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Nature-based tourism and community resilience

Authors and ORCID numbers

Kreg Lindberg, Oregon State University, ORCID 0000-0002-7881-1992
Magnar Forbord, RURALIS, ORCID 0000-0002-0477-0139
Rita Moseng Sivertsvik, RURALIS, ORCID 0000-0002-9228-0956

Biographies

Kreg Lindberg is an associate professor in the Tourism, Recreation, and Adventure Leadership program in the Department of Forest Ecosystems and Society at Oregon State University, USA. His research focuses on tourism, outdoor recreation, community resilience, and subjective well-being.

Dr. Magnar Forbord is a senior researcher at Ruralis – Institute for Rural and Regional Research in Trondheim, Norway. In the field of tourism, among other things, he has studied networks and innovation in nature based tourism firms, institutional settings in farm tourism, and economic impacts of regional tourism.

Rita Moseng Sivertsvik is a political scientist and researcher at Ruralis - Institute for Rural and Regional Research in Trondheim, Norway. In the field of tourism she has studied motives, management, innovation and networks in nature based tourism firms in Norway, and tourism as a part of local community development.

Abstract

Adaptation to change is one of the greatest challenges facing society today, and community resilience is an important framework for understanding how communities thrive in the face of change. This chapter provides an overview of the contribution of nature-based tourism (specifically, NBT firms) to community resilience. This contribution can occur within or across multiple dimensions: 1) economic, such as enhancing sectoral and livelihood diversity, 2) social, such as enhancing social capital, social cohesion, and community infrastructure, and 3) environmental, such as enhancing public support for conservation and providing an incentive to maintain landscapes in an undeveloped state.

Key words

Community resilience; Tour operators; Occupational plurality; Livelihood diversity; Social capital

1. Introduction

Even before COVID-19, it was clear that adaptation to ecological, economic, and social change is one of the greatest challenges facing society today. This recognition has generated substantial societal, political, and theoretical interest in resilience (Cutter et al., 2014; Walker and Salt, 2012). Nature-based tourism potentially contributes to resilience in rural communities, such as by enhancing social capital and economic diversity. This chapter 1) presents an overview of the conceptualization and measurement of community resilience as a foundation for 2) describing the potential effects of nature-based tourism on community resilience and 3) presenting results from empirical evaluation of illustrative effects.

Coverage of resilience within tourism often focuses on the resilience of tourism firms, destinations, or both (e.g., Butler, 2017; Cheer and Lew, 2018; Hall et al., 2018; Kutzner, 2019). The dramatic loss of visitor expenditure, firm revenue, and employment in the tourism sector due to COVID-19 (Anonymous, 2020) is a reminder that tourism (like many other sectors) is vulnerable in the face of extreme changes. The focus here is not on the resilience of the tourism sector, but rather on the sector's contribution to the resilience of the communities in which it operates. COVID-19 dramatically reduced that contribution in the first half of 2020, as tourism firms struggle simply to survive. Nonetheless, an understanding of that contribution can inform policy decisions as countries, communities, and tourism firms recover from the impact of COVID-19.

As with sustainable development, it has been difficult to translate resilience as an intuitive concept into measurable outcomes that can be used for such assessment. This chapter "lays a foundation" for empirical assessment of effects from nature-based tourism (NBT) on community resilience. It also provides illustrative empirical results, focused on the contribution of NBT firms and based on their perspective, from an evaluation undertaken in the Norwegian BIOTOUR project (see the Introduction chapter of this volume); additional results are presented in Lindberg, Forbord, and Sivertsvik (2020).

2. Conceptualizing community resilience

There are many definitions of resilience, including 1) "the ability of groups or communities to cope with external stresses and disturbances as a result of social, political and environmental change" (Adger, 2000, p. 347) and 2) "the existence, development, and engagement of community resources by community members to thrive in an environment characterized by change, uncertainty, unpredictability, and surprise" (Magis, 2010, p. 401). The present approach follows Lindberg and Swearingen (2020) and conceptualizes community resilience as a community's ability to thrive in the face of change.

