GEOGRAPHICAL INFORMATION SYSTEM ANALYSIS PBB BLOCK MAP (CASE STUDY DESA GAJAHAN KABUPATEN KARANGANYAR)

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ABSTRACT

Geographic Information Systems (GIS) have become very interesting and provide hope and the development of information and communication technology. One of the efforts to support the management of PBB geospatial data is by developing a Spatial Data Infrastructure (IDS). To determine the quality of geospatial data used in PBB management and the condition and readiness of IDS for PBB. A GIS-based computer program was used it. This study aims to determine the quality of geospatial data used to manage PBB in Gajahan Village, Colomadu District, Karngayar Regency. We collected data using observation and documentation techniques and data analysis of the PBB Block Map using the Arcgis software. The results showed that the position was less accurate in terms of geospatial data quality and the geometric shape had similarities. Also, the digitized results of the PBB block map can be used to support policymaking in local governments. However, the results of interviews with village officials were that they could only read old maps and could not update new data.

Key word: GIS; PBB Block Map; geospatial.

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INTRODUCTION

One type of tax that is a potential source of state revenue is the Land and Building Tax (PBB). PBB is a tax levied on land and buildings because of the advantage and better socio-economic position for people or entities with a right to or benefit from them (Law Number 12 of 1994). On September 15, 2009, Law Number 28 of 2009 concerning Regional Taxes and Levies (PDRD) was passed as a replacement for Law Number 18 of 1997 and Law Number 34 of 2000 concerning Regional Taxes and Levies and is valid effective January 1, 2010. The law mandates the transfer of the Land and Building Tax in the Rural and Urban Sector (PBB-P2), which was initially a central tax, to a regional tax whose management is entirely in the hands of local governments no later than January 1, 2014.

According to Rajabifard (2003), IDS consists of several components: geospatial data, information technology, standards, policies, and human resources. Geospatial data is data related to the location to show the position of objects on the earth's surface related to phenomena, culture, and human resources consisting of maps, satellite images, and aerial photographs. There are two main reasons stakeholders need geospatial data, namely to assist decision making and increase efficiency through spatial analysis) and to manage large amounts of geospatial data through technology and information.

The scientific field nowadays known as GIScience started in the late 1960s when started the endeavor to create maps and perform spatial analysis with computers was started in the Harvard Laboratory for Computer Graphics and Spatial Analysis (Chrisman, N,2000). Research on land administration will never end. Land administration is reflecting the needs of society, and changing conditions will require adaptations of the cadastre. For example, Land registration needs doing so that current applications (like the land tax assessment or the documentation of landrights) are not negatively influenced. Already in the past, land administration systems have appliedresults from GIS science. Without such a connection, digital management of land administration datawould be impossible (Navratil, G., 2020).

To have a systematically registered and complete land administration system, a country-specific approach, which is fast but reliable, is required. Community-driven, participatory, and crowdsourced approaches promote an client and complete land boundary inventory that can use for many purposes, including environmental protection and land certification (Beaudoin, G, et.al, 2016 ; Chapin, M,et.al, 2005; French, M,et.al, 2018; Gallo, D.S, et.al, 2018 ; Meredith, T, et.al, 2017; Mohamed, M.A,et.al,

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2000). This research aims to determine the quality of geospatial data used to manage PBB in Gajahan Village, Colomadu District, Karngayar Regency.

In planning an activity location, it depends on the needs of the land owner. The land requirement in this case the road geometry requires a study, either directly or by using a map. The maps used are usually GIS from the authorities who issued the latest maps. This concept is always held by each planner in modeling a place. so that the created model will resemble the original form. Implementation in the field requires sufficient time to be able to provide calculations using field data (Naufal A et al, 2019; Sarwono D, 2015; Akbar IS, 2021; Syaiful S and Syahrulloh F, 2021; Erwanto Z, et al, 2021).

RESEARCH METHODS

This research was conducted at Gajahan Village, Colomadu District, Karangayar Regency. The implementation of this research was started in May 2021.

