Jurnal Administrare: Jurnal Pemikiran Ilmiah dan Pendidikan Administrasi Perkantoran
Volume 10, Issue 1, January-June 2023, Pages 39-50
Homepage: http://ojs.unm.ac.id/index.php/administrare/index

Comparison of Geospatial Data Management between Indonesia's One Data and One Map Policy

Risky Kurniawan[1], Teguh Kurniawan[2]
[1,2]Universitas Indonesia
E-mail: risky.kurniawan11@ui.ac.id

ABSTRACT

Geospatial data is one of the important supports in spatial-based national development. However, there is a problem with the large amount of data overlap. One of the reasons for this data overlap is the difference in the references used. Therefore, a policy is needed regarding the implementation of geospatial data. The Indonesian government has enacted Peraturan Presiden (presidential regulations) of Indonesia's One Data and One Map Policy. Those policies aim to produce sufficient data. Indonesia's One Data Policy regulates the management of statistical, geospatial, and state financial data at the national level. But, the One Map Policy only regulates the management of geospatial data. As two different policies with the same level, have similar names, and have intersect in the management of geospatial data, there is a potential for misunderstanding in implementing both policies. This article aims to identify the similarities and differences between the two policies. The method is a literature study from various sources. This article used analysis comparison. The findings identified similarities and differences with almost the same amount. Based on the similarities and differences, recommendations are made. The author proposes a synergy of geospatial data management mechanisms or considers deregulate one of the policies after the policy target is completed with further study

Keywords: geospatial data; one data; one map; comparison

INTRODUCTION

National development needs geospatial data. Geospatial data can be used for spatial planning, business, permit, smart city, conservation, land/forest management, security, and also disaster mitigation (Dangermond & Goodchild, 2020; Sutanta et al., 2016). Indonesia is an archipelago country that consists of 17.504 islands (Kementerian Koordinator Bidang Kemaritiman, 2018), make the nation should have sufficient geospatial data. Sufficient geospatial data is essential for better governance to build accountability, transparency, and sustainability based on data (Alhassan et al., 2019; Faxon et al., 2022). Geospatial data is raw geographical facts that contain numerical, text, symbol, and spatial reference (Longley et al., 2015). While geospatial information is made from geospatial data that build for specific purposes (Longley et al., 2015). According to Undang-Undang Nomor 4 Tahun 2011 (UU 4/2011), geospatial information consists of basic geospatial information (BGI), thematic geospatial information (TGI), and support from geospatial information infrastructure (GII) (UU No 4/2011). In daily life, geospatial data and information are called map.

In the development of national mapping, awareness about the importance of geospatial data was initiated due to differences in the area of forest areas in Papua Island on the land cover map of forest areas issued by the Ministry of Environment (MoE) and the Ministry of Forestry (MoF) (Samadhi, 2013). Figure 1 shows the compilation map by MoE and MoF, while the difference is about 27.2 hectares on the MoE map and 11.6 million hectares on the MoF map.

That difference is due to dissimilarity definitions of forest and different mapping standards.

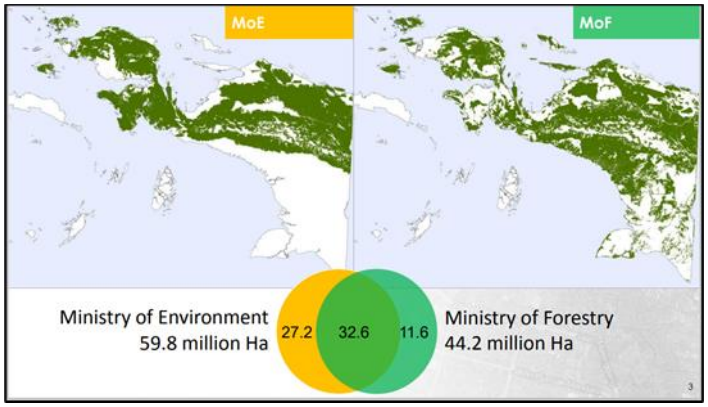

Figure 1. Forest Areas Map in Papua Island (Source: Samadhi, 2013)

In addition to the problem of differences in standards, the differences in mapping sources also make in overlapping spatial uses (Silviana, 2019). The problem of overlapping land cover can affect permits for economic activities requiring geospatial data to determine permits. For that reason, a policy for geospatial data management is needed.

