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Geotourism Assessment using the M-GAM method (Modified Geosite Assessment Model) Sawahlunto Region, West Sumatra

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Abstract

The geological setting in the area is a strong attraction for natural tourism. The Sawahlunto Geopark area is one of the Geoparks located in West Sumatra Province which has a variety of geological sites. This area meets the criteria that make it a potential Geopark. The purpose of this analysis is to evaluate the potential of geotourism and use this assessment as a basis for developing geotourism in the Sawahlunto and surrounding geotourism areas. This analytical study was carried out using the M-GAM (Modified Geosite Assessment Model) method. In the study process, research methods were carried out using questionnaire data based on 27 indicators from the M-GAM method.M-GAM method has 27 indicators consisting of main and additional values that will be used as a questionnaire which will produce quantitative results. The 27 indicators contain several geotourism assessments, including scientific value, aesthetic value, protection value, functional value, and tourism value of a geosite. The maximum score that can be obtained by a geosite that has all the perfect criteria in 27 indicators will get a main score of 12 and an additional score of 15. 7 geosites will be assessed with results, namely Batu Runciang (8.17 and 7.62), Serpih Bakelok (6.35 and 7.72), Tabiang Tinggi (6.81 and 8.14) and Puncak Cemara (8.19 and 8.41), Stone Garden (6.37 and 7.96), Batu Gantuang Cave (3.91 and 6.07) and Kubang Waterfall (3.48 and 6.48). Referring to the results of the Sawahlunto geosite assessment, it was concluded that the Batu Runciang and Puncak Cemara Geosites had a high value in terms of main values compared to the other 5 geosites. Meanwhile, for additional value, Tabiang Tinggi and Puncak Cemara have sufficient value compared to the other 5 Geosites. This is because geosites with low value still lack various things such as facilities and promotions. Efforts that can be made are to build facilities at several geosites that still experience a lack of public facilities. Apart from that, promotion on social media is also very helpful in introducing geosites to the public.

1. Introduction

The research location is in Lembah Segar District and its surroundings, Sawahlunto City, West Sumatra. has an area of 9 by 9 kilometers. (Figure 1). Geotourism (geotourism) is a natural tourism activity that focuses on showing the geological nuances of the earth's surface in order to encourage understanding of the environment and culture, appreciation and conservation as well as local wisdom. Geotourism in protection and conservation efforts cannot be separated from various non-material benefits that exist. These non-material benefits can divided into ten types, namely cultural diversity, spiritual and religious values, knowledge systems, educational values, inspiration, aesthetic values, social relations, a sense of comfort towards a place, cultural heritage values, recreation and ecotouri [2]. Geotourism (geotourism) has several natural tourism concepts, including tourism that highlights the beauty, uniqueness, rarity and wonder of a natural phenomenon that is closely related to geological phenomena [3].

