Proactive responses to mitigate Climate Change impacts by the hospitality sector in South Africa

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Abstract

Commercial lodgings such as hotels, restaurants, motels and bed and breakfast establishments are an important part of the tourism and hospitality sector that contribute significantly to the economic growth of South Africa. However, these accommodations utilize various facilities, equipment and devices in their day to day operations and services that are being powered by fossil fuel energy, and in the process, they emit greenhouse gases causing global climate change. Responsible hospitality business and climate change mitigation are important issues on the South African policy agenda. Many of the policies focus on the greening of the hospitality industry by ensuring that they lower and reduce their carbon footprints. It is against this backdrop that this article showcases different ways in which the hospitality industry can reduce their negative impacts on the climate to climate changes prominent amongst which is the greening of entire facilities and infrastructure, equipment and devices as a strategy to combat climate change surge. The World Travel and Tourism Council's plan of action which seeks to foster sustainability in the hospitality industry, was thoroughly examined and utilised as a strategy to enhance and strengthen emissions reduction in the sector.

Keywords: Climate change, greening, lodging, management response, environmental sustainability.

Introduction

The hospitality industry is foremost in the travel and tourism sector because it provides remarkable services to tourists in different tourist destinations all over the world over (Al Negruşa et al., 2015). A key component of the hospitality industry is energy as it is used to power facilities and equipment that are necessary to ensure that tourists derive maximum comfort in whatever accommodation or environment they may find themselves (Jones et al., 2016). While energy is important, the source of the energy might be harmful. For instance, energy from fossil fuels is hazardous as it emits greenhouse gases causing global climate change. Hospitality businesses often use fossil fuels energy intensively to generate electricity, power their equipment and devices, and as such emit significant greenhouse gases causing climate change (Goodall, 2010). This sentiment is eloquently shared by Rogerson & Sims (2012) who expressed the view that "although South Africa is ranked as a competitive destination internationally for nature tourism, the country has a poor track record for reducing greenhouse gas emissions. Accordingly, it was argued that innovative local solutions are required to provide support for low carbon emission, enhanced travel and accommodation efficiencies and accessible carbon offsets as part of wider efforts to grow the ecotourism and experiential tourism market in South Africa" (Rogerson, 2012). In the same vein, Knowsley (2016) pointed out that "the accommodation sector is a key source of greenhouse gas emissions within tourism, and therefore there is a need to understand emission mitigation in the sector." Scientific evidence has confirmed that these excessive emissions are responsible for climate change which is impacting on all aspects of lives (Orlove et al., 2015). Nicolaides (2017) asserts that the world requires eco-centricists, whether they be a business entity, or consumers, who are markedly less apprehensive about material wealth and personal power. They are people who basically embrace values that position nature in an equal position with people and are concerned with environmental overshoot in which natures limits are crisscrossed by extensive human development. Thus, for hotel managers in this mind-set , nature has an intrinsic value regardless of its usefulness to people. Such eco-centrism asserts

that the present dilemma of the world is based wholly on the hyper-exaggerated sense of human worth as opposed to nature.

This article makes a modest contribution to the debate on how the hospitality industry should respond to climate change in order to reduce greenhouse gases emissions, promote climate-friendly tourism and sustainable and profitable hospitality businesses (Hormio, 2017). Pursuant to this, responsible tourism practices become crucially important in view of the impact of climate change. This article also emphasizes on the need for strategic and aggressive interventions on emissions reduction. This is said against the backdrop that if the use of fossil fuels in the hospitality/ accommodation industry continues unabated, greenhouse gas emissions from these activities will aggravate global climate change and have negative impacts on the environment and all living things, especially human beings (Knowsley, 2016).

Over and above this, sustainable growth in travel and tourism is a recipe for more commercial lodgings in the hospitality sector in order to cater for the growing influx of tourists in South Africa. Companies thus need to interact with the environment in which they operate. They are being challenged more and more to take cognisance of the fact that they have responsibilities far beyond the production of goods and services for society for the benefit of shareholders (Nicolaides, 2017). Thus, It is important that the hospitality sector should strive to do business in an environmentally-friendly (Park & Boo, 2013) way by investing in means of generating energy with significant reduced greenhouse gases emissions, such as renewable energy, green technologies and energy-efficient devices and equipment (Bohdanowicz & Zientara, 2011).

