



World Tourism Organization
International Network
of Sustainable Tourism
Observatories

ANNUAL REPORT 2022
MONITORING CENTRE FOR SUSTAINABLE TOURISM
OBSERVATORIES INSTO AND WINSTO
UNIVERSITAS SUMATERA UTARA
LAKE TOBA – Indonesia

1. Introduction

The Universitas Sumatera Utara (USU) Monitoring Centre for Sustainable Tourism Observatories (MCSTO) has been actively contributing to the sustainable development of tourism in Lake Toba since becoming a member of the UNWTO International Network of Sustainable Tourism Observatories (INSTO) in 2017. Initially, MCSTO USU focused its monitoring efforts on four villages in Pangururan Subdistrict, Samosir, before expanding in 2019 to cover thirty-one sub-districts, including both non-Key Tourism Areas (non-KTA) and Key Tourism Areas (KTA). This initiative aims to provide data-driven insights to support the achievement of Sustainable Development Goals (SDGs) and ensure that tourism development in the region remains sustainable and beneficial for local communities.

The COVID-19 pandemic significantly impacted tourism in Indonesia, necessitating adjustments to MCSTO USU's monitoring activities. Government-imposed restrictions on mobility in 2020 led to a temporary limitation of monitoring efforts to four Key Tourism Areas (Girsang Sipangan Bolon, Simanindo, Pangururan, and Balige). Despite these challenges, MCSTO USU continued to assess the sustainability of tourism in the region, adapting its methodologies to ensure reliable and consistent data collection during the pandemic period.

In 2022, MCSTO USU remains committed to enhancing its monitoring capabilities and contributing to global sustainable tourism initiatives. This year, the observatory expanded its focus from five primary sustainability indicators—wastewater management, solid waste management, water management, water quality, and tourism product diversity—to a broader set of nine indicators, including local satisfaction, economic benefits, employment, energy management and governance. These efforts align with UNWTO's sustainability framework and support government strategies in fostering a more resilient and responsible tourism sector in Lake Toba.

2. Destination Profile

DESTINATION PROFILE			
		2021	2022
1	Tourism Satellite Account/s (TSA) in the destination country	<input checked="" type="checkbox"/> YES Last time a TSA was conducted:	<input checked="" type="checkbox"/> YES Last time a TSA was conducted:
2	Sector relevance: Contribution of (a) tourism and (b) other economic sectors to the local GDP (%) – latest figures	a) Tourism 2,37% b) Agriculture 21,38% c) Industry 20,28%	a) Tourism 2,04% b) Agriculture 22,98% c) Industry 19,13%
3	Arrivals of inbound (non-resident) visitors for last three years – Thousands	<input checked="" type="checkbox"/> YES North Sumatera 2021: 230 2020: 44.400 2019: 258.822 Lake Toba Region 2021: - 2020: 297 2019: 258.822 Source: BPS of North Sumatera	<input checked="" type="checkbox"/> YES North Sumatera 2022 : 74.498 2021: 230 2020: 44.400 Lake Toba Region 2022 : - 2021: - 2020: 297 Source: BPS of North Sumatera
3.1	Percentage of total annual arrivals of inbound (non-resident) visitors occurring in peak month and in peak quarter (please indicate which month and quarter)	<input checked="" type="checkbox"/> YES 2018 = 6,74% (15.952) on January, 8,16% (19.286) on June, and 9,21% (21.787) on December. (Source: BPS of North Sumatera)	<input checked="" type="checkbox"/> YES 2022 = 3.214 on January, 6.317 on June, and 19.198 on December. (Source: BPS of North Sumatera)
4	Trips of domestic visitors for the last three years – Thousands	<input checked="" type="checkbox"/> YES Lake Toba Region 2021: 201.335 2020: 217.462 2019: 1.209.008 Source: BPS of Toba Region	<input checked="" type="checkbox"/> YES Lake Toba Region 2022 : 1.031.594 2021: 201.335 2020: 217.462 Source: BPS of Toba Region

DESTINATION PROFILE

		2021	2022
5	Tourism industries: accommodation for visitors in hotel and similar establishments - Units	<input checked="" type="checkbox"/> YES North Sumatera Total rooms: 34.638 Total bed-space: 48.672 Lake Toba Region Total rooms: 899 Total bed-places: 1.167	<input checked="" type="checkbox"/> YES North Sumatera Total rooms: 33.580 Total bed-space: 48.164 Lake Toba Region Total rooms: 818 Total bed-places: 1.350
6	Current top 5 primary source markets for the destination	<input checked="" type="checkbox"/> YES Malaysia Singapore Tiongkok Germany French Netherlands	<input checked="" type="checkbox"/> YES Malaysia Singapore Belanda Australia Tiongkok Taiwan
7	Research & Journal related to Sustainable Tourism	Lecture Research & Journal 2021: 0 Student Research & Thesis 2021: 3	Student Research & Thesis: 26
8	Please describe the destination's experience with other monitoring initiatives/systems	In 2019, the monitoring will be expanded into the whole lake's surrounding, consists of 30 more sub-districts.	In 2022, the monitoring will be expanded into the whole lake's surrounding, consists of 4 sub-districts.
9	Are there strategies in place for sustainable development of the destination?	<input checked="" type="checkbox"/> YES Name of those of relevance: STDev program of the Indonesian Ministry of Tourism.	<input checked="" type="checkbox"/> YES Name of those of relevance: STDev program of the Indonesian Ministry of Tourism.
10	DMO(s) in monitoring area: Yes/No and year of establishment	<input checked="" type="checkbox"/> YES Year of establishment: Badan Pelaksana Otorita Danau Toba / The Agency of Lake Toba Authority (2021); Badan Pengelola Geopark Kaldera Toba / The Management Board of Toba Caldera Geopark (2021)	<input checked="" type="checkbox"/> YES Year of establishment: Badan Pelaksana Otorita Danau Toba / The Agency of Lake Toba Authority (2022); Badan Pengelola Geopark Kaldera Toba / The Management Board of Toba Caldera Geopark (2022)

3. Findings, Reviews, and Performances of Issues and Indicators

In the current academic year, the MCSTO of USU has undertaken a comprehensive examination of ten distinct domains through socialization/FGD, monitoring, observation, and observation: Economic Benefits to the Destination, Employment, Seasonal Tourism, Governance, Local Satisfaction, Community Participation, Energy Management, Water Management, Liquid Waste Management, Solid Waste Management. The completed activities and the upcoming action plan for nine sustainable tourism concerns are listed below.

1. Local satisfaction with tourism

The level of local community satisfaction has been monitored in 2020 and 2022 in the four sub-districts. Mostly, the levels show a rise in satisfaction, as seen in both Simanindo and Pangururan. However, a significant change of satisfaction level was seen in Balige, decreasing a total of 11.95%. Overall, the local people in each district feel satisfied with the tourism around their homes.