Public policy is a complex circumstance that consists of decisions made by government and influenced by actors and implement within the countries (Howlett et al., 2020). In terms of geospatial data usage in public policy, the data is not only needed in spatial planning policy but also in other circumstances. The geospatial data can support the policies that require the maps, such as mining, transportation, disaster anticipation (Marthalina, 2018), and borderline conflict (Malik et al., 2017).

Therefore, a one map policy (Kebijakan Satu Peta/KSP) was established. The establishment was marked by Peraturan Presiden (Perpres) Nomor 9 Tahun 2016 (Perpres 9/2016) which was later amended by Perpres Nomor 23 Tahun 2021 (Perpres 23/2021). The definition of KSP is "strategic direction in fulfilling one map that refers to one geospatial reference, one standard, one database, and one geoportal at a map accuracy level of 1:50,000". The importance of geospatial data in Indonesia like stated in the appendix of Perpres 23/2021 which declared the responsible ministry or agency that should manage the geospatial data management. The examples are Ministry of Environment and Forestry that responsible to forest and environment thematic mapping and Ministry of Agriculture responsible for agricultural land thematic mapping (Perpres 23/2021).

In 2019, Perpres Nomor 39 Tahun 2019 (Perpres 39/2019) about Indonesia's One Data (Satu Data Indonesia/SDI), which also regulates geospatial data management. SDI was initiated because of the need for sufficient data and openness of government data (Badan Perencanaan Pembangunan Nasional, 2018). The definition of SDI is "to produce data that are accurate, up-to-date, integrated, and accountable, as well as easily accessible and shared between central and regional agencies through compliance with data standards, metadata, data interoperability, and using reference codes and parent data". The substance of SDI has improved references in data management, data openness, and data sharing between government institutions (Manshur, 2021). One of the problems that SDI faced is one data in COVID-19 data. On 31 January 2023,

Jakarta regional government stated that Jakarta had 1,522,973 total recovered cases (Pemerintah Provinsi Daerah Khusus Ibukota Jakarta, 2023). On the same day, COVID-19 National Task Force stated that Jakarta had 1,523,478 total recovered cases (Satuan Tugas Penanganan COVID-19, 2023). The differences made SDI implementation still not happened yet.

Perpres 9/2016 was completed in 2019. There 40.6% of Indonesia's area has overlapping data (Kementerian Koordinator Bidang Perekonomian, 2020). The results of this evaluation illustrate that regulations and their implementation are urgently needed so that geospatial data can be sufficient. In 2021 after the Perpres 9/2016 was completed, the government signed the Perpres 23/2021 that amended the Perpres 9/2016. It makes the existence of a KSP and SDI with almost similar names and objects (geospatial data) can lead to potential misunderstandings or differences in perceptions in its implementation. This case is similar with Manshur (2021), he researched one data, big data, and data analytics, all three of which are related to data but have the potential to be misunderstood regarding their essence and function. In addition, the current condition is there are three active portals for disseminating national-level geospatial data, namely Geospasial untuk Negeri, portal KSP, and portal Satu Data.

There is many research that has been done on KSP and SDI. Research related to KSP, such as Silviana (2019) regarding KSP in the land sector, still has disputes related to land ownership. Nurwadjedi et al. (2018) explained that maritime data still didn't use the same reference, so there are many obstacles to producing sufficient maritime data. Research Faxon et al. (2022), Marthalina (2018), and Ramadani et al. (2019) stated that there are various problems and difficulties in its implementation. Faxon et al. (2022) specifically stated that spatial data infrastructure in the one map policy in Indonesia and Myanmar could extend spatial control and propose the chance for spatial planning.

Research related to SDI, such as Manshur (2021) described a comparison between the concepts of one data, big data, and data analytics. Islami (2021) identified challenges and solutions to SDI implementation from an open government data perspective. Utama & Jannah (2022) described the challenges faced in implementing a single data Aviation and Space research organization. Ardani & Cahyani (2022) explained that there had been many regulations regarding data integration, but the results still need to be as expected due to sectoral egos, and Alhassan et al. (2019) identified the factors that influence of data governance.

