

Models of Sustainable Lake Tourism Design in Ranu Klakah, Lumajang Region, East Java, Indonesia

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Abstract

Entering the 21st century, Indonesia must re-define the concept of tourism development based on new phenomena and paradigms in the influence of global tourism. The characters of tourists who come not mass, and travel to find the source of the source of enriching life spiritually, no longer just a materialistic and physical pleasure. The development of environmentally friendly tourism in the Ranu Klakah Lumajang area is one of the approaches developed to create a sustainable lake area. The development of the tourist area should always protect the existing resources as it is essential for the success of the tour to show the original or local quality of a place. Through ecological analytical approach and descriptive architectural analysis, this arrangement plan is expected to Ranu Klakah Lumajang area, which has high tourism potential will be preserved. Of the five villages in the research area, Tegalrandu village has a high chance to be developed as Extensive mintakat, while other sub-districts have the opportunity to become Intensive mintakat. Three villages are located in the downstream area, which at this time has developed into a tourist camping area. Two other villages, in the middle and upstream areas, are designated as Protected mintakat, by empowering the potential of protected forests as a natural tourist area that will function ecologically, namely as a mintakat protection of forest resources and water resources. Meanwhile, the program to add the completeness of Green Infrastructure as a supporting tourism Ranu Klakah, conducted in mintakat the development of Intensive tourism area developed as a center for development and tourism services.

Keywords: Ecological Lake Tourism, Ranu Klakah, Sustainable Architecture

1. INTRODUCTION

Background

One of the most potential tourism resources is tourism based on natural resources including ranu / ranu which has richness and high diversity in various forms of nature as well as local custom and culture that mngertainya.

Natural resources and the surrounding environment with a variety of high diversity have attractive and tourism value that has the potential to be managed and developed for human welfare.

Tourism is able to increase economic growth relatively quickly by increasing revenue, improving living standards and stimulating other productivity sectors (Nurisyah et al., 2003). Tourism activities are also able to contribute revenue to the local government through taxes and levies. In addition, tourism can create jobs and become a source of income for local residents and attract investors from outside this area (Rosyidie, 2000).

Lake Ranu Klakah area in Lumajang regency, East Java province has developed into a popular tourist area both in regional and national scale. At this time Ranu Klakah, a tourism destination that has a visual beauty and water-based recreation activities, has experienced physical, visual and ecological damage that continues to tend to decline in quality. The condition is caused by the lack of management terhadap on the area around Ranu Klakah, and the irregular use of the Lake environment as a whole, by the surrounding community. Indication of the physical environment damage seen in the initial observation, is the presence of some buildings that have passed the edge of Ranu Klakah and the entry of waste and waste into the lake that resulted in decreased water quality. Garbage and waste coming into the lake come from the surrounding community waste, agricultural waste, fishery aquaculture waste (floating net) and waste oil coming from water transportation activities. This condition causes the burden of Klakah ecosystem will be more severe and will ultimately harm all concerned parties.

The ecological tourist area of this natural lake faces problems related to the function of conservation and utilization of natural resources. If this is not prevented, further damage from tourism resources will have an impact on the number of tourist visits. The subsequent impact will decrease the income and welfare of the people who are mostly living from this tourist activity..



Figure 1: Natural View of Ranu Klakah, with Lamongan Mountain as a background

2. REDESIGN OF SUSTAINABLE TOURISM AREA

2.1. Assessment of Tourism Area based on Ecological, Tourism and Socioeconomic Aspects of Society

The development and arrangement of natural tourism area in Ranu Klakah, Lumajang District, East Java with Ranu tourism object object (lake) is examined based on the assessment of ecological aspect, tourism aspect, and socioeconomic aspect of society.

Based on the assessment of physical quality shows that in general physical watershed Ranu Ranu Klakah has a medium tourist fit. The results of the assessment indicate that the downstream area has a greater value than the upstream and middle areas. Based on land classification according to Land Rehabilitation and Soil Conservation Center (BRLKT), Ranu Ranu Klakah-Lumajang watershed area has podsollic soil type, litosol and regosol with classification Soil sensitivity to erosion, sensitive to very sensitive, while annual rainfall occurring at this location is moderate and high ranging from 2,200 to 3.0 mm / year (LTEMP 2009).

