Towards adaptive tourism areas: using fitness landscapes for managing and futureproofing tourism area development

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Abstract

Purpose – *Tourism areas are challenged to become adaptive areas in the context of a dynamic networked society and globalizing economy. The purpose of this paper is to contribute to an enhanced understanding and conceptualization of adaptive tourism areas by drawing attention to "fitness landscapes," a metaphor that is used in complexity theories to visualize development trajectories of adaptive systems.*

Design/methodology/approach – *Fitness landscapes, and its underlying theories, are useful to conceptualize tourism area development as a stepwise movement through a dynamic landscape with peaks and valleys. Doing so allows us to highlight why adaptation is a crucial property for tourism areas that are embedded in dynamic contexts and offers a frame of thought for how tourism areas can be managed.*

Findings – *The article raises awareness about and draws attention to a set of factors and conditions that support tourism planners and managers in enhancing the capacity of tourism areas to adaptively respond to changing circumstances.*

Originality/value – *Introducing fitness landscapes contribute to the discussion on adaptive capacity building – a topic that contributes to managing uncertain futures and is likely to gain importance in the dynamic society. Moreover, it helps as well as stimulates tourism scholars to further develop this topic. Finally, it helps tourism planners to build adaptive capacity in practice.*

Keywords *Complexity, Resilience, Adaptive capacity, Fitness landscape, Tourism area*

Paper type *Research paper*

1. Introduction

Tourism area development is a dynamic socio-spatial and socio-economic phenomenon. The emergence and consecutive development of the tourism industry, and related industries of recreation, leisure and hospitality, serve as a driving force that stimulates tourism area (re)development. Throughout the world, places have been adapted and transformed for the purpose of leisure, tourism and recreation. Some regions have become tourism areas whilst others are in process of becoming a tourism area, exhibiting variety in their tourism area life cycle (Butler, 1980). These sectors are continually evolving, however, and actors are forced to co-evolve, even regardless of the position of the tourism area in its life cycle. Because of the enormous growth in these industries, there is an immense and intense local as well as global competition. For visitors this means that there is an abundance of choice available. Visitors are able to continuously shift their interest from one destination to another. As such, actors in the sector of tourism are caught up in a process of continuous improvement and innovation – finding themselves caught in a process of becoming as actors try to find and develop niches that captivate people and attract visitors, inhabitants and businesses. The tourism area development is influenced, steered and shaped by a variety of actors and factors. It can be framed as the result of the interplay between changing contextual circumstances, planning interventions and (self-organized) responses by actors at multiple spatial and governance levels (Urry, 2003; Urry and Larsen, 2011).

Received 28 March 2018
Revised 17 April 2018
Accepted 17 April 2018

First, tourism area development is partly driven by processes that occur rather autonomously from the perspective of actors at the local and regional level. The increase of welfare and free time enabled people to travel and spend time and money on leisure. Innovations in transportation enable people to travel long distances in relatively short periods of time. Due to technologic progression new possibilities and experiences are constantly made possible. Society has developed more interest in the qualities of nature, ecology, landscapes, built and cultural heritage as well as the benefits and development opportunities these confer on societies. Also macro-economic dynamics may trigger an interest in the sector of tourism. For instance, when agriculture is declining in socio-economic importance or unable to upscale, when the service economies are clustering in cities or when (public) resources for the conservation of nature and heritage are declining.

Second, regions become tourism areas as a result of adaptive (self-organized) responses of entrepreneurs, organizations and governmental agencies. The factors mentioned above trigger development opportunities and motivate actors to engage in the leisure economy. Governmental agencies may support facilities and land uses for tourism, recreation and leisure purposes to respond to the demands and desires of society. Entrepreneurs and project developers develop business concepts and mobilize resources for development plans. Politicians may be inspired by the potential contribution of tourism to socio-economic development of localities and create room for the realization of public and private plans. However, whether regions are actually visited, and tourism area development gains momentum, depends on a range of factors such as the presence and uniqueness of amenities and spatial qualities as well as on practical matters, such as accessibility and costs.

