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## Implementation of the General Spatial Planning Policy for the Jatinangor Urban Area, Sumedang Regency, West Java Province

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### Abstract

With abundant wealth, the Indonesian state has valuable resources for developing its country. Therefore, development needs to be carried out evenly in various regions throughout Indonesia. Unfortunately, however, the spatial conditions in the urban area of Jatinangor, which develop naturally and are not planned, give rise to various complex problems. This study then aims to see how the policy implementation of the General Spatial Plan for the Jatinangor Urban Area, Sumedang Regency, West Java Province. The method used in this study uses a qualitative method with an inductive approach. Data analysis will be carried out using a SWOT analysis. Research data comes from interviews and literature studies. The results of this study then found that, in practice, implementing the general spatial plan for the Jatinangor urban area was influenced by factors such as policy content, information, support, and potential distribution. Through the SWOT analysis results, at least five strategies were found in overcoming various obstacles to implementing the general spatial plan for the Jatinangor urban area. These strategies include making KPJ one of the regional priorities for Sumedang Regency; increasing the commitment of implementers in managing the urban area of Jatinangor; facilitating lands whose types of use have been determined according to the detailed spatial layout plan; preparing a detailed spatial plan (RDTR) for Jatinangor District; and make a monitoring and evaluation schedule for each stage of the implementation of KPJ management.

**Keywords:** *Jatinangor Management Area (KPJ), General Spatial Plan for Jatinangor Urban Area, Policy Implementation, SWOT.*

### Introduction

Indonesia is a large country with 38 Provinces, 415 Regencies, and 93 Cities. Indonesia's total area reaches 1,904,569 km<sup>2</sup> with a land area of 1,811,570 km<sup>2</sup>, ranking 15th as the largest country in the world. Indonesia's population is recorded at 273.87 million people. Indonesia has many islands from Sabang to Merauke, with abundant natural wealth stretching throughout the archipelago (Muluk & Pratama, 2021). This capital is significant for the implementation of development in Indonesia, but development needs to be carried out evenly so that there are no gaps in each region. A region is part of a country that is divided into several regions or regions. An area requires a development plan to support its progress of the area. The progress of an area with development can influence in many ways, such as economic, social, and environmental aspects (Achamd et al., 2022).

Regional development is an effort to improve quality and provide various services for the community sustainably so that regional economic growth and people's income can continue to increase to meet or achieve community welfare. Regional development aims to prosper the people or make society better than before. Carrying out the development of an area requires planning. The purpose and function of planning are to support coordination between development actors, ensure integration, synchronization, and synergy between regions, and ensure linkages and consistency between planning, budgeting, implementation, and supervision. The aspects that must be considered in a general development plan must cover all aspects of life. This is necessary to achieve the aspirations of a prosperous Indonesian nation both in the long and short term (Surya et al., 2021). These aspects include: 1) Environmental aspects, 2) Aspects of potential and problems, 3) Aspects of planning institutions, 4) Elements of space and time, and 5) Policy legalization aspect.

Spatial planning aims to reduce regional disparities and support regional development. Planning, implementation and maintenance are needed based on the regional potential to reduce regional differences. Accordingly, to support regional development, it is necessary to be supported by relevant regulations governing regional development (Talitha et al., 2020).

Based on the Regulation of the Minister of Public Works and Public Housing No. 17 of 2009 concerning Guidelines for the Preparation of City Area Spatial Plans, the benefits realize integrated development within the city area, realizing harmony between the development of the city area and the surrounding area, and guaranteeing the realization of a quality urban spatial planning. The Sumedang Regency Spatial Plan has been regulated in the Sumedang Regency Regional Regulation Number 4 of 2018 concerning the 2018-2038 Regional Spatial Plan. The spatial planning aims to support the realization of Sumedang Regency as an agribusiness district supported by tourism and industry in a practical, competitive, and sustainable manner (Roestamy et al., 2022).

Based on the Sumedang Regency Profile from an administrative and functional aspect, it has a land area of approximately 155,871.98 hectares consisting of 26 (twenty-six) sub-districts, seven sub-districts, and 270 villages. The population of Sumedang Regency, based on the 2021 population projection, is 1,152,507 people consisting of 574,684 male residents and 584,770 female residents, this population growth has experienced a growth of 0.51%. Of the 26 sub-districts in the Sumedang Regency area, one of the sub-districts whose area is very close to the border of Bandung Regency is Jatinangor District. Jatinangor is a sub-district in Sumedang Regency, now an educational area in West Java Province.

