



Land Procurement for Public Interest Against Destroyed Land: Natural Events and Legal Certainty

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Abstract

Based on a case study on the construction of the Semarang-Demak Toll Road, this study aims to investigate and investigate land acquisition for the public interest for land that has been destroyed as a result of natural events and its legal certainty. The research method used is socio-legal with primary data in identification, field measurements, and other supporting data. Semarang-Demak Toll Road property acquisition demonstrated tidal inundation on the north shore. Subsidence exacerbates Semarang's flooding. On flooded land, sea dikes and retention ponds prevent tidal floods. If just for transportation, the Semarang-Demak Toll Road can be built in flood-free areas or over the sea, like Bali's Mandra Toll Road. Land acquisition concerns delayed the Semarang-Demak Toll Road. Lack of land limitations has delayed land purchases. In the Semarang-Demak Toll Road land acquisition, destroyed land is not a problem under Indonesian law. 2021's Regulation 18 defines destroyed land. Destroyed land will drive people to take better care of their land and be more concerned about global warming or land subsidence. The state honors the landowner's emotional connection by paying for spiritual care.

Keywords: Land Destroyed; Natural Events; Land Acquisition Law; Toll Road; Agrarian Law; Legal Certainty.

1. Introduction

The construction of the Semarang-Demak Toll Road to improve traffic connectivity for goods and services in the City of Semarang and its surroundings did not go according to plan due to land acquisition constraints. The main obstacle is the existence of parcels of land affected by tidal or tidal flooding that is inundated throughout the year at the land acquisition site for the Semarang-Demak Toll Road. The issue of the plot of land that was inundated by the tidal flood caused debate and the urgency of further regulation of the destroyed land [1]. Among these debates are related to compensation or how the rights of former landowners are declared to be destroyed. Law Number 12 of 2012 concerning land acquisition for development for the public interest does not regulate compensation for land indicated as destroyed land due to tidal flooding.

Meanwhile, land acquisition or acquisition for the public interest carried out by the government must compensate for losses to provide a better level of survival than the level of socio-economic life before being affected by the land acquisition project [2]. This is in line with Government Regulation No. 19 of 2021 concerning the Implementation of Land Procurement for Development in the Public Interest, where compensation is given based on the estimated value of compensation for land acquisition objects, including land, above ground and basement rooms, buildings, plants, objects related to land, and other losses, which can be assessed [3].

Law Number 5 of 1960 concerning Basic Regulations on Agrarian Principles as one of the causes of the abolition of a Land Right to the destroyed land [4]. The absence of further regulation regarding the Land of Destruction previously

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did not raise any significant problems in land administration. In line with the spirit of Law Number 11 of 2020 concerning job creation, the government issued Government Regulation Number 18 of 2021, which among other things, regulates the determination and granting of money for the destruction of the land. This regulation will be applied for the first time to designate land covered by tidal flooding at land acquisition for the Semarang–Demak Toll Road as Land of Destruction.

In the theory of land ownership, the property holder is entitled to enjoy several benefits over his land rights. First, property holders have the freedom to enjoy their possessions without interference from others [5]. Second, the property owner can prevent or eliminate the interference of others to his property. Third, the property owner can transfer the object of his ownership to someone else if he so wishes [6]. A holder of ownership of an object in principle enjoys the following benefits [7]:

- Use right: The right to enjoy the benefits of the object that is the object of ownership.
- Management right: The right to decide who will be allowed to use the object that becomes ownership under certain conditions.
- Income right: The right to get income (income) from the object that is the object of ownership.
- Capital right: The right to enjoy (to consume), destroy, and change objects that become the object of ownership.
- Transfer right: The right to sell, surrender or bequeath the property that becomes ownership.

In line with the theory of land ownership above, the Indonesian Constitution Article 33, paragraph 3 of the Constitution has set limits on the state's right to control the land sector [8]. Therefore, the state, which was originally the owner of the land, has all the authority to take ownership actions (*Eigensdaad*). However, this state control is limited by the existence of individual land rights. The state's power over land that a person with certain rights already owns is limited by the content of that right, meaning to what extent the state gives power to a person who owns it to exercise his/her rights. Meanwhile, the state's power over land not owned with any rights by someone or another party is vast and complete [9].

In addition to causing legal debates about the destroyed land to be built on the Semarang-Demak Toll Road, there are also natural events that have implications for the need for legal certainty over the destroyed land. In addition to legal issues that arise, there are also natural problems in the form of tidal flooding. Sea level rise and land subsidence are often cited as the two leading causes of tidal flooding [10–14]. First, there are places with non-uniform topography and saturated soil in coastal areas with relatively flat slopes. The non-uniform topography in question is the presence of places with a lower height than the highest tide, where the boundary between that place and the sea allows seawater intrusion. Second, soil subsidence, at least two theories support this, namely groundwater pumping theory and soil load. Groundwater pumping is related to insufficient clean water services and the abundance of freshwater deposits in geological faults in the earth's crust. At the same time, the load on the land surface due to urban development and toll road construction areas having a relatively flat topography continue to proliferate along with urban development; this theoretically resulted in land subsidence [15].