Third, the ways in which tourism area development become spatially manifest is, at least in many Anglo-Saxon countries sometimes strongly steered and shaped through strategic spatial planning. More specifically, the design of institutional frameworks and the organization of governance arrangements may strongly affect how tourism area develop and evolve over time (Hartman, 2016b). Institutional frameworks defined as the assemblage of laws, rules, regulations, norms and values may shape development trajectories by privileging some activities and land uses over others. These could inhibit as well as stimulate tourism area development. Also, the organization of governance systems affects tourism area development, being shaped actions of specific actors, their networks, by intermediary agencies and relationships between public and private sector agents.

For these reasons, tourism areas are framed as complex socio-spatial systems (Hartman, 2016a; Brouder and Eriksson, 2013; Ma and Hassink, 2013), which are open systems that are embedded in a dynamic environment to which the actors (and their practices) that are part of these systems are constantly adapting. Stated as such, tourism areas are in the need of such capacity to adapt. In this context, complexity theories can provide analytical leverage on enhancing the adaptive capacity of tourism areas. A particular element of complexity theories is used called fitness landscapes. Fitness landscapes can be used to visualize the development of complex adaptive systems as the stepwise movement through a dynamic landscape with peaks and valleys. Fitness landscapes are used in this article primarily as a metaphor, being "vehicles for the transfer of concepts, ideas and notions from one domain to another" (Chettiparamb, 2006, p. 74, also see Mehmood, 2010) for the following aims:

- Use the metaphor of fitness landscapes to help us to develop an enhanced understanding of how theories on complex adaptive systems can provide analytical leverage on guiding and managing tourism areas in their evolution. Fitness landscapes are intentionally used as a metaphor for reasons of clarification, sense-making and theorization, whilst being aware that fitness landscapes can also be used more quantitatively for modeling and simulations (Gerrits and Marks, 2014; Gerrits and Marks, 2017).
- Discuss how fitness landscapes – particularly because it allows to visualize – contribute to an enhanced understanding of how development trajectories of tourism area unfold and why adaptation is a crucial property for tourism areas in dynamic contexts.
- Raise awareness about and draw attention to factors and conditions that support tourism planners and managers in enhancing the capacity of tourism areas to adaptively respond to changing circumstances.

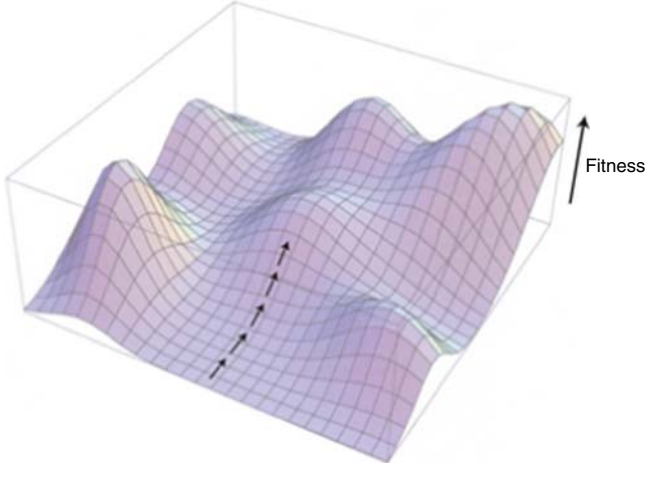
2. Theorizing and characterizing fitness landscapes

Fitness landscapes are visual representations of a system its space of possibilities which, in other words, concerns the totality of development options that are available to a system. This space of possibilities can be visualized, as it explained by De Landa (1994, p. 266): "To put it in visual terms, it is as if the space of possibilities […] included mountains and valleys, with the mountain peaks representing points of optimal performance." In literature, there are multiple notions describing more or less the same ideas. Walker *et al.* (2004) uses "stability landscapes" instead of fitness landscape. Battram (1998) uses "search space" instead of possibility space. Heylighen (2001) as well as Walker *et al.* (2004) use "state-space" instead of possibility space. Frenken (2006) uses "design space" instead of possibility space.