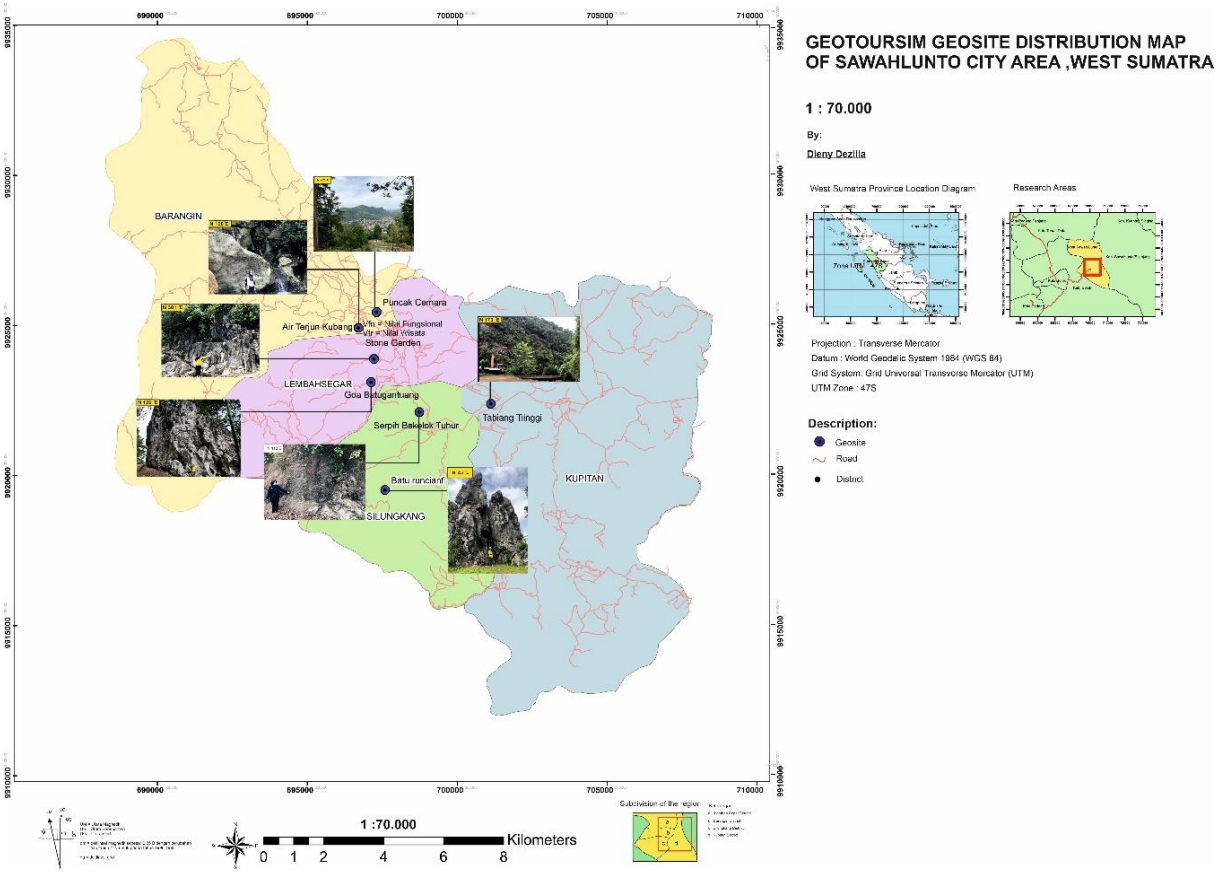


Figure 1. Map of Sawahlunto Geotourism Geosite Distribution

Geosite is a geological heritage object in a geopark area which has important geological significance based on geoheritage values. Geopark is a single or combined geographical area, which has Geological Heritage Sites (Geosite) and valuable natural landscapes, related to aspects of Geological Heritage (Geoheritage), Geological Diversity (Geodiversity), Biological Diversity (Biodiversity), and Cultural Diversity (Cultural Diversity), and managed for the purposes of conservation, education and sustainable community economic development. This research was conducted by providing a geosite assessment in this area and the value is then used as a reference in the development of geotourism. Which will produce results that provide information about the condition of the geosite that needs improvement and identify which areas need more attention and better management so that this area becomes a well-known geotourism destination that will attract more tourists in the future. At the Sawahlunto Geopark research location, 7 geosites were found in the research area, namely Batu Runciang, Batu Gantuang Cave, Kubang Waterfall, Stone Garden, Serpih Bakelok Formasi Tuhur, and Cemara Peak. The seven geosites already have criteria and natural tourist attractions according to [4] Where there are several criteria, namely information, diversity, beauty and uniqueness, cross-country adventure and the availability of natural ecosystems.

2. Methodology

In the process of analyzing the Sawahlunto Geosite assessment, the Modified Geosite Assessment Model (M-GAM) method will be used. Where this method is the development of the Geosite Assessment Model (GAM) [5]. The Geosite Assessment Model (GAM) is based on several existing evaluation methods and most of the proposed criteria for numerical assessment are taken from field data.

