

An Assessment of Sustainable Tourism Development in North Sumatra

Kalu Kingsley Anele

Research Fellow, Cultural Heritage Preservation Research Institute,
Pusan National University, Busan, South Korea.

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Abstract: This paper aimed to critically assess the existence of sustainable tourism development in North Sumatra, using Lake Toba as a case study. This became imperative given the plethora of art-crafts, cultural heritage, and tourist destinations that exist in North Sumatra. The methodology used in achieving this objective included data analysis, dialectical review of existing literature, and SWOT analysis of tourism in Lake Toba. The findings of the study revealed that despite the tsunami of art-crafts and cultural heritage in North Sumatra, many factors including lack of effective enforcement of government laws, policies and regulations, and funding limitations impede sustainable tourism development in the region. Also, private sector participation and investments and local community assistance were inadequate. This paper suggested a tripartite model involving the joint efforts of the government, the private sector, and the local communities in introducing, strengthening, and maintaining sustainable tourism development in Lake Toba. Consequently, the government must introduce and effectively enforce laws, policies, and regulations that would establish a friendly environment that would strengthen sustainable tourism in Lake Toba. Additionally, the active participation of the private sector and the contributions of the local communities are instrumental in introducing, strengthening, and maintaining sustainable tourism in Lake Toba.

1 INTRODUCTION

North Sumatra is one of the provinces in Indonesia with a plethora of cultures, cultural heritage, tribes, and art-crafts. For example, Lake Toba (*Danau Toba*) is a cultural heritage site, while *ulos* is an art-craft that is common in the region. Moreover, tourism plays a cardinal role in the development of North Sumatra. Data reveals that foreign tourists that visited North Sumatra increased from 229,288 in 2015 to 231,465 in 2018 (Lake Toba: World's Largest Volcanic Lake, 2019). Compare and contrast with the data in Table 1 below). It is significant to note that the increase in the number of foreign tourists that visited Lake Toba, from 2014 to 2019, with its attendant increase in foreign exchange earnings, is in part because of the government's vision and strategy to bolster tourism in North Sumatra (see Figure 1 below). The import of these data is that tourism contributes to the economic development of North Sumatra through - *inter alia* - job creation, foreign exchange earnings, and infrastructure development. At the central level, tourism is a veritable mechanism introduced by the

present government to achieve economic diversification and growth in Indonesia (Ollivaud & Haxton, 2019).

According to the World Trade Organisation (WTO), sustainable tourism development entails meeting the needs of contemporary tourists - including the host communities - at the same time "protecting and enhancing opportunity for the future. It is envisaged as leading to management of all resources in such a way that economic, social, and aesthetic needs can be fulfilled while maintaining cultural integrity, essential ecological processes, biological diversity, and life support system" (Sustainable Tourism Development in UNESCO Designated Sites in South-Eastern Europe). A cursory look at the above meaning of sustainable tourism shows that it engenders meeting the expectations of tourists and the prospects of the tourist destinations while protecting the natural environment.

Despite the importance of tourism in the economic and socio-political development of North Sumatra as revealed by the above data, many factors impede the introduction, management, and

strengthening of sustainable tourism development in the country. For instance, it is common knowledge that inadequate funding by the government affected sustainable tourism development in North Sumatra in terms of training of artisans and employees in the tourism sector and other related sectors, procurement of modern facilities, infrastructure development, and engendering conducive environment for investment in the sector (Anele, 2020; Tanjung & Hutagaol, 2019; and Sutono, *et al*, 2018). In addition to inadequate private sector participation, the implementation of government laws, policies, and programmes in relation to tourism has been ineffective. There is also a dearth of foreign direct investment (FDI) and the contributions of the local communities to the preservation of cultural heritage items and locations, art-crafts products, and tourist sites are inadequate (Anele, 2019a; Singgalen, *et al*, 2019; Hulu, *et al*, 2019; Haan, 2018; and Cholik, 2017).

Against this backdrop, the purpose of this paper is to highlight the importance of tourism and measures to introduce, manage, and strengthen sustainable tourism development in North Sumatra. Lake Toba is used as a case study. Therefore, the paper briefly discusses the tribal make-up, cultures, cultural heritage, and some tourist destinations in North Sumatra, focusing on Lake Toba and sustainable tourism. Afterwards, by dialectically analysing primary and secondary materials like literature on tourism in Lake Toba, data, laws, policies, plans and SWOT analysis table, the paper interrogates the introduction of sustainable tourism development in Lake Toba. It further addresses the challenges in its introduction and management, and assesses measures for its enhancement. It is observed that the government plays a central role in introducing, managing, and strengthening sustainable tourism sector in Lake Toba. Unlike previous literature, this paper adopts a tripartite model involving the joint efforts of the government, the private sector, and the local communities to underscore the importance of introducing, managing, and strengthening sustainable tourism development in Lake Toba in today's digitalised and globalised society. In other words, the paper reiterates the significant role the joint efforts of the government, the private sector, and the local communities plays in introducing and bolstering sustainable tourism development in North Sumatra in contemporary society.

