

IDENTIFICATION OF KEY ACTORS IN ECOSYSTEM SERVICES USING THE MACTOR TOOL: STUDY IN NEW INDONESIAN CAPITOL, EAST BORNEO

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Abstract

Law Number 3 of 2022 concerning the State Capital was issued considering, among other things, that it is necessary to improve the governance of the State capital region in addition to being a means to meet the needs of the Indonesian people and all of Indonesia's bloodshed, promote public welfare, educate the nation's life, and participate in carrying out order world based on freedom, lasting peace, and social justice. The law also emphasizes that Indonesia does not yet have a law that specifically regulates the State Capital. The law that existed before the issuance of Law Number 3 of 2022 was Law Number 29 of 2007 concerning the Provincial Government of the Special Capital Region of Jakarta as the Unitary State Capital (IKN) of the Republic of Indonesia which only regulates the determination of the Special Capital Region Province of Jakarta as the Capital of the Unitary State Republic of Indonesia. The IKN relocation plan is expected to boost the national economy to +0.1%, reduce the gap between income groups at both the regional and national levels, and encourage trade and investment in the new IKN and its surroundings (Hasibuan, 2020). The move of IKN to a new location is also expected to be able to represent the character and vision of national development governance, relieve tensions in the development process which has been uneven so far, and be able to accommodate developments in the future, bearing in mind the dynamics of multidimensional development at the global level which is growing rapidly so that Indonesia able to follow these developments with the support of the new IKN area (Ridhani et al. 2021). The planned development in the IKN area must of course be accompanied by good planning to ensure the continued availability of ecosystem services. According to Schneiders and Muller in the Millennium Ecosystem Assessment (2005) these ecosystem services are strongly influenced by their ecological functions. Humans need several ecosystem services to meet their basic needs and improve or maintain their quality of life. To meet these needs, natural resources are exploited, threatening biodiversity and increasing pressure on ecosystems (Dworczyk and Burkhard 2021). Therefore, a spatial structural approach is used to describe and visualize the spatial relationships and relationships between areas that provide and benefit from ecosystem services.

Keywords: New Capitol City, East Kalimantan, Prospective Analysis, Stakeholders.

INTRODUCTION

Law Number 3 of 2022 concerning the State Capital was issued considering, among other things, that it is necessary to improve the governance of the State capital region in addition to being a means to meet the needs of the Indonesian people and all of Indonesia's bloodshed, promote public welfare, educate the nation's life, and participate in carrying out order world

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The planned development in the IKN area must of course be accompanied by good planning to ensure the continued availability of ecosystem services. According to Schneiders and Muller in the Millennium Ecosystem Assessment (2005) these ecosystem services are strongly influenced by their ecological functions. Humans need several ecosystem services to meet their basic needs and improve or maintain their quality of life.

To meet these needs, natural resources are exploited, threatening biodiversity and increasing pressure on ecosystems (Dworczyk and Burkhard 2021). Therefore, a spatial structural approach is used to describe and visualize the spatial relationships and relationships between areas that provide and benefit from ecosystem services.

In developing and building IKN there are many factors involved that must be considered. One of these factors is the actors involved in the development and development of IKN. This research will photograph and map the roles and positions of the actors involved in developing and building the IKN, especially from an environmental services perspective

MATERIALS AND METHODS

Study area

This research will be carried out in the IKN area which has been determined following Presidential Regulation Number 63 of 2022 concerning the Archipelago Capitol City Master Plan. Research Locations are mapped according to Figure 1.

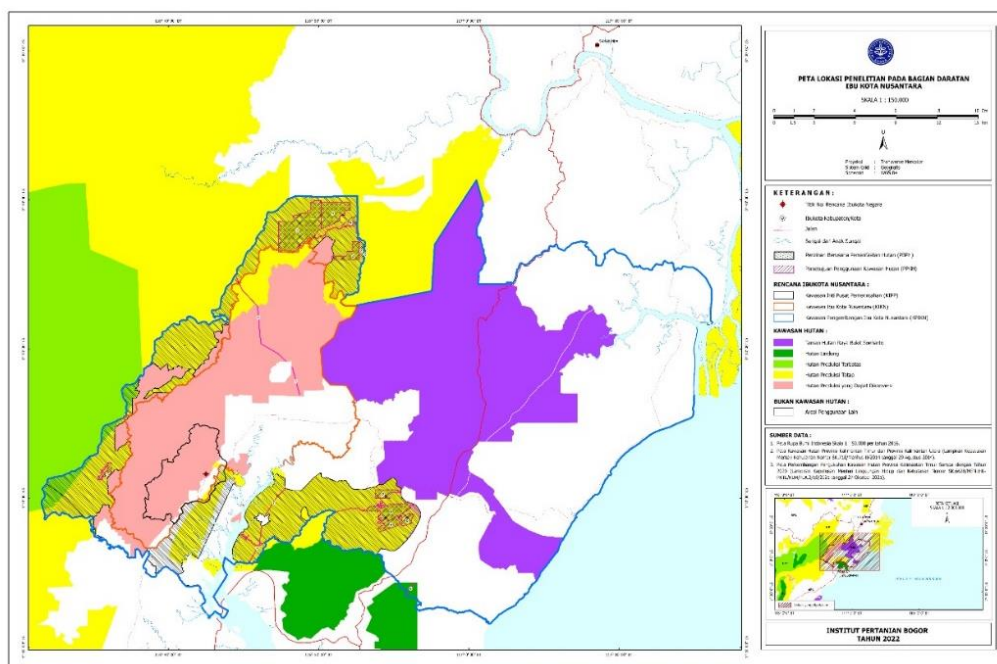


Figure 1

This research was conducted in the East of Borneo from October 2022 until February 2023, namely the New Capitol of Indonesia, and related agencies (**Fig. 1**). The primary data obtained were processed using the Prospective Analysis method approach.

Prospective Analysis is a method used to review a policy in the future. In this study, prospective analysis refers to Martelo and Pitre (2017) using the MACTOR (Methode Acteurs, Objective, Reports de Force) tool. In this case, it was used to map the strength of the relationship between actors and factors in developing a cluster typology of potential area development for the new Indonesian Capitol City development.

The application of the Mactor method in the decision-making process that considers the position and intensity of variables based on the influence and the roles, positions, and attitudes of stakeholders on a policy to be chosen has clarified the validity of the research results and their strength in determining the maximum variables that must be involved in the successful development of new Indonesia Capitol City.

