Gunungsitoli City Planning Study towards Smart City in Nias Islands

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Abstract

Gunungsitoli is the oldest and largest city in the Nias Islands. The status of Gunungsitoli City was upgraded from a sub-district to an autonomous city, based on Law Number 47 of 2008. Currently, Gunungsitoli City is the gateway and driving force for the economy, trade and education in the Nias Islands which has the potential of natural, marine, and land resources that are very broad. The description of the problem of the Gunungsitoli City Planning Study towards a Smart City, the problems discussed in this proposal include the understanding of smart cities/smart cities related to regional development strategies, the Smart City concept is also indeed presented as an answer for efficient resource management. Qualitative research methods were chosen to solve the problems faced in planning Smart City. In the Gunungsitoli Urban Planning Study Towards a Smart City Case Study: Nias Islands. The problem limitation in this City Design (Research Studio 2) task is the concept of a service-based smart city structure, which is transparent and plays a role in making it easier for the public to get information quickly and accurately.

I. Introduction

Smart City is an urban design draft that uses technological developments to make life lighter and healthier with higher levels of efficiency and efficiency. This sketch is used by many metropolitans in the world to overcome the various challenges they face. However, it is not only the city government or district government agencies that visit various problems in serving their associations, but also the city government offices are unable to handle various problems with different topics. In the implementation of government politics in the regions, it is not possible to only prioritize one aspect (economics) but it is important to pay attention to other aspects, namely environmental sustainability so that the implementation of green government is very important in supporting environmental sustainability in the political process of government in the regions (Dama, 2021). The Government of the Republic of Indonesia was formed to protect the whole of the Indonesian people (Angelia, 2020).

In the context of the topic of discussion of this proposal, the author takes an area of Gunungsitoli City in the Nias Islands. According to historical memos, Gunungsitoli or commonly known as Luaha has been popular and has been hosting since the 18th century. The name Gunungsitoli is a gift from ancient ancestors.

Below is a description of the current condition of Gunungsitoli City.

Figure 1. *Gunungsitoli City, Nias Islands*
(Source: www.google.com/2021/processed)

As the background described regarding the issue of the Gunungsitoli City Planning Study Towards a Smart City, the research conducted was to find out how to promote and present all news about Smart City to associations living in Gunungsitoli City. How is the Development Strategy based on a sketch of a brilliant city structure that is based on services, has a clear character and contributes to facilitating associations to obtain news quickly and accurately. The objectives of this research include:

1. To find out about Gunungsitoli City, a sketch of a bright city / smart city in the Nias Islands can be applied.
2. To find out about the strategic steps used by various Metropolitans in Indonesia to carve out success towards the Smart City sketch in Gunungsitoli, Nias Islands.
3. To find out about the lack of non-physical potential such as urban management, transportation, infrastructure, and quality public services that the City of Gunungsitoli has.
4. To find out about the implementation of Gunungsitoli City Government policies on the Cermerlang City / Smart City development strategy.
   The benefits of this research are as follows:
1. As a basis for reviewing a research sketch with existing and related problems in the title.
2. As an ingredient in formulating a regional development strategy by having a sketch of a brilliant city structure with service foundations in Gunungsitoli City, Nias Islands.
3. As input and consideration for the local government regarding the integration of the latest technology on the brilliant thinking paradigm regarding the use of technology in an organization to the Gunungsitoli City association.

The problem limitation in this City Planning task (Studio Research II) is a sketch of a brilliant city structure with service fundamentals, has a clear character and contributes to facilitating associations in order to obtain news quickly and accurately. By analyzing the aims and objectives, as well as the problems in this research, the author must know a sketch of a brilliant city / Smart City that can be used.

II. Review of Literature

2.1 Overview of Smart City

Smart cities are expected to be able to inherit good effects in various fields such as sovereignty, association, transportation, quality of life, and sane competition through the use of information and communication technology.

In this context, associations/institutions are provided with the right information to improve quality of life, urban operational efficiency, services and competitiveness, so as to ensure that the needs of present and future generations are met through sovereign participation.

