ	VQ	VQ
<i>What could be done to improve your visit?</i>						
Staff member responses	SI	SI	SI	SI	SI	SI
<i>Do you know of any complaints received from tourists?</i>						

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Issue 8: Tourism seasonality		Individual Operated	Community operated	Informal Joint Venture	Formal Joint Venture	Triple Joint Venture	Organ. Operated
		Aba-Huab Campsite	Kaziikini & Shandreka	Malealea Lodge	Damaraland Camp	Tembe Elephant Lodge	!Khwa ttu
8.1 Tourist arrivals (overnight tourists)							
<i>Ave overnight tourists</i>		869.60	209.87	1447.62	307.35	338.13	489.81
8.2 Occupancy rates for accommodation							
<i>Ave occupancy</i>		18.96%	6.6%	42.26%	48.53%	30.86%	18.8%
8.3 % of tourist industry jobs which are permanent or full time (compared to temporary/seasonal jobs)							
<i>Permanent jobs</i>	No	15	14	16	28	30	24
	%	100	100	59.3	100	100	82.8
<i>Temporary jobs</i>	No	0	0	11	0	0	5
	%	0	0	40.7	0	0	17.2

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Issue 10: Energy management		Individual Operated	Community operated	Informal Joint Venture	Formal Joint Venture	Triple Joint Venture	Organ. operated
		Aba-Huab Campsite	Kaziikini & Shandreka	Malealea Lodge	Damaraland Camp	Tembe Elephant Lodge	!Khwa ttu
10.1 Per capita consumption of energy from all (per person day)							
Average monthly energy use							
Liquid Petroleum Gas	kWh	3943	1971	16428	5257	11171	1971
Diesel	kWh	1867	1899	6402	34678	8963	4802
Petrol	kWh	2850	0	1900	0	0	1425
Grid electricity	kWh	unknown	0	0	529	3362	16815
Solar power	kWh	0	27	137	301	27	135
Total	kWh	8660	3897	24867	40765	23523	25148
Energy use per overnight visitor	kWh	9.96*	18.57	17.18	132.63	69.57	51.34
10.2 Energy saving measures							
Energy saving measures		energy saver lights	Self -igniting gas geysers have been installed	Solar power for lighting in main hall	17 Solar water geysers and power supply for 11 accommodation units is solar	Gas off when not in use, energy saver bulbs	Gas off when not in use, energy saver bulbs Bush camp and Bush house use solar power for lighting.
10.3 % of energy consumption from renewable resources							
Solar		0%	0.69%	0.55%	0.74%	0.11%	0.54%
Solar water heating no of geysers		None	None	None	17	None	None
Wood (not quantifiable but is being used)		Yes	Yes	Yes	Yes	Yes	Yes

* Excludes grid electricity

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Solar water heating no of geysers		None	None	None	17	None	None
Wood (not quantifiable but is being used)		Yes	Yes	Yes	Yes	Yes	Yes

* Excludes grid electricity

>11.3; 11.3 -13.6; 13.6<

Issue 11: Water availability and conservation		Individual Operated	Community operated	Informal Joint Venture	Formal Joint Venture	Triple Joint Venture	Organ. operated
		Aba-Huab Campsite	Kaziikini & Shandreka	Malealea Lodge	Damaraland Camp	Tembe Elephant Lodge	!Khwa ttu
11.1 Water use (total water volume consumed and litres per tourist per day)							
<i>Water volume consumed per day</i>	litres	5000	10000	15600	10000	3909.1	10000
<i>Water volume consumed per overnight visitor</i>	litres	174.89	1449.28	327.8	990.1	351.58	621.11
11.2 Water saving measures							
<i>Measures taken</i>		None	None	Rain water collected	Shower buckets, grey water recycling	None	Dual flush toilets