The literature often focuses on resilience in response to negative changes, portrayed as stressors or disturbances. However, changes may be positive, or positive for some within a community and negative for others. *Change* as a descriptor reflects this directional flexibility, as well as the potential for events to be either fast or slow in onset (e.g., an earthquake versus an economic recession). *Thrive* is used instead of *cope* to reflect the potential for positive outcomes, not simply avoidance of, or recovery from, negative outcomes (Cutter et al., 2014).

An "of what, to what" approach can be used to clarify evaluations (Carpenter et al., 2001). The present focus is on resilience *of* the community (beyond its function as a tourism destination), used in a geographic sense and inclusive of the associated natural environment. Resilience can be viewed as both general and specific (specified), with the latter referring to the resilience of specific system

components, resilience to specific changes, or both (Walker & Salt, 2012). The present focus is on general resilience and especially in the context of slow-onset changes such as economic and demographic changes (e.g., resilience *to* recession, sector-specific economic decline, or out-migration).

Although much of the resilience literature focuses on natural disasters, the challenges posed by economic and demographic changes also are recognized (e.g., Steiner et al., 2016; Maclean et al., 2013). The interplay between tourism development, often nature-based, and these types of slow-onset changes occurs in multiple rural contexts around the globe (e.g., Cheer, 2018; Maclean et al., 2013). Despite the particular focus on slow-onset changes, content on rapid-onset changes is included in the discussion because much of the resilience literature reflects such changes (and resilience may be sufficiently general that concepts from rapid-onset contexts also may apply to slow-onset contexts).

Lastly, one might conceptualize tourism itself as a change faced by communities (Jordan, 2015), with recent attention to "overtourism" illustrating this context. However, the present focus is on tourism's effect on resilience to non-tourism changes.

3. Measuring community resilience

Specification of the "of what, to what" aspect clarifies resilience, but measurement of resilience remains challenging, and quantitative evaluation of resilience with primary data is relatively uncommon. Although conceptualization reflecting "a community's ability to thrive in the face of change" is succinct, it is difficult to operationalize any conception of community resilience in order to assess current community resilience, how it varies over location and time, and the factors that affect it. For example, what specific measures indicate that a community is thriving? How is change measured in order to assess thriving relative to that change, especially since multiple changes may affect a community during the evaluated time period?

Several measures have been developed to measure community resilience, including those based on secondary data (e.g., Cutter et al., 2014; Scherzer et al., 2019) and those based on responses to survey scales or similar primary measures (e.g., Kulig et al., 2013). However, such measures often reflect factors potentially affecting resilience rather than resilience *per se*, as it is conceptualized here. An alternative approach involves response to survey scales, but with survey items reflecting respondent perceptions of community resilience rather than of factors affecting it (Lindberg and Swearingen, 2020).

A potential "response to past change" indicator consistent with the present conceptualization is illustrated in Burton (2015), who used analyst-assessed recovery of the built environment along the Mississippi Gulf Coast (United States) after Hurricane Katrina. Unfortunately, such response measures are limited in available geography and evaluated changes. The exception to this paucity is in the economic dimension, where longitudinal data on variables such as employment and economic output are commonly available before and after recessions and other economic change events (Martin and Gardiner, 2019).

4. Tourism and factors affecting community resilience

Empirical assessment of community resilience and the factors affecting it—beyond site-specific case studies—has been limited due to the above challenges. As illustrated in Figure 7.1, one mechanism for assessing tourism's effect on community resilience is to assess tourism's effect on affecting

factors, with affecting factors derived from conceptual and empirical evaluation in the literature (e.g., Norris et al., 2008; Martin and Gardiner, 2019).

Tourism's relationship with factors affecting resilience are discussed below, grouped into economic, social, and ecological dimensions. Thus, the sectoral diversity factor might affect the economic aspect of community resilience, as indicated by the ability of the local economy to thrive (e.g., sustain average household income) in the face of change (e.g., a recession or sector-specific downturn).

