

Original Paper

Typology of Stakeholders in Perspective of Sustainable Tourism Development Use Mactor Method

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Abstract

Tourism represents a complex multi-actor system. The successful sustainable development of tourism areas requires all stakeholders' support and a map of the strengths, the relations, and the interests of stakeholder actors to determine appropriate institutional policies. This study aims to map stakeholders' character at the Kedung Ombo tourism area development as a favorite potential destination in Central Java, Indonesia. Data collection used the focused group discussions method. The data analysis used was the Mactor method. This research shows that the Pemalijuana River Flow Management Office, the Indonesian State Forest Company, and the Regional Development Planning Agency were the dominant actors. The Department of Youth, Sports and Tourism, College, village government, the youth organization, and business people are relay actors. College is an autonomous actor; meanwhile, the youth organization, local government, and community are actor-dependent. The Regional Development Planning Agency Department of Youth, Sports and Tourism, college, village government, youth organizations, and business people are convergent actors who can build strong alliances. The support of BBWS Pemali Juana and Perhutani to collaborate is needed to succeed. The research findings are the basis for making a participative institutional design for the Kedung Ombo tourist area's success and sustainability.

Keywords

dominant, Mactor, stakeholders, relation

1. Introduction

Tourism is a complex multi-actor system that has actors with diverse interests and capacities. It relates to several actor stakeholders' involvement with various parts (Turker, Alaeddinoglu, & Can, 2016). Understanding the complexity of tourism, especially how the actors' act, react, and interact with each other, becomes the basic necessity of each decision making in this sector (Pechlaner, Presenza, & Cipollina, 2010). In the sustainable development concept, actors are an essential component because they determine how sustainability goals are achieved and identify which sustainability is based (Fauzi, 2019).

Developing tourism destinations requires a series of actor analysis concerning strength, relation, and support or retention to development goals (Wondirad, Tolkach, & King, 2020). It is related to the actor's character with different interests that can create conflict (Turker et al., 2016); (R. Baggio, Scott, & Cooper, 2010). Actors analysis is essential to determine the agreement or disagreement to the goal will be reached (Heger & Rohrbeck, 2012). The actor analysis will generate an actor typology based on each actor's strengths, competitiveness, and attitudes towards goals, which are the basis for building cooperative and coordinating relationships effectively (Rees, Zealand, Macdonell, & Zealand, 2017). The actors' analysis results are useful to discover the map of actors' support, which is extremely helpful in manifesting sustainable tourism (Avelino & Wittmayer, 2016).

As a leading sector in Indonesian development, the tourism sector's role is increasingly important in line with its growth and contribution in foreign exchange earnings, regional income, area development, and the absorption of investment and labor. The donation is expected to increase and reach the foreign exchange target on tourism for 40 million USD in 2024 2024. In supporting the target achievement, the province and regency are pushed to develop their regions' tourism potential.

One of the feasible tourism potencies to be developed is the area of the Kedung Ombo reservoir in Central Java Province. The largest dam in Southeast Asia in the forest area belongs to three regencies: Grobongan Regency, Boyolali Regency, and Sragen Regency (Figure 1). Kedung Ombo reservoir area has picturesque panorama spots and its potential to be developed as a fishing area, campground, various nature tourism, and other tourist activities. The tourism area's existence can resolve the critical problems in that area, especially in limited employment opportunities and limited infrastructure facilities. Further, the development of Kedung Ombo tourism potency is useful for improving economic power and as an instrument of community empowerment in this region.