The presence of forest vegetation with steep topographic conditions is essential for enhancing the absorption capacity, suppressing surface flow, high mecenant eroi rate and preventing avalanches. Surface flow into energy can crush soil particles on the surface and embrace them elsewhere as part of the erosion process (Noordwijk 2009). Root forests can increase soil moisture absorption against rainwater.

Clarification result of land cover seen that the conversion of natural forest much changed to agricultural land. This is due to the behavior of people who open the land to meet the economic needs without regard to the ability of land. Communities open up by burning which will then be left if the land is unproductive and the land is transformed into an open and barren overgrown with weeds and shrubs. Another conversion is the growing extent of industrial plantation forests with Eucalyptus vegetation. Community behavior by clearing land for agriculture greatly threatens the sustainability of natural forest.

Assessment of water quality is based on physical quality of water and water chemistry quality. Physical quality parameters of water are the color of water, the speed of the water sediment flow and the water quality parameters are biochemical oxygen demand (BOD), chemical oxygen demand (COD) and dissolved oxygen (DO). Water quality assessment is conducted on Ranu Ranu Klakah watershed as river mouth. The Table 1. shows the assessment hash in five villages as a research location. The results showed that four sites belonging to the moderate category (S), and one location belonging to the low category (R).

Table 1. The Result of Water Quality Assesment

Desa	Physical Quality						Chemical Quality						Coresponding Tourism	
	Water Color		Flow speed		Cedimentation		BOD		COD		DO			
	N	S	N	S	N	S	N	S	N	S	N	S	N	K
Tegalrandu	20	SS	5	TS	10	TS	20	KS	15	S	20	SS	90	S
Tegalciut	20	SS	5	TS	10	TS	20	KS	15	S	20	SS	90	S
Sruni	20	SS	20	SS	20	KS	20	KS	15	S	15	S	110	S
Sumberwringin	15	S	20	SS	10	TS	20	KS	15	S	10	KS	90	S
Sawaran Lor	10	KS	15	KS	10	TS	10	TS	10	KS	10	KS	65	R

Source : Observation, 2010

Note : N = value, S = Score (SS = Very appropriate, S = corresponding, KS = Less appropriate, TS = Not appropriate). K =Chategories (T = High, S = Medium, R = Low).

Water quality, surface water fluctuations and waterfront management are the main principles to be considered in planning a water body (harris and dines, 1998). Ranu water is one of the main capital in the development of ranu tourism, where the reflection of sunlight on the water will cause a pleasant feeling and spirit effect on the scenery (Simonds 2006). Based on that matter, in development and arrangement of ranu tourism area must pay attention and maintain water quality. In general, visual observations conducted at the study sites show that the waters of rivers and ranu are clear. Tegalrandu waters with the environmental situation of settlements, stalls, boat docks and is the estuary

and downstream Ranu Klakah watershed has a cloudy water color. Ranu Klakah waters with environmental situation, settlement and market have a rather murky water color, and Ranu Ranu Klakah waters with environmental situation of recreation area, settlement, warung and hotel have clear water color. Ranu Ranu Klakah waters that have a clear water color can support the activity of water tourism activities and become an indicator that the area can support water tourism activities. Form of tourism activities that can be done is a water bike, fishing, rowing, kanoing and canoe.

Assessment of the chemical quality of water is required to determine the level of water pollution to support the water-related direct tourism activity. Assessment of water chemistry quality based on biochemical oxygen demand (BOD), chemical oxygen demand (COD) and dissolved oxygen (DO) parameters. In general, naborsahon watersheds have moderate water chemistry, BOD levels increase due to domestic activities in downstream. Domestic activities produce waste that affects the quality of ranu water, especially the increase of organic matter in waters which will increase BOD and COD levels. In addition, high levels of BOD in ranu probably derived from the remaining feed that is not exhausted by the fish cultivation. This happens because of the increasing number of fish farming in ranu (Subadyo, 2007). Increased BOD results in a decrease in dissolved oxygen (DO) levels in water bodies, thus affecting biota life in water bodies.

The operation of motorized boats as a means of transporting ranu and surrounding areas in Ranu Ranu Klakah waters contributed to contaminating ranu water with oil and fat. Therefore, the operation of motorized boats at this time need to be considered the amount and intensity of its use so that the liquid oil in ranu can be reduced in number.