It is against the backdrop of the devastating threats and dangers posed by climate change that the South African government put in place strategies and measures to enable the tourism industry to proactively respond to the real climatic threats. Pursuant to this, different national tourism and climate change action plans are being introduced to ensure that the tourism sector responds adequately and effectively to the challenges and threats of climate change. Business organizations need to adopt a holistic and balanced, approach in which due consideration is given to the notion of the triple bottom line including 'people, planet and profits' (Nicolaides, 2018:14). The overall objectives of these plans are to achieve significant intended outcomes that will improve and strengthen resilience, awareness creation, education and enhanced "the development of mitigation responses for reduced tourism-related greenhouse gas emissions in the hospitality sector.

Methodology

The methodology for this article was an intensive reliance on extensive relevant literature on hospitality businesses and climate change for the purpose of highlighting the imminent need for strategic responses of hospitality businesses to the devastating impact and effect of global warming and climate change on travel, tourism and destinations. Critical reviews of literature revealed that hospitality businesses are making contributions to global climate change because most of the businesses in this sector, particularly commercial lodgings use and consume huge amount of fossil fuels to generate electricity in order to power their equipment and devices. Therefore, the article also sourced and used contemporary literature which seeks to offer mitigation solutions in order to reduce greenhouse gasses emissions arising from the use of fossil fuels. The guidelines issued by The World Travel and Tourism Council (WTTC) were of critical importance because they presented viable and sustainable guides on how the travel and tourism industries can mitigate their carbon footprints and become sustainable. These guidelines were a major roadmap used in this article as part of the solution to climate change.

Problem statement

Undoubtedly, travel and tourism sector, and in particular the hospitality industry are perceived as part of the strategic solutions for pursuing sustainable economic growth and development in a country. This line of thought is due to their characteristics of providing job opportunities, enterprises and poverty reduction amongst the poorest of the poor who offer different services and enterprises to tourists. However in the context of sustainable tourism, the sector is highlighted as one of the major emitters of carbon dioxide because of its massive use of fossil fuels which are scientifically proved to be one of the producers of greenhouse gases causing global warming and climate change. As such, humans are perfectly placed to find ways to mitigate and reduce these emissions in order to ensure sustainable climate-friendly tourism that will be safe and beneficial to human beings, the environment and planet earth. While there is plethora of scholarly tourism literature on the issues concerning how the hospitality and tourism sectors have contributed immensely to the local economic growth and developments at different tourists destinations in South Africa, there is paucity of research on the issues concerning the impacts of their concomitant increases in greenhouse gases causing global climate changes as a result of fossil energy use and other noxious resource use (Park, & Boo 2010). It is against the backdrop of this climate problem that is likely to affect tourism and hospitality negatively, that this article accentuates that the hospitality sector should take some responsibility by responding appropriately and adequately to the greenhouse gases emission challenges.

Literature review

The hospitality industry is a broad group of businesses that generally provide services to different customers in lodging environments (Shaw, 2011). Remarkably, its main focus is to ensure that the tourists and other customers have a comfortable place to stay, have the best experience and full satisfaction during their stay (Altinay & Paraskevas, 2009). Commercial lodging establishments such as hotels, motels, resorts' bed and breakfast are critically important to tourists because of the unique services they offer and provide to all their visitors from all over the world (Mensah & Mensah, 2013). Undoubtedly, the services being offered to tourists in this sector are very important for sustainable tourism but the challenge is that the sector uses huge amounts of fossil fuels to conduct their businesses. The sector is therefore considered to be a major consumer of fossil fuels which when used, emit carbon dioxide causing climate change.

The World Tourism Organization (WTO, 2009) report revealed that in 2005 the accommodation sector accounted for 21 % of the carbon dioxide emissions from tourism. Rogerson & Sims (2012) quoting Rahman et al., (2012: 720) indicated that the "lodging industry is the most environmentally harmful hospitality sector" (Rahman et al., 2012). Against all these frightening climatic threats, the hospitality industry should now be more proactive in the fight against climate change by engaging in responsible accommodation practices.

Sustaining the hospitality industry and at the same time ensuring a cleaner environment is the motivation for this article because the sector produces different sorts of job opportunities and enterprises but at the same time emits huge amount of greenhouse gasses during operations. Its contribution to economic growth, development and poverty alleviation in South Africa is highly applauded. However, the sector should take a proactive stance to respond to the surge of climate change in order to have and enable climate-friendly environment where travel and tourism will be more robust and sustainable.