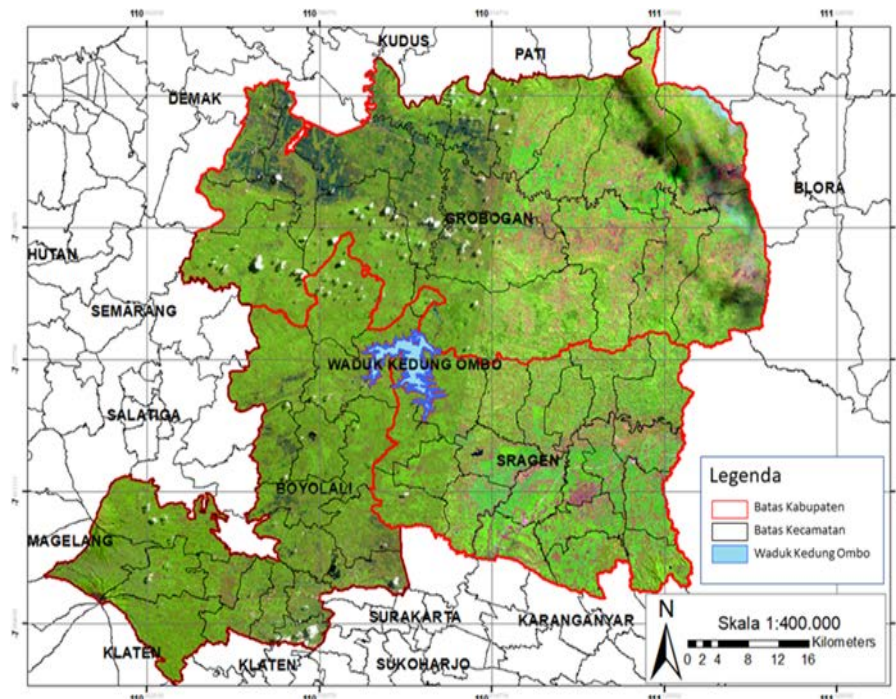


Figure 1. Map of Location of Kedung Ombo Area

Since it was inaugurated in 1989, the development of the Kedung Ombo tourist destination has started. Various efforts have been made by the Sragen Regency Government, the Grobogan Regency Government, Perhutani, and the surrounding community. However, it has not shown significant results. The main obstacle is the large number of parties who can manage this area, and each tends to prioritize his interests without considering broader goals. This situation has resulted in the development process facing quite severe consequences and challenges, including difficulties accessing regional resources and dominating specific actors.

Based on these problems, to understand the various interests and relationships between actors in the Kedung Ombo area, it is necessary to carry out an inherent analysis of the characteristics and behavior of the actors and their interests in these development efforts. The actor analysis will describe the actor typology based on each actor's strengths, competitiveness, and attitude in Kedung Ombo's sustainable tourism development. The analysis results will help know the map of support and possible conflicts among actors for this project's success.

This research aims to: 1) identify actors stakeholders in the Kedung Ombo area development, 2) describe the strengths, relationship, and interest of the actors in this area, 3) express actors' support or retention of goals of the Kedung Ombo tourist destination development. The finding of this research, beneficial to develop the right institution design of the Kedung Ombo tourist area development in Central Jawa Indonesia.

2. Literature Review

2.1 Tourism Development Concept

Tourism development is a continuous process of continuous matching and adjustment between the supply and demand sides of tourism to achieve the specified mission. In Indonesia, the assignment includes: promoting the economy of the local community, maintaining the national personality and preserving the function of the environment, fostering a sense of love for the homeland and the nation, and making the destination a tourist icon that can be known abroad (Murdiastuti, Rohman, & Suji, 2014). Tourism development is a series of efforts to integrate various tourism resources and integrate all aspects outside tourism directly or indirectly related to tourism development continuity (Swarbrooke, 1996).

Meanwhile, the definition of the development of tourism potential is an effort to increase a tourism object's resource capacity by developing several supporting aspects of tourism success. These aspects include accessibility (transportation and marketing channels), tourism infrastructure, level of social interaction, linkages with other sectors, resistance to tourism impacts, and local communities' level of resistance (Suardana, 2016). The general objective of developing tourism potential is to create long-term mutually beneficial interactions between improving community welfare, maintaining environmental sustainability, ensuring visitor satisfaction, and increasing the integration and unity of community development around the development zone area.

2.2 Tourism as a Multi-Actor System

Tourism represents a complex multi-actor system (Lin & Renn, 2013). From a collaborative perspective, tourism is a heterogeneous relationship between actors that forms a hybrid network that benefits all parties (Erdogan & Erdogan, 2014). So it is a necessity to involve all actors in a thriving tourism destination development planning.

Actors are institutions, groups, or individuals that play the central role in a system (Rees et al., 2017). Actors contribute to system evolution because they can mobilize the resources and directly influence the system result (Bendahan, Camponovo, & Pigneur, 2004). The actor's ability relates to knowledge of its system structure and skill to interact creatively and innovatively in creating system value. Economic resource ownership determines the actors' capacity to define and legitimate institutions, rules, and system values (Tronvoll, 2017). Based on both, actors have a potential contribution to system reform and goal setting.

Actors who have a potential role in system reform and affect the purpose of change are referred to as stakeholders, where they are differentiated into primary stakeholders and secondary stakeholders (Hermans & Thissen, 2009). The complexity of actors in a system allows the emergence of conflict interests related to the strategic goals (Baggio, 2008). The relation among the actors can be in cooperation and conflict, so it needs to maintain relationships and balance authority among the actors (Innah, Dharmawan, Suharjito, & Darusman, 2012). Therefore, understanding the complexity of tourism, especially how the actors' act, react, and interact, becomes the basic necessity of

decision-making in this sector (Pechlaner et al., 2010). Analyzing the actors is essential to determine the agreement or disagreement towards the goal (Heger & Rohrbeck, 2012). Actor analysis is also useful for identifying actors' strengths, weaknesses, and interests, ranking actor positions on various strategic issues, assessing convergence and divergence, and anticipating possible coalitions and conflicts (Rees et al., 2017).