Following Presidential Regulation Number 45 of 2018 concerning Spatial Planning for the Bandung Basin Urban Area, Jatinangor District is included in the Bandung Basin Urban Area and is designated as an area whose development is encouraged. Regional Regulation of West Java Province Number 22 of 2010 concerning the 2009-2029 West Java Provincial Spatial Planning stipulates Jatinangor District as a Provincial Strategic Area. Given that government activities are legal and written, the scope of the Jatinangor Urban Area needs to be formally determined in a statutory regulation. Following Article 18 paragraph (2) of Government Regulation Number 59 of 2022 concerning Urban Areas, it states that Urban Areas that are formed in a planned manner can be carried out by the Central Government, Regional Governments, and Legal Entities following statutory provisions (Fuadina et al., 2020).

Spatial planning is closely related to the urban area development. Sutami developed the concept of urban area development in the 1970s with the idea that intensive infrastructure

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development would accelerate urban development. Purnomosidhi contributed to the birth of the hierarchical concept of cities, which is a hierarchy of road infrastructure through the Order of the City (Indrajit et al., 2020). Ruslan Diwiryo introduced the concept of spatial pattern and spatial structure to the latest era of development at the beginning of the millennium and directed the concept of developing urban areas as a tool to realize the integration of the Unitary State of the Republic of Indonesia. Furthermore, spatial planning has an essential role in implementing development for the realization of sustainable development, namely in the form of making a real contribution to the development of regions and cities that are sustainable so that justice and prosperity for the people of Indonesia can be achieved (Surya et al., 2020).

According to Law Number 11 of 2020 Concerning Job Creation, the meaning of space is a container that includes land space, sea space, and air space, including space within the earth as a single territory, where humans and other living things carry out activities and maintain their survival. Spatial planning is a system of spatial planning, space utilization, and spatial use control. Spatial planning is a form of spatial structure and spatial patterns. A spatial structure is an arrangement of settlement centers and a network system of infrastructure and facilities that support the community's socio-economic activities, which hierarchically have a functional relationship (Manullang et al., 2023). The spatial pattern is the distribution of spatial allotment in an area, including space allotment for protection and cultivation functions. Spatial planning is a system of spatial planning processes, spatial use, and control of spatial use.

The Sumedang Regency Government regulates general spatial planning for the Jatinangor Subdistrict through the Sumedang Regency Regional Regulation Number 14 of 2006 concerning the General Spatial Plan for the Jatinangor Urban Area as a guideline for the use and control of spatial service as well as a guideline for the preparation of a more detailed spatial plan in Jatinangor Subdistrict. Control of spatial use is carried out through monitoring and control of spatial use in Jatinangor District and as material for coordinating the management of orderly use of space carried out by the Regent through a team appointed by the Regent by involving community participation. The implementation of this policy has not been realized since it was enacted until now due to the many obstacles encountered during its implementation. This resulted in Jatinangor District continuing to develop naturally without planning, giving rise to many complex problems (Undang et al., 2022).

In Jatinangor District, there are several tertiary institutions, namely Padjadjaran University, the Institute of Home Affairs Governance (IPDN), the Indonesian Cooperative Management Institute (IKOPIN), and the Bandung Institute of Technology (ITB). In addition, there is a Kiara Payung campground, a Training Center for State Administration Institutions; and the Ministry of Home Affairs Training Center in this area. As a sub-district designated as a strategic area, Jatinangor Sub-District is already characterized as an urban area, where Jatinangor Sub-District has met the requirements to become an urban area as outlined in Article 1 point three of Republic of Indonesia Government Regulation Number 59 of 2022 states that an urban area is an area that has activities mainly non-agricultural, with the arrangement of area functions as residential, urban areas, concentration, and distribution of government services, social services, and economic activities.

Land use types are not available specifically for green open spaces such as water catchment areas or special land for industry, trade, and government. So that the basis for development based on the land use type becomes irregular and correct. While the Jatinangor

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District has great potential, the area's spatial planning should be better to encourage the surrounding sub-districts (Diehl et al., 2020).

