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Proceeding of International Seminar
***“Utilization of Geospatial Information
to Raise Environmental Awareness
in Realizing The Nation Character”***

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THE IMPLEMENTATION OF GEOSPATIAL IN PERFORMING THE SPECIALTY ACT OF YOGYAKARTA SPECIAL PROVINCE (MANAGEMENT AND UTILIZATION OF SULTAN LAND- KADIPATEN LAND)

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Abstract

The Act of Indonesia No.13 year 2012 concerning about the specialty of Yogyakarta Special Province, especially in article 7 verse 2 (c and d) stipulate that the authority dealing with the specialty as stated in verse 1 consist of: authority in land and spatial. This is continued in the article number 7 stating that the implementation of authority which deals with the specialty as stated in verse 2 refers to the local values and favors on the people. This is supported by the article number 34 verses 1, 2, and 3 stating that the management and the utilization of Sultan and Kadipaten land must pay attention to the national and Yogyakarta Special Province Spatial.

The classic problems dealing with the land and spatial are the status, border, land spread, wide, and the land spread of both Sultan and Kadipaten land. Tepas Paniti Kismo as Pengageng or a board which administer the status of Sultan and Kadipaten land cannot overcome the problems. Also, the problems deals with the spatial and its utilization as stated in an article 34 verses 1, 2, and 3.

With regard to this, geography as a field of study with spatial, ecological, and regional complex approach has a vital role in implementing the specialty Act of Yogyakarta Special Province. The roles can be realized in a master plan for both land status which is based on the management and utilization of local values and favors on people as stated in section 7 verse 2 concerning the management and utilization of land by paying attention to the national spatial and Yogyakarta Special Province spatial as stated in article 34 verse 3. This master plan may contain a grand design concerning the management and utilization of land resources of both land status. This Grand design is formulated by noticing the status, border, and land spread, land width of both lands with the management and utilization of land based on the favor of the people and in harmony with the spatial which has been designed for Yogyakarta Special Province in general.

Keywords: Implementation, geospatial, specialty act of Yogyakarta Special Province

Introduction

Each country must have many problems related to various aspects such as economic, social, cultural, legal, defense and security, environmental, and even political (Wikantika, 2012). The issues related to the environment, demography, welfare, security, disaster management, socio-cultural, political and economic can occur at local, regional, and national. Yogyakarta, as one of the historical provinces in Indonesia, demands the provision of special region as outlined in the Privileges Act which in this case was accomplished with the passage of Act No. 13 in 2012 on the privileges for the Special District of Yogyakarta which is often called UUK DIY.

With the legalization of the Law Privileges (UUK) for Yogyakarta Special Region No. 13 in 2012, it demands the province of Yogyakarta to be prudent in all things, both in governance, land, social, cultural, and other aspects that are directly related to the lives of the people of Yogyakarta. This condition becomes the responsibility of the entire community lives in the Special Region of Yogyakarta, including Sri Sultan who throne in the Sultanate of Yogyakarta, Sri Pakualam who reign in the Kadipaten Pakualaman, the provincial and to the lowest local government level that is village. Rights and responsibilities for the implementation of the Law No. 13 in 2012 is a collective responsibility.

In UUK DIY contains some chapters discussing about land and spatial management of land resources for the land property of Sultanate (Sultan's Land / SL) which is owned by the Sultanate of Ngayogyakarta Hadiningrat and the land property of Kadipaten Ngayogyakarta (Kadipaten's Land/ KL) which is owned by the Kadipaten Pura Pakualaman. The land is land in the spatial dimension or called as the land property of Ngayogyakarta Sultanate Palace and Kadipaten Pura Pakualaman. Both of the land properties are spread over 5 districts / municipalities in the province of Yogyakarta, including Yogyakarta, Sleman, Bantul, Kulon Progo Regency, and Gunungkidul. The land of Sultanate and the Kadipaten itself at this point only remain 1.2% of the land owned by them after Giyanti agreement in 1755 or about 3,900 ha of the province of Yogyakarta Special Region (Kurniawan and Pudjo, 2012). Since the reign of the Sultan IX, the Sultanate lands are used for public facilities, such as the University of Gadjah Mada, Kepatihan as Government House, Parliament DIY, and district offices in five districts / municipalities in the province of Yogyakarta Special Region. Additionally, the Sultanate

and the Kadipaten lands can be used by the residents. They should send request to Paniti Kismo to get the right to use the land called with 'magersari land' in the form of "kekancingan".