Research on comparison analysis conducted by Fasa & Hendrix (2022) compared the policies of three countries (Indonesian Policy on Patent Applications, the Budapest Treaty, and the Nagoya Protocols) regarding patterns of management of storage areas for microorganisms to establish patents. Kurmiawan et al. (2020) found similarities and differences between the big data system in Indonesia and the system in the European Union.

Several countries have similar policies with one data and one map policies, such as Brazil, Malaysia, and the Philippines. Brazil and Malaysia have a similar policy with one data policy, the open government data (OGD) policy. In Brazil, implementation of OGD is quite success to achieve the purpose of giving citizen access to government data (Kawashita et al., 2022). Mustapa et al. (2019) stated that in Malaysia, the most important actor of this policy is the producer and publisher data. Malaysia's performance in the OGD initiation went well because Malaysia has a rigid government structure, high state income, and high technology-conscious society so the OGD can be understood in a short time (Mustapa et al., 2019). The Philippines has similar policies to one map in Indonesia, which is the Philippines Geospatial Data Infrastructure (PDGI). The program accommodates the regional government to produce geospatial data in their region that not be the responsibility of the national mapping agency

(National Mapping and Resource Information Authority, 2012). From these studies, problems, and challenges that happened in implementation of both policies, there still needs to be a study comparing geospatial data management between KSP and SDI. This study uses comparison analysis that analyzes and evaluates phenomena and/or facts about differences in regions, subjects, and/or objects to find similarities and differences (Coccia & Benati, 2018). This study aims to identify and overview the similarities and differences between the two policies, especially the settings related to geospatial data management, so it can provide information to policy actors and implement the policies to manage the geospatial data properly.

METHOD

This article is descriptive research using the qualitative approach. According to Neuman (2014), descriptive research aims to describe clearly a phenomenon with a focus on how and what questions to explore further the facts that occur. This study is expected to overview and describe the comparison of the two policies, especially in terms of geospatial data management. Researchers needed to get more understanding of the meaning of the purpose of this study, so researchers used the qualitative approach.

The data collection method in this article uses a literature study. Literature study is carried out through studies from various sources. One of the advantages of using these documents is that they can better represent research data (Creswell, 2014). This research collected various sources, such as regulations, research papers (from national and international journal), various institutional reports, and other related data and information, then processed to get the research results. From the results, a comparison the contents of KSP and SDI was carried out, especially for geospatial data management. The research papers and regulations become this article's primary reference for the analysis.

This study used analysis comparison, which is used to look for causal factors that have an impact on cases (Neuman, 2014). This type of analysis is carried out to identify and analyze the similarities and differences from two or further objects/subjects (Coccia & Benati, 2018). Comparisons are made so that the arguments presented are more (Rex, 2018). Researchers compare the content of SDI and KSP policies, especially about geospatial data management, and add the related literature about the background of the two policies. This comparison is helpful in giving more information about the two policies. From the results of that comparison, researchers carried out a descriptive description obtained. The description describes the positive sides, the negative sides, and the challenges that may be faced on the result of the comparison. Researchers compare the challenges that may be faced with the related literature resources. Lastly, the conclusion and recommendations are made.

RESULT AND DISCUSSION

Comparisons of Policy Background, Purpose , and Scope

The first category of the comparison is about the policy background, purpose, and scope. First comparison is the background of two policies. The KSP began when President Susilo Bambang Yudhoyono asked about Indonesia's forest area (Marthalina, 2018). Still, there were differences between the maps issued by the MoE and MoF (Samadhi, 2013). Therefore, there needs to be more clarity in determining the reference map in planning policies and strategic plans. The beginning of the initiation of the SDI policy was the existence of Open

Government Indonesia (OGI) which focuses on data openness (Badan Perencanaan Pembangunan Nasional, 2018). Data transparency also certainly requires data quality because the shared data is used to support the development and implementation of quality governance (Badan Perencanaan Pembangunan Nasional, 2018; Islami, 2021). From the two backgrounds of the regulations, it can be seen that there is a similarity in the need for sufficient data.

The second comparison is for policy purposes. Based on the regulation, KSP focuses on fulfilling the one map regarding one geospatial reference, standard, database, and geoportal (for disseminating the data that government produces) (Perpres 23/2021). SDI focuses on giving the reference for the policy actor to manage the data governance, sufficient data production, and data openness (Perpres 39/2019). From these two objectives, it's found that the objectives of both policies to obtain sufficient data and encourage government data transparency are similar.

