

**STRATEGY FOR DEVELOPING RURAL TOURISM BASED ON
TERRITORIAL CAPITAL IN THE WESTERN AREA OF BOGOR
REGENCY, WEST JAVA PROVINCE, INDONESIA**

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ABSTRACT

The purpose of this study is to design a rural tourism development strategy in the Western Area of Bogor Regency of West Java Province (Indonesia) using the SMIC PROB- EXPERT method and software. Four hypotheses (choice of strategy) were developed based on the territorial capital of this location, namely "Agro Tourism" (modern agriculture and human resources skilled in managing high value commodities and tourist attractions), "Concession" (Granting concessions to the private sector to manage National Park/state forest areas), "Infrastructure" (Improved road network to locations) and "ComDev" (community development initiatives with social, economic and ecological dimensions). Based on the calculation results, the biggest net simple probability is the "concession" hypothesis (59%). Processing of perception data on these four scenarios results in 2n (24 = 16) combination of hypotheses, and the largest is combination number 16-0000 (10.9%) which means none of the hypotheses are implemented, then 02-1110 (10.1%) which means the combination of agrotourism + concessions + infrastructure, and 10-0110 (9.9%) which means the combination of concessions + infrastructure. Based on sensitivity analysis shows that the top of absolute value is on agrotourism (1.031) and concessions (0.967) so that both are prime movers. Thus the government's attention is to encourage agro-tourism investment and provide concessions to national park operators with good governance.

Keywords: agro-tourism, management of national parks, SMIC PROB-EXPERT, rural tourism, territorial capital

Introduction

The development of tourism in rural areas increases positive relations between rural and urban areas, as has happened in Bogor Regency, especially in the Puncak area. However, different conditions are experienced by tourist destinations in West Bogor Regency (Bogor to Lebak Regency). This research was conducted in the tourist area in the District of Tenjolaya and District of Pamijahan. Although this area has attractive natural attractions, it is not yet a major destination for domestic tourists coming from urban areas around Bogor Regency.

Comparison of three regions, namely Puncak, Sentul and West Bogor as Table 1 below.

Table 1. Comparison description of Puncak, Sentul and West Bogor Tourism Regions

Aspect	Puncak Region (Southern Bogor Regency)	Sentul Region (Central Bogor Regency)	Western Bogor Regency (research location)
Development level	Highly developed tends to over capacity	Newly developing, but very fast	Stagnan
Attraction	Natural, Artificial, Modern, high variations	Natural, Artificial, Modern, high variations	Natural
Visitor Type	Mass Tourist/Nasional/Int	Mass Tourist/Nasional/Int	Niche/Local
Supporting Factor Conditions	Complete and well, often jammed, quite near the toll road	Complete and well, often jammed, quite near the toll road	Incomplete and not good, jammed, far from toll road
Investor	Large developers, various class companies, individuals	Large developers, various class companies, individuals	Small companies, individuals, groups
Provider	Profesional	Profesional	Beginner Entrepreneur

In order to understand all aspects of rural tourism, some of the identities of rural tourism identified are as follows: the geographical context in the village (OECD, 1994; Dimitrovskia, et.al, 2012; Ionela et.al, 2015; Neumeier and Pollermann. 2014); enjoy a rural lifestyle (Pakurar, 2008), stay away from the city, relax, enjoy a positive experience (Pakurar, 2008), niche tourism that takes place in the rural area of Koster (2019), sustainable tourism, ie wise to nature, local culture, traditions , history, the characteristics of the place and also the protection of the local economy (Koster, 2019, Cawley and Gillmor, 2008).

As for the characteristics of the scale of the business and the perpetrators are: small scale (McKercher and Robbins, 1998; Zhou, 2014; Neumeier and Pollermann. 2014; Lane and Kastenholz, 2015), involving the community (Dimitrovskia, et.al, 2012; Ryglová et.al , 2017; Garau, 2015; Neumeier and Pollermann. 2014), entrepreneurs who have just entered the field of

tourism (Lane and Kastenholz, 2015)

McKercher and Robbins (1998) explain that rural tourism is characterized by operations that tend to be small, regional businesses that are outside the mainstream of the travel industry. They may be overwhelmed by inadequate marketing resources and the inability to establish relationships with the global tourism system.

