Tourism is a key economic sector and tool for community development in most developing countries. However, climate change remains one of the major threats to this development. This is especially so for countries such as Botswana whose tourism industry is largely nature based, making it vulnerable to the effects of environmental change. Consequently, communities who rely on tourism to some extent are also vulnerable to global climate change and its local effects. The purpose of this article is to examine community perceptions with regards to the tourism–climate change nexus in Maun, a key tourism hub in Botswana and dependent on the tourism economy. Data collection was done by means of a household survey. Interestingly, the results showed that most local people do not perceive tourism highly as a source of income. In practice, they depended on other forms of livelihoods like formal employment and farming. Furthermore, even though they have noted some changes in the environment and climate, they generally did not know the resultant impacts despite acknowledging that the tourism industry is bound to be affected. The low awareness levels may lead to inaction, and hence a clarion call to decision makers to develop information and adaptation strategies for communities that host tourist attractions to ensure resilience to anticipated effects of global climate change.

Key words: Climate change; Community perceptions; Livelihoods; Tourism; Botswana
Foundation, 2014; Hambira, 2011; Mbaïwa, 2017; Moswete & Dube, 2013). Therefore, climate and climate change affect the popularity of tourism destinations (Amelung et al., 2007; Hall et al., 2013; Hambira et al., 2020). In addition, climate change impacts on tourism demand include societal change related to reduced economic growth, consumer cultures, and social–political stability (Dogru et al., 2019; Gössling et al., 2012; Manwa et al., 2017; Scott et al., 2012; Urry, 2011). The effects of climate change may also cause many tourist destinations to lose their attractiveness (Gössling et al., 2006; see also Hambira, 2011). For example, wildlife and safari tourism operations may be affected by species shift resulting from rising temperatures. Climate change, therefore, has the potential to reduce the sustainability and long-term viability of tourism to create benefits for local development (Hambira, 2017; Hoogendoorn & Fitchett, 2018; Scott, 2011; see also Reddy & Wilkes, 2013).

The years 2015–2018 were recorded as the hottest years in history (World Meteorological Organization, 2019) and the effects of inaction now will be felt in the future (United Nations, 2019). For instance, about 40% of species in sub-Saharan Africa’s national parks are likely to become endangered by 2080 due to climate change (European Climate Foundation, 2014). Consequently, research in climate change–tourism nexus is steadily gaining momentum in southern Africa. Based on an existing scholarship on tourism and climate change in the region, Hambira and Mbaïwa (2021) posited that the research topics can be categorized as 1) vulnerability of tourism destinations; 2) impacts of climate change on tourism destinations; 3) perceptions (including views and attitudes) and awareness (including knowledge and understanding) of various stakeholders towards climate change–tourism nexus; 4) adaptation and mitigation responses by tourism stakeholders towards climate change; 5) knowledge inquiry and methodological issues surrounding research in tourism–climate change nexus.

With respect to vulnerability, studies by Burg (2007), Hambira (2011) and Hambira et al. (2013) revealed that the Okavango Delta, a renowned wetland of international importance located in Botswana, was vulnerable to climate change due to observed changes in climatic variables, flooding extent, and threats to livelihoods dependent on the delta as well as weaknesses in governance structures that oversee the delta. Burg (2007) noted the hydrological and vegetation changes using various models, across time scales, up to the year 2100. Research has further revealed impacts of temperature increases due to climate change to include reduced tourism comfort due to rising temperatures in Kalahari area (Saarinen et al., 2012, 2020), Namibia (Saarinen, 2016; Tervo-Kankare, Saarinen, et al., 2018) the Zambian tourist town of Livingstone (Dube & Nhamo, 2018a), and the Zimbabwean side of the Victoria Falls (Dube & Nhamo, 2018b). The enjoyment of tourist activities such as scenic flights and drive tourism are also expected to be negatively affected by rising temperatures in countries like Botswana and Zambia (Dube & Nhamo, 2018b; Hambira, 2017; see also Hambira & Mbaïwa, 2021). A shift in seasons resulting from climate change may also impact tourism peak seasons as envisaged in the case of Zambia (Dube & Nhamo, 2016a) and Lesotho (Hoogendoorn et al., 2021). Furthermore, a rise in sea levels caused by climate change is likely to lead to submergence of some beaches in some coastal towns of South Africa and Kenya (Fitchett, Grant, et al., 2016; Njoronge, 2015a). Based on this information, affected stakeholders are better positioned to take the necessary action of protecting the industry against climate change.