2 CONCEPTUAL CLARIFICATIONS

2.1 A Brief Assessment of Tourism in North Sumatra

Aside from being the 7th biggest province by regional gross domestic product (GDP); there are about 14 million people with a growth rate of 1.8 per cent per year in North Sumatra, Indonesia (Lake Toba: World's Largest Volcanic Lake, 2019). Additionally, income per capita is approximately 44 million Indonesia Rupiah (IDR) (approximately 3,007 USD) per year and employment rate is at 70 per cent with a low minimum wage level of under 2 million IDR (approximately 137 USD) per month in North Sumatra (Lake Toba: World's Largest Volcanic Lake, 2019).

North Sumatra is made up of the Batak and Malayu peoples with different art-crafts and cultural heritage, customs, traditions, norms, including natural heritage destinations as succinctly portrayed in Figures 5-12 below. Take, for example, the Batak ethnic group comprises Toba, Karo, Pakpak and Simalungun. Note that Mandailing - which was part of the Batak - has become a separate tribe. Some of the art-crafts, cultures, and cultural heritage that play key roles in North Sumatra tourism include Batak Toba traditional house (see Figure 11 below), *ulos*, *padung-padung*, close-knit family system, kinship, and communication with the ancestors through symbols (Anele, 2019b).

In light of the foregoing, according to the cultural milieu of the Batak; ancestors, plants, animals, and inanimate objects - such as craft items - are considered to possess souls that could be compelled or lured into action by male priests. Indeed, this has influenced the features of art-crafts in Batak. This is a significant characteristic of tourism in North Sumatra (Anele, 2019b). Put differently, the making as well as the symbolic nature of art-crafts in North Sumatra is greatly influenced by ancestral and cosmic beliefs, including belief in nature.

Another unique feature of the cultures and cultural heritage of the Batak is the decoration of the Batak traditional architecture, which has been enhanced in Toba (see Figure 11 below). The Batak Toba traditional house is decorated with ornaments (*gorga*) made up of wood or metal carvings and paintings. From Figure 11 below, the shapes of the *gorga* are inspired by the geometric shapes of humans, plants, natural objects, celestial objects and animals. The uniqueness of the *gorga* and the design of the Batak

Toba traditional house are central to tourism in North Sumatra as foreign tourists are attracted to their unique, aesthetic, and symbolic representations and shapes (Anele, 2019b).

Evidently, *gorga* has spiritual and symbolic meanings, such as the expression of faith, belief, emotion etc. A case in point, a carving in the form of a person riding a horse - *hoda-hoda* - symbolises greatness (Anele, 2019c). Another example is that a painting or carving of a lion - *singa-singa* - symbolises the law of justice and truth (Anele, 2019c). Beyond the *gorga*, the architectural design of the Batak Toba traditional houses is influenced by environmental factors. Lending credence to this point, it should be noted that the Batak are geographically located close to Lake Toba, which is prone to volcanic eruptions, flooding and animal invasion. Consequently, the architectural design of the Batak Toba traditional houses suggests that it is structured to prevent or reduce the effect of these environmental factors on the inhabitants of these traditional houses (Anele, 2019b and Figure 11 below).

Some of the cultural heritage destinations that boost tourism in North Sumatra include but not limited to Bagas Godang Pidoli Dolo, Mandailing; Tongging Tourist Village, Karo; Huta Siallagan Village, Samosir (see Figure 11 below); Sianjur Mulamula, Samosir (Historical & Culture); and Bukit Lawang, a small tourist village on the other side of the Gunung Leuser National Park known as the centre for the rehabilitation of orang-utan (Indonesia Tour Planner, Natural Wonders, and Historical & Culture). Given the existence of many cultures, art-crafts, cultural and natural heritage locations in North Sumatra; tourism becomes a lucrative industry in the region (Anele, 2019b and Hind).

More importantly, 12.1 million domestic tourists and 231,465 foreign tourists visited North Sumatra in 2018 (Lake Toba: World's Largest Volcanic Lake, 2019). This means that tourism not only culminates in financial benefits to the region but also creates employment for the artisans and the indigenous peoples in North Sumatra. Besides, foreign tourists increasingly visit the region for its attractive and popular tourist destinations, like Lake Toba, Samosir Island and tropical rainforest of Sumatra (Tropical Rainforest Heritage of Sumatra, 2003 and Figure. 1 & 5 below) and also to enjoy the local cuisines (Chairy & Syahivar, 2019). Similarly, due to the geographical location of North Sumatra, coastal tourism development and other hospitality management sectors, like hotels, resorts, restaurants, food industry, beaches, among others, contribute to the tourism

development of the region (Noor & Muzambiq and Figure 4 below).