Table 1. Structure of M-GAM

No.	Indicator/Sub Indicator (SI)	Information
	Main Value (MV)	
	Scientific/educational value (VSE)	
1.	Scarcity ($SIMV_1$)	Number of other/nearby identical sites
2.	Representation ($SIMV_2$)	Didactic characteristics and exemplary due to its own value and general configuration
3.	Geoscientific Knowledge ($SIMV_3$)	Number of papers written in recognized journals, theses, presentations, and other publications
4.	Interpretation Level ($SIMV_4$)	Interpretation of geological processes
	Aesthetic value (VSA)	
5.	Viewpoints ($SIMV_5$)	Points that can expose the beauty of the site from a distance
6.	surface ($SIMV_6$)	Site surface area
7.	scenery and natural conditions around ($SIMV_7$)	The quality of panoramic views, the presence of water and vegetation, the absence of human-made damage, around urban areas, etc
8.	Site/object compatibility with the surrounding environment ($SIMV_8$)	Contrast with nature, color contrast, shape appearance, etc.
	Protection value (VPr)	
9.	Current state ($SIMV_9$)	The situation*geosite* At the moment
10.	Protection Level ($SIMV_{10}$)	Protection by local, national, international etc
11.	Vulnerability ($SIMV_{11}$)	Potential damage*geosite*
12.	nited number of visitors ($SIMV_{12}$)	Enter*geosite* at the same time according to area, vulnerability and status*geosite* available
	Added Value (AV)	
	Functional Value (VFn)	
13.	Accessibility ($SIAV_{13}$)	Likelihood or opportunity towards*geosite*
14.	Additional natural value ($SIAV_{14}$)	Total additional natural values within a 5 km radius (incl*geosite*)
15.	Anthropogenic value ($SIAV_{15}$)	Total additional anthropogenic values within a 5 km radius
16.	Proximity to the city center ($SIAV_{16}$)	Proximity to city center
17.	Proximity to major/important roads ($SIAV_{17}$)	Close to important road network within 20 km radius
18.	Has additional functional value ($SIAV_{18}$)	Parking lots, gas stations, workshops, etc
	Tourist value (VTr)	
19.	Promotion ($SIAV_{19}$)	Promotion rate*geosite*
20.	Organized visits ($SIAV_{20}$)	Scheduled visits to*geosite* every year (such as: Field Lectures, visits to Government Agencies, etc.)
21.	Proximity of Information Center ($SIAV_{21}$)	Proximity to the Information Center office*geosite*
22.	Interpretive panel ($SIAV_{22}$)	Texts and graphics, quality of materials, sizes, whether they fit the surroundings, etc.
23.	Number of visitors ($SIAV_{23}$)	Number of annual visitors
24.	Tourism infrastructure ($SIAV_{24}$)	Rest areas, toilets, trash cans, sidewalks, etc
25.	Geotourism Guide ($SIAV_{25}$)	If any, their level of language skills, knowledge*geosite*, explaining skills etc.
26.	Accommodation ($SIAV_{26}$)	Accommodation nearby*geosite*
27.	Restaurant ($SIAV_{27}$)	Restaurant services or places to eat close by*geosite*

Table 2. Modified Value Weight*geosite* assessment model (M-GAM).

