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12 Tourism Adaptation Frameworks for Climate Change: A Review

Introduction

Tourism is one of the fastest growing industries globally. It has continued to record an average of 3.5–4% despite the global challenges experienced in the last decade including the latest COVID-19 pandemic (UNWTO, 2019). Tourism is appreciated due to its social economic contribution to the global GDP estimated at 9%. It is also considered a big GDP contributor for many developing economies that have embraced tourism estimated between 10–13%. It is also considered strategic poverty eradicator and a tool for achieving sustainable development (UNWTO-UNEP-WMO, 2008).

Despite the potential for tourism in the advancement of better livelihood among community's climate variability remains one of the phenomenon challenging tourism. However, we must acknowledge that tourism is both a victim and a vector of climate change. As a vector it is estimated that tourism contributes to about 5% of global greenhouse gases (GHGs) where 85% of the GHG comes from the aviation industry. As a victim we must appreciate that tourism depends largely on climate and nature-based resources which are already being threatened (IPCC, 2007). These threats can be direct or indirect.

In order to limit the vulnerability of tourism to climate change adaptation and mitigation have been proposed. Mitigation largely focuses on strategies aimed at limiting the contribution of GHGs whereas adaptation deals with strategies aimed at limiting vulnerability and resilience enhancement. Hence, for the purpose of this research note focus will be on adaptation.

Adaptation is adjustment in ecological, social, or economic systems in response to actual or expected climatic stimuli, and their effects or impacts. This term 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. (IPCC, 2007, p. 881)

With the urgency of limiting vulnerability and promote resilience at destination, researchers and practitioners have continued to advance knowledge both theoretical and practical applications. In a review of literature, it is noted that there have been six adaptation knowledge domains being advanced: consumer adaptation, destination adaptation, business adaptation, adaptation policy, frameworks for adaptation and sustainable adaptation being a newer knowledge domain (see Figure 12.1).

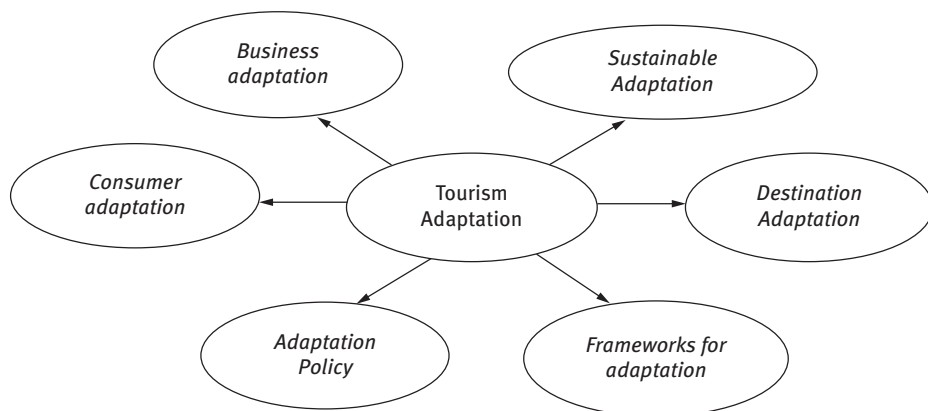


Figure 12.1: Climate change adaptation knowledge domains in tourism literature.

Source: Njoroge (2015, p. 4)

Business adaptation is believed to emanate from the business operators in order to ensure continuity of their operations. However, they have been criticized for being economic sustainability oriented neglecting social cultural and environmental sustainability of the destination (Weaver 2011). That is evident in some ski resorts where artificial snows are made limiting communities' access to clean water resources and uneconomical use of energy in the process. One example is a study on Fiji resorts where operators are reported to be willing to adapt but not keen at reducing CO₂ (Becken, 2005).

Consumer adaptation deals with how the tourist will respond to changing product quality due to the impact of climate change on destinations. This is informed by the fact that tourists are motivated by the quality of the environment hence it is expected that there will be “losers” and “winners” (Saarinen et al., 2012).