Following Kaufmann, fitness landscapes are defined by the number of "N" components with "K" interactions between the components and in which there can be any number of states for each N (Kauffman, 1993). The more components and interactions between them, the more peaks in the landscapes (also see Section 2.1), and the more difficult it becomes to identify a tourism area's optimal performance. In line with the argument made above on conceptualizing tourism areas as complex adaptive systems, we believe that, hence, tourism areas consistent of a large(r) number of components and interactions. Whereas there is nowadays a strong tendency to say that tourism areas are performing optimally when socio-cultural (people), socio-economic (profit) and socio-ecological (planet) factors are in balance there might be multiple development trajectories that tourism areas can pursue in trying to become more sustainable. Different development trajectories can result in very different outcomes (different peaks) and can be mutually exclusive (valleys in between). Hence, in the context of tourism areas, fitness landscapes represent the various options available for tourism area development and, as these options are often heavily influenced by actors that are part of or have a stake in these areas, are very much co-created by these actors. As such, they are likely to be social constructs that represent the perspectives of groups of actors regarding the development options of tourism areas.

In fitness landscapes, the development of an adaptive system such as a tourism area can be visualized by a series of stepwise, uphill movements through this fitness landscape. This enables a region to progress and improve in terms of socio-economic and spatial development. Exactly this development process is represented by the arrows in Figure 1. The arrows portray a development trajectory (the result of a series of stepwise movements over a period of time) and are also understood as an "adaptive walk" (Kauffman and Levin, 1987). Fitness landscapes are constituted by the totality of factors that are capable of steering and shaping the ways in which a

Figure 1 Development trajectory in fitness landscape



Source: Barton *et al.* (2007)

complex system can evolve, i.e. affect how the development trajectories of places may unfold. Clearly, in our dynamic globalized economy and network society these factors are changing continuously, meaning that fitness landscapes deform over time, as is further discussed in Section 2.3.

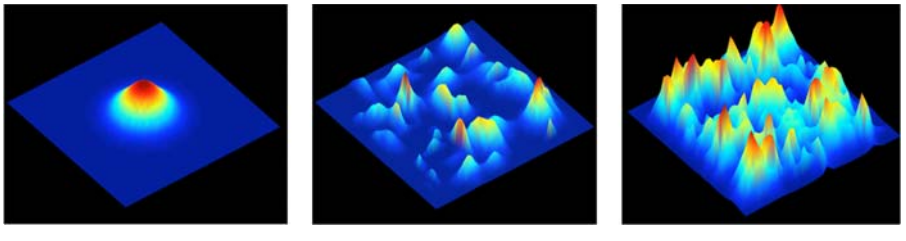
This paper draws on the parallels between complex adaptive systems and tourism areas and conceptualizes tourism areas as socio-spatial systems – being situated in a space of possibilities that offers a range of development options – which are challenged to develop the adaptive capacity to navigate themselves uphill through a dynamic fitness landscape. Using the fitness landscapes as a metaphorical representation of a space of possibilities has first been introduced in evolutionary biology (Wright, 1932). Since then it has made its way into theories on complex adaptive systems (Kauffman, 1993, 1995), socio-ecologic systems (Walker *et al.*, 2004), socio-technological systems (Frenken, 2006), literature on the behavior of organizations in dynamic environments (Battram, 1998; Maguire and McKelvey, 1999; Mitleton-Kelly, 2003; Eoyang and Holladay, 2013) and into the literature on public administration and decision making (van Buuren and Gerrits, 2007; Gerrits and Marks, 2014). Building on these insights and the perspective that tourism areas can be conceptualized as complex systems that have the potential to be adaptive (Hartman, 2016b), fitness landscapes can also provide analytical leverage on the planning, development and management of tourism areas – albeit at this moment at first as a metaphor. How does the metaphor of a fitness landscape provide analytical leverage on guiding tourism areas in their evolution? The follow aspects can be distinguished.