The multi-actor model developed by Michel Godet (Godet, 2000) helps to fill this necessity. The multi-actor model becomes the analysts' most attractive approach through an adequate comprehensive analysis because of its completeness and practicality. The multi-actor model is an analysis model that aims to obtain a deep understanding of the system and its evolution possibility by emphasizing on actors' perspective and interest and connection pattern among all system actors (Bendahan et al., 2004). The Multi-actor model will help recognize the actors' primary role in influencing the future system's critical factors. The Multi-actor model is useful for identifying the coherent actors' strategy and finding out the impacts of actors' actions towards system development's essential actors (Arcade, Godet, & Meunier, 2003). In the multi-actor approach, the system is a playing pattern among the actors with different positions and salience in a problem device that will affect personal preference (clout) (Godet, 2000).

3. Methodology

This study uses a quantitative-qualitative research paradigm. Data collection was carried out by Focus Group Discussions (FGD). FGD was conducted with the word café technique to encourage involvement and enrichment of information from all participants. To analysis data, use prospective analysis assisted by the Mactor Method. Mactor (*Matrix of Alliances and Conflicts Tactics, Objectives, and Recommendations*) method is a technique and software is developed by Michel Godet (Godet, 1991). The Mactor useful for analyzing the actor competitiveness, authority relations between actors, and actor's attitude towards goals.

Mactor analysis is based on three main inputs in the form of a matrix, namely 1 MAO (Matrix Actor Objective), 2 MAO, which uses the actor's preference variable towards the goal, and the MID (Matrix of Influence Direct). Furthermore, the Mactor's application will calculate the direct and indirect effects of one actor to another through a mathematical algorithm process, with the following formula:

$$MIDI_{A-B} = MID_{A-B} + \sum_C [\min (MID_{A-C} \quad MID_{C-B})]$$

Input data of Mactor analysis describe the following actor attributes: (1) the actor's potential, role, and actions. (2) The influence of an actor on other actors as measured on a scale of 0 (no effect) to 4 (very influential). 3) Attitudes of actors towards goals measured by a hierarchy of (+): support, (0): neutral, and (-): against each other. (4) The level of importance of actors towards goals measured on a scale of 0 (not necessary) to 4 (vital) (Fauzi, 2019). This calculation will classify actor influence into direct influence, indirect influence, and potential influence. The direct influence occurs if A affects B. The

indirect influence occurs if A affects B and B affects C. Hence, C is indirectly influenced by A. While, potential influence if influence should be had by A on B.

The next step is to calculate the 3 MAO matrix, which is the matrix which is the basis for explaining the relationship between actors and objectives. The 3 MAO matrix is the product of 2 MAO and r_A , which is calculated by the following formula:

$$3MAO_{A,I} = 2MAO_{A,i} \times r_A$$

The next step is to calculate the convergence or divergence matrix (3CAA), which describes how much the actors agree or reject an issue/goal. The following equation produces the convergence/divergence matrix:

$$3CAA = \frac{1}{2} \sum (I3MAO_{A,i} + I3MAO_{B,i})(3MAO_{A,i} \times 3MAO_{B,i} > 0)$$

4. Case Study

FGD has obtained the data needed in this study, namely the stakeholder actors, their roles, and goals to realize sustainable development in the Kedung Ombo tourist area and assess each's influence and relationship.

Table 1. Actors, Roles, and Objective of Development of the Kedung Ombo Tourism Area

Actor	Role	Objective
Pemali Juana River Flow Management Office (BBWS*)	Responsible for operating and maintain the reservoir's function and dam areas.	Employment expansion (employ*)
Regional Development Planning Agency (Bappeda*)	Plan regional development in the fields of economy, social, culture, and infrastructure, representing the Regional Head's development vision and mission.	Infrastructure development (infras*)
Department of Youth Sports and Tourism (Tourgov*)	Design and implement regional growth and development programs in the fields of youth, sports, and tourism.	Enhancement of private investment (invest*)
Indonesian State Forest Company (Perhutani*)	Manage and optimize the benefits of forest products, environmental services, and natural tourism.	Increase new business (newbis*)
Business people	Investment in infrastructure and other tourist facilities	Decreasing poverty (poverty*) Maintenance of local culture (culture*)
College	Contribute to the thoughts of regional development planning objectively.	Dam concervation (dam*)
Local government	Determine development policies in the village	Forest conservation (forest*)

(Locgov*)	area around the Kedung Ombo.	
Youth organization	Provide creative ideas in planning and operation	Maintenance of local wisdom
Youthorg*)	the development.	(locwise*)
Community	Source of ideas in village development.	

Source: FGD of Kedung Ombo, 2020

*) symbols used in the Mactor Analysis

Table 1 shows that the actors' complexity involved in developing the Kedung Ombo tourist area. It consists of the government, private sector, and society at various levels. According to the roles, these actors are the Pemalijuana River Flow Management Office (BBWS), Regional Development Planning Agency (Bappeda), Indonesian State Forest Company (Perhutani) are primary stakeholders. Meanwhile, the Department of Youth, Sports, and Tourism (Tourgov), College, Local government (Locgov), Businessman, Community, and Youth Organizations are secondary stakeholders.