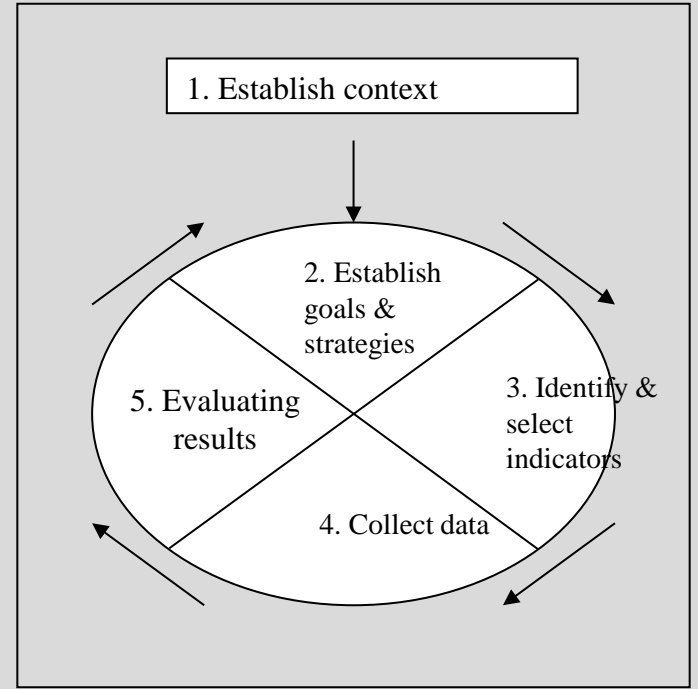
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Water volume consumed per overnight visitor	litres	174.89	1449.28	327.8	990.1	351.58	621.11
11.2 Water saving measures							
Measures taken		<200; 200-250; 250<			Shower buckets, grey water recycling	None	Dual flush toilets
		None	None	Rain water collected			