Perceptions and awareness of tourists, tourists operators, as well as policy makers regarding the climate change–tourism nexus have been intensively studied in Botswana, South Africa, Zambia, Zimbabwe and Kenya, for example (see Dube et al., 2018; Fitchett, Grant, et al., 2016; Hambira et al., 2013; Mushawemhuka et al., 2018; Njoronge, 2015b; Saarinen et al., 2012, 2013, 2020). In general, studies indicate that there is a relatively good awareness of the climate change process, but its implications to tourism, livelihoods, and local communities’ well-being specifically are less understood. In addition, research has uncovered some methodological challenges and solutions in the application of Tourism Climate Index Scores in South Africa, for example (Fitchett, Hoogendoorn, et al., 2016). This has led to studies on climate suitability of a destination for tourism in countries like Zimbabwe and Lesotho (Mushawemhuka et al., 2020; Noome & Fitchett, 2019). In addition, climate change policy responses guiding tourism planning and development and
how community participation in tourism can be organized have been investigated in Botswana and Zambia (Dube & Nhamo, 2018a; Hambira, 2017; Hambira et al., 2013).

Tourism development and especially its sustainability relies on community participation (Saarinen, 2019), and the community’s attitude plays an imperative role in tourism development (Nunkoo & Ramkissoo, 2011; Sharma et al., 2018). Documenting the general public perceptions and their understanding of climate change matters in identifying challenges that are peculiar to a particular community (Buys et al., 2012; Ngoni & Saarinen, 2020; Saarinen et al., 2020). Thus, an understanding of community perceptions and how these perceptions are formed regarding tourism development would be valuable for decision makers, especially in devising ways of making tourism-dependent communities more resilient to the vagaries of climate change (Bonzanigo et al., 2013; Jamal & Camargo, 2018; Wyss et al., 2014). Studying perceptions includes community views, awareness, and beliefs with respect to causes of climate change (Gentle & Masaseni, 2012; Ofoegbu et al., 2016; Pelling, 2011). Perceptions are therefore influenced by community capacity, empowerment, and participation in relation to tourism development (Saarinen, 2019).

In order for tourism-dependent economies in the Global South to ensure that local communities continue to benefit from the industry, their perceptions need to be understood. This is because response actions are dependent on the actors’ perception of risk (Intergovernmental Panel on Climate Change [IPCC], 2014; see also Grothmann & Patt, 2012). However, it has been recognized that there is little knowledge on how tourism stakeholders understand and perceive climate change and its impact on tourism (Adger et al., 2012; Nalau et al., 2017; Pandy & Rogerson, 2018; Wyss et al., 2014). While the views and perceptions of tourists, tourism operators, and policy makers on climate change have been established in the southern African context (see, e.g., Dube et al., 2018; Hambira & Saarinen, 2015; Saarinen et al., 2013), a gap still exists on the views and perceptions of communities who host nature-based tourism. This article therefore endeavors to analyze community perceptions with regards to the tourism–climate change nexus. The study is guided by the following research questions: What are community perceptions on climate change and tourism development? Do local communities see climate change as a threat to their livelihoods? How do local communities evaluate their need and capacity to adapt to climate change?