Then it was discovered that the largest population was in Cipacing Village, with 19,653 people. Many residents in Cipacing Village will undoubtedly affect the number of settlements and other facilities. The more the population, the more settlements will be built and the higher the demand for other facilities available. Meanwhile, the land area in Cipacing Village is not large compared to that in Cilayung Village, Cileles Village, and Hegarmanah Village. This will trigger development on land that is not following the type of use that has been determined. This can also result in the development of Jatinangor District becoming undirected and under control over time. Therefore, more detailed and detailed spatial planning is needed so that each village's development follows the land area based on the type of use.

Then it is also known that the district that has the highest average waste generation is the Jatinangor District. This high waste generation will trigger other impacts, such as drainage buried with garbage, resulting in flooding during the rainy season. Suppose the spatial planning in Jatinangor District is not appropriately managed. In that case, this will undoubtedly become a problem that will disrupt the quality of the Jatinangor urban area, making it look like a slum place. Spatial conditions in the urban area of Jatinangor, which develop naturally and are not planned, give rise to various other complex problems. Therefore, researchers can understand that there will be many adverse impacts caused by the absence of spatial planning in an area, especially in the Jatinangor Urban Area, so commitment is needed to realize the formation of the Jatinangor urban area (Suwardhi et al., 2022).

From this background and the problems faced, the researcher is very interested in researching the issues of the Jatinangor Urban Area with the title Implementation of the General Spatial Planning Policy for the Jatinangor Urban Area, Sumedang Regency, West Java Province.

## **Method**

The method used in this study is a qualitative method with an inductive descriptive approach. The approach in this study uses inductive analysis intending to enable research findings to emerge from the general state or initial state of the dominant and significant themes present in the data without neglecting its methodological structure, which aims to understand the meaning of complex data through the development of themes that are summarized from the initial data. The data sources for this research are primary and secondary data in the form of official websites, journals, and papers supporting research.

## **Result and Discussion**

### **Implementation of the General Spatial Planning Policy for the Jatinangor Urban Area Based on Regional Regulation Number 14 of 2006**

Supporting factors in managing the urban area of Jatinangor District can be seen in strengths and opportunities.

a) Strength

Based on the discussion analysis of the research results, it was found that several factors became strengths in supporting the implementation of the Jatinangor Urban Spatial General Plan policy in the development of the Jatinangor Urban Area, including:

- 1) Regional Regulation Number 15 of 2021 concerning the Management of the Jatinangor Urban Area has been established.
- 2) A coordinating team has been formed through District Head Decree Number 70 of 2022 concerning the Establishment of the Jatinangor Urban Area Management Coordination Team

b) Opportunity

The opportunity factor is a favorable condition in problem analysis as support. In this study, researchers sought and analyzed external data opportunities for implementing the Jatinangor Urban Spatial General Plan policy in developing the Jatinangor urban area. Opportunity factors are derived from the findings of field-based research and analysis.

Based on the analysis of the discussion of the results of the research conducted by the researchers, several factors have been found that have the opportunity to support the implementation of the Jatinangor Urban Spatial Planning General Plan policy in the development of the Jatinangor Urban Area, including:

- a) Jatinangor District is the most significant contributor of local revenue (PAD) in Sumedang Regency, with a total value of PBB income;
- b) The Jatinangor sub-district government has carried out development projects with funds originating from the community for the needs of the community itself. This proves that the people of Jatinangor fully support development to become an urban area.
- c) One of the reasons why the Sumedang Regency government does not want private management is the fear that the Jatinangor Subdistrict will eventually separate from the Sumedang Regency government and become a New Autonomous Region.

However, according to Mr. Ismet, the Sumedang Regency Government can still cooperate with the private sector to help manage the Jatinangor Sub-District by remaining the official manager, namely by being the supervisor and making agreements with the private party.

### **Factors Constraining Policy Implementation**

Various factors hinder the implementation of the General Spatial Planning Policy for the Jatinangor Urban Area. These factors, among others, are as follows:

a) Policy Content

Policy content is essential because a policy has a series of concepts and principles that serve as guidelines and the basis for plans in carrying out a job, leadership, and how to act. The content of the policy can refer to an organization's process of making important decisions, including identifying various alternatives, such as program priorities or expenditures, and selecting them based on their impact. These policies have political, management, financial, or administrative mechanisms to achieve an explicit goal.