Simanindo

No.	Monitoring Issue	Baseline Indicator	Unit	Year	Value
1	Local Satisfaction	Level of satisfaction of local people with tourism	Likert scale average	2020	3,59
				2022	3,93

Girsang Sipangan Bolon

No.	Monitoring Issue	Baseline Indicator	Unit	Year	Value
1	Local Satisfaction	Level of satisfaction of local people with tourism	Likert scale average	2020	3,8
				2022	3,8

Pangururan

No.	Monitoring Issue	Baseline Indicator	Unit	Year	Value
1	Local Satisfaction	Level of satisfaction of local people with tourism	Likert scale average	2020	3,64
				2022	3,97

Balige

No.	Monitoring Issue	Baseline Indicator	Unit	Year	Value
1	Local Satisfaction	Level of satisfaction of local people with tourism	Likert scale average	2020	4,85
				2022	4,27

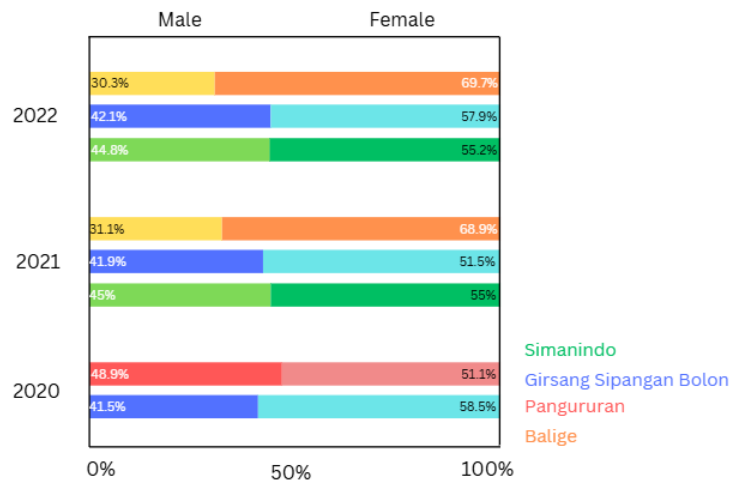
2. Economic Benefits to the Destination

Business units of tourism objects managed by Non-government and travel agents in each sub-district has remained the same for the past three years. The changes experienced in the economic sector are of lodgings and food places from 2020 to 2021, whereas in 2022 mostly did not experience any change. For instance, the number of restaurants in Simanindo decreased 7.23% in 2021, but remained the same in 2022. This also occurred in Pangururan district, with a significant increase of 41.44% in 2021, but did not increase nor decrease in 2022. Additionally, the number of restaurants that experienced the most changes was in Balige, decreasing 81.14% in 2021, then rising more than 100% in 2022.

Sustainability Indicator	Simanindo	Girsang Sipangan Bolon	Pangururan	Balige
Number of Tourism Services (Bureau/Travel Agent)	17 units	5 units	9 units	10 units
Number of Tourism Objects managed by Non-Government	21 units	18 units	11 units	15 units
Number of Lodging (Hotel, Cottage, Guesthouse, Villa Motel)	-	12.16%	>100%	33.33%
Total number of rooms for rent (room)	-	-5.54%	-	-
The number of Food Business Places (restaurants, Café, etc.)	-7.23%	-	41.44%	>100%
Number of certified/licensed Lodging, Dining, and Tourist Attractions	-	71 units	67.92%	-
Local Gross Regional Domestic Product (GDP)	8.64%	11.06%	-	-
Gross Regional Domestic Product (GDP) from the Tourism sector	8.97%	7.34%	-	-

Overall, data on the economic benefits of tourism in all four districts were insufficient, therefore, further monitoring and reporting will be needed in the future to track the changes experienced in the region.

3. Employment



Percentage of Male and Female Workers (2020-2022)

The majority demographic that works in the tourism sector in each district is female, reaching between 51%-69%. From 2020 to 2021, employment of workers in Simanindo experienced a rise, however plummeted 7.75% in 2022. This also affected the number of female workers that dropped 6.97% in 2022. On the other hand, workers in both Girsang Sipangan Bolon and Balige increased 1.42% and 4.36% respectively.

Sustainability Indicator	Simanindo	Girsang Sipangan Bolon	Pangururan	Balige
Total number of workers in the tourism sector	-7.75%	1.42%	-17.61%	4.36%
Number of female workers in the tourism sector	-6.97%	1.78%	-	5.55%
Tourist perceptions of worker services in the tourism sector	-0.76%	-	-	-

Data on the tourist's perception of worker services in the tourism sector shows that tourists highly appreciate service workers, ranging between 3.59-4.8. However, in Simanindo and Pangururan, tourists perception slightly decrease -0.76% and 17.61% in each district respectively. Overall, numbers of the data fluctuated, making it unable to draw conclusion on the general quality of employment in each destination. Moreover, data on the number of local people working in the tourism sector was insufficient.

4. Seasonal Tourism

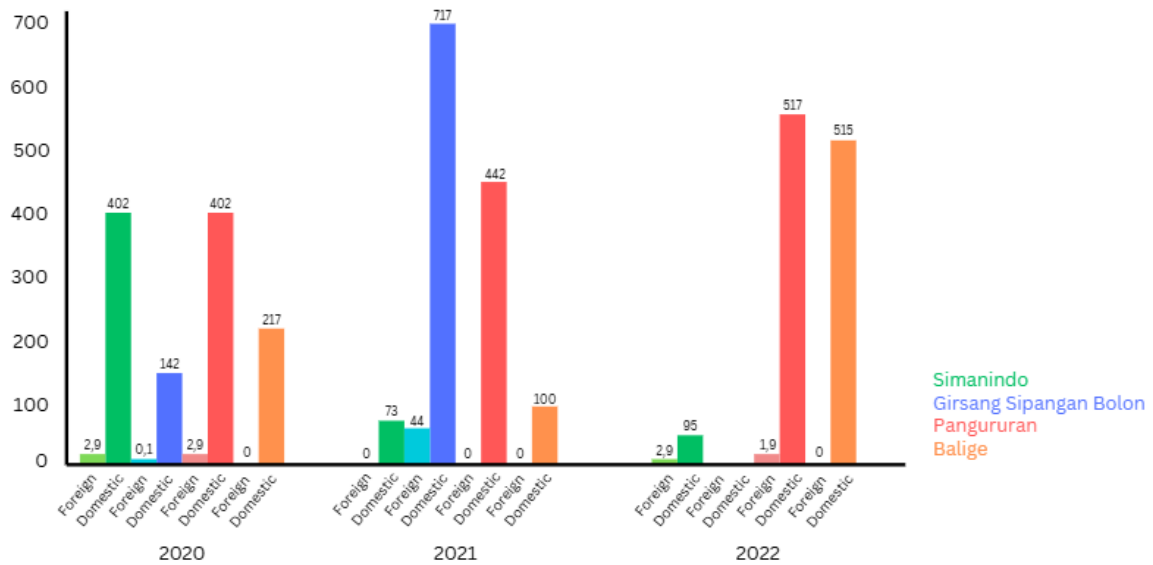


Diagram of Domestic and Foreign Tourist Visits (2020-2022)