The third comparison is the scope of policies. Based on the Perpres 39/2019, SDI regulates SDI principles (one standard, metadata format, interoperability, and reference code), SDI actors, SDI management, funding, and participation. KSP regulates KSP principles (one geospatial reference, one standard, one database, and one geoportal), KSP actors, KSP management, funding, and participation. The scope/object of SDI's data consists of managing statistical, geospatial, and state financial data at the national level. Whereas KSP only covers geospatial data management (Perpres 23/2021). Based on that comparison, SDI and KSP have some similarities in what they're set. The main similarity in terms of the scope between both policies is they provide geospatial data management. The differences between both policies are the principles and data responsibilities. In KSP, the principles to build one map are one geospatial reference and database principles, but SDI has metadata format, interoperability, and reference code principles. SDI, besides it manages the geospatial data also manage the statistical and state financial data (at national level).

Comparisons of Policy Actor

The second category of the comparison is about the policies actor. The first comparison in this category is about the coordinator of both policies. KSP is coordinated by Coordinating Minister for Economic Affairs as the Chairman for KSP Acceleration Team (Perpres 23/2021). While SDI is implemented with coordination from the Chairman of the Steering Committee, the Minister in charge of government affairs in the field of national development planning (Perpres 39/2019).

The second comparison in this category is about the structures. Based on Perpres 9/2016 and Perpres 23/2021, the structure of KSP consists of KSP Acceleration Team (Tim Percepatan KSP), KSP Implemention Team (Tim Pelaksana KSP), KSP Secretariat (Sekretariat KSP), TGI data custodian (Walidata Informasi Geospasial Tematik/IGT), and TGI national working group (Kelompok Kerja Nasional IGT). KSP Accelerating Team is formed to accelerate the implementation of the KSP. KSP Implementing Team is formed to assist in the implementation of the duties of the Tim Percepatan KSP. KSP Secretariat is formed to assist in administrative and technical operational matters. TGI data custodian is formulating TGI technical policies and managing and providing access related to data sharing through JIGN. TGI national working group is compiling standards according to the TGI theme, reporting the TGI produced to Task Force 1, synchronizing TGI with BGI, and synchronizing between TGI.

The second comparison in this category is about the structures. Based on Perpres 9/2016 and Perpres 23/2021, the structure of KSP consists of KSP Acceleration Team (Tim Percepatan KSP), KSP Implemention Team (Tim Pelaksana KSP), KSP Secretariat (Sekretariat KSP), TGI data custodian (Walidata Informasi Geospasial Tematik/IGT), and TGI national working group (Kelompok Kerja Nasional IGT). KSP Accelerating Team is formed to accelerate the implementation of the KSP. KSP Implementing Team is formed to assist in the implementation of the duties of the Tim Percepatan KSP. KSP Secretariat is formed to assist in administrative and technical operational matters. TGI data custodian is formulating TGI technical policies and managing and providing access related to data sharing through JIGN. TGI national working group is compiling standards according to the TGI theme, reporting the TGI produced to Task Force 1, synchronizing TGI with BGI, and synchronizing between TGI.

Based on Perpres 39/2019, the SDI structure consists of national level and regional level. The national level consists of steering committee (dewan pengarah), national-level data supervisor (pembina data tingkat pusat), national-level data custodian (wali data tingkat pusat), national-level data producer (produsen data tingkat pusat). Steering committee is in charge of setting policies, coordinating the implementation and solving problems in the SDI implementation, monitoring and evaluating and reporting the SDI implementation to the president. National-level data supervisor is in charge of setting references, recommendations, re-examining priority data, and fostering SDI. National-level data custodian is responsible for collecting, examining, managing, disseminating, and fostering data producers. National-level data producer is responsible for producing data, conveying data and metadata to the data custodian, and providing input to data supervisors. The regional level consists of regional-level data supervisor (pembina data tingkat daerah), regional-level data custodian (wali data tingkat daerah), supported data custodian (wali data pendukung), regional-level data producer (Produsen data tingkat daerah). Regional-level data supervisor is in charge of providing recommendations on data planning and fostering SDI at the regional level. Regional-level data custodian is in charge of checking data, disseminating data and metadata, and coaching data producers. Supported data custodian is in charge of assisting regional-level data custodian. Regional-level data producer is in charge of producing data, conveying data and metadata to regional-level data custodian, and providing input for data supervisors. In this comparison, there are differences because the scope of SDI is broader than KSP. The determination of the structure and person in charge of KSP is entirely at the central level, while the decision is up to regional actors. Most of the agencies in the KSP structure have been stipulated directly in the regulations. Then there are differences in the organizers in charge of generating data. In SDI, the organizer is the data producer. While in KSP, it's called TGI national working group.