Based on the Law No.13 in 2012 about the specialty of Yogyakarta, in section 7, verse 2 (c and d), it is stated that authority in matters of privilege referred to verse (1) include: authority in respect of land and spatial land. Continuing with the implementation of section 7 states that authority in matters of privilege as referred to verse (2) is based on local values and took side of the people. This is supported on article 34 verse 1, 2, and 3 which essentially tell that the management and utilization of the Kadipaten and Sultan Land should pay attention to national spatial planning and layout of Yogyakarta Special Region.

The land area of SL and KL have been measured by Sultan HB X (2008) is 4000 ha. SL and KL consist of the lands of the king and the royal family, the site, the land farmed (with tenant system) and vacant land. SL and KL are lands or customary lands which are not guaranteed by BAL, so the status of ownership is evidenced by a letter issued by the palace and nail experience. SL and KL were originally land that is not fertile and not strategic in its location. With rapid population growth, tourism development, and processing technology to improve soil, SL and KL now is demanding by the public, and even started to become commodity traded (with a range of more subtle terms) because it has a high economic value (Suharto, 2012).

This condition is supported by the land use of SL and KL property, in which the community and the land managers as the general public does not give contribution to the Sultanate and Kadipaten. As the example, the management of tourism objects along the south coast which is actually the land property of SL and KL. Communities and local government of each county / city has not been able to give contribution to the owner of the land property that is the Sultanate and Kadipaten. The contribution here means as an income derived from the land use. The management uses the land without involving or engaging the owner of the land. In this case, Sultanate and the Kadipaten do not have any legal basis to force the SL and KL management to give contribution to them. By the legalization the Law No. 13 in 2012 about the specialty of Yogyakarta, then the Sultanate and Kadipaten have legal basis to take care of the SL and KL property for the society's prosperity. In this case, the role of Geospatial Information is very important to support land use management of SL and KL. With the legalization of the Geospatial Information Law No. 04 in 2011, the contribution of geospatial information is needed in terms of inventory, mapping, and land management plans for SL and KL which are embodied in the Grand Design, which refers to the welfare of the people of Yogyakarta Special Region.

II. Legislation development of the Kadipaten Land and Sultan Land before Law No. 13 In 2012

The authority of land by the Sultan of Yogyakarta is obtained as the implementation of agreement that was held in Giyanti (thus known as Giyanti Agreement) in 1755. After the agreement Giyanti, the Sultan Hamengku Buwono has the property (domain) of land in the West Kingdom of Mataram and it should be under the public law (KPH. Notoyudo, 1975: 4-5). The similar provisions of Sultanate Rijksblaad No. 16 in 1918 were stipulated by the Kadipaten Paku Alaman with Kadipaten Rijksblaad No. 18 in 1918, so that in all regions of Yogyakarta Sultanate strictly enforced the domain principle. The following is the history of SL and KL

III. Role of Geospatial Information in the Preparation of Grand Design Land Management of SL and KL

Law No. 4 in 2011 about geospatial information allows the public to obtain legal protection of land they occupied or managed. This can help the Sultanate and the Kadipaten to clarify the status of SL and KL they own in accordance with Chapter II of the Principles and Objectives in section 21, verse 1 of Law no. 4 in 2011. In the Law no. 4, it is mentioned that the Thematic Geospatial Information (IGT) describes a boundary with power of law which is based on the exact delimitation documents by government authorities. Government authority in this regard is the BPN.

Determination of the status, distribution, and extent of SL and KL cannot be separated from the role of government authorities or BPN as the government body in charge of the land so as to reduce public concerns that have been occupying and utilizing the SL and KL. Even of the status of SL and KL status, it does not mean that the society will be prompted by the Sultanate and the Kadipaten as the rightful owner without considering the condition of the people who use it.

The existence of two versions of the map, in this case are the property of Sultanate-Kadipaten and private property owned by Paniti Kisma and BPN, on the distribution and extent of SL and KL caused its own problems for the Sultanate and the Kadipaten in determining the steps to determine the policy of the land SL and KL. So, in this case the implementation of new geospatial information is needed to parse the land issue. Spatial information here means the basic geospatial information (IGD) and further thematic geospatial information (IGT). IGD as the basic information is the information system for land issues that arise, in this case the land status of SL and KL with a certificate of ownership (SHM) issued by BPN.