The location map of this research was in the East of Borneo. The respondents were chosen based on the results of the preliminary Focus Group Discussion (FGD).

The way MACTOR works is done by filling in the position matrix or the 1MAO matrix (Actor-Objective Matrix) and the 2MAO matrix. The next matrix to be completed is the MID (Direct Influence Matrix) matrix which describes the influencing variable.

After filling in the MID and 1MAO matrices, the MACTOR will calculate the 2MAO matrix through a computer program.

MACTOR's work system, as referred to by (Alejandro 2011; Arcade et al. 2003; Garza and Cortez 2011; Mafruhah et al. 2020; Martelo and Pitre 2017; Rees and MacDonell 2017; Villegas and Alejandro 2011), is described by the following formula:

$$MIDI_{A \rightarrow B} = MIDI_{A-B} + \sum_C [\min(MIDI_{A \rightarrow C}, MIDI_{C \rightarrow B})] \quad (1)$$

To determine the balance of the strength of the relationship between actors, it is necessary to first calculate the direct and indirect effects of the actors. If MA is defined as the total direct influence of actor A on the others, then:

$$M_A = \sum_B (MIDI_{A,B}) - MIDI_{A,A} \quad (2)$$

and if we define DA, the total direct and indirect effects received by A from other actors are as follows:

$$D_A = \sum_B (MIDI_{B,A}) - MIDI_{A,A} \quad (3)$$

Furthermore, the coefficient of the balance of the strength of the relationship will be calculated by the formula:

$$r_A = \left[\left(\frac{M_A - MIDI_{A,A}}{\sum_A (M_A)} \right) \times \left[\frac{M_A}{M_A + D_A} \right] \right] \quad (4)$$

In the next step, ACTOR will calculate the 3 MAO matrix, namely the matrix that is the basis and is important in the MACTOR discussion, with the following formulation:

$$3MAO_{A,i} = 2MAO_{A,i} \times r_A \quad (5)$$

Through the 3MAO matrix, various features can be produced, including the mobilization coefficient, which shows different actors involved in one situation as explained in the following formula:

$$Mob_A = \sum |3MAO| \quad (6)$$

Approval and disagreement over a goal are then overlaid using the following formula:

$$Ag_A = \sum_a (3MAO_{A,i} (3MAO > 0)) \quad (7)$$

$$DisAg_A = \sum_a (3MAO_{A,i} (3MAO < 0)) \quad (8)$$

Another feature that can also be processed from the 3MAO matrix is the convergence matrix (3CAA) which describes how much the actors agree on an issue and the divergence (3DAA), which describes the opposite or disagreement. The convergence matrix (approval) is generated through the formula:

$$3CAA = \frac{1}{2} \sum \left([3MAO_{A,i}] + [3MAO_{B,i}] \right) (3MAO_{A,i} \times 3MAO_{B,i} > 0) \quad (9)$$

While the divergence (disagreement) matrix is written with the formula:

$$3DAA = \frac{1}{2} \sum \left([3MAO_{A,i}] + [3MAO_{B,i}] \right) (3MAO_{A,i} \times 3MAO_{B,i} < 0) \quad (10)$$

Furthermore, the results of the calculation of the convergence and divergence between these actors will produce the final actor from MACTOR, namely the ambivalent coefficient for each actor, which is calculated by the formula:

$$3EQ_i = 1 - \left[\frac{(\sum_k \|3CAA_{i,k} - 3DAA_{i,k} \|)}{(\sum_k \|3CAA_{i,k} + 3DAA_{i,k} \|)} \right] \quad (11)$$

In addition to using a prospective analysis approach, this study also formulates the results of stakeholder FGDs that are directly related to the development of new capitol areas on the east of Kalimantan in mapping the opinions of key stakeholders. Stakeholders involved in the FGDs included the government, the community, related agencies, and area private bussiness.

The FGD was carried out using the Seelig method, which was popularized by (Agustina and Fauzi 2020) and developed by Paulus and Fauzi (2017). During the FGD implementation, participants were divided into three groups to discuss three problem topics: (1) strategic issues for developing forest city; (2) strategic issues for developing sponge city; (3) strategic issues for developing smart city; each group discussed the same topic, and at the end of the FGD, all FGD participants agreed on the topics discussed, resulting in Delphi convergent issues.

The Focus Group Discussion

The variables for development new Capitol was analysed by dealing with 22 variables. This study uses the prospective structural paradigm method to explore the structure, dynamics and interrelationship network between variables which are considered the most important in the development of new Indonesia Capitol city. Data was collected using the Focus Group Discussion (FGD) method to determine the influential and decisive variables in the development of the area and workshops in the process of filling out the software used in data analysis. Implementation of the discussion using the world cafe method to encourage interaction, knowledge sharing and transfer of experience among participants. The FGD participants totaled 11 people representing stakeholders.

3. RESULTS AND DISCUSSION

The results of this study are largely determined by the accuracy of the sources in identifying the variables that are thought to affect the development of new Indonesia Capitol city. To achieve this, at the initial stage of the FGD, participants were given an orientation by experts on the concept of sustainable development and the function of the important role of government system. After that, a list of variables was made based on the understanding, knowledge, and experience of the participants. The discussion results identified 22 stakeholder variables that were considered to affect the development of new capitol and three objectives (**Table 2**). The stakeholder and objective variables are shown in **Table 1** and **Table 2**. The stakeholders are the actors involved in new capitol development activities (Erlinda 2020; Martelo and Pitre, 2017; Rees and MacDonell 2017).

Furthermore, the results of a prospective analysis using MACTOR software show the interdependence between actors in the development of new capitol city areas in the visualization, as shown in **Table 3**.