Figure 1. Map of the research location Source: Analysis results

The stages of this research are shown in the form of a flow chart as follows:

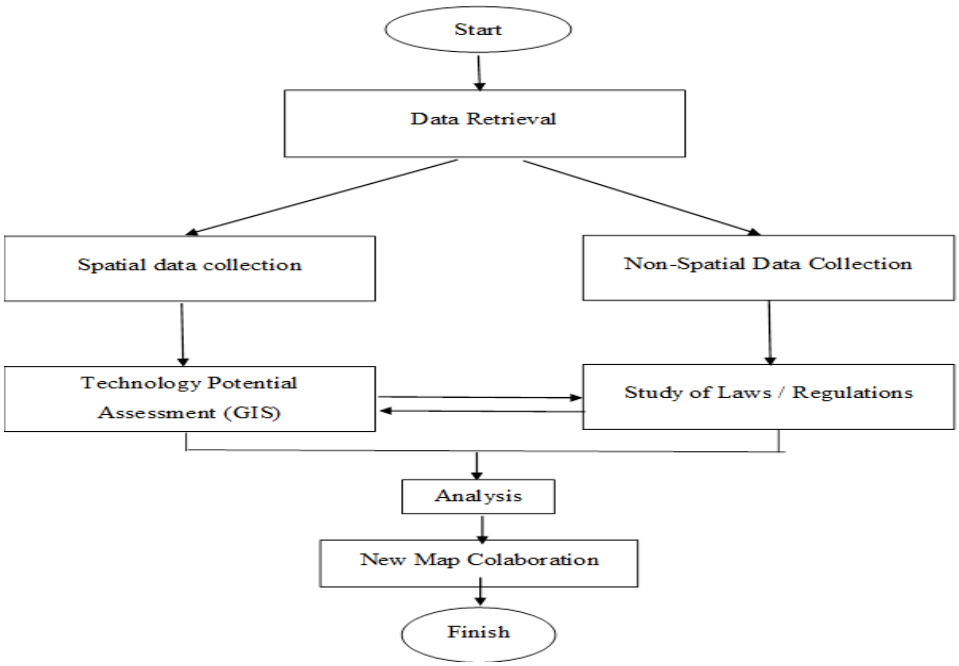

Figure 2. Research flow diagram

RESULTS AND DISCUSSION

The PBB block map is a map that describes a group of tax objects accompanied by their tax object numbers which are limited by a physical characteristic that has not changed over a long period, either in the form of natural boundaries or artificial boundaries, such as roads, ditches, rivers, and streams. etc., to impose PBB in a village/kelurahan government administrative area. Geospatial data strongly influence the determination of the amount of PBB value of a tax object. Based on this, quality geospatial data is needed to determine the amount of the tax value is proportional to the condition of the tax object itself.

In general, based on interviews and the results of the geospatial data quality test, it is found that the geospatial data used in the management of PBB in Gajahan village has data in the form of printed maps, namely Block Maps that have not been digitized and the results of data collection in 1994. The block maps result from the Ministry of Finance of the Republic of Indonesia Directorate General of Taxes KP product.PBB Surakarta. The following is a picture of the PBB Block Map of Gajahan village:

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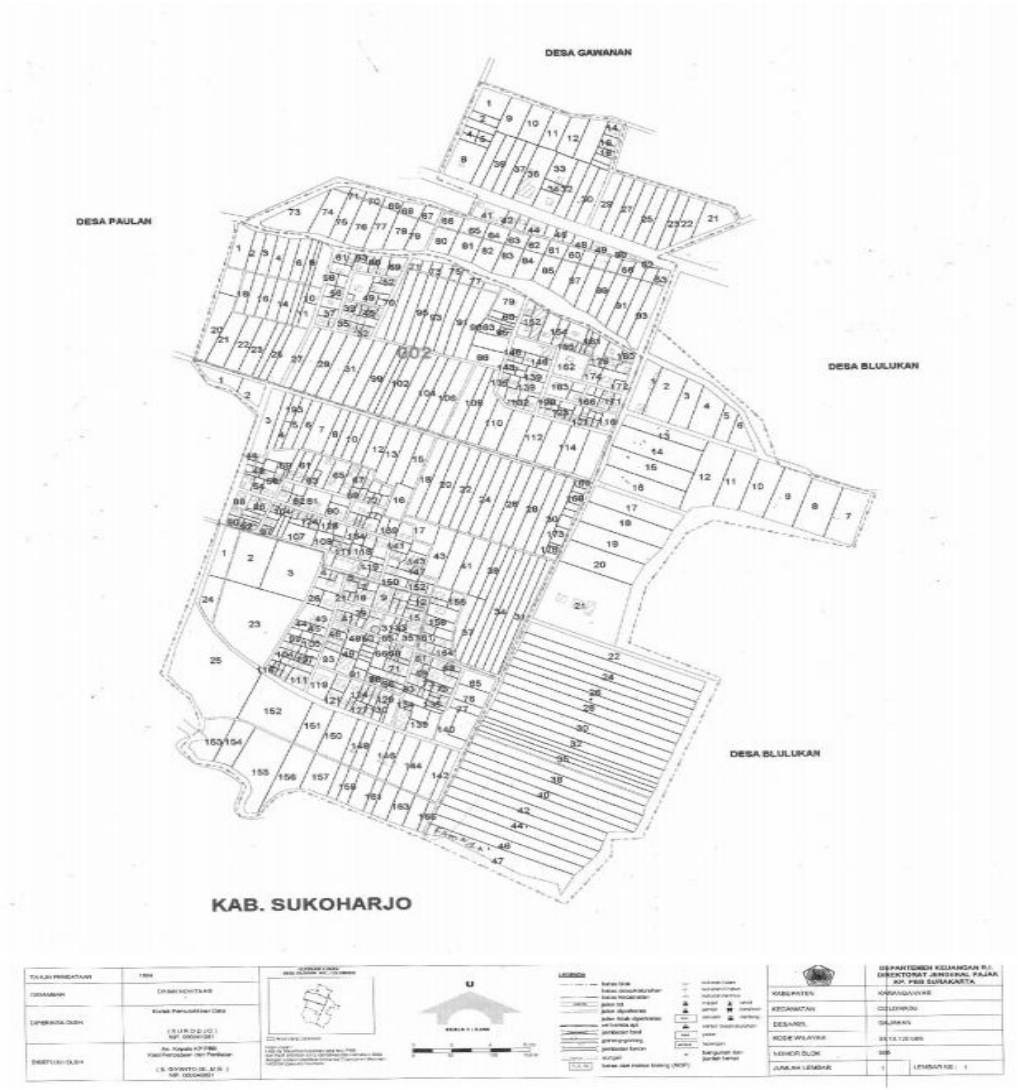

