

## **Institutional Analysis of Tourism Destination Development in Karst Landscape Area: Community-based Tourism in Nglanggeran Village**

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### **Abstract**

The village of Nglanggeran in Gunungkidul possesses abundant natural and cultural tourism attractions. Through local wisdom and community-based tourism management, Nglanggeran has received numerous accolades as a Village Tourism destination. However, being part of the Karst Landscape Protection Area, Nglanggeran needs to consider a conservative and sustainable tourism development strategy that involves relevant stakeholders. This research aims to analyse the roles, positions, and interests of stakeholders within the community-based institution, which is the strength of Nglanggeran as a tourism village. The methodology combines literature study, content analysis, qualitative descriptive analysis, and Social Network Analysis using scientific articles and Regional Regulations (Perda) as data sources to map the institutional network patterns in Nglanggeran village. Aligning the institutional analysis results with the Perda containing tourism policy guidelines in the protected area, particularly the Karst Landscape Area in Nglanggeran village, yields recommendations to strengthen institutional functions in the effort to develop community-based and sustainable tourism in Nglanggeran village.

**Keywords:** Tourism village; karst area; institution; community; community-based tourism organisation; stakeholder.

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### **A. INTRODUCTION**

The tourism sector has the virtue of being able to mobilise many other relevant sectors, especially those that support tourism activities (*multiplier effect*). According to WTTC, the tourism sector directly employs more people than sectors such as manufacturing, banking, mining, and financial services (WTTC in Manaf et al., 2018b). The Indonesian government initiated the development of tourism villages as one of the efforts to alleviate poverty through the National Programme for Independent Community Empowerment (PNPM Mandiri) in 2010-2014. This programme intends to make local natural and cultural resources as the potential of regional tourism and local communities as the main subject of tourism activities. This destination development and management model is called local community-based tourism (Manaf et al., 2018b).

One example of a successful tourism village is Nglanggeran Tourism Village in the Pathuk sub-district of Gunungkidul, which is managed by a Pokdarwis (Tourism Awareness Group) that was actually formed before the PNPM Mandiri programme was implemented, in 2008 under BumDes and also supported by the Nglanggeran Village Youth Organisation. The main attraction of this village is its natural and cultural tourism potential with local wisdom. The village is considered successful because it received many awards, including the Kalpataru award from the Governor of Yogyakarta as the first winner of Environmental Preservation in 2009, the second winner of the National Pokdarwis in 2013 and the ASEAN Community-Based Tourism Award for the Best Tourism Village in Indonesia in 2017.

In practice, community-based tourism is not something that is easily realised. The challenge in realising a community-based tourism village is the community's lack of experience in tourism development and management, as well as their dependence on the expertise of other external actors

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(Tolkach and King, 2015). According to Mason, it is necessary to involve relevant stakeholder roles in elements of the tourism system that are beyond local capabilities. These stakeholders mainly work on the tourism system consisting of accommodation, attractions, transportation, travel organisers, and local destination organisations (management) (Mason in Manaf et al., 2018a). So, even though the local community is the central actor, collaboration with external actors is also needed in the collaboration of developing tourist destinations, but each actor or stakeholder cannot work individually in carrying out their role, that's where the role of organising is needed. It is also important to develop tourism destinations that are sustainable and maintain their existence for the welfare of the surrounding community.

Manaf et al. explained in their research that the Nganggeran village Pokdarwis is the main actor in community-based tourism management in Nglanggeran tourism village in Gunungkidul (Manaf et al., 2018a). Although the role of each actor is explained in their research, Manaf et al. did not explain how the hierarchy and patterns of relationships between actors are in terms of their position, interests, and influence. Is there another central actor who contributes as much as the Pokdarwis? Who has the most ease in interacting and providing information in the relationship from one actor to another? And which actor controls the information or acts as a facilitator in the network. This study aims to answer these questions by identifying the position, interests, and roles of stakeholders in the management of community-based tourism villages in Nglanggeran tourism village, so that it is expected to complement previous studies related to community-based rural tourism, especially in Nglanggeran village, Gunungkidul.