2.2 The Smart City

Smart City indicator used from various Metropolitan and Developing Cities is a sketch of the city agenda in Indonesia. As Pratama research (2014), there are six smart city indicators, which are as follows: Smart Governance, Smart Environment, Smart Living, Smart Economy, Smart Mobility and Smart People.

Figure 2. *Regional Indicators in Smart City*
(source: http://sim.ciptakarya.pu.go.id/2021/processed)

The Smart City sketch normally includes 5 points, namely:
1. A city that has good economic, human, sovereignty, mobility, and regional capabilities.
2. A city that controls and integrates all infrastructure.
3. Shining cities can confront physical infrastructure, IT infrastructure, social infrastructure, and business infrastructure in order to expand urban brilliance.
4. Brilliant cities make cities more efficient and livable.
5. Use intelligent computing to build brilliant cities with efficient interconnection facilities.

2.3 Implementation of Smart City

Smart city is a description of the development of a country, region or city that promises to increase the welfare of its associations. According to Holmes (2010), there are various demands that must be realized before implementing a smart city, namely:

Smart city is a description of the development of a country, region or city that promises to increase the welfare of its associations. According to Holmes (2010), there are various demands that must be realized before implementing a smart city, namely:
1. Expansion and usefulness of computer network construction.
2. Information disclosure and economic stimulation.
3. Developing innovation and association creation.
4. Stimulate the entrepreneurial side of the company.
5. A more participatory and democratic structure of sovereignty.
6. Regional, social and economic balance.

2.4 Overview of Gunungsitoli City

According to historical records, Gunungsitoli or commonly known as Luaha has been popular and has been hosting since the 18th century. The location of Luaha City is at the mouth of the Nou River or what is now called Gunungsitoli Market. At that time, the city of Luaha was inhabited by three main clans, namely Haleifa, Zebuya, and Troumbanua or more popularly with Sitolutua.

Figure 3. *The Old Atmosphere of Gunungsitoli City Before the Earthquake*
(source: www.google.com/)

The name Gunungsitoli is a gift from ancient ancestors. Literally, it is clear that the word Gunungsitoli comes from the word Gunung and the word Sitoli. Gunung means highland, and Sitoli is taken from the name of a man who lives in the mountain. Part of the Gunungsitoli area is hilly.

The origin of the name Gunungsitoli is unclear. However, a reference found in a book recorded by a priest who established the Nias Heritage Museum states that the name Gunungsitoli was given to a merchant from Indochina on the Asian continent. Later, these merchants were called the ancestors of the Nias people.

2.5 Thinking Framework

Figure 4. *Framework for Thinking*
(source: Author)

The framework of thought can be termed as a problem formulation based on a deductive process to produce various sketches, and propositions used to facilitate researchers in formulating their research hypotheses.

III. Research Methods

The design used in this research is descriptive research. Descriptive design is a research that intends to understand the object to describe a research result. However, the results described cannot be used to draw more commonplace deductions. An example of a descriptive method is a descriptive research which usually has a problem that starts with the question word 'what'. There are various examples of descriptive research.

The quality of qualitative research does not have to be determined by the number of informants who participate, but how deeply the researcher uncovers detailed data from the selected informants.

The research informants that the authors need sourced include the following:
1. Key Informants. Mr. Head of BPS Gunungsitoli City.
2. Key Informants. Mr. Regional Secretary of Gunungsitoli City. And Mr. Assistant III Mayor of Gunungsitoli.

3. Additional Informants. Association of Non-Governmental Organizations (NGOs) and Association Leaders.

Every lesson has an agenda. A research design is needed. According to Nasution (2003), research design is an agenda on how to collect and dissect data so that it can be carried out globally and in accordance with the purpose of the research. The research model is an abstraction of the phenomenon under study.