The number of tourists visiting each sub-district vary each year, and there has been a notable difference of tourist volume during covid in 2020 and the amount in 2022. Regardless of year, each district always attracts more domestic tourists than international. In Girsang Sipangan Bolon District, there was more than a 100% increase of both local and foreign tourists from 2020 to 2021. Where as in Pangururan District the number of local tourists increased 10% in 2021 and 29.27% in 2022, reaching an overall total of 42.2% increase. While the foreign tourists fluctuated each year, with 0 visits in 2021. Additionally, there has not been a single foreign tourist visit to Balige District.

Sustainability Indicator	Simanindo	Girsang Sipangan Bolon	Pangururan	Balige
Domestic tourists visit	4.36%	>100%	29.27%	>100%
Number of foreign tourist visits	0	>100%	-32.3%	0
Tourist perception of seasonal tourism	3.29%	-	13.11%	43.37%

Overall, based on the monitoring done to collect data on the number of both domestic and international tourist visits, it cannot be concluded that COVID-19 played a role in determining the amount of tourists in each sub-district. Even so, the numbers always increased from 2021 to 2022, highlighting the difference of tourism in a post-pandemic world. Furthermore, each sub-district shows a relatively high tourist perception of seasonal tourism, ranging from 3,82-4,5.

5. Governance

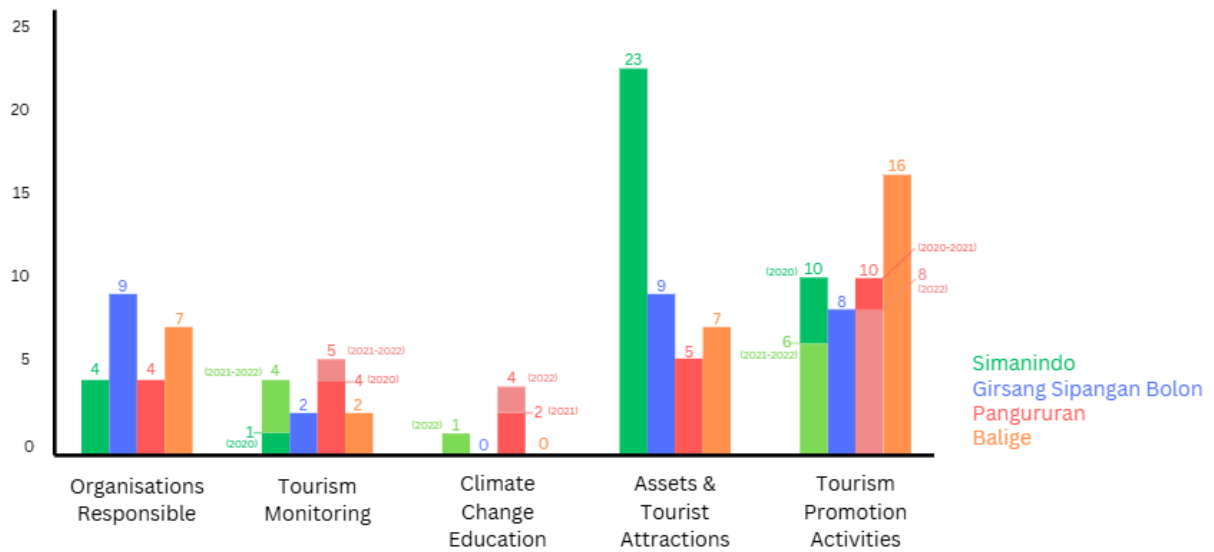


Diagram of Governance Trends (2020-2022)

Each sub-district has developed a plan and strategy for its tourism destination, and conducted documented activities for monitoring, educating, and promoting. Both Simanindo and Pangururan had increased the amount of monitoring and educating on climate change in 2022. However, the promotion of tourism activities from 2020, decreased 40% and 20% respectively. Overall, the quantity of responsible organisations that manage the sustainable tourism and the number of inventoried tourist attractions and assets has remained unchanged.

Sustainability Indicator	Simanindo	Girsang Sipangan Bolon	Pangururan	Balige
Multi-year destination development plan or strategy	Yes	Yes	Yes	Yes
Number of organisations responsible for coordinating the management of sustainable tourism	4	9	4	7
Number of tourism monitoring in one year	4	-	4	-
Number of climate change education activities in one year	1	-	100%	-
Number of assets and tourist attractions inventoried	23	9	5	7
Number of tourism promotion activities in one year	-40%	-	-20%	-

6. Community Participation in Tourism

Information regarding sustainable tourism in each sub-district is available and easily accessible to the public. With 65% of people in Balige understanding the concept of sustainable tourism development. This is proven by the effort put in by the government to host a total of 5 educational activities in the district in 2020 to describe the benefits of tourism and community assistance to the locals.

Sustainability Indicator	Simanindo	Girsang Sipangan Bolon	Pangururan	Balige
Availability of information on sustainable tourism development that is easily accessible to the public	Yes	Yes	Yes	Yes
Number of educational programs/institutions that incorporate sustainable tourism learning into the curriculum;	-	-	41	41
Perceptions of the issue of community participation in tourism	-1.58%	-	-	10.16%

Overall, there are many educational programs that incorporate sustainable tourism in several districts, as well as the perceptions of community participation is significantly high in each district, ranging between 3,73-4,89. However, in Simanindo District there has been a decrease in perception of 1,58% and an increase of 10,14% in Balige District.