It is also necessary to compare it with local regulation documents related to tourism and environmental activities, whether the institutions in the management of the community-based Nglanggeran tourism village have also involved stakeholders directed in these documents. Because of its geographical position, Nglanggeran village is located in a karst landscape area (KBAK) which is a protected area with underground water potential that needs to be protected. So it is also an urgency to ensure that the implementation of tourism activities does not interfere with the main function of the karst area and the role of local communities who are the central actors is crucial in maintaining the environmental function of the karst area in the management of sustainable tourism destinations. According to UNWTO, the principle of sustainability refers not only to the economic, and socio-cultural but also the environmental aspects of tourism development, and an appropriate balance must be established between these three dimensions to ensure its long-term sustainability (UNEP and UNWTO, 2005). This research also aims to provide recommendations for stakeholder collaboration to develop institutional arrangements that are both local community-based and sustainable.

## **B. RESEARCH METHOD**

Technically, the research on institutions in the development of tourist destinations was conducted in two stages using a combined method of literature study, *content analysis*, qualitative description analysis, and social network analysis. The first stage analysed institutions in Nglanggeran tourism village using data sourced from scientific articles that discuss institutions with a case study on a community-based tourism village. The scientific article taken is the Scopus-indexed Journal of Sustainability with the article title *Community-Based Rural Tourism in Inter-Organizational Collaboration: How Does It Work Sustainably? Lessons Learned from Nglanggeran Tourism Village, Gunungkidul Regency, Yogyakarta* (Manaf et al., 2018a). This approach is carried out to identify and map the pattern of stakeholder relationships involved in the management of these tourist destinations, including their roles, positions, interests, and influences. Manaf et al.'s research was chosen on the basis of its completeness in describing stakeholder roles and accuracy in processing primary data sourced from interviews and observations. The pattern of

relationships between the parties involved in the development of tourist destinations in Nglanggeran tourism village was then visualised using the Social Network Analysis (SNA) model. Social Network Analysis (SNA) is a tool used to map relationships in social networks between individuals or the process of mapping and measuring relationships between one actor to another. This approach illustrates the pattern of network relationships between related parties that need to be involved in the optimal scenario of community-based tourism development involving a network of stakeholders who have a role in maintaining the environmental function of karst areas in the management of sustainable tourism destinations in accordance with local regulatory documents governing tourism destinations in karst areas.

The second stage is a benchmarking analysis of the two local regulations (Perda) documents to assess the suitability of the results of the first stage analysis to the direction of tourist destination development from the Perda, so that a recommendation can be made to strengthen institutional functions in sustainable community-based tourism in Nglanggeran village.

The selection of the two Local Regulation documents was made with the following considerations:

1. Ripparda of Gunungkidul Regency No. 3/2014 regulates the policy direction, strategies, and indications of tourism development programmes in Gunungkidul Regency where Nglanggeran Village is included.
2. The Technical Material of Gunungsewu Karst Area Development Strategy regulates the policy direction, strategy, and programme indication of the Spatial Plan of Strategic Spatial Unit (RTR SRS) in DIY which is also a Provincial Strategic Area (KSP) from the point of Socio-Cultural interests. This document is part of the Local Regulation Plan of Yogyakarta Strategic Spatial Unit. Nglanggeran Village is included in the delineation of karst landscape areas whose utilisation is regulated in the document.

### **C. LITERATURE REVIEW**

Institutions according to KBBI (1997) are defined as a system of social bodies or organisations that carry out a business to achieve certain goals. In general, institutions can be divided into two types, namely formal institutions and non-formal institutions. Meanwhile, according to James (2008), an institution is an entity of bureaucratic behaviour in conscious coordination through various forms of cooperation with various interests to achieve common goals. While institutional practice in tourism management in the village, focuses on measurable systematic efforts, by emphasising a measurable democratisation process, of course by involving all stakeholders ranging from local governments (provincial and district / city levels), village governments (local governments, youth groups, tourism awareness groups, and Bumdes) which also synergise and collaborate with the private sector, media and the community (Hilman, 2017).

In community-based tourism planning, collaboration is defined as the process of involving policy makers, key stakeholders across organisations, and local communities around the tourist attraction to make agreed decisions to solve problems in the planning and development of the tourist destination (Jamal and Getz, 1995). Each party involved in a system must benefit from collaboration. The main success of collaboration is the identification, legitimisation, and recognition of all stakeholder roles and their involvement in the planning process (Roberst in Manaf et al., 2018a).