3.1. Geospatial Information

Law No. 4 In 2011 in Chapter I section 1, verse 1 about the General Explanation explains what is meant by the spatial is spatial aspect of an object or event that includes the location, layout, and its position, whereas in verse 2 states that geospatial is spatial showing the nature of the position or location of a objects or events that are under, on, or above the surface of the earth with reference to the position of its existence the national coordinate system. Hagget (1978), defines of "geo" in geospatial as geosphere(atmosphere), the lithosphere (Earth's crust), pedosphere (land and establishment), hydrosphere (water layer covering the surface of the earth, such as lakes, rivers, oceans), biosphere (all elements in the earth's surface that makes life and the process), and antroposphere (humans with their activities). If these definitions are merged, it must be more meaningful because it does not only observed, analyzed, identified and visualized physical properties but also other aspects such as the nature or the social, cultural, customs, and other things that are non-physical

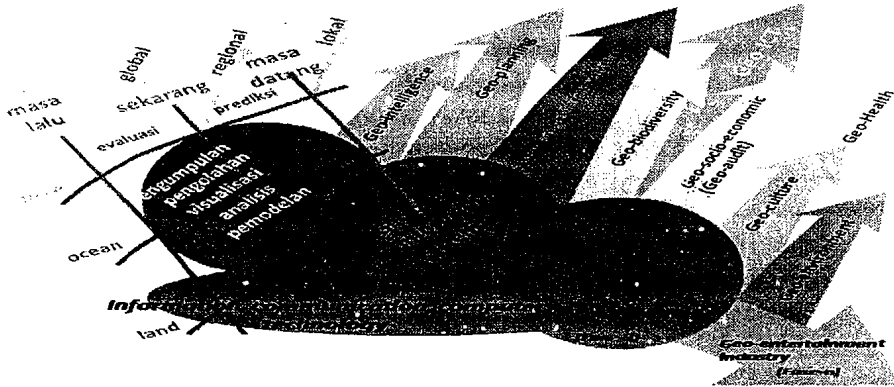
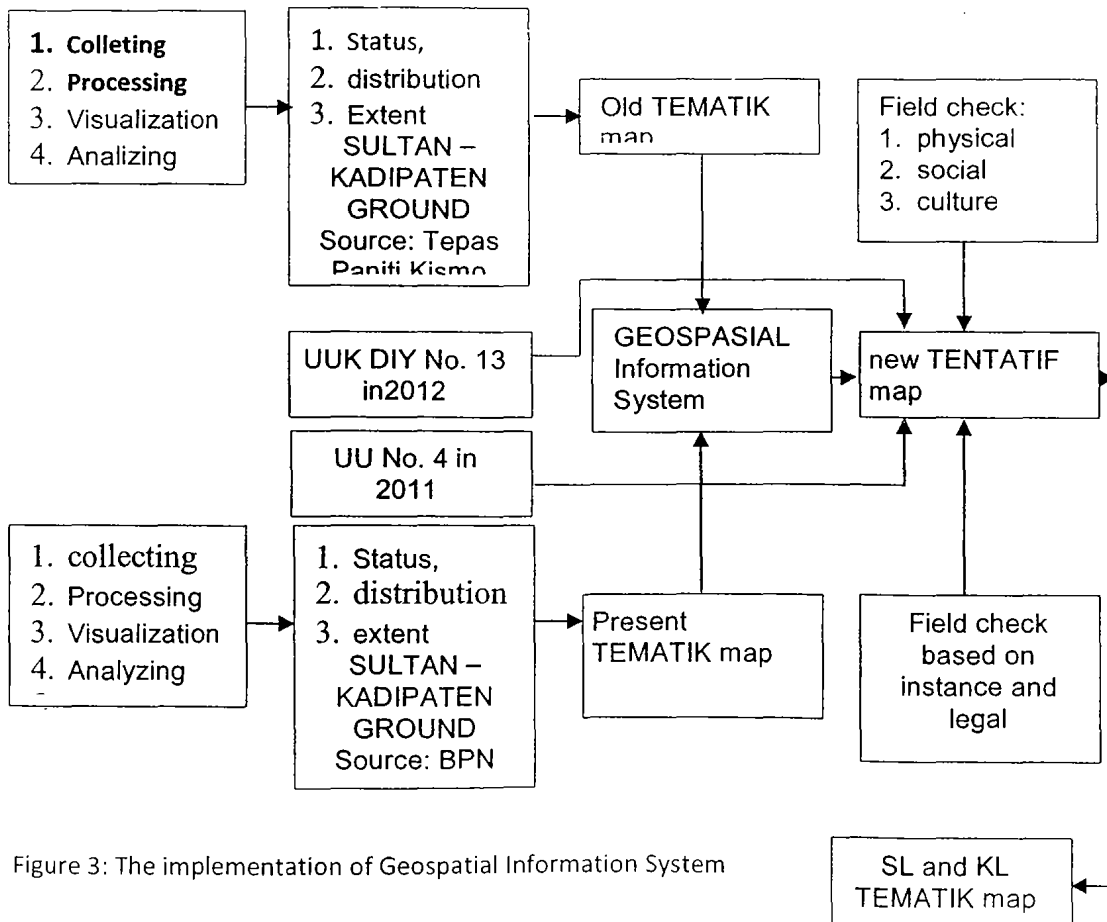