Destination adaptation focuses on how destination managers adapt to the changing environment and to the risks posed by it. Studies focusing on destination adaptation have been analysis of risks, vulnerability, and evaluation of destinations adaptive capacity in order to provide alternative pathways. This follows the post Djerba declaration of 2003 which called for destination managers to take action (See UNWTO, 2003).

Adaptation policy knowledge domain on the other hand also follows post Djerba declaration at a meeting held from 9th to 11th April 2003 convened by World Tourism Organization. The meeting that was attended by tourism players, policy makers, experts and NGOs called upon industry players to come up with policies that will guide destinations in the process of adaptation.

Frameworks for adaptation knowledge domain considers tourism as a practical industry (Kaján & Saarinen, 2013) and frameworks are tools for guiding industry

players in the adaptation process. Advancement in tools for adaptation has evolved in the last decade and they are reviewed in the next section.

The last but not least is *sustainable adaptation* knowledge domain. This knowledge domain is concerned by all other knowledge domains with a concern of sustainability in all approached being considered. In order to understand this next section is a review of tourism adaptation frameworks.

Tourism Adaptation Frameworks: A Review

As mentioned above, adaptation frameworks provide practical tools to aid the process. In a review of tourism adaptation framework, the earliest proposed tool is the work of Scott et al. (2006) who enlists three types of adaptation that include: technical; behavioral and business management. This proposal is limited at guiding stakeholders the step-to-step adaptation process. Becken and Hey (2007) proposed a risk approach in profiling risks. This approach has been used in planning domains where risks are evaluated based on exposure. However, this approach may be tricky to employ in tourism because of the complexity nature of tourism industry.

Later a more tourism dedicated adaptation tool can be traced to the work of Simpson et al. (2008), “A Framework for Climate Change Adaptation in the Tourism Sector.” The framework proposes seven steps process for adaptation. One of the strengths held by that proposal is that it emphasizes on the need for collective action among stakeholders. However, Jopp et al. (2010) criticized the approach because it did not recognize the role of the consumers in the adaptation process. The model provides local and national feedback but limited to global feedback. Jopp et al. (2010) provided a more practical framework for adaptation named Regional Tourism Adaptation Framework (RTAF) (see Figure 12.2).

The framework is informed by the need to have a step-by-step process of adaptation and the need for collective action. RTAF is implemented in two phases. The first phase is vulnerability and resilience evaluation. This involves the definition of the tourism system, identification of risks and opportunities, adaptive capacities are also assessed. The second phase involves identification of adaptation options, options assessment, testing the options with consumers and implementing the best options. RTAF is complimented for being simple; emphasizes on the need for stakeholder’s involvement, need oriented, takes local approach, considers the demand side and acknowledges opportunities. However, it has its share of weaknesses that include lack of feedback between local and global processes, business-oriented, lack of explicit adaptation assessment and limited to local opinion and knowledge (See Njoroge, 2014).

As debate on the need for sustainable adaption continued in the last decade it was clear that not all adaptation is good. This is because an adaptation at one level

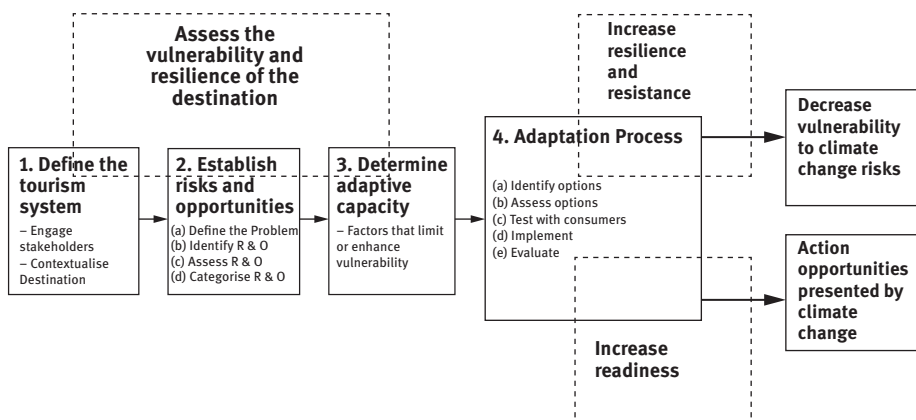


Figure 12.2: Regional Tourism Adaptation Framework (RTAF).