7. Energy Management

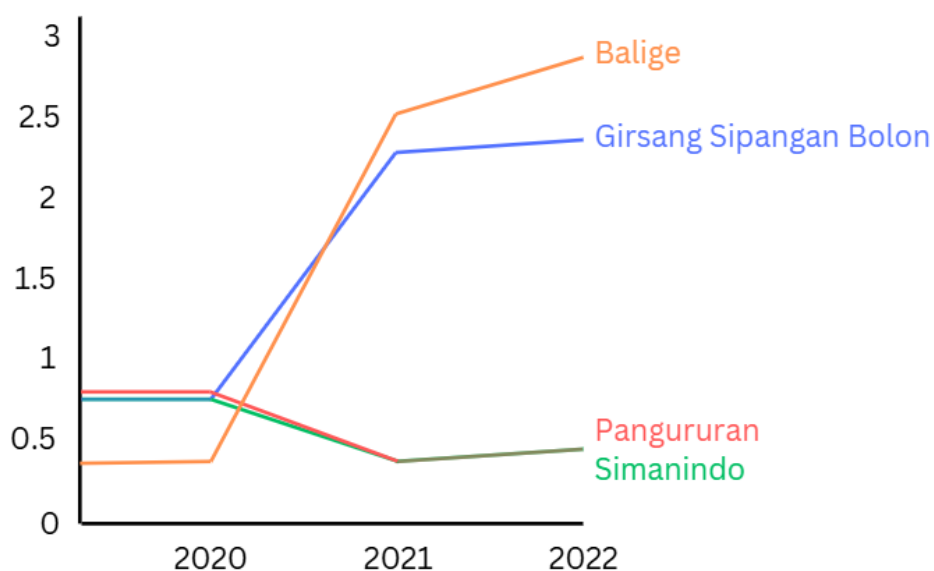


Diagram of Daily Energy Consumption (2020-2022)

The consumption of daily energy in each sub-district increased in 2022. The highest increase was in Balige, reaching 11%. Whereas in Girsang Sipangan Bolon, only 0.85% increased from 2021 to 2022, however the usage in 2021 more than doubled the usage in 2020.

Sustainability Indicator	Simanindo	Girsang Sipangan Bolon	Pangururan	Balige
Energy Consumption in a day	4.35%	0.85%	4.35%	11%
Number of business units participating in energy conservation programs	0	0	-	-
Number of business units in the tourism sector that use energy from renewable resources	2 units	1 unit	1 unit	0

The awareness of energy conservation and the use of energy from renewable resources are still very low in each sub-district. However, in Balige a total of 451 business units participated in energy conservation programs, showing the efforts of creating sustainability. On the other hand, in Simanindo and Pangururan there are 1 and 2 business units respectively, that uses renewable resources to generate energy, but the numbers have not increased in the last three years.

8. Water Management

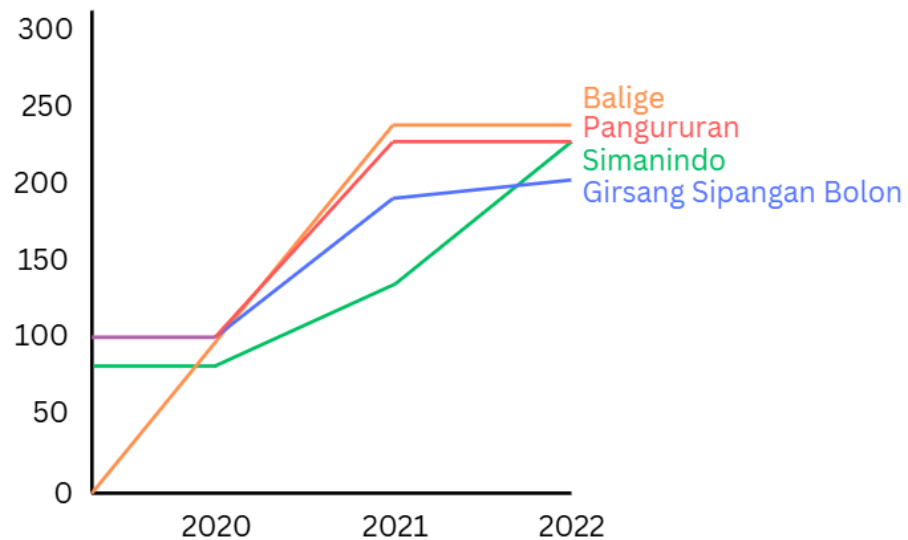


Diagram of Daily Clean Water Consumption (2020-2022)

The daily use of clean water in Simanindo significantly rises each year, reaching an increase of 67% in 2022. However, there have been no efforts in recycling water. On the other hand, 86,85% of water has been recycled in Pangururan, and the use of clean water daily from 2021 to 2022 has remained stable. Even though Pangururan has recycled more water than the other districts, the travellers' perception of the water quality is very low, only 2.42.

Sustainability Indicator	Simanindo	Girsang Sipangan Bolon	Pangururan	Balige
Daily use of clean water	67%	11%	232 liters	-24.29%
Percentage of recycled water use	0%	0%	-	-
Number of tourism facilities that have recycled water	0%	0%	-	112 units
Number of tourism facilities that already have access to clean drinking water	0%	53 units	-	-

Balige district has shown the most efforts in conserving water in the last three years, where more than 100 tourism facilities have recycled 28% water, moreover, the daily use of clean water decreased significantly at 24,29% in 2022. Additionally, the perception of travellers towards the water quality in Balige is as high as 4.2.

9. Liquid Waste Management

The awareness in managing liquid waste in each sub-district has remained the same in the last three years. Some businesses are already implementing water treatment systems, for instance, there are a total of 37 businesses in Simanindo and 38 in Pangururan. The amount of liquid waste receiving the treatments vary, ranging between 639,39-656,64. However, 0 liters are treated in Girsang Sipangan Bolon. Overall, data on liquid waste management is still insufficient and requires further monitoring and reporting.

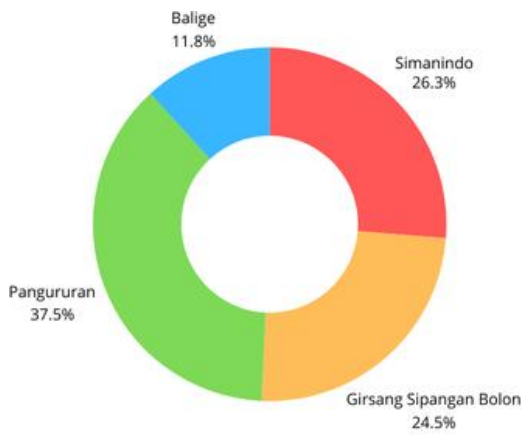
Sustainability Indicator	Simanindo	Girsang Sipangan Bolon	Pangururan	Balige
The amount of liquid waste from the tourism sector receiving treatment (liquid waste treatment)	639,39 liters/day	0	656,64 liters/day	0.084 liters/day
Number of business units in the tourism sector that implement a water treatment system	37 units	4 units	38 units	1 unit