Stakeholders are actors with an interest in a common problem or issue and include all individuals, groups, or organisations that directly influence the actions of other actors to solve the problem (Grey in Jamal and Getz, 1995).

According to Maryono, stakeholders are divided into 3 groups based on their level of interest and influence (Maryono in Yosefita in Handayani et al., 2017), namely:

1. Primary Stakeholder : Stakeholders who are directly affected (positively or negatively) in the implementation of activities in the planning, management and development stages.
2. Key Stakeholders : Stakeholders who have legal authority in terms of decision-making.
3. Secondary Stakeholders : Supporting stakeholders who do not have a direct interest in a plan but have a great concern for the development process. Such as the private sector, academics, non-governmental organisations and the media.

Meanwhile, according to Nugroho et al. based on their roles, stakeholders can be classified as follows (Cahyo Nugroho and Zauhar, 2014):

1. Regulator : Stakeholders who act as decision makers and determinants of a policy
2. Coordinator : Stakeholders whose role is to coordinate other stakeholders involved
3. Facilitator : Stakeholders who act as facility providers or accommodate and fulfil the needs of implementer stakeholders.
4. Implementer : Policy implementation stakeholders, which include target groups at the time of decision-making and policy determination.
5. Accelerator : stakeholders who play a role in accelerating and contributing and supporting the management of tourism activities.

#### D. RESULTS AND ANALYSIS

##### 1. Stakeholder Mapping

Manaf et al.'s research analyses how the role of each sector collaborates in running the tourism system which is grouped into five integrated sectors forming a system in the tourism industry formulated by Middleton in Mason. The five components of the tourism system are (1) accommodation, (2) attractions, (3) transport, (4) promotion, and (5) management (Middleton in Mason in Manaf et al., 2018a). Then the institutional elements were analysed and grouped into five categories of stakeholders consisting of (1) local communities, (2) government, (3) business/private sector, (4) academia and non-profit institutions and (5) media. Although Manaf et al. did not mention it in their research, when viewed from the grouping of stakeholder roles, the institutional model developed is a pentahelix collaboration model in tourism destination management.

**Table 1.** Stakeholder grouping based on their role in the tourism component

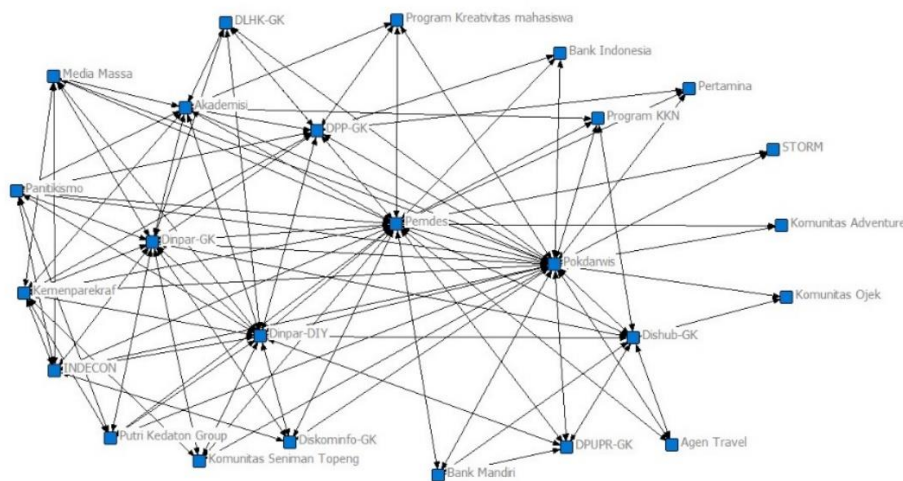
tourism components (Middleton in Mason in Manaf et al., 2018b)	Pentahelix Collaboration in the Management of Nglanggeran Tourism Village				
	Local community (pokdarwis* sub-group under BumDes)	Government	Private	Academics Non-Government Organisation	Media
Accommodation	Purba rasu*, Culinary*, Homestay*, Souvenirs* & souvenirs*, Infrastructure*	Kemenparekraf, Dishub-GK, Diskominfo-GK, DLHK-GK	Bank Mandiri	KKN programme	