2.2 A Brief Assessment of Tourism in Lake Toba

In Indonesia, North Sumatra is among the leading tourist destinations and it has 339 tourist attractions spread across its 33 municipalities (Jaya, 2019). Whereas 120 of the tourist destinations in North Sumatra have been promoted and marketed, Lake Toba remains the tourist attraction that is promoted and marketed for its natural beauty and it is the bastion of tourism in the region (Jaya, 2019 and Figure 12 below). Illustratively, the government used the vision of making Lake Toba a prime “super volcano Geopark” and strategy of connectivity and bolstering tourism institutional development through Lake Toba Tourism Authority to increase the number of foreign tourists in Lake Toba (see Figure 1 below). Historically, Lake Toba has always occupied a strategic position in the Indonesian tourism industry. It is located at the highland of North Sumatra, 176 kilometres (km) to the West of the region's capital, Medan (Azmi, *et al*, 2018). Lending credence to this point, some of the developing spots in Lake Toba - like Parapat - had been made as resorts by the colonial authority, whilst in the post-colonial period, some spots - for example - Tomok, developed to cater for foreign tourists, especially because of the provision of high-class accommodation (Lumbanraja, 2012).

Jaya (2019) remarks that the beauty and affluent natural resources of Lake Toba attract tourists. Beyond its tourism propensities, Lake Toba is used as the source of electricity power plant, drinking water processing, and fish farming (Jaya, 2019). In their own view, Tanjung and Hutagaol (2019) opine that one of the important characteristics of Lake Toba that attracts foreign tourists to the Lake is the cleanness of the water. And Azmi, *et al* (2018) observe that Lake Toba's blue water, gracious community, fascinating Batak cultures, and beautiful sceneries, which are shown in Figures 5-12 below, attract foreign tourists to the Lake.

Aside from the iconic Batak Toba traditional architecture (see Figure 11 below), there are other cultures and customs of the people of Batak Toba who inhabit the Lake Toba area that appeal to foreign tourists. For instance, in relation to kinship, people are seldom referred to by their real names; instead, substitute names, like *angkkang* for elder brother, *anggia* for younger brother etc., are used (Simanjuntak & Sarjono, 2012). Moreover, the existing cultures and customs of the Batak create the

platform for the indigenous people to familiarise themselves with the visiting foreign tourists who are also intrigued by the peculiar and unique cultural heritage of the local people. As a result, foreign tourists enjoy Lake Toba and its beautiful environs and are curious about the sociocultural lives of the indigenous people of Batak. The implication is that foreign tourists admire the indigenous people working in the fields and fishing in the Lake.

One of the highlights of such sightseeing is the explanation of the salient cultural differences and meanings among the local communities to foreign tourists by experienced tourist guides (Simanjuntak & Sarjono, 2012). In addition to the above, the recognition of Geopark Kaldera Toba by the United Nations Education, Scientific and Cultural Organization (UNESCO) contributes to the foreign exchange earnings of Indonesia and strengthens the introduction and management of sustainable tourism development in Lake Toba (Azly, 2018).

Ranked 40th in the Travel and Tourism Competitiveness Index in 2019, Lake Toba is one of the four special priority tourist destinations designated by the Indonesian government to boost the country's tourism industry (Lake Toba: World's Largest Volcanic Lake, 2019. See Figure 1 below). Lake Toba is the largest volcanic lake in the world, the second largest lake in the world, and one of the deepest lakes in the world, with a depth of about 500 meters deep (Lake Toba: World's Largest Volcanic Lake, 2019). On account of its features, Lake Toba is a "huge historical and archaeological patrimony.

A diversified tourism supply (eco-rural tourism, nature and local culture and ethnic)" (Marpaung, *et al*, 2016 and Figure 12 below). The significance of Lake Toba in tourism development in North Sumatra is further strengthened by the establishment of Toba Caldera Resort. This resort incorporates natural, heritage, leisure, and community tourism in Lake Toba, thereby facilitating the introduction, management, and strengthening of sustainable development in North Sumatra (Lake Toba Tourism Development Investment Opportunities).