The hospitality industry is the bedrock of tourism because it assures the tourists that there is an abode away from home. While this is a remarkable feat, the concern is that the sector contributes to the global warming as a result of the greenhouse gases being generated from

the sector. This article identifies sustainability as a teasing paradox for the hospitality industry (Jones et al., 2017). It is against the backdrop of ensuring sustainable tourism that it is strongly advocated that the hospitality sector should put in place new strategies or use existing strategies and measures to reduce greenhouse gas emissions in order to continue pursuing sustainable economic growth and development (Negruşa et al., 2015). Linked to sustainable tourism is the move to ensure the greening of the commercial lodgings in the context of corporate social responsibility (CSR) where the management of hotels take cautious environmental responsibility by acting against anything within its operations that will harm the environment and atmosphere (Geerts, 2014). The carbon footprint of industry has to be eradicated and we need to get ready to meet the challenges of the shocking reality of global warming. Communities require governmental help in adapting and the latter must promote and monitor policies to fight the climate changes. Extreme weather events are here and we require greater preparation to face this challenge (Nicolaides, 2016).

The hotel management and owners need to employ and deploy robust corporate environmentalism and seek to disseminate best practice among hospitality managers (Yu-Chin, 2012). Although, there might be barriers in ensuring that business as usual is jettisoned and tilted towards behavioural change in hotel operation, with shared determination, hospitality management that believe in greening hotels and sustainable development will, undoubtedly ensure that the path to sustainable accommodation is towed and accepted by all and sundry. Our cities need to switch to totally renewable energy sources and measures must be in place to improve ambient air quality and also to guard and conserve dwindling water supplies (Nicolaides, 2016) and in this hotels have a huge part to play. Usually, the first step is to ensure the design of a plan of action and tasks to be performed are distributed amongst the employees. The plan of action should also be linked and to employees as a team where there is a target set of achieving a certain amount of reduction in energy use and emissions per guest for a determined period of time. Such a plan of action properly implemented will also confirm behavioural changes and all these will contribute to environmental and climatic sustainability. Nicolaides (2016) strongly drives the notion that the government needs to monitor the adherence to its wide range of Acts on climate related issues and fine transgressors.

In order to improve and strengthen sustainability in the hospitality industry, holistic approach that combines all aspects of measures, strategies, robust employee empowerment, greening awareness, training in all aspects of reduction in energy use, emissions reduction, responsible consumption of water, monitoring and evaluation using different modern technologies and devices to track activities in the hotels are all crucially imperative. More importantly, there should be an aggressive drive for responsible hospitality and corporate environmentalism where the issues concerning the environment form part-and-parcel of the hospitality corporate businesses and outlook (Bohdanowicz, 2009). Sustainable hospitality business entails sustainable energy use and continuing economic growth if it is to demonstrate a worthwhile and enduring commitment to sustainability hospitality and tourism (Edgell, 2016). It is therefore pertinent to point out that environmentally friendly practices are self-motivation based on positive attitudes and the strong intention to adopt green management practices. Therefore, with regard to greening the hospitality industry and tourism at large, any green investment made in this regard is an impetus for contributing to robust economic growth and development, creating decent job opportunities, alleviating poverty and more importantly, minimizing or outright curtailing environmental degradation and destruction (Robinot & Giannelloni, 2010).

WTTC strategic guides for sustainable hospitality businesses

The World Travel and Tourism Council (WTTC) has provided a blueprint on how the accommodation sector can reduce greenhouse gases in order to curb the rampant global

climate change. The WTTC enjoins all role players to adopt the guidelines in their operations. Most of the contents of the guidelines are relevant to South African hospitality businesses and as such, the application and implementation of the useful aspects relevant for the curbing of greenhouse gas emissions are discussed below.

Using renewable energy and energy efficiency

The deployment and use of renewable energy to power commercial lodgings is currently being encouraged in the hospitality sector because of its potential to reduce greenhouse gases. Undoubtedly, accommodation is very crucial in hospitality. Therefore, if energy being used in this sector is majorly from fossil fuels, it will add to global warming and climate change. Hence there is need to ensure that this sector makes tremendous efforts to switch to sustainable renewable energy sources.