Third comparison in this category is the key actor. The key or leading actor in both policies is the government responsible for managing geospatial data. Fourth comparison in this category comparison is other party involvement. Both policies allow other parties want to contribute. Fifth comparison in this category is about geospatial data supervisor. SDI has two levels of data supervisor, the national-level data supervisor is Badan Informasi Geospasial (BIG) and assigned regional agencies to be a regional network node (simpul jaringan) in the national geospatial information network (jaringan informasi geospasial nasional/JIGN) at the regional level (Perpres 39/2019). But, the KSP didn't mention data supervisors.

Sixth comparison in this category is the duties of geospatial data supervisor. National-level data supervisor is responsible for establishing data standards, structure, and metadata

formats, providing recommendations for planning data collection, re-checking priority data, and conducting data custodian (Perpres 39/2019). Regional-level data supervisor is responsible for delivering data recommendations. Whereas in KSP, there is no term data supervisor.

Comparisons of Geospatial Data Management Mechanism

The third category of the comparison is about the geospatial data management mechanism. First comparison in this category is the mechanism for geospatial data management in both policies (Figure 2 and Figure 3).

Figure 2. OMP Mechanism (Source: Perpres 23/2021)

Figure 2 depicts the mechanism of KSP. Based on Perpres 9/2016 and Perpres 23/2021 along with an explanation of the implementation mechanism. KSP mechanism consists of compilation (kompilasi), integration (integrasi), synchronization (sinkronisasi), and data sharing. Compilation is a data collection process owned by government agencies. Integration is to verify and correct TGI based on BGI. Synchronization is to synchronize between TGIs. Sharing data using the JIGN mechanism.

Figure 3. SDI Mechanism (Source: Perpres 39/2019)

The following explains the mechanism for implementing SDI in Figure 3. Based on Perpres 39/2019, SDI mechanism consists of data planning, data collection, data checking, and data dissemination. Data planning is divided into two levels: national and regional. At the national level, data planning consists of determining a data list for the following year, priority data, and determining the action plan. At the regional level, only select the list of data for the following year. Data collection is carried out by the data producer based on data standards, data lists, updating or data release schedules, and completed with metadata. Data checking consists of 2 types: priority data and non-priority data. Data dissemination is carried out by the data custodian to provide access, distribution, and sharing of data through the SDI portal or other. From the description between Figure 2 and Figure 3, there are similarities in terms of data collection and dissemination. The differences are in data planning and data checking.

Second comparison in this category is the action plan of both policies. The KSP Action Plan has been included in the Appendix, which contains programs, activities, outputs, time targets for completion, persons in charge, and agencies involved in implementing the program (Perpres 23/2021). Meanwhile, the SDI action plan is prepared through the SDI Forum and is carried out periodically (Perpres 39/2019).

Third comparison in this category is the level of implementation. The central government centralizes the implementation of the KSP, and the regional governments supply

data to the data custodian (Perpres 23/2021). In comparison, the implementation of SDI has two levels, namely the national and regional levels (Perpres 39/2019). Fourth comparison in this category is the funding for implementing two policies. KSP and SDI funding come from state and/or regional budget, as well as other sources.

Discussion

Positive Side

Based on the result from three categories of comparisons, the geospatial data management that regulated by different policies but have the similarities. Several things need attention from the results of the similarities and differences, both from the positive and negative sides. The positive side that can be taken from the differences of both policies, such as coordinator, structure, data supervisor, action plan, level of implementation, also data management scope (statistical and financial data) and some mechanism for data management. Researchers analyze that in geospatial data management, these mechanisms can be synergized and integrated. Figure 4 shows the synergy between the two policies based on the definition of each stage for geospatial data management.