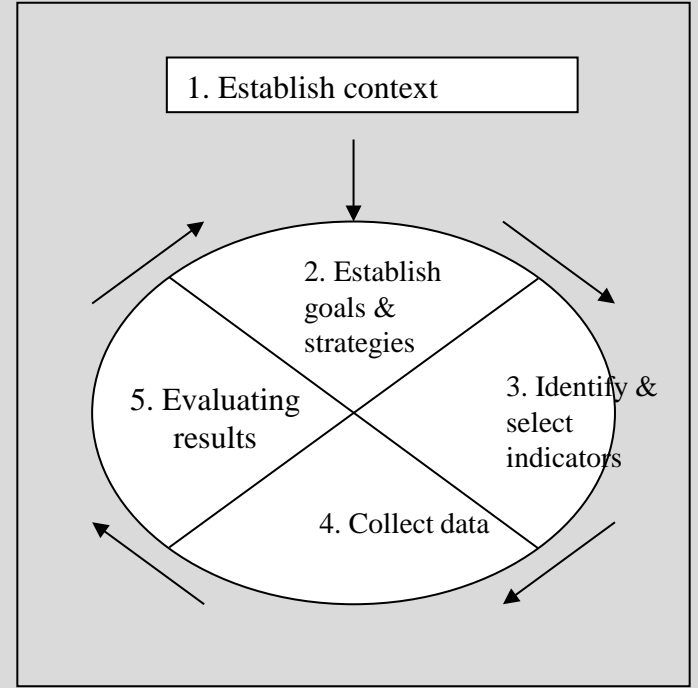
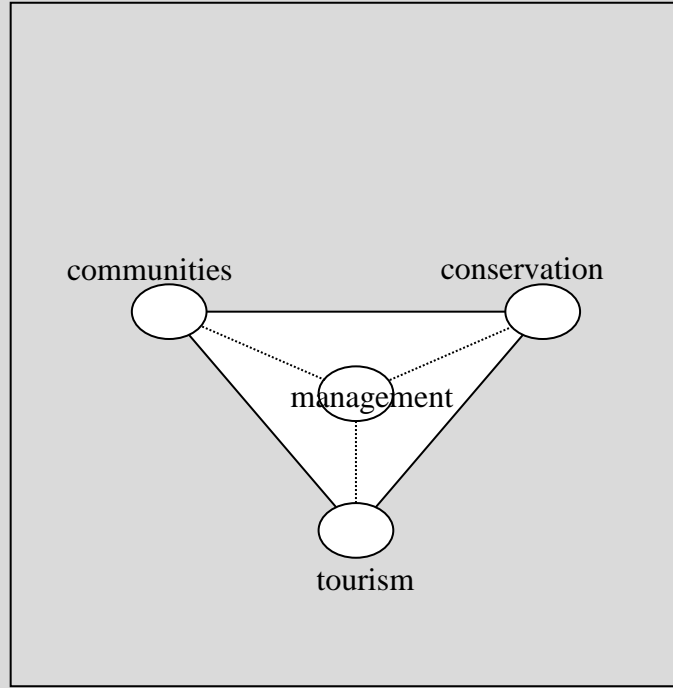
Issue 12: Drinking water quality					Individual Operated	Com. operated	Informal Joint Venture	Formal Joint Venture	Triple Joint Venture	Organ. operated
	Class I (recomm. operational limit)	Class II (max. allowable for limited duration)	Class II max. Water con. period*		Aba-Huab Campsite	Kaziikini & Shandreka	Malealea Lodge	Damara-land Camp	Tembe Elephant Lodge	IKhwa ttu
12.1 Water treated to international potable standards										
Physical characteristics										
<i>pH value</i>	pH units	5.0 - 9.5	4.0 - 10.0	No limit	8.0	8.0	7.6	8.1	8.3	8.0
<i>Conductivity</i>	mS/m	<150	150 - 370	7 years	33.2	112	22	99.2	108	46
<i>Dissolved solids</i>	mg/l	<1000	1000-2400	7 years	230	830	172	752	110	327
Chemical characteristics (macro-determinants)										
<i>Ammonia</i>	mg/l	<1.0	1.0 - 2.0	No limit	<0.3	<0.3	<0.3	<0.3	0.3	<0.3
<i>Calcium</i>	mg/l	<150	150 - 300	7 years	36.7	24.1	25.3	57.0	20.0	24.4
<i>Chloride</i>	mg/l	<200	200 - 600	7 years	9.0	106.0	0.0	106.0	72.0	464.0
<i>Fluoride</i>	mg/l	< 1.0	1.0 - 1.5	1 year	0.3	0.5	<0.2	1.0	0.3	<0.2
<i>Magnesium</i>	mg/l	<70	70 - 100	7 years	9.7	8.0	6.8	11.9	17.0	43.4
<i>Nitrate and Nitrite</i>	mg/l	<10	10- 20	7 years	7.7	<0.3	3.5	15.1	<0.3	6.7
<i>Potassium</i>	mg/l	<50	50 -100	7 years	2.6	13.6	7.6	1.2	2.0	3.4
<i>Sodium</i>	mg/l	<200	200 - 400	7 years	12.3	207.0	0.4	128.0	68.3	231.0
<i>Sulphate</i>	mg/l	<400	400 - 600	7 years	15.0	78.0	8.0	100.0	27.6	69.0
<i>Zinc</i>	mg/l	<5.0	5.0 - 10	1 year	0.23	<0.05	0.27	<0.05	<0.05	0.07
Microbiological characteristics										
<i>Heterotrophic plate count</i>	count/ml	Alert level = 5000			0	200	0	0	50	20