10. Solid Waste Management

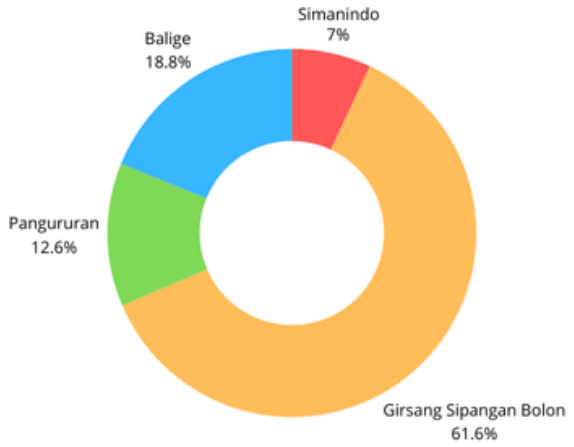
The management of solid waste in each sub-district has not changed since 2020. Only 10 businesses in Balige District conduct solid waste recycling and 1 business unit implements waste type segregation. This is the opposite in Girsang Sipangan Bolon District, where 6 businesses separate their waste types, but do not recycle the water. Despite the low awareness of solid waste management, tourists' perception of the destination's cleanliness has risen 6.63% in Simanindo from 2020 to 2022. However, in Pangururan, the perception decreased 28.84%. Therefore, it can be concluded that each district experiences difficulties based on different indicators.

Sustainability Indicator	Simanindo	Girsang Sipangan Bolon	Pangururan	Balige
Number of business units in the tourism sector that implement waste type segregation	2 units	6 units	2 units	1 unit
Number of tourism sector business units that recycle waste	0	0		10 units
Tourist perceptions of the image of the cleanliness of the destination	6,63%	-	-28.84%	-

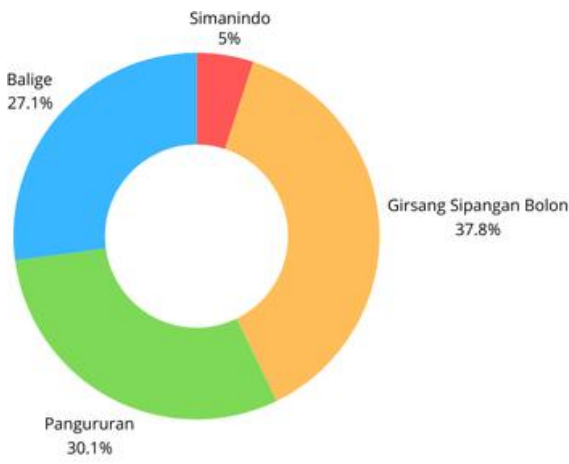
INFOGRAPHIC



**NUMBER OF LODGING
(HOTEL, COTTAGE, GUESTHOUSE, VILLA MOTEL)**



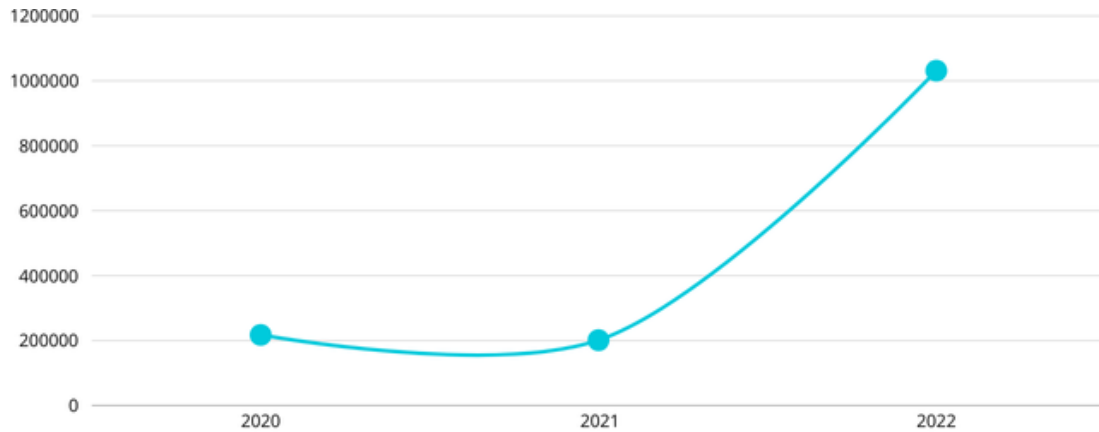
TOTAL NUMBER OF ROOMS FOR RENT (ROOM)



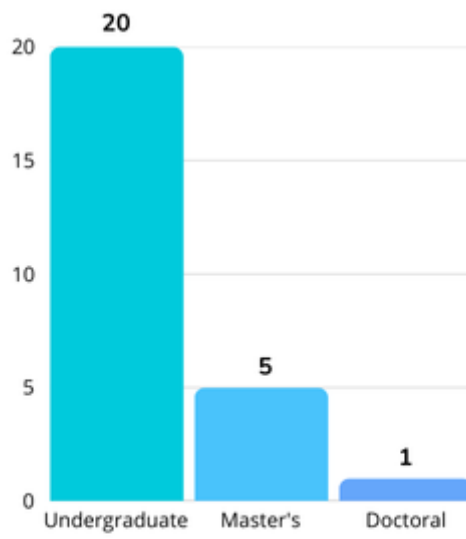
DOMESTIC TOURISTS VISIT



FOREIGN TOURISTS VISIT



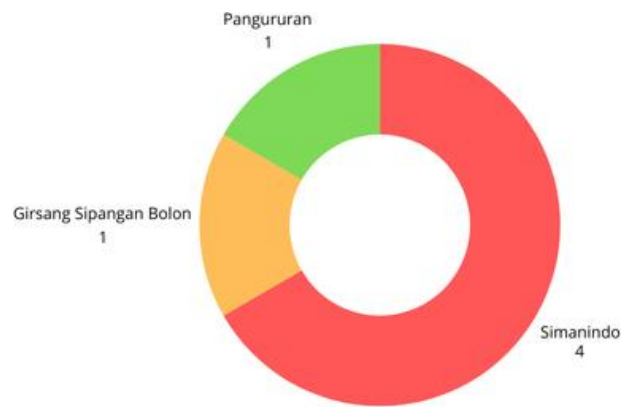
TRIPS OF DOMESTIC VISITORS FOR THE LAST THREE YEARS



STUDENT THESIS & DISSERTATION 2022



STUDENT RESEARCH 2022



LECTURER RESEARCH & JOURNAL 2022

ATTACHMENT

1. Local Satisfaction

Simanindo

No.	Monitoring Issue	Baseline Indicator	Unit	Year	Value
1	Local Satisfaction	Level of satisfaction of local people with tourism	Likert scale average	2020	3,59
				2022	3,93