Source: Jopp et al. (2010)

can lead to *maladaptation* at another level (Becken & Hay, 2007; Owuor, Mauta & Eriksen, 2011). Therefore, there was a need to rethink on integrating the need for sustainability in the adaptation process and options. So, what is sustainable adaptation? There is no agreement on the meaning if this term (Brown, 2011). However, there is speculation among scholars that sustainable adaptation has been coined from the two terms: sustainability and adaptation. Sustainability as associated with development refers to the ability to meet the current need for development without jeopardizing the need of future generation. Adaptation on the other hand is coined from the word adapt which means to adjust to condition as a response to a stimulus.

Whilst sustainability has been hardly been discussed in earlier IPCC texts only in a later IPCC (2007) report Chapter 18 was the term sustainability discussed. It argues that a successful adaptation largely depends on the adaptive capacity. This adaptive capacity can be enhanced through: “improvement of access to resources, poverty reduction, reducing inequities, improving education and information, improving infrastructure, eliminating intergenerational inequities, respecting experienced local experience, moderating structural inequities, assuring comprehensive and integrative responses, encouraging active participation among stakeholders and by improving institutional capacity and efficiency,” (IPCC 2007, p. 899).

Since not all adaptation are good (Brown, 2011; Ericksen et al., 2011) there is a need to operationalize the definition of the term sustainable adaptation. Leichenko and O’Brien (2008, p. 31) state that sustainable adaptation is coined from the terms “sustainability” and “adaptation” to infer the need to “reduce vulnerability” and enhance “long term resilience.” This definition is informed by the nexus that exists between climate change vulnerability and poverty. This is provided Ericksen et al. (2011) through a critical analysis of the linkages between climate change and poverty reduction in an investigative report commissioned by the Norwegian Agency

for Development Cooperation (Norad). The linkages between vulnerability and poverty can be summarized as:

1. Any added risk by climate change to current ways of securing wellbeing,
2. The particular strategies or adaptive capacity of poor people in the face of climate stresses and
3. The causes of vulnerability, or specific factors and conditions that make poor people vulnerable to climate stress' (Ericksen et al., 2011).

In order to address these linkages sustainable adaptation measures have been proposed including:

- (a) reducing the risk on wellbeing of the poor,
- (b) enhancing adaptive capacity and,
- (c) addressing the root cause of vulnerability (Ericksen et al., 2011, p. 342).

Similar views have also emerged including pro-poor climate change adaptation (Tanner & Mitchell, 2008) and community-based adaptation (Ensor & Berger, 2009) all agreeing with measures aimed at reducing vulnerability among the poor and enhancing their means of securing livelihood in the long-term perspective.

Having considered all these factors Csete and Szécsi (2012, p. 104) analysis the interrelations between sustainability and tourism adaptation portfolio in the examined micro-region and argues that sustainable adaptation can be achieved examining the interaction between the aspect of sustainability (environmental, economic, social and institutional) and types of adaptation (management, behavioral, educational, political and technical) (See Csete & Szécsi, 2012, p. 104). This analysis provides a valuable input in identifying possible pathways in achieving sustainable adaptation. However, it does not provide a step-by-step process for sustainable adaptation. Therefore Njoroge (2014) proposed an enhanced Regional Tourism Sustainable Adaptation (RTSAF) (see Figure 12.3).