As with sustainability, resilience conceptualizes the interdependence of social, economic, and ecological systems; indeed, resilience thinking typically occurs within the context of linked social-ecological systems. The "triple dimension" approach can be useful for categorizing and considering factors affecting, and indicators of, resilience, but it is important to keep the simplification in mind. For example, sectoral diversification may affect, and be affected by, social cohesion. Likewise, non-declining household income may affect and be affected by non-declining population.

As in all models, Figure 7.1 is a simplification, and it presents only an illustrative set of factors and indicators. Alternative approaches include focusing on principles that support resilience, such as fostering complex adaptive system thinking (Cheer and Lew, 2018; Stockholm Resilience Centre, 2014). In that approach, tourism would affect resilience to the extent it positively or negatively affects the principles, including the level of complex adaptive systems thinking.

FIGURE 7.1

Economic dimension

Job creation is a central reason why communities embrace tourism, including nature-based tourism. Within the resilience context, there is particular benefit in the economic diversity at the community and individual level that may result from this job creation. Periodic economy-wide declines (recessions) occur, but diverse economies are more likely to be resilient because some sectors may be less affected than others. As the Stockholm Resilience Centre notes (2014, p. 4), "principle one" is to "maintain diversity and redundancy."

The benefits of diversity are even greater in cases of sector-specific declines. Rural communities that depend on a single or small number of sectors may be less resilient than communities with more diverse economies (Maclean et al., 2013). Norris et al. (2008, p. 143) note that "efforts to create economic diversity increase the probability that the community can withstand adversity or surprise." By providing an additional sector in local economies, NBT can enhance diversity and potentially economic resilience (Cheer, 2018; Martin and Gardiner, 2019).

There also can be a benefit from diversity across types of jobs, such as part-time, full-time, and seasonal. Tourism has been criticized for not providing a desired number of "living wage" full-time jobs, and that can limit its contribution to resilience. On the other hand, some employees may prefer part-time and seasonal jobs. Non full-time jobs may be important in the context of occupational plurality (livelihood diversity) at the household and individual level (Steiner and Atterton, 2015). Plurality at the individual level is described as an important component of "active resilience" by Alberts and Baldacchino (2017) in the context of the tourism sector in the Caribbean. The Stockholm Resilience Centre specifically notes the role of tourism in achieving livelihood diversity and redundancy at both the household and individual level (2014, p. 5).

Social dimension

The social dimension is broad and includes NBT's effects with respect to 1) social capital, 2) social cohesion, and 3) community leadership.

Much of the community resilience literature focuses on the role of social capital, defined here as the networks and resources available to people through their connection to others (Aldrich, 2012; Norris et al., 2008). As with community resilience, the tourism literature on social capital focuses on its role in the success of firms or destinations (e.g., Soulard et al., 2018). However, social capital catalyzed by firms and other organizations involved in tourism also can benefit the community as a whole.

Due to the nature of NBT firms, firm owners and employees may be especially gregarious and involved in local communities, thereby enhancing community-level networks (beyond business networks) and social capital (Steiner et al., 2016). As Maclean et al. (2013, p. 149) note, "[i]n times of change these networks provide essential support, operationalise community capacity, identify opportunities, and provide a focus for renewed optimism and hope." Hall et al. (2018) observe that a "resilient community, organization or destination requires strong interconnectivity."

Social cohesion is used here to refer to the sense of connectedness and solidarity among community members. It is similar to social capital, but, as noted by Cagney et al. (2016, p. 2), it is "more than a network of personal connections and involves a broader sense of attachment to the community." Social capital may be an antecedent of social cohesion (Portes and Vickstrom, 2011), which, in turn, may be an antecedent of community resilience. For example, in the aftermath of Superstorm Sandy in the northeastern US, Cagney et al. found that social cohesion correlated with perceived community resilience. In the tourism context, some authors note tourism's potential to enhance social cohesion (Kamble and Bouchon, 2016), while others observe that tourism may reduce social cohesion (Ivan, 2017).