In terms of tourism and economic importance, 1,000,000 foreign tourists visited Lake Toba in 2019, with a growth of 53.85 per cent and foreign exchange of US\$ 525, 000,000 and it has been projected that in 2021 - barring the effect of COVID-19 - the number of foreign tourists visiting the Lake will be 2,560,000, representing a growth of 60 per cent and foreign exchange of US\$1,344,000,000 (91,850 USD) (see Table 1 and Figure 1 below). Furthermore, in 2019, Lake Toba contributed 346 trillion IDR (23,648,818 USD) to the GDP, 16 trillion IDR (1,093,001 USD)

in foreign exchange earnings, and 300,000 jobs to North Sumatra (Tourism Development Investment Opportunities: Lake Toba.)

2.3 Overview of Sustainable Tourism

Given the importance of tourism in North Sumatra, it becomes imperative to introduce sustainable tourism industry in the province. Consequently, informed participation of relevant parties and strong political leadership are needed to achieve wide participation and consensus in realising sustainable tourism development in the region (Hind). Additionally, sustainable tourism can be attained through a continuous process that requires "constant monitoring of impacts, introducing the necessary preventive and/or corrective measures whenever necessary" (Hind).

More importantly, the existence of sustainable tourism implies an enhanced level of tourism satisfaction through meaningful experiences, protection of the environment, raising the awareness of tourists "about sustainability issues and promoting sustainable tourism practices amongst them" (Hind). In all, it is imperative to state that sustainable tourism development represents tourism in terms of globalisation, digitalisation (smart tourism etc.), natural disasters, and the spread of diseases. Thus, the introduction and enhancement of sustainable tourism in Lake Toba will facilitate the strengthening of tourism in the region in the era of digitalisation (smart tourism, internet of things (IOTs), virtual realities (VRs) and augmented realities (ARs)); social media platforms; globalisation (Western education, foreign cultures, religion etc.); natural disasters (volcanic eruption, tsunami, typhoon, etc.); and the outbreak of diseases (SARS, MERS, Ebola, COVID-19 etc.).

3 METHODOLOGY

The methodology and tools adopted in achieving the above objective include a dialectical review of existing literature, data analysis, and SWOT analysis of tourism in Lake Toba. The data analysed are contained in the 'Figures', and 'Tables' below. Thereafter, a dialectical review of literature on sustainable tourism in Lake Toba as well as a discussion about the limitations as contained in some of the 'Figures' and 'SWOT analysis table' below is undertaken. The data, 'Figures', 'Tables' and literature on Lake Toba were obtained from books, journals, laws, regulations and online sources. These primary and secondary materials were dialectically

analysed. In closing this section, it is imperative to state that the location of the research is Lake Toba, North Sumatra, Indonesia.



Figure 1: Vision and Strategy for Lake Toba.

Source: "Tourism Development Investment Opportunities: Lake Toba", <<http://indonesiainvestmentforum.info/wp-content/uploads/2017/04/Lake-Toba-Investment.pdf>>.



Figure 2: Sipinsur Geosite, Lake Toba.

Source: K. Lemon & R. A.R.A Hamid, 2018, 2.

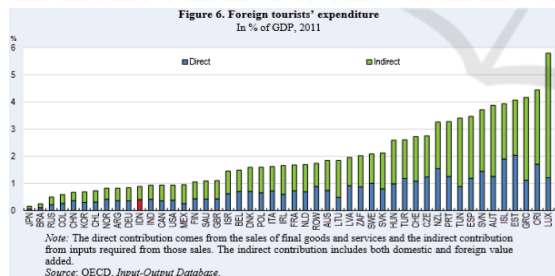


Figure 3: Foreign Tourists' Expenditure.

Source: Ollivaud & Haxton, 2019, 11.



Figure 4: Potential Attractions and Amenities.

Source: Tourism Development & Investment Lake Toba, North Sumatra, Indonesia, 2018, 21.



Figure 5: Tropical Rainforest Heritage of Sumatra.

Source: Tropical Rainforest Heritage of Sumatra, 2003.

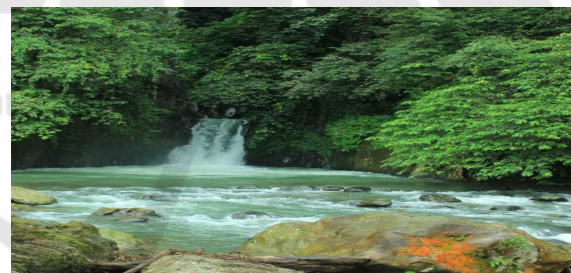


Figure 6: Highland Nature: Sampuran Putih Waterfall.

Source: Natural Wonders, 10-11.

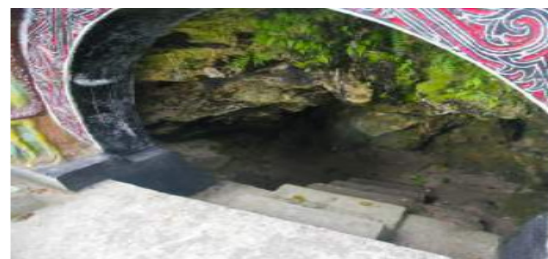


Figure 7: Natural Wonder: Natumandi Cave.