Actually the characteristics above illustrate the problems experienced by rural tourism, which according to Mitchell et al. (2005), in this context, is addressing many structural and product problems faced by rural tourism providers. These problems include: lack of attention and knowledge about demand factors; lack of skills in relation to product presentation; limited knowledge of the market where they work; and the development of a limited network of cooperation and marketing.

Based on the description above, the tourism development strategy is carried out by testing four strategies namely (1) Modern Agrotourism, Concession to Private National Parks, (2) (3) Development of Tourism Corridor Road Networks, (4) Community Development by Universities and Related Parties. These four scenarios follow the framework of developing territorial capital, from basic endowment to innovation cross, as the approach developed by Camagni (2008).

Material and Method

The location which is the basis of the assessment is in the Districts of Tenjolaya and Pamijahan, an area near the Halimun Salak National Park, Bogor Regency, West Java Province

The strategy design model is carried out for regional planning by including the uncertainty aspect in the choice of several proposed scenarios. In this study the model used is the SMIC-Prob-Expert. SMIC-PROB-Expert is one of the scenario analysis modules developed by Godet (1976, 2006) and Duperin and Godet (1976), included in the French School group. This method is based on probability theory, especially subjective probability (subjective probability) to assess the likelihood of an event occurring. The SMIC-Prob then calculates a score combination of scenarios that are possible to be implemented or not implemented (Fauzi, 2019). This combination is generated based on the number of scenarios or events observed with a combination of $r = 2n$, where n is the number of scenarios observed.

Stages of Analysis of SMIC-Prob

The SMIC Prob requires a stage of exploratory hypotheses relating to events or situations that are tested through various opportunities. Because SMICProb relies on expert judgment, expert

opportunity determination becomes the most decisive step to produce an outcome from the analysis. This can be seen where stage two and stage three are the main components in the SMIC Prob analysis stage (Figure 1).

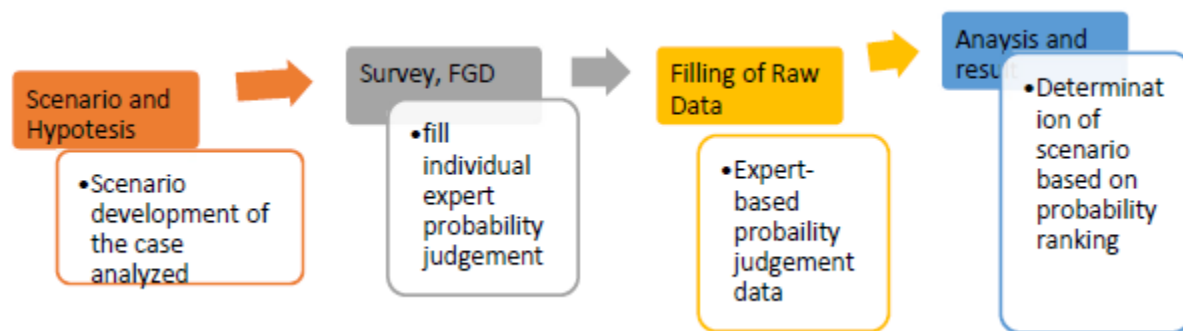


Figure 2. Stages of analysis of the SMIC Prob

Scenario (Hypothesis) Formulation Stage

This strategy is measured by the probability to occur subjectively from several experts. The results will be material that will be further analyzed. The tourism development strategy is carried out by testing four strategies namely Modern Agrotourism, Concession to Private National Parks Concessions, Development of Tourism Corridor Road Networks, Community Development by Universities and Related Parties. These four scenarios follow the framework of developing territorial capital, from basic endowment to innovation cross, as in Figure 1, the approach developed by Camagni (2008).

1. Modern agriculture-based agro-tourism is a transformation from the basic endowment quadrants in numbers 3 and 6 to the innovation cross quadrant number 9;
2. The National Park Concession to Private Sector is the transformation from the basic endowment quadrants in numbers 1 and 3 to innovation cross quadrant number 2;
3. The development of a tourist corridor road is the basic endowment of quadrant number 1, which is a factor supporting the accessibility and connectivity of all economic activities of the community, especially tourism;
4. Community Development by Universities and Related Parties is a transformation from the basic endowment quadrants in numbers 4 and 6 to the innovation cross quadrant number 5;

