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This paper explores the use of indicators to evaluate the impacts of volunteer tourism in host communities, based on an online questionnaire sent to 183 volunteer tourism organizations. Little research exists demonstrating how volunteer tourism programs impact host communities or how impacts can be assessed, but the literature suggests the use of indicators to do so. Social indicator research and systems thinking assert that impact evaluation must be comprehensive and that indicators must consider interconnectivities present in the tourist system; we propose a framework of indicator development that addresses this. Data analysis focuses on volunteer tourist activities and how organizations prioritize indicators to assess diverse impacts of volunteer tourism in host communities. Comparisons are drawn between organizations in Latin America and international organizations (based in the USA, Canada, the UK, Australia and New Zealand) that send volunteers abroad. Differing volunteer activities suggest unique approaches between in-country and international organizations. The usefulness and degree of assessment of diverse indicators of the local impacts of volunteer tourism are quantified, while discrepancies between indicator usefulness and assessment raise questions. Comparisons between international and in-country organizations, large and small organizations, and organizations focusing on long-term vs. short-term trips suggest differing organizational priorities and impacts of volunteer tourism.

Keywords: volunteer tourism; indicators; assessment tools; complex systems; tourism impacts

Introduction

International travelers are increasingly combining travel with volunteering to work on humanitarian aid, community development or environmental conservation projects. Such volunteer tourism is defined by Wearing (2001, p. 1) as "a type of alternative tourism in which tourists volunteer in an organized way to undertake holidays that might involve aiding or alleviating the material poverty of some groups in society, the restoration of certain environments or research into aspects of society of environment". Volunteer tourism is a rapidly growing segment of the tourism industry (Bakker & Lamoureux, 2008; Brown & Morrison, 2003; Butcher & Smith, 2010; Tomazos & Butler, 2009; Tourism Research and Marketing, 2008), and falls within the trend of ethical consumerism that aims to make positive differences in the communities of less developed countries (Butcher & Smith, 2010).

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One of the pillars of volunteer tourism is that it should generate positive impacts to locals in host destinations and a reciprocal and mutually beneficial host–guest relationship in a tourist destination (McIntosh & Zahra, 2007; Sin, 2009, 2010). While the positive local impacts of volunteer tourism are often assumed and asserted in promotional materials, they are generally not research-based and do not include the voices of host communities (Fee & Mdee, 2011; Lyons, Hanley, Wearing, & Neil, 2012; Mdee & Emmott, 2008; Tourism Research and Marketing, 2008). There is consequently a growing recognition of the importance of understanding the local impacts of volunteer tourism and further research on gauging such impacts (Guttentag, 2011; Halpenny & Cassie, 2003; Lyons, 2003; Raymond, 2011; Sin, 2009; Wearing, 2004). However, mechanisms have not been developed to assess the impacts of volunteer tourism programs in host communities and current evaluations are generally anecdotal (Benson & Wearing, 2012). The International Ecotourism Society (2012) consequentially created a set of volunteer tourism guidelines with suggestions for measuring, monitoring and reporting the community impacts of volunteer tourism. It covers the importance of conducting needs assessments, working with local stakeholders, implementing community needs assessments, establishing systems to monitor progress and measure impacts, estimating economic contributions, generating information on program impacts to inform future volunteer travelers, and using local anecdotes to demonstrate volunteer impacts. However, there remains a need to develop and disseminate more detailed strategies to systematically assess the multitude of ways that volunteer tourism impacts host communities.

This paper contributes to knowledge gaps in the literature on volunteer tourism by addressing three prominent questions: (1) What types of impacts do volunteer tourism organizations desire to achieve in host communities? (2) To what degree are the impacts currently assessed or measured by volunteer tourism organizations? (3) Do nuances among volunteer tourism organizations, such as their location, size and trips they offer, help to explain how they prioritize and/or assess such impacts? This paper presents data collected via an online questionnaire sent to organizations that send volunteer tourists abroad to engage in volunteer work, as well as from organizations based in Latin America that receive inbound international volunteer tourists.

A theoretical perspective: the commodification of volunteer tourism

Theoretical foundations have been difficult to establish in volunteer tourism (McGehee, 2010) and have not focused on the ways that volunteer tourists directly impact host communities. As this paper focuses on the priorities and perspectives of organizations that recruit volunteer tourists, an appropriate theoretical approach involves a consideration of the volunteer tourism market, how the market influences the nature of the volunteer-recruiting process and the subsequent impacts of volunteer tourism in host destinations.

Higgins-Desbiolles and Russell-Mundine (2008) argue that the tourism market is dominated by the market ideology of neoliberal thought, for which reason tourism analysts have tended to focus on satisfying tourist demands, marketing destinations and managing tourism to achieve greater growth rates and profits. Tourism can therefore be considered an international commodity which is consumed and marketed as such. As tourism is increasingly commodified, host communities and their environments can be exploited and can experience detrimental socio-cultural and environmental impacts. In contrast, Wearing, McDonald, and Ponting (2005) promote a decommodified tourism research agenda to foster a new tourism geared to sustainability and community empowerment.

Many studies have focused on the commodification of the ecotourism market, for which similar conclusions can be drawn for the volunteer tourism market. For example, Wearing and Wearing (1999) argue that the philosophy and practice of ecotourism can move beyond market priorities and become decommodified. Doing so would require operators to instill a conservation ethic in their clients, establish carrying capacities, promote environmentally sensitive behavior, develop codes of ethics and industry standards, promote realistic images of destinations, provide culturally specific guidelines to visitors, and generate employment opportunities for local community members. However, Lyons and Wearing (2008) argue that new forms of tourism such as ecotourism are unable to resist global commodification in international tourist markets. For example, Gray and Campbell (2007) criticize ecotourism as an agent that commodifies people and places for the aesthetic consumption of self-indulgent tourists, leading to a privatized, competitive and highly commodified industry with little regard for ecological values and sustainability. Recent growth in the publication of guidebooks oriented to adventure or low-budget tourism, including volunteer tourism, can also be viewed as the commodification of these forms of alternative tourism (Young, 2008).

Wearing (2001) placed volunteer tourism projects on a continuum ranging from highly commodified to decommodified. Prerequisites for decommodification of volunteer tourism are that profits must be directed towards the local community rather than outside companies and that a project must achieve a genuine exchange between hosts and guests (Wearing, 2001). Lyons and Wearing (2008) subsequently questioned whether the philosophy and practice of volunteer tourism (that extend beyond market priorities) can be sustained in the global tourism marketplace. Guttentag (2009) suggests that volunteer tourism is becoming commodified by large tour operators, and as a consequence, local community desires can be neglected, volunteer tourists often promote their own values, and the process can promote a cycle of dependency.

The process of decommodification involves a closer examination of how volunteer tourism can provide a multitude of benefits for host destinations. An additional element to consider is that organizations must cater to the desires and preferences of paying volunteers in addition to ensuring the satisfaction of host communities. This reveals the interwoven nature of volunteer motivations, organization priorities and host community needs. Much work has been done on the motivations and desires of volunteer tourists (see, for example, Campbell & Smith, 2006; Simpson, 2005; Söderman & Snead, 2008; Wearing, 2001; Zahra, 2011). Such studies find that most volunteers participate in volunteer tourism for a limited number of reasons that include the experience of living in the developing world, acquisition of language and cross-cultural skills, travel/adventure, and personal/professional growth and altruism; organizations therefore cater to such volunteer motivations to attract them. For example, Stoddart and Rogerson (2004) and Callanan and Thomas (2005) found that many volunteer projects are situated in enticing areas such as tropical rain forests, lagoons or beaches in developing regions in order to appeal to volunteer desires.

The (de)commodification of volunteer tourism and its repercussions for volunteer recruitment and host destinations form a theoretical lens through which volunteer tourism organizations are seen as playing an intermediary role of appealing to the motivations and value systems of potential volunteers, while simultaneously meeting the immediate needs of host communities and generating positive local impacts. These arguments justify a closer look at the perspectives of volunteer tourism organizations across the world and how they consider and/or assess the needs of volunteers and host communities. This paper addresses this issue in that it identifies the priorities of volunteer tourism organizations

regarding host community impacts, which in turn represent an amalgamation of volunteer and host community motivations and priorities.

Evaluating impacts: an indicator approach with a systems perspective

The impacts of tourism in a host community can be extremely diverse and difficult to identify and measure. Numerous studies suggest establishing indirect measures, or indicators, as a strategy for assessing these impacts (Budruk & Phillips, 2011; Hughes, 2002; Miller & Twining-Ward, 2005; Roberts & Tribe, 2008; World Tourism Organization [WTO], 2004). The WTO (2004, p. 8) defines indicators as "measures of the existence or severity of current issues, signals of upcoming situations or problems, measures of risk and potential need for action, and means to identify and measure the results of our actions". Indicator development is increasingly viewed as fundamental to promote sustainable development in the tourism sector (WTO, 2004). Indicators serve to make information more manageable, provide a solid base for decision-making, simplify complex data to improve the quality of subsequent decisions, provide information necessary to understand critical changes, and provide a meaning that extends beyond the attributes associated with statistics and raw data (Budruk & Phillips, 2011; Miller & Twining-Ward, 2005; Sirakaya, Jamal, & Choi, 2001; WTO, 2004). Indicators can provide an integrated view of the relationship of tourism with the economy, environment and society (Miller & Twining-Ward, 2005) and they serve to assess trends and indicate whether a situation is moving in an appropriate or sustainable direction. Recognition of the shortcomings of purely economic indicators and the recent sustainability movement have also clarified links between environmental conservation, poverty and economic welfare, leading to recognition of the necessity of indicators to monitor social, economic and environmental conditions simultaneously (Miller & Twining-Ward, 2005).