The results of the physical quality assessment of the watershed and water quality assessment resulted in clarification of tourist suitability based on ecological conditions. Based on the results of the analysis on the five villages studied, it can be concluded ecologically that the five villages within the Ranu Ranu Klakah watershed have potential tourist suitability. The potential area to be developed as tourist area is only 9.56% ha or 0.1% of the Ranu Ranu Klakah River Basin area and 1434.9 or 52.6% potential, and 885.3 or 47.3% are not included in the assessment. For that must be done re-arrangement with the aim of improving the quality of the environment so as to achieve sustainable tourism area.

Table 2. Classification of Tourism Conformity Classification Based on Ecological Conditions in Ranu Ranu Klakah-Lumajang River Banks

Villages	Physical Quality		Water Quality		Corresponding Tourism	
	N	S	N	S	N	K
Tegalrandu	120	S	90	S	210	S2
Tegalciut	125	S	90	S	215	S2
Sruni	135	S	110	S	245	S2
Sumberwringin	140	S	90	S	230	S2
Sawaran Lor	130	S	65	R	195	S2

Source : Observation, 2010

Note : N = value, S = Score, K = (T = High, S = Medium, R = Low), Chategories (S1= Very Potential, S2= Potential, S3= Not Potential)

Assessment of Potential of Tourism Objects and attractions

Assessment of the first stage is the assessment of the potential objects and attractions that are based on seven assessment parameter, namely crafts, religious ceremonies, traditional ceremonies, art, building, language, and people's games. Objects and tourist attractions available along the research sites are quite diverse. If viewed from the spread, in each location there is at least one tourist attraction with one or more tourist attractions.

The results of the assessment shown in Table 3 show the Tegalrandu kelurahan which has five objects and 7 tourist attractions have high tourism potential (T), Sruni village with three tourism objects and seven tourist attractions, have medium tourism potential (S), and three other villages Have the arrangement and development of the area, so that the existing potential is sustainable.

Table 3. Object Potential Assesment and Tourisme Attraction at Ranu Ranu Klakah

Villages	Parameter							N	P
	I	II	III	IV	V	VI	VII		
Tegalrandu	10	14	28	14	10	36	18	130	R
Tegalciut	13	16	30	18	16	36	22	151	R
Sruni	28	22	40	29	25	30	32	206	T
Sumberwringin	28	19	34	22	25	30	24	182	S
Sawaran Lor	10	17	26	18	12	36	18	137	R

Source : Observation, 2010

Note : Parameter (I= Craft, II= Religion Ceremonies, III, Tribes Ceremonies, IV= Arts, V: Buildings, VI= Language, VII= Foly Games) N= Values, P= Pontentiality (T = High, S = Medium, R = Low)

Ranu Klakah has a vast landscape, so that tourist objects and attractions can represent various characteristics based on the physical environment of dantan (terrestrial) and aquatic environments (altitude), altitude (beach to mountain), and natural resources (natural resources and Socio-economic

resources). Attraction is the main syarakt existence of a tourism activity, merupakan basic elements that are related to the experience (experience) tourists. Attractions other than because of the uniqueness of a site also because of its presence in a spatial space (Fennell 1990).

Table 4. Potential of Tourism Objects and Attractions at Ranu Ranu Klakah-Lumajang

Villages	Tourism Objects	Tourism Attraction
Tegalrandu	Natural Forest	Natural Scenes
		Ountain Bike
	Agriculture holticulture	Hoti dan Coffee Bean farm land Farm
	Human Settlements	Tradition
Tegalciut	Natural Forest	Natural views
		Mountain Bikes
	Agriculture holticulture	Hoti dan Coffee Bean farm land Farm
	Human Settlements	Tradition
Sruni	Horsing	Legend Tourism
	Human Settlements	Tradition
	Water recreation	Ranu Seightseeing
		Rowing
		Kanoing
		Fishing
		Boots
		Water Cycling
	Tourist Market	Shopping
	Camping Ground	Camping
Custom Feast	Cultural Festival	
	Art Attraction	
Labuh Tradition	Ceremony of <i>Jumat pon bulan Ruwah</i>	
Traditional Market	Tradition	
Sumberwringin	Agriculture holticulture	Farm land
		Farm
	Human Settlements	Tradition
	Camping ground	Camping
Traditional Market	Tradition	
Sawaran Lor	Human Settlements	Tradition
	Buildings	Villa/inn, meeting
	Traditional Market	Tradition
	Tourist Market	Shopping

Source : Amatan Lapang, 2010.