Tourism, Climate Change, and Community Perceptions

Tourism is held in high regard in many countries in the Global South due to its positive impact on economic growth, especially in employment creation (Niang et al., 2014; Rogerson & Visser, 2004, 2011). In Botswana, wildlife and pristine biological diversity are the main drivers of the tourism industry; hence, focus is on wilderness and nature-based operations (Hambira, 2020a; Mbaiwa, 2017). The Botswana National Vision 2036 heralds tourism as an economic pillar for economic transformation, growth, and diversification where local communities may benefit from job opportunities (Vision 2036 Presidential Task Force, 2016). At policy level, revenue earned from nature-based tourism helps address economic and social challenges in Botswana (Kalikawe, 2001; Mbaiwa, 2017) and tourism is often hailed for its potential contribution to rural development (Lenao & Saarinen, 2015; see also Sharpley, 2002).

As a tool for driving rural development, tourism is expected to contribute through income generation and job creation, economic and social infrastructure, value chain, local amenities and services, as well as conservation of environmental and cultural resources (Hall & Jenkins, 1998; Lenao et al., 2014). While tourism has the capacity to create local development and well-being, the industry may also operate based on its own economic growth needs (Britton, 1982, 1991; see also Hambira, 2020a; Mbaiwa, 2017; Mbaiwa & Hambira, 2020). This may result in enclave tourism development characterized by separated structures and activities from the surrounding communities and their social realities (see Buzinde & Manuel-Navarrete, 2013; Saarinen & Wall-Reinius, 2019; Torres & Momsen, 2005), which has been noted as problematic in Botswana and especially in the Okavango Delta (Mbaiwa, 2005; Mbaiwa & Hambira, 2020). This may seriously hinder local communities’ connections, benefits, and meaningful participation (inclusion).
In addition to the issues related to local involvement and participation, Hambira (2020a) posited that the resilience of communities to climatic challenges is one of the greatest contemporary drawbacks that nature-based tourism-led economies must contend with. Perceptions are critical in responding to the challenges. For instance, Mortreux and Barnett (2009) as well as Pandy and Rogerson (2018) opined that responses to climate change are facilitated by how communities perceive both the challenges and solutions to climate change. That is, perceptions of climate change influence the degree and nature of adaptation actions taken at the community level (Adger et al., 2005; Becken et al., 2013; Leiserowitz, 2006; Mortreux & Barnett, 2009). In general, adaptation can be either passive or active, depending on how learning and knowledge creation take place (Tervo-Kankare, Kajan, et al., 2018). Passive adaptation is reactive and is devoid of concrete steps to deal with or adapt to climate change (e.g., optimize benefits or reduce harm), while the active approach to adaptation is based in proactive learning, focused decisions, and improving knowledge (see Tripathi & Mishra, 2017; Walters, 1986). Therefore, for effective adaptation strategies to be developed, it is important to understand how people and different communities perceive climate change and their need to respond to its impacts (Grothmann & Patt, 2012; Saarinen et al., 2020; Walshe et al., 2018). Perceptions depend on cultural and social context (Kunreuther & Slovic, 1996) as well as local traditional and scientific knowledge (Rudiak-Gould, 2013). Hence, perceptions can also act as a barrier to adaptation (Betzold, 2015; Olazabal et al., 2018) as perceiving impacts as ‘futuristic’ may delay responses that would actually be urgent at the present time (Hambira, 2017; Hambira & Saarinen, 2015).

The article is premised on the Pressure State Response Model (PSRM). PSRM was developed by the organization of Economic Co-operation and Development (OECD) in the early 1990s (Sekovski et al., 2012) to deal with environmental issues in economic development contexts (Wolfslehner & Vacik, 2007). Ojeda-Martinez et al. (2007) state that the model is based on the idea that anthropogenic actions impact the environment and the resulting adverse environmental impacts (should) compel humans to control the pressures (see also Flörke et al., 2011). As expounded in the introduction, climate change results in rising temperatures and altered precipitation, which are the pressures that eventually affect the natural capital that forms the basis for nature-based tourism resulting in a state of loss of attractiveness of tourist attractions. Ultimately tourism stakeholders such as government, tourism operators, and communities are expected to respond to preserve the natural capital.