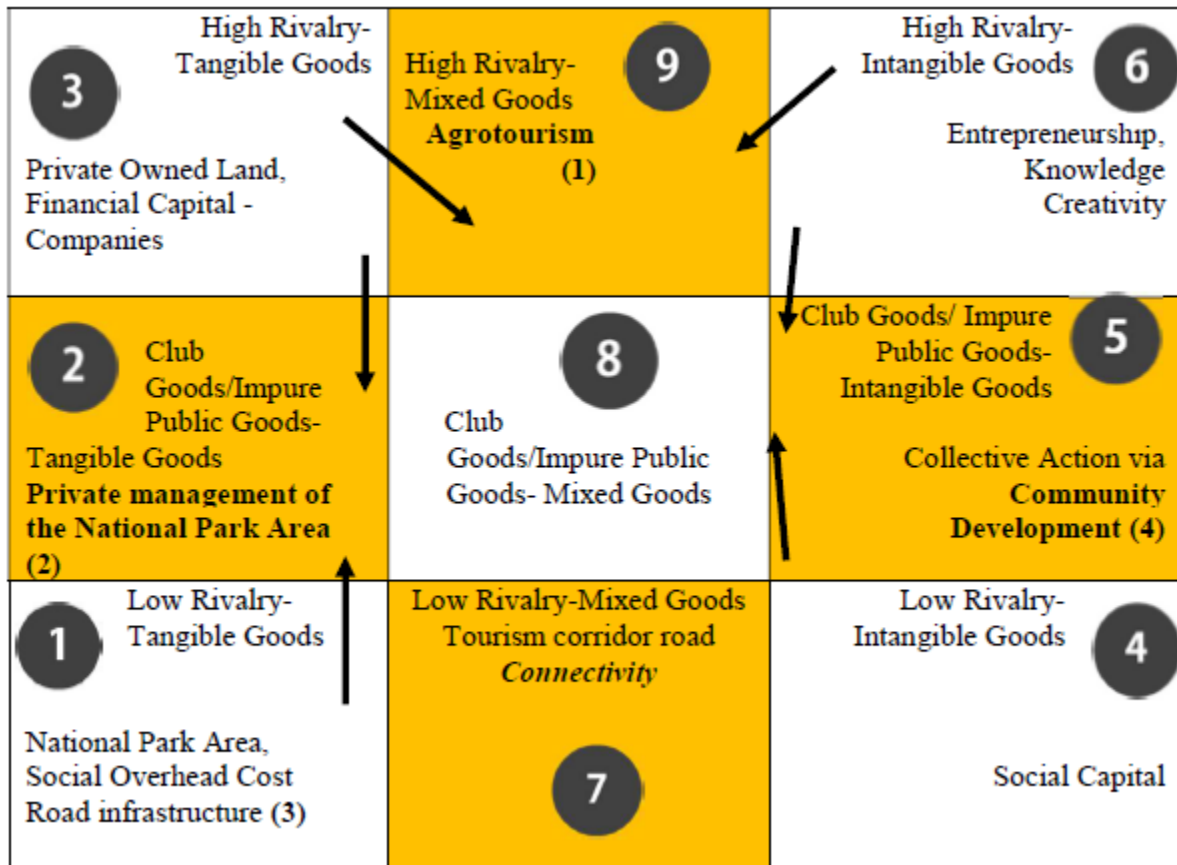


Figure 3. Illustration of Four Hypotheses based on the Territorial Capital framework according to Camagni (2008)

Filling individual and expert opportunities

Experts involved in filling the questionnaire are representatives from the Ministry of Environment and Forestry, Sahid University Jakarta, Esa Unggul University. The expert survey was conducted through a questionnaire that contained four hypotheses above and divided into three categories as follow:

- Simple Probability $P(i)$.

Question to the expert: How is the probability of these four tourism development scenarios implemented in Western Area in Bogor Regency?

- Conditional probability if realization $P(i/j)$.

Question to the expert: How is the probability of scenario i to happen if scenario j is realized?

- Conditional probability if non-realization $P(i|j)$.

Question to the expert: How is the probability of scenario i to happen if scenario j is not realized?