Overlapping with contribution to social capital and social cohesion is contribution of product, money, time, expertise, and/or leadership to local organizations and institutions. As Steiner and Atterton (2015, p. 38) note: "rural business owners frequently collaborate with their communities on non-business related matters, based on a sense of responsibility to their local communities." Firms and employees may make cash donations, serve as volunteers, and act as role models and catalysts for change. Steiner and Atterton (2015, p. 38) quote one of their respondents: "We're leaders … when there is something that can happen in your district we are the ones who bring the people together to make it happen."

Ecological dimension

Tourism can contribute to habitat loss, greenhouse gas emissions, and other factors that negatively affect ecological resilience, including effects on natural areas within the inclusive geographic scope of community resilience (Garcia-Lozano et al., 2018; Gössling, 2002). However, tourism potentially also positively affects ecological resilience by motivating environmental preservation. Tourism can raise visitor appreciation of, and connection to, the natural world, which may stimulate financial or other contributions to natural area protection and management.

In addition, tourism may provide an ecological parallel to occupational plurality. The relationship between land-use / land-cover (LULC) and ecological resilience can be complex, and detailed analysis is beyond the scope of the present project. Nonetheless, by providing a complementary source of income, NBT may help sustain land in relatively undeveloped forms, and thus help sustain the ecological and social public goods those lands provide (Schmid et al., 2012, p. 54). The provision of

complementary income also may reduce pressure to intensively harvest natural resources in a manner that would cross ecological thresholds. Using concepts from Walker and Salt (2012, Figure 3), NBT can shift an *economic* threshold, reduce the likelihood that it is crossed, and thereby reduce the likelihood of crossing an *ecological* threshold.

In some regions, such as southern Africa, tourism revenue directly catalyzes conservation of natural areas and wildlife on private land (Lindberg et al., 2003). In the European context, Cocca et al. (2012) found that tourism development supported retention of land for agricultural purposes. In the Norwegian context, Fjellstad and Dramstad (1999) note that abandonment of agriculture can lead to higher diversity in some cases, but they stress that long-term abandonment (and, conversely, agricultural intensification) can lead to reductions in biodiversity due to the loss of species-rich habitats such as hay meadows and ponds.

5. Norway Case Study

This section presents limited empirical results to illustrate aspects of the above conceptual foundation.

Background

Norway has income per capita levels among the highest in the world, but rural communities in Norway often face stresses similar to those in other countries. Changes in rural communities include employment declines in traditional economic sectors combined with demographic change, notably out-migration to urban areas – especially among young residents – which results in an ageing population (Sae-Khow Hasselberg, 2016; Statistics Norway, 2018a; Statistics Norway, 2018b). As in other countries (Cheer et al. 2018), there is interest in tourism's role as an economic sector in rural areas, where nature and culture are important attractions. The BIOTOUR project provided the opportunity to evaluate the effect of nature-based tourism on community resilience using a nation-wide survey of NBT firms and in-depth interviews in three case study areas. See the Introduction chapter for additional information on BIOTOUR, NBT in Norway, and the case study areas, as well as Chapters 5 and 6 for content related to this chapter.

Methods

Data on NBT's contribution was based on 1) semi-structured in-depth interviews with 24 managers in NBT firms and related organizations across the three case study areas, conducted in 2017 and 2018, and 2) an online survey of all identifiable NBT firms in the country, conducted in 2017. The survey sample included firms offering fee-based nature activities and experiences. The semi-structured interviews included the ski resort at one study area, but the online survey excluded farm stays and facilities such as ski resorts. Of the valid sample of 1,927 firms contacted, 585 firms completed the online survey, for a response rate of 30%. The content presented here was based on responses in a split sample of 295 firms.

The semi-structured interviews and the online survey both included diverse topics, including responses (results) relevant as measures of NBT's effect on community resilience. Results are based on self-reports from NBT firms and related organizations with respect to questions regarding their effect on factors potentially affecting community resilience (Figure 7.1). A comprehensive evaluation of community resilience was beyond the scope of this project, but results provide examples and experiences from a key category of stakeholders.