There is little consensus on the most appropriate methods of developing indicators. Frameworks and methodologies for indicator development are abundant in the literature and Table 1 exemplifies this diversity of frameworks in the context of sustainable tourism and sustainability. Each is noticeably unique, but the lack of an established methodology for developing social or sustainability indicators is a challenge for initiatives that focus on social impacts and sustainability.

Any indicator development initiative must also recognize the heterogeneous nature of stakeholders involved in indicator development and spatial/temporal aspects of indicator implementation. Strickland-Munro, Allison, and Moore (2010) note that impact assessments for sustainability initiatives traditionally tend to focus on current conditions rather than recognizing the dynamic nature of socio-ecological systems. Mascarenhas, Coelho, Subtil, and Ramos (2010) emphasize the importance of the scale and integration of local, regional and national perspectives and stakeholders in the process of developing indicators. Such vertical linkages facilitate comparisons across communities and promote governance and decision-making at multiple scales. Due to the heterogeneous nature of constituents in tourism initiatives, Gursoy, Chi, and Dyer (2009) argue that residents' support for tourism development depends on diverse perceptions of economic, social and cultural benefits and the state of the local economy. It is thus necessary to understand the numerous perceptions of residents that may be underpinned by a number of factors: level of concern for community growth, emotional attachment to the community; environmental sensitivity and the extent to which residents use the same resource base as tourists.

In consideration of time, scale and stakeholder heterogeneity, a systemic approach to indicator development is necessary to encompass these critical components. Many

Table 1. Diversity of frameworks in the context of sustainable tourism and sustainability.

Author(s)	Domain	Essential elements
AtKisson (1996)	Community sustainability	• Environment • Population and resources • Economy • Youth and education • Health and community
AtKisson (2011)	Community sustainability (compass concept)	• Nature • Society • Well-being • Economy
Bossel (2001)	Sustainable development	• Human system (individual development, society, government) • Support system (economy, infrastructure) • Natural system (environment, resources)
Cox, Frere, West, and Wiseman (2010)	Community well-being	• Health, safe and inclusive communities • Dynamic, resilient communities • Sustainable, built and natural environment • Culturally rich and vibrant communities • Democratic and engaged communities
Njuki et al. (2008)	Community development	• Livelihood • Human capital and empowerment • Social capital
Roberts and Tribe (2008)	Sustainable tourism	• Economic sustainability • Environmental sustainability • Socio-cultural sustainability
Wood (2004)	Sustainable tourism/ triple bottom line	• Conservation benefits • Economic benefits • Social/cultural benefits

experts also suggest a clear logical framework to avoid long lists of unrelated indicators and reduce the arbitrariness of indicator development (Miller & Twining-Ward, 2005; Reed, Fraser, & Dougill, 2005). However, placing indicators into thematic categorizations can also disregard the interrelations and causal chains between different systems at work (Meadows, 2008; Schianetz & Kavanagh, 2008) and there must be recognition of the interrelation between indicators rather than seeing them as discrete variables that can be considered separately (Miller and Twining-Ward, 2005). Bossell (1999) also argues that a more holistic view must be adopted in the search for indicators. Roberts and Tribe (2008) claim that indicators must consider the interconnectivity present in the tourist system, as well as reflect the environmental, economic and socio-cultural attributes of the destination, while Schianetz and Kavanagh (2008) argue that indicator development initiatives must recognize that natural and social systems are interdependent and nonlinear.

A systems-oriented approach to indicator development and recognition of the interrelatedness among all aspects of the tourist system reflect the need for systems thinking in the indicator development process. Hall (2000) defines a system as an integrated whole whose essential properties result from the relationships between its constituent parts, and explains that systems thinking is the understanding of a phenomenon within the context of a larger whole. Miller and Twining-Ward (2005) point out that conventional tourism models are derived from a Newtonian/Cartesian paradigm (phenomena can be understood

by disaggregating them into individual parts), that researchers now recognize that tourism is more than a collection of its parts, and that the tourist system cannot be separated from the wider community. Jamal and Stronza (2009) and Liu (2003) argue that a systems perspective improves our understanding of how tourism patterns are the result of interactions with other sectors, including the natural, technological, social and economic environments. Farrell and Twining-Ward (2004, 2005) claim that natural and social systems have mutual interactions, are interdependent, and comprise complex adaptive systems or social-ecological systems. They also argue that tourism practitioners may understand social and ecological systems separately but know little about complex systems, and that researchers need to venture outside the core system of tourism and explore how tourism affects ways of life, economic well-being and the people involved.

This systems approach is applicable to indicator development. Bossel (1999, 2001) takes a systems approach to sustainability indicator development, postulating that indicators of system performance must reflect their impacts on other component systems and the total system under study. Bossel promotes a systems-based approach to indicator development that takes into consideration several subsystems: individual development, social system, government, infrastructure, economic system and resources/environment. Within the field of sustainable tourism, numerous researchers stress the development of comprehensive indicators that make connections between tourism and economic, environmental and social processes in tourist destinations (Miller & Twining Ward, 2005, p. 111).

Drawing from this and insights from Table 1, a systems-based approach must encompass numerous diverse but interconnecting subsystems, such as human society, the environment and the economy. A comprehensive framework must also identify indicators that cover all aspects of systems viability and sustainability to avoid arbitrariness in the indicator development process (Reed et al., 2005). While a substantial number of indicators would be necessary to capture all aspects of a tourism system, it is essential to define a practical and reduced set of representative indicators that provide a comprehensive understanding of a tourism destination.

We therefore searched for an indicator framework that considers the linkages among social, ecological and economic systems; organizes and limits the number of necessary indicators, and focuses on identifying connections among systems, all in accordance with systems thinking. There is little academic research on indicator development or frameworks that have been employed to evaluate the local impacts of volunteer tourism. For this reason, we reviewed many of the concepts and literature on indicator development for assessing sustainability and sustainable tourism which can be adapted to volunteer tourism.

We chose the "compass" framework, developed by AtKisson (2011), as a guiding framework to organize indicators for this research. The compass framework is a systems-thinking approach to evaluating sustainable community development, with three principal aims: (1) to awaken interest in sustainability; (2) to focus attention on long-term trends; and (3) to promote a more systemic understanding of sustainability (AtKisson, 2011). This framework was chosen because it stresses a holistic interdisciplinary and systems perspective of the environmental, economic, social and personal well-being aspects of a community. There are also many parallels between the goals of sustainable community development and volunteer tourism, such as economic opportunity, poverty alleviation and natural resource conservation. This framework has also been found to be highly versatile as it has been applied across a diversity of environments and has been adapted to differing circumstances.

The compass framework incorporates the diverse impacts that development has on a community, divided into the four compass points. Nature (N) refers to the "underlying

health and sustainable management of key ecosystems, bio-geo-physical cycles and natural resources". Economy (E) refers to "all the ways human beings work with nature, with knowledge and with each other to produce the things and services that they need or want". Society (S) refers to "the social systems, structures and institutions that are driven by people acting collectively". Finally, personal well-being (W) "focuses on the individual, as well as on the smaller webs of intimate relationships that are crucial to health and happiness" (AtKisson, 2011, p. 145–146).

A fundamental idea behind the compass framework is that it offers four different directions of sustainability or well-being: while no single direction should be the sole focus of a community or development project, all four directions in unison promote a balance to which a community can aspire. While AtKisson (2011) argues that the compass framework is useful to divide indicators into these conceptually manageable clusters, another strength of this approach is that it shows how things are connected within a systems map and supports the engagement of as many stakeholders as possible. The literature on this framework (AtKisson, Hatcher, & Green, 2004; AtKisson, 2011; AtKisson, Inc., 2011) includes suggestions for on-the-ground implementation which focus on establishing linkages between indicators on the four compass points and recognizing the interrelationships among them by identifying trends, chains of cause and effect, system leverage points and the creation of systems or connection maps. While this step of implementation is beyond this paper's scope, it demonstrates the systems-thinking approach inherent in this framework of indicator development.

This paper contributes to the indicator approach introduced in the volunteer tourism guidelines by The International Ecotourism Society (2012). The guidelines suggest the use of indicators to assess many of the short- and long-term impacts of volunteer tourism in host communities and provide some example indicators to do so. However, such guidelines do not provide detailed frameworks for developing, organizing and evaluating indicators. This paper is therefore a crucial step forward in this process.