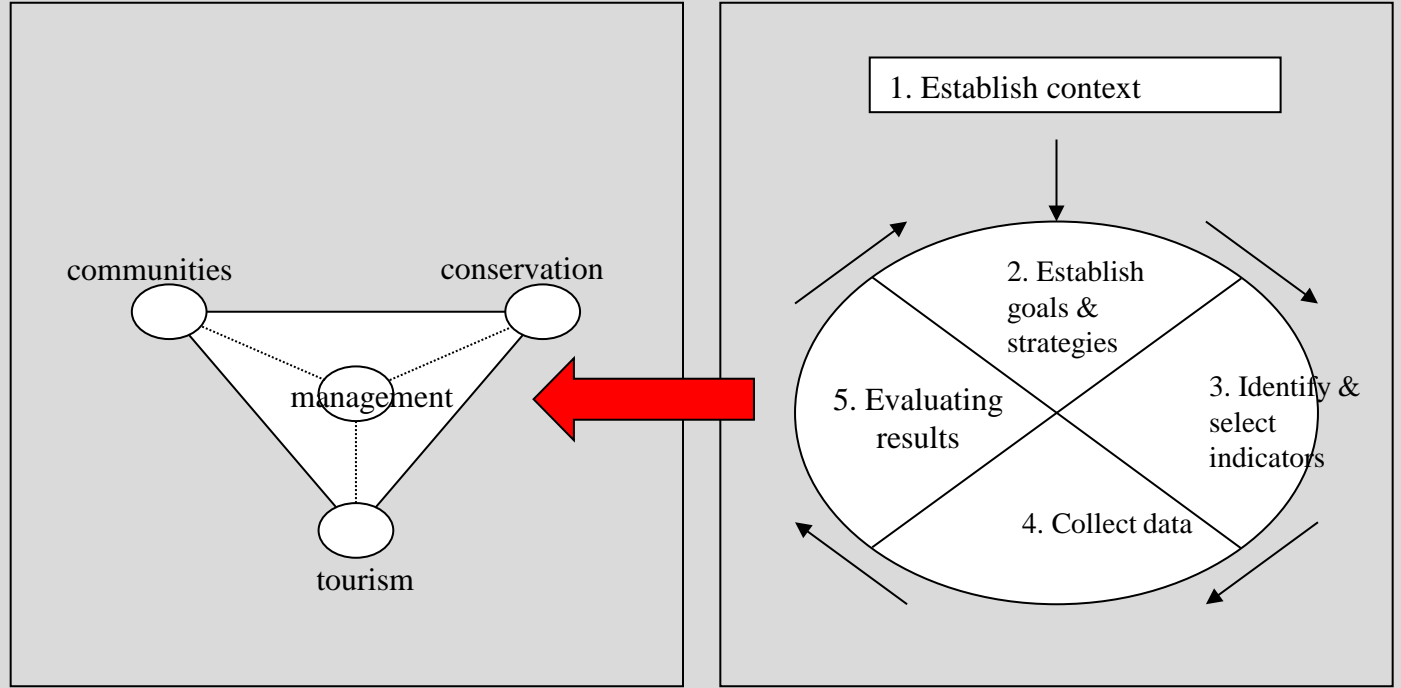
* The limits for the consumption of class II water based on the consumption of 2 litres of water per day by a person of mass 70kg over a period of 70 years (SANS 241:2006 Edition 6.1) (Standards South Africa,2006).