Methodology

Study Area

Maun is the third largest village in Botswana (Central Statistics Office, 2011) situated in northwest Botswana (Fig. 1). Maun has a population of 60,257 with 14,107 households and an average household size of 4.3 (Statistics Botswana, 2015). It is the capital as well as the largest settlement of the Ngamiland District and has become a regional service center over the years. Maun is one of the fastest growing (semi-urbanised) areas in Botswana and it is described as having a diversified and sophisticated economy with high development potential (Mbaiwa et al., 2007). Although Maun has not officially attained town status, its rapid growth into a commercial center has led to it being referred to as a rural town in some instances. It is also known as the “tourism capital” of Botswana. The tourist capital offers various tourism products including arts and crafts, hospitality, heritage facilities such as the local museum, mokoro (dugout canoe) rides, or boat cruises when the Thamalakane River flows.

Furthermore, the “rural town” hosts the Maun International Airport, one of the busiest airports in southern Africa, specializing in small charter flights to different parts of Botswana, especially the Okavango Delta tourist attraction (Mbaiwa, 2005; Moswete et al., 2009). This has earned it the status of the gateway to the internationally acclaimed Okavango Delta (Mbaiwa, 2005). Maun also hosts offices of most tourism multinational and domestic companies that operate in the Delta. The physical environment is characterized by semiarid conditions with average rainfall of 500 mm per annum and temperatures ranging from 15.6°C in winter to 27.2°C in summer (Department of Environmental Affairs, 2008; Turpie et al., 2006). Earlier studies...
were also informed that they could withdraw from the study at any time, and that the study data would be treated as highly confidential; they were also promised anonymity as no names were collected. Data entry into Excel followed and was later exported to Statistical Package for Social Science (SPSS) for data cleaning and analysis.

The study participants were adult community members from Maun, Botswana ($N = 453$; 283 females, 162 males, 8 did not indicate their gender). They represented 3.2% of households in Maun. Systematic sampling was employed to select the households. United Nations (2005) explained that a selection of participants in this type of sampling entails a random start while subsequent selections are based on predetermined selection interval. For the purposes of this study sampling was done by selecting every second household in various locations/

Figure 1. Map of Maun, the study area.

have also shown that the Okavango Delta is highly vulnerable to climate change (see Hambira, 2011).

**Data Collection Procedure and Sampling**

The study was done under research permit number EWT8/36/4VII (71) issued by the Ministry of Environment, Natural Resources Conservation and Tourism. The research process was conducted in an ethical manner in line with researchers’ institutional and research permit requirements that prevailed at the time. The study adopted a survey approach where household data on community perceptions on the tourism–climate change nexus were solicited. The researchers read out an explanatory statement informing the participants of the purpose of the study. A verbal consent was requested from the participant before they could take part. Participants were also informed that they could withdraw from the study at any time, and that the study data would be treated as highly confidential; they were also promised anonymity as no names were collected. Data entry into Excel followed and was later exported to Statistical Package for Social Science (SPSS) for data cleaning and analysis.

The study participants were adult community members from Maun, Botswana ($N = 453$; 283 females, 162 males, 8 did not indicate their gender). They represented 3.2% of households in Maun. Systematic sampling was employed to select the households. United Nations (2005) explained that a selection of participants in this type of sampling entails a random start while subsequent selections are based on predetermined selection interval. For the purposes of this study sampling was done by selecting every second household in various locations/
wards in Maun. Recruitment of participants was therefore done from a door to door (interval of two) request for participation where the researcher would knock at a household and request for any elder that welcomes the researcher to take part in the study.

The data collection tool was a semistructured questionnaire, comprising closed and open-ended questions as well as Likert statements. The tool comprised questions that facilitate the solicitation of respondents' demographic and socioeconomic information such as gender, age, number of years a respondent had been residing in the area, and livelihood activity at the time of study. Some open-ended questions aimed at determining the participants’ perceptions with regards to observed changes in their physical environment including climate parameters. With respect to Likert scale statements, participants perceptions were rated on a 5-point Likert scale of 1 (strongly agree), 2 (agree), 3 (neither agree nor disagree), 4 (disagree), 5 (strongly disagree). The level of measurement is thus classified as ordinal where the values that describe the variable are ranked but the difference between the ranked values is not really known (see My Market Research Methods, 2020). Originally, the Likert items were 22 in all but only 7 were selected for the purposes of this article as they related to climate change perception, threats to tourism development, and adaptation responses. Respondents were also asked to state their livelihood activities at the time of the study in the early 2010s and their anticipated livelihood activity in 2020. This question assessed participants’ intention to diversify livelihoods as an adaptation strategy.