2.1 Fitness landscapes visualize that multiple development trajectories are possible

Peaks in fitness landscapes represent points of optimal performance. These peaks serve as attractors to which complex adaptive systems tend to orient their development trajectories. When regions are attracted by the potentials of the tourism sector one could say that tourism forms such a peak. For other regions, such peaks may be formed by economies that involve agriculture, the service sector, industries or by a mixture of different land uses and functions. Moreover, we can imagine that fitness landscapes in the context of tourism may have multiple peaks that influence how their development trajectories unfold. Hence, fitness landscapes may range from a single point to the so-called rugged landscapes (Kauffman, 1993; Eoyang and Holladay, 2013). In theories on fitness landscapes, it is explain in greater detail in the work of Kaufmann on the so-called NK models. He argues that whether fitness landscapes are single point or more rugged landscapes depends on the number of "N" components with "K" interactions between the components and in which there can be any number of states for each N. A fitness landscape is rugged when N and K are large, while it is smooth with only one peak when K is zero. This is visualized in Figure 2 with the single point landscape on the left-hand side, the multipoint landscape in the middle and the rugged landscapes on the right-hand side:

- Single point landscapes represent a situation where there is only one optimum. It is rather straightforward what constitutes the best fit, and how to (move "uphill" to) get there.

Figure 2 Typologies of fitness landscapes



Source: Østman (2013)

- Multipoint landscapes depict multiple optima. Hence, there are multiple development trajectories possible that all may lead to a better fit, although some trajectories may lead to a better fit compared to others.
- Rugged landscapes also have multiple optima. However, the more rugged landscapes are, the more difficult is it to oversee the entire space of possibilities. And, the fuzzier it is to determine which development path (and which combination of planning approaches and instruments) will lead a system toward the optimal state.

Tourism areas tend to be situated in rugged landscapes. These regions are often faced with multiple development options for instance related to housing, offices or agriculture next to tourism, leisure and recreation. Moreover, also in pursuing the development of the tourism sector, again there is a large range of niches and multiple development trajectories are possible. This resonates with Geels and Schot (2007) who emphasize the possibility of multiple (transition) pathways, in their discussion on how development trajectories of systems may unfold toward the future.

2.2 Moving "uphill" represents progression and involves adaptation

Complex adaptive systems are always searching for possibilities to find a better fit given the contextual circumstances. In fitness landscapes this is represent by moving "uphill," away from a valley and toward a peak. For tourism areas moving uphill could be represented by taking steps toward becoming more sustainable or climate resilient being triggered by, responding to or anticipating changes in the contextual environment and aiming to find a modus that better fits this contextual environment. Moving uphill involves adaptation. Kauffman and Weinberger (1989, p. 211) describe adaptation as "a complex combinatorial optimization process." Elsewhere Kauffman (1993, p. 33) argues that "many parts and processes must become coordinated to achieve some measure of overall success, but conflicting 'design constraints' limit the results achieved." For instance, becoming a more sustainable tourism area depends on various factors ranging from entrepreneurship, laws and regulations, investment schemes, technology, etc. Moreover what is understood by sustainability itself may change over time as well (see Section 2.3 on deforming fitness landscapes). The understanding that moving uphill is a complex process is in line with theories of transitions and transition management that elaborate on how system dynamics may gain momentum and may be inhibited (Hartman and De Roo, 2013; Rauws and De Roo, 2011). Transitions are gradual processes of letting go of an old situation and embracing a new situation that could differ fundamentally from the old one. Such transition processes could be driven by rather autonomous process, whilst at the same being coupled to path dependencies and lock-ins that inhibit the adaptation of the structures and functions of a region. Hence, adapting and steering development trajectory of systems in a particular way could be a potentially long-term endeavor that involves the persistent mobilization and unification of actors and resources. There are various contributions to the literature on exploring strategies and conditions that contribute to managing system transitions (Kemp *et al.*, 2007) and building system resilience (Hartman, 2018).