Source: Natural Wonders, 14.



Figure 8: Natural Wonder: Linting Lake.

Source: Natural Wonders, 22.



Figure 9: Simamora Island.

Source: Natural Wonders, 26-27.



Figure 10: Sejarah Beach.

Source: Natural Wonders, 73.



Figure 11: Huta Siallagan Village.

Source: Historical Culture, 10-11.



Figure 12: Lake Toba.

Source: Natural Wonders, 16-17.

Table 1: Performance & Projection for International Tourist Visitors for Lake Toba.

Year	Projections from Ministry of Tourism		
	Total of Foreign Tourists	Growth	Devisa (USD)
2015	229,288	-	120,376,200
2016	250,000	9.03%	131,250,000
2017	400,000	60.00%	210,000,000
2018	650,000	62.50%	341,250,000
2019	1,000,000	53.85%	525,000,000
2020	1,600,000	60.00%	840,000,000
2021	2,560,000	60.00%	1,344,000,000

Assumptions from the Ministry of Tourism :
 • Average length of stay : 3.5 days
 • Average spending per day : USD 150
 • USD 1 = Rp 13,000

Source: "Tourism Development Investment Opportunities: Lake Toba", <<http://indonesiainvestmentforum.info/wp-content/uploads/2017/04/Lake-Toba-Investment.pdf>> .

Table 2: International Tourist to North Sumatra 2012-2017.

NO	MONTH	YEAR						GROWTH BETWEEN 2016-2017
		2012	2013	2014	2015	2016	2017	
1	January	18.139	17.277	22.594	20.103	13.103	20.212	54,25
2	February	17.580	19.135	22.058	21.820	17.737	16.837	6,20
3	March	22.123	21.738	21.374	19.720	18.017	22.611	25,50
4	April	19.386	17.503	19.072	17.455	15.674	20.414	30,47
5	Mei	21.137	23.711	22.345	19.943	17.628	20.080	13,91
6	June	19.128	23.490	21.939	17.754	15.084	18.925	25,46
7	July	18.273	18.188	19.983	18.543	20.524	21.076	2,69
8	August	18.511	18.960	19.190	18.949	18.198	27.082	48,82
9	September	19.092	20.949	20.539	17.635	21.679	20.200	-6,82
10	October	18.720	20.158	23.624	16.430	23.426	21.749	-7,16
11	November	24.481	27.310	25.102	18.911	23.650	24.497	3,58
12	December	25.263	30.880	33.017	22.025	28.950	27.978	-3,36
TOTAL		241.833	259.299	270.873	229.228	233.643	261.461	11.90

Source: Tourism Development & Investment Lake Toba, North Sumatra, Indonesia, 2018, 14.

Table 3: Indonesian Tourism Competitive Index Compared with Association of Southeast Asian Nations (ASEAN) Countries.

INDEX - SUBINDEX - Pillars	INDONESIA	SINGAPORE	THAILAND	VIETNAM	PHILIPPINES	LAOS	CAMBODIA
TRAVEL & TOURISM COMPETITIVENESS INDEX	42	15	28	34	67	79	94
ENABLING ENVIRONMENT	87	8	39	73	68	88	89
Business Environment	80	2	17	48	88	82	120
Safety & Security	91	6	41	118	97	120	86
Health & Hygiene	100	62	77	90	82	92	108
Health Resources & Labour Market	9	5	22	40	27	52	65
ICT Readiness	91	14	39	58	80	88	115
T&T POLICY AND ENABLING CONDITION	8	7	21	37	188	64	83
Infrastructure & Development	12	2	35	54	101	53	54
International Openness	72	1	35	52	70	60	71
Price Competitiveness	5	91	3	18	32	22	14
Environmental Sustainability	131	51	123	152	109	118	130
INFRASTRUCTURE	68	2	32	33	87	80	89
Airport Infrastructure	38	8	21	20	81	68	87
Ground & Port Infrastructure	89	2	34	72	71	107	111
Tourist Service Infrastructure	96	24	48	16	113	87	88
NATURAL & CULTURAL RESOURCES	13	87	29	19	28	48	97
Natural Resources	14	103	29	7	54	37	71
Cultural Resources	23	28	34	37	30	60	107

Top 3 (Rank) Bottom 3 (Rank)

Source : World Economic Forum (WEF), 2017.

Source: A Promising Investment Destination Indonesia's Ecotourism, 2019, 16.