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Factors that impede the achievement of policy content consist of Policy Purpose, Goals to be Achieved, and Plans to Achieve Goals.

b) Information

The implementer of the policy will implement the approach that has been made, and the impact will be felt, whether it has a good or bad effect on the recipient of the policy. If a policy is made with good planning, the impact will be good if the implementation goes well. Good communication is needed from each component involved to realize exemplary policy implementation. This communication is done to ensure the information can be appropriately conveyed. Information regarding the policy needs to be coordinated with each component so that there is harmony in implementing the policy. An information must contain accuracy and novelty as well as validity. Researchers measure the quality of policy information with indicators that, according to researchers, are important to convey to each component, including Agenda, Formulation, Determination, Implementation, Evaluation, and Socialization.

c) Support

Implementing a public policy will be very difficult if there is not enough support for the implementation of the policy. The support includes funds, human resources, and other resources needed to implement a policy.

The more valid the policies issued by the government, the greater the credibility/quality, and vice versa. Therefore, to measure the strength of content or substance and policy messages can be seen through:

- 1) The number of funds allocated with the assumption that the larger the funds allocated, the more seriously the policy is implemented.
- 2) The form of the policy includes, among other things, the clarity of the procedure, the consistency of implementation, the frequency of performance, and the receipt of messages correctly.

Resource support in implementing a policy is an essential factor. Resources in a program/policy are not only human resources but also facilities and infrastructure, implementing officials are also factors that support the success of achieving policy implementation. The inability of human resources to enforce policies can be categorized in the technical and administrative fields, which sometimes confuses people when new policies are very closely related to announcements of new policies and programs, which will cause disappointment to the community. Therefore, to support a policy in its implementation, it is hoped that policy implementers must have qualified capabilities, be able to utilize their authority, build good cooperative relations between implementers and the existing bureaucratic structure, and know how to coordinate the various resources available within the organization and the community. The factors that are in support include the budget, facilities and infrastructure, human resources, and investors.

d) Potential Sharing

Distribution of potential consists of Organizational Structure, Main Duties and functions, and Organizational Authorities

- 1) Organizational structure

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The implementation of organizational structure might be problematic if the distribution of authority and responsibility is not fitted to the division of tasks or if the boundaries between authority and responsibility are unclear. To support the implementation of the establishment of the Jatinangor Area, a team coordinating the management of the Jatinangor Urban Area was formed, which was regulated by Sumedang Regent Decree Number 70 of 2022 concerning the Establishment of the Jatinangor Urban Area Management Coordination Team. This Coordination Team was only formed in 2022, so in previous years, the management of the Jatinangor Urban Area had not been implemented because there was no specific budget that regulated the management of the Jatinangor Urban Area and Regional Regulation Number 14 of 2006 concerning the General Spatial Plan for the Jatinangor Urban Area also did not regulate further regarding the technical management of the urban area of Jatinangor.

2) Main Duties and Functions

The main task is the most basic task of a position or organization. Main tasks provide an overview of the scope or complexity of the position or organization. According to the Regent's Decree, the Coordinating Team for Urban Area Management has the following tasks: to implement the policies of the Regent, the West Java Provincial Government, and the Central Government relating to the management of urban areas, optimizing the participation of the community and business entities in the development of the area, and implementing coordination in the framework of the implementation of government affairs which are the authority of the Regency Region

3) Organizational Authority

Authority is the authority of the office holder to decide an action in carrying out the task. Authority should not be abused, abuse of authority will harm policy implementation. Wise use of authority is a factor for organizational effectiveness. To support the performance of the management of the Jatinangor Urban Area, the Sumedang Regent, through Regent Decree Number 70 of 2022 concerning the Establishment of the Jatinangor Urban Area Management Coordination Team, formed a coordination team that was given the authority to resolve issues related to urban area management.

### **Strategies to Overcome Obstacles to the Implementation of the General Spatial Plan for the Urban Area of Jatinangor**

Strategy is a plan structured to achieve a specific goal or objective. The strategy is made through initial efforts to make the whole activity run effectively and efficiently. Based on the results of field research, supporting and inhibiting factors can be found, which can later be used to formulate strategies to overcome obstacles to urban area management in Jatinangor District.

The technique used in analyzing and preparing strategic steps is the SWOT analysis technique on the inhibiting factors and supporting factors. SWOT analysis by researchers is used as a tool to analyze the problems contained in the problem formulation related to supporting factors and inhibiting factors from developing strategies that may need to be carried out in overcoming the problems faced in managing the Jatinangor urban area.

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Taking into account the phenomenon of problems that occur at the research location related to the implementation of the Jatinangor Urban Area General Spatial Plan policy issues in the development of the Jatinangor Urban Area, the determinants can be inventoried in the form of strengths, weaknesses, opportunities and threats which has been formulated by researchers based on the results of observations, documentation, and interviews with informants.