Commercial lodgings are integral parts and components of travel and tourism businesses. In recent years, the number of commercial lodgings establishments in South Africa has increased tremendously. This is mainly due to the conducive environments created by the tourists' destination in the country. The World Travel and Tourism Council (WTTC) has pointed out that the "travel and tourism generates just over 10% of global GDP and plays a crucial role in climate change. Worldwide, the World Travel and Tourism Council supports 313 million jobs in this industry and seeks to reduce 50% of total travel and tourism carbon emissions by 2035." Recognising its carbon footprints, and in order to intervene and make a difference, the WTTC has pledged to take responsibility and act against climate change by being involved in "global climate actions taken by organizations, companies, events and individuals to limit the average global temperature rise to 1.5 degrees Celsius above pre-industrial levels, in line with the goals of the Paris Climate Change Agreement." One of these actions is to ensure that the use of renewable energy is prioritised in the hospitality sector. The renewable energy as an energy resource is essential to the stabilisation of the atmosphere and the climate for decent living conditions worldwide. Prominent types and quantities of different renewable energy sources are located in the length and breadth of the geographical landscape of South Africa. For example, sunlight is abundant in South Africa and solar energy can easily be derived and more importantly, it is non-depleting and it does not emit any greenhouse gas, hence it is completely non-polluting. Conversely, fossil energy is prone to depletion and as such is an unreliable source for sustainable energy use in the hospitality industry. Thus renewable energies are the most viable options. Therefore, switching to a sustainable energy source is a perfect solution to save the earth's biosphere and climate. In addition, the 2002 World Summit on Sustainable Development in Johannesburg was a wakeup call by the international community on the need to shift from non-renewable energy sources to renewable energies sources that are environmentally friendly and sustainable.

Using sustainability dashboards

The travel and tourism sector, particularly hospitality businesses have tremendous global significance and as such, it is imperative to understand the positive and negative impacts they can have on societies and upon the environment at large (Kasim, 2006). As part of promoting sustainable tourism, the Global Sustainable Tourism Dashboard (GSTD) provides a broader insight into how the sector is contributing to key sustainability goals by using high-level monitoring which will help measure, track and assess areas of strength and those that require improvement. Reliable long-term data collection will also allow evaluation of the effectiveness of the actions being taken to mitigate impacts of climate change. It is against this backdrop that many companies, particularly in the tourism sector are now using a dashboard monitoring system to measure carbon emissions and energy usage and also to gather information on global tourism and sustainable development (Jan & vom Brocke, 2013).

A business advisory group, the EarthCheck has launched the GSTD a new online database for sustainable tourism metrics. This is supported by leading research institutions namely Griffith and Surrey Universities together with Amadeus and the World Travel and Tourism Council (WTTC) to monitor and inform collective progress towards sustainable tourism development. The GSTD collects and reports on the seven sustainability themes that are, poverty alleviation, equality of travel, carbon emissions, sustainable production, protected areas, gender equity and security.

The Conference of the Parties (COP) 21 Paris Agreement, one of the main drivers of GSTD, overwhelmingly agreed that there must be an increase and persistent measurement, reporting and disclosure of greenhouse gas emissions across the tourism distribution and supply chain. The use of GSTD will enhance sustainability of the tourism sector as a whole. Similarly, "regular updating of the Global Sustainable Tourism Dashboard would play a leading role in demonstrating in a more robust and defensible fashion how the 2030 Agenda for Sustainable Development and the 17 Sustainability Development goals set by the United Nations can be achieved more effectively." Therefore, the "Earthcheck, through the not-for-profit EarthCheck Research Institute, now has the world's largest data set of evidence based performance metrics on hotels and tourism infrastructure across the globe. The data that EarthCheck has provided to the Dashboard is based on metrics that have been consistently collected over a 17-year period with a common methodology and third party audits" (Travindy, 2017).

Growing and harvesting own food

Commercial lodgings are encouraged to grow their own food on site as part of contribution to become self-sustaining businesses. Engaging in growing organic food presents opportunities where the food is healthy and natural food, water is used responsibly to ensure water sustainability and more importantly, dust as a result of cultivation of soil which sometimes produce harmful substances contributing to climate change is minimised. Organic foods can be produced sustainably no matter the style of the venue of the commercial lodgings as crops can be planted in various places such as vacant spaces around the establishment, roof tops and so on. This form of growing food is supporting sustainability and producing a healthier future for both people and planet.