Results

Economic resilience

Responses to the online survey indicated an average of three full-time equivalent (FTE) employees per firm, which is a reminder of the small size of many firms in NBT. The largest portion of FTE (44 percent) reflected full-time employment, with a quarter of FTE (25 percent) reflecting part-time employment across the whole year and almost a third (31 percent) reflecting seasonal employment.

Part-time and seasonal jobs may be desirable for some employees, such as summer jobs for students. They also may contribute to livelihood diversity (occupational plurality) options for individuals and households (Alberts and Baldacchino, 2017). However, full-time jobs may be important not only for employees, but also because they may be most likely to contribute to net migration and associated employee contributions to community (e.g., human and social capital, as well as a stronger population basis for infrastructure).

The goal of reducing seasonality was noted in the firm interviews. For example, in the winter destination of Trysil, a respondent noted:

> There are lots of activities in Trysil in the summer, and we have had that for many, many years. But there has never been a product unique enough to draw volume and guests. So that is what we have managed to - or are about to do, to build up with the mountain bike initiative. (B6)

Likewise, the summer destination of Hardanger is working to develop winter tourism products and activities:

> If you manage to … get customers throughout the year, it will provide a foundation for jobs and residence in the districts. If you do not get it, then it will forever become a nomad-based … workplace … that contributes less to local value creation and local employment and settlement. To really fulfill the potential in relation to local community development, it is all about creating year-round jobs and year-round activity. (C5)

Social resilience

The above quote from Hardanger reflects the link between economic contribution and social contribution, as jobs (especially year-round jobs) may increase population and contribute to community development more broadly.

Another link between economic and social dimensions is illustrated by the winter destination of Trysil, where the resort is intentionally linked to the local town center. That can enhance the tourist product as well as support firms beyond those in tourism. In turn, it sustains the town center and the broader benefits it provides to the community. As noted by an interview respondent speaking for the resort:

> We are very concerned about … creating a living town center [and making] the town center a part of the experience we have here. We set up a free ski bus that runs between here and the town center so [guests] can ski down and take the bus back up. After all, we are totally dependent on having a living, viable town center when having so many tourists here. (B3)

The online firm survey included a scale of nine statements (items) reflecting the relationship between NBT firms and local communities, with statement responses ranging from 1 = Not at all to 5 = To a large degree. The results, shown in Figure 7.2 and sorted by combined percent of 4 and 5

responses, indicate some symbiosis in the relationship between firms and the community. The local community contributes to the success of tourism, as reflected in responses to the first two items. Conversely, many respondents indicated that their firms contribute to the community, though the degree of contribution varied across topics. For example, many firms reported that they help strengthen cooperation between business professionals and community identity, while fewer firms report they contribute to cohesiveness or provide a meeting place or funding for local non-profit organizations.

FIGURE 7.2

Ecological resilience

Results suggest that NBT in Norway can raise visitor appreciation of, and connection to, the natural world. When asked to indicate the priority of 13 different potential goals for their firm, almost three-quarters (73%) of respondents reported that "Share perspectives on natural values with clients" was a high priority (response of 6 or 7 on a 7-point scale of priority). Likewise, an interview respondent explicitly recognized the link between nature experiences and conservation, noting:

> I have had an environmental protection motivation, where I have a philosophy that nobody wants to save something that you do not use or have a relationship with. (B8)

Of the firms participating in the online survey, 73% used their own land or other private land for their NBT activities. Less than one tenth (9%) of these 73% indicated they believed the private land would be sold in the absence of NBT, but 16% believed the land would be used differently. Open-ended responses describing the expected alternate land use included a range of uses, including agriculture, timber, and vacation homes. Detailed ecological evaluation was beyond the scope of this project, but results suggest a modest potential contribution of NBT toward preserving land-use / land-cover in a relatively natural state.