Girsang Sipangan Bolon

No.	Monitoring Issue	Baseline Indicator	Unit	Year	Value
1	Local Satisfaction	Level of satisfaction of local people with tourism	Likert scale average	2020	3,8
				2022	3,8

Pangururan

No.	Monitoring Issue	Baseline Indicator	Unit	Year	Value
1	Local Satisfaction	Level of satisfaction of local people with tourism	Likert scale average	2020	3,64
				2022	3,97

Balige

No.	Monitoring Issue	Baseline Indicator	Unit	Year	Value
1	Local Satisfaction	Level of satisfaction of local people with tourism	Likert scale average	2020	4,85
				2022	4,27

2. Economic Benefits to the Destination

Simanindo

No	Monitoring Issue	Baseline Indicator	Unit	Year	Value
2	Economic Benefits for Destinations	Number of Tourism Services (Bureau/Travel Agent)	Business unit	2020-2022	17
		Number of Tourism Objects managed by Non-Government	Business unit	2020-2022	21
		Number of Lodging (Hotel, Cottage, Guesthouse, Villa Motel)	Business unit	2020	89
		The number of Food Business Places (restaurants, Café, etc.)	Business unit	2020	83
				2021-2022	77
		Number of certified/licensed Lodging, Dining, and Tourist Attractions	Business unit	2020	11
		Local Gross Regional Domestic Product (GDP)		2020	4542,85
				2021	4755,23
				2022	5166,23
		Gross Regional Domestic Product (GDP) from the Tourism sector		2020	231,43
				2021	232,90
				2022	253,77
		Development budget in support of the tourism sector		2020	6.111.794.513

Girsang Sipangan Bolon

No	Monitoring Issue	Baseline Indicator	Unit	Year	Value
2	Economic Benefits for Destinations	Number of Tourism Services (Bureau/Travel Agent)	Business unit	2020-2022	5
		Number of Tourism Objects managed by Non-Government	Business unit	2020-2022	18
		Number of Lodging (Hotel, Cottage, Guesthouse, Villa Motel)	Business unit	2020	54
				2021	74
				2022	83
		Total number of rooms for rent (room)	Room	2020	1.876
				2022	1.772
		The number of Food Business Places (restaurants, Café, etc.)	Business unit	2020	286
		Number of certified/licensed Lodging, Dining, and Tourist Attractions	Business unit	2020-2022	71
		Local Gross Regional Domestic Product (GDP)		2020	39.441,35
				2021	42.576,88
				2022	47.285,89
		Gross Regional Domestic Product (GDP) from the Tourism sector		2020	231,43
				2021	335,35
2022	359,92				
Total local development budget		2020	1.383.829.793		

No	Monitoring Issue	Baseline Indicator	Unit	Year	Value
		Development budget in support of the tourism sector		2020	3.400.959.272

Pangururan

No	Monitoring Issue	Baseline Indicator	Unit	Year	Value
2	Economic Benefits for Destinations	Number of Tourism Services (Bureau/Travel Agent)	Business unit	2020-2022	9
		Number of Tourism Objects managed by Non-Government	Business unit	2020-2022	11
		Number of Lodging (Hotel, Cottage, Guesthouse, Villa Motel)	Business unit	2020	22
				2022	127
		Total number of rooms for rent (room)	Room	2020	362
		The number of Food Business Places (restaurants, Café, etc.)	Business unit	2020	111
				2021-2022	157
		Number of certified/licensed Lodging, Dining, and Tourist Attractions	Business unit	2020	89
				2021	53
				2022	89
		Local Gross Regional Domestic Product (GDP)		2020	4.542.850.000
		Gross Regional Domestic		2020	231.430.000

No	Monitoring Issue	Baseline Indicator	Unit	Year	Value
		Product (GDP) from the Tourism sector			
		Total local development budget		2020	9.993.428.804
		Development budget in support of the tourism sector		2020	8.480.252.874

Balige

No	Monitoring Issue	Baseline Indicator	Unit	Year	Value	
2	Economic Benefits for Destinations	Number of Tourism Services (Bureau/Travel Agent)	Business unit	2020	10	
				2021-2022	15	
		Number of Tourism Objects managed by Non-Government	Business unit	2020-2022		18
				Number of Lodging (Hotel, Cottage, Guesthouse, Villa Motel)	Business unit	2020
		2021	30			
		2022	40			
		Total number of rooms for rent (room)	Room	2020	385	
				2021	542	
		The number of Food Business Places (restaurants, Café, etc.)	Business unit	2020	175	
				2021	33	
				2022	102	
Number of certified/licensed Lodging, Dining, and Tourist	Business unit	2020	120			

No	Monitoring Issue	Baseline Indicator	Unit	Year	Value
		Attractions			
		Local Gross Regional Domestic Product (GDP)		2020	4.532.850.000
		Gross Regional Domestic Product (GDP) from the Tourism sector		2020	231.430.000
		Total local development budget		2020	9.993.428.804
		Development budget in support of the tourism sector		2020	8.480.252.874
				2021	14.549.286.980

3. Employment

Simanindo

No.	Monitoring Issue	Baseline Indicator	Unit	Year	Value
3	Employment	Total number of workers in the tourism sector	Person	2020	5.162
				2021	21.574
				2022	19.901
		Number of local people working in the tourism sector	Person	2020	8.662
		Number of female workers in the tourism sector	Person	2021	11.844
				2022	11.018
		Tourist perceptions of worker services in the tourism sector	Likert scale average	2020	3.93
				2022	3.9

Girsang Sipangan Bolon

No.	Monitoring Issue	Baseline Indicator	Unit	Year	Value
3	Employment	Total number of workers in the tourism sector	Person	2020	439.251
				2021	449.676
				2022	456.080
		Number of local people working in the tourism sector	Person	2020	53.257
		Number of female workers in the tourism sector	Person	2020	182.159
				2021	188.351
				2022	191.704
		Tourist perceptions of worker services in the tourism sector	Likert scale average	2020	3.59

Pangururan

No.	Monitoring Issue	Baseline Indicator	Unit	Year	Value
3	Employment	Total number of workers in the tourism sector	Person	2020	94
		Number of local people working in the tourism sector	Person	2020	74
		Number of female workers in the tourism sector	Person	2020	46
		Tourist perceptions of worker services in the tourism sector	Likert scale average	2020	4.6
				2022	3.79

Balige

No.	Monitoring Issue	Baseline Indicator	Unit	Year	Value
3	Employment	Total number of workers in the tourism sector	Person	2021	32.930
				2022	34.367
		Number of local people working in the tourism sector	Person	2020	175
		Number of female workers in the tourism sector	Person	2021	22.682
				2022	23.940
Tourist perceptions of worker services in the tourism sector	Likert scale average	2020	4.8		