Based on the identification of external and internal factors using the SWOT analysis above, five (5) possible strategic steps can be taken by the Sumedang Regency Government to overcome the obstacles faced in the development of the Jatinangor urban area. The five strategic steps resulting from the SWOT analysis above can be seen as follows:

a) SO Strategy (Strengths x Opportunities)

The SO (Strengths x Opportunities) strategy is a strategy used by utilizing and optimizing the strengths possessed to take advantage of various opportunities, with the following analysis results:

- 1) Making KPJ one of the regional priorities of Sumedang Regency and increasing the empowerment of existing human resources and infrastructure.
- 2) Increase the commitment of implementers in managing the Jatinangor urban area through technical management, and prepare the required budget.

b) ST Strategy (Strength x Threats)

The ST strategy (Strength x Threats) is used by utilizing strengths to reduce various threats to minimize the threats that occur. Based on the results of the SWOT analysis, the ST strategy is obtained as follows:

- 1) Facilitate lands whose types of use have been determined according to detailed spatial plans

c) WO (Weaknesses x Opportunities) Strategy

The WO (Weakness x Opportunities) strategy is a strategy that is used by minimizing existing weaknesses in the organization to take advantage of the various opportunities it has. Based on the results of the SWOT analysis, the WO strategy is obtained as follows:

- 1) Prepare a detailed spatial plan for the Jatinangor District that accommodates all interests to be used as a reference for managing KPJ and accelerating economic development

d) WT Strategy (Weakness x Threats)

The WT (Weakness x Threats) strategy is used to reduce weaknesses to minimize and avoid threats. Based on the results of the SWOT analysis, the WT strategy is obtained as follows:

- 1) Make a monitoring and evaluation schedule for each stage of the implementation of KPJ management

## Conclusion

The implementation of the general spatial plan for the Jatinangor urban area based on the Sumedang Regency Regional Regulation Number 14 of 2006 is greatly influenced by:



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Policy content, Information, Support, and Potential Distribution. Based on the SWOT analysis, there are (5) strategies to overcome obstacles to implementing the general spatial plan for the Jatinangor urban area based on the Sumedang Regency Regional Regulation Number 14 of 2006 relating to managing the KPJ. The five strategies are as follows: making KPJ one of the regional priorities for Sumedang Regency, increasing the empowerment of existing human resources and infrastructure, increasing the commitment of implementers in managing the Jatinangor urban area through technical management, and preparing the required budget; facilitating lands whose types of use have been determined according to the detailed spatial layout plan; prepare a detailed spatial layout plan (RDTR) for Jatinangor Subdistrict which accommodates all interests, so that it can be used as a reference for managing KPJs and accelerating economic development; and make a monitoring and evaluation schedule for each stage of the implementation of KPJ management.

## References

- Achmad, W., Nurwati, N., Fedryansyah, M., & Sumadinata, R. W. S. (2022). Implementing Social Capital in Poverty Reduction Efforts in Indonesia: 10.2478/bjlp-2022-002051. *Baltic Journal of Law & Politics*, 15(3), 689-698.
- Albaladejo-García, J. A., Alcon, F., & Martinez-Paz, J. M. (2021). Economic valuation of allotment gardens in peri-urban degraded agroecosystems: The role of citizens' preferences in spatial planning. *Sustainable Cities and Society*, 68, 102771.
- Aryati, A. (2020). The Influence of Bureaucracy, Infrastructure and Organizational Culture on Work Motivation and Health Service Performance in Luwu Regency. *IOSR Journal of Business and Management (IOSR-JBM)*, 22(9), 33-55.
- Breuer, A., Janetschek, H., & Malerba, D. (2019). Translating sustainable development goal (SDG) interdependencies into policy advice. *Sustainability*, 11(7), 2092.
- Capano, G. (2020). Policy design and state capacity in the COVID-19 emergency in Italy: if you are not prepared for the (un) expected, you can be only what you already are. *Policy and Society*, 39(3), 326-344.
- Davidescu, A. A., Apostu, S. A., Pantilie, A. M., & Amzuica, B. F. (2020). Romania's South-Muntenia region, towards sustainable regional development. implications for regional development strategies. *Sustainability*, 12(14), 5799.
- Diehl, J. A., Sweeney, E., Wong, B., Sia, C. S., Yao, H., & Prabhudesai, M. (2020). Feeding cities: Singapore's approach to land use planning for urban agriculture. *Global Food Security*, 26, 100377.
- Fourie, D., & Malan, C. (2020). Public procurement in the South African economy: Addressing the systemic issues. *Sustainability*, 12(20), 8692.
- Fuadina, L. N., Rustiadi, E., & Pravitasari, A. E. (2020, August). The dynamic of land use changes and regional development in Bandung Metropolitan Area. In *IOP Conference Series: Earth and Environmental Science* (Vol. 556, No. 1, p. 012002). IOP Publishing.