Study methods and sample selection

An online questionnaire was designed by the authors to understand how volunteer tourism organizations select work sites and projects, how they collaborate and communicate with host communities, the indicators they employ to assess the impacts of their programs in host communities, and numerous characteristics of volunteers, organizations, host communities and volunteer work. The compass framework was used to organize four lists of potential indicators of the local impacts of volunteer tourism. To develop an initial indicator list, an extensive literature search was conducted on indicators for assessing community well-being, ecotourism and sustainable tourism. All indicators relevant to volunteer tourism were organized according to the compass framework, and the most commonly cited indicators were chosen to produce four categories of approximately 10–15 indicators per category.

Two distinct sampling frames were identified. The first sampling frame (Sample 1) consisted of volunteer tourism organizations based in the USA, Canada, the UK, Australia and New Zealand which recruit volunteers for environmental conservation or community development projects overseas. This sample was designed to capture organizations only in English-speaking countries so that an English-language questionnaire would be sufficient. The second sampling frame (Sample 2) consisted of volunteer tourism organizations based in Latin America which offer or coordinate environmental conservation or community development programs for international volunteer tourists. This sample was chosen because a later phase of this research involved on-site data collection in volunteer

tourism destinations in Latin America; Sample 2 therefore served as a list from which data collection sites could be chosen. A Spanish-language version of the questionnaire was offered to Sample 2 respondents.

To identify the volunteer tourism organizations that comprise the two sampling frames, the authors consulted five guide books and one research publication that focus on volunteer tourism and provide extensive lists of international volunteer tourism organizations (Ausenda, 2011; Brodowsky, 2010; Hindle et al., 2010; Lynch, 2009; Mersmann, Havranek, & Ferguson, 2010; Tourism Research and Marketing, 2008). These publications were used to derive a list of volunteer tourism organizations that publicize environmental conservation or community development as at least one goal of their volunteer program. The website of each organization confirmed this.

For inclusion in the samples, organizations had to offer volunteer unpaid opportunities that directly or indirectly promote environmental conservation or community development. Only international volunteer programs were selected; Sample 1 only included organizations that send volunteers to one or more countries other than the country of the organization's home office. Sample 2 consisted of organizations in Latin America that receive some or all of their volunteers from other countries. Organizations that only offer programs over six months in duration and organizations whose programs do not focus on work with host communities were excluded. Organizations that function as a directory of other volunteer organizations and do not organize their own programs were also excluded on the assumption that they would have little to contribute regarding the impacts of their programs in host communities.

Sample 1 consisted of 149 volunteer tourism organizations in the USA, Canada, the UK, Australia and New Zealand. Sample 2 consisted of 54 organizations representing 13 countries in Latin America. Approximately half of all organizations (51% of Sample 1 and 48% of Sample 2) classify themselves as non-profit or charity organizations according to their websites. In addition, a small number do not specifically identify as non-profit but are faith-based, non-governmental, government-funded, education-based, volunteer-run or private reserves. Most remaining organizations (just under half) identify as companies and are likely for-profit operations.

Findings

Questionnaires were sent to 134 organizations from Sample 1. Seventy-three responses were received, resulting in a response rate of 54.5%. Questionnaires were sent to 49 organizations from Sample 2 and 35 responses were received, resulting in a response rate of 71.4%. Fifty-four percent of completed responses from Sample 1 and 57% of completed responses from Sample 2 came from non-profit organizations or charities. The data therefore represent both non-profit and for-profit organizations in nearly equal proportions.

Only a subsection of the questionnaire data and analyses are presented in this paper. In order to address our specific research questions, only two principal components of the questionnaire will be discussed: (1) popular volunteer tourist activities; and (2) indicators of the local impacts of volunteer tourism.

Environmental volunteer work

Respondents were given an extensive list of the most popular natural resource/environment related activities for volunteer tourists and were asked to select all activities that

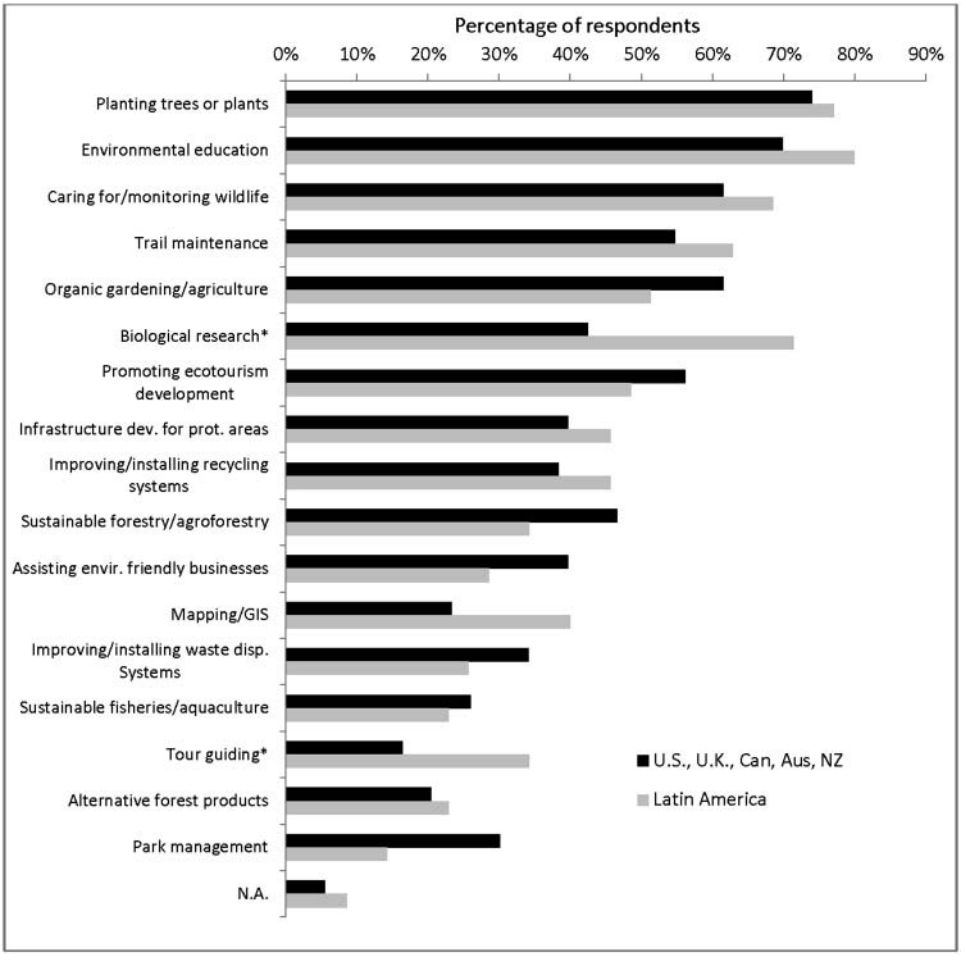

Figure 1. Natural resource/environment related activities performed by volunteers.

their organization offers for volunteers. As illustrated in Figure 1, the most popular activities include planting trees/plants, environmental education, caring for or monitoring wildlife, trail maintenance, organic gardening/agriculture and biological research. Chi-square tests reveal that Latin American organizations offer biological research and tour guiding activities more than Sample 1 organizations.

Community development volunteer work

Respondents were given an extensive list of the most popular community development related activities for volunteer tourists and were asked to select all activities that their organization offers for volunteers. As illustrated in Figure 2, the most popular community development related activity performed by volunteers was education for children, followed by education for adults. Chi-square tests reveal that Sample 1 organizations predominate in three activities: empowering women's groups, improving access to health care and improving/installing water purification systems.