<b>Attractions</b>	Outbound*, Art*, Agriculture*, Culinary*, Homestay*, SPA*, Infrastructure*	Kemenparekraf, Dinpar-DIY, DPP-GK	Mask artist community, Putri Kedaton Group, Pertamina, Bank Indonesia	Adventure community, student creativity programme, STORM
<b>Transport</b>	Motorbike taxi community	DPUPR-GK	Travel Agent	
<b>Promotion</b>		Dinpar-DIY		Adventure Community, INDECON/FOR KOM Mass media, Traveloka
<b>Management</b>	Outbound*, Art*, Agriculture*, Management*	Kemenparekraf, Panitikismo, Dinpar-GK, DPP-GK, village government		Academics-students of various universities

Source: (Manaf et al., 2018a)processed by the author (2022)

From the results of the stakeholder grouping analysis above, in the same tourism component, stakeholders can be grouped who collaborate and have a relationship pattern / reciprocal relationship. In addition, the duties and functions of the institution are also considered in analysing the pattern of relations / mutual relations between stakeholders so that visualisation can be produced using the *Social Network Analysis* (SNA) model. SNA helps in understanding the qualitative and quantitative characteristics of a social structure, both individuals and groups, through actor network mapping with a visualisation/graphic approach (Wasserman & Faust, 1994) (Scott, J., 2017) (Bogatti, S.P., et al., 2018). The visualisation results are as follows:

**Figure 1.** *Social Network Analysis* Visualisation Results



Source: Author (2022)

From the results of stakeholder modelling using SNA, the following outputs can be identified:  
*Degree centrality, closeness centrality, betweenness centrality*

	1 OutDegree	2 InDegree	3 NrmOutDeg	4 NrmInDeg		1 Farness	2 nCloseness		1 Betweenness	2 nBetweenness
Pokdarwis	24.000	24.000	100.000	100.000	Pokdarwis	24.000	100.000	Pokdarwis	88.885	32.205
Pemdes	23.000	23.000	95.833	95.833	Pemdes	25.000	96.000	Pemdes	70.385	25.502
Dinpar-DIY	15.000	15.000	62.500	62.500	Dinpar-DIY	33.000	72.727	Dinpar-DIY	11.885	4.306

Source: Author (2022)

The percentage of the relationship can be seen from the *density (matrix average)*. In the SNA model, the *density output* is 0.3233 or 32% (less than 50%), indicating a level of relationship between actors that is less strong and less than optimal exchange of resources. The output of *degree, closeness and betweenness centrality* indicates the same result, namely that Pokdarwis is the main central actor (as a primary stakeholder with the role of implementer). Other central actors with key stakeholder positions are the Village Government as a regulator and the DIY Tourism Office as a facilitator. In addition, it can also be identified that Pokdarwis has a role as an intermediary actor who has the most ease in interacting, providing information and controlling information in the relationship. Other actors with intermediary functions besides Pokdarwis (with *betweenness centrality* scores above 0) are the village government, DIY and Gunungkidul Tourism Office, Gunungkidul Transportation Office, Gunung Kidul Agriculture and Food Office, academics and Kemenparekraf. The results of the SNA model analysis can be summarised in a table of roles and positions of stakeholders as follows:

**Table 2:** Mapping of stakeholder roles, interests and positions

Position	Role	Stakeholders	Description of stakeholder roles & interests (Manaf et al., 2018a)
<b>Primary Stakeholder</b>	Regulator	Village government (central actor)	Formulate and issue policies and regulations to provide a legal umbrella for tourism activities, especially for third parties who will cooperate; provide consideration and direction in decision-making on tourism activities.
	Facilitator		Perform administrative functions related to regional authority; Receive 30% revenue from tourism activities which is deposited in the Village Treasury and then returned to improve various public facilities in the Village
	Implementer	Pokdarwis (central actor)	Managing outbound attractions, farmer groups, providing accommodation and services, producing souvenir products, maintaining the cleanliness of the Ancient Volcano environment.
	Coordinator		Coordinate various trainings and organise art groups and cultural activities.
<b>Key Stakeholders</b>	Facilitator	DIY Tourism Office (central actor)	Facilitate promotional activities through exhibitions, networks of tourism actors and the media; provide assistance in making tracks to Ancient Volcanoes
		Gunungkidul Tourism and Culture Office	Facilitate promotional activities through exhibitions, networks of tourism actors and media; Provide training related to the development and management of tourism activities and skills for human resources.
	Regulator		Formulate policies and regulations to provide a legal umbrella for cultural and tourism activities