In this case, the research method according to the research title is shown in the following diagram:
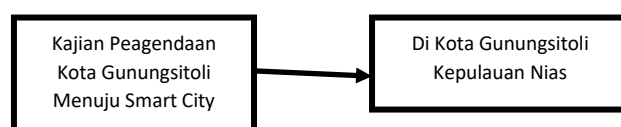
Figure 5. *Research Model Design*
(Source: *Author*)

The method of collecting data used by the author is secondary data and includes:
1. Literature Aspects of Interviews
Interviews using direct speaking with correspondents to obtain the required data, research-related information, and report-based documentation. Although the source of the data used is primary data obtained from the location of the research, in the form of interviews with research informants, which is then supported by secondary data that is relevant to the Gunungsitoli City Planning towards Smart City.
2. Aspects of Internet Literature.
The root data used are secondary data found from government publications, internal organization memos, reports, journals, and various websites related to the desired data. Collecting theoretical data, understanding and references from cyberspace which are summarized and extracted and then included in the discussion.
3. Field Survey.
Observation through direct visits to research sites to collect data relevant to research. Photo of the location around the Gunungsitoli city area.
This research uses the descriptive analysis method, which is a technique that involves collecting, summarizing, and presenting data in order to pass down useful information and organize it into a form that can be analyzed.

IV. Discussion

4.1 Description of Research Area

Gunungsitoli City is one of the urban areas in North Sumatra Province, ± 85 nautical miles from Sibolga (North Sumatra Province). The Gunungsitoli area is located in a series of islands popular with the Nias Archipelago, located in western Sumatra and is geographically found between latitude (LU) 00o 12'-1o 32' and longitude 970o 00'-980o 00' east longitude. The average height is 0-600 meters.

Gunungsitoli City is an expansion of Nias Regency based on the Law of the Republic of Indonesia Number 47 of 2008 and consists of 6 (six) sub-districts namely North Gunungsitoli District, Gunungsitoli Alo'oa District, Gunungsitoli District, South Gunungsitoli District, West Gunungsitoli District and Gunungsitoli District. Gunungsitoli Idanoi District.

According to data from the Central Statistics Agency in 2010, Gunung Sidore City has an area of 469.36 square kilometers (0.38% of the total area of North Sumatra). An area of 98 villages and 3 sub-districts from 6 sub-districts in the Gunungsitoli city area, based on the

area, the number of villages/kelurahan in Gunungsitoli city is 101 villages/kelurahan, with 27 villages. Kelurahan (27%) are located in coastal areas and 74 villages/kelurahan (73%) are in non-coastal areas.

The administrative details of the Gunungsitoli City area are as presented in the following table:

Table 1. Area by District in Gunungsitoli City

No.	Kecamatan	Jumlah Desa/Lurah	Luas Wilayah (Km²)	Rasio Thd Total Luas (%)
1.	Gunungsitoli Idanoi	26	134,78	28,72
2.	Gunungsitoli	32	109,09	12,11
3.	Gunungsitoli Utara	10	79,73	6,11
4.	Gunungsitoli Alo'oa	9	60,21	23,24
5.	Gunungsitoli Selatan	15	56,85	12,80
6.	Gunungsitoli Barat	9	28,70	16,99
Kota Gunungsitoli		101	469,36	100,00

(Source: *BPS Gunungsitoli City, 2017 Analysis*)

Figure 6. *Gunungsitoli City Administration Map*
(Source: *www.googlemaps.com2021/processed*)

As can be seen in the image from satellite imagery using the Alos Image in 2010, it is concluded that the land use in Gunungsitoli City is mostly dry land agrarian, with an area of 16,872.55 hectares; forest area 7,987.54 hectares; changes in land use will occur.

The increase in the area of cultivation activities that are being built will be accompanied by no small development. In particular, the planting of settlements, public facilities, and protected areas will be reduced by urban infrastructure. It is important to identify non-transferable areas to control the use of space. The following is data on land use in Gunungsitoli City, namely:

Table 2. *Existing Land Use in Gunungsitoli City*

(Source: *RTRW Gunungsitoli City*)

Furthermore, the attachment of an image of the regional spatial map owned by Gunungsitoli City can be observed as follows:
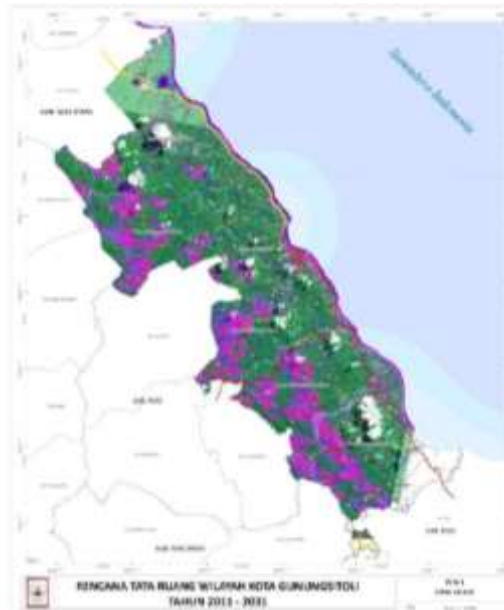
Figure 7. *Existing Land Use of Gunungsitoli City*
(Source: *www.googlemaps.com2021/processed*)