Table 1: List of stakeholders in the development of the new capitol city in the east Kalimantan

No	Long label	Short label	Description
1	Ministry of Environment and Forestry (Min KLHK)	(Min_KLHK)	Ministry of Environment and Forestry (Min KLHK)
2	Forest Area Designation and Environment Governance Bureau (BPKHTL)	(BPKHTL)	Forest Area Designation and Environment Governance Bureau (BPKHTL)
3	Watershed Management Bureau (BPDAS)	(BPDAS)	Watershed Management Bureau (BPDAS)
4	Sustainable Forest Management Bureau (BPHL)	(BPHL)	Sustainable Forest Management Bureau (BPHL)
5	Ecoregion Development Control Centre of Kalimantan (P3E)	(P3E)	Ecoregion Development Control Centre of Kalimantan (P3E)
6	Office for Standard Implementation Of Environment and Forestry Instruments (BPSILHK)	(BPSILHK)	Office for standard Implementation Of Environment and Forestry Instruments (BPSILHK)
7	Office for Standard Assessment of Enviromental Instruments (BPPLHK)	(BPPLHK)	Office for Standard Assessment of Enviromental Instruments (BPPLHK)
8	Ministry of Public Work and Housing (Min PUPR)	(Min_PUPR)	Ministry of Public Work and Housing (Min PUPR)
9	Ministry of Agrarian Affairs and Spatial Planning / National Land Agency (Min ATR/BPN)	(Min_ATR/BPN)	Ministry of Agrarian Affairs and Spatial Planning / National Land Agency (Mn ATR/BPN)
10	Land Registry Office Penajam Paser Utara Regency (Kantah)	(Kantah)	Land Registry Office Penajam Paser Utara Regency (Kantah)
11	Nusantara National Capitol Authority (Oto IKN)	(Oto_IKN)	Nusantara National Capital Authority (Oto IKN)
12	state intelligence agency (BIN)	(BIN)	state intelligence agency (BIN)
13	Local government (PEMDA)	(PEMDA)	Local government (PEMDA)
14	Penajam Paser Utara Regency Government (PKPaser)	(PKPaser)	Penajam Paser Utara Regency Government (PKPaser)
15	Kutai Kartanegara Regency Government (PKKukar)	(PKKukar)	Kutai Kartanegara Regency Government (PKKukar)
16	Regional Police Force (Polda)	(Polda)	Regional Police Force (Polda)

Table 2: List of objectives in the development of the new capitol city

No.	Long label	Short label	Stake
1	Forest City (ForestCity)	(ForestCity)	General
2	Sponge City (SpongeCity)	(SpongeCity)	General
3	Smart City (SmartCity)	(SmartCity)	General

The stakeholder who has the greatest influence is the Ministry of Public Work and Housing with a score of 650 then, followed by the Ministry of Agrarian Affairs and Spatial Planning / National Land Agency with a score of 619, followed by Land Registry Office Penajam Paser Utara Regency, while the stakeholder who has a high tendency of dependence is PT. Singlurus pratama with a score of 771.

This matrix shows that Ministry of Public Work and Housing have a very strong and decisive influence on the success of any scenario in the development of new capitol, followed by the strength of the Ministry of Agrarian Affairs and Spatial Planning / National Land Agency.

Meanwhile, PT. Singlurus pratama stakeholders are the weakest stakeholders in influencing the scenario of area development new capitol city.

Table 3: Matrix of influence and interdependence between stakeholders

MDI	Min_KLHK	BPKHTL	BPDAS	BPHL	P3E	BPSILHK	BPPLHK	Min_PUPR	Mn_ATR/BPN	Kantah	Oto_IKN	BIN	PEMDA	PKPaser	PKKukar	Polda	Kodam	ITCI	Inhutani	Singlurus	Community	NGO
Min_KLHK	0	1	1	0	0	1	1	1	1	1	1	4	4	4	4	4	4	4	4	4	0	0
BPKHTL	0	0	1	0	0	1	1	1	1	1	1	4	4	4	4	4	4	4	4	4	0	0
BPDAS	0	0	0	0	0	1	1	1	1	1	1	4	4	4	4	3	3	3	3	3	0	0
BPHL	0	0	0	0	0	1	1	1	1	1	1	3	3	3	3	3	3	3	3	3	0	0
P3E	1	1	1	0	0	1	1	1	1	1	1	3	3	3	3	3	3	3	3	3	0	0
BPSILHK	1	1	1	1	1	0	1	1	1	1	1	3	3	3	3	3	3	3	3	3	0	0
BPPLHK	1	1	1	1	1	1	0	1	1	1	1	4	4	4	4	4	4	4	4	4	0	0
Min_PUPR	1	1	1	1	1	1	4	0	1	4	4	4	4	4	4	4	4	4	4	4	0	0
Mn_ATR/BPN	1	1	1	1	1	1	1	1	0	4	4	4	4	4	4	4	4	4	4	4	0	0
Kantah	1	1	1	1	1	1	1	1	1	0	4	4	4	4	4	4	4	4	4	4	0	0
Oto_IKN	1	1	1	1	1	1	1	1	1	1	0	4	4	4	4	4	4	4	4	4	0	0
BIN	3	3	1	2	2	1	1	1	1	1	1	0	4	4	4	4	4	4	4	4	1	4
PEMDA	1	3	2	2	2	1	1	1	1	1	1	4	0	4	4	4	4	4	4	4	1	4
PKPaser	1	1	2	2	2	1	1	1	1	1	1	4	3	0	4	4	4	4	4	4	1	1
PKKukar	1	1	2	2	2	1	1	2	1	1	1	4	3	3	0	4	4	4	4	4	1	1
Polda	1	1	2	1	2	1	1	2	3	1	1	4	3	3	4	0	4	4	4	4	1	1
Kodam	1	1	1	3	1	1	1	2	3	3	1	4	3	3	4	2	0	4	4	4	1	1
ITCI	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0	0
Inhutani	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	4	0	0
Singlurus	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0
Community	0	0	0	0	0	0	1	1	1	1	1	3	3	0	0	0	0	0	0	0	0	0
NGO	2	3	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0

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This explanation can also be seen in Fig. 2, which maps stakeholders in the influence and dependence quadrant (Erlinda 2020; Rees and MacDonell 2017; Rivera and Jiménez 2017).