Score probabilities of each questionnaire consist of five levels, which are:

- I. Very improbable/not very probable event
- II. Improbable/slightly probable event
- III. Moderately/fairly probable event
- IV. Probable event
- V. Very probable event

Filling raw data

Score probabilities from experts were analyzed using standardized formula (Medina et al 2015) as follow:

$$P(i) = \frac{(\text{value} - m_i)}{(\text{max} - m)}$$

Raw data of probabilities from experts are adjusted to meet the following conditions:

$$\begin{aligned} 0 \leq P(i) \leq 1 \\ P(i|j)P(j) = P(j|i)P(i) = P(ij) \\ P(i|j)P(j) + P(i|\bar{j})P(\bar{j}) = P(i) \end{aligned}$$

Analysis and Result

Analysis

SMIC-Prob uses a quadratic programming method to determine the score of a combination of opportunities through the objective function:

$$\min \sum_{ij}^n [P(j|i)P(i) - \sum_{k=1}^i t(ijk)\pi_k]^2 + \sum_{ij}^n [P(i|\bar{j})P(\bar{j}) - \sum_{k=1}^i s(ijk)\pi_k]^2$$

with obstacles

$$\sum_{k=1}^r \pi_k = 1 \text{ and } \pi_k \geq 0 \text{ for all } k$$

The symbol π_k illustrates the k scenario opportunity whose value is sought from the minimization solution above.

- The value of $t(ijk)$ will be equal to 1 when events i and j occur in scenario k
- The value of $t(ijk)$ will be zero when event i and j do not occur in scenario k.
- The value of $s(ijk)$ will be equal to 1 when event i occurs but event j does not occur in scenario k
- The value of $s(ijk)$ will be zero when event i does not occur but event j occurs in scenario k.

The solution of quadratic programming above will produce a score of odds from highest to lowest which is presented in the form of:

$$e_{ij} = \frac{P(i)\Delta P(j)}{P(j)\Delta P(i)}$$

Result

The description of the four hypotheses or strategies that are processed in the SMIC-Prob as described in Table 2.

Table 2. Thesis Hypotheses processed in SMIC-Prob

No	Long label	Shortlabel	Description
1	Modern Agrotourism	Agrotourism	Modern technology agriculture and skilled human resources with unique high value local or commodity products
2	CONCESSION of the National Park to the Private Sector	CONCESSION	Granting concessions to the private sector to manage the National Park area to build tourist facilities
3	Construction of tourist corridor pathways	INFRA	Increased INFRASTRUCTURE road network to tourist sites
4	Community Development By Universities and Related Parties	COMDEV	University takes the initiative to carry out community development activities and environmental preservation which have educational, social, economic and ecological dimensions

Based on the aggregate average of expert opinions, raw probability data is obtained which is then calibrated to net simple probability. (Table 3). Based on expert opinion, Concession and Agrotourism have the biggest opportunity compared to the other two hypotheses.

Table 3. Raw and net probability

Strategy	Raw Simple Probability	Net Simple Probability
1 - AGROTOURISM	0,566666667	0,588
2 - CONSESSION	0,566666667	0,590
3 - INFRA	0,433333333	0,469
4 - COMDEV	0,433333333	0,414

Furthermore, expert opinion assesses the opportunities for the occurrence of each hypothesis if another hypothesis occurs or does not occur. This analysis produces Table 4 in the form of Conditional Opportunity Net data.

Table 4. Net Conditional Opportunity data

	<i>a. P(ij)</i>				<i>b. (Pi j)</i>				
	AGRO-TOURISM	CONSESSION	INFRA	COMDEV	AGRO-TOURISM	CONSESSION	INFRA	COMDEV	
1 - AGROTOURISM	0,587	0,563	0,591	0,683	1 - AGROTOURISM	0	0,621	0,583	0,519
2 - CONSESSION	0,566	0,59	0,707	0,595	2 - CONSESSION	0,623	0	0,487	0,586
3 - INFRA	0,472	0,561	0,468	0,478	3 - INFRA	0,463	0,335	0	0,461
4 - COMDEV	0,482	0,418	0,423	0,414	4 - COMDEV	0,318	0,409	0,406	0

Opportunities for Combination Hypotheses

There are 16 (sixteen) hypothesis combinations (Table 5), where the greatest chance of occurring is set of hypothesis number 16 (0000), i.e. the four hypotheses are not implemented with an opportunity of 10.9%. Next is the hypothesis set number 02 (1110), namely agro-tourism + concessions + infra 10.1%, number 10 (0110) 9.9% and number 04 (1100) 8.7%.

Opportunities for the four hypotheses do not occur as Set Hypothesis No. 16 (0000) due to the complex relationship of various hypothetical opportunities. Impact Analysis (Margin) Conditional opportunities in Table 7 will be able to explain later.