2.3 Fitness landscapes may deform: development opportunities change over time

The space of possibilities of a system is not a fixed space, nor is a fitness landscape. As argued, the space of possibilities and the fitness landscapes is constituted by the totality of factors that are capable of steering and shaping the ways in which a complex system can evolve. This means that the shape of fitness landscapes can be deformed by changes within one system that alter another system's space of possibilities (Kauffman and Johnsen, 1991; Mitleton-Kelly, 2003). We can think of trends and developments in systems such as the economy, climate, technology, ecology and belief systems (Loorbach, 2007). These can have a major impact on the opportunities and constraints of tourism area development. Macro level (global) trends and development that originate outside of a socio-spatial system such as a tourism area could influence fitness landscapes largely autonomously, as they are beyond the control of local actors, and may strongly steer and shape possible development trajectories. Alternatively stated, when fitness landscapes change, it may lead to new opportunities or urgencies to adapt (Kauffman, 1993, p. 33; Gerrits, 2008). When this is visualized, the peaks and valleys of fitness

landscapes may emerge, level off, or disappear over a period of time. Referring to Figure 2, this would imply that how fitness landscapes look like (e.g. the three options represented in Figure 2) depends on the current situation and may vary over time. This is the case when systems are interlinked, open, interacting and actors/agents within systems adapt to these dynamics. Hence, changing circumstances may (strongly) affect development opportunities and redirect development trajectories (cf. Lew, 2014).

Using fitness landscapes as a metaphor is useful to illustrate that tourism areas are embedded in dynamic contexts to which they adapt. To stay with the metaphor of fitness landscapes, these regions are challenged to develop the adaptive capacity to navigate themselves through a dynamic fitness landscape, avoiding valleys of low fitness and engaging in trajectories to move uphill toward peaks that represent a higher fitness. Here, adaptation can be defined as the process of changing the structures and functions of a system as means to acquire a better fit relative to its contextual environment (Heylighen, 2001). Complex adaptive systems have the capacity to navigate themselves through a dynamic fitness landscape, because these feature the necessary adaptive capacity. The mechanisms that enable complex systems to adapt to changing circumstances – as being represented by movements through dynamic fitness landscapes – are discussed amongst others by De Landa (1994, 1997), Kauffman (1993, 1995), Heylighen (2001) and Mitleton-Kelly (2003).

In order to adapt, the possibility space/fitness landscape needs to be explored to distinguish peaks and development trajectories that are promising. De Landa (1994, 1997), for instance, argues that adaptation is coupled to what he calls a "searching device" that "spontaneously explores a space of possibilities" (De Landa, 1994, p. 264). Kauffman (1995, p. 186) argues that "locating the highest peak or one of the few highest peaks requires searching the entire space of possibilities." But elsewhere, Kauffman (1993, p. 33) states that "[…] adaptation typically progresses through small changes involving a local search in the space of possibilities." From these insights, we can derive that exploring development options is crucial, whilst exploration is likely to uncover only a partial set of options. Adaptation involves, hence, an iterative and gradual, stepwise process of exploring and moving. As such, it might take a series of adjustments over a period of time before systems are fundamentally changed in structure, function, organization and identity. Generating diversity is, therefore, important for finding solutions to issues that arise when circumstance change (De Landa, 1994; Heylighen, 2001). Mitleton-Kelly (2003, p. 14) summarizes: "Complexity suggests that to survive and thrive an entity needs to explore its space of possibilities and to generate variety."

3. From theory to practice: implications for tourism management

Theories on complex adaptive systems emphasize that dealing with persistently changing circumstances it is critical to feature adaptive capacity, which involves iteratively exploring a system's space of possibilities and generating a degree of diversity. For complex socio-spatial systems such as tourism areas, these features involve actions that need to be actively pursued and governed. This implies that tourism area development is entangled in an endless process that involves both diverging perspectives on development (exploring the space of possibilities/ mapping the fitness landscapes in order to move to peaks and stay away from valleys; generating diversity) as well as converging perspectives on development (articulating which peaks to pursue; distinguishing development trajectories). Similarly, Van Wezemael (2012, p. 45) states that planning and management processes "becomes readable as a repeatedly and experimentally generated response to changing relations in spatial development. Via trial and error the space of possibilities […] [is] explored." This perspective on adaptive capacity draws attention to various issues for tourism planning, management and governance.