4.2 Description of Application of Smart City Elements
a. Smart Governance

In accordance with Mayor Regulation Number 44 of 2016 concerning Organizational Structure and Work Procedure of the Gunung Sitori Regional Secretariat, the Regional Secretariat has the following functions:
a. Coordinate the expansion of regional policies;
b. coordinate the implementation of the tasks of regional work units;
c. monitor and evaluate the implementation of regional policies;
d. Regional service administration services and national civil service development; and
e. Carry out other functions delegated by the mayor in relation to his duties and functions.

b. Smart Environment

In accordance with the Regulation of the Mayor of Gunungsitoli Number 60 of 2016, the task of the Gunungsitoli City Living Area Agency is to assist the Mayor in carrying out sovereign affairs in the field of living areas which are the authority of the district and the task of assistance given to the city of Gunungsitoli area.

The development of living areas is part of regional development aimed at protecting the function of the area and is based on a constant infrastructure framework, namely infrastructure that meets the needs of this era without limiting its power to meet the needs of future generations. Infrastructure procedures will be able to inherit impacts or impacts on the area involving one or all components of the area, which in turn will hinder the essential dharma of life support ecosystems.

The following is an overview of the Regional Living Area Service Strategic Plan:

Table 3. Strategic Agenda of the Regional Apparatus of the Living Area Service

(Source: *Performance Report (LKJ) of the Gunungsitoli City Living Area Service 2018*)

c. Smart Living

The beautiful coastal landscape, traditional homesteads in Nias and the scattered historical sites in the form of boulders in each sub-district in Gunungsitoli City make it a special interest for tourists who visit Gunungsitoli City.

Gunungsitoli city has many tourist destinations and beautiful beaches. Every year many domestic tourists and various other countries visit to enjoy the beauty of this beach. According to data from the Tourism, Youth Culture and Sports Office of Gunung Sidore City, in 2020 the number of recreational areas in Gunungsitoli City is 25 places, spread over six sub-districts. In addition, tourism sites in the form of traditional Nias houses are spread across all sub-districts with a total of 112 traditional houses.

The city of Gunungsitoli also still has megaliths, traditional houses, and recreational areas in each sub-district. The most traditional houses in Gunungsitoli District are 28 units, then West Gunungsitoli District are 25, Gunungsitoli Idanoi are 24, South Gunungsitoli are 14, North Gunungsitoli and Gunungsitoli Alo'oa are 11 and 10 traditional houses respectively.

For the most megaliths, the area in Gunungsitoli Idanoi District is 8 locations, and the sub-districts that have the least megaliths are Gunungsitoli Alo'oa and North Gunungsitoli districts, each of which has 1 location of megalith.

For recreational areas, the most areas in Gunungsitoli District are 7 locations, while Gunungsitoli Alo'oa District does not have a recreation area.

The following are data on logistics facilities, infrastructure and news related to regional tourism resources in Gunungsitoli City:
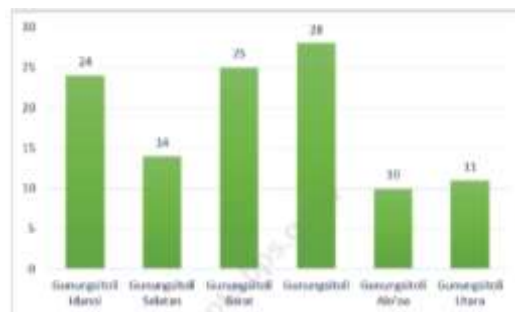
Figure 8. Diagram of the Number of Traditional Houses in Gunungsitoli City, 2020
(Source: *BPS Gunungsitoli City in Figures, 2019*)

