

## Sustainable-adaptation

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Sustainable-adaptation is defined as adaptation measures and strategies aimed to reduce vulnerability and enhance resilience of an individual, society or system without compromising social justice and environmental integrity (Njoroge 2014; Brown, 2011; Ericksen et al., 2011). Climate change remains one of the most challenging phenomena facing humanity in the 21<sup>st</sup> century. Climate sensitive industries, including tourism, are not only already affected but will continue to feel the impact of climate change. In order to cope from extreme eventualities of climate change, adaptation and mitigation strategies have been proposed and are already being implemented in some tourism destinations. Climate change has been advanced to cover these five knowledge domains: *Destination adaptation, Consumer adaptation, Adaptation policy, Business adaptation and Frameworks and Policy*. Not all adaptation strategies are good. An adaptation at one area or level in the complex tourism system would lead to *maladaptation* in another part of the tourism system. This has created keen interest in advancing knowledge on *'the good adaptation'* hence the word sustainable-adaptation has been coined.

Sustainability research has placed emphasis on climate change, modelling, values, behaviour and theoretical progression according to the Butland review (Ruhanen et al 2019). Tourism is both a vector and a victim of climate change. Climate change has been linked to sea level rise, extreme events, biodiversity loss, and water stress among other direct and indirect impacts that pose

potential danger to tourism (Seetanah and Fauzel (2019; Njoroge, 2014) These threaten sustainability of destinations. In response to these threats adaptation and mitigation strategies have been proposed. While there is a need for climate change collective action (Mahadew and Appadoo 2019; Njoroge, 2014), most of the adaptation strategies fail to address the challenge. There is an urgent need for sustainable adaptation strategies and an agreed definition of the term (Brown, 2011).

The term ‘sustainable’ first found its place in the World Commission on Environment and Development (WCED) report of 1987. It named ‘our common future’ which defined sustainable development as ‘development that meets the needs of the present without compromising the ability of future generations to meet their own needs’. However, sustainable development attracted criticism and earlier debates argued that the term was vague and slippery (Redclift, 1987). Since then the issue of sustainability have been adopted in virtually all sectors. In tourism it was largely associated with ‘good tourism’, as opposed to “bad” mass tourism, evident in post-industrial period.

Adaptation is derived from the word ‘adapt’ which means to adjust or cope in response to stimuli in order to reduce vulnerability to potential risk. Adaptation means adjustment in ecological, social, or economic systems in response to actual or expected climatic stimuli and their effects or impacts. Hence ‘to adapt’ refers to changes in processes, practices, or structures to moderate or offset potential damages or to take advantage of opportunities associated with changes in climate. It involves adjustments to reduce the vulnerability of communities, regions, or activities to climatic change and variability.’ (Intergovernmental Panel on Climate Change (IPCC), 2007, p. 881).

Whereas adaptation is widely discussed in relation to societal development in IPCC texts, sustainable adaptation is only mentioned in the chapter 18 of the IPCC (2007) report. The report emphasised that in order to adapt successfully the issues of adaptation capacity must be considered in order to enhance sustainable development. That would include the need to reduce inequality, poverty reduction, promote comprehensive and integrated strategies, limiting structural inequalities, enhancing local knowledge, improving institutional capacity and

efficiency, reducing inequities, improving education and information, developing infrastructure, eliminating intergenerational inequities, respecting experienced local experience, moderating structural inequities, assuring comprehensive and integrative responses, encouraging active participation among stakeholders and improving institutional capacity and efficiency (IPCC 2007, p. 899). Since then the term sustainable adaptation has emerged in climate change texts, as it has been noted that not every adaptation is sustainable (Brown, 2011; Ericksen et al., 2011). The tourism sector is largely business driven. Hence social cultural and environmental sustainability is often highly neglected, endangering adaptation capacity.