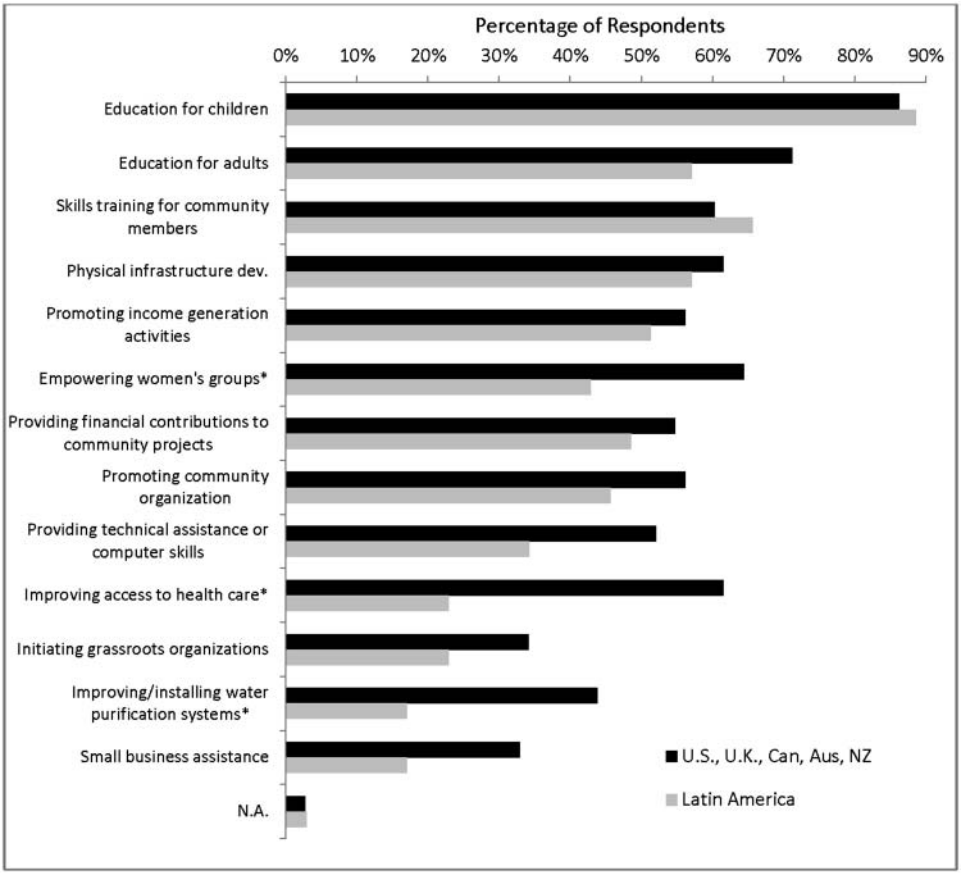

Figure 2. Community development related activities performed by volunteers.

Indicators

The questionnaire presented four lists of indicators of potential local impacts of volunteer tourism, organized according to the compass framework. For each indicator, the respondent was asked: "How useful would it be for you to know this?" A Likert scale gave five choices: "not useful", "somewhat useful", "useful," "very useful" and "extremely useful". The respondent was then asked: "Do you assess or measure this?" and was given the following choices: "yes"; "no"; and "not applicable".

Table 2–Table 5 illustrate the results. Each table displays the data in several ways. The Likert scale choices were quantified on a point scale ranging from 1 (not useful) to 5 (extremely useful). Mean usefulness values of each indicator are displayed for each sample. The indicators were arranged from top to bottom in descending order according to the overall mean usefulness. The percentages of respondents that responded "yes" to the question: "Do you assess or measure this?" are displayed in the columns on the right to show the degree to which each indicator is measured.

Independent sample *t*-tests revealed statistically significant differences between the mean usefulness of each indicator for the two samples. Significant differences with a *p* value of under 0.05 are indicated with a single asterisk in each table, and significant differences with a *p* value of under 0.10 are indicated with a double asterisk.

The mean usefulness values of all indicators summed are shown at the bottom of each table (two values to the left-hand side). To test for statistically significant differences between these values, two steps were taken: (1) the mean usefulness value of all indicators was calculated for each respondent, per compass point (mean value must fall between 1 and 5) and (2) a *t*-test compared the mean values between the two samples.

To test for statistically significant differences between the numbers of respondents answering "yes" to assessing/measuring each indicator for Sample 1 and Sample 2, Fisher's exact test was used. All "not applicable" answers were removed before this analysis was conducted as it was assumed that certain indicators were irrelevant to the work of some organizations, and including them in this analysis would not have provided meaningful results. Fisher's exact test was chosen due to the dichotomous nature of the data (1 = "yes"; 2 = "no"). Significant differences with a p value of under 0.05 are indicated with a single asterisk, and significant differences with a p value of under 0.10 are indicated with a double asterisk.

The mean percentages of respondents answering "yes" to assessing or measuring indicators are shown at the bottom of each table (two values to the right-hand side). To test for a statistically significant difference between these two values for the two samples, three steps were taken: (1) all "not applicable" answers were removed from the data; (2) the mean value of all responses was calculated for each respondent (1 = "yes"; 2 = "no"; mean value must fall between 1 and 2); and (3) a *t*-test compared the mean values between the two samples.

Two alternative ways of dividing organizations were also explored as they provided other methods of analyzing and understanding variation in the data: (1) organization size and (2) length of volunteer trips. All questionnaire respondents provided the number of volunteer work sites offered per organization, and this was used as a proxy for organization size. Each respondent provided an exact number of volunteer work sites provided by their organization, with a median value of 12. Therefore, organizations were divided into two categories: $\leq$12 work sites (n = 53) and >12 work sites (n = 49). This produced two comparable groups (small organizations vs. large organizations) for additional statistical analyses.

Questionnaire respondents also provided the percentages of trips offered by their organizations, in four categories of trip length: 1–7 days; 8–15 days; 16–30 days; and over 30 days. It was not possible to place organizations definitively into one of two categories (short vs. long trips) because many organizations offer a mix of short and long trips. The best alternative was to classify organizations as offering mostly short trips if the percentage of trips under 30 days was over 60% (n = 70), while classifying organizations as offering mostly long trips if the percentage of trips over 30 days was over 60% (n = 31). Three organizations could not be classified, with 50% of their trips under 30 days and 50% over 30 days, and were excluded from the analysis. The resulting two groups (short-term trips vs. long-term trips) could then be compared for analyses.

Economic indicators

Table 2 shows that the most useful indicators of economic impacts were economic opportunities for women/disadvantaged groups and tourism expenditures that stay within the community. Local business ownership and availability of highly skilled jobs were the least useful. The two samples differed significantly on three indicators: vocational/professional training programs for community members, locally made marketable products and availability of highly skilled jobs. In all three cases, Sample 2 found these indicators more useful than Sample 1. There was a significant difference in the overall mean

Table 2. The usefulness and degree of assessment of economic indicators.

Indicator	How useful would it be for you to know this? (scale of 1–5: least useful to most useful)		Do you assess or measure this? (% of respondents answering "yes")	
	Sample 1 (USA, Canada, UK, Australia, New Zealand); $n = 73$	Sample 2 (Latin America); $n = 35$	Sample 1	Sample 2
Economic opportunities for women/ disadvantaged groups	3.6	4.0	43.1%	37.1%
Tourism expenditures that stay within the community	3.6	4.0	29.7%	26.5%
Economic opportunities for host families	3.7	3.8	31.7%	41.2%
Employment opportunities for community members	3.4	3.7	32.3%	34.3%
Vocational/professional training programs for community members	3.2*	3.8*	29.7%	26.5%
Locally made marketable products	3.1*	3.8*	32.8%	38.2%
Creation of local businesses	2.9	3.4	22.2%	23.5%
Income distribution within the community	3.0	3.2	12.5%	15.2%
Per capita income	3.0	3.1	16.4%	18.2%
Local business revenues	2.8	3.2	21.9%**	6.1%**
Local business ownership	2.8	3.0	19.0%	15.2%
Availability of highly skilled jobs	2.5*	3.1*	9.5%*	25.7%*
Averages	3.1**	3.5**	25.1%	25.6%

Note: Significant differences with a p value of under 0.05 are indicated with a single asterisk (*) and significant differences with a p value of under 0.10 are indicated with a double asterisk (**).

usefulness of the economic indicators between the two samples (using a 0.1 alpha level), indicating that Sample 2 overall ranked the economic indicators as more useful than did Sample 1. Regarding the assessment of the indicators, Sample 1 more commonly assessed local business revenues, while Sample 2 more commonly assessed the availability of highly skilled jobs. There was not a significant difference in the overall mean percentages of indicator assessment between the samples.

Dividing the organizations by number of work sites produced unique results. Small organizations found two indicators to be significantly more useful than did large organizations: *tourism expenditures that stay within the community* (mean values of 4 and 3.4) and *local business revenues* (mean values of 3.2 and 2.6). Regarding assessment, small organizations assessed *tourism expenditures that stay within the community* significantly more than large organizations (38% vs. 15.9%). No statistically significant results were found when organizations were divided by trip length.

Environmental indicators

Table 3 illustrates that *local community attitudes towards the environment* was the most useful indicator, while *assisting captured/injured wildlife* was the least useful. The two

Table 3. The usefulness and degree of assessment of environmental indicators.