Sub -	Value (0.00–1.00)				
Indicator	**0,00**	**0,25**	**0,50**	**0,75**	**1,00**
1	General	Area	National	International	The only incident
2	There isn't any	Low	Medium	High	Very high
3	There isn't any	Local publication	Regional publications	National Publication	International Publications
4	There isn't any	Moderate process level but difficult for non-experts to explain	Nice level of process but difficult to explain to non-experts	Moderate level of process but easy for casual visitors to explain	Good level of process and easy to explain to visitors
5	There isn't any	1	2 to 3	4 to 6	more than 6
6	Small	-	Medium	-	Big
7	-	Low	Medium	High	Very high
8	Inappropriate	-	Neutral	-	In accordance
9	Totally damaged (man-made)	Heavily damaged (due to natural processes)	Moderate damage	Slightly damaged	No damage
10	There isn't any	Local	Regional	National	International
11	Unchangeable	High (perishable)	Moderate (may be damaged due to natural processes or human activities)	Low (may be damaged only by human activity)	There isn't any
12	0	0 to 10	10 to 20	20 to 50	more than 50
13	Not accessible	Low (walking with special equipment)	Moderate (by bicycle and other human-powered equipment)	High (by car)	Max (by bus)
14	There isn't any	1	2 to 3	4 to 6	more than 6
15	There isn't any	1	2 to 3	4 to 6	more than 6
16	More than 100 km	100 to 50 kms	50 to 25 kms	25 to 5 kms	less than 5km
17	There isn't any	local	Regional	National	International
18	There isn't any	Low	Medium	High	Very high
19	There isn't any	local	Regional	National	International
20	There isn't any	Less than 12 per year	12 to 24 per year	24 to 48 per year	More than 48 per year
21	More than 50 km	50 to 20 kms	20 to 5km	5 to 1km	less than 1km
22	There isn't any	Low quality	Medium quality	High quality	Maximum quality
23	There isn't any	Low (less than 5000)	Moderate (5001 to 10000)	High (10.001 - 100.000)	Very high (over 100,000)
24	There isn't any	Low	Medium	High	Very high
25	There isn't any	Low	Medium	High	Very high
26	More than 50 km	25–50 km	10–25 km	5-10 km	Less than 5km
27	More than 25 km	10–25 km	10–5 km	1-5 km	Less than 1km

Value (MV) and Additional Value (AV), which are further divided into 12 and 15 sub-indicators, then in GAM Modification the value of beauty/aesthetics (VSA) and protection value (VPr).The additional value factor (AV) is divided by the addition of an important factor or impotance factor (Im) where this is the GAM modification. The Main Value Factor (MV) consists of three indicator groups: scientific/educational value (VSE), into two indicator groups namely functional value (VFn) and tourism value (VTr) [5]. Where each indicator will be made into a questionnaire which will be filled in by visitors visit the Sawahlunto Geopark and will be multiplied by an assessment according to experts and will also be united at the end of the spectrum. The Core Values and Key Values components which consist of 27 indicators will be turned into questions that ordinary visitors can absorb. (Table 1).

In total, there are 12 Main Value sub-indicators, and 15 Additional Value sub-indicators, ordered from 0.00 to 1.00 which define GAM assimple equation:

GAM = MV + AV

Where :
MV = Main Value
AV = Value Added

Where MV and AV are signs for main value and additional value, respectively. Since the two MV and AV values consist of three and two indicator groups, respectively, two equations can be written:

MV = VSE + VSA + VPr
AV = VFn +VTr

Where :
VSE = Scientific/Educational Value
VSA = Beauty Value
VPr = Protection Value
VFn = Nilai Fungsional

The important factor (Im) is an opportunity for visitors to express their opinion about each sub-indicator in the modeling. After that, the value of the importance factor (Im) is multiplied by the value given by experts (also from 0.00 to 1.00) who evaluate the current state and the value of the sub-indicator. Finally, the modified GAM equation is defined and presented in the following form:

M - GAM = Im(GAM) = Im(MV + AV).

Where :
Im = Important Factor
VTr = Travel Value

Table 3.*Matrix Description*Modified Geosite Assessment Model *(M-GAM)*

Is	**Main Value (MV)**	**Added Value (AV)**
Z11	Low	Low
Z12	Low	Medium
Z13	Low	High
Z21	Medium	Low
Z22	Medium	Medium
Z23	Medium	High
Z31	High	Low
Z32	High	Medium
Z33	High	High