			and regulations related to DED, Masterplan and Siteplan in the Core Zone of the Nglanggeran Tourism Village Area.
Facilitator		Kemendikbud	Formulate and issue policies/regulations to provide a legal umbrella for tourism activities
		Kemendikbud	Provide non-physical assistance, Provide capacity building and mentoring programmes
		Gunungkidul Environment and Forestry Service	Develop regulations on flora and fauna conservation
			Supervise flora and fauna conservation activities at Nglanggeran Tourism Village
		Panitikismo	Providing non-physical assistance for the Right of Use of the Ancient Volcano area
		Gunungkidul Agriculture and Food Service	Fostering and providing assistance to agricultural activities in Nglanggeran Tourism Village
		Gunungkidul Transport Office	Provide physical support programmes such as signboarding
		Gunungkidul Communication and Information Agency	Providing physical assistance programmes such as internet networks and website development facilitation
Secondary Stakeholders	Implementer	Mask artist community	Provide batik mask attractions that cannot be provided by the local community
		Ojek Community	Provide local transport services
	Facilitator	Academics	Provide recommendations from the results of the research on tourism management based on the Tourism Village.
		Putri Kedhaton Group	Provide assistance in spa therapist training and scrub making
		Travel Agent, Traveloka	Provide transport and liaison between tourists and tour packages
		INDECON	Mediator of communication, consultation and promotion
		Adventure Community	Provide services and equipment for nature lovers' activities, Be a non-physical contributor in the form of participation in conservation activities, promotion and communication
	Accelerator	Bank Mandiri	Provide financial and infrastructure support
		Pertamina	provide agricultural seedling assistance
		Bank Indonesia	Provide Cocoa processing training to PKK /Pokdarwis Groups
		STORM	provide training in foreign language skills
		Student Creativity Programme	Provide training to farmer groups
		KKN programme	providing science applications for the community such as signboarding
		Mass media	Promoting tourism activities in Nglanggeran Tourism Village through news coverage

Source: (Manaf et al., 2018a)processed by the author (2022)

## 2. Comparison with Ripparda Gunungkidul

In the Regional Regulation of Gunungkidul Regency No.3 of 2014 concerning the Master Plan for Regional Tourism Development of Gunungkidul Regency 2014-2025, Nglanggeran Tourism Village in Pathuk Sub-district is included in the delineation of Provincial Strategic Area (KSP) IV with the following written provisions:

Strategies for the development of KSP IV Featured Tourist Attractions of mountainous nature with supporting educational, conservation and adventure tourism as referred to in Article 20 letter d by developing Tourism Development Areas include:

**Table 3.** List of tourism development strategies in KSP zone IV

No.	KSP IV development strategy	Facilitated (based on Table 2, stakeholder role description section) (Manaf et al., 2018a)
1	Nglanggeran Ancient Volcano, Butak Mountain and Banyunibo Waterfall as a nature tourism area based on education, family and adventure tourism.	V
2	Durian and cocoa orchards and fruit market (Patuk) as a nature tourism area based on education and family tourism.	V
3	Telaga Kemuning, Jelok Out Bond Site as a nature tourism area based on education, conservation and relaxation tourism.	V
4	Bobung Wood Batik Crafts as a tourism area based on education and cultural tourism	V
5	development of Tourism Villages and Cultural Villages as mountain nature tourism areas supported by education, conservation and adventure	V
6	development of Man-Made Tourism Attractions as Tourism Areas supported by education, conservation and adventure	V
7	Pathuk's border areas with Bantul and Klaten regencies are encouraged to become centres for trade, culinary, souvenirs, entertainment and hospitality.	V*

Source: (Gunungkidul Regency Tourism Office, 2014)processed by the author (2022)

From the results of comparing the development strategy of KSP IV in the Ripparda of Gunungkidul Regency (Table 3) with the results of the stakeholder mapping analysis (Table 2), it can be concluded that the target of the Tourism Area development strategy has been achieved and facilitated by the existence of institutions in Nglanggeran tourist village. However, it still requires development, one example is related to the accommodation component, which can be done in collaboration with the private sector (investors/hotels).