Indicator	How useful would it be for you to know this? (scale of 1–5: least useful to most useful)		Do you assess or measure this? (% of respondents answering "yes")	
	Sample 1 (USA, Canada, UK, Australia, New Zealand); $n = 73$	Sample 2 (Latin America); $n = 35$	Sample 1	Sample 2
Local community attitudes towards the environment	3.9*	4.4*	28.3%**	48.6%**
Protecting biodiversity	3.7*	4.4*	36.1%	54.3%
Protecting natural areas/forests	3.6*	4.4*	35.6%*	60.6%*
Sustainable use of natural resources	3.8**	4.2**	43.3%	42.4%
Community knowledge of conservation/ecological issues	3.6*	4.4*	31.7%	47.1%
Degree of community participation in conservation activities	3.6*	4.1*	30.5%	44.1%
Restoring natural areas/forests	3.5*	4.1*	31.0%	45.5%
Community participation in conservation/natural resource decision-making	3.5	3.9	30.0%	31.3%
Funding for conservation initiatives/ protected areas	3.2*	4.0*	27.1%	31.4%
Water quality/clean water availability	3.5	3.7	35.0%	35.3%
Infrastructure for conservation areas/ protected areas	3.2*	3.8*	27.1%	38.2%
Site attractiveness/potential for other forms of tourism	3.0*	4.1*	22.0%	33.3%
Environmental sanitation/waste management	3.2**	3.7**	28.3%	38.2%
Conducting environmental assessments	3.2*	3.8*	28.1%	23.3%
Staffing for conservation areas/ protected areas	3.0*	3.9*	24.1%	39.4%
Assisting captured/injured wildlife	2.8*	3.7*	20.0%*	50.0%*
Averages	3.4*	4.0*	29.9%	41.4%

Note: Significant differences with a p value of under 0.05 are indicated with a single asterisk (*) and significant differences with a p value of under 0.10 are indicated with a double asterisk (**).

samples differed significantly on almost all indicators, with Sample 2 almost universally finding them more useful than Sample 1. However, almost all indicators were identified as useful by both groups. There was a significant difference in the overall mean usefulness of the indicators between the samples; Sample 2 ranked the environmental indicators as more useful than Sample 1. Regarding the assessment of the indicators, Sample 2 more commonly assessed three indicators: *local community attitudes towards the environment*, *protecting natural areas/forests* and *assisting captured/injured wildlife*. There was not a significant difference in the overall mean percentages of indicator assessment between the two samples.

In this category, fewer statistically significant differences were found when organizations were divided by size. Regarding the indicator usefulness, no differences were found. Regarding assessment, small organizations assessed two indicators more frequently than large organizations: *infrastructure for conservation areas/protected areas* (39.6% vs.

Table 4. The usefulness and degree of assessment of social indicators.

Indicator	How useful would it be for you to know this? (scale of 1–5: least useful to most useful)		Do you assess or measure this? (% of respondents answering "yes")	
	Sample 1 (USA, Canada, UK, Australia, New Zealand); $n = 73$	Sample 2 (Latin America); $n = 35$	Sample 1	Sample 2
Engagement of the community in community improvement projects	3.9	4.1	50.8%	38.2%
Continuance of traditional cultural activities	3.7	3.7	29.0%	20.6%
Engagement of the community in community-level decision-making	3.7	3.6	38.1%	23.5%
Community visioning/goal-setting	3.6	3.7	30.5%	20.6%
Community infrastructure	3.6	3.6	41.0%	25.0%
Social cohesion	3.6	3.4	24.2%	25.8%
Community tourism planning	3.0*	3.8*	16.4%	23.5%
Dependency of the community on foreign assistance	3.5	3.1	25.0%	15.6%
Rate/type of criminal activity	3.1	3.1	20.0%	15.2%
The rate of migration to/from the community	3.0	3.0	15.0%	18.2%
Averages	3.4	3.5	29.0%	22.6%

Note: Significant differences with a p value of under 0.05 are indicated with a single asterisk (*).

23.8%) and *site attractiveness/potential for other forms of tourism* (36.2% vs. 16.7%). No statistically significant results were found when organizations were divided by trip length.

Social indicators

Table 4 illustrates that *engagement of the community in community improvement projects* was the most useful indicator, while *the rate of migration to/from the community* was the least useful. The two samples differed significantly on *community tourism planning*, with Sample 2 finding this indicator more useful than Sample 1. Otherwise, the two samples differed very little on almost all indicators, with nearly identical overall means. Regarding the assessment of the indicators, there were no statistically significant differences between samples on individual indicators, or the overall percentages of indicator assessment.

Secondary analyses performed between large and small organizations produced only one statistically significant result: large organizations found *social cohesion* to be more useful than small organizations, with the mean values of 3.7 and 3.2, respectively. When organizations were divided by trip length, one statistically significant result was found: organizations offering longer trips assessed *engagement of the community in community improvement projects* more so than organizations offering shorter trips: 61.5% vs. 40.6%, respectively.

Personal well-being/enrichment indicators

Table 5 illustrates that *educational programs for schoolchildren* and *satisfaction of community members with the volunteer tourism program* were the most useful indicators,

Table 5. The usefulness and degree of assessment of personal well-being indicators.

Indicator	How useful would it be for you to know this? (scale of 1–5: least useful to most useful)		Do you assess or measure this? (% of respondents answering "yes")	
	Sample 1 (USA, Canada, UK, Australia, New Zealand); $n = 73$	Sample 2 (Latin America); $n = 35$	Sample 1	Sample 2
Educational programs for schoolchildren	4.0	4.3	49.2%	57.6%
Satisfaction of community members with volunteer tourism programs	4.2**	3.8**	55.7%**	31.3%**
Environmental education for the community	3.7*	4.2*	33.3%	48.5%
Local people's ability to share their cultural knowledge	3.6	3.9	29.5%	30.3%
Capacity-building/training programs	3.6	3.9	31.7%	48.4%
Satisfaction of community members with community life	3.7	3.5	27.1%	24.2%
Standard of living for community members	3.8**	3.4**	40.0%	28.1%
Local people's ability to share their ecological knowledge	3.3*	3.8*	24.6%	36.4%
Access to health care services	3.6**	3.2**	39.0%	24.2%
Physical health of community members	3.6**	3.1**	26.7%	21.2%
Access to the Internet/information	3.4	3.2	30.5%	21.9%
Averages	3.7	3.7	35.2%	33.8%

Note: Significant differences with a p value of under 0.05 are indicated with a single asterisk (*) and significant differences with a p value of under 0.10 are indicated with a double asterisk (**).

while *physical health of community members* and *access to internet/information* were the least useful. The two samples differed significantly on several indicators: Sample 1 found *satisfaction of community members with the volunteer tourism program*, *standard of living for community members*, *access to health care services* and *physical health of community members* more useful than Sample 2; in contrast, Sample 2 found *environmental education for the community* and *local people's ability to share their ecological knowledge* more useful than Sample 1. There was no significant difference in the overall mean usefulness of the indicators. Regarding the assessment of the indicators, Sample 1 more commonly assessed *satisfaction of community members with the volunteer tourism program*. No other significant differences were found.

Secondary analyses performed between large and small organizations produced several statistically significant results: large organizations found three indicators to be more useful than small organizations: *standard of living for community members* (mean values of 3.9 and 3.4), *access to health care services* (mean values of 3.8 and 3.2) and *physical health of community members* (mean values of 3.6 and 3.2). Regarding assessment, small organizations assess *satisfaction of community members with community life* more than large organizations (30.4% vs. 16.7%).

Organizations offering longer trips assessed several indicators to a greater degree than organizations offering shorter trips. These included: *local people's ability to share their*

ecological knowledge, *local people's ability to share their cultural knowledge*, *environmental education for the community*, *educational programs for schoolchildren*, *access to internet/information* and *satisfaction of community with volunteer tourism program*.

Discussion

This study generates several key conclusions. In consideration of the environmental activities offered by organizations, unskilled forms of labor predominate, such as planting trees, caring for wildlife and trail maintenance. Also notable is an emphasis on biological research on the part of Latin American organizations, indicating that they may have a stronger focus on scientific research activities and may be geared to an audience of researchers, students or apprentices. A consideration of the community development activities offered by both samples indicates a strong emphasis on education for both children and adults, which is a popular activity for international volunteers (mostly unskilled) and concurs with the literature on volunteer tourism. The fact that Sample 1 organizations offer projects related to empowering women's groups, health care and water quality more frequently than Latin American organizations might suggest two propositions: (1) empowering women is a concept that predominates in more developed nations and less so in Latin America, therefore representing a concept that may take a lesser priority for local organizations and (2) international organizations may have greater resources and technical capacity to provide health care and highly trained specialists to carry out programs that provide health care and water purification systems for host communities.

The economic and environmental indicators in Table 2 and 3 suggest several potential conclusions. Latin American organizations generally find the economic and environmental indicators more useful. This may be due to in-country organizations placing a higher focus on economic development and environmental conservation, while sending organizations may focus more on volunteer satisfaction. It could therefore be suggested that local organizations more frequently strive for positive economic and environmental impacts in host communities. Moreover, Latin American organizations value *environmental education for the community* and *local people's ability to share their ecological knowledge* over Sample 1; this could be representative of their more intimate knowledge of local ecological principles.

There is, however, a caveat to making cross-sample comparisons: the two samples differ very little in how they rate the usefulness of social indicators, as they are all ranked highly. Regarding the indicators of personal well-being, there is no difference in the overall mean usefulness, but numerous statistically significant differences can be found at the individual indicator level. Sample 1 organizations rate *satisfaction of community members with the volunteer tourism program*, *the standard of living for community members*, *access to health care services* and *physical health of community members* as more useful than Sample 2. This could be explained as a stronger focus of international organizations on improving the overall quality of life of community members, as well as possessing the resources or knowledge to provide health care services.