Table 4: International Arrivals to Southeast Asia 2010, 2015 and 2020.

Economy	International Arrivals (mns)			CAGR (%)		Volume Increase (mns)	
	2010	2015	2020	2010-15	2015-20	2010-15	2015-20
Brunei	0.214	0.218	0.450	0.4	15.6	0.004	0.232
Cambodia	2.508	4.775	6.328	13.7	5.8	2.267	1.552
Indonesia	7.003	10.407	12.263	8.2	3.3	3.404	1.856
Lao PDR	2.513	4.684	9.080	13.3	14.2	2.171	4.396
Malaysia	24.577	25.721	32.562	0.9	4.8	1.144	6.841
Myanmar	0.311	1.289	1.970	32.9	8.9	0.979	0.681
Philippines	3.292	5.149	6.420	9.4	4.5	1.857	1.271
Singapore	11.639	15.221	19.305	5.5	4.9	3.582	4.084
Thailand	15.936	29.881	49.630	13.4	10.7	13.945	19.749
Viet Nam	5.050	7.917	10.286	9.4	5.4	2.867	2.369
Total	73.043	105.263	148.149	7.6	7.1	32.220	42.886

Sources: PATA; Brunei figures provided by the NTO

Source: ASEAN Tourism Marketing Strategy 2017-2020, 2017, 19.

3.1 SWOT Analysis of Lake Toba as a Tourism Destination

Strength <ol style="list-style-type: none"> 1. Government policies 2. Government regulations (land, PPP, funds etc.) 3. Availability of tourist sites 4. Rich cultures 5. Availability of cultural heritage 6. Availability of artisans 	Weakness <ol style="list-style-type: none"> 1. Lack of funds 2. Inadequate infrastructure 3. Absence of preservation facilities and mechanisms 4. Limited PPP & FDI 5. Limited participation by local communities
Opportunity <ol style="list-style-type: none"> 1. Availability of resources 2. Population 3. Existence of the art-craft industry 4. Existence of the creative industry 	Threat <ol style="list-style-type: none"> 1. Regional competition 2. Inadequate training of artisans 3. Natural disaster

4 DISCUSSION

4.1 Introduction of Sustainable Tourism in Lake Toba

According to Fig. 1 and Tables 1 & 2 above, the number of foreign tourists that visits North Sumatra, including Lake Toba has increased, with its attendant economic importance to Indonesia. It is one of the 10 designated priority destinations in Indonesia (Hind). Lake Toba has features of both cultural (cultures of the indigenous people) and natural (environment) attractions (Azmi, *et al*, 2018 and see Fig. 4 above).

Using human resources as a case study, education, training, and skill acquisition contribute to entrenching a sustainable tourism development (Hind). Due to the nature of the environment in which it is located, especially the existence of an island (Samosir Island) in the middle of the Lake; the introduction of sustainable tourism in Lake Toba becomes inevitable (Marpaung, *et al*, 2016).

Indonesian government laws (regulations) and policies play a significant role in introducing, managing, and strengthening sustainable tourism in Lake Toba. For example, President Regulation (2014) relates to Lake Toba management in terms of comprehensive action towards a sustainable ecosystem (see also Government Regulation, 2009 and Lukman, *et al*, 2019). These laws are instrumental in the introduction and management of sustainable tourism development in Lake Toba. Therefore, the effective implementation of these laws is critical in the maintenance of sustainable tourism in Lake Toba.

Additionally, the Indonesian government policies to use tourism to enhance the country's economy, like the 10 Bali (Mohd, 2017) and the support for cultural heritage preservation (Hind) contribute to the introduction, management, and strengthening of sustainable tourism development in Indonesia, in general, and North Sumatra, in particular. These policies involve infrastructure development, the protection of the environment, including cultural heritage destinations, and the adoption of environmentally friendly approaches to tourism and the art-craft industry in Indonesia. Consequently, these policies immensely contribute to sustainable tourism development in Lake Toba. Illustratively, the existence of laws and policies enhances infrastructure development, which is crucial in introducing sustainable tourism. More so, laws and policies facilitate and culminate in the expansion and accessibility of the internet to the local communities where most of the tourist destinations are located. This will trigger the marketing and sustainability of these tourist sites, with its ripple effect of attracting more foreign tourists to Indonesia: Lake Toba.