In the Semarang-Demak area, which experienced natural events in the form of tidal waves, land acquisition has been carried out to construct toll roads. The Semarang-Demak Toll Road construction is designed for transportation facilities and to control tidal flooding through integration with sea embankments equipped with retention ponds. The retention pond is expected to accommodate flooding from higher areas and provide water for industry, indirectly reducing groundwater use and stopping land subsidence [16, 17].

As the land was destroyed in the land acquisition of the Semarang-Demak Toll Road, this development is hampered. Some of the lands that will be acquired are constrained because the land rights owned have been flooded due to the tidal wave, so the government has difficulty providing compensation for the public interest because the land is considered to have been abolished based on the existing land law. This creates a dilemma in legal certainty where the community has the right to land but is inundated while the existing legal rules do not facilitate this, so it is difficult to provide compensation for the construction of the Semarang-Demak Toll Road. The search for various studies has been carried out; however, the research linking these natural events with the concept of destroyed land in land law, especially in the case of land acquisition, is still minimal, so a more comprehensive study is needed to see natural and legal events as an inseparable unit.

Previous studies, such as Wiryani & Najih (2018) [18], investigated whether or not the loss of land can be considered a natural occurrence and whether or not it has any bearing on the law. This study aims to conduct a legal analysis of the implications of Law No. 2 of 2012 concerning Land Procurement for Development in the Public Interest to improve the welfare of landowners after the relinquishment of land rights. This study will be conducted to improve the welfare of landowners. This research discusses compensation arrangements, specifically concerning compensation assessors,

compensation assessments, and the deliberation process to determine compensation. As a result of the findings of this study, recommendations regarding compensation arrangements for the Law on Land Acquisition for Development in the Public Interest have been made. This arrangement, which includes the determination of the appraiser material, the value of compensation, deliberation to determine compensation, and the deposit of compensation in the Law on Land Procurement, is not by the principles and principles of land acquisition, which should be the basis and guidelines for the formulation of norms. Furthermore, this arrangement also includes the deposit of compensation in the Law on Land Procurement.

According to Sari et al. (2021) [19], the Acts of Indonesia and Malaysia both contain provisions that control compensation arrangements. Even though Indonesia is governed by the civil law system and Malaysia is governed by the common law system, the two countries share a few similarities in the legal frameworks that govern their respective legal systems. In Indonesia, the reassessment process is not explicitly regulated in the law; therefore, in the future, it will be necessary to pay attention to the pattern of reassessment carried out in Malaysia. According to the author of this pattern, in light of the current lack of a legal framework, it will be necessary to have a fast-track process to ensure justice and legal certainty.

Sari et al. (2022) [20] investigated the legal politics of development in the public interest of abraded land after the presence of legislation containing regulations on the Job Creation Act. The conclusions from the study results show that public interests have been added as mentioned in the article that regulates land acquisition as many as six activities, including industrial regions, special economics, tourism, food security, gas industry, oil industry, and technological development. The abolition of land rights because the land is destroyed simultaneously with the opportunity for the holder of the power over the land to need to rebuild and revitalize the utilization of the land, and it is regulated in it by other parties who can carry out reconstruction and revitalization based on the provision of spiritual funds to the power over land or the power of utilization. The adjustments listed above will be a step closer to accomplishing justice, welfare, and prosperity in providing compensation for the destroyed land.

Based on previous research, although both research on land acquisition, this research focuses more on land acquisition in the public interest for land destroyed due to natural phenomena and how legal certainty is with the socio-legal method. Thus, this study aims to identify and analyze land acquisition for the public interest for land destroyed due to natural phenomena and its legal certainty based on a case study of the construction of the Semarang-Demak Toll Road. This research is very useful to provide knowledge and understanding to the government and the community about how the legal construction of land acquisition is for the public interest on destroyed land; this is to realize legal certainty.

2. Research Methodology

This research method uses the research approach used in this study is the socio-legal approach. "*Socio*" in socio-legal studies represents the interrelationships between the contexts in which the law exists (an interface with a context within which law exists) so that this gives enough emphasis that Socio-legal research that uses social theory for analytical purposes is not intended to give more attention to sociological studies and other social sciences, but to law and legal studies themselves [21, 22].

Wheeler and Thomas, socio-legal studies are an alternative approach to testing the law [23, 24]. Socio-legal itself has a close relationship with other social sciences in terms of the methodology used, wherewith this similar method and approach, a basic understanding of the legal substance can be obtained [25, 26]. Primary data on land plots indicated destroyed land due to field identification and measurements. Secondary data was obtained from the Land Office of Semarang City and Demak Regency as the executor of land acquisition for the Semarang-Demak Toll Road. They supported data in photo maps, satellite images, land and building tax maps, drone videos, and other data supporting the analysis. The overlay method is used to analyze these spatial data.