Table 4. Strategic Agenda of the Regional Apparatus of the Living Area Service

Uraian	Jumlah
Jumlah Akomodasi Hotel	
Berbintang	0
Nonbintang	21
Jumlah Kamar dan Jumlah Tempat Tidur Hotel	
Jumlah Kamar	406
Jumlah Tempat Tidur	748
Rata-rata Lama Inap Tamu Mancanegara dan Tamu Nusantara (hari)	
Tamu Mancanegara	1,43
Tamu Nusantara	1,28

(Source: *BPS Gunungsitoli City in Figures, 2019*)

Table 5. Muskala Data by District in Gunungsitoli City

Kecamatan	Batu Megalit (Lokasi)	Tempat Rekreasi (Lokasi)	Rumah Adat (Buah)
(1)	(2)	(3)	(4)
Gunungsitoli Idanoi	8	3	24
Gunungsitoli Selatan	4	3	14
Gunungsitoli Barat	4	1	25
Gunungsitoli	6	7	28
Gunungsitoli Alo'oa	1	-	10
Gunungsitoli Utara	1	6	11
Jumlah	**16**	**20**	**112**

(Source: *BPS Gunungsitoli City in Figures, 2019*)

Figure 9. *Mainstay Tourism Destinations in Gunungsitoli, Nias Islands*
(Source: *Personal Data*)

d. Smart Economy

Regional income reflected by KDNK throughout the area is the added value generated by all economic units in one area regardless of ownership of the existing economic unit.

In 2019, the GRDP value of Gunungsitoli City reached around 5 trillion rupiah. As with 2010 constant costs, Gunungsitoli City's GRDP value reached 3.23 trillion rupiah, an increase of 6.03 percent compared to the previous year. The percentage increase in this constant price is also the economic growth rate of Gunungsitoli City.

The following are data on the contribution of GRDP by business field in 2019 (Percent)

Figure 10. *Graph of the Percentage of the Role of GRDP by Business Field in 2019*
(Source: *BPS Gunungsitoli City in 2020 Figures*)

e. Smart Mobility

Expansion of transportation network arrangements is intended to improve public accessibility, executor of development and economic executor of the centers of production or service and trade activities inside and outside the Gunung Sitori urban area land, sea, and air transportation facilities and infrastructure.

The two main objectives of the development of the transportation sector are to improve services in quantity and quality (the service sector) and to carry the wisdom of regional infrastructure (the promotion sector) to accelerate economic progress and fulfill the feeling of a fair and equitable association.

Gunungsitoli City is the main gateway to the Nias Islands. This is because the location of the port and airport as the entrance is located in Gunungsitoli City. In addition, there are two official land transportation terminals in Gunungsitoli City, namely Faekhu and Sisarahili Gamo.
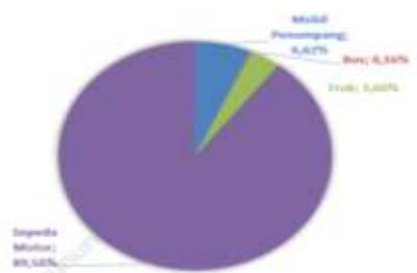
Figure 11. *Graph of the Percentage of Vehicle Types in Gunungsitoli City (Units)*
(Source: *BPS Gunungsitoli City in Figures 2020*)

f. Smart People

According to data from the Gunungsitoli City Education Office, in 2019 there were 98 public elementary schools, with a total of 98 students. 16,643 people and the number of teachers is 1,344 people. If it is observed from the number of schools in each sub-district, Gunungsitoli sub-district has the highest number of State Elementary Schools, which is 31

schools, while the least is Gunungsitoli Alo'oa and Gunungsitoli Barat sub-districts with 9 schools each. The student-teacher ratio for Gunungsitoli City is 13.00. This means that on average for every 1 teacher educates 13 students.

The School Participation Rate (APS) is an indicator to determine the extent of the association's interest in receiving education in schools. APS is the ratio of the number of students in the school age group studying in all degrees of education to the population of the school age group concerned, expressed as a percentage. This indicator can be used to determine the number of school-age children at all levels of education. The higher the APS, the more school-age children an area has in school. The ideal APS score is 100%, and no more than that, because school-age students are counted from students at all education degrees in a district.