Given the importance of tourism in the economic development of Indonesia, the government of Indonesia introduced plans and programmes that will strengthen tourism - which is also crucial in sustainable tourism development - in Lake Toba (see Fig. 1 above). A cursory look at some of these plans reveals that they not only align with the tourism policies of the government but also create a mechanism to introduce, manage, and maintain sustainable tourism development in Lake Toba. For

instance, since the prioritisation of tourism in Indonesia, the national government has introduced the Medium-Term Development Plan (RPJMN) for 2015-2019, the Long-Term National Development Plan (RPJP), and the Long-Term National Tourism Development Plan (RIPPARNAS) for 2010-2025 to bolster tourism in the country (Ollivaud & Haxton, 2019). It is observed that the Indonesian government has put in place laws, policies, and programmes that would create an enabling environment for the introduction and management of sustainable tourism development in Indonesia, especially in Lake Toba area.

4.2 Factors That Affect Sustainable Tourism Development in Lake Toba

Some of the challenges in introducing, managing, and strengthening sustainable tourist development in Lake Toba are inadequate funds either from the government or from the private sector, the problem in land acquisition, limited infrastructure, lack of basic amenities, inadequate foreign investment, competition from neighbouring countries, vulnerability to natural disaster, and inadequate education, training, and skill acquisition by artisans and officials of other tourism-related sectors (Muryani, *et al*, 2020 and Tourism Infrastructure Financing: Government Strategy and Creative Financing, 2018).

In view of the foregoing, owing to inadequate funding by government and limited private sector participation, some of the tourist destinations in Lake Toba are not well maintained and preserved. For example, Fig. 2 above shows that Sipinsur Geosite is in ruins due to natural elements - like rain - without any effort for its restoration. The implication of the lack of maintenance and preservation of tourist destinations is a reduction in the number of foreign tourists visiting the sites (Fig. 3, Tables 3 & 4 above show that Indonesia ranks very low compared to other countries captured on the charts).

As stated earlier - in the SWOT analysis - regional competition among other ASEAN countries impede the actualisation of sustainable tourism development in Indonesia. Buttressing the above point, Tables 3 & 4 above shows that Thailand, Malaysia, Singapore, and Vietnam have a comparative advantage over Indonesia in terms of health and hygiene, environmental sustainability, safety and security, human resources and labour market, ground and infrastructure, and tourist service infrastructure. Moreover, a study has revealed that customer

satisfaction increases customer loyalty, which implies that when tourists are satisfied by a tourist destination, they tend to patronise that particular tourist site (Azhar & Jufrizen, 2017). Thus, tourist locations that are not properly and adequately maintained may lose their attractions to foreign tourists.

Furthermore, the development of infrastructure, facilities, and services are impeded by limitations in land acquisition and ownership by private investors (Delita, *et al*, 2019). Additionally, the issue of human rights and recognition of the owners of the land in Lake Toba area (*Na Opat* people) where the government is building a slew of infrastructure - like roads - creates tension between the government and the indigenous people, thereby impeding sustainable tourism development in the province (Jong, 2020). This conflict has lingered on despite the introduction of land regulations to loosen and quicken land acquisition and expand the entities that can acquire land for infrastructure development in Indonesia (Presidential Regulation, 2016). Due to the difficulties in land acquisition in Indonesia by the private sector, the provision and management of modern amenities, infrastructure, and building of potential tourist destinations shown in Fig. 4 above are affected.

4.3 Measures to Enhance the Introduction of Sustainable Tourism in Lake Toba

The government of Indonesia (including those at the regional and local levels) play a major role in the maintenance of sustainable tourism development in Lake Toba. This can be achieved through adequate funding of the tourism sector, providing an enabling environment where the private sector and the local community would play contributory roles in sustainable tourism development in Lake Toba. Thus, effective implementation of government laws, policies, and programmes are critical to entrenching sustainable tourism development in Lake Toba. For example, the introduction of the policy for water management in Lake Toba through the Presidential Regulation No. 81/2014 and the Government Regulation No. 28/2009 relating to water pollution load capacity on lakes and/or reservoirs is a step in the right direction (Lukman and Governor of North Sumatra Decree, 2017).

Again, the effective implementation of the Presidential Regulation No. 38/2015 on public-private partnership (PPP) would strengthen the private sector participation and FDIs in the tourism

sector of the region. Above all, laws are indispensable in the creation of agencies and institutions that are saddled with the responsibility of introducing, managing, and strengthening sustainable tourism in Lake Toba. For instance, the Presidential Decree 49 of 2016 was enacted to establish the Lake Toba Tourism Authority, which plays a role in sustainable tourism development in Lake Toba.