5. Data Input Mactor Analysis

The FGD produced the initial matrix from the Mactor Analysis in the form of the Direct Influence Matrix (MDI) in Table 2 and the Valued of Position Matrix (2MAO) in Table 3.

Table 2. Direct Influence Matrix

	bbws	bappeda	tourgove	hutani	bisnis	colleg	loc	youth	comm
bbws	0	3	3	2	4	2	2	3	3
bappeda	2	0	4	2	3	2	4	3	3
tourgove	2	4	0	2	3	2	4	3	3
hutani	3	3	3	0	3	2	3	2	3
bisnis	2	3	3	2	0	2	2	2	3
colleg	2	2	2	2	2	0	2	2	2
loc	2	2	2	2	2	2	0	3	3
youth	1	1	2	2	2	2	4	0	4
comm	1	1	2	2	2	2	3	2	0

Source: Mactor Analysis, Kedung Ombo, 2020.

Table 3. Valued of Position Matrix

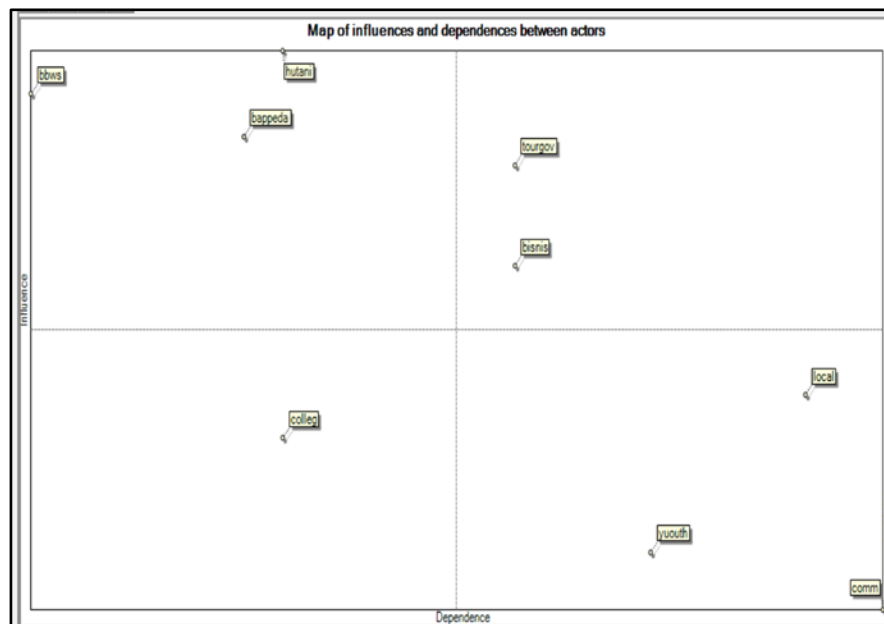
	income	employ	locwis	infrass	Dam	forest	invest	newbis	poverty
bbws	0	1	0	3	3	1	1	1	1
bappeda	4	4	3	4	2	2	4	4	4
tourgove	4	4	4	4	2	2	3	4	2
hutani	1	2	1	3	2	4	1	3	1
bisnis	4	3	4	3	1	1	3	3	1
colleg	2	3	2	4	2	2	2	4	4
loc	3	4	4	4	3	3	2	3	4
youth	1	4	3	4	2	2	2	4	4
comm	3	3	3	4	3	3	3	3	3

Source: Mactor Analysis, Kedung Ombo, 2020.

The Mactor program then processes Table 2 and Table 3, the results as follows.

5.1 Actor's Strength and Dependence

The actor's strength describes the actor's ability to influence other actors, design, and project development plans. Sources of actor power come from ownership of material resources, social position, and the actors' knowledge about the future. From this perspective, actors are grouped into dominant actors, relay actors, autonomous actors, and dependent (dominated) actors—the results of Mactor's analysis of this case in Figure 2.

**Figure 2. Map of Influence and Dependence Between Actors**

Source: Mactor Analysis, Kedung Ombo, 2020

Base on Figure 2, Pemali Juana River Flow Management Office (BBWS), Perhutani, and Regional Development Planning Agency (Bappeda) are the dominant actors. This position describes the power to influence other actors is high while dependence is low. The dominant position shows their ability to determine policies for developing Kedung Ombo destinations in the future. These position representations the roles of the three actors in the development of the Kedung Ombo area (Table 1).

Department of Youth, Sports and Tourism, and businessman are relay actors because their influence and dependence are strong. Relay actors play an essential role during the process of executing various decisions in the field. The actors of this type will determine the operationalization of the Kedung Ombo tourist area's development successfully.

The college is a passive actor. Meanwhile, the community, youth organizations, local government, and community are dominated actors who are influenced and dependent on others. The position is related to limited capacity, especially in authority and facilities. With this position, the community can still play a role as an operator of the Kedung Ombo tourist destination. To optimize this role requires increased competence through training about tourism destination service concepts and administrative skills, of course. In a spectrum more complex, the community needs to be encouraged to understand the mechanism of group work, environmental technical aspects, and attitude of independence.