### 3. Comparison with Gunungsewu Karst SRS RTR

Nglanggeran Tourism Village in Pathuk Sub-district is included in the delineation of the buffer zone of the Gunungsewu Karst Strategic Space Unit (SRS). Tourism area management directions in the Gunungsewu Karst buffer zone based on the Gunungsewu Karst SRS Spatial Plan (RTR) are as follows:

**Table 4.** Tourism management direction in the Gunungsewu Karst buffer zone

No.	Management direction of the Karst Buffer Zone Tourism area	Already facilitated (reviewed from Table 2 section on stakeholder role description) (Manaf et al., 2018a)
1	Develop agritourism areas and facilities	V
2	Carry out supporting activities with due regard to the preservation of protected functions	V
3	Prohibit buildings that are not related to tourism	-
4	Develop areas that maintain the ecosystem	V
5	Control the growth of facilities and infrastructure	-

Source: (Yogyakarta Special Region Land and Spatial Planning Agency, 2019), author processed (2022)



**Table 5.** Main programmes and implementing agencies in the Gunungsewu Karst SRS RTR

No.	Main programme	Location	Implementing agency
1	Development of tourist path accessibility	all tourism areas in the buffer zone	DIY Tourism Office, Tourism Office of Gunungkidul Regency, <b>DIY Cultural Office</b> , Cultural Office of Gunungkidul Regency, Cultural Office of Bantul Regency, <b>DPUP ESDM DIY</b> , DPUPRKP Gunungkidul Regency
2	Development of public transport routes, and fleets	paths that connect natural and cultural tourism areas	<b>DPUP ESDM DIY</b> , DPUPRKP Gunungkidul Regency, <b>Transportation Agency DIY</b> , Transportation Agency Gunungkidul Regency,
3	Development of tour packages	Tourism area	<b>DPUP ESDM DIY</b> , DPUPRKP Gunungkidul Kab, <b>Transportation Agency DIY</b> , Transportation Agency Gunungkidul Kab, Private Sector
4	Development of intermodal transport	Tourism Priority Areas (KPP)	<b>DPUP ESDM DIY</b> , DPUPRKP Gunungkidul Regency, DPUPKP Bantul Regency, <b>Transportation Agency DIY</b> , Transportation Agency Gunungkidul Regency
5	Telecommunication network development	Tourist and cultural attractions	<b>Diskominfo DIY</b> , Diskominfo Kab. Gunungkidul, private sector
6	Realisation of Wastewater Network	Tourism area	<b>DPUP ESDM DIY</b> , DPUPRKP Gunungkidul Kab, DLH Gunungkidul Kab.
7	Solid Waste Network Realisation	Tourism area	
8	Development of nature and special interest tourism	Areas of unique geological processes throughout the core area	DIY Tourism Office, Tourism Office of Gunungkidul Regency, <b>DIY Cultural Office</b> , Cultural Office of Gunungkidul Regency, <b>DPUP ESDM DIY</b> , DPUPRKP Gunungkidul Regency
9	Development of prehistoric cultural heritage tourism (caves)	Caves along the karst landscape area	
10	Development of Hindu-Buddhist cultural heritage tourism	Nglanggeran statue	DIY Tourism Office, Gunungkidul District Tourism Office, <b>DIY Cultural Office</b> , Gunungkidul District Cultural Office
11	Construction of tourism promotion and information nodes	Patuk sub-district	
12	Agritourism Development	Pathuk sub-district	<b>Department of Agriculture and Food of Yogyakarta</b> , Department of Agriculture and Food of Gunungkidul Regency, Department of Tourism of Yogyakarta, Department of Tourism of Gunungkidul Regency
13	Tourism Village Development	Nglanggeran Village	DIY Tourism Office, Gunungkidul Regency Tourism Office
14	POKDARWIS Empowerment	All tourism areas in the buffer zone	
15	Improved environmental quality of tourist areas	All tourism areas in the buffer zone	DIY Tourism Office, Tourism Office of Gunungkidul Regency, <b>DIY Cultural Office</b> , Cultural Office of Gunungkidul Regency, <b>DPUP ESDM DIY</b> , DPUPRKP Gunungkidul Regency,
16	Control of tourism area space utilisation	All tourism areas in the buffer zone	DPTR DIY, DPTR Kab. Gunungkidul, Tourism Office DIY, Tourism Office Kab. Gunungkidul, <b>Cultural Office DIY</b> , Cultural Office Kab. Gunungkidul,