Assessment of the second stage, is to see the feasibility level of objects and tourist attractions available for the ordering and development of tourist areas. Assessment is based on five modified outcome parameters Inskeep (1991), Umar (2005), and Yusiana (2007).

Table 4. Assessment of Eligibility of Tourism Objects and Attractions at Ranu Klakah

Villages	Potential Tourism	Parameter						N	K	
		I	II	III	IV	V	VI			
Tegalrandu	Natural Forest	60	75	10	10	15	20	190	TP	
	Agriculture holticulture	30	50	10	10	30	30	160	TP	
Tegalciut	Horsing	90	50	20	40	60	40	300	SP	
	Human Settlements	70	75	10	10	15	20	190	TP	
	Tourist Market	100	50	20	40	60	40	300	SP	
	Water recreation	120	75	20	30	45	40	330	SP	
	Custom Feast	60	75	10	10	15	20	190	TP	
	Traditional Market	90	75	20	20	45	40	190	P	
	Water fall	90	100	20	30	45	40	325	SP	
Sruni	Cultural Feast	120	75	40	30	60	40	365	SP	
	Camping ground	120	75	20	30	45	40	330	SP	
	Natural Forest	60	75	10	10	15	20	190	TP	
	Agriculture holticulture	30	50	10	10	30	30	160	TP	
	Sumberwringin	Human Settlements	70	75	10	10	15	20	190	TP
		Tourist Market	100	50	20	40	60	40	300	SP
		Human Settlements	70	75	10	10	15	20	190	TP
Agriculture holticulture		30	50	10	10	30	30	160	TP	
Sawaran Lor	Hutan wisata alam	60	75	10	10	15	20	190	TP	
	Agriculture holticulture	30	50	10	10	30	30	160	TP	
	Human settlements	70	75	10	10	15	20	190	TP	

Source : Observation , 2010, (n =150)

Note: Parameter (I = Objects and attraction, II = Aesthetics and Originality, III= Supporting Facilities, IV= Aavailability of water, V= Trans;potation and Accesibility, VI= Supporting and Community Participation)

N= Values. K= Classification (SP= Very Potential, P= Potential, TP= Not potential)

Based on the existing tourist conditions then the objects and attractions in Ranu Klakah - Lumajang potential to be developed as objects and tourist attractions. Things to do is structuring and repairs kawsan tour to improve the quality of the tourist environment.

Community Social Economy Aspect

Socioeconomic aspect is one aspect in looking at the condition of society and its activities in fulfilling the necessities of life as well as the role and level of accessibility in the development of a region (Umar, 2006). In this study to determine the condition of society, conducted two stages of assessment. First, assess the acceptability or support of the community towards the arrangement

and development of tourist areas in their environment, and secondly to see the public preference for the type of participation in the tourist area.

Ranu Ranu Klakah and surrounding kawsaan is an ecosystem that has a high value, both from ecological, socio-cultural, and ecosystem values for human life. For people who live around Ranu Klakah, the potential of natural resources that is a highland and most of the land is dry but blessed with beautiful natural scenery and ranu, resulting in the community began to use the beauty of alan combined with traditional Javanese culture as a cultural attraction (Seren Ruwahan), which eventually became the source of livelihood as well as the dominant socio-economic phenomenon in the region. So intertwined the relationship of mutual need between humans with ranu.

Assessment of acceptance rate or community support was conducted through interviews with 150 respondents, selected randomly at each study site. Based on the results of the research shown in Table 11, it is seen that the acceptability level of the community in all research sites has a high score (T). This shows that the community strongly supports the plan of arrangement and development of tourist area in Ranu Klakah.

Table 5. Level of Acceptance of Society to Plan of Regulation of Tourism Area in Ranu Klakah

Villages	I	II	III	IV	V	T	S
Tegalrandu	105	104	105	103	91	508	T
Tegalciut	104	99	105	113	96	517	T
Sruni	120	106	107	120	106	559	T
Sumberwringin	120	106	105	115	101	547	T
Sawaran Lor	108	101	105	109	97	520	T

Source: Observation, 2010 (n =150)

Note: I = Arrangement of area as tourist destination area; II = management of tourist area by society; III = the community's active role in tourism; IV = existence of isatawan; V = the benefits of tourism activities; S = Score (T = high, S = medium, R = low.)