RTSAF proposes a two-phase adaptation stage. The first stage is the assessment of vulnerability and resilience of the destination. This is addressed in three steps. First by defining the tourism system through stakeholders' engagement in order to conceptualize the destination. The second step is establishment of risks and opportunities through problem definition, identification of risks and opportunities assessing the risks and opportunities and categorization of risks and opportunities. The third step is determining adaptive capacity through evaluation of factors that limit or enhances vulnerability. The second phase involves six steps. First, identifying the adaptation options, assessing the options, testing with all stakeholders, ranking the options, implementing the most viable option and evaluating the options. Finally, this framework also appreciates the need for global and local feedback and identifies the need for regional adaptation authorities communicate to national adaptation authorities that can also give feedback to the global process, i.e., IPCC.

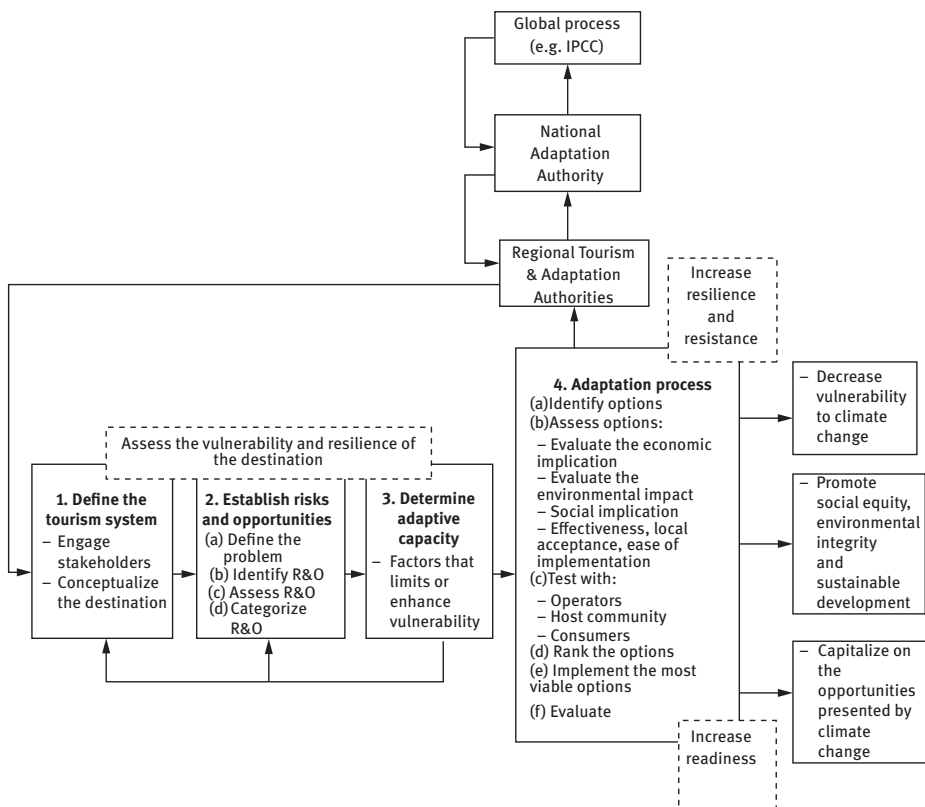


Figure 12.3: Regional Tourism Sustainable Adaptation Framework (RTSAF).

Source: Njoroge (2014: p. 29)

Conclusions

To conclude it is important to appreciate the advancement of knowledge in the development of tourism adaptation knowledge domains. The advancement of adaptation frameworks is also acknowledged. It will be of interest for adaptation scholars to see the applicability of these proposed frameworks as part of knowledge development and practical application.

For practitioners it is important to remember that tourism will continue to face many risks in this era of uncertainty. It is therefore prudent that practitioners to be always prepared in order to respond swiftly and strategically. It is also necessary to have continuous risks and opportunities analysis so that they can minimize the potential risk and or maximize opportunities provided by any eventuality currently and in the future.

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