Map of influences and dependences between actors

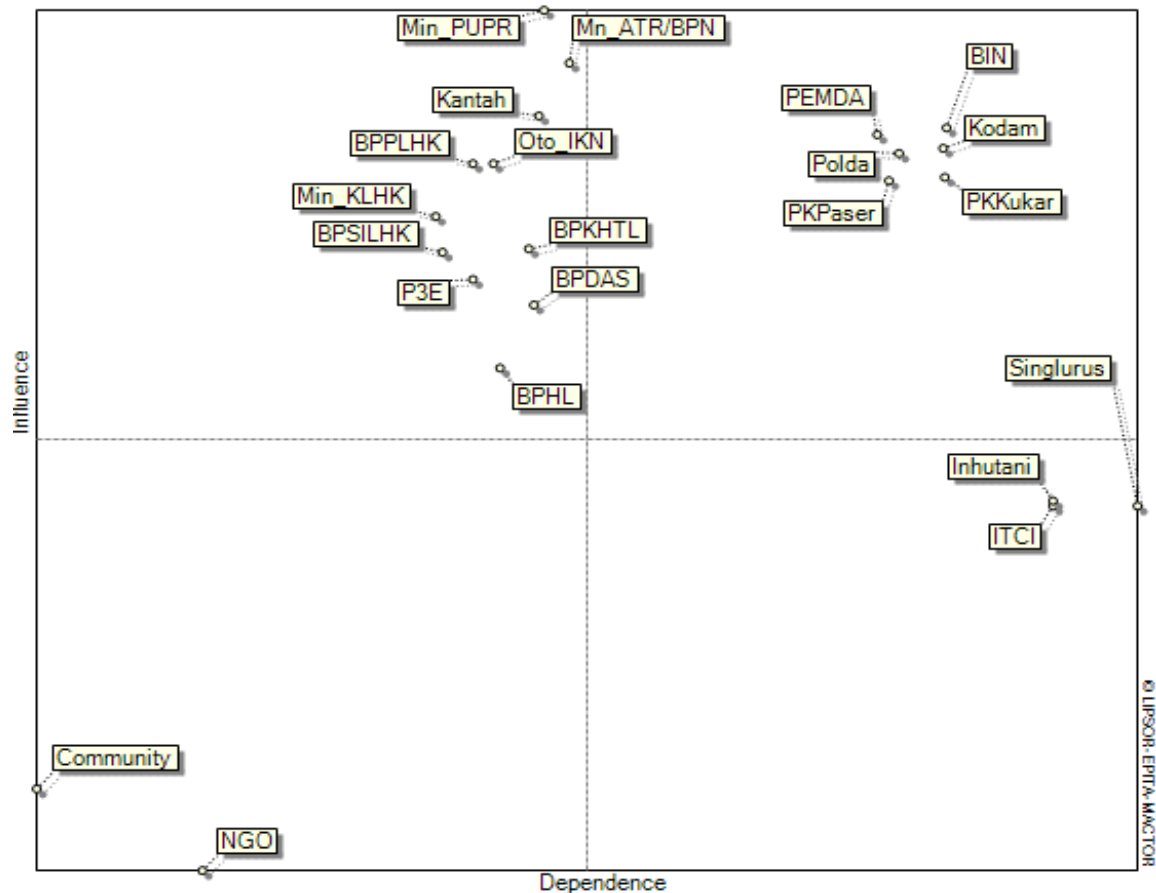


Fig 2: Matrix of influences and dependencies between actors

MACTOR works by filling in the position matrix or the 1MAO matrix (Actor-Objective Matrix) and the 2MAO matrix. The next matrix to be completed is the MID (Direct Influence Matrix), which describes the influencing variable. After filling in the MID and 1MAO matrices, the MACTOR will calculate the 2MAO matrix through a computer program.

Fig. 2 shows that the Ministry of Public Work and Housing are in quadrant I (top left). All stakeholders in this quadrant had great influence and low dependence on the capitol development scenario in east Kalimantan. On the other hand, in quadrant 3 (bottom right), PT Singlurus Pratama have a high level of dependence and very little influence on the development scenario new capitol city.

In quadrant 2 where Local Government are the relay stakeholder. The relay stakeholder is dependent on driven stakeholders in quadrant 1, but they had a big influence on quadrant 3 by the impact of action by quadrant 1 stakeholders to quadrant 2 stakeholders. Meanwhile, the warehousing, coastal society, and industrial sectors occupy quadrant 4 as autonomous

stakeholders with no impact functions (Alva and Díaz 2018; Erlinda 2020; Forero and Adalmer 2013).

Based on **Table 4**, the stakeholders who have the highest mobilization scores are the Ministry of Public Work and Housing with a score of 19, respectively. It means that regarding the development of new capitol city, these three stakeholders will be active in the dynamics of developing capitol city in east Kalimantan. The degree of mobilization (bottom row) indicates which objectives are expected to be the main issues that provoke stakeholder reactions. In this case, the goal of forest city, with a score of 58.9, is a goal that is considered important by the actors, followed by the sponge city, with a score of 39.3 (Erlinda 2020).

Table 4: The degree of mobilization between stakeholders with objective goals

3MAO	ForestCity	SpongeCity	SmartCity	Mobilisation
Min_KLHK	5.1	5.1	5.1	15.2
BPKHTL	3.4	3.4	3.4	10.1
BPDAS	3.1	3.1	3.1	9.2
BPHL	2.8	2.8	2.8	8.3
P3E	3.3	3.3	3.3	10.0
BPSILHK	3.6	3.6	3.6	10.7
BPPLHK	4.0	4.0	4.0	12.1
Min_PUPR	6.3	6.3	6.3	19.0
Mn_ATR/BPN	4.4	4.4	4.4	13.1
Kantah	4.1	4.1	4.1	12.4
Oto_IKN	5.3	5.3	5.3	15.9
BIN	0.0	0.0	0.0	0.0
PEMDA	3.3	3.3	3.3	9.8
PKPaser	3.0	3.0	3.0	9.0
PKKukar	2.9	2.9	2.9	8.8
Polda	0.0	0.0	0.0	0.0
Kodam	0.0	0.0	0.0	0.0
ITCI	0.9	0.5	0.5	1.9
Inhutani	1.0	0.5	0.5	1.9
Singlurus	0.9	0.4	0.9	2.2
Community	-1.0	-0.5	1.5	2.9
NGO	0.7	0.2	-0.7	1.7
Number of agreements	58.0	56.1	57.8	
Number of disagreements	-1.0	-0.5	-0.7	
Degree of mobilisation	58.9	56.6	58.5	

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Fig. 3 shows the competitiveness of actors as indicated by the level of direct and indirect influence of these actors on other actors. The results showed that the actors who play an important role, both directly and indirectly, are the Ministry of Public Work and Housing (Min PUPR) with a competitiveness score of 19, respectively. namely the position as actors affected by the policy (Erlinda 2020; Martelo and Pitre 2017; Rees and MacDonell 2017).