Table 7. Percentage of Population 10 Years Old and Over in Gunungsitoli City, 2019

Kemampuan Membaca dan Menulis	Laki-laki	Perempuan	Jumlah
(1)	(2)	(3)	(4)
Huruf Latin	99,29	95,29	97,22
Huruf Arab	13,54	9,99	11,70
Huruf Lainnya	0,72	0,59	0,65
Melek Huruf	99,29	95,29	97,22
Buta Huruf	0,71	4,71	2,78
Jumlah	100,00	100,00	100,00

(Source: *BPS Gunungsitoli City in 2020 Figures*)

From the table above, it can be observed that the population of Gunungsitoli City aged 10 years and over in 2019 who was literate was 97.22 percent, while illiteracy is 2.78 percent. In addition, as many as 97.22 percent of the population aged 10 years and over who can read and write Latin letters, for Arabic letters only 11.70 percent.

4.3 Strategic Areas for Gunungsitoli City

In the law, strategic areas are divided into three parts according to their scope and authority, namely national strategic areas, provincial strategic areas, and district/city strategic areas. With law no. 26 of 2007, Article 1 Paragraph 30, defines a strategic district/city area as a prioritized area for spatial planning because of its impact on the economy, associations, culture, and/or areas within the district. /city.

1. The impact of state sovereignty, national defense, security, and others is more aimed at determining national strategic areas, while the impact on the economy, associations, culture, regions, and others can be applied to the determination of national, provincial, district strategic areas /city, which is measured in terms of externalities, accountability, and efficiency methods of the area concerned.
2. In terms of the interests of state defense and security, etc., strategic areas are state border areas, including leading islands and military training areas.
3. In terms of the benefits of economic growth, strategic areas include metropolitan areas, special economic zones, comprehensive economic expansion areas, underdeveloped areas, as well as trade areas and free ports.
4. In terms of social and cultural interests, strategic areas refer to certain customary areas, protected areas of cultural heritage, including cultural heritage designated as World Heritage.

5. In terms of the use of natural resources and/or high technology, etc., strategic areas are oil and gas extraction areas, including offshore oil and gas extraction areas, and areas where nuclear power installations are located.

6. Strategic area is an area of protection and preservation of living areas in terms of the interests of the function and carrying capacity of the area, including areas recognized as world heritage.

4.4 Application of Sketches and Implementation of Government Policies for Scheduling Smart City

Scheduling Application of Schematics for Scheduling Smart City in Gunungsitoli City, Nias Islands, Researchers leave a review in this subchapter that will examine Smart City agendas that focus on indicators of smart living (tourism sector) in Gunungsitoli, from data After the survey has been completed, the first thing to discuss is, among other things:

a. Analysis of Smart City Scheduling Scheduling

In analyzing an agenda, it will be reviewed first, what are the problems in the study of smart city planning in Gunungsitoli City. The policy and solution for the study can be in the form of a Tourist Information Center (TIC) building as a place for information systems using an online smart living-based interconnection, moving in the potential sector owned by the region, namely the tourism and cultural sectors of the local government in Gunungsitoli City.

Tourist information center is a service center that obtains tourist information in the form of oral, written, printed media, audio-visual, and others. The functions of the Tourist Information Center are as follows:

1. As a medium of information for associations, through visual communication between tourists and tourist objects.
2. Mainly as a means of information and tourism promotion, including traditional crafts and traditional arts.
   The intended purposes of this tourist information center are:
1. For general associations/tourists as consumers
   a. Increase the enthusiasm and interest of associations to travel.
   b. Increase the association's appreciation of local arts and crafts.
   c. Leaving facilities for tourists to obtain information on types of tourist goods, handicrafts and regional arts.
   d. Increased knowledge can pass on different leisure options and increase tourism attractiveness.
2. For traditional craftsmen and local artists
   a. Understand market information, consumer tastes, product design and expansion.
   b. Provide consumers with easy marketing and promotion, and bequeath opportunities for exchange and exchange of information.
3. City Hall
   a. Increasing the knowledge of local governments, because with the existence of information and publicity places, tourism will progress, and efforts will be made to create new tourist attractions.
   c. Support local government projects to increase tourism.
4. Analysis of Human Activities (Activities Actors)