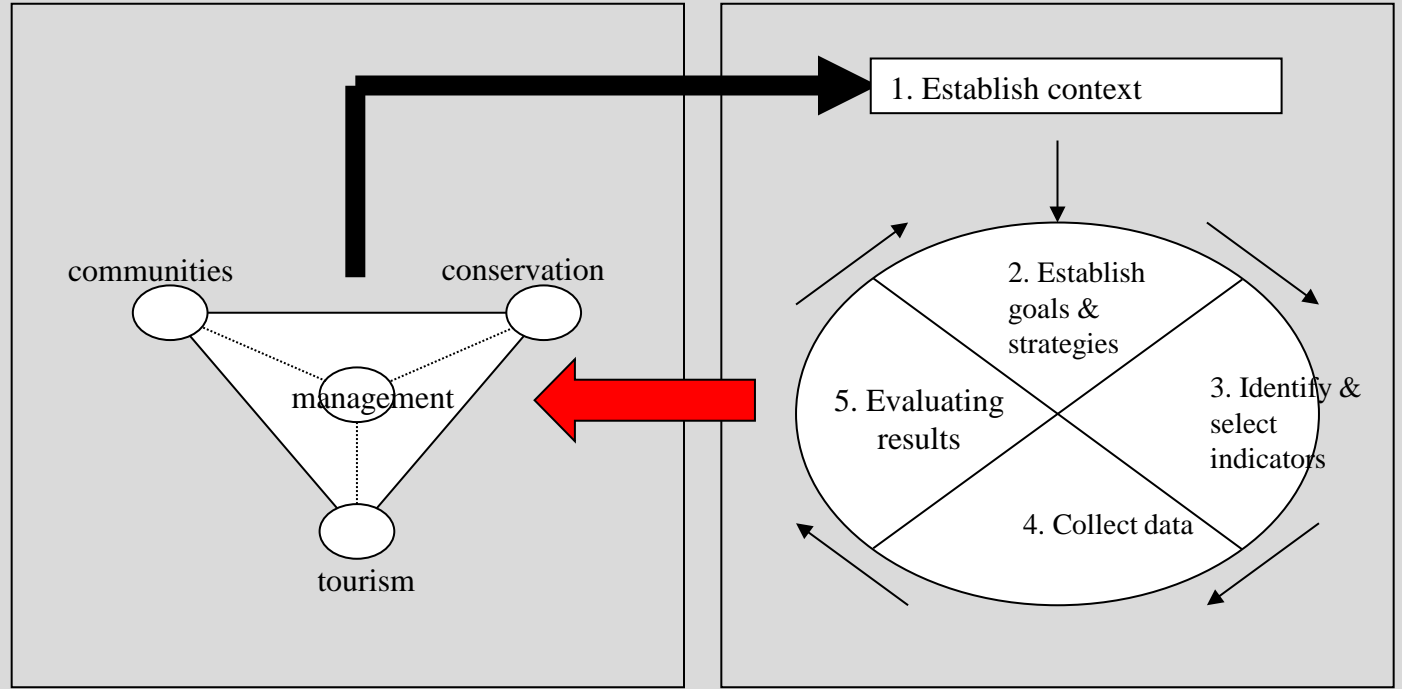
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Microbiological characteristics										
<i>Heterotrophic plate count</i>	count/ml	Alert level = 5000			0	200	0	0	50	20

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Recommendations: Case study specific

Social

Communication and liaison:

Training and development:

Community benefits:

Economic

Tourism operation:

Tourism offering:

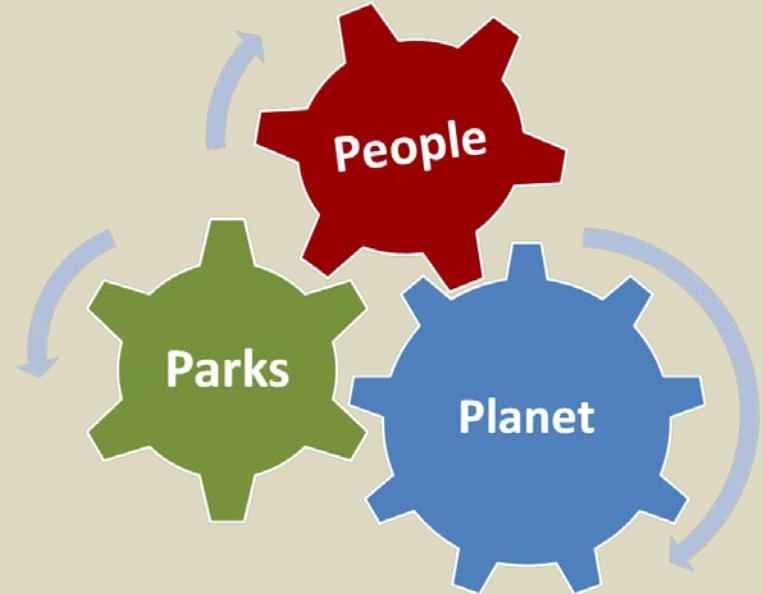
Tourist information:

Environmental

Resource management:

Southern African Specific Products

Continual improvement



Conclusion

The use of indicators serves both an early warning system for potential problems which could occur as well as for a baseline for the future assessment of social, environmental and economic sustainability of tourism ventures.

An inspiring solution?

Nelson Mandela *“If you don’t have sustainable development around these wildlife parks, then people will have no interest in them, and the parks will not survive.”*

The success of community-based ecotourism is dependant on the extent to which all the relevant role players are able to take collective responsibility for achieving sustainable tourism in order to create better places for people to live in and to visit.

