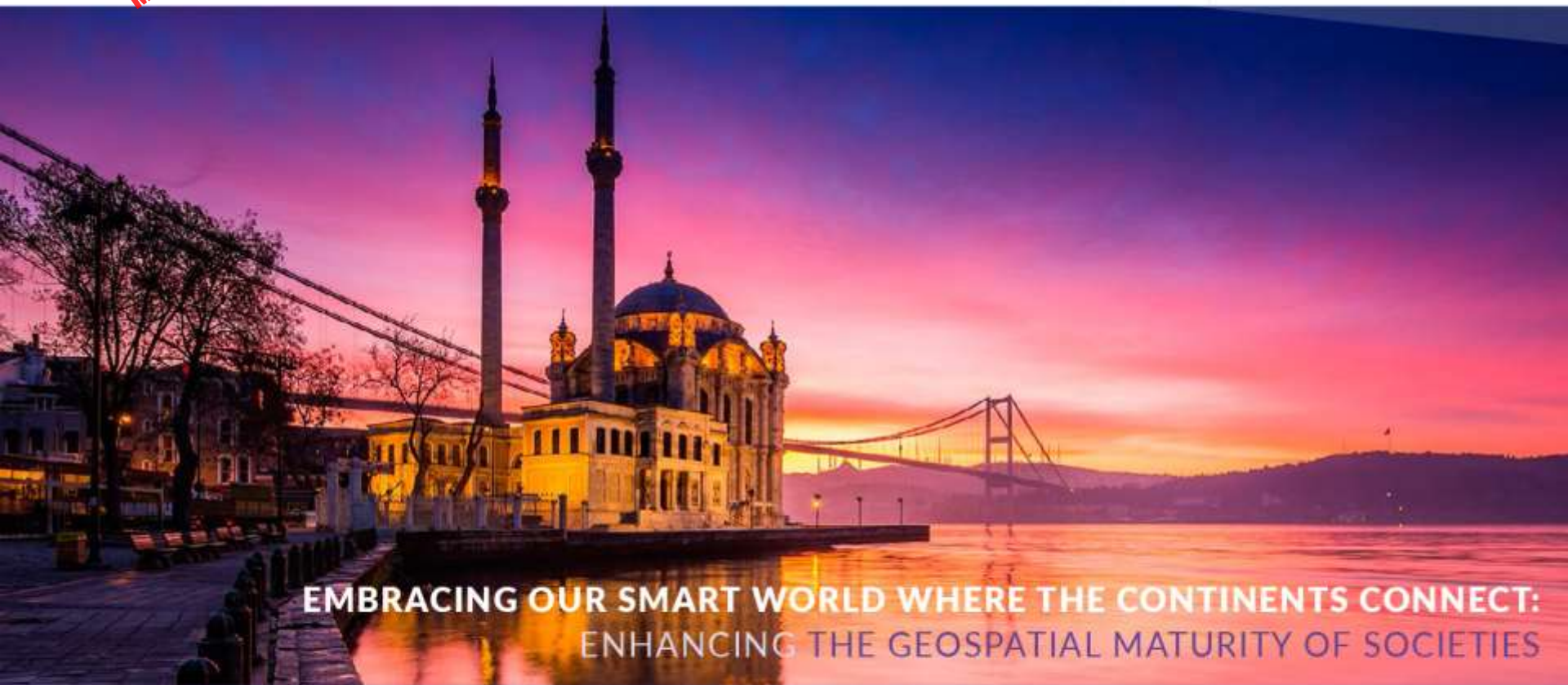




**Presented at the FIG Congress 2018,
May 6-11, 2018 in Istanbul, Turkey**

**6-11 May 2018
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Paper ID 9347

The Using of Unmanned Aerial Vehicle (UAV) Technology for Land Acquisition in Highway Construction Area

Bambang Edhi LEKSONO
Agoes Soewandito SOEDOMO
Didik Wihardi W. SOEROWIDJOJO
Levana APRIANI
Nanin Trianawati SUGITO

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Introduction

- The Cisumdawu Highway is a 60 kilometer highway part of the Trans Java Highway in West Java connecting Cileunyi - Sumedang - Dawuan or Padaleunyi Highway with the entire Palimanan - Kanci Highway using an area of 825 ha
- The recent development is that Cisumdawu Highway does not have a budget for land acquisition, whereas physical development is heavily dependent on accelerating the provision of land.
- Currently there is still a lot of land that has not been released yet. as an example of the Cisumdawu Highway development process in section 1 Cileunyi - Rancakalong 12 km long.