Within the Tourist Information Center (TIC) function, there are various parties participating and carrying out activities to meet the expected needs, namely:

- Tourism promotion activities and information services;
- Tourism service activities;
- Arts education and training service activities;

- Service activities provide space and infrastructure as well as technical assistance for arts and culture and performing arts and culture;
- Supporting service activities in the form of gifts and souvenirs.

b. Building Analysis on Space Requirements the existing space requirements at the Tourist Information Center (TIC) can be grouped into:

Having tourism service facilities (main activities) in the form of information desk, internet desk, currency exchange , audiovisual room, meeting room, ATM, library, gallery, indoor/outdoor multipurpose room, dance studio, souvenir shop/craft shop trading facilities, food store, management office (management activities, as well as mechanical electric facilities (supporting activities).

c. Site Analysis Criteria for Site Selection
- To determine a good location, there are various things that must be considered, namely:
- Site Position
- The Tourist Information Center in the Smart City Agenda is directly related to Gunungsitoli City, Nias Islands
- Location that selected must be in accordance with the city government's regional development agenda Gunungsitoli. In this case, the site is indeed a designation for office areas in sovereignty

d. Accessibility
- The site must be a strategic location. Easy to stay, easy to reach, close to public facilities and affordable tourist attractions and culinary places. This is due to general associations and all classes and layers.
- The data obtained from the field to survey the location of the site on the scheduled land can be seen in the following image.

Figure 12. *Climatology and Ponzooningan on Site Land Topology*
(Source: *Google Maps & Personal Data*)

From the picture above on site land topology tells about weather climatology in urban areas from east to sunrise in private office areas and to west sunset at sub-district borders West Gunungsitoli. And in the zoning, which is circled in orange is a place for private offices and government areas. For orientation and achievement of a smart living (smart city) agenda for a tourist information center, the following can be observed in the image below.

Figure 13. *Orientation and Achievements in Site Land Topology*
(Source: *Google Maps & Personal Data)*

From the picture above on site land topology, the orientation of the view area is towards the Gunungsitoli District Health Center complex area and the Gunungsitoli City BPS office which is relatively good. Meanwhile, the achievements are relatively close to government areas and public facilities, tourist attractions and culinary places. The city center is only ± 0.5 km away, from Gunungsitoli port it is ± 4.1 km, and from Binaka airport it is ± 23.3 km.

1. Area around the Land
North Boundary   : Gunungsitoli Prison Building & Indonesian Army House Complex
East Boundary   : Empty Land / Forests / Swamps
South Boundary   : Gunungsitoli City BPS Office
West Boundary   : Elim Church in Indonesia Hilina'a Congregation

2. Land Footprint
According to data from the Office of Spatial Planning and Settlement of Gunungsitoli City, the government's policies for the planning stage are:
1) Site Location   : Gunungsitoli District - Gunungsitoli City, Nias Islands
2) KDB : 60 % 5) GSB   : 12 meters
3) KLB : 2 6) GSP   : 100 meters
4) KDH : 40 %
7) Land area   : 60m X 20m = 1200^{m2}
8) Max floor height   : 1 – 3 Floors

4.5 Tourist Information Center (TIC) Scheduling Layout

Emphasis on the design of the building that is displayed according to its function as a tourist information center building. In the smart city planning, according to the functions and characteristics of the area around the Gunungsitoli City Tourist Information Center, the appearance of the construction displayed must have modern construction characteristics so that it can reflect the image of the tourist information center building.