Sustainable adaptation is closely linked to sustainable development. Leichenko and O'Brien (2008, p. 31) state that sustainable adaptation is coined from the terms 'sustainability' and 'adaptation' to infer the urge to 'reduce vulnerability' and enhance 'long term resilience'. The definition is informed by the relationship between climate change, poverty and vulnerability. Ericksen et al. (2011, p.342) discusses the linkage between climate change and poverty reduction which is summarised as follows:

- 1) 'any added risk by climate change to current ways of securing well-being',
- 2) 'The particular strategies or adaptive capacity of poor people in the face of climate stresses'
- 3) 'the causes of vulnerability, or specific factors and conditions that make poor people vulnerable to climate stress'.

Therefore in order to limit vulnerability the strategies employed should

- a) Reduce the risk on wellbeing of the poor,
- b) Enhance adaptive capacity and,
- c) Address the root cause of vulnerability.

Brown (2011) argues that sustainable adaptation is largely linked to sustainable development. This close link is identifiable in wider discussion on climate change and vulnerability. Adaptation aims to reduce vulnerability, especially among the poor. Sustainable adaptation is a move from conventional adaptation approaches to include measures that aim to reduce poverty and/or vulnerability to climate change and promote actions that promote long term resilience (Brown, 2011). Other views include terms like 'pro-poor climate change adaptation' (Tanner

and Mitchell, 2008) and ‘community-based adaptation’ (Ensor and Berger, 2009). All these terms are a pointer to the need to implement measures that reduce vulnerability without limiting the ability to access livelihood.

As literature on sustainable adaptation have continued to increase it has been noted in some case studies that certain interventions may lead to *maladpation* as for the case of Vietnam where adaptation strategies to increase resilience have led to vulnerability at other levels (Beckman's 2011) and in Kenya it has led to conflicts in some regions due to resource inequalities (Owuor, Mauta, and Eriksen 2011).

Tourism takes a practical approach in addressing issues that affects the sector. There are several proposals for tourism sustainable adaptation frameworks. The most advanced includes the Regional Sustainable Adaptation Framework presented in Figure 1 (Njoroge, 2014).