FIG
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Introduction

- Currently, the provision of land is only about 37%. Although it has been added to the land of the Institut Pemerintahan Dalam Negeri (IPDN) of 60.63 ha, it can only reach 68.63%.
- In addition to the ease of traffic, the construction of Cisumdawu Toll also facilitate public access to West Java International Airport in Kertajati, Majalengka District. Currently being built access from Cisumdawu Toll to West Java International Airport in Kertajati, Majalengka Regency

FIG
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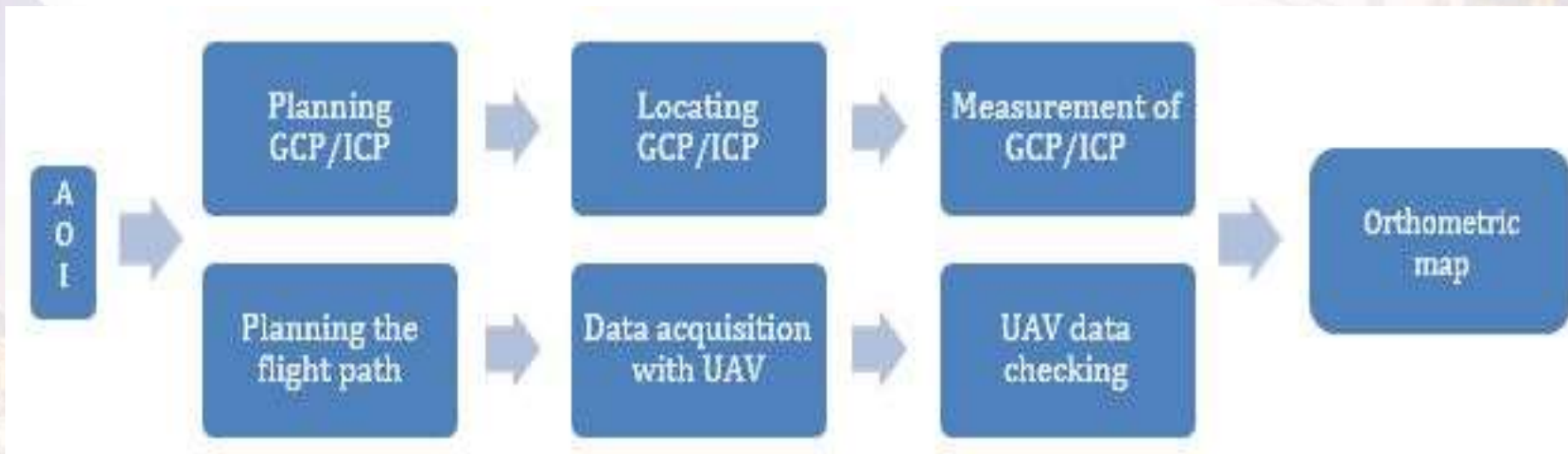
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Methods



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FIG
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FIG
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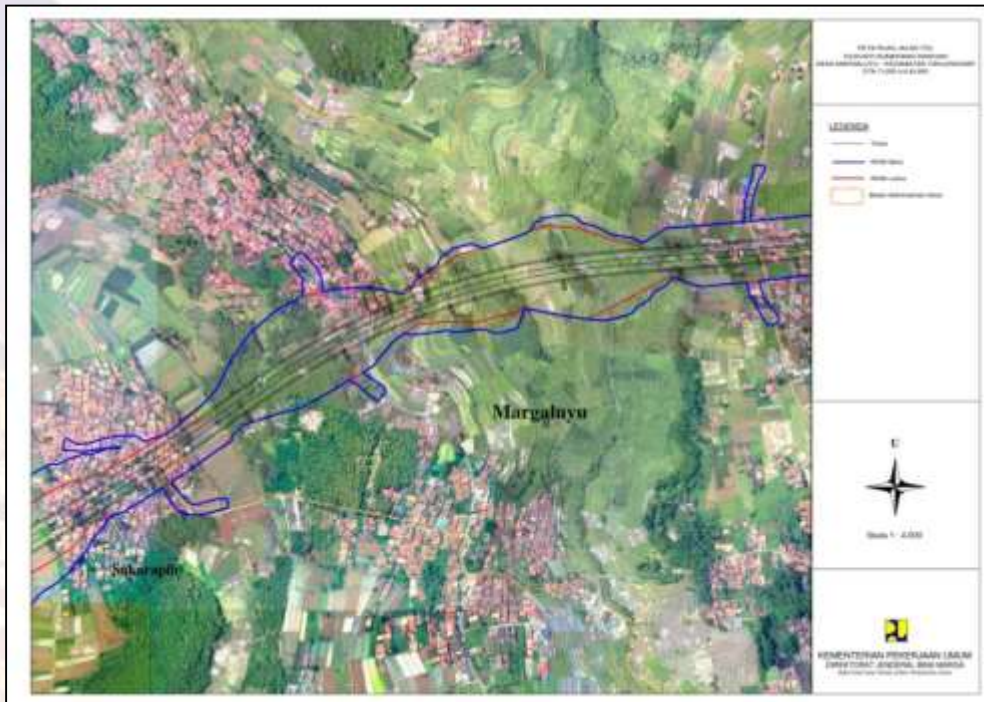
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Results