4. Seasonal Tourism

Simanindo

No.	Monitoring Issue	Baseline Indicator	Unit	Year	Value
4	Seasonal Tourism	Domestic tourists visit	Person	2020	402.295
				2021	73.761
				2022	95.655
		Number of foreign tourist visits	Person	2020	2.908
				2021-2022	0
		Tourist perception of seasonal tourism	Likert scale average	2020	3,95
2022	3,82				

Girsang Sipangan Bolon

No.	Monitoring Issue	Baseline Indicator	Unit	Year	Value
4	Seasonal Tourism	Domestic tourists visit	Person	2020	142.361
				2021	717.714
		Number of foreign tourist visits	Person	2020	117
				2021	44.746
		The average number of rooms occupied by tourists per month	Room/month	2020	2.139
		Tourist perception of seasonal tourism	Likert scale average	2020	3,83

Pangururan

No.	Monitoring Issue	Baseline Indicator	Unit	Year	Value
4	Seasonal Tourism	Domestic tourists visit	Person	2020	402.295
				2021	442.565
				2022	571.959
		Number of foreign tourist visits	Person	2020	2.908
				2021	0
				2022	1.968
		Tourist perception of seasonal tourism	Likert scale average	2020	4,5
				2022	3,91

Balige

No.	Monitoring Issue	Baseline Indicator	Unit	Year	Value
4	Seasonal Tourism	Domestic tourists visit	Person	2020	217.683
				2021	100.667
				2022	515.797
		Number of foreign tourist visits	Person	2020-2022	0
				2021	20,45%
				2022	29,32%
		Tourist perception of seasonal tourism	Likert scale average	2020	4,2

5. Governance

Simanindo

No	Monitoring Issue	Baseline Indicator	Unit	Year	Value
5	Governance	Multi-year destination development plan or strategy	Yes/No	2020-2022	Yes
		Number of organisations responsible for coordinating the management of sustainable tourism	organisation	2020-2022	4
		Number of tourism monitoring in one year	Activity	2020	1
				2021-2022	4
		Number of climate change education activities in one year	Activity	2020-2021	0
				2022	1
		Number of assets and tourist attractions inventoried	Object	2020-2022	23
		Number of tourism promotion activities in one year	Activity	2020	10
2021-2022	6				

Girsang Sipangan Bolon

No	Monitoring Issue	Baseline Indicator	Unit	Year	Value
5	Governance	Multi-year destination development plan or strategy	Yes/No	2020-2022	Yes
		Number of organisations responsible for coordinating the management of sustainable tourism	organisation	2020-2022	9
		Number of tourism monitoring in one year	Activity	2020	2
		Number of climate change education activities in one year	Activity	2020	0
		Number of assets and tourist attractions inventoried	Object	2020	9
		Number of tourism promotion activities in one year	Activity	2020	8

Pangururan

No	Monitoring Issue	Baseline Indicator	Unit	Year	Value
5	Governance	Multi-year destination development plan or strategy	Yes/No	2020-2022	Yes
		Number of organisations responsible for coordinating the management of sustainable tourism	organisation	2020-2022	4
		Number of tourism monitoring in one year	Activity	2020	4
				2021-2022	5
		Number of climate change education activities in one year	Activity	2020	0
				2021	2
				2022	4
		Number of assets and tourist attractions inventoried	Object	2020-2022	5
		Number of tourism promotion activities in one year	Activity	2020-2021	10
				2022	8

Balige

No	Monitoring Issue	Baseline Indicator	Unit	Year	Value
5	Governance	Multi-year destination development plan or strategy	Yes/No	2020-2022	Yes
		Number of organisations responsible for coordinating the management of sustainable tourism	organisation	2020-2022	7
		Number of tourism monitoring in one year	Activity	2020	2
		Number of climate change education activities in one year	Activity	2020	0
		Number of assets and tourist attractions inventoried	Object	2020	7
		Number of tourism promotion activities in one year	Activity	2020	16

6. Community Participation in Tourism

Simanindo

No.	Monitoring Issue	Baseline Indicator	Unit	Year	Value
6	Community participation in tourism	Number of educational activities on the benefits of tourism and community assistance in one year	Activity	2020	4
		Percentage of people who understand the concept of sustainable tourism development	%	2020	2,8
		Availability of information on sustainable tourism development that is easily accessible to the public	Yes/No	2020-2022	Yes
		Number of educational programs/institutions that incorporate sustainable tourism learning into the curriculum;	Institutional Unit	2020-2022	0
		Perceptions of the issue of community participation in tourism	Likert scale average	2020	3,79
2022	3,73				

Girsang Sipangan Bolon

No.	Monitoring Issue	Baseline Indicator	Unit	Year	Value
6	Community participation in tourism	Number of educational activities on the benefits of tourism and community assistance in one year	Activity	2020	7

No.	Monitoring Issue	Baseline Indicator	Unit	Year	Value
		Percentage of people who understand the concept of sustainable tourism development	%	2020	3,56
		Availability of information on sustainable tourism development that is easily accessible to the public	Yes/No	2020-2022	Yes
		Number of educational programs/institutions that incorporate sustainable tourism learning into the curriculum;	Institutional Unit	2020-2022	0
		Perceptions of the issue of community participation in tourism	Likert scale average	2020	3,87

Pangururan

No.	Monitoring Issue	Baseline Indicator	Unit	Year	Value
6	Community Participation	Availability of information on sustainable tourism development that is easily accessible to the public	Yes/No	2020-2022	Yes
		Number of educational programs/institutions that incorporate sustainable tourism learning into the curriculum;	Institutional Unit	2020-2022	41
		Perceptions of the issue of community participation in tourism	Likert scale average	2020	4,44

Balige

No.	Monitoring Issue	Baseline Indicator	Unit	Year	Value
6	Community participation in tourism	Number of educational activities on the benefits of tourism and community assistance in one year	Activity	2020	5
		Percentage of people who understand the concept of sustainable tourism development	%	2020	65
		Availability of information on sustainable tourism development that is easily accessible to the public	Yes/No	2020-2022	Yes
		Number of educational programs/institutions that incorporate sustainable tourism learning into the curriculum;	Institutional Unit	2020-2022	41
		Perceptions of the issue of community participation in tourism	Likert scale average	2020	4,44
2022	4,89				

7. Energy Management

Simanindo

No.	Monitoring Issue	Baseline Indicator	Unit	Year	Value
7	Energy Management	Energy Consumption in a day	kWh/Org/Hr	2020	0,63
				2021	0.46
				2022	0.48
		Number of business units participating in energy conservation programs	Business Unit	2020-2022	0
Number of business units in the tourism sector that use energy from renewable resources	Business Unit	2020-2022	2		