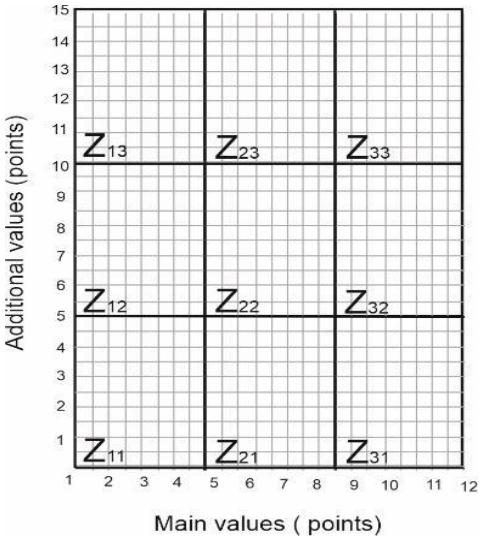


Figure 2. M-GA Value Matrix

The final results of the research are then entered into the matrix *modified geosite assessment model* where the plotting process is done by entering the total value of each *geosite*each one. The main value in the X field of the matrix and the additional value in the Y field of the M-GAM matrix. This matrix will facilitate drawing conclusions in the development of each *geosite*. The matrix consists of 9 boxes consisting of Z11, Z12, Z13, Z21, Z22, Z23, Z31, Z32 and Z33 which are the results of the Main Value and Additional Value of the assessment (Table 3) (Figure 1.)

3. Results and discussions

The research area has 7 locations *geosite* namely Batu Runciang, Serpih Bakelok, Cemara Peak, Tabiang Tinggi, Batu Gatuang Cave, Kubang Waterfall, and Stone Garden. The assessment data uses M-GAM indicators in (table 4)

Geological Aspect

1. Batu Runciang

   Batu Runciang is *geosite* located in Silungkang Oso District. This limestone belongs to the Silungkang Formation which has a Permian age [6]. *Geosite* contains limestone outcrops that are tapered in shape caused by the chemical process of dissolving limestone so that they are named Batu Runciang by the local community (Figure 2A). The formation of this Formation was initiated by the subduction between the West Sumatra Block continental plate and the Paleo-tethys Oceanic Block plate. The results of this subduction produced the Silungkang Formation which has a marine depositional environment [7]. This area is a Karst Region which is included in the Kars Tower classification. Karst towers are the appearance of karst surfaces, especially in karst areas in the tropics, in the form of hills left over from the dissolving process with vertical or nearly vertical hillsides (White, 1988). The uniqueness and beauty aspects of this geotourism destination not only present high and beautiful limestone outcrops but also have views of the surroundings which are no less beautiful showing the city of Sawahlunto and its surroundings.

2. Tabiang Tinggi

   Tabiang Tinggi is located in Muarokalaban Village. Tabiang Tinggi is a sandstone outcrop of the Sawahtambang Formation. The Sawahtambang Formation is of Oligocene age with the Woven River depositional environment. Woven rivers are generally found in flat areas with weak current energy. This woven river deposit area is characterized by sandstone outcrops which have a layered sediment structure which adds to the uniqueness of this geosite. Tabiang Tinggi is located along the Ombilin River, adding to the uniqueness of this geosite (Figure 2B). In this sandstone outcrop, a geological structure was also found in the form of the Padang Sibusuak Fault. This destination is unique because of its high outcrops followed by the Ombilinn River at its base.



Figure 3. (A) Geosite Batu Runciang, (B) Geosite Tabiang Tinggi (C) Geosite Serpih Bakelok (D) Geosite Puncak Cemara

3. Serpih Bakelok
   Serpih Bakelok is a geosite in the Lembah Segar District. This shale belongs to the Tuhur Formation with Triassic age which was formed due to the expansion process as well as subduction of the*West Sumatra Block* and*Woyla Arc* (*continental block)* so that a double subduction was formed where in this early triassic the Tuhur Formation was formed deposited in a transitional-neritic shallow marine environment [7]. *Geosite* it has a beauty and uniqueness where this shale outcrop has a length that can be estimated to reach 700 meters (Figure 2C). Where this outcrop fills the winding road trip towards the City of Sawahlunto.