Data Analysis

Data analysis was conducted using SPSS version 26 for basic statistical analysis. Descriptive statistics in the form of percentages, frequencies, and mode were employed for the purpose of providing a general idea of the data. This is in line with Blaikie (2004), who recommended such for ordinal data. That is, some scholars advocate for the use of median or mode instead of mean as a measure of central tendency since the latter’s interpretation would be unclear for numbers that represent verbal statements (Blaikie, 2004; Clegg, 1998; Jamieson, 2004). The results were illustrated using tables and bar charts. Comparable studies that used similar descriptive statistical analysis and illustrations include one by Dube et al. (2018) on tourist’s knowledge and perceptions on the impacts of climate change on the Okavango Delta.

Results and Discussion

Perceptions on Tourism Development and Benefits

In order to gather their socioeconomic background, respondents were asked to state their main source of income. Based on this, one third of the respondents were in formal employment, one fourth were self-employed, while one fifth were farmers (Table 1).

Respondents were also asked whether any member of their household had received any tourism-related income in the past year from the time of data collection. There were 27% of the respondents who were affirmative on this, while 72% indicated that none of their family members had received any tourism related income. Among those that said they or their household members had received tourism income, 26% stated that the income was employment related. That is, either they or a member of their household worked for a tourism entity while less than a 1% said the income was funding for a tourism project.

Respondents believed that tourism benefits accrue mostly to the government, as 37% (N = 166) highlight the government’s role. One third (N = 149) were of the view that tourism mainly benefited foreigners (i.e., South African or overseas actors), while 22% (N = 100) deemed residents as the main beneficiaries (Fig. 2).

Table 1

<table>
<thead>
<tr>
<th>Source of Income</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farming</td>
<td>92 (20.3%)</td>
</tr>
<tr>
<td>Self-employment</td>
<td>107 (23.6%)</td>
</tr>
<tr>
<td>Pension</td>
<td>6 (1.3%)</td>
</tr>
<tr>
<td>Formal employment</td>
<td>147 (32.5%)</td>
</tr>
<tr>
<td>Vending</td>
<td>5 (1.1%)</td>
</tr>
<tr>
<td>Nothing</td>
<td>41 (9.1%)</td>
</tr>
<tr>
<td>Other</td>
<td>33 (7.3%)</td>
</tr>
<tr>
<td>Total</td>
<td>431 (95.1%)</td>
</tr>
</tbody>
</table>
Participants were also asked whether there are tourism-related benefits accruing to the community. Almost 70% \((N = 309)\) were in the affirmative while 31% \((N = 139)\) held the dissenting view. Of the former, the majority believed employment was the main benefit followed by income generation and development or enhancement of livelihoods (Fig. 3).

**Perceptions on Climate Change and Threats to Tourism Development**

In order to determine their general perceptions regarding the tourism–climate change nexus, respondents were asked whether they had experienced any changes in the environment in the past 5 years. The majority (68%) stated that they had observed some changes in their environment. These observed changes included erratic rainfalls, land degradation, and changing weather patterns (Fig. 4).

The majority of the participants (23%) agreed with the statement that “Climate will change in future in my home region” (Table 2). Therefore, participants still expected the changes they were currently experiencing to continue in future. However, many agreed with the statement “I don’t know what the impacts will bring,” which is a worrisome position to hold because it may lead to inaction. The majority (45.3%), though less than half the
respondents, also agreed with the statement that “Climate change will impact local tourism industry.” Interestingly, most participants disagreed with the statement that “tourism attractiveness here is based on nature,” which is surprising because the region where Maun is located is a prime nature-based tourism area.