Assessment of people's preference for economic opportunity is needed to see the level of people's willingness to be directly involved in the tourist area. The conduct of tourism can continue if the community is involved in it and the community can improve its welfare from the tourism activities. If this goes well then it can support the continuity of tourism in the region. Horwich et al. (1995) said that community participation in the development and structuring of tourist areas is a joint effort between the community and visitors to protect the culture and ecology through support to the development of local communities, in controlling and managing resources to be sustainable and able to meet the social, cultural and economic needs .

The assessment results show that people in the upstream and middle areas prefer economic opportunities that are close to their daily life, namely as a farmer, then based on assessment of the upstream and middle areas are not

potential sebagai mintakat tour. While economic opportunities in the downstream area is very potential (Ranu Klakah - Tegalrandu Urban Village, Sruni Village) and potential (Tegalciut) as tourism mintakat, since the existence of tourism activity in these three villages has lasted long, resulting in people prefer economic opportunities directly related to tourism.

The combination of acceptance and the economic opportunity of the community is manifested in the acceptability and the economic opportunity of the community which consist of active mintakat sanagt (S!), Active mintakat (S2), mintakat off (S3). Mintakat very active is mintakat with the level of acceptability and economic opportunities of society is very high, which included in this mintakat is Tegalrandu, Sruni and Tegalciut. The active partnership is mintakat with high levels of acceptability and economic opportunity of the community, including in this village is Sumberwringin village. Inactive madakat is mintakat with low levels of acceptability and economic opportunities of society, which included in this mintakat is Sruni village and Sawaran Lor.

2.2. Priority Analysis of Sustainable Tourism Area Arrangement

Ranu Klakah Tourism Area (KWRK) with all its potential requires the arrangement and management for the existing area, can be sustainable, for it needs to be done efforts to preserve the area. Arrangement is oriented to the importance of the future dpean especially to get a form of social good (Nurisyah 2003). This is done to minimize the impact of the physical environment in the future by protecting the ranu environment.

The arrangement and management of the area is based on the main priority of the three alternatives. The main priority is determined based on the opinions of the expert respondents (n = 4) who know the permasalahan at the location so that the selected destination can be developed.

Based on the analysis results obtained value Consistency Ratio (CR) of 0.03. This value indicates that the information obtained is at a sufficiently high level of confidence, good enough and acceptable. Respondents are consistent in assigning weight values with small deviations. Evaluation of the criteria for achieving objectives based on the improvement of environmental quality, the active role of the community, the development of tourism potential, and the protection of the Ranu Klakah area.

Table 6. Assessment of Weights and Priorities at Criteria Level

Kriteria	Weights	Priority
Improved environmental quality	0.14	1
Active role of the community	0.18	3
Development of Tourism Potential	0.08	4
Protection of Ranu Klakah area	0.33	2
Consistency Ratio (CR)	0.03	

Source: Data Analysis, 2010.

According to the respondents, the improvement of environmental quality is the main priority that must be done, because ecologically environment in KWRK has been damaged due to the behavior of society and entrepreneurs, and natural disaster in the area (Darwo 2006). To overcome these problems, the active role of the community is needed in the form of direct involvement in tourism management, management and development. The process of community involvement depends on the potential of human resources and existing capabilities (Nurisjah et al, 2003). The community's participation is expected to play an active role in the improvement of lingkungan and it is hoped that the community will also actively participate in protecting Ranu Klakah kawsaan so that the desired environmental quality can be achieved.

The existing criteria are expected to have a positive impact on the development of tourism potential. Tourism objects and attractions are tourism potential that requires intensive development and structuring, as objects and attractions are the basic elements that are usually the result of development and management (Gunn 1994). Well-organized tourism potential will open up bigger community economic opportunities. Prevention of environmental change can be done if it gets the holistic attention from all parties, both government, NGO, community, and private.

Ecological conditions in KWRK at this time have started to show signs of environmental damage so that the need for quality improvement. This damage is caused by deforestation resulting in the dangers of erosion and forest fires (Aswandi and Subadyo 2007), fish farming produces high organic waste (Subadyo, 2007), and the development of water hyacinth (Environmental Section of Lumajang Regency 2009). The following table shows that ecological aspects are a top priority based on existing criteria.