4. Puncak Cemara
   Puncak Cemara is a geotourism destination located in the Kubang Sirakuak area. The Sawahtambang Formation which has an Oligocene age with a depositional environment of the Woven River [7].On *Geosite* Puncak Cemara has an outcrop with sandstone lithology According to [8]. Puncak Cemara is included in the Denuded Structural Hills geomorphic unit which is characterized by the presence of geological structures which are the main factor in the formation of this landform due to surface processes and denudational phenomena developing very intensely due to low levels of rock resistance. – Moderate, so susceptible to experiencing. Puncak Cemara is a landform that has a morphological elevation of (200-500 masl) with a sloping slope percentage level (13-21%) according to [8]. The beauty and uniqueness of*geosite* it itself is located from*view point* The city of Sawahlunto which can be seen clearly (Figure 2D). In addition, the dominant plants found in this area are cypress trees, so they are named Puncak Cemara, as well as facilities such as*gazebo* which complements the beauty of this destination.



Figure 4. (A) Geosite Batu Gantuang Cave (B) Geosite Stone Garden (C) Geosite Kubang Waterfall

5. Batu Gantuang Cave
   Batu Gantuang Cave is located in Kubang Tangah District, *geosite* which contains limestone outcrops and limestone karst caves of the Tuhur Formation. The Tuhur Formation has a Triassic ageThis cave was formed due to the dissolution of several types of rock due to the activity of rainwater and groundwater, so that very interesting passages and rock formations are created due to the process of crystallization and dissolving of these rocks.This cave has its own characteristics and uniqueness where the shape of the cave extends upwards which causes the local people to call it Batu Gantuang. Another uniqueness when traced into the cave, we will find a way out which is a different village

6. Stone Garden
   Stone Garden isgeosite which is located in North Kubang District wheregeosite it consists of views of large and tall limestones among the grass. Geosite Stone Garden is a karst landform,Karst landscapes form lateprocesses of dissolution and deposition over millions of years. Usually karst can be found in areas of carbonate rocks. Karts land is included in the classification of karst hills where some sites are cone-shaped (conical) and some are elongated like a table (table). In this geosite the limestone found has a steep slope. The Tuhur Formation has a Triassic age [6]. Beauty fromgoesite itself is located from the spread of limestone outcrops which are surrounded by a fairly steep local morphology.

7. Kubang Waterfall
   Kubang Waterfall is located in North Kubang District,Geosite this has a close distance to Stone Garden geosite. This waterfall is located in the upper reaches of the Aie Lunto River with surrounding rock lithology, namely Limestone of the Tuhur Formation. The Tuhur Formation has a Triassic age. The process of forming a waterfall can be divided into two, namely the fast and slow ways. The fast process of waterfall formation is due to the tectonic process that causes the fracture. Meanwhile, the slow process that forms a waterfall is an erosion process that occurs in rocks caused by water carrying out the eroding process.

Assessment Results Using the M-GAM Method

After conducting a geotourism assessment of 7geosite and multiplied by the important value of the researcher, the total value is obtained as follows. (Table 4). The final results of the research are then entered into a modified geosite assessment model matrix to make it easier to conclude the development of each geosite. The matrix consists of 9 boxes consisting of Z11, Z12, Z13, Z21, Z22, Z23, Z31, Z32, and Z33 (Table 3) which are the results of the Main Value and Additional Value from the assessment. From the data obtained, the process of plotting all the total values is carried out Geosite on the M-GAM Matrix. (Figure 4). From the results, it was found that there were two Geosite which enter into the Z21 matrix space, namely Batu Gantuang Cave and Kubang Waterfall. According to M-GAM in this field, Batu Gantuang Cave and Kubang Waterfall still have many deficiencies in additional value and also lack in main value. Where on the secondGeosite there is a significant lack of geological information regarding thisgeosite, less maintenance of the geosite, the facilities and infrastructure contained within-geometer where in these two geosites there is still a minimum size of parking space which causes a limited number of visitors and a lack of facilities such as seating and also signboards, lack of promotion from the local government where the local government only focuses on a fewgeosite just.