Most of the participants disagreed with the idea that “Tourism is the only viable livelihood in the region.” Evidently as illustrated in the preceding sections, most participants depended on other livelihoods such as farming and many of them had not received tourism-related income. Therefore, it is not surprising that they may not find tourism to be the only viable livelihood. The participants further disagreed with the statement that “Local people can participate in the tourism industry if they want to,” indicating a problematic tourism–community relation in Maun. Furthermore, it was interesting to note that the majority of the participants disagreed with the statement that “Government should invest on adaptation now.” This may demonstrate that climate change is not locally considered as an urgent policy-making matter.

Based on a frequency analysis, the top four livelihood activities remained the same between 2010 and 2020, although with lesser frequencies in 2020 (Table 3). Interestingly, there was a sharp rise in the number of people who preferred not to answer the question (no comment). This indicates locally perceived uncertainties associated with the future economic possibilities in Maun region.

Table 2
Respondents’ Perceptions Towards Climate Change Impacts, Tourism, and Adaptation (N = 453)

<table>
<thead>
<tr>
<th>Statement</th>
<th>1: Strongly Agree</th>
<th>2: Agree</th>
<th>3: Not Agree or Disagree</th>
<th>4: Disagree</th>
<th>5: Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Climate will change in future in my home region</td>
<td>104 (23.0%)</td>
<td>195 (43.0%)</td>
<td>130 (28.7%)</td>
<td>17 (3.8%)</td>
<td>4 (0.9)</td>
</tr>
<tr>
<td>I don’t know what impacts climate change will bring</td>
<td>69 (15.2%)</td>
<td>187 (41.7%)</td>
<td>43 (9.5%)</td>
<td>97 (21.4%)</td>
<td>45 (9.9%)</td>
</tr>
<tr>
<td>Climate change will impact local tourism industry</td>
<td>95 (21.0%)</td>
<td>205 (45.3%)</td>
<td>65 (14.3%)</td>
<td>63 (13.9%)</td>
<td>25 (5.5%)</td>
</tr>
<tr>
<td>Tourism attractiveness here is based on nature</td>
<td>31 (6.8%)</td>
<td>85 (18.8%)</td>
<td>74 (16.3%)</td>
<td>218 (48.1%)</td>
<td>38 (84.0%)</td>
</tr>
<tr>
<td>Tourism is the only viable livelihood in the region</td>
<td>63 (13.9%)</td>
<td>175 (34.7%)</td>
<td>98 (21.6%)</td>
<td>109 (24.1%)</td>
<td>45 (9.9%)</td>
</tr>
<tr>
<td>Local people can participate in the tourism business if they want to</td>
<td>80 (17.7%)</td>
<td>90 (19.9%)</td>
<td>28 (6.2%)</td>
<td>184 (40.6%)</td>
<td>68 (15.0%)</td>
</tr>
<tr>
<td>Government should invest on adaptation now</td>
<td>70 (15.5%)</td>
<td>114 (25.2%)</td>
<td>74 (16.3%)</td>
<td>147 (32.5%)</td>
<td>45 (9.9%)</td>
</tr>
</tbody>
</table>
The majority of the respondents indicated that they do not know what impacts climate change would bring. Indeed, there has been a lack of information about the tourism–climate change nexus among local people, which has been noted in earlier studies in Botswana (see Hambira, 2017). This has created an uncertainty associated with climate change that often delays or even halts necessary action to be taken (Hambira et al., 2020). This can be highly problematic with respect to proactive adaptation approach emphasizing future-oriented planning. Despite the noted lack of knowledge and low levels of participation in the tourism sector, local people considered that climate change will impact the tourism industry in Maun. However, there were uncertainties associated with the future economic possibilities in the region as agriculture (farming) was still ranked top. Why tourism was not regarded a future alternative may be linked to the respondents’ perceived notion that government was the main beneficiary. This may mean participation of local people in the tourism industry was limited. Indeed, the extent to which local communities benefit from tourism has always been a concern (see Mbaiwa, 2017). Eshliki and Kaboudi (2012) further posited that residents with the most economic gain on tourism are the most supportive in the tourism industry and usually get involved in planning of adaptive measures by policy makers. Notwithstanding the above, many local communities in Botswana have become increasingly dependent on tourism (Mbaiwa, 2005). However, the industry is vulnerable to the impacts of global climate change and other external elements, causing local changes. Since tourism is largely nature based, especially in southern Africa, it is imperative to conserve the tourism base under global change, more especially climate change. Overall, there is an urgent need to study the role and nature of climate change impacts in Botswana and the Global South, in general, as there are not enough context-sensitive studies on the topic and community knowledge and perceptions on the tourism–climate change nexus. Such studies are key in developing tourism and its resilience planning towards sustainable development. Nepal (2011) opined that for communities dependent on tourism either directly or indirectly, any alterations in tourism patterns, whether climate related or not, will impact their livelihood.