Table 7. Priority Weight and Priority Assessment at the Alternative Level

Kriteria	Alternative		
	Ecology	Socio-Economic	Tourism
Improved environmental quality	0.62	0.29	0.09
Active role of the community	0.46	0.32	0.22
Development of Tourism Potential	0.58	0.18	0.24
Protection of Ranu Klakah area	0.71	0.14	0.15

Source : Data Analysis, 2010.

The results of respondents' assessment based on tourism development potential criteria is an ecological aspect. Respondents assume the object and attractiveness will be better if the ecological aspect becomes the first priority for the development of tourism potential. Objects and attractions can be either the uniqueness of a site or a spatial layout (Gunn 1994). This is very suitable dnegan type of tourism contained in the KWRK is a natural tour. Development

of tourism potential can be done by preserving, protecting and preserving the object and the existing attraction as a tourist attraction, so that the tourist area will be *keslanjutan keslanjutan*. One of the tourism potential is the cultural potential of the community. Cultural values must be maintained to maintain a balance between society and the ecological environment. For that, it is necessary to structuring the concept of tourism that further highlight the original life of local communities.

Furthermore, in the protection of Ranu Klakah area, the socio-economic aspect is one aspect that must be considered, because KWRK is an area that is expected to support and increase the income of the community. By reason of the rescue of Ranu Klakah Ranu area which has been degraded the quality and carrying capacity, hence the active role of society to maintain, maintain, and protect the stability of Ranu Klakah Ranu area to be well preserved.

The priority alternative of KWRK that will be developed in Ranu Klakah area can be known based on the result of combined analysis of respondent's opinion. The results of the analysis show that ecological aspect is the first priority, second priority socio-economic aspect and third priority tourism aspect

Table 8. Results of Alternative Assessment for Achieving Goals

Alternative	Weights	Priority
Ecological Aspects	0.61	1
Socio-economic Aspects	0.24	2
Tourism Aspects	0.15	3

Ecological aspect is an alternative to sustainability, because ecology is a unique balanced condition and plays an important role of conservation and land use and development to suppress problems arising as a result of human-caused global changes (Forman & Gordon 1996). The effort to be done is by replanting deforested forests, and the government firmly against illegal loggers. Another thing to do is to review the presence of a semi-aquatic fish sprouts to prevent Ranu Klakah's water contamination (Subadyo 2007) and to make a clean program of water hyacinth covering the visual state of ranu. If this is done well then it will have a positive impact on ranu water system, because the environment KWRK is an ecoton area that is sensitive to changes but has a high ecological diversity (Subadyo, 2009).

The second priority is the socio-economic aspect of the community which focuses more on the impacts of the socio-economic system of society. The main purpose of the tour is to provide benefits to the local community so as to ensure the development of tourism in accordance with local social, ecological and economic goals (Brandon 1993). Society is seen as a part of the ecosystem, where changes that occur will affect the ecological as a whole, it is necessary to know how far the people assess a policy that has provided benefits or harm to

the community. Conditions in KWRK that have been increasingly damaged and the dependence of the community on a very large footprint leads to decreased incomes of society, it is expected that the public participate actively in maintaining the environment.

The third priority is the tourism aspect. KWRK is a tourist area that has a lot of tourism potential that must be maintained and preserved, in order to avoid damage to the severe tourist environment. Tourism aspect is the result or positive impact of environmental attractiveness, so its survival is determined by good bad environment where the purpose of tourism is to get recreation (Soemarwoto 1996). Excessive tourism development will have a negative impact on the sustainability of tourism, it is necessary a concept of arrangement and development of tourism by empowering local communities so as to improve the welfare of local communities (Kodhyat 1998).

3. DEVELOPMENT AND SUSTAINABLE TOURISM AREAS PLANNING IN RANU KLAKAH

Plans for the development and arrangement of tourist areas include planning that accommodates all the activities planned in a tourist area.

The main concept of development and structuring developed in Ranu Klakah Tourism Area is a sustainable tourism area. The main concept is to create a well-structured and well-structured tourist area that utilizes the potential of natural resources and aims to preserve ranu and improve the welfare of the local community. The main concept developed based on the results of anilisis ecological aspects, aspects of tourism, and socioeconomic aspects of society. Illumination of the concept on the landscape is a model of a development plan tailored to the character of the landscape and tourism potential in the region.