3.1 Exploring fuzzy fitness landscapes: mobilizing actors and their perspectives

Tourism areas are confronted with multiple development options, meaning that multiple development trajectories are possible. Their development trajectories are, therefore, constantly challenged and renegotiated. Potentially, some options offer synergies, for instance when developments contribute to environmental quality, socio-cultural development, poverty reduction

whilst others are mutually exclusive. The fact that multiple perspectives co-exist could raise issues in the context of exploring the space of possibilities/mapping fitness landscapes.

First, individuals, organization and institutions may have their own perspectives on the most promising state of a region and how to get there. Perspectives may harmonize but can also collide and conflict. As such, in the context of socio-spatial systems such as tourism areas, possibilities spaces and fitness landscapes may need to be interpreted as social constructs that are subject to factors such as interpretation, knowledge, normativity, power, politics. For good reason, De Landa (1998) speaks of "exploring a virtual space of possible forms" (p. 24). This calls for interactive meetings or workshops that make use of applications of strategic storytelling (Hartman, 2016a) or scenario planning to share perspectives and develop shared understandings and visions on the futures of tourism areas.

Second, actors may only explore or articulate particular parts of the possibility space as a result of unawareness of other possibilities, reluctant to other possibilities, they could be biased, face path dependencies that make shifts difficult, lack the resources to do so. Kauffman (1993, p. 33) argues this could be understood as a "local search." Frenken (2006, p. 140) calls this a "myopic search" whereby actors search "only in the direct neighbourhood." On the one hand, this implies that one may explore, see or articulate different development trajectories compared to others, which may give rise to issues. On the other hand, two actors see more than one. When perspectives are joined it may enlarge the explored space of possibilities or mapped fitness landscapes. Broadening the scope of the local search is important. This could be done by learning from others in interactive meetings, workshops, seminars or inspirational events. This could include perspectives that are outside-the-box, utopias and doom scenarios and science fiction.

Exploring multiple development options and pathways is an intrinsic part of tourism area development. Exploring options or "visioning" could be seen as a process of exploring and uncovering the space of possibilities, uncovering innovations and articulating promising development trajectories that may trigger further innovative niche developments. As a part of visioning, interactive and strategic storytelling can be used to portray a particular fitness landscapes and emphasize a distinct development trajectory. Although storytelling could serve as a strategy to pursue a limited set of interests, it could be used as a strategy to mobilize and assemble perspectives, and to articulate a common understanding. At this point, there is an important role for intermediaries and bridging organizations that mobilize and unite actors from different domains and governance levels.

3.2 Anticipating dynamic fitness landscapes: governing diversity

An important aspect of adapting to persistently changing circumstances is the ability to reorient development trajectories. As fitness landscapes are dynamic, peaks may over time level off and other peaks may emerge. When this happens, it could trigger adjustments to a region its development trajectory, as actors shift their focus to alternative actions and land uses. Maintaining trajectories of the past and extrapolating these "linearly" into the future can become unsustainable from economic, societal and/or environmental perspectives. Potentially, "[t]he ability to deviate from a vested development trajectory is then constrained by rigidly retaining traditional spatial patterns, policies, strategies, and institutional settings that once supported economic growth in an area but do so no longer. Consequently, mismatches will emerge between entrepreneurial and societal desires and institutional settings, causing an inability to acquire other, perhaps better, suitable combinations of land uses and functions at a specific time and place" (Hartman and De Roo, 2013, p. 559). Such a focus may "trap exploring agents preventing them from exploring any other point" (Frenken *et al.*, 1999, p. 147). The desire to avoid such lock-in situations triggers an interest in strategies that foster path creation and safe-to-fail approaches (Ahern, 2011), which are also key factors for businesses in particular and tourism areas in general to reinforce their competitive advantage in a strongly globalizing tourism sector. The relevance of a degree of diversity in this context has been discussed above. Governing diversity is a key aspect of avoiding negative lock-in situations and ensuring that regions are both robust and flexible at the same time, which enables places to adapt and improve. It requires for instance room in policy frameworks that enable

entrepreneurs to take the required initiatives, institutional support via investment schemes to motivate tourism entrepreneurs and investments in education of entrepreneurs (e.g. via lifelong learning strategies).