Figure 4. Synergization for Geospatial Data Management (Source: Data Processing)

The weakness in the SDI mechanism is at the data-checking stage. Data custodian or data supervisor only checking the data referred to comply with SDI principles. However, these data aren't synchronized with other data from other agencies. So, there is a potential for data overlap. Therefore, several steps are needed to integrate the mechanisms in the two policies:understand the content of both policies; SDI Planning activities and budgets to implement SDI under the action plan in the KSP Appendix; perform data collection or compilation according to the agency's responsibilities; implement standards and metadata per existing SDI provisions to fix problems that arise, such as overlapping data; implement integration and synchronization processes as stages in the data-checking mechanism; disseminate data using the JIGN mechanism to data portals mandated by the two policies.

Negative Side and Challenges

The negative side comes from the similarities from two policies, such as background, purpose, scope (only for geospatial data management), key actor, participation, some mechanism stage, and funding. The negative side of the similarities between the two policies results in indications of overlap/duality of geospatial data management. Indications of overlap/duality between the two policies can result in different interpretations that confuse policy implementers (Turner et al., 2022). This overlap/duality is due to the similarities in the key actors, similar mechanisms, and the scope (geospatial data). However, due to differences in structure and coordinators, the flow of coordination may differ. This condition can lead to a waste of bureaucracy.

Another problem that can arise is that the portal used to disseminate data is still different. There must be one door to disseminating data (Ramadani et al., 2019). Currently, integration is being carried out in the JIGN portal with the SDI portal (Republik Indonesia, 2022).

Regarding the waste of bureaucracy, the government should determine a policy used in geospatial data management. If we look at the principles of the two policies, there is still no "one policy" principle. When viewed from its scope, SDI is broader than KSP. Therefore, it can be considered that there is a policy deregulation of the KSP. Policy deregulation is a form of abolishing regulations to achieve the effectiveness and efficiency of the existence of policy (Hartin & Afif, 2017). Deregulation might be carried out after the policy target is completed in 2024. However, further studies regarding deregulation are needed. If deregulation is implemented, several challenges must be considered in geospatial data management.

Establish a geospatial data action plan and priority. After the regulations are in place, the determination of the action plan is decided through the SDI Forum. This planning needs to be done so that the roles and responsibilities of each geospatial data provider are clear (Alhassan et al., 2019; Islami, 2021; Utama & Jannah, 2022). The determination of the action plan certainly needs to be accompanied by precise budget planning for geospatial data management; manage competence of human resources in data management (Alhassan et al., 2019; Islami, 2021; Purwanto et al., 2020; Utama & Jannah, 2022). Therefore, there is a need for socialization and training (Alhassan et al., 2019) regarding the duties of each SDI structure so that all SDI operators for geospatial data can carry out their responsibilities properly (Abraham et al., 2019); the mechanism for checking data overlap, namely synchronization in the KSP, doesn't exist in the SDI. Examination of data in SDI is focused on conformity data with SDI principles (Islami, 2021) and hasn't yet reached other institutions' data. It's recommended that the BIG, in conducting priority geospatial data checks adapt the synchronization in KSP so that data overlapping problems can be resolved (Marthalina, 2018); there is a need to disseminate data through the SDI portal with well-integrated information technology and data infrastructure (Alhassan *et al*., 2019).

CONCLUSION

This study indicates the positive and negative effects also challenges that come from similarities and differences resulting from the comparison in geospatial data management between KSP and SDI policies. Both policies have some similarities, such as background, purpose, scope (only for geospatial data management), key actor, participation, some mechanism stage, and funding. The most highlighted similarities are actors from government agencies and the mechanism for managing geospatial data. However, these similarities also indicate overlap/duality in geospatial data management policies. Besides that, the two policies also have differences such as coordinator, structure, data supervisor, action plan, level of implementation, also data management scope (statistical and financial data) and some mechanism for data management. From these problems, the researchers recommend synergizing the data management mechanism or considering to deregulating/not continuing one of the policies, which is KSP, after it ends in 2024 with further studies. This paper still has limitations because it examines policy comparisons from the existing literature. Recommendations for further studies or research are formulation analysis and one map policy evaluation with one data to find out how the two policies are implemented to provide more comprehensive input on the two policies.