Girsang Sipangan Bolon

No.	Monitoring Issue	Baseline Indicator	Unit	Year	Value
7	Energy Management	Energy Consumption in a day	kWh/Org/Hr	2020	0,63
				2021	2.36
				2022	2.38
		Number of business units participating in energy conservation programs	Business Unit	2020-2022	0
Number of business units in the tourism sector that use energy from renewable resources	Business Unit	2020-2022	0		

Pangururan

No.	Monitoring Issue	Baseline Indicator	Unit	Year	Value
7	Energy Management	Energy Consumption in a day	kWh/Org/Hr	2020	0,65
				2021	0.46
				2022	0.48
		Number of business units in the tourism sector that use energy from renewable resources	Business Unit	2020-2022	1

Balige

No.	Monitoring Issue	Baseline Indicator	Unit	Year	Value
7	Energy Management	Energy Consumption in a day	kWh/Org/Hr	2020	0,46
				2021	2.55
				2022	2.83
		Number of business units participating in energy conservation programs	Business Unit	2020	451
Number of business units in the tourism sector that use energy from renewable resources	Business Unit	2020-2022	0		

8. Water Management

Simanindo

No.	Monitoring Issue	Baseline Indicator	Unit	Year	Value
8	Water Management	Daily use of clean water	Litres/Person /Day	2020	86,85
				2021	139
				2022	232
		Percentage of recycled water use	%	2020-2022	0
		Number of tourism facilities that have recycled water	Business unit	2020-2022	0
		Number of tourism facilities that already have access to clean drinking water	Business unit	2020-2022	0
		Travellers' Perceptions of Water Quality	Likert scale average	2020	3,70

Girsang Sipangan Bolon

No.	Monitoring Issue	Baseline Indicator	Unit	Year	Value
8	Water Management	Daily use of clean water	Litres/Person/ Day	2020	108
				2021	191
				2022	212
		Percentage of recycled water use	%	2020-2022	0
		Number of tourism facilities that have recycled water	Business unit	2020-2022	0
		Number of tourism facilities that already have access to clean drinking water	Business unit	2020-2022	53

No.	Monitoring Issue	Baseline Indicator	Unit	Year	Value
		Travellers' Perceptions of Water Quality	Likert scale average	2020	3.44

Pangururan

No.	Monitoring Issue	Baseline Indicator	Unit	Year	Value
8	Water Management	Daily use of clean water	Litres/Person/Day	2020	108
				2021	232
				2022	232
		Percentage of recycled water use	%	2020	86,85
		Travellers' Perceptions of Water Quality	Likert scale average	2020	2.42

Balige

No.	Monitoring Issue	Baseline Indicator	Unit	Year	Value
8	Water Management	Daily use of clean water	Litres/Person/Day	2020	0,12
				2021	317
				2022	240
		Percentage of recycled water use	%	2020	28
		Number of tourism facilities that have recycled water	Business unit	2020-2022	112
		Number of tourism facilities that already have access to clean drinking water	Business unit	2020	195
		Travellers' Perceptions of Water Quality	Likert scale average	2020	4.2

9. Liquid Waste Management

Simanindo

No	Monitoring Issue	Baseline Indicator	Unit	Year	Value
9	Liquid waste Management	The amount of liquid waste from the tourism sector	Litres/Day	2020	1.329,69
		The amount of liquid waste from the tourism sector receiving treatment (liquid waste treatment)	Litres/Day	2020-2022	639,36
		Number of business units in the tourism sector that implement a water treatment system	Business unit	2020-2022	37

Girsang Sipangan Bolon

No	Monitoring Issue	Baseline Indicator	Unit	Year	Value
9	Liquid waste Management	The amount of liquid waste from the tourism sector	Litres/Day	2020	7.858
		The amount of liquid waste from the tourism sector receiving treatment (liquid waste treatment)	Litres/Day	2020-2022	0
		Number of business units in the tourism sector that implement a water treatment system	Business unit	2020-2022	4

Pangururan

No	Monitoring Issue	Baseline Indicator	Unit	Year	Value
9	Liquid waste Management	The amount of liquid waste from the tourism sector	Litres/Day	2020	1.879,20
		The amount of liquid waste from the tourism sector receiving treatment (liquid waste treatment)	Litres/Day	2020-2022	656,64
		Number of business units in the tourism sector that implement a water treatment system	Business unit	2020-2022	38

Balige

No	Monitoring Issue	Baseline Indicator	Unit	Year	Value
9	Liquid waste Management	The amount of liquid waste from the tourism sector	Litres/Day	2020	0.12
		The amount of liquid waste from the tourism sector receiving treatment (liquid waste treatment)	Litres/Day	2020-2022	0.084
		Number of business units in the tourism sector that implement a water treatment system	Business unit	2020-2022	1

10. Solid Waste Management

Simanindo

No.	Monitoring Issue	Baseline Indicator	Unit	Year	Value
10	Solid Waste Management	The volume of waste generated by the destination	Tons/ Month	2020	2.914,8
		Number of business units in the tourism sector that implement waste type segregation	Business unit	2020-2022	2
		Number of tourism sector business units that recycle waste	Business unit	2020-2022	0
		Tourist perceptions of the image of the cleanliness of the destination	Likert scale average	2020	3,47
				2022	3,7

Girsang Sipangan Bolon

No.	Monitoring Issue	Baseline Indicator	Unit	Year	Value
10	Solid Waste Management	The volume of waste generated by the destination	Tons/ Month	2020	294,3
		Number of business units in the tourism sector that implement waste type segregation	Business unit	2020-2022	6
		Number of tourism sector business units that recycle waste	Business unit	2020-2022	0

No.	Monitoring Issue	Baseline Indicator	Unit	Year	Value
		Tourist perceptions of the image of the cleanliness of the destination	Likert scale average	2020	3,16

Pangururan

No.	Monitoring Issue	Baseline Indicator	Unit	Year	Value
10	Solid Waste Management	The volume of waste generated by the destination	Tons/ Month	2020	1,63
		Number of business units in the tourism sector that implement waste type segregation	Business unit	2020-2022	2
		Tourist perceptions of the image of the cleanliness of the destination	Likert scale average	2020	3,47
				2022	2,74

Balige

No.	Monitoring Issue	Baseline Indicator	Unit	Year	Value
10	Solid Waste Management	The volume of waste generated by the destination	Tons/ Month	2020	1,5
		Number of business units in the tourism sector that implement waste type segregation	Business unit	2020-2022	1

No.	Monitoring Issue	Baseline Indicator	Unit	Year	Value
		Number of tourism sector business units that recycle waste	Business unit	2020-2022	10
		Tourist perceptions of the image of the cleanliness of the destination	Likert scale average	2020	4,58