Understanding the competitiveness of each actor is very crucial in analyzing the actors' system. The competitiveness of actors is determined by direct influence, direct dependence, indirect influence, and indirect dependence. The results of Mactor analysis of the competitiveness of actors are shown in Figure 3.

Figure 3 shows that BBWS is the highest competitiveness actor than other actors, followed by Perhutani and Bappeda. BBWS, Perhutani, Bappeda can actuate and lead other actors. This strength of them can be a source for directing other actors, either directly or indirectly.

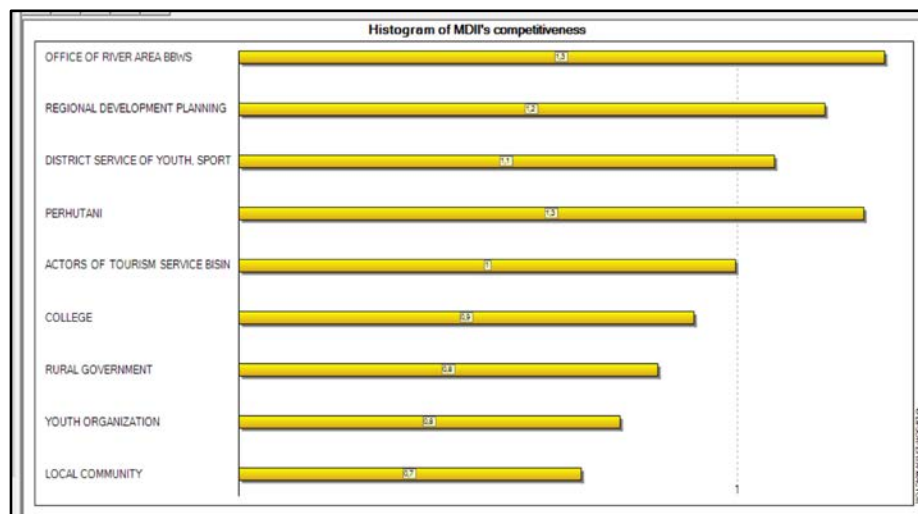


Figure 3. Actor Competitiveness

Source: Mactor Analysis, Kedung Ombo, 2020

BBWS is an institution that is responsible for planning and implementing the operation of the Kedung Ombo reservoir. With these responsibilities, BBWS has the authority to determine the management of the reservoir area and its surroundings. Perhutani is a state-owned company that has the power to manage forest land. Kedung Ombo Reservoir area is located in forest areas that belong to Perhutani. Therefore, Perhutani's role is substantial. Following Perhutani's mission to make the most of the forest area, so far, Perhutani (KPH Juwangi) has worked with local communities has developed several tourist spots. This Perhutani's experience can be an excellent potential leader in line with its position as a dominant actor. Meanwhile, Bappeda's competitiveness comes from its authority to determine Regional Development Planning Agency planning.

Among actors who depend on other actors, the community is the actor with the weakest competitiveness. This condition is related to the ownership of authority and competence, especially in the field of tourism. This condition is because both the education and income of the people around the area generally are low. Meanwhile, the others are moderate competitive actors. This strength of Bappeda can be a source for directing other actors, either directly or indirectly.

6. Map of Development Goals

One of the factors that determine the success of developing a tourist destination is stakeholder actors' support toward goals. The actor's support or resistance is determined by aligning the development goals with its vision and mission. Based on this approach, the project's purposes can be categorized as its interests' level by looking at the actors' support/retention. The stronger a goal illustrates the stronger actors' support for a plan.