From the analysis, the tourist areas that will be carried out development and structuring are Tegalrandu Kelurahan, Sruni Village and Sumberwringin Village, Klakah Sub-district. These three urban villages as the center of tourism development with three mintakat development and arrangement plan. *Mintakat* plans development and structuring, are:

1. Intensive zone tourism development that is, mintakat development and arrangement of tourist areas of a general nature or public service area. In mintakat consists of mintakat acceptance and service and tourism mintakat. *Mintakat* acceptance and service is an area to receive and memeberikan service to visitors. *Mintakat wisata* is an area used by visitors in tourism and recreation activities with the characteristics of a safe area to be utilized optimally. *Mintakat* intensive tourism development can be established into a center for development and arrangement of tourist areas in the Ranu Klakah watershed, precisely water attractions and supporters in Ranu Klakah tourist area.

2. Extensive zone tourism development, is a buffer support that serves to support the area of water bodies especially from the influence of physical activity in the vicinity. Mintakat buffer is a mintakat transition from intensive mintakat to intensive mintakat that have the level of conformity of moderate tourism. Activities that can be done is seight seing, out bond, camping area, rock climbing, and art attractions.
3. Protected zone, is a very sensitive mintakat for tourism activities because it has a low level of tourist conformity. The character of this region leads to activities that are specific that serves to protect natural conditions and habitat biota is relatively sensitive to disturbance. This condition can only be used as a visual tourism object with very limited tourism activities such as observation of biota, hiking, and scientific activities. This is done as a natural conservation effort, especially to maintain the water system.

4. SPACIAL CONSEPT AND SIRCULATION OF TOURISM AREA IN RANU KLAKAH

The concept of circulation in the form of circulation network adapted to the concept of space and connect all local elements so as to provide high opportunities for visitors to be able to see many attractions and information and increase the time and expenditure of visitors in order to provide economic benefits for local communities. According to Gunn (1994), the corridor connecting the center of kawsaan with the attraction groups is an important element that can increase the potential of the region.

Circulation system in kawsaan is divided into three, namely the primary, secondary and tertiary circulation. Primary circulation is the primary circulation pathway that connects between tourism objects and inter-mintakat, secondary circulation is the circulation pathway found in tourism objects that connect between objects in a mintakat, tertiary circulation is a natural path within the object or tourist attraction. The tertiary circulation of the boardwalk and tracking primitive. Local roads / neighborhoods that cross ranu area are the primary circulation which is equipped with parking area for tiring area (stop area).

Ranu Klakah tourist area can be visited through two directions, namely from the direction of Ranu Yoso, Probolinggo and from Lumajang City, located in intensive mintakat that serves sebgai public service area tourism development center that is in Ranu Klakah. Selection of the entrance into the tourist area, based on the potential area sebgaia tourist area supported by the number of objects and potential tourist attractions contained in this location. Placement of spaces at the center of the development of tourist areas, where there is a main space and supporting space associated with the circulation path.

The concept of the arrangement of tourist spaces tailored to the existing environmental conditions. Tourist spaces are divided into two, namely the main room and supporting space. The main room is a space that accommodates all tourism activities, and to enter into the main hall tersbut through the support room. Supporting space includes the reception area (welcome area) and the transition area (transition area). This space connects between the outer space of kemsbaan pengembanagn with the main tourist spaces, as well as a liaison between the territorial waters ranu which is the primary route of tourism with the main tourist spaces on the mainland. In each tourist room there are objects of tourism traction funds that support the theme and destination of the tourist room.

5. CONCLUSION

This research have conclusion :

1. Base on the ecological aspect, the potential of tourism objects and attractions and socioeconomic aspects of the community residing in Ranu Klakah area, is potential to be developed as tourism.
2. From the five villages in the research area, Tegalrandu village has high opportunity to be developed as Extensive mintakat, while other sub-districts have the opportunity as Intensive mintakat. Three villages are located in the downstream area, which at this time has developed into a tourist camping area. Two other villages, in the middle and upstream areas, are designated as Protected mintakat, by empowering the potential of protected forests as a natural tourist area that will function ecologically, namely as a mintakat protection of forest resources and water resources.
3. Based on the assessment of the control and improvement of environmental quality of the area, the center of development and structuring of Ranu Klakah tourist area, centered in Tegalrandu urban village. Program of control and improvement of environmental quality of the area, allocated to protected areas in the upstream area. Meanwhile, the program to add the completeness of Green Infrastructure as a supporting tourism Ranu Klakah, conducted in mintakat development of Intensive tourism area, the mintakat planned to be developed as a center for development and tourism services.

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