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- Hudson, B., Hunter, D., & Peckham, S. (2019). Policy failure and the policy-implementation gap: can policy support programs help?. *Policy design and practice*, 2(1), 1-14.
- Hudson, K. G., Lawton, R., & Hugh-Jones, S. (2020). Factors affecting the implementation of a whole school mindfulness program: a qualitative study using the consolidated framework for implementation research. *BMC Health Services Research*, 20(1), 1-13.
- Indrajit, A., Van Loenen, B., Ploeger, H., & Van Oosterom, P. (2020). Developing a spatial planning information package in ISO 19152 land administration domain model. *Land Use Policy*, 98, 104111.
- Li, Y., Westlund, H., & Liu, Y. (2019). Why some rural areas decline while some others not: An overview of rural evolution in the world. *Journal of Rural Studies*, 68, 135-143.
- Liu, J., Jin, X., Xu, W., Sun, R., Han, B., Yang, X., ... & Zhou, Y. (2019). Influential factors and classification of cultivated land fragmentation, and implications for future land consolidation: A case study of Jiangsu Province in eastern China. *Land Use Policy*, 88, 104185.
- Manullang, S. O., Putri, V. S., Kusumadewi, Y., & Ningrum, E. (2023). Legal Construction for Settlement of Spatial Planning Disputes After the Law No. 11 of 2020 About Job Creation Applied. *Legal Standing: Jurnal Ilmu Hukum*, 7(1), 159-172.
- Muluk, M. R., & Pratama, M. R. (2021). Public Sector Innovation in A Developing Country: Progress and Challenges in the Competition for Public Service Innovation in Indonesia. *Public Policy and Administration*, 20(4).
- Ormerod, R., Yearworth, M., & White, L. (2022). Understanding participant actions in OR interventions using practice theories: A research agenda. *European Journal of Operational Research*.
- Roestamy, M., Martin, A. Y., Rusli, R. K., & Fulazzaky, M. A. (2022). A review of the reliability of land bank institution in Indonesia for effective land management of public interest. *Land Use Policy*, 120, 106275.
- Streimikiene, D., Svagzdiene, B., Jasinskas, E., & Simanavicius, A. (2021). Sustainable tourism development and competitiveness: The systematic literature review. *Sustainable development*, 29(1), 259-271.
- Surya, B., Ahmad, D. N. A., Sakti, H. H., & Sahban, H. (2020). Land use change, spatial interaction, and sustainable development in the metropolitan urban areas, South Sulawesi Province, Indonesia. *Land*, 9(3), 95.
- Surya, B., Menne, F., Sabhan, H., Suriani, S., Abubakar, H., & Idris, M. (2021). Economic growth, increasing productivity of SMEs, and open innovation. *Journal of Open Innovation: Technology, Market, and Complexity*, 7(1), 20.
- Suwardhi, D., Fauzan, K. N., Harto, A. B., Soeksmantono, B., Virtriana, R., & Murtiyoso, A. (2022). 3D Modeling of Individual Trees from LiDAR and Photogrammetric Point Clouds by Explicit Parametric Representations for Green Open Space (GOS) Management. *ISPRS International Journal of Geo-Information*, 11(3), 174.

- =====
- Talitha, T., Firman, T., & Hudalah, D. (2020). Welcoming two decades of decentralization in Indonesia: a regional development perspective. *Territory, Politics, Governance*, 8(5), 690-708.
- Undang, G., Resmiawati, E. N., Alamsyah, T., & Dina, D. (2022). Regional Arrange in Province of West Java: A Formulation. *Sosiohumaniora*, 24(3).
- Von der Tann, L., Sterling, R., Zhou, Y., & Metje, N. (2020). Systems approaches to urban underground space planning and management—A review. *Underground space*, 5(2), 144-166.