6. Conclusions

Adaptation to change is one of the greatest challenges facing society today. Resilience is an important framework for understanding the ability to thrive in the face of change, as well as how that ability may vary over time, location, and in response to resilience-promoting interventions. However, as with sustainability, the operationalization and measurement of resilience is difficult, and assessment may therefore focus on factors and principles that potentially affect resilience.

This chapter presented an overview of the relationship between nature-based tourism and community resilience, with selected empirical results from the BIOTOUR project. With respect to the economic dimension, NBT firms make modest, but positive, contributions to local economies, thereby enhancing sectoral diversity relative to a "non-tourism" economy.

Full-time employment represents the largest single portion of total employment, but part-time or seasonal employment also represent large portions. The literature notes the value of part-time and seasonal employment, but the literature and interview responses in the present study also stress the importance of full-time employment that facilitates year-round residence in rural communities and associated contributions to community resilience in the broad social dimension.

The number and temporal distribution of a destination's nature-based tourists depends on multiple factors, including natural attractions and transportation options relative to markets and existing travel patterns. In turn, destination tourist flows affect the number and seasonality of employment.

Nonetheless, the BIOTOUR case study areas (see Introduction chapter) illustrate that communities can prioritize full-time employment through destination product development, as well as through coordination across firms. For example, if a ski resort does not develop summer activities itself, it may work with firms that offer summer activities to provide year-round employment. Such efforts may benefit the firms through employee continuity as well as contribute to community resilience through employment stability and associated incentive for permanent employee residence in the community.

Responses to the national survey of NBT firms indicate that NBT can contribute to the social dimension, such as by catalyzing connections within the business community and enhancing community identity. Contributions to social cohesion exist but are modest relative to contributions in other areas. Small businesses, such as those in NBT, often are "stretched thin" with limited staff and financial resources. Especially during peak tourism seasons, their ability to engage in the broader civic life of local communities may be limited. However, there may be the potential for firms to make important contributions of time, ideas, and resources, especially during slower seasons and especially in smaller communities that benefit even from modest contributions of human, social, and financial capital.

With respect to the ecological dimension, results suggest a modest potential contribution to resilience due to impact on land-use / land-cover, but a potentially broader contribution due to firm goals of enhancing nature values and connections among visitors. NBT's contribution to land-use in Norway inherently may be more limited than in countries with different balances of visitor flows and alternate land uses. Nonetheless, NBT firms may be able to continue – and enhance – their contribution via their effect, through interpretation and persuasion, on the post-visit behavior of their clients.

In summary, NBT is not a panacea for promoting rural community resilience, as NBT will play limited or nonexistent roles in many communities. Moreover, though the tourism sector often has been resilient in response to diverse changes, COVID-19 is a reminder that it is not resilient to all changes. The sector has experienced dramatic job losses due to COVID-19, and the nature of the "post-COVID" industry is not yet clear. Nonetheless, study results indicate that NBT can contribute to community resilience; in some communities, this contribution may be substantial. Awareness that tourism contributes to resilience not just through employment but also through broader mechanisms may inform policy decisions as countries recover from COVID-19 and prepare for the possibility of similar types of future stressors.

The goal of this chapter was to describe community resilience and how NBT firms might affect it. The chapter contributes to the literature by 1) focusing on community (rather than industry or destination) resilience, 2) by more explicitly conceptualizing the relationship between tourism and resilience, and 3) by assessing aspects of that relationship that have not been evaluated in the literature.

Nonetheless, there are important limitations. Results inevitably depend on the characteristics of NBT in the study area, in this case Norway as a whole and the three case study sites in particular. They also depend on this study's scope and methods. Resilience is complex and multifaceted, and this analysis evaluated NBT's potential effect on only a limited number of factors that might affect community resilience. In addition, it relied on the perceptions and reports primarily of representatives of NBT firms and secondarily (in the interviews) of other stakeholders closely involved in tourism. Evaluation of additional factors, as well as data collection from more diverse stakeholders, would provide a more complete, and potentially less positive, picture of NBT's effect

on community resilience. For example, perspectives on NBT's effect on social cohesion may vary across stakeholders.

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