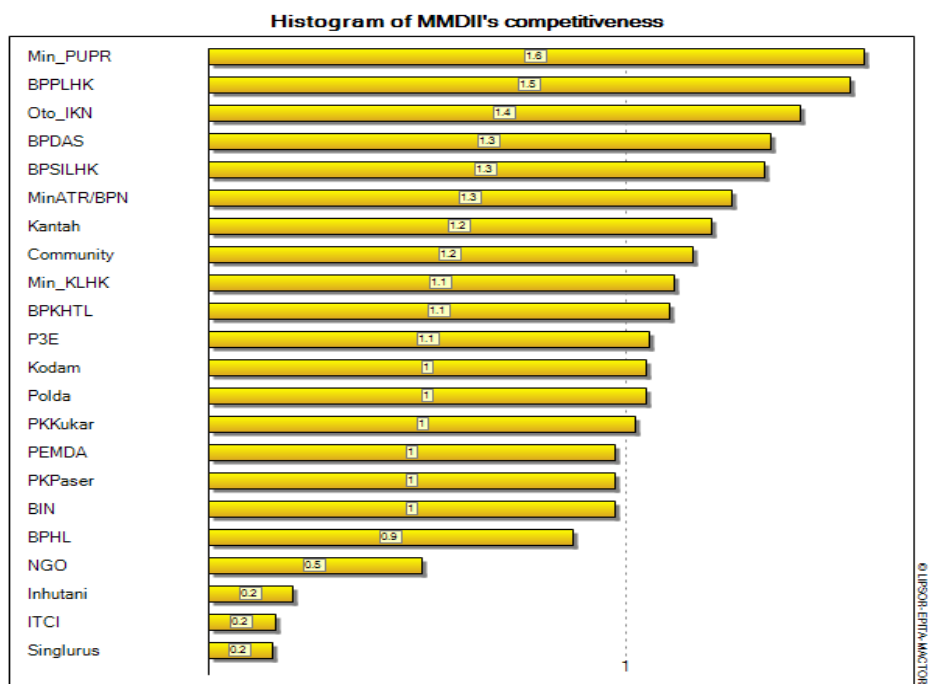


Fig. 3: Histogram of MMDII's competitiveness

Table 5: Convergence Matrix between actors

1CAA	Min_KLHK	BPKHTL	BPDAS	BPHL	P3E	BPSILHK	BPPLHK	Min_PUPR	Min_ATR/BPN	Kantah	Oto_IKN	BIN	PEMDA	PKPaser	PKKukar	Polda	Kodam	ITCI	Inhutani	Singlurus	Community	NGO
Min_KLHK	0	3	3	3	3	3	3	3	3	3	3	0	3	3	3	0	0	3	3	3	1	2
BPKHTL	3	0	3	3	3	3	3	3	3	3	3	0	3	3	3	0	0	3	3	3	1	2
BPDAS	3	3	0	3	3	3	3	3	3	3	3	0	3	3	3	0	0	3	3	3	1	2
BPHL	3	3	3	0	3	3	3	3	3	3	3	0	3	3	3	0	0	3	3	3	1	2
P3E	3	3	3	3	0	3	3	3	3	3	3	0	3	3	3	0	0	3	3	3	1	2
BPSILHK	3	3	3	3	3	0	3	3	3	3	3	0	3	3	3	0	0	3	3	3	1	2
BPPLHK	3	3	3	3	3	3	0	3	3	3	3	0	3	3	3	0	0	3	3	3	1	2
Min_PUPR	3	3	3	3	3	3	3	0	3	3	3	0	3	3	3	0	0	3	3	3	1	2
Mn_ATR/BPN	3	3	3	3	3	3	3	3	0	3	3	0	3	3	3	0	0	3	3	3	1	2
Kantah	3	3	3	3	3	3	3	3	3	0	3	0	3	3	3	0	0	3	3	3	1	2
Oto_IKN	3	3	3	3	3	3	3	3	3	3	0	0	3	3	3	0	0	3	3	3	1	2
BIN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEMDA	3	3	3	3	3	3	3	3	3	3	3	0	3	3	3	0	0	3	3	3	1	2
PKPaser	3	3	3	3	3	3	3	3	3	3	3	0	3	3	3	0	0	3	3	3	1	2
PKKukar	3	3	3	3	3	3	3	3	3	3	3	0	3	3	0	0	0	3	3	3	1	2
Polda	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kodam	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ITCI	3	3	3	3	3	3	3	3	3	3	3	0	3	3	3	0	0	3	3	3	1	2
Inhutani	3	3	3	3	3	3	3	3	3	3	3	0	3	3	3	0	0	3	3	3	1	2
Singlurus	3	3	3	3	3	3	3	3	3	3	3	0	3	3	3	0	0	3	3	0	1	2
Community	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0	0	1	1	1	0	0
NGO	2	2	2	2	2	2	2	2	2	2	2	0	2	2	2	0	0	2	2	2	0	0
Number of convergences	51	51	51	51	51	51	51	51	51	51	51	0	51	51	51	0	0	51	51	51	17	34

Table 5 above shows the degree of convergence between stakeholders. Where is the highest number of degrees was a convergence between the government agency. This convergence table condition shows how strong the convergence situation is between these stakeholders (Erlinda 2020; Rivera and Jiménez 2017). This trend of convergence is shown in **Figs. 4** and **5**, this is a graphic description of **Table 5**.