Orthometric Photo

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FIG
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FIG
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Digitizing Land Parcel

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Results

- The information is about any land that has not been acquired yet. On the part of the white land means not yet acquired. From the results of digitizing with the basic map of UAV shooting results then calculated how land that has not been acquired with the help of software ArcGIS 10.3 and there is also data of land use.
- Calculated also for the land already paid until 2015 at the Margaluyu Village, Tanjungsari District there are 194 people's land with an overall area of 91.656 m², while the price paid is about 18 billion rupiahs.



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Results

Component	Total Field	Area (m2)
Citizen Land	90	34,987
Land of Wakaf	3	1,556
Land of BUMN	1	118
Village Assets	8	2,357
Regency Asset	2	2,743
	104	41,761

Unpaid
Land

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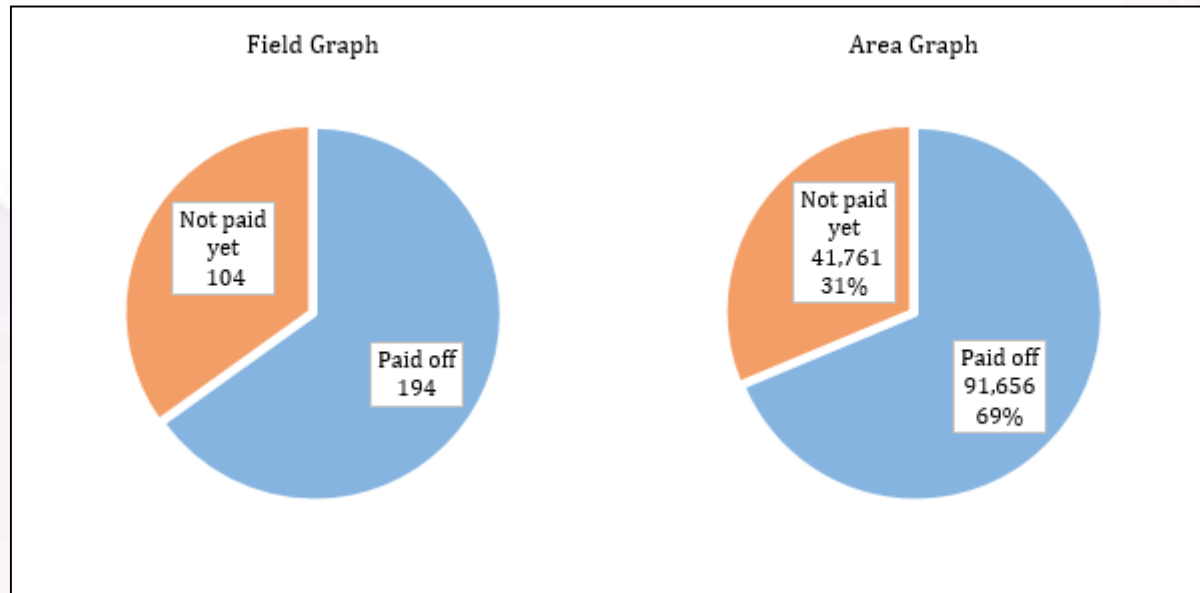
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Results



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Results

- On the chart looks a percentage that has paid more than the unpaid, although the percentage is not too much different.
- By using the UAV can also differentiate which is empty land and buildings, because the value of a land will be different if there is no building or not.
- The use of UAVs will minimize conflicts in the field, so that the measurement process can occur more quickly and usually before the local village village's UAV measurements have provided some kind of announcement letter if the citizens' land will be used for public purposes.
- Then with the UAV can help overcome the people who sometimes raise the price of land as high as possible, without doing price comparisons with neighbors.

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Conclusion

- By using UAV, the process of land acquisition can be done safely and quickly. Safe because it can minimize conflict with local people, who generally do not want the land sold even for public purposes. Fast because no need to make the arrival to each home one by one, simply by taking a photo, then done by digitizing. Generally, land related data already exists in local village apparatus

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