The impact of PPP and FDI in tourism in Lake Toba cannot be overemphasised. For instance, the provision of funds, building of infrastructure, and investment in the tourism sector (see Fig. 4 and the Strength and the Opportunity in SWOT analysis Table above) in Lake Toba can be enhanced through PPP and FDI where the government has provided a friendly environment for private sector investment (Ministry of Finance Regulation, 2018; Saragih, 2018; Ministry of Finance Regulation, 2016; Ministry of Finance Regulation, 2016; Ministry of Finance Regulation, 2012; and A Brief on Current Indonesia's PPP Program). Thus, the private sector should engage in the provision of online advertisement of Lake Toba and other tourist destinations in North Sumatra etc. These facilities are essential in introducing sustainable tourism in Lake Toba. Given the fact that information and communication technology (ICT) (Das, *et al*, 2016) is a significant factor in tourism in Lake Toba, access to fast internet plays a key role in sustainable tourism development in the region (Annual Report 2017).

Beyond the creation of an enabling environment by government and the contributory role of the private sector, the local communities also play a supporting role in the introduction, management, and strengthening of sustainable tourism development in Lake Toba. This can be achieved through concerted efforts towards preserving and maintaining tourist sites, cultural performances, the exhibition of local fashion and culinary dexterities - among other things - by the local communities (Revida & Purba, 2018). In addition, the local communities are instrumental in the safety and security of tourist locations in Lake Toba. In view of that, members of the local communities where these tourism sites are located could ensure the safety and security of their communities by being vigilant to activities that are taking place in their localities and making sure that the tourist locations are thoroughly cleared of debris, especially during holiday seasons when there is an increase in the number of tourists visiting these locations.

The local communities must be involved in driving sustainable tourism policy in Lake Toba given the cultural, religious, social, and economic

importance of these tourist destinations to the indigenous peoples. In light of that, laws have been enacted to bolster the contribution of the local communities in introducing, managing, and strengthening sustainable tourism development in Lake Toba. For illustrative purposes, the Government Regulation of the Republic of Indonesia No. 72 of 2005 concerning villages, in article 15, stipulates that Village Government is under obligation to manage the potential of the village in terms of achieving the objectives of laying out authority in the implementation of village autonomy. The objectives include - *inter alia* - improving people's welfare, equity and justice, democracy and respect for local culture, and to observe the potential and diversity of the region (Law No. 32 of 2004 concerning Regional Government). Simply put, local communities are enjoined to manage the cultural potential and prosperities of the communities - in this regard - tourism potential and prosperities of sustainable tourism in Lake Toba.

Above all, in its quest to contribute to knowledge, this paper argues that the amalgamation of the efforts of the government, the private sector, and the local communities in Lake Toba area - through laws and policies - and their simultaneous implementation would substantially enhance the introduction, management, and sustainable tourism development in the area. For instance, the outbreak of COVID-19 and its impact on tourism in Indonesia have shown the significance of government intervention through laws, policies and programmes, the support of the private sector, and the cooperation by the local communities in reducing the spread of the virus, while sustaining the tourism industry in the country (Indonesia Multi-sectorial Response Plan to COVID-19, 2020; Coronavirus (COVID-19): SME Policy Responses, 2020; and Regulatory Updates Due to the Impacts of COVID-19, 2020).

5 CONCLUSION

The introduction, management, and strengthening of sustainable tourism in North Sumatra are in line with the Indonesian government economic blueprint to use tourism as a vehicle for economic development as well as to diversify the country's economy from over-reliance on natural resources (oil and gas). Using Lake Toba as a case study, the introduction of sustainable tourism in Lake Toba, through laws, regulations, policies, and programmes indicates the promotion of the use of environmentally friendly tourism mechanisms that culminate to the protection

of the environment while creating job opportunities for the indigenous peoples. Also, sustainable tourism in Lake Toba entails, *inter alia*, manpower training and development, provision of basic amenities, infrastructure development, adequate funding of tourism and related activities, adoption of smart tourism, accommodation of globalisation, and readiness to manage the tourism sector in spite of a pandemic: COVID-19. Using the SWOT analysis mechanism, analysis of primary and secondary materials, the factors that impede sustainable tourism development in Lake Toba like inadequate funding and lack of infrastructure were identified and subsequently examined; while measures to introduce, manage, and enhance sustainable tourism development in Lake Toba were dialectically interrogated. The paper reveals that the government plays a crucial role in sustainable tourism development in Lake Toba through the creation of a conducive environment for private sector participation, provision of funds, and human resources development. Beyond the contributions of government, the private sector, through the provision of funds, among others, and the local communities facilitate sustainable tourism development in Lake Toba. Thus, the joint efforts of the government, the private sector, and the local communities would culminate in the introduction, management, and maintenance of sustainable tourism development in North Sumatra. Government laws and policies also create an enabling environment for the implementation of a tripartite model in introducing, managing, and strengthening sustainable tourism in North Sumatra. In closing, given the plethora of cultures, cultural heritage and art-crafts in North Sumatra, introducing as well as strengthening sustainable tourism development would culminate not only in the creation of job opportunities in the region but also the socio-political and economic development of Indonesia.

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