3.3 Moving toward peaks: selecting development trajectories over others

Exploring development options is about mapping the space of possibilities, and generating diversity enables systems move from one position to another in a fitness landscape. Adaptation involves the ability to move, but it also involves moving in a particular direction, toward a distinct peak that brings a system in a better position to develop. This implies processes of selection; emphasizing some development trajectories over others. For tourism area development, for instance, some land uses and development projects could be supportive (e.g. better accessibility, enhanced amenities) whilst others could be inhibiting (e.g. perturbing environmental qualities). In other words, tourism area development is strongly dependent on and shaped by institutional frameworks and governance systems that tend to be strategically selective, privileging some development options over others, thereby shaping a tourism area its development trajectory and steering it into a particular direction.

4. Discussion: toward adaptive tourism areas

Enabling development trajectories to unfold in a particular direction whilst retaining a capacity to adapt brings forth major challenges and conditions for institutional design. Alexander (2002, p. 1) defines institutional design as "the devising and realization of rules, procedures, and organizational structures that will enable and constrain behavior and action so as to accord held values, achieve desired objectives, or execute given tasks" (North, 1990; Alexander, 2006). Institutional design is a key aspect of planning and management (Innes, 1995; Alexander, 2005) and takes place at the levels of the state, the province, the municipality/county and results in laws, rules and regulations at multiple governmental levels. By enabling and constraining particular land uses and activities over others, it becomes possible to steer and shape the development trajectories of a region, for instance toward leisure. A major challenge in the institutional design process is to ensure that tourism areas feature a degree of robustness and flexibility at the same time. Robustness is relevant to avoid disturbances that inhibit tourism areas in their uphill movement toward reaching better system states (e.g. ensuring that the regional leisure economy is diverse, protecting nature, heritage, spatial quality). Flexibility is relevant to facilitate actors to adapt and transform tourism areas, so that progression can be made (e.g. introducing new business concepts, land uses, stimulating spatial quality).

However, because tourism areas are facing persistently changing circumstances, institutional frameworks need to be produced, reproduced and adapted over time. Institutional frameworks should not be static but be renegotiated and transformed amongst others in response to emerging societal demands or changing socio-economic situations. On the one hand, this may affect the development potential of areas for tourism in a positive way, for instance when policies and regulations are adopted that stimulate infrastructure, heritage preservation, spatial quality or that constrain large scale or ad hoc urban development. On the other hand, such land uses and activities may be negative for tourism. Overall, tourism areas may have the potential to develop in a variety of development trajectories ranging for instance from housing, glass house development, leisure, agriculture, of which some of these development trajectories are mutually exclusive. Without an institutional framework that emphasizes tourism, development trajectories may unfold rather differently and include other types of land uses. This highlights not only that multiple perspective may co-exist on which development trajectory to pursue. It also highlights the relevance of recognizing when changing circumstances requires regions to pursue alternative development trajectories. This draws attention toward a more reflexive form of governance.

Voss and Bornemann (2011, p. 1) explain that a "reflexive stance toward governance abandons the assumption of 'one' adequate problem framing, 'one' true prognosis of consequences, and 'one' best way to go that could be identified in an objective manner from a neutral, supervisory outlook on the (social-ecological) system as a whole." In contrast, a reflexive approach to

governance "implies that one calls into question the foundation of governance itself, that is, the concepts, practices and institutions by which societal development is governed, and that one envisions alternatives and reinvents and shapes those foundations" (Voss and Kemp, 2006, p. 6). In the context of fitness landscapes reflexive governance could be understood as iteratively addressing the following steps:

- explore the space of possibilities and map fitness landscapes;
- articulate peaks and valleys and identify accompanying development trajectories;
- renegotiate institutional frameworks to privilege some trajectories over others; and
- mobilize actors and resources to engage in development trajectories.

Summarizing, guiding tourism areas in their evolution comes with a set of conditions for spatial development (explorations, governing diversity), for institutional design (privileging development trajectories over others, adaptive institutional frameworks) and governance (selecting development trajectories, reflexive governance). These are important topics to further research, conceptualize and test in practice to better manage and futureproof tourism areas development.

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