Improving technology for higher efficiency appliances and devices

Technological innovations and improvement which seek to make the hospitality infrastructure more efficient and sustainable are being promoted in the sector. Hotels are now enjoined to use a light-emitting diode (LED) which is a semiconductor device that emits visible light when an electric current passes through it. The light is not particularly bright, but in most LEDs it is monochromatic, occurring at a single wavelength," higher efficiency appliances and solar panel installations to provide emissions-free energy for their infrastructure and equipment. In terms of cruises used for tourists, owners are now enjoined to use paints in their ship hulls with nontoxic coatings to reduce fuel consumption. This is being done against the backdrop of "increasing demands to reduce the carbon foot- print of commercial shipping and in the marine industry where marine paint producers, in particular, are looking at new technologies and seek improvements to current hull coatings" (Goldie & Mobbs, 2014). This is because "it is widely understood that antifouling coatings play a crucial role in maintaining a smooth hull, as they help reduce frictional resistance and can improve optimized fuel performance by 5 percent on average, compared with traditional tin-based polishing systems" (Goldie & D Mobbs, 2014).

South Africa is not lagging behind in striving to have energy efficiency in all aspects of the economy, and as such, the government has introduced a White Paper on Energy Efficiency with the main objective of ensuring that energy usage for all purposes become more efficient

without compromising standards. General speaking, energy efficiency is referred to as "the effective use of energy to produce a given output (in a production environment) or service (from a consumer point of view), i.e., a more energy-efficient technology is one that produces the same service or output with less energy input" (South Africa, 2011:5).

Therefore, hospitality businesses are enjoined to embrace this trend of energy efficiency to drive their businesses. For instance, they should ensure massive deployment and use of energy efficient bulbs. This initiative is being promoted by the South Africa's state-owned power utility, Eskom, as they install energy efficient light bulbs and encourage the hospitality sector to switch and change to these efficient bulbs. As a matter of fact, this initiative forms part of the utility's Energy Efficient Lighting Exchange Programme, a door-to-door campaign that involves the exchange of old-style working and non-working light bulbs with energy efficient light bulbs. The overall aim of the programme is to keep the power supply stable, reduce amount of coal used to power plants that generate electricity and as a result reduce the impact of climate change. With the efficient use of energy as a global priority, the programme will continue to play a crucial role in helping homeowners to reduce their monthly electricity bills, while keeping South Africa's power supply stable and the environment is clean because energy usage is more efficient.

In a nutshell, the use of energy-efficient infrastructure and equipment in hospitality businesses present a two-pronged benefit. Firstly, it is a direct way of reducing energy consumption and secondly, it reduces greenhouse gas emissions.

Reducing water usage and waste

South Africa is a water stressed country, and as such, the government usually imposes water restrictions of all sorts on businesses and homes in order to conserve water. Moreover, climate change is noted as one of the causes of water scarcity because of the non-predictability of rainfall causing drought. Therefore, water as a resource should be used responsibly and sensibly. The accommodation sector of the hospitality industry uses enormous quantities of water in all aspects of their operations. As a result, hotels are encouraged to put in place and implement ways for their guests to use water and energy per person sparingly. There could also be a soft educational intervention where there is a notice posted in each bathroom of the hotel stating that water should be used sparingly by encouraging not more than four minutes' shower. Similarly, considering that towels used have to be washed with water, a notice posted indicating that only towel used should be dropped on the floor for washing, while those that are unused should remain hung on the rack in the bathroom.

Using electric vehicles and alternative fuels in the transport sector

According to Chapman (2007), "transport accounts for 26% of global CO_2 emissions. The transport sector is one of the few industrial sectors where emissions are still growing. Car use, road freight and aviation are the principal contributors to greenhouse gas emissions from the transport sector." Transportation is the lifeblood of hospitality businesses, which is used in all aspects of the hospitality activities (Giaoutzi, 2017). More importantly for tourists to tour, they need transportation. Presently we are in an era of mass tourism due to the increase of tourism in South Africa. This drastic change in spatial behaviour is attributable to economic prosperity, hence the scale of this phenomenon means that it is able to generate economic growth, making tourism a key factor in economic growth and development. At the same time, "the influence of climate change on tourism demand patterns will be shaped by the response of tourists to the complexity of mitigation policy and its impacts on transportation systems, the wide range of climate change impacts on destinations, as well as broader impacts on society and economic development" (Gössling et al., 2012). This said, most of the vehicles are

powered by fossil fuels such as petroleum and driving the vehicles means emitting carbon dioxide that cause global climate change (Azar et al., 2003). Therefore, there is need to switch to electric and hybrid vehicles as a standard (Chapman, 2007). This type of vehicles will enable sustainable transportation and break the dependence on petroleum.