The fact that smaller organizations find some economic indicators to be more useful and assess some environmental indicators more so than large organizations leads to the potential conclusion that small organizations may take a unique approach and value certain economic and environmental impacts more than large organizations that may have a stronger focus on volunteer satisfaction and other motives. However, large organizations express higher priority among some social and personal well-being indicators, centering on health, standard of living and social cohesion. Similarly, organizations offering longer

trips prioritized community engagement, local environmental and cultural knowledge, education, access to information and community satisfaction. Overall, the data suggests that large organizations and organizations focusing on longer trips have a stronger emphasis on social and community impacts, while emphases placed on economic and environmental impacts are more strongly dictated by the geographic nature of the organization (local vs. international).

Discrepancies among indicator usefulness and assessment merit further discussion. Numerous indicators are highly useful but rarely assessed by volunteer tourism organizations. For example, *local community attitudes towards the environment* is the highest ranked of all environmental indicators, but only 28.3% of Sample 1 organizations assess this (vs. 48.6% of Sample 2 organizations). Similarly, *tourism expenditures that stay within the community* is the second most useful economic indicator, but just 29.7% of Sample 1 organizations and 26.5% of Sample 2 organizations assess this. Overall, approximately 25% of all economic indicators are assessed by organizations, even though they are consistently ranked as "useful" or "very useful". A number of indicators are more commonly assessed: *engagement of the community in community improvement projects* is assessed by over 50% of Sample 1 organizations and *satisfaction of community members with volunteer tourism program* is assessed by over 55% of Sample 1 organizations. Similarly, *protecting biodiversity* and *protecting natural areas/forests* are assessed by 54.3% and 60.6% of Sample 2 organizations, respectively. This suggests that methodologies for assessing such impacts may be present, although they may be organization-specific and not publicly available. Other indicators are very subjective and difficult to define, yet are assessed by several organizations, such as *social cohesion* (assessed by about 25% of organizations) or *attitudes towards the environment* (assessed by 28% of Sample 1 and 48% of Sample 2 organizations).

Discrepancies exist between the two samples in terms of indicator assessment. For example, *protecting natural areas/forests* is assessed by 60.6% of Sample 2 organizations but just by 35.6% of Sample 1 organizations, while *local community attitudes towards the environment* is assessed by 48.6% of Sample 2 organizations but just by 28.3% of Sample 1 organizations. Some such discrepancies can be explained by the fact that the two samples may differ in their foci and the types of projects they offer. This contrast could also be due to differing levels of ability to measure local impacts, which in turn could be related to the degree of access that an organization has to a host community (for example, in-country organizations may have more direct contact with host communities). Data also suggests that Sample 2 organizations are more likely to evaluate the environmental impacts of their volunteer programs. This may be due to the close relationship that exists between local organizations and host communities, which can be difficult to replicate for large international organizations.

Another key divergence among samples is the indicator *satisfaction of community members with the volunteer tourism program*, which is assessed by 55.7% of Sample 1 organizations but just by 31.3% of Sample 2 organizations. An indicator such as community satisfaction is very general and applicable to nearly all organizations, so it is not likely that this discrepancy is due to differing organizational objectives as suggested in the previous paragraph. We suggest two plausible explanations for this: (1) international organizations may express higher interest in achieving community satisfaction because their business is more dependent upon promoting a successful interaction between volunteers and local community members or (2) international organizations may be more cognizant of their role as foreigners and therefore may place higher importance on the satisfaction of community members.

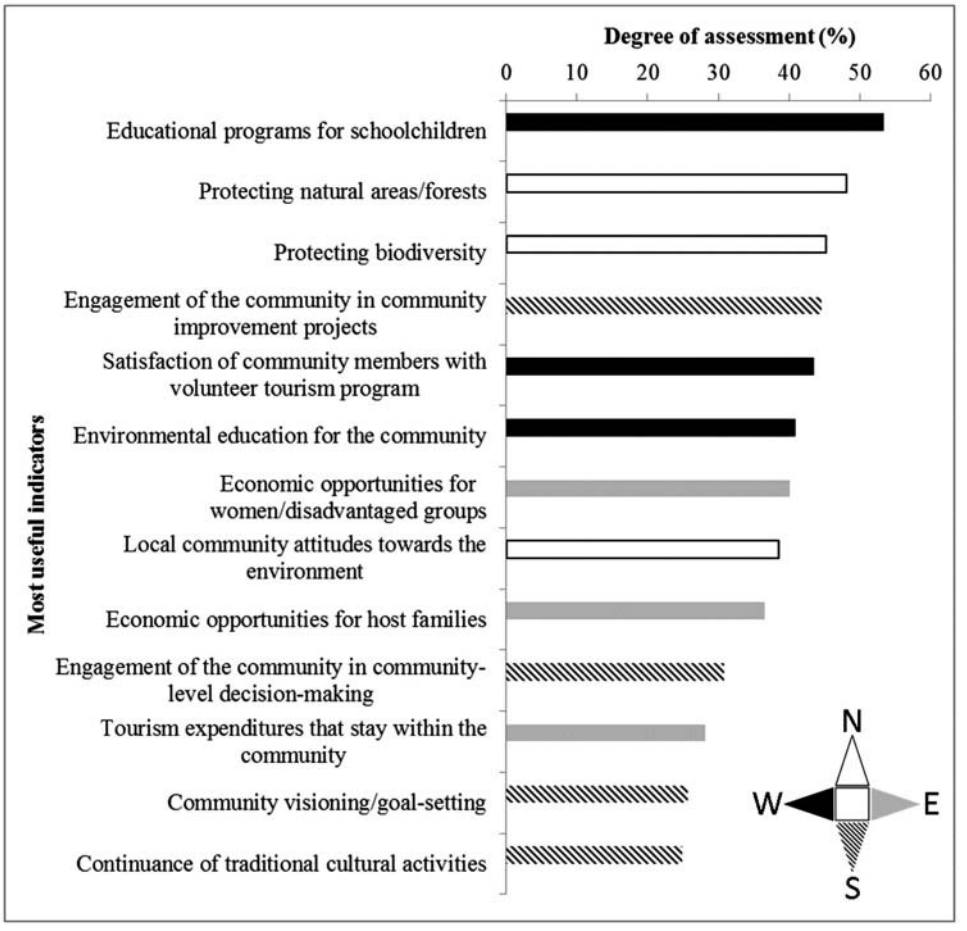

Figure 3. Indicators of the highest overall priority.

The data thus reveal key differences in indicator usefulness and assessment among the samples. A consideration of the data from a wider perspective also suggests that the findings can be highly useful to organizations involved in volunteer tourism. In particular, the findings highlight many of the overall priorities of volunteer tourism organizations across the world. This in turn may reflect the demands and interests of other stakeholders, particularly volunteers and host destinations, as these stakeholders may dictate the types of programs offered for volunteer travelers. Figure 3 includes the top three to four indicators from Table 2–5 in descending order of overall usefulness rankings, together with percentages of the overall degree of assessment (combining Sample 1 and Sample 2 values). This visually displays the indicators that are of highest priority among all volunteer tourism organizations represented in this study. The compass legend indicates the point in which each of the indicators was categorized. As can be seen, the degree to which such indicators are assessed varies widely, from under 25% to over 50%. This suggests that a potential direction for future research would be to identify and test existing methodologies that organizations are employing to assess such indicators, as well as explore practical and new measures of highly valued but rarely assessed indicators. The results of this study, including additional phases of on-site data collection, will be disseminated to all

organizations that collaborated and provided data. These combined results may be highly useful to some organizations, particularly in planning for desired impacts and understanding general trends and characteristics of the volunteer tourism industry.

The secondary analyses which compared organizations by size and trip length were first conducted with all organizations (both samples) in the dataset, and were then re-conducted without Sample 2 organizations. In most cases these statistically significant differences maintained their significance after Sample 2 organizations were removed from the analysis, indicating that the statistical differences observed are attributable to organization size or trip length rather than the presence of Latin American organizations in the sample. Dividing the organizations by trip length produced fewer statistically significant differences than did dividing the organizations by size. This may be partially due to the fact that most organizations offer a mix of short and long trips, and there was no better way to divide the organizations into two mutually exclusive and comparable groups. This obstacle should be addressed in future studies so that more accurate differentiations can be made among the priorities and impacts of short-term vs. long-term volunteer trips.

Nevertheless some significant differences in perceived indicator usefulness and assessment were observed between organizations divided by size or trip length, indicating two considerations: (1) a future assessment tool must have the flexibility to adapt to differing priorities and approaches of different types of volunteer tourism organizations and (2) a universal assessment tool with established priority indicators may not be practical for all types of organizations.