Figure 2: Interaction, cooperation, and innovation result in new paradigm of geospatial (source: Wikantika, 2007)

The picture depicted on space / space in the past, the present and the future which can be local, regional, as well as the global nature. The past is as the present evaluation material in determining policy or predictions for the future. The result of its implementation in the Law No. 13 in 2012 related to land issues of SL and KL is as follows:



76 Figure 3: The implementation of Geospatial Information System

Geospatial information systems technology and its application go through some phases. The first phase, regarded as the initial phase or the early stages, is a standard level of the development in geospatial technologies in which geospatial data is collected, processed, analyzed, presented and if necessary being performed in a model. In this case, there are two processes are done in the collection, processing, visualization, analysis, and modeling. The first is based on material data SL and KL in the past from various sources including Giyanti Agreement in 1755 which supports the existence of SL and KL. The second process is collecting, processing, visualization, analysis, and modeling based on the land records that are derived from the National Land Agency (BPN) as the source of authority on land issues. This phase will result in two (2) thematic maps of status, distribution, and land area of the SL and KL which are sourced from the past (from the Sultanate and Kadipaten) and authorities instance they are Paniti Kisma and BPN.

Second phase integrates all the results of the first phase consisting of the two processes including secondary data or non-geospatial information that includes physical, social, and cultural aspects. In this case, by conducting field checks that are institutional and legal that already exist Law No. 13 in 2012 and Geospatial Information Act No. 4 in 2011 became an integrated information system based geo geospatial and non-spatial. At the decision level, it is necessary to develop a system of integrated decision-based on geospatial and non-geospatial. These phases will continue to evolve depending on the needs of people in living his life on earth and the possibility of continued life on other planets. Surely these phases will continue to evolve if it is supported by a knowledge and information technology, communications and computer (Wikantika, 2012).

3.2. Grand Design of Sultan and Kadipaten Land Management using Geospatial Information Sultanate and Kadipaten as a historical and cultural heritage for the country is supposed to have a master plan that cater for both the kingdom and part of the Yogyakarta Special Region. The legalization of the Law No. 13 in 2012 provides an opportunity for the Sultan and Pakualam who have been established and inaugurated as Governor and Deputy Governor of Yogyakarta Special Region to construct the grand design for the region, especially in the existence of SL and KL. In section 34, verse 1, 2, and 3, it is stated that the management and utilization of the SL and KL should pay attention to national spatial planning and layout of Yogyakarta Special Region so it provides a spatial picture of Yogyakarta does not stand alone, but follow and adapt with regional and national spatial.

Taking a look at field conditions of SL and KL which tend to be less productive and non-strategic location, local governments usually ignore these lands. However, the conditions are very different now due to the increasing demand for land for housing and assisted with the processing technology then SL and KL became the target of investors and local people who want to manage it. For example, SL in Kulon Progo Regency South Coast region which is potentially a sandy beach containing iron ore or iron sand, it is still confusing whose land it is. Community as residents around the SL area objected a demonstration against the mining project, while the national and local governments insist on mining it. Hence it is needed to synergy between the central government which is represented by the local government of Yogyakarta Special Province, investors, and the public, especially the Public Organization that have voiced rejection of mining grand design to reconstruct the region's land resource management. With the involvement of the entire community, it would certainly give a different effect at least provide a space for people to share in it.