Set Hypothesis number 02 (1110), number 10 (0110) and number 04 (1100) shows the phenomenon that the development of tourism in the Bogor District of West is highly influenced by territorial capital that is private (high rivalry), where it is shown that opportunities that contain the hypothesis of agrotourism and / or concessions have great opportunities.

The development of modern agrotourism is based on territorial capital quadrants 3 and 6 of the typology of Camagni (2008). Quadrant 3 is in the form of a private business or company based on capital and Quadrant 6 is in the form of HR with a strong entrepreneurial spirit and extensive network.

Table 5. Opportunities for combination and recapitulation of each hypothesis

No	SCENARIO	PROBABILITY	AGROTOURISM	CONSESSION	INFRA	COMDEV
1	16 - 0000	0,109	0	0	0	0
2	02 - 1110	0,101	1	1	1	0
3	10 - 0110	0,099	0	1	1	0
4	04 - 1100	0,087	1	1	0	0
5	07 - 1001	0,085	1	0	0	1
6	03 - 1101	0,075	1	1	0	1
7	01 - 1111	0,069	1	1	1	1
8	08 - 1000	0,064	1	0	0	0
9	09 - 0111	0,062	0	1	1	1
10	12 - 0100	0,057	0	1	0	0
11	05 - 1011	0,054	1	0	1	1
12	06 - 1010	0,053	1	0	1	0
13	11 - 0101	0,04	0	1	0	1
14	14 - 0010	0,018	0	0	1	0
15	15 - 0001	0,016	0	0	0	1
16	13 - 0011	0,013	0	0	1	1
			0,588	0,590	0,469	0,414

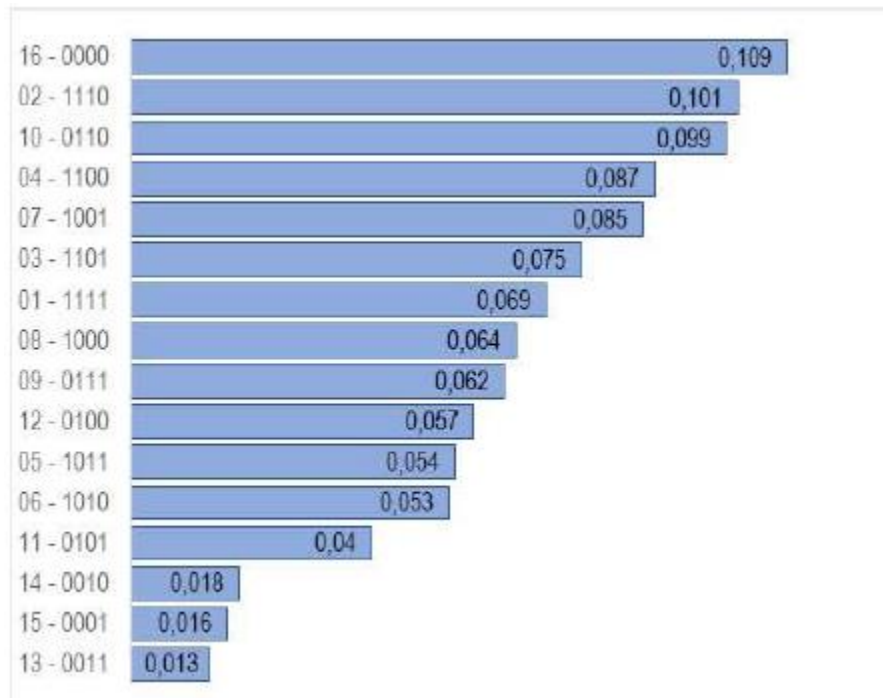


Figure 4. Histogram of Hypothesis Combination Opportunities

Sensitivity - Elasticity for Opportunity

Based on the SMIC-Prob calculation results obtained a sensitivity-elasticity matrix. From Table 6 it can be seen that Agro Tourism and Concessions are prime movers, because Agro Tourism has an absolute value (horizontal sum) of 1.031 and the Concession has an absolute value of 0.967. This means that the opportunities for developing tourism in the Pamijahan and Tenjolaya areas are determined by Agro Tourism and Concessions.