Figure 3. PBB Block Map, Gajahan Village, Colomadu District, Karangayar. Regency

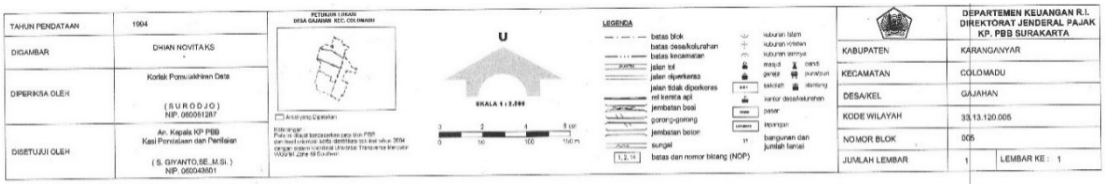

Figure 4. Description of the PBB Block Map, Gajahan Village, Colomadu District, Karangayar Regency

From the Map of Block 1 PBB, which was checked/georeferencing with the help of GIS software, it can be seen that the geometric shape is still similar, but the position has shifted. Although the printed map description is written, the 2004 tie point orientation results using the WGS 84 49 S UTM Coordinate system. As shown in Figure 5 below:

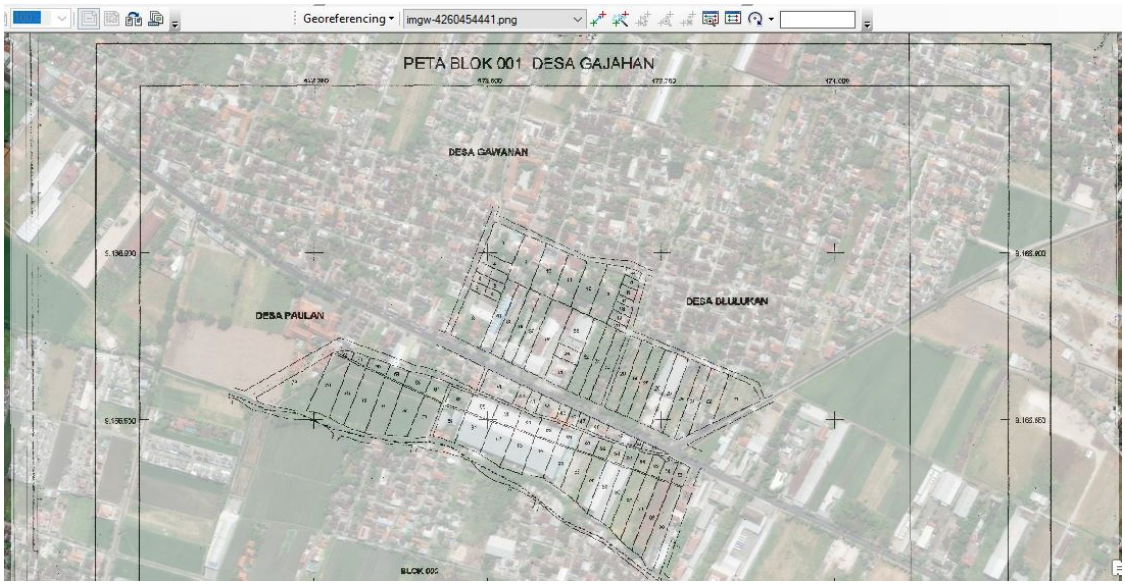

Figure 5. Map of the PBB Block, Gajahan Village, Colomadu District, Karangayar Regency, georeferencing.

From the georeferencing results, then re-digitizing according to the satellite map, the results are so accurate and the same. As picture 6 below:

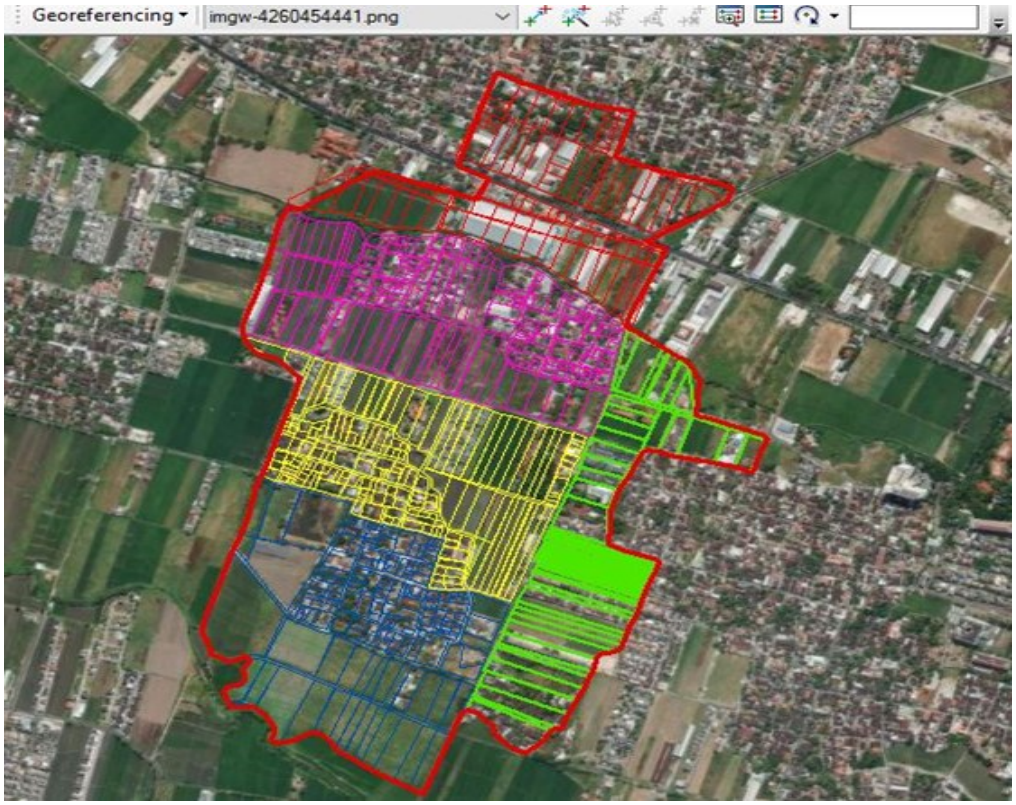

Figure 6. PBB Block Map, Gajahan Village, Colomadu District, Karangayar Regency, which has been corrected for its geometry

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This map is a form of cartometric mapping resulting from updating and integrating with existing maps in Gajahan Village, Colomadu District, Karangayar Regency towards a one map policy in planning, developing, and sustainable development Karangayar Regency.

CONCLUSION

The conclusion of the interview and the PBB geospatial data quality test results obtained the fact that the geospatial data used in the management of PBB in Gajahan village has good quality data. The PBB block map used as research material is a grant from the Directorate General of Taxes. The acquisition method uses measuring instruments in the form of a rolling meter and GPS handheld. The product of re-digitizing the PBB block map of Gajahan village using ArcGIS shows a good quality standard. The mapping of the feasibility of the location of sustainable development plans can use A Geographic Information System. Monitoring and analyzing data using ArcGIS so that further studies need to carry so that the program. It can be realized and make it easier to analyze data.

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