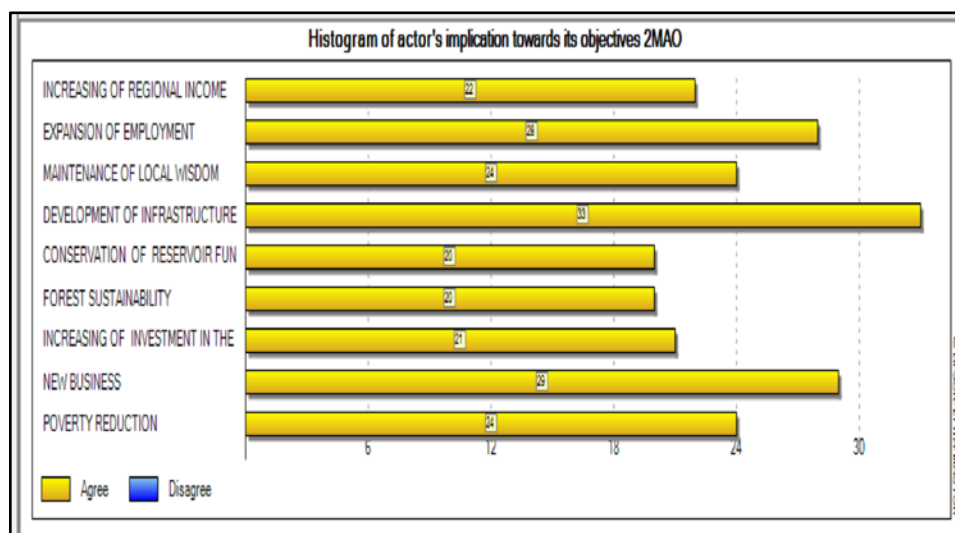


Figure 4. Map of Development Goals

Source: Mactor Analysis, Kedung Ombo, 2020

Figure 4 shows that improving the quality of infrastructure is the goal most supported by stakeholders. While protection of the function of the reservoir is the least supported objective. This figure also indicates the level of importance of these goals is compared to others. The finding represents the expectations of most stakeholders, even though the BBWS was less supported. Increasing the number of tourists will encourage the emergence of tourists' needs to various facilities directly related to tourism and its supporting facilities. Tourists who come to tourist destinations will need many services; this triggers community economic activities. This condition opens an opportunity for job and creativity to all parties. Therefore, cooperation between stakeholders will be able to realize the multiplier effect of tourism.

This finding is appropriate because even though the Kedung Ombo area's tourism potential is tremendously immense, the condition of public infrastructures such as roads, electricity, and other tourism facilities is very minimal. Therefore, infrastructure development is a necessity. The expansion of employment is another goal of getting sufficient support from actors. This objective is related to limited employment opportunities around the reservoir area; most of the population work as farmers with little land ownership. The existence of tourist destinations in this area will increase job opportunities.

From Figure 5, we can know the closeness between each of the objectives. Reservoir conservation and forest preservation are goals that are far from each other. Meanwhile, infrastructure improvement, increasing employment, the number of tourists, reducing poverty, protecting local wisdom, and rising regional investment are a group of purposes that are adjacent to another quadrant. These findings indicate that close together objectives are mutually supportive in the Kedung Ombo area's successful development.

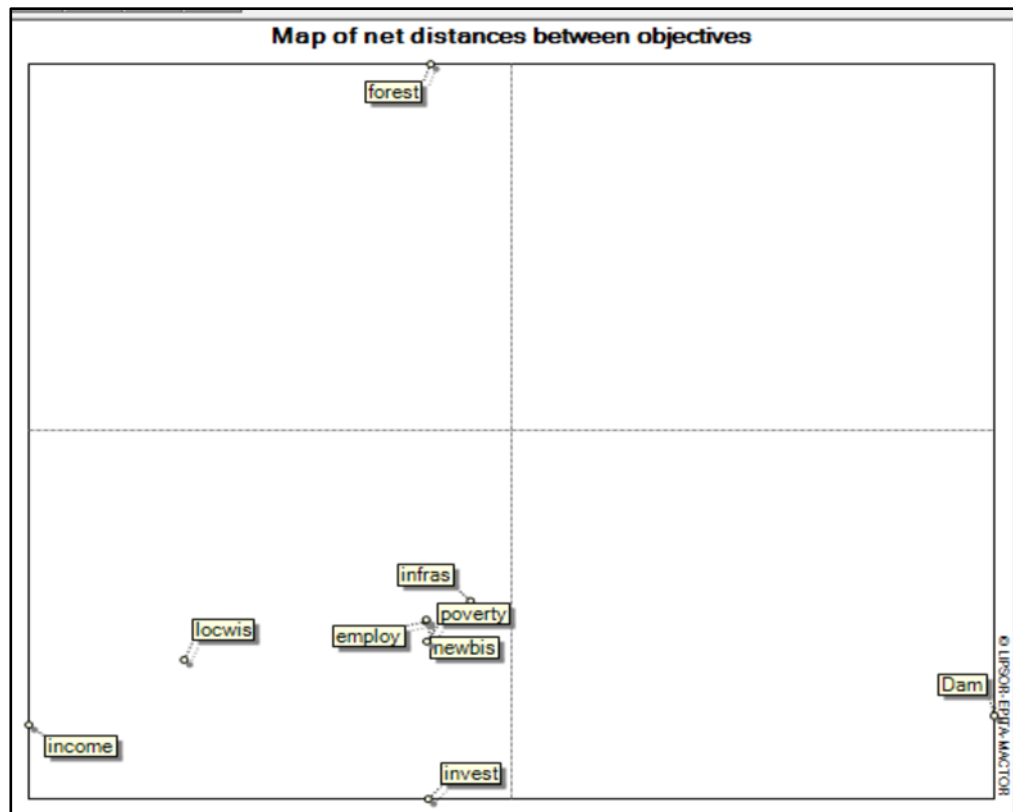


Figure 5. Map of Distance Between Objectives

Source: Mactor Analysis, Kedung Ombo, 2020

Strengthen the mapping of objectives, following analysis, explains that the actor's prominent roles strongly influence the actor's intensity to achieve the goals. Figure 6 shows that BBWS are actors only supporting goals directly related to maintaining the reservoir's primary function. They think that any activity that utilizes the reservoir area will interfere with its role as the primary irrigation system in this area. Likewise, Perhutani, this actor, only focuses on forest protection.