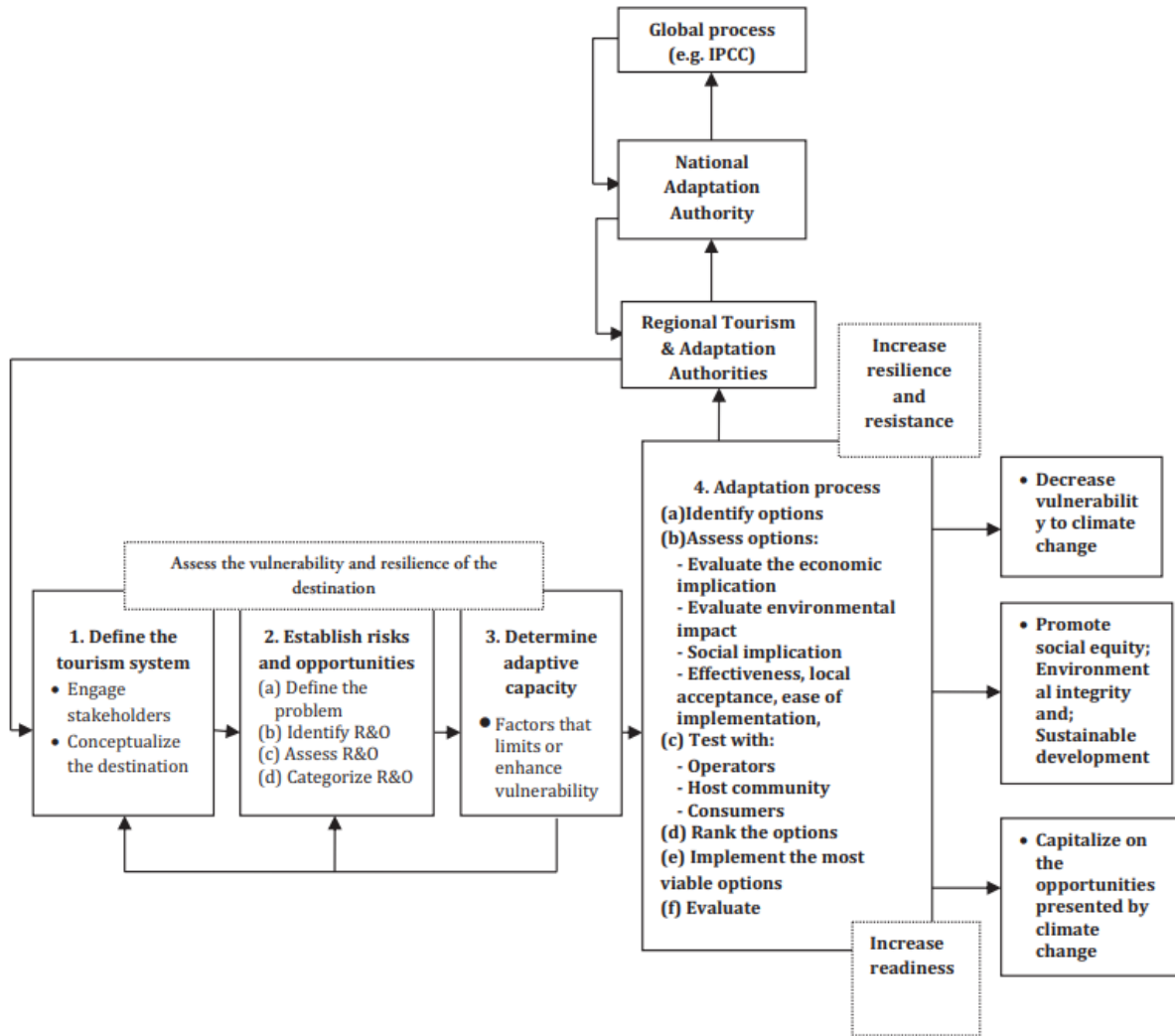


Fig 1: Regional Tourism Sustainable Adaptation Framework (RTSAF) (Njoroge,2014)

In order to achieve sustainable adaptation several key principles have been identified. These include the need to recognise the context of vulnerability, including multiple stressors. Acknowledging that different stakeholders have different values and interests may affect adaptation outcome. To be successful sustainable adaptation needs to integrate local knowledge and to provide feedback between global and local processes.

**Reference**

- Becken, S., & Hay, J. E. (2007). *Tourism and climate change: Risks and opportunities*. Clevedon: Channel View Publications. ISBN: 978-1-84541-068-1
- Brown, K. (2011). Sustainable adaptation: An oxymoron? *Climate and Development*, 3(1), 21–31. DOI: <https://doi.org/10.3763/cdev.2010.0062>
- IPCC (2007). *Climate Change 2007: Synthesis Report*. In Core Writing Team, R. K. Pachauri, & A. Reisinger (Eds.), *Contribution of Working Groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. Geneva, Switzerland: IPCC (104 pp.). ISBN 92-9169-122-4
- Leichenko, R. M., & O'Brien, K. L. (2008). *Environmental change and globalization: Double exposures*. New York, USA: Oxford University Press.
- Mahadew, R., & Appadoo, KA (2019). Tourism and climate change in Mauritius: assessing the adaptation and mitigation plans and prospects. *Tourism Review*, emerald.com. DOI: <https://doi.org/10.1108/TR-12-2017-0203>
- Njoroge, J.M. (2014). An enhanced framework for regional tourism sustainable adaptation to climate change, *Tourism Management Perspectives*. Volume 12, October 2014, Pages 23-30. DOI: <https://doi.org/10.1108/TR-12-2017-0203>
- Owuor, B., Mauta, W., & Eriksen, S. (2011). Sustainable adaptation and human security: Interactions between pastoral and agro pastoral groups in dry land Kenya. *Climate and Development*, 3(1), 42–58, DOI: <http://dx.doi.org/10.3763/cdev.2010.0063>
- Redclift, M. R. (1987). *Sustainable development: exploring the contradictions*. London: Routledge.
- Seetanah, B, & Fauzel, S (2019). Investigating the impact of climate change on the tourism sector: evidence from a sample of island economies. *Tourism Review*, emerald.com
- Tanner, T., & Mitchell, T. (2008). Entrenchment or enhancement: Could climate change adaptation help to reduce chronic poverty? *IDS Bulletin*, 39 (4), 6–15, DOI: <http://dx.doi.org/10.1111/j.1759-5436.2008.tb00471.x>