Conclusions

This paper demonstrates a novel approach to indicator development. Most previous approaches in the literature on tourism and sustainability include expert-driven approaches (Beckley, Parkins, & Stedman, 2002; Bell & Morse, 2001; Bossel, 2001; Miller, 2001; Mitchell, 1996; Schianetz & Kavangh, 2008) or locally generated and community-specific approaches (AtKisson, 1996; Njuki, Mapila, Kaaria, & Magombo, 2008; Parkins, Stedman, & Varghese, 2001), or draw upon published indicator frameworks or case studies (Fraser, Dougill, Mabee, Reed, & McAlpine, 2006; Reed et al., 2005; Roberts & Tribe, 2008). In comparison, this study first considered numerous existing frameworks and potential indicators from the literature and then tested these sets of indicators for their usefulness and applicability. It is neither expert-driven nor community-specific, as questionnaire respondents (who were generally not experts in indicator development) assessed the indicators based on their usefulness and applicability across numerous communities and geographic realms. While the initial indicators were drawn from the literature on sustainability, sustainable tourism, community well-being and ecotourism, the respondents prioritized them according to their relevance to volunteer tourism. The use of the compass framework and a systems perspective ensured that indicators covered social, personal, economic and environmental aspects.

One of the common pitfalls of indicator development is the generation of too many indicators that are too difficult to evaluate, or that may not be useful across a broad audience of stakeholders. A key contribution of this study is that it helps to prioritize a small number of indicators from a longer list of indicators. It permits us to see how indicators can be prioritized based upon their perceived usefulness or the degree to which they are assessed in real life, which may be an indication of the practicality or ease of assessing them. This study also serves as a baseline for future studies to investigate why certain indicators are perceived to be useful but are less commonly assessed in the field, as well

as the development and dissemination of strategies to better assess indicators that are considered important but often difficult to assess.

Another potential direction for future research related to indicator usefulness/assessment would be an adaptation of techniques in importance–performance analysis (IPA). This technique, first pioneered by Martilla and James (1977) as a tool to evaluate customer satisfaction, has been employed as an evaluation tool in tourism, outdoor recreation and hospitality research (Chen, Stanis, Barbieri, & Xu, 2010; Oh, 2001; Wade & Eagles, 2003). It involves measuring two facets of customer expectations in a parallel manner: the importance of a particular organizational attribute and the degree to which it is performed or executed satisfactorily (Chen, Stanis, Barbieri, & Xu, 2010). IPA analysis techniques closely parallel the indicator discussion in this paper because an IPA approach would involve soliciting information from stakeholders regarding the importance of a particular impact of volunteer tourism, and the degree to which it occurs based on some type of measurement (performance).

Previous studies have used Likert scales to assess different attributes of a tourism destination (see Wade & Eagles, 2003) using the IPA framework. By measuring the performance and importance of such attributes, they can be directly compared on a plot in which the mean values of importance/performance scores become crossing points (see Martilla & James, 1977). IPA has become popular among researchers due to its simplicity and complexity (Oh, 2001), as it is an effective tool for an organization with limited technical expertise and financial resources to conduct exploratory research on consumer behaviors (Wade & Eagles, 2003). One caveat to its application in the research presented in this paper is that the questionnaire only used Likert scales to solicit indicator usefulness, while indicator assessment only involved yes/no answers. This limited the comparability between these two variables. Literature on the IPA approach nevertheless can guide future indicator research for stakeholders in volunteer tourism to more efficiently compare the importance of an indicator and the level or satisfaction at which it is occurring. This in turn could facilitate a planning process to enhance the achievement of highly desired outcomes.

This research study is largely exploratory and does not represent all stakeholders or perspectives in the volunteer tourism industry, as volunteers, host communities and other stakeholders were excluded. While a large number of volunteer tourism organizations participated in the questionnaire, numerous organizations were excluded in the sample selection process and many other organizations were inevitably excluded because they were not present in the publications that defined the sample frame. In addition, limiting Sample 2 to local organizations in Latin America excluded domestic organizations in other parts of the world. While the results presented in this paper are therefore not generalizable across the entire volunteer tourism industry, they do reveal some initial trends and points for further exploration in the field of impact evaluation, which is still very underdeveloped and data-poor.

This research study provides a solid foundation for the development of a tool or framework to effectively assess the impacts of volunteer programs in host communities. It also complements the current and evolving literature on the development of indicators using multi-stakeholder involvement and systems thinking. While much of this literature focuses on assessing community well-being and sustainability, it also has the potential to become pointed in the direction of assessing the local impacts of volunteer tourism. The compass framework ensures a more comprehensive and systems approach to indicator development and provides a fundamental baseline for participatory indicator development and implementation. This research will help set the foundation for volunteer tourism

organizations and host communities to develop, implement and monitor impact indicators that address the needs, priorities, strengths and capacities of the many stakeholders that make volunteer tourism projects successful.

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References

AtKisson, A. (1996). Developing indicators of sustainable community: Lessons from sustainable Seattle. *Environmental Impact Assessment Review, 16*, 337–350.

AtKisson, A. (2011). *The sustainability transformation: How to accelerate positive change in challenging times*. Chippenham: CPI Antony Rowe.

AtKisson, A., Hatcher, R.L., & Green, S. (2004). *Introducing pyramid: A versatile process and planning tool for accelerating sustainable development*. Draft paper submitted for publication. Retrieved from http://www.rrcap.unep.org/uneptg06/course/Robert/PyramidArticle-v4b.pdf

AtKisson, Inc. (2011). *Pyramid Lite: A simplified version of the Pyramid workshop process – PYRAMID 2012 special edition*. Retrieved from http://www.atkisson.com/resources/wp-content/uploads/PyramidLite_v8_2012Edition.pdf

Ausenda, F. (2011). *Green volunteers: The world guide to voluntary work in nature conservation*. Milan: Green Volunteers di Fabio Ausenda.

Bakker, M., & Lamoureux, K.M. (2008). Volunteer tourism – international. *Travel & Tourism Analyst, 16*, 1–47.

Beckley, T., Parkins, J., & Stedman, R. (2002). Indicators of forest-dependent community sustainability: The evolution of research. *The Forestry Chronicle, 78*(5), 626–635.

Bell, S., & Morse, S. (2001). Breaking through the glass ceiling: Who really cares about sustainability indicators? *Local Environment, 6*(3), 291–309.

Benson, A., & Wearing, S. (2012). Volunteer tourism: Commodified trend or new phenomenon? In O. Moufakkir & P. Burns (Eds.), *Controversies in tourism* (pp. 242–254). Wallingford: CABI Publishing.

Bossel, H. (1999). *Indicators for sustainable development: Theory, method, applications* (A report to the Balaton Group). Winnipeg: International Institute for Sustainable Development.

Bossel, H. (2001). Assessing viability and sustainability: A systems-based approach for deriving comprehensive indicator sets. *Conservation Ecology, 5*(2), 12. Retrieved from http://www.consecol.org/vol5/iss2/art12/

Brodowsky, P. (2010). *Ecotourists save the world: The environmental volunteer's guide to more than 300 international adventures to conserve, preserve, and rehabilitate wildlife and habitats*. New York: The Penguin Group.

Brown, S., & Morrison, A.M. (2003). Expanding volunteer vacation participation: An exploratory study on the mini-mission concept. *Tourism Recreation Research, 28*, 73–82.

Budruk, M., & Phillips, R. (2011). *Quality-of-life community indicators for parks, recreation and tourism management*. London: Springer Science+Business Media.

Butcher, J., & Smith, P. (2010). "Making a difference": Volunteer tourism and development. *Tourism Recreation Research, 35*(1), 27–36.

Callanan, M., & Thomas, S. (2005). Volunteer tourism: Deconstructing volunteer activities within a dynamic environment. In M. Novelli (Ed.), *Niche tourism: Contemporary issues and trends* (pp. 183–200). New York: Elsevier.

Campbell, L. & Smith, C. (2006). What makes them pay? Values of volunteer tourists working for sea turtle conservation. *Environmental Management, 38*(1), 84–98.

Chen, J., Stanis, S., Barbieri, C., & Xu, S. (2010). An application of importance–performance analysis to recreational storm chasing. In C.L. Fisher & C.E. Watts, Jr (Eds.), *Proceedings of the 2010 Northeastern Recreational Research Symposium* (pp. 45–51). Newtown Square, PA: US Department of Agriculture, Forest Service, Northern Research Station. Retrieved from http://www.nrs.fs.fed.us/pubs/gtr/gtr-p-94papers/07chen-p94.pdf

Cox, D., Frere, M., West, S., & Wiseman, J. (2010). Developing and using local community well-being indicators: Learning from the experience of Community Indicators Victoria. *Australian Journal of Social Issues, 45*(1), 71–88.

Farrell, B., Twining-Ward, L. (2004). Reconceptualizing tourism. *Annals of Tourism Research, 31*(2), 274–295.

Farrell, B., Twining-Ward, L. (2005). Seven steps towards sustainability: Tourism in the context of new knowledge. *Journal of Sustainable Tourism, 13*(2), 109–122.

Fee, L., & Mdee, A. (2011). How does it make a difference? Towards "accreditation" of the development impact of volunteer tourism. In A.M. Benson (Ed.), *Volunteer tourism: Theory framework to practical applications* (pp. 223–251). New York: Routledge.

Fraser, E., Dougill, A., Mabee, W., Reed, M., & McAlpine, P. (2006). Bottom up and top down: Analysis of participatory processes for sustainability indicator identification as a pathway to community empowerment and sustainable environmental management. *Journal of Environmental Management, 78*, 114–127.