In another quadrant, we can see that Bappeda, youth organizations, communities, and local government, youth organizations, and collage, are more supportive of increasing income, infrastructure, expansion of employment, and private investment. Simultaneously, the tourism office and business people support the increase in new business, revenue, and local wisdom maintenance.

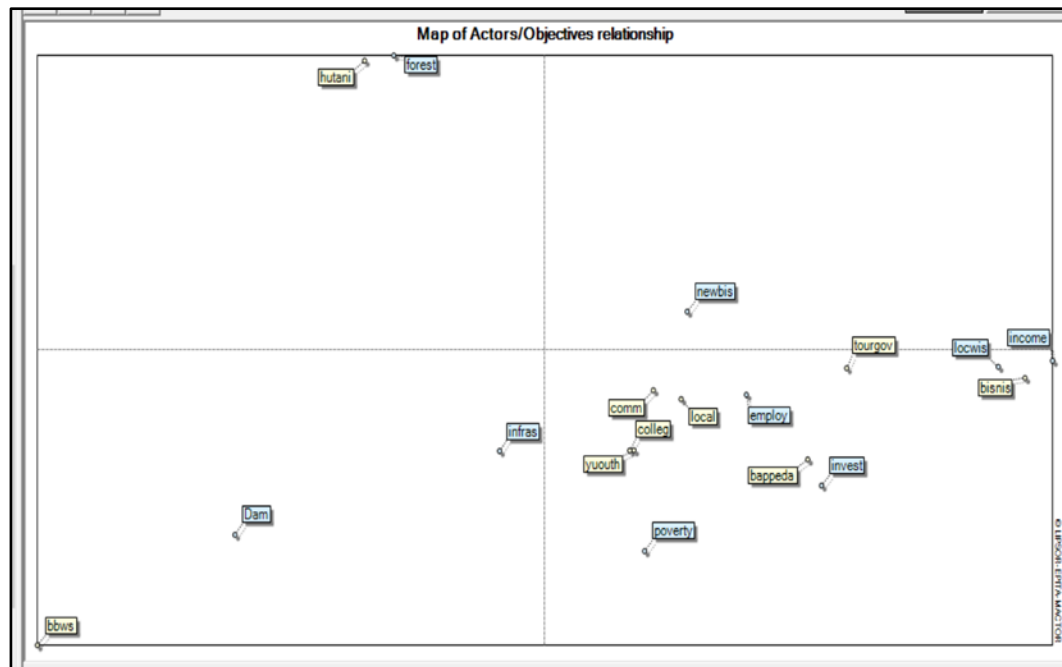


Figure 6. Map of Actors-Objectives Relationship

Source: Mactor Analysis, Kedung Ombo, 2020

7. Actor's Convergence

Another essential to know in the relationship between actors is about the possibility of convergence or not. The intersection of actors describes the probability of alliances/cooperation between actors. The different objectives, powers, and capacities of the actors are the obstacles to convergence. Knowing the convergence map between actors is useful for developing appropriate cooperation patterns and avoiding possible conflicts. Figure 7 shows the possibility of actor alliance/cooperation in the development project of the tourism of Kedung Ombo.

Figure 6 shows the potential for an alliance that can be built between Bappeda, Department of Tourism, Youth and Sports, Village Government, College, Community, and Youth Organizations. Meanwhile, BBWS and Perhutani are divergent actors who tend to separate themselves from other actors. Its main task causes its purpose to drive the divergence of BBWS Pemali Juana and Perhutani. This goal makes it rather challenging to cooperate with other parties because the resulting impact can interfere with this primary function.



Figure 7. Map of Convergence Between Actors

Source: Mactor Analysis, Kedung Ombo, 2020

Figure 8 describes the most alliances reliable among actors. This map shows that Bappeda, the Department of Tourism, Youth and Sports, and Local government are groups of actors who can form a powerful alliance for Kedung Ombo development's tourism potential. This map also illustrates the strength of Bappeda over government agencies down to the village level. By utilizing existing formal coordination and communication channels, local governments can encourage real participation from these institutions to realize this project. The strength of Bappeda is also a potential source for a bridge to collaborating and coordinating with Perhutani and BBWS effectively.