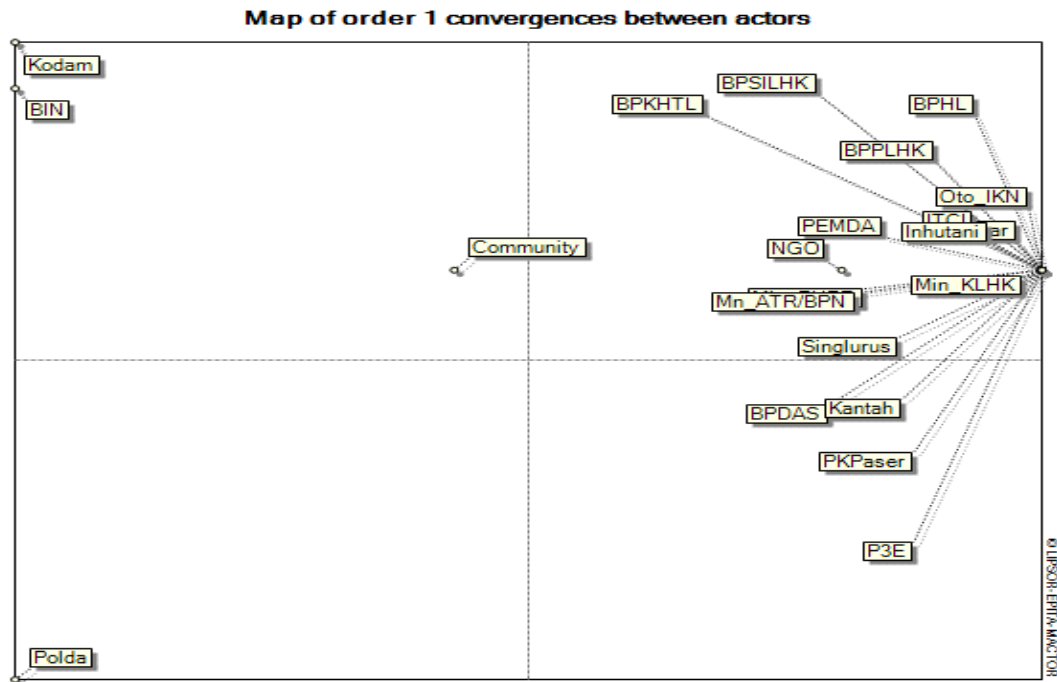


Fig. 4: Map of order 1 convergences between actors

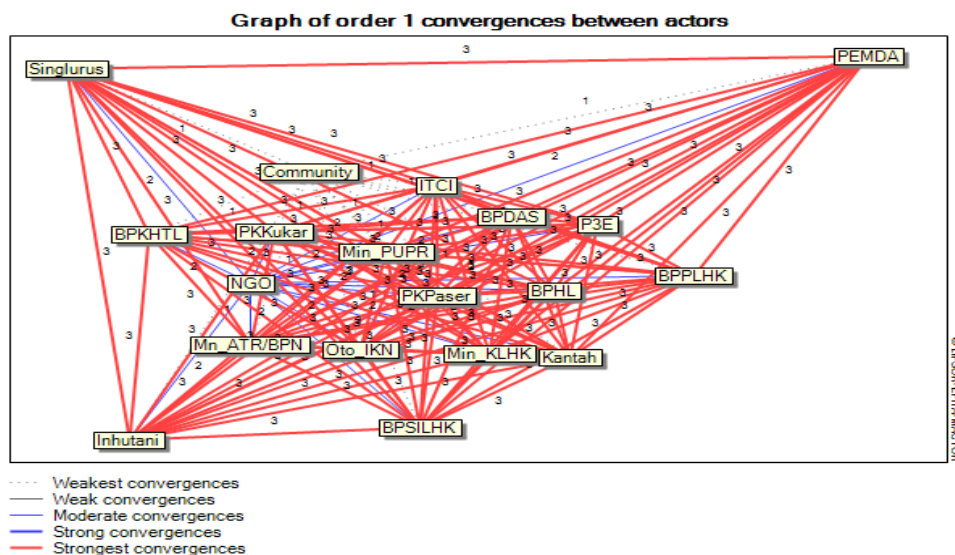


Fig. 5: Graph of order 1 convergences between actors

Table 6 shows the divergence of several stakeholders, where the degree of divergence is high, for community, with a score of 37. This means that community have very different interests from other stakeholders, while most government stakeholders tend to have low divergence scores, which means there is a tendency for conflict between these institutions to be relatively small (Erlinda 2020; Rivera and Jiménez 2017). **Table 6** shows the magnitude of the divergence or discrepancy between the actors. Where in the matrix above, farmers, fishermen, and farmers have the highest non-conformance rate compared to other actors. This explanation can be seen clearly in **Fig. 6** and **Fig. 7**.

Table 6: Divergence Matrix between actors

1DAA	Min_KLHK	BPKHTL	BPDAS	BPHL	P3E	BPSILHK	BPPLHK	Min_PUPR	Mn_ATR/BPN	Kantah	Oto_IKN	BIN	PEMDA	PKPaser	PKKukar	Polda	Kodam	ITCI	Inhutani	Singlurus	Community	NGO
Min_KLHK	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1
BPKHTL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1
BPDAS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1
BPHL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1
P3E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1
BPSILHK	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1
BPPLHK	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1
Min_PUPR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1
Mn_ATR/BPN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1
Kantah	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1
Oto_IKN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1
BIN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEMDA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1
PKPaser	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1
PKKukar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1
Polda	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kodam	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ITCI	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1
Inhutani	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1
Singlurus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1
Community	2	2	2	2	2	2	2	2	2	2	2	0	2	2	2	0	0	2	2	2	0	3
NGO	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0	0	1	1	1	3	0
Number of divergences	3	3	3	3	3	3	3	3	3	3	3	0	3	3	3	0	0	3	3	3	37	20

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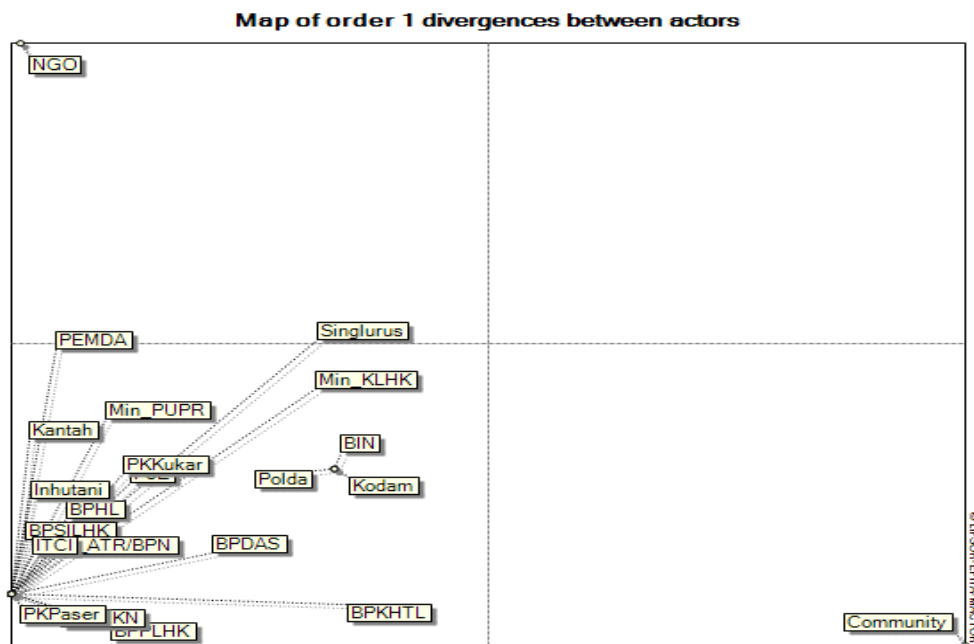