While "technological innovation is unlikely to be the sole answer to the climate change problem. To achieve significant reduction of greenhouse gas emissions from the transport sector, behavioural change brought about by policy, will also be required. Although, there is a tendency to focus on long-term technological solutions, short-term behavioural change is crucial if the benefits of new technology are to be fully realised" (Chapman, 2007). Against the backdrop of changing mind-sets and behavioural attachments from the use of fossil fuels, hospitality businesses should use this short-term intervention while striving to achieve the long-term technological solutions. Both of these are strategically useful in green gas emissions reduction in the transportation sector.

Using cycling options for transport

In order to complement alternative fuels usage for vehicles in the sector, the use of bicycles in tourism have been found to be highly environmentally friendly and thus climate friendly. Bicycles usage is natural and they also promote well-being and physical exercise for tourists who are able to ride bicycles to different places. For example, in the rural areas in South Africa where there are many flourishing accommodation businesses, the use of bicycles by the staff members, tourists and the community members should be a welcome strategy in fighting the surge of global climate change. Therefore, the deployment and use of bicycles will serve to ensure sustainable travel while the purpose of touring such as sight-seeing is also achieved.

Building infrastructure with sustainable materials and low-impact designs

During the course of building hotels and other commercial accommodation facilities, a lot of water is being used in the process. South African hospitality businesses should learn and emulate the InterContinental San Francisco which is a Leadership in Energy and Environmental Design (LEED), LEED Gold certified hotel. The hotel was built with about 2 million gallons of water saved each year from low-flow faucets and toilets, as well as other water-reduction features. Also important, is the use of sustainably sourced buildings materials which are used in the *building* and obtained using *sustainable* manufacturing principles. Therefore, buildings should use resources such as energy, natural resources that are environmentally friendly with the lowest environmental impact on its production and life cycle which is equally good in promoting sustainable accommodation. South Africa can also learn from the Zetter Hotel in London where sustainably sourced building materials were used to build the hotel.

Protecting Local Environment and Enhancing Biodiversity

It is imperative that the local environment should be protected from any harmful environmental practices considering that lodgings are located within the environment. As such, if the environment is not environmentally safe, tourists and other guests will not enjoy their stay away from home. Critically imperative, is the fact that biodiversity also thrives in a clean environment. What is worrisome is that the hospitality sector seems to be pinpointed as playing critical roles in ecological deterioration and destruction because of its huge carbon footprints. As such, this makes the accommodation sector of hospitality businesses the most environmentally harmful. The reason for this misbehavior is not farfetched as "environmental stewardship is not always a major priority for the hotel sector"(Rogerson, 2012).

South Africa has various laws and regulatory measures on conservation of biodiversity and has classified most of the eco-tourisms areas as protected areas (Selnes & Kamphorst, 2014). These conservation laws and frameworks seek to preserve various types of marine and eco-animals such as turtles, shellfish, octopi, sharks and anything that live in the ocean, rivers, seas, dams and generally ocean and marine environments. Considering that climate change is a threat to the survival of these protected sites, there have also been strategic interventions to reduce greenhouse gas emission causing global climate change (Dawson, 2011). The overall effect of these interventions is to ensure that these sites remain alive and sustainable so that they will continue to be sources of tourist's attractions. More importantly, sustaining these sites means continued enterprises and businesses for the hotels and the locals by enhancing job opportunities, economic growth and development.

These days, the manifestation of devastating climate change is a major threat to biodiversity (Lovejoy, 2006). The hospitality industry has substantial shares in the human activities causing this changing climatic conditions. This is why there is need for integrated science of climate-change biodiversity assessment based on multiple sources and approaches to address and solve the problem (Lovejoy, 2006). More important is the acquisition of proper skills to manage the biodiversity consequences of climate change, including the extent of species' ecosystems, habitats, ecological communities, and genetic diversity, whether terrestrial, marine, or fresh water and natural resilience. Therefore, there is need to collect potent data from different sources to identify vulnerability and to support the design of conservation responses (Dawson et al., 2011).