Discussion and Conclusions

The capacity of local people to cope and adapt to the impact of climate change depends on many contextual elements. In addition to the nature of change, available resources, existing policies, and governmental support, for example, the issue of how the local communities perceive and understand the change and its connections to their everyday environment and livelihood options influences their capacity to adapt (Becken et al., 2013; Olazabal et al., 2018; Pandy & Rogerson, 2018; Pelling, 2011; Tripathi & Mishra, 2017). This study aimed to analyze community perceptions towards climate change and especially on climate change threats to tourism.

Based on the results, local community members expected that the climate-related changes would continue into the future. However, they did not expect any mitigation and adaptation strategies to be put in place immediately as the majority of the respondents did not consider that there is a need for the government to invest in climate change adaptation strategies as a matter of urgency. While this is an unexpected outcome, some previous studies in Botswana have noted poor planning needs and actions for climate change by tourism operators (see Hambira et al., 2013; Saarinen et al., 2012). The “no action now” result may also have been influenced by the fact that most respondents did not necessarily perceive tourism as a major source of livelihood, as otherwise they would have probably regarded safeguarding their major source of livelihood as a priority. While tourism is economically highly important in Maun, its connections to the locals’ everyday life may be limited due to the enclave nature of tourism economy in the region (Mbaiwa, 2005, 2017; Mbaiwa & Hambira, 2020).

### Table 3
Livelihood Activities in 2010 and 2020 ($N = 453$)

<table>
<thead>
<tr>
<th>Livelihood Activity</th>
<th>2010</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>208 (45.9%)</td>
<td>159 (35.1%)</td>
</tr>
<tr>
<td>Self employed</td>
<td>135 (29.8%)</td>
<td>83 (18.3%)</td>
</tr>
<tr>
<td>Formal employment</td>
<td>35 (7.7%)</td>
<td>32 (7.1%)</td>
</tr>
<tr>
<td>Tourism</td>
<td>53 (11.7%)</td>
<td>58 (12.8%)</td>
</tr>
<tr>
<td>Other</td>
<td>14 (3.1%)</td>
<td>17 (3.8%)</td>
</tr>
<tr>
<td>No comment</td>
<td>2 (4.0%)</td>
<td>65 (14.3%)</td>
</tr>
<tr>
<td>Total</td>
<td>447 (98.7%)</td>
<td>414 (91.4%)</td>
</tr>
</tbody>
</table>
Already, there are emerging issues related to the COVID-19 pandemic caused by the corona virus, for example, that have created additional challenges for the regional tourism industry and its ability to contribute to local development and community well-being in Botswana (Hambira, 2020b). The post-COVID-19 recovery plans—of “building back better”—should be tied to climate action and sustainable development goals (Rogerson & Baum, 2020; World Health Organization, 2020). This goes to show that the vagaries of climate change on the tourism industry and destination communities would probably be exacerbated by other emerging catastrophes, COVID-19 being a case in point.

Acknowledgment
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