The results of the geosite assessment conducted on the seven geosites obtained the results of five geosites that received values in the M-GAM matrix in the Z22 field, referring to (Table 3) which means that this geosite has a moderate value against two values, namely the main and additional values. Based on the results of the modified geosite assessment model (M GAM) method including Batu Runciang, Tabiang Tinggi, Serpih Bakelok, Puncak Cemara and also Stone Garden. Where these five geosites have beauty and geotourism criteria but still have some shortcomings in each different geosite. Especially the Batu Runciang geosite is located far from the city center so if you want to visit this geosite, visitors must have a longer time compared to other geosites, but this geosite has access, and facilities that are fairly complete such as sign boards, seats, and information boards that make it

easier for visitors to find out information about the Batu Runciang geosite. The Puncak Cemara and Tabiang Tinggi geosites are also in the Z22 field where there are still some shortcomings that cause the assessment to be moderate. In both geosites there are fairly complete facilities, starting with a large parking area, gazebos, seats, playgrounds and there are also special places of worship for visitors.

In addition, these two geosites have a close distance to the center of Sawahlunto City. tourism supporting facilities such as mosques, tour guides, sign boards, and information boards. The shortcomings possessed by these two geosites lie in the lack of publications, book journals that discuss them, and the lack of several geotourism supporting facilities such as information boards that cause visitors to not be able to know how the history and science of the formation of the geosite. boards and information boards. Stone Garden Geosite and Serpih Bakelok have almost the same characteristics of advantages and disadvantages including the still unfulfilled Two geosites located in different fields, namely in the Z21 matrix field include the Kubang Waterfall geosite and Batu Gantuang Cave, where both geosites have more shortcomings and limitations when compared to the five geosites in the Z22 matrix. Both of these geosites still have shortcomings on various sides including, small road access, incomplete tourism supporting facilities, no sign board that provides information on the existence of geosites, a promotional status that is still on a regional scale, damage that is fairly large and not protected by the local government, and a minimal annual average number of visitors. Efforts that can be made to increase the value of these two geosites are by making improvements to facilities and complementing tourism-supporting facilities that add to tourist attractions. Promotional activities carried out on social media can also increase the number of visitors, the next effort is to increase the guard of the two geosites so that they are protected from small and large damage.

One form of development of all geosites contained in the Sawahluto geotourism area is to make a Geotrack Map containing the location, distance, information, visual form in the form of images, access, distance to public facilities, inns, restaurants, and facilities contained in each geosite which will be distributed and displayed at each geosite. This will make it easier for visitors to find out what surrounding geosites can be visited, the distance of geosites to the city center, the distance to gas stations, the distance of one geosite to another, and the access that will be taken according to the vehicle used.

Table 4. Total Value

No*Geosite*	**Main Value /*Main Value* (VSE + VSA + VPr)**			∑
	EVERYTHING	EVERYTHING	VPr	
GS1 – Batu Runciang	1.74	3.34	3.09	8.17
GS2 – Tabiang Tinggi	1.57	2.95	2.29	6.81
GS3 – Cemara Peak	1.76	3.34	3.09	8.19
GS4 - Batu Gantuang Cave	0.97	1.07	1.87	3.91
GS5 - Serpih Bakelok Tuhur	1.36	2.26	1.68	6.35
GS6 – Kubang Waterfall	0.98	1.27	1.23	3.48
GS-7- Stone Garden	1.38	2.7	2.29	6.37
No*Geosite*	**Additional Value /*Additional Value* (VFn + Vtr)**			∑
	VFn	Vtr		
GS1 – Batu Runciang	2.60	5.02		7.62
GS2 – Tabiang Tinggi	3.40	4.74		8.14
GS3 – Cemara Peak	3.39	5.02		8.41
GS4 - Batu Gantuang Cave	2.37	3.70		6.07
GS5 – Serpih Bakelok Tuhur	3.00	4.72		7.72
GS6 – Kubang Waterfall	2.58	3.90		6.48
GS-7- Stone Garden	2.99	4.97		7.96