Over and above these aspects above, there should be a massive drive and promotion of ecological responsibility in all aspects of hospitality businesses by 'greening' instead of 'browning', this will confirm the extent to which role-players are taking responsibility and this is very welcoming because it is just the right thing to do if there is ever going to be a zero-emission score in the sector.

Synthesis

While it is commendable that management and owners of some commercial lodgings are making tremendous efforts to greening their operations and businesses, there is need for government to play a major role in regulatory measures the progress of greening initiatives in the hospitality industry is according to Rogerson and Sims (2012) "fragmented and limited in scope, mainly driven by a mix of enterprise profit and corporate social responsibility considerations which are pursued amidst low local consumer interest in green hotels as tourism products." Nicolaides (2018) states that the accommodation sector contributes 20% to the total tourism-related carbon dioxide emissions, the chief influence behind climate change, and the majority of Carbon Dioxide emissions from the sector are related to energy consumption challenges. It has been scientifically proven that climate change is caused by human activities. To this end, human beings are the only ones who can address the problem. That is the reason why there have been constant interactions, meetings, conferences and interventions by the international communities, regional and national government and even at the level of each country trying to offer viable and sustainable solutions to the threats of climate change.

With regard to the hospitality industry, the management and owners of each commercial lodging have an environmental responsibility to intervene and ensure that the concept of greening hospitality and lodging is being implemented in all aspects of their operations. This should be done because it is the right thing to do. Delivering quality services to guests and providing quality jobs while using resources in the most resourceful way and having the least negative impact on the environment is essential to hotel sustainability (Nicolaides, 2018). Therefore, as part of the response strategies, hotels are expected to assess their

performances and even benchmark amongst themselves in order to learn from one another so as to identify areas of weaknesses and strengths in their operations with regard to their efforts in fighting climate change.

Part of addressing the problem of climate change is the need to understand the climate change phenomenon itself. Therefore, the owners and operators of lodgings and hotels need to know the importance of the overall benefits of having a policy and effective procedure on greenhouse gas emissions reduction. The regulatory bodies and the government need to come to the party by offering needed assistance in awareness creation. This will hopefully make the owners and managers of the accommodation businesses become environmentally health conscious and motivate them to implement environmental management practices in all aspects of their operations. This is said against the backdrop that fighting climate change requires the efforts of all and sundry. If the owners and managers of hotels and other business in lodging become conscious of the climate challenges, and understand the need not to harm the environment while doing business, this would definitely filter down the hierarchy in their businesses and become part of doing the greening of the hospitality businesses in suitable ways.

Sustainable greening of the accommodation sector points to the fact that greening lodgings have potential to make the business more competitive, environmentally friendly, and ecological responsible. Undoubtedly, going green has a competitive advantage for lodging businesses as it has the potential to improve the overall long-term profitability of the business by reducing the expenses in energy consumption. Consequently, the customers also become part of the beneficiary group as the accommodation prices will likely be reduced and become more affordable. Undoubtedly, this strategy will keep the environment cleaner and safer and also enhance the sustainability of businesses in a win-win situation whereby the hotel is making a stable income, and the customer has more cash in hand to save or spend on other beneficial pursuits as a result of green services (Rogerson & Sims, 2012).

Conclusion

This article demonstrates that there is need for aggressive interventions that will result in curtailing the surge of global climate change because the changes are having devastating effects on the environment, the atmosphere and all living and non-living things in the environment. The hospitality industry is pin-pointed as being one of the major role players in high greenhouse gas emissions because of its fossil use and large carbon footprints. Therefore, fighting climate change means acting responsibly and sensibly by jettisoning the craving for fossil fuels and switching to renewable and more efficient energy sources which have been proven to perform the same functions and roles that fossil energy performs, if not better, because it is efficient and environmentally friendly application.

While greening of the hospitality sector is encouraged, protection and monitoring that will ensure that responsible hospitality businesses are encouraged in the face of mounting pressure to make profits, by taking a short course, where fossil energy is massively deployed and used is essential on the part of users. In terms of responsible hospitality and tourism, protective and sustainable measures such as biodiversity protection, raising awareness on the impact of climate change, providing green initiatives and education or training for employees and customers on careful energy usage is vital. We need to be ensuring that there are remarkable improvements in air quality through the usage of devices that will assist in gauging the condition of the air at every point in time. There also needs to be consideration, on the use of gardens and ecological food where a hotel or lodge has its own farm and harvests organic food for consumption by its tourists and guests in general.

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