Fig. 6: Map of order 1 divergences between actors

Fig. 6 and Fig. 7 show the direction and magnitude of divergence between actors and also present the “distance” between actors to other actors, which illustrates how far or close these actors can collaborate with one another. (Erlinda 2020; Rivera and Jiménez 2017; Villegas and Alejandro 2011). These conditions show us the magnitudes of distance, the cluster of the same interest between the stakeholders.

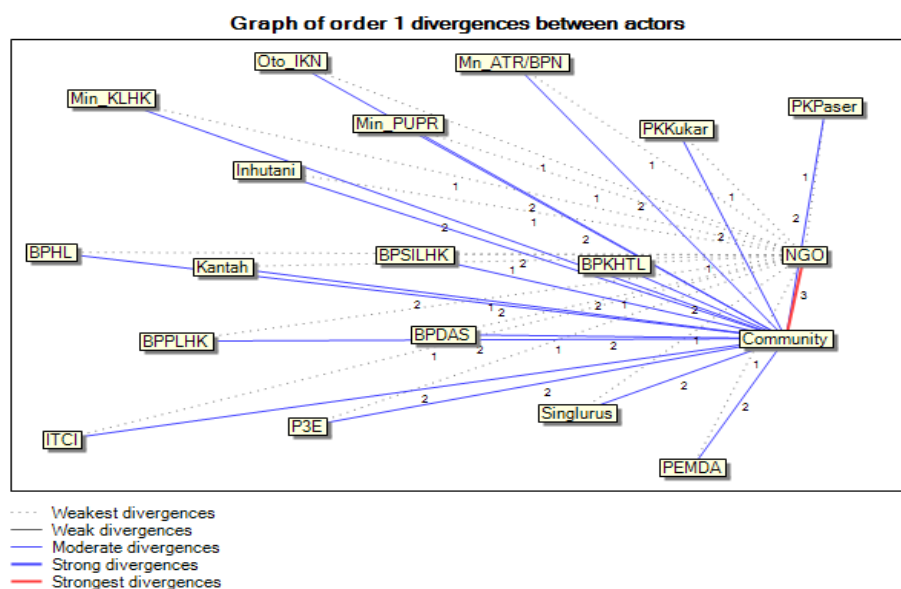


Fig. 7: Graph of order 1 divergences between actors

Fig. 8 presents the “distance” between actors to other actors, which illustrates how far or close these actors can collaborate with one another. Fig. 8 shows that the stakeholders of government stakeholders have a close range of interests, which means that the possibility of cooperation between these institutions is very strong. Other stakeholders also tend to have different interests (Erlinda 2020; Rivera and Jiménez 2017; Villegas and Alejandro 2011).

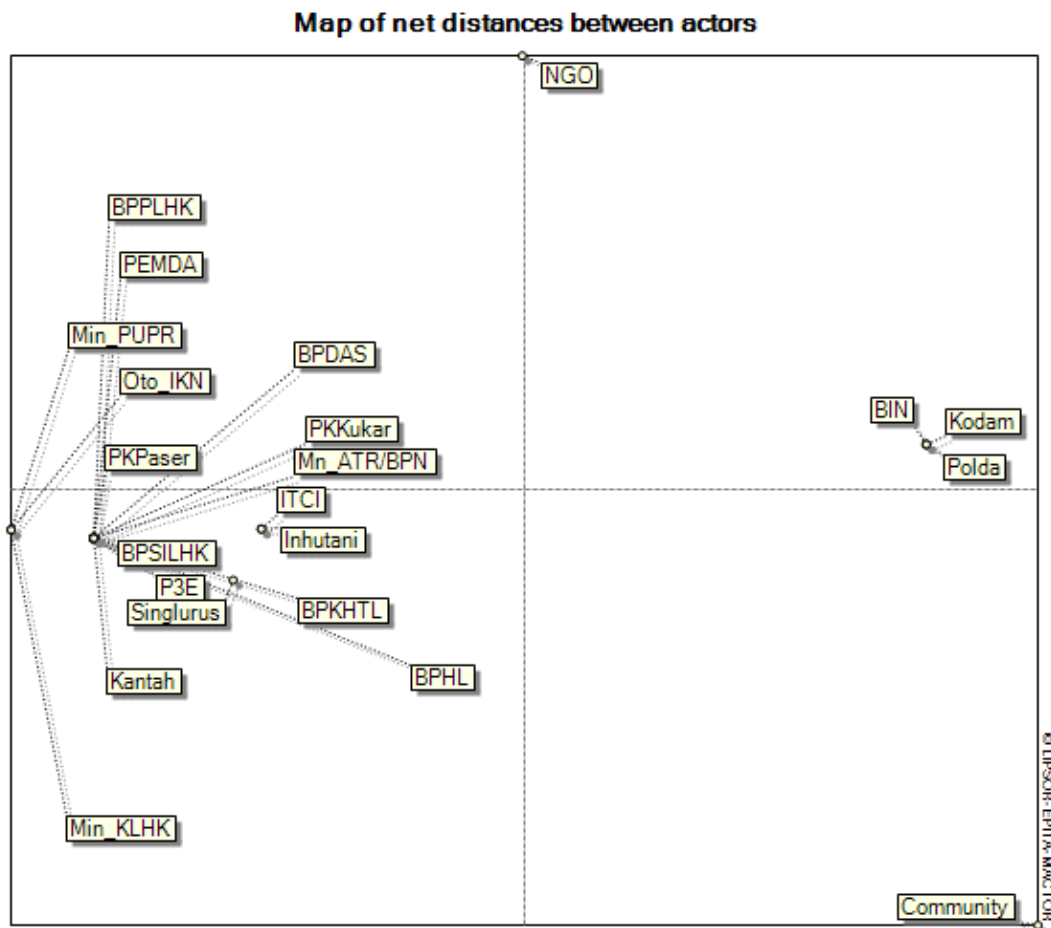


Fig. 8: Graph of the net distance between actors.