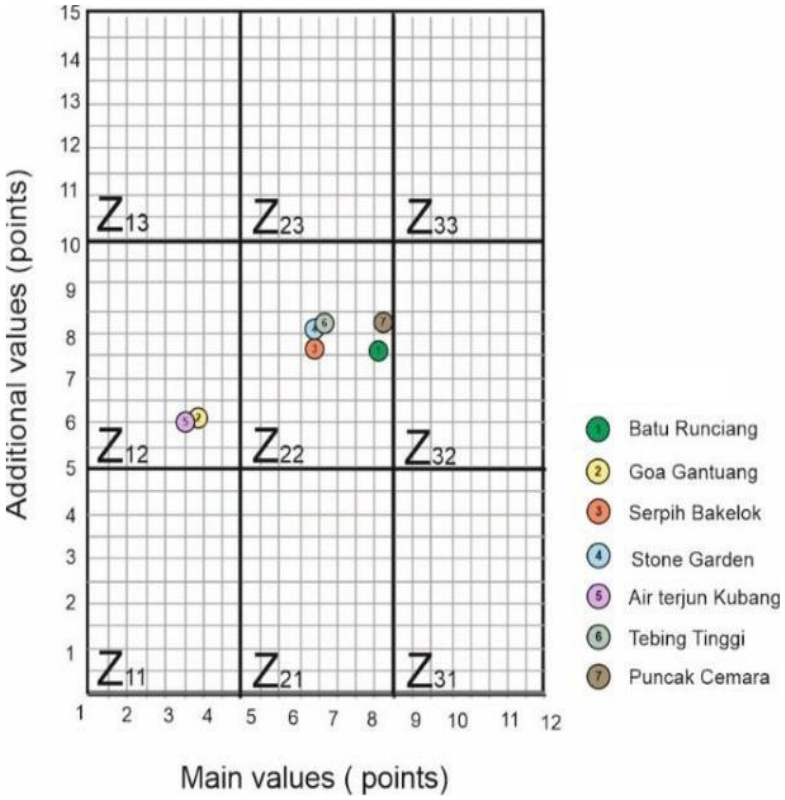


Figure 5. M-GAM matrix of geotourism assessment results

Conclusion

All geosites meet geotourism attractions and criteria. Sawahlunto City has also fulfilled 3 pillars to be developed into a Geopark which is composed of one or more geological diversity (Geodiversity, Biodiversity), and Cultural Diversity. The M-GAM method is a geosite assessment method based on five assessments in outline including scientific value, beauty value, protection value, functional value, and tourist value. Of the 7 Geosites assessed using the M-GAM method, 5 of them had moderate results. Referring to the M-GAM matrix the Z22 field which has a medium value in both aspects, namely the main and additional values. The five geosites have values including Batu Runciang (8.17 and 7.62), Serpih Bakelok (6.35 and 7.72), Tabiang Tinggi (6.81 and 8.14), and Puncak Cemara (8.19 and 8.41), and Stone Garden (6.37 and 7.96). It can be concluded that the 5 geosites already have a fairly good assessment but still have some shortcomings in several aspects, including the lack of journals that discuss geosites, professional tour guides, and lack of promotion as well as some tourism supporting infrastructure in each geosite.

From the assessment, there are two geosites with lower values, namely Kubang Waterfall (3.48 and 6.48). Batu Gantuang Cave (3.91 and 6.07) with the results of plotting on the M-GAM matrix is in the Z21 field where according to M-GAM these two geosites have less main value and moderate additional value, it can be concluded that these two geosites have quite a lot of shortcomings in the additional value section. Additional value includes tourist and functional value. In these two geosites, there is still a lack of complementary facilities and infrastructure at each geosite such as signboards, seats, and parking lots, damage is still found due to lack of protection of the geosite, still not well promoted, lack of professional tour guides and also road access that still cannot be reached by large vehicles such as buses which causes a lack of visitors who can visit the geosite. From the results of the assessment according to M-GAM, developments that can be done to advance the Sawahlunto Geopark are by completing the facilities and infrastructure of each geosite, adding professional guides, promoting through social media, and counseling the local community about the safeguarding of the Sawahlunto Geopark geosite. The high potential possessed by Sawahlunto area geotourism can be developed by realizing efforts to develop the shortcomings of each geosite, where each geosite

contained in the Sawahlunto area geotourism can compete with other geotourism regions in Indonesia with the potential and uniqueness of this geotourism itself.

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