Table 6. Matrix Sensitivity – Elasticity

Hipotesa	AGRO-TOURISM	CONSESSION	INFRA	COMDEV	Absolute value
1 - AGROTOURISM	1	-0,437	-0,38	-0,214	1,031
2 - CONSESSION	-0,432	1	-0,169	-0,366	0,967
3 - INFRA	-0,269	-0,17	1	-0,25	0,688
4 - COMDEV	-0,175	-0,235	-0,225	1	0,635
5 - Absolute value	0,876	0,841	0,774	0,83	0

On the other hand, the calculation results also show that Agro Tourism and Concession is also a strategy that has the highest dependency value, namely 0.876 and 0.841. Both of these hypotheses/ strategies influence each other.

Conditional opportunity data in the form of net data can be seen in Table 7. Where Table 7-a is the i-thesis opportunity margin if the j-th hypothesis is implemented. Compared to the net simple probability i-th hypothesis. For example: if agro-tourism is implemented, then the opportunity for infrastructure to be built increases by 0.004, if the concession is made, the opportunity for infrastructure to be built increases by 0.117

Table 7. Net data of the magnitude of the impact (margin) of conditional opportunities

	a. $P(ij)-P_i$				b. $(P(ij)-P_i)$				
	AGRO WISATA	KON-SESI	INFRA	COM DEV	AGRO WISATA	KON-SESI	INFRA	COM DEV	
1. AGROWISATA	0	-0,023	0,004	0,096	1. AGROWISATA	-0,587	0,034	0,004	0,068
2. KONSESI	-0,024	0	0,117	0,006	2. KONSESI	0,034	-0,59	0,103	-0,004
3. INFRA	0,003	0,093	0	0,01	3. INFRA	-0,005	0,133	0,468	0,007
4.COMDEV	0,068	0,004	0,009	0	4.COMDEV	-0,096	0,006	0,008	0,414

Table 7-b is the opportunity margin of the ith hypothesis if the ith hypothesis is not implemented. For example: if agro-tourism is not implemented, the change in the opportunity for infrastructure to be built is -0.004, if the concession is not carried out, then the change in infrastructure opportunity will be built -0.103. The minus sign here means the opportunity is lacking.

Some that can be explained from Table 7 are as follows:

- Agro-tourism has a role in encouraging infrastructure and community development activities.
- There is a trade off between Agro Tourism and Concessions. In Table 7-a, it can be seen that if agro-tourism is implemented, the concession opportunities are reduced (-0.024), and vice versa, if the concessions occur, agro-tourism opportunities are reduced (-0.023). In 7-b likewise, if agro- tourism is not implemented, the concession will increase its chances (0.034), if the concession is not implemented, agro-tourism will increase its chances (0.034).

Discussion

The agrotourism developed in Pamijahan and Tenjolaya is generally large areas of land in the area that are privately owned and some large areas are generally owned by migrants, but they have long bought land in the villages around the National Park.

Likewise, the opportunity for the occurrence of this Concession is an effort of a company that is considered to have the capital and the ability of human resources to manage the National Park area. These results indicate that concessions and agrotourism have the greatest opportunity of the four existing hypotheses. The granting of the concession has a great opportunity because at present there are companies that have obtained permits to manage the National Park, especially the Ciputri Block.

The concession is in accordance with the Regulation of the Minister of Environment and Forestry of the Republic of Indonesia Number P.8 / MENLHK / SETJEN / KUM.1 / 3/2019 Concerning the Exploitation of Nature Tourism in Wildlife Reserves, National Parks, Grand Forest Parks, and Nature Tourism Parks.

Permission can be given to individuals or business entities (cooperatives, BUMD, private sector). There are two tourism-related permits namely the Permit for the Nature Tourism Services Utilization Business Permit (IUPJWA) and the Nature Tourism Facility Provision Business Permit (IUPSWA). The IUPJWA can be given directly by the Head of the Balai, but for the IUPSWA it is proposed directly to the Minister of Forestry after receiving technical consideration (Pertek) for the proposal to request IUPSWA from the Head of the Halimun Salak National Park Office.

Technical considerations are the study of the area manager on every request of IUPSWA to ensure technically the type of facilities to be attempted, the location requested, siteplan infrastructure that will be built, and the main is the placement of public spaces and business space. IUPSWA is a long-term permit (can be granted for 55 years) and can still be extended twice for a period of 20 years each based on evaluation results. Technical considerations from the Halimun Salak National Park Office related to zoning, ecological, social and economic zones of the communities around the area.

Based on conditional opportunities, there is an interdependent situation that is trade off between agro-tourism and concessions. This can be explained that the condition is because the concession recipient will be an outside entrepreneur who will increase the supply of tourist destinations, so that they can be seen as competitors to existing tourist destinations.