Grand design meant here are the preparation, inventory, process, and analysis basic data on land resources for SL and KL fields that contain elements of sustainable environmental management. Sustainable environmental management can make the environmental preservation happened. Geospatial information in this case can be a key element in the process of preparation, inventory, analysis, and preparation of this management model. Geospatial information in the compilation of basic data is used in mapping the landscape component comprising: (i) elevation mapping, (ii) geological mapping / host rock, (iii) relief mapping, and (iv) the mapping of land cover / land use.

In compiling the grand design for SL and KL land, it is required an understanding of the environmental conditions (state of environment) of a region as one of the keys success of the development. Environmental conditions are expected to reflect the facts about the region; basic physical potential, constraints or limitations and risks disaster there, as well as the shape and intensity of the current utilization (Lein, 2003). To get those kinds of information about the environment conditions, they need a comprehensive survey and take a long time and huge costs (Suharsono and Danoedoro, 2004). Environmental conditions that exist in the field most of the SL and KL are areas that have a historical relationship with the presence of the Sultanate and Kadipaten. This is a factor need to be considered in land management, such as the existence of historical sites, the presence of the sacred places of the citizens as a traditional ceremony or a place to meditate. In socio-cultural, the Java residents are with very thick and strong in running the Java custom such as traditional ceremonies which are actually a potential to be developed (Khotimah, 2010).

The formulation of environmental issues is needed to establish zoning for the area of land management resources for SL and KL. Environmental issues in this case can be viewed from various aspects, namely: (i) aspects of geomorphology; (ii) aspects of soil and land use, (iii) aspects of oceanography; (iv) aspects of hydrology; (v) aspects of the flora (vegetation); (vi) aspect of fauna; and (vii) cultural aspects (socio-economic-cultural) (Gunawan and Herumurti, 2004). Once all the data is collected, then the first step is formulating the survey results of SL and KL characteristics area, the second is analyzing the potential and the problems of SL and KL in spatial and integrated, and the third is developing recommendations or direction of SL and KL land management by using geographic information systems (GIS).

IV. Conclusion

Conclusions can be formulated based on the discussion above, are as follows:

1. The problem of properties, distribution, and the extent of Sultan and Kadipaten's Land can be done with the following phases:
 - a. Stages of collecting, processing, visualization, analyzing, and modeling based on materials:
 - 1) SL and KL data in the past are from various sources including Giyanti Agreement in 1755 which supports the existence of SL and KL.
 - 2) The data of the land is derived from the National Land Agency (BPN), the authority source on land issues. In this phase, we will have two (2) thematic maps status, distribution, and land area of the SL and KL sourced from the past (Giyanti Agreement) and the authority of the Sultanate and Kadipaten which in this case are Paniti Kisma and BPN.
 - b. Stage of integration of all results resulted in the first phase including secondary data or other non-geospatial information, such as physical, social, and cultural aspects with field check that is both institutionally checked and checked by the laws that already exist, the Law No. DIY. 13 in 2012 and Act No. 4 in 2011, which became an integrated information system-based geospatial and non-geospatial.
 - c. Decision-making phase of the integrated information system geospatial and non-geospatial-based.
2. The preparation of Grand design for Sultan and Kadipaten's land above are as follows:
 - a. The land preparation for the grand design of SL and KL are necessary understood the environmental conditions (state of the environment) as one of the success keys of the development.
 - b. Geospatial information can be used in the preparation of a data base which consists of mapping the landscape components: (i) elevation mapping, (ii) geological mapping / host rock, (iii) relief mapping, and (iv) the mapping of land cover / land use.
 - c. Inventory of environmental problems, in this case can be viewed from various aspects: (i) aspects of geomorphology; (ii) aspects of soil and land use, (iii) aspects of oceanography; (iv) aspects of hydrology; (v) aspects of flora (vegetation) (vi) aspect of the fauna, and (vii) cultural aspects (socio-economic-cultural).
 - d. After getting the basic data in the form of landscape ecology and inventory components of environmental problems, the first step is conducting formulation of survey characteristics of the SL and KL, the second is analyzing the potential and problems of SL and KL in spatial and integrated, and the third is preparing recommendation or direction of SL and KL land management with the help of geographic information systems (GIS).

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