REFERENCES

Abraham, R., Schneider, J., & vom Brocke, J. (2019). Data governance: A conceptual framework, structured review, and research agenda. *International Journal of Information Management, 49,* 424–438. https://doi.org/10.1016/j.ijinfomgt.2019.07.008

Alhassan, I., Sammon, D., & Daly, M. (2019). Critical success factors for data governance: A theory building approach. *Information Systems Management*, *36*(2), 98–110. https://doi.org/10.1080/10580530.2019.1589670

Ardani, I., & Cahyani, H. S. H. (2022). Tantangan Kebijakan Satu Data Indonesia: Studi kasus pada sistem pencatatan kematian dan penyebab kematian di DKI Jakarta. *Buletin Penelitian Sistem Kesehatan*, *25*(1), 52–60. https://doi.org/https://doi.org/10.22435/hsr.v25i1.4167

Badan Perencanaan Pembangunan Nasional. (2018). *Rencana Aksi Keterbukaan Pemerintah Indonesia 2018-2020*.

Coccia, M., & Benati, I. (2018). *Comparative Studies BT - Global Encyclopedia of Public Administration, Public Policy, and Governance* (A. Farazmand (ed.); pp. 1–7). Springer International Publishing. https://doi.org/10.1007/978-3-319-31816-5_1197-1

Creswell, J. W. (2014). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches* (IV). SAGE.

Dangermond, J., & Goodchild, M. F. (2020). Building geospatial infrastructure. *Geo-Spatial Information Science*, *23*(1), 1–9. https://doi.org/10.1080/10095020.2019.1698274

Fasa, A. W. H., & Hendrix, T. (2022). Urgency of deposit microorganism for patent biotechnology protection in Indonesia. *NTUT Journal of Intellectual Property Law and Management*, *11*(1), 53–74.

Faxon, H. O., Goldstein, J. E., Fisher, M. R., & Hunt, G. (2022). Territorializing spatial data: Controlling land through One Map projects in Indonesia and Myanmar. *Political Geography*, *98*, 1–11. https://doi.org/10.1016/j.polgeo.2022.102651

Hartin, N. S., & Afif, M. I. (2017). Merajut Nawa Cita dengan kebijakan deregulasi: Perlukah? *Padjadjaran Law Review*, *5*(1), 1–13.

Howlett, M., Ramesh, M., & Perl, A. (2020). *Studying Public Policy: Principles and Processes* (4th Editio). Oxford University Press. https://www.ptonline.com/articles/how-to-get-better-mfi-results

Islami, M. J. (2021). Implementasi Satu Data Indonesia: Tantangan dan critical success factors (CSFs). *Jurnal Komunika: Jurnal Komunikasi, Media Dan Informatika*, *10*(1), 13–23. https://doi.org/10.31504/komunika.v10i1.3750

Kawashita, I., Baptista, A. A., & Soares, D. (2022). Open government data use in the Brazilian States and Federal District Public Administrations. *Data*, *7*(1), 1–18. https://doi.org/10.3390/data7010005

Kementerian Koordinator Bidang Kemaritiman. (2018). *Berita Acara Rujukan Nasional Data Kewilayahan Republik Indonesia*.

Kementerian Koordinator Bidang Perekonomian. (2020). *Laporan Pelaksanaan Percepatan Kebijakan Satu Peta (PKSP) Tahun 2016-2020*.

Kurmiawan, T., Setiyawan, A., & Winandi, W. (2020). Perbandingan kebijakan sistem big data di Indonesia dan Uni Eropa. *Widya Yuridika: Jurnal Hukum*, *3*(2), 119–130. https://doi.org/10.31328/wy.v3i2.1514

Longley, P., Goodchild, M., Maguire, D., & Rhind, D. (2015). *Geo Graphic Information*.

Malik, I., Widodo, P., & Nurchalis, A. (2017). Resolusi konflik batas wilayah Kabupaten Gorontalo - Kabupaten Gorontalo Utara (studi one map policy). *Jurnal Prodi Damai Dan Resolusi Konflik*, *3*(3), 17–38.

Manshur, A. (2021). Satu Data, big data dan analatika data: Urgensi pelembagaan, pembiasaan, dan pembudayaan. *Bappenas Working Papers*, *4*(1), 30–46. https://doi.org/10.47266/bwp.v4i1.82

Marthalina. (2018). Kebijakan Satu Peta dalam mendukung pembangunan nasional. *Buletin Tata Ruang Dan Pertanahan Institut Pemerintahan Dalam Negeri*, *5*(2), 149–169.