Agro-tourism has a role in encouraging infrastructure and community development activities. The results of this analysis are based on an aggregate understanding from experts that private initiative in a company activity actually becomes an opportunity for the development of the surrounding community. The company is a center of excellence for the surrounding community to create knowledge spill-over. This agro-tourism is a business developed by residents who own large tracts of land and have adequate capital and human resources.

Conclusion

Based on sensitivity analysis shows that the absolute value is on agrotourism (1.031) and concessions (0.967) so that both are prime movers. Thus the government's attention is to encourage agro-tourism investment and give concessions to national park operators / parts of state forests with good governance.

The trade off between Agro Tourism and Concession needs to be managed properly so that both can develop optimally. For this reason, each is developed with specific attractions and tourism programs.

REFERENCES

- Camagni R. 2009. Territorial Capital and Regional Development. In: Capello, R. – Nijkamp, P. (Eds) : *Handbook of Regional Growth and Development Theories* :118–132. Cheltenham Northampton,Edward Elgar
- Cawley, M.; Gillmor, A.D. **2008**. Integrated rural tourism: Concept and practice. *Ann. Tour. Res*, 35 :316–337.
- Dimitrovskia Darko Dragi., Aleksandar Tomislav, Todorovića Aleksandar, Djordje Valjarevićb. 2012 Rural Tourism and Regional Development: Case Study of Development of Rural Tourism in theRegion of Gruža, Serbia. *Procedia Environmental Sciences* 14 : 288 – 297
- Dupperin J. C., Godet M. 1976. SMIC-74: A method for constructing and ranking scenarios. *Futures* 7:302-312. Fauzi A. 2019 Sustainability analysis technique. Gramedia Pustaka Utama, Jakarta,Indonesia
- Garau, Chiara. 2015. Perspectives on Cultural and Sustainable Rural Tourism in a Smart Region: The Case Study of Marmilla in Sardinia .Italy.. *Sustainability* 2015, 7, 6412-6434; doi:10.3390/su7066412

Godet M., 1976 Scenario of air transport development to 1990 by SMIC-74, a new cross-impact method.

Technological Forecasting and Social Change 9:279-288.

Godet M., 2006 Creating futures: scenario planning as a strategic management tool. Economica Ltd, Paris.

Ionela, Gavrilă-Paven., Bârsan Mircea Constantin^b, Lia-Dorica Dogaru. 2015. Advantages and Limits for Tourism Development in Rural Area .Case Study Ampoi and Mureu Valleys.. Procedia Economics and Finance 32 .2015. 1050 – 1059

Koster Rhonda L. 2019. Why Differentiate Rural Tourism Geographies? dalam : Perspectives on Rural Tourism Geographies .eds. Koster Rhonda L and Doris A. Carson.. pp. 1-13. Springer Publication. Cham, Switzerland

Lane, Bernard & Elisabeth Kastenholtz. 2015. Rural tourism: the evolution of practice and research approaches – towards a new generation concept?, Journal of Sustainable Tourism, (23) 8-9: 1133-1156, DOI: 10.1080/09669582. 2015.1083997

McKercher, B.; Robbins, B. .1998., Business development issues affecting nature-based tourism operators in Australia, Journal of Sustainable Tourism, Vol. 6, No. 2, pp. 173-188

Neumeier, Stefan., Kim Pollermann. 2014. Rural Tourism As Promoter Of Rural Development – Prospects And Limitations: Case Study Findings From A Pilot Project promoting Village Tourism. Europ. Countrys. . 4. 2014 . p. 270-296 DOI: 10.2478/euco-2014-0015

OECD .1994.. Tourism Strategies And Rural Development. OECD Publishing

Pakurar M., J. Olah. 2008. Definition Of Rural Tourism And Its Characteristics In The Northern Great Plain Region. Analele Universitatii Din Oradea Fascicula: Ecotoxicologie, Zootehnie Si Tehnologii De Industrie Alimentara, Vol. Vii, Anul 7, 2008

Rygllová, Kateřina., Ida Rašovská, Jakub Šácha. 2017. Rural Tourism –Evaluating The Quality Of Destination. European Countryside Vol. 9 · 2017 No. 4 · p. 769-788 DOI: 10.1515/euco-2017-0043

Zhou, L. . 2014. Online rural destination images: Tourism and rurality. *J. Destin. Mark. Manag.* 2014, 3, 227–240.