Figure 14. *Site Pleaning TIC*
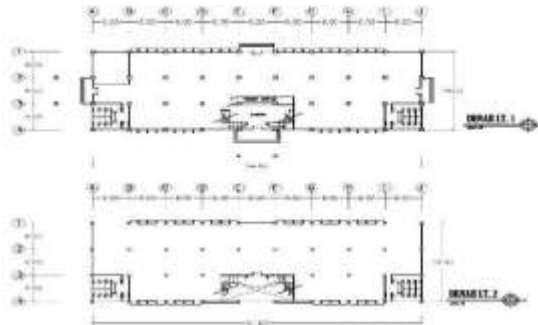
Figure 15. *Plan of TIC*
(source: *Personal Data)*
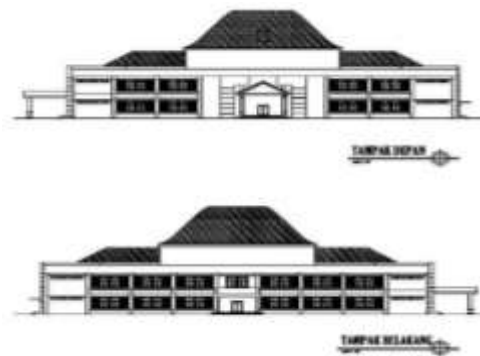
Figure 16. *View of TIC Building*
(Source: *Personal Data)*
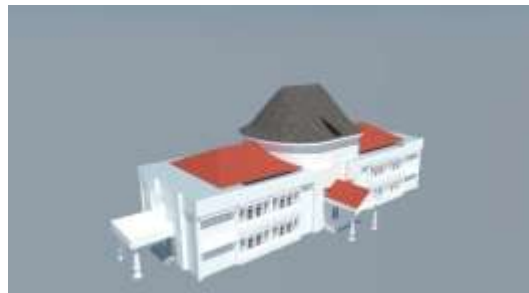
Figure 17. *3D Perspective of TIC Building*
(Source: *Personal Data)*

Figure 18. *Interior of TIC Monitoring (Interconnection) Room*
(Source: *Data Personal)*

4.6 Implementation of Government Policies

The implications of the Gunungsitoli City Regional policy on the Smart City agenda in the future design stage, are as follows:

(1) Build an efficient, clear, and comfortable excellent service system.
(2) Building a commitment to interconnection between urban sections, communication network, internet, sensors and recognition to fulfill responsibilities and fulfill accountability.
(3) Increasing institutional commitment to the implementation of sovereignty, development, and service to associations.
(4) Develop effective policies for service delivery based on the needs of associations.
(5) Implementation of work model policies, device expansion models in accordance with regional potentials and conditions, as input for the Gunungsitoli City Government to consider regional potentials in determining strategic policies.

V. Conclusion

The smart city expansion strategy is to match each area's potential and conditions and circumstances. The challenges of implementing a bright city in a region include: data and information availability, security and privacy, large investments, IT infrastructure, social adaptation, and application expansion.

To realize a smart city in Gunungsitoli City, there must be a common paradigm for a truly smart city. In addition to the need for immediate regulations related to smart cities, there must also be good collaboration between parties who really want to prioritize smart cities as a form of public service to associations.

Overall, research and sketches of the brilliant city for the direction of expansion of the Nias Islands municipal government area are intended as complementary sketches of the existing central government regional agenda. Because in the sketch, smart cities are still very new in spatial planning in Indonesia, only a few areas have applied smart city sketches, for example (Jakarta, Bali and other metropolitan cities).

So far, issues related to sovereignty and the region have not been taken seriously, so there have been no major changes in Gunungsitoli City. The direction of the development of the Gunungsitoli Regency municipality in the Nias Islands is studied through smart living sketches. The results obtained come from conducting spatial analysis, interviews, and identifying spatial problems that can be reached by government areas and tourist areas after the implementation of the Shining City sketch pilot project.

By looking at the direction of government policy in smart government governance, it is likely 60%: 40% that the smart city agenda in the Gunungsitoli City area can be implemented within the next 3 to 5 years. As long as the government can consistently build and develop the existing development potential in the tourism sector.

The author's suggestions for these aspects are as follows:
1. For Gunungsitoli City, the government must make efforts to improve technology-based systems, facilities and services. Regional authorities must build massive infrastructure, transportation, technology-financed cities, and provide various technological facilities that are qualified in public, commercial, and economic services.
2. Technology will make it easier for associations to carry out various activities without having to make a lot of physical contact (face to face) with certain parties, and in the end it will be from the government to the association.
3. Continuing efforts to escalate the quality of human resources and increase the participation of associations in realizing a smart city district.

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