Fig. 9: below illustrates how far or close the actors (stakeholders) are to the objective (Erlinda 2020; Rees and MacDonell 2017). This picture shows a cluster of actors with the aim of forest city, sponge city and smart city

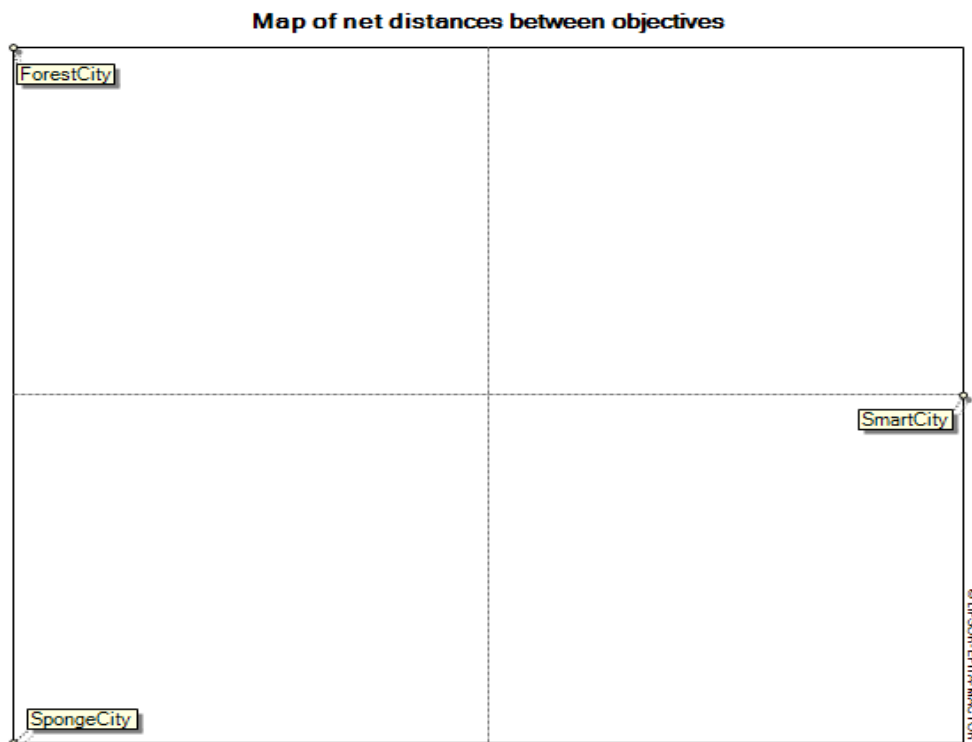
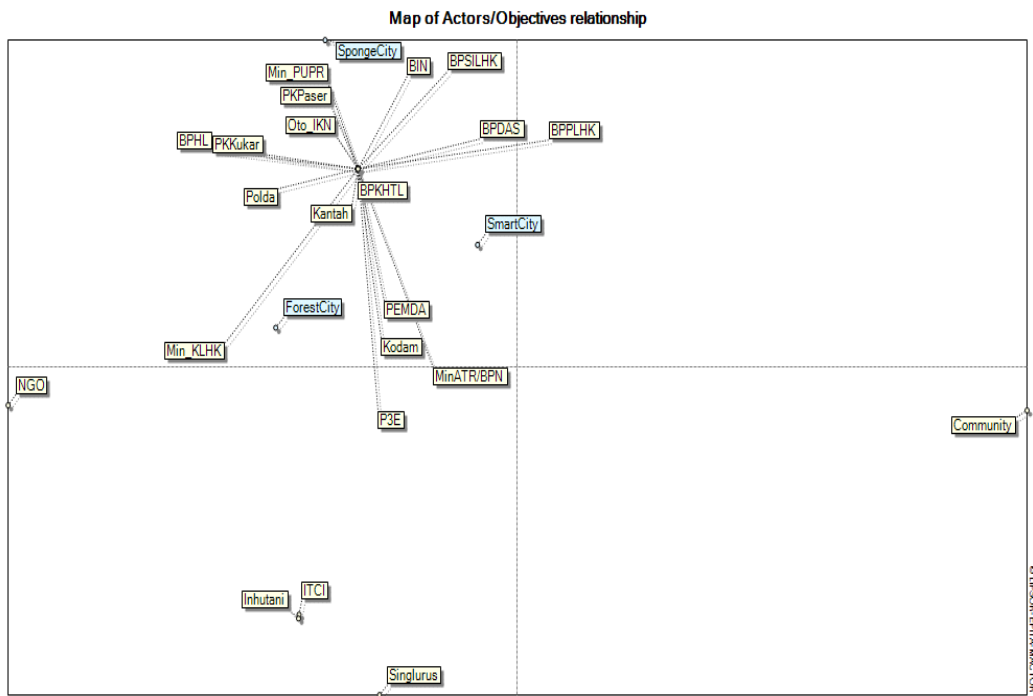


Fig. 9: Map of actor's /objectives relationship

4. CONCLUSIONS

This research has succeeded in identifying the variables and strategic stakeholders and the order of priority scale, which is the key stakeholders in the development of new Indonesia Capitol City, which is successful in a sustainable manner in supporting sustainable development for the new capitol. These variables are quite comprehensive, covering aspects of nature, economy, society, infrastructure, institutions, tourism, and conservation. The findings of this study become a very strong foundation for all parties involved in policy making to focus their policies on the variables contained in the determinant and relay quadrants, which strongly influence other variables.

The potential key stakeholders to affect the success of this study are Ministry of Public Work and Housing. By understanding the results of this research, all key stakeholders can be involved in decision-making through a good governance system that is supported by a balanced economic policy, social policy, forest use policy, and reservoir conservation, and environmental policy.

The results of this study are based on an institutional perspective, it is expected that the results can be used as a basis for managing the structure, resources, authority, and relationships between the Regional House of Representatives, local governments, related agencies, developers, and the business community, and communities that have been one of the pillars of the successful development area.

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