17	Regular and continuous supervision and monitoring of tourism areas	All tourism areas in the buffer zone	DIY Tourism Office, Gunungkidul District Tourism Office, <b>DIY Culture Office</b> , Gunungkidul District Culture Office
18	Empowerment and increased active participation of neighbouring communities in tourism area management	All tourism areas in the buffer zone	Office

Source: (Yogyakarta Special Region Land and Spatial Planning Agency, 2019), author processed (2022)

From the results of comparing the direction of tourism area management in the Gunungsewu Karst buffer zone (Table 4) with the results of stakeholder mapping analysis (Table 2), it can be concluded that there are several policy directives that have not been achieved such as prohibiting buildings that are not related to tourism and controlling the growth of facilities and infrastructure. These two directives are important in achieving the sustainability of tourism activities without disturbing the function of the karst protected area itself, so it is necessary to involve stakeholders who have main tasks and functions (tupoksi) in the programme, be it the local government, pokdarwis sub-groups, academics/NGOs or the private sector.

Then from the results of comparing the main programmes and implementing agencies in the Gunungsewu Karst SRS RTR (Table 5) with the results of the stakeholder mapping analysis (Table 2), it can be concluded that there are several regional agencies, especially at the provincial level, that have not been involved in the institutional management of Nglanggeran tourist village, namely the DIY Culture Office, DIY Public Works and Energy and Mineral Resources Office, DIY Transportation Office and DIY Agriculture and Food Office. So that for future institutional development, it is necessary to consider the involvement of these stakeholders as an effort to strengthen institutional functions in Nglanggeran tourism village in the context of sustainable community-based tourism development.

## E. CONCLUSION

The following conclusions can be drawn from the analysis above:

1. Success in the management and development of tourist destinations is highly dependent on institutions. In the case of Nglanggeran Tourism Village, institutions are organised according to their respective roles and positions and collaborate with other actors in the management of tourism programmes in Nglanggeran Village. Thus, each component that forms a tourist destination in Nglanggeran Village is handled equally.
2. In the analysis of stakeholder mapping in the institutional management of Nglanggeran tourism village, an institutional pentahelix collaboration pattern was found, the Nglanggeran tourism village area was considered successful in running community-based tourism because of the pentahelix collaboration model between the government, community, private sector, academics and NGOs and promotional media in managing local community-based tourism activities.
3. However, from the *Social Network Analysis* (SNA) model, the results indicate that the level of relationships between actors is still not strong and the exchange of resources is not optimal.
4. Community-based tourism village management makes Pokdarwis the central actor, and this is also validated by the results of the SNA analysis. Pokdarwis and the village government act as central actors as well as intermediaries, while the most influential actor from the local government side is the DIY Tourism Office.

Recommendations for the improvement of the panarchy model can be detailed from the results of the analysis of the Nglaggaran village institutional pairing with the two Regional Regulation documents, as follows:

1. From the Ripparda Gunungkidul document, the local government's target has been well facilitated by the Nglaggaran village institutional model, but in the future, development efforts still need to be made such as involving the private sector in the development of the accommodation component.
2. From the Gunungsewu Karst SRS Technical Material document, there are two development directions that have not been facilitated by the institutional model in Nglaggaran village. These directions are important to pursue in order to achieve sustainability of tourism activities in the Karst Landscape Protected Area, so it is necessary to involve stakeholders who have a role in the two programmes, be it the local government, pokdarwis sub-groups, academics/NGOs or the private sector.
3. In the future, there needs to be more involvement of stakeholders from regional agencies at the provincial level, especially those that do not yet exist in the institutional structure of Nglaggaran Tourism Village Management to realise conservative and sustainable tourism village development. These stakeholders include: DIY Culture Office, DIY Public Works and Energy and Mineral Resources Office, DIY Transportation Office and DIY Agriculture and Food Office.

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