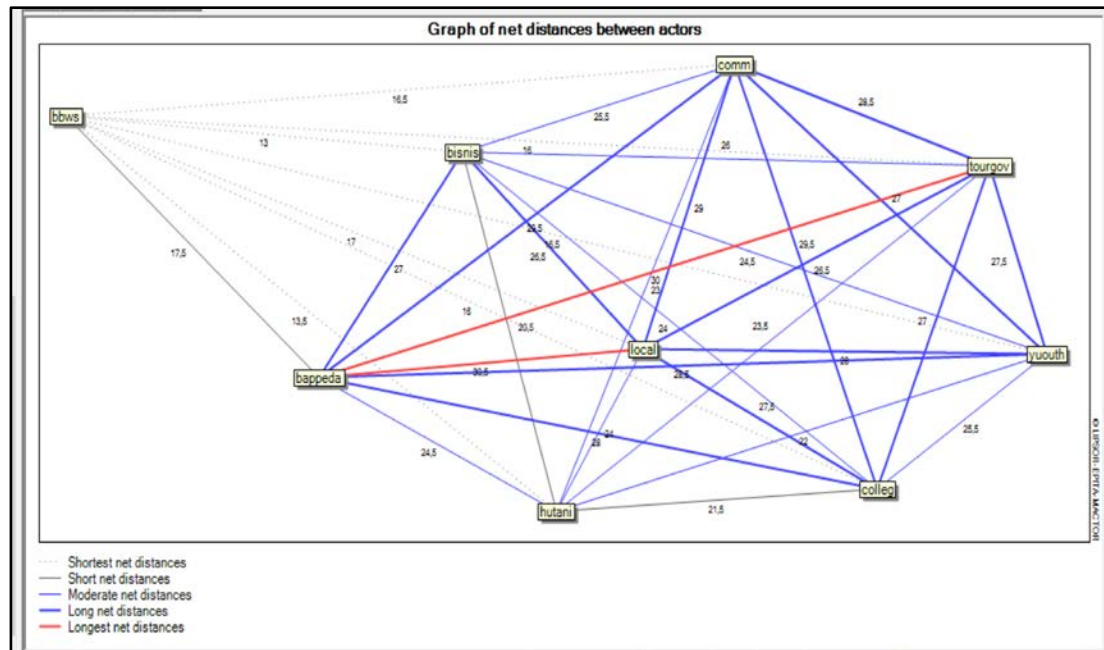


Figure 8. The Intensity of Convergence Between Actors

Source: Mactor Analysis, Kedung Ombo, 2020

8. Conclusions

This research has identified the Kedung Ombo area's stakeholder actors and their types based on their relationships, strengths, and attitudes toward goals. The map produces typology: first, BBWS PemaliJuana, Perhutani, and Bappeda are the dominant actors. They have a strong ability to influence other actors and independent of other actors. Thus, they can become central actors in the development of this area. They determine policies, plans, and programs at the planning stage, initiate communication, and coordinate with other actors. At the implementation stage, they become the chairperson who directs other actors to ensure the program's implementation as planned. Second, The Department of Youth, Sports and Tourism, College, village government, the youth organization, and business people are relay actors. College is an autonomous actor; meanwhile, the youth organization, local government, and community are actor-dependent.

This study's results have also identified actors who can build alliances due to similar attitudes or convergence. Bappeda and other actors who are in the same quadrant are convergent. However, it does not converge with BBWS and Perhutani. This finding becomes a precise mapping of which actors should be leaders and which actors should act as operational. In this case, Bappeda can initiate to build alliances with other actors, in line with developing cooperation with BBWS and Perhutani.

Other research results are, all actors support all of the goals so that no ambivalent actors. Infrastructure improvement is the goal most supported by all actors, and reservoir conservation is the goal least supported by actors. This finding is a response to one of the causes of the slow development of the tourist area of Kedung Ombo because BBWS is too protective of the reservoir's irrigation function.

Finally, the analysis of the influence and dependence between actors has placed the actors in a strategic context in which the actors have to respect each other's competitive advantages. These findings can be part of the embryo to build participatory institutions (governance-partnerships) in developing Kedung Ombo tourism's successful potential. They will provide benefits to all actors involved in the present and future. Seeing each actor's ideological strength, this institution can undoubtedly take a role as a 'middle way institution' in managing the tourism potential of Kedung Ombo and implementing its development in the future.

9. Recommendation

Analysis of actors in the development of the Kedung Ombo ecotourism area based on the Mactor model succeeded in identifying the position of power, influence, and dependence of the actors on a set of measurable goals. These findings form the basis for defining "*power relations*" between goals and future-oriented actors. This study's results are essential material studies for categorizing, ranking, and evaluating the actors who support and are resistant to developing the Kedung Ombo ecotourism area. The mapping of several actors' characters shows the constellation among the actors involved in the region. The mapping is useful to see one crucial aspect that encourages the development of the tourism potential of Kedung Ombo in the space of power between various government, private, and community actors.

The results of the analysis also place stakeholder actors in a strategic context. Mapping power and influence between actors form the basis for defining "*power relations*," which help manage possible conflicts. This perspective is helpful for conditioning and accommodating actors with different powers, which hinder the development process's success.

Overall, this study is an essential element for the success of the development area of the Kedung Ombo tourist area in a sustainable manner with the cooperation of all stakeholders. The findings of this study can be a fundamental part of developing participatory institutions in the region. The participatory institutional model can take on the role of a "middle way institution" between the different missions of actors and, at the same time, facilitate the involvement of all actors.

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