Gray, N., & Campbell, L. (2007). A decommodified experience? Exploring aesthetic, economic and ethical values for volunteer ecotourism in Costa Rica. *Journal of Sustainable Tourism, 15*(5), 463–482.

Gursoy, D., Chi, C. & Dyer, P. (2009) An examination of locals' attitudes. *Annals of Tourism Research, 36*, 715–734

Guttentag, D. (2009) The possible negative impacts of volunteer tourism. *International Journal of Tourism Research, 11*, 537–551.

Guttentag, D. (2011). Volunteer tourism: As good as it seems? *Tourism Recreation Research, 36*(1), 69–74.

Hall, C.M. (2000). *Tourism planning*. Harlow: Prentice Hall.

Halpenny, E.A., & Caissie, L.T. (2003). Volunteering on nature conservation projects: Volunteer experience, attitudes and values. *Tourism Recreation Research, 28*(3), 25–33.

Higgins-Desbiolles, F., & Russell-Mundine, G. (2008). Absences in the volunteer tourism phenomenon: The right to travel, solidarity tours and transformation beyond the one-way. In K.D. Lyons & S. Wearing (Eds.), *Journeys of discovery in volunteer tourism* (pp. 182–194). Wallingford: CABI Publishing.

Hindle, C., Cavalieri, N., Collinson, R., Miller, K., Richard, M., & Wintle, S. (2010). *Lonely planet volunteer: A traveller's guide to making a difference around the world*. Victoria: Lonely Planet Publications.

Hughes, G. (2002). Environmental indicators. *Annals of Tourism Research, 29*(2), 457–477.

The International Ecotourism Society. (2012). International voluntourism guidelines for commercial tour operators. Retrieved from http://www.ecotourism.org/voluntourism-guidelines

Jamal, T., & Stronza, A. (2009). Collaboration theory and tourism practice in protected areas: Stakeholders, structuring and sustainability. *Journal of Sustainable Tourism, 17*(2), 169–189.

Liu, Z. (2003). Sustainable tourism development: A critique. *Journal of Sustainable Tourism, 11*(6), 459–475.

Lynch, P. (2009). *Wildlife & conservation volunteering: The complete guide*. Guilford, CN: The Globe Pequot Press.

Lyons, K.D. (2003). Ambiguities in volunteer tourism: A case study of Australians participating in a J-1 visitor exchange programme. *Tourism Recreation Research, 28*(3), 5–13.

Lyons, K., Hanley, J., Wearing, S., & Neil, J. (2012). Gap year volunteer tourism: Myths of global citizenship? *Annals of Tourism Research, 39*(1), 361–378.

Lyons, K., & Wearing, S. (2008). All for a good cause? The blurred boundaries of volunteering and tourism. In K. Lyons & S. Wearing (Eds.), *Journeys of discovery in volunteer tourism* (pp. 147–154). Wallingford: CABI Publishing.

Martilla, J., & James, J. (1977). Importance-performance analysis. *Journal of Marketing, 41*(1), 77–79.

Mascarenhas, A., Coelho, P., Subtil, E., & Ramos, T. (2010). The role of common local indicators in regional sustainability assessment. *Ecological Indicators, 10*(3), 646–656.

McGehee, N. (2010). Voluntourism and human emancipation: Research propositions. *The VolunTourist Newsletter, 6*(1). Retrieved from http://www.voluntourism.org/news-studyandresearch61.htm

McIntosh, A., & Zahra, A. (2007). A cultural encounter through volunteer tourism: Towards the ideals of sustainable tourism? *Journal of Sustainable Tourism, 15*(5), 541–556.

Mdee, A., & Emmott, R. (2008). Social enterprise with international impact: The case for Fair Trade certification of volunteer tourism. *Education, Knowledge & Economy, 2*(3), 191–201.

Meadows, D., (2008). *Indicators and information systems for sustainable development: A report to the Balaton Group*. Hartland Four Corners, VT: The Sustainability Institute.

Mersmann, A., Havranek, C., & Ferguson, K. (2010). *Frommer's 500 places where you can make a difference*. Mississauga, ON: Wiley Canada.

Miller, G. (2001). The development of indicators for sustainable tourism: Results from a Delphi survey of tourism researchers. *Tourism Management, 22*, 351–362.

Miller, G., & Twining-Ward, L. (2005). *Monitoring for a sustainable tourism transition*. Wallingford: CABI Publishing.

Mitchell, G. (1996). Problems and fundamentals of sustainable development indicators. *Sustainable Development, 4*, 1–11.

Njuki, J., Mapila, M., Kaaria, S., & Magombo, T. (2008). Using community indicators for evaluating research and development programmes: Experiences from Malawi. *Development in Practice, 18*(4–5), 633–642.

Oh, H. (2001). Revisiting importance-performance analysis. *Tourism Management, 22*(6), 617–627.

Parkins, J., Stedman, R., & Varghese, J. (2001). Moving towards local-level indicators of sustainability in forest-based communities: A mixed-method approach. *Social Indicators Research, 56*, 43–72.

Raymond, E. (2011). Volunteer tourism: Looking forward. *Tourism Recreation Research, 36*(1), 77–79.

Reed, M., Fraser, E., & Dougill, A. (2005). An adaptive learning process for developing and applying sustainability indicators with local communities. *Ecological Economics, 59*, 406–418.

Roberts, S., & Tribe, J. (2008). Sustainability indicators for small tourism enterprises – An exploratory perspective. *Journal of Sustainable Tourism, 16*(5), 575–594.

Schianetz, K., & Kavanagh, L. (2008). Sustainability indicators for tourism destinations: A complex adaptive systems approach using systemic indicator systems. *Journal of Sustainable Tourism, 16*(6), 601–628.

Simpson, K. (2005). *Broad horizons? Geographies and pedagogies of the gap year* (PhD thesis). Newcastle University, Newcastle upon Tyne, Tyne and Wear.

Sin, H.L. (2009). Volunteer tourism – "Involve me and I will learn?" *Annals of Tourism Research, 36*(3), 480–501.

Sin, H. (2010). Who are we responsible to? Locals' tales of volunteer tourism. *Geoforum, 41*, 983–992.

Sirakaya, E., Jamal, T.B., & Choi, H.S. (2001). Developing indicators for destination sustainability. In D. Weaver (Ed.), *The encyclopedia of ecotourism* (pp. 411–429). Wallingford: CABI Publishing.

Söderman, N., & Snead, S. (2008). Opening the gap: The motivation of gap year travellers to volunteer in Latin America. In K. Lyons & S. Wearing (Eds.), *Journeys of discovery in volunteer tourism* (pp. 118–129). Wallingford: CABI Publishing.

Stoddart, H., & Rogerson, C.M. (2004). Volunteer tourism: The case of Habitat for Humanity South Africa. *GeoJournal, 60*, 311–318.

Strickland-Munro, J., Allison, H., & Moore, S. (2010). Using resilience concepts to investigate the impacts of protected area tourism on communities. *Annals of Tourism Research, 37*(2), 499–519.

Tomazos, K., & Butler, R. (2009). Volunteer tourism: The new ecotourism? *Anatolia: An International Journal of Tourism and Hospitality Research, 20*(1), 196–211.

Tourism Research and Marketing. (2008). *Volunteer tourism: A global analysis*. Barcelona: Atlas.

Wade, D., & Eagles, P. (2003). The use of importance-performance analysis and market segmentation for tourism management in parks and protected areas: An application to Tanzania's national parks. *Journal of Ecotourism, 2*(3), 196–212.

Wearing, S. (2001). *Volunteer tourism: Experiences that make a difference*. New York: CABI Publishing.

Wearing, S. (2004). Examining best practice in volunteer tourism. In R. Stebbins & M. Graham (Eds.), *Volunteering as leisure/leisure as volunteering: An international assessment* (pp. 209–224). Wallingford: CABI Publishing.

Wearing, S., McDonald, M. & Ponting, J. (2005). Building a decommodified research paradigm in tourism: The contribution of NGOs. *Journal of Sustainable Tourism, 13*(5), 424–439.

Wearing, S., & Wearing, M. (1999). Decommodifying ecotourism: Rethinking global-local interactions with host communities. *Society and Leisure, 22*(1), 39–70.

Wood, M.E. (2004). A triple bottom line for sustainable tourism development for international donors: Defining indicators for conservation, community and local enterprise development. *Eplerwood International.* Retrieved from http://www.eplerwood.com/pdf/EplerWood_Report_Jun04.pdf

World Tourism Organization. (2004). *Indicators of sustainable development for tourism destinations: A guidebook*. Madrid: Author.

Young, T. (2008). Mediating volunteer tourism alternatives: Guidebook representations of travel experiences in Aboriginal Australia. In K.D. Lyons & S. Wearing (Eds.), *Journeys of discovery in volunteer tourism* (pp. 195–209). Oxfordshire: CABI.

Zahra, A. (2011). Volunteer tourism as a life-changing experience. In A. Benson (Ed.), *Volunteer tourism: Theory framework to practical applications* (pp. 90–101). New York: Routledge.