Mustapa, M. N., Hamid, S., & Nasaruddin, F. H. M. (2019). Exploring the issues of open government data implementation in Malaysian public sectors. *International Journal on Advanced Science, Engineering and Information Technology*, *9*(4), 1466–1473. https://doi.org/10.18517/ijaseit.9.4.8850

National Mapping and Resource Information Authority. (2012). *Country Report of The Philippines*.

Neuman, W. L. (2014). *Social Research Methods: Qualitative and Quantitative Approaches* (Seventh Ed). Pearson Education Limited. https://doi.org/10.2307/3211488

Nurwadjedi, Hartini, S., & Rosalina, L. (2018). Developing One Map of national marine resources of Indonesia. *IOP Conference Series: Earth and Environmental Science*, *162*(1). https://doi.org/10.1088/1755-1315/162/1/012028

Pemerintah Provinsi Daerah Khusus Ibukota Jakarta. (2023). *Data Pemantauan COVID-19 DKI Jakarta*. https://corona.jakarta.go.id/id/data-pemantauan

Peraturan Presiden Nomor 23 Tahun 2021 Tentang Perubahan Atas Peraturan Presiden Nomor 9 Tahun 2016 Tentang Percepatan Pelaksanaan Kebijakan Satu Peta Pada Tingkat Ketelitian Peta Skala 1:50.000, (2021).

Peraturan Presiden Nomor 39 Tahun 2019 tentang Satu Data Indonesia, (2019).

Peraturan Presiden Nomor 9 Tahun 2016 tentang Percepatan Pelaksanaan Kebijakan Satu Peta pada Tingkat Ketelitian Peta Skala 1:50.000, (2016).

Purwanto, A., Zuiderwijk, A., & Janssen, M. (2020). Citizen engagement with open government data. *Transforming Government: People, Process and Policy*, *14*(1), 1–30. https://doi.org/10.1108/TG-06-2019-0051

Ramadani, T., Pakpahan, F., Pradana, S. A., Supriyanto, M. A., & Mardiyono, E. (2019). Implementasi kebijakan satu peta energi sumber daya mineral (ESDM One Map) di Kementerian Energi Sumber Daya Mineral Republik Indonesia. *MATRA PEMBARUAN: Jurnal Inovasi Kebijakan*, *3*(2), 109–118. https://doi.org/10.21787/mp.3.2.2019.109-118

Republik Indonesia. (2022). *Geospasial untuk Negeri*. https://tanahair.indonesia.go.id

Rex, B. (2018). Public culture, cultural identity, cultural policy: Comparative perspectives. *International Journal of Cultural Policy*, *24*(2), 292–295. https://doi.org/10.1080/10286632.2018.1429424

Samadhi, N. (2013). *Indonesia One Map: Assuring Better Delivery of National Development Goals*. https://geospatialworldforum.org/2013/presentation/Nirata Samdhi.pdf

Satuan Tugas Penanganan COVID-19. (2023). *Grafik Kasus Aktif, Kasus Sembuh dan Kasus Meninggal per Provinsi (Update per 31 Januari 2023)*. https://covid19.go.id/id/artikel/2023/01/31/grafik-kasus-aktif-kasus-sembuh-dan-kasus-meninggal-provinsi-update-31-januari-2023

Silviana, A. (2019). Kebijakan Satu Peta (One Map Policy) mencegah konflik di bidang administrasi pertanahan. *Administrative Law and Governance Journal*, *2*(2), 195–205. https://doi.org/10.14710/alj.v2i2.195-205

Sutanta, H., Aditya, T., & Astrini, R. (2016). Smart city and geospatial information availability, current status in Indonesian cities. *Procedia - Social and Behavioral Sciences*, *227*, 265–269. https://doi.org/10.1016/j.sbspro.2016.06.070

Turner, M., Prasojo, E., & Sumarwono, R. (2022). The challenge of reforming big bureaucracy in Indonesia. *Policy Studies*, *43*(2), 333–351. https://doi.org/10.1080/01442872.2019.1708301

Undang-Undang Nomor 4 Tahun 2011 tentang Informasi Geospasial, (2011).

Utama, D. P., & Jannah, L. M. (2022). Tantangan implementasi Satu Data penerbangan dan antariksa. *Open Journal System*, *16*, 7843–7852.