3. Results and Discussion

3.1. Structure Existing Condition of Semarang-Demak Toll Road Land Procurement Location

Global Positioning System (GPS) technology is used in the measurement and mapping process [27–29]. Measurements to obtain land parcels affected by land acquisition are carried out by Task Force A of the land acquisition committee as referred to in Article 60 Paragraph (1) of Government Regulation 19 of 2021 concerning Implementation of Land Procurement for Development in the Public Interest. By the provisions of laws and regulations, the boundary measurement of the plot is carried out by the designation of the boundary by the landowner with the approval of the owner of the adjacent land parcel [30]. The existence of areas submerged by tidal flooding at the land acquisition site was first noticed by Task Force A during the measurement process.

The boundaries of land parcels that have been inundated by tidal water cannot be identified directly in the field because the physical field is already in the form of seawater with different depth variations [31–33]. To assist in identifying land parcels, Task Force A uses work maps in the form of photo maps, satellite images, and maps of Land and Building Taxes [34–36]. The land acquisition committee identified the land parcels already in seawater as land indicated to be destroyed, as in Article 27, Article 34, and Article 40 of Law Number 5 of 1960 concerning Agrarian Principles. The absence of further regulations regarding destroyed land made land acquisition for areas inundated by tidal floods halted the measurement and mapping process.

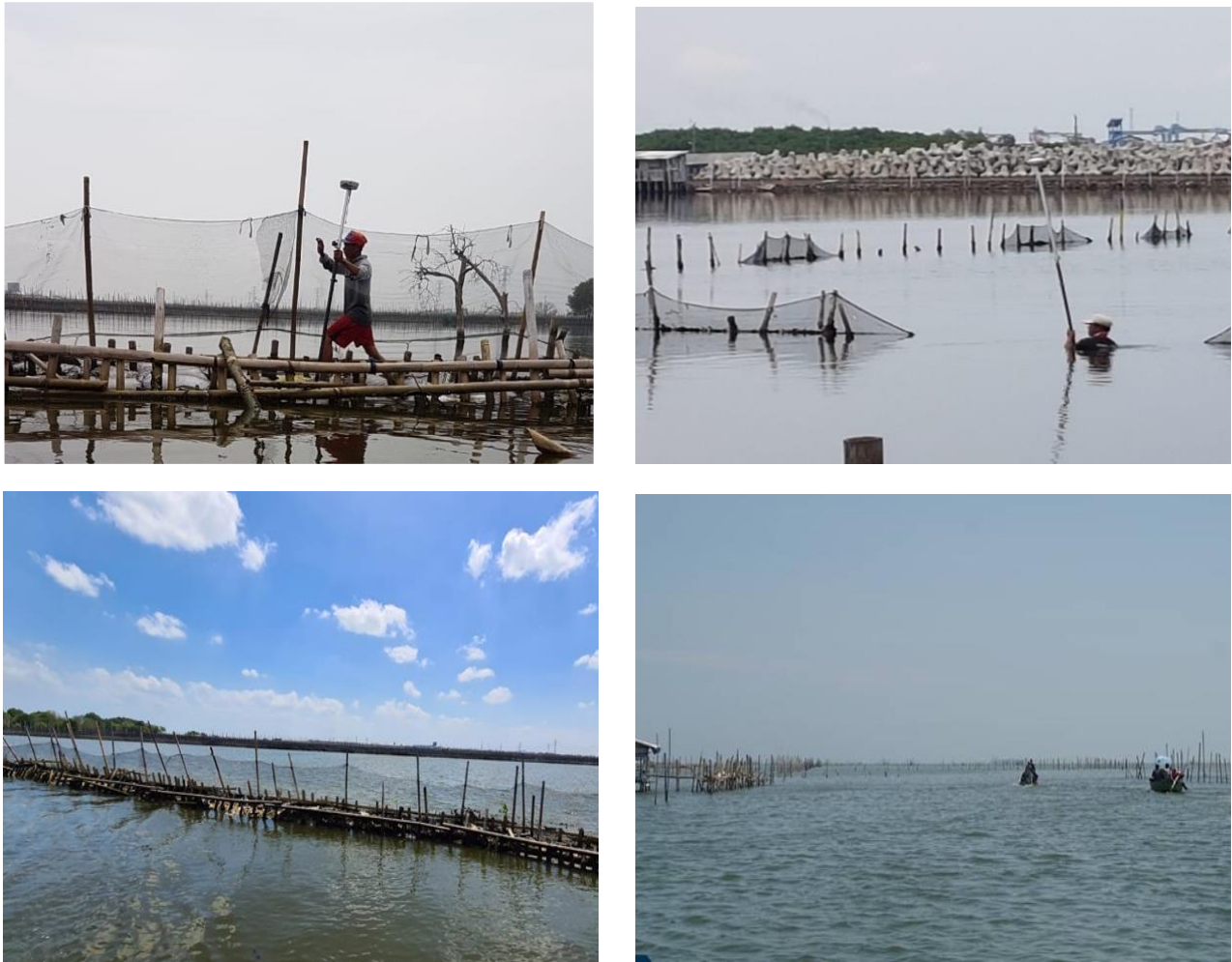


Figure 1. Field Measurements Made Above the Field Boundary Created by the Land Owner

Unmanned Aerial Vehicles (UAV) or drone technology has been widely used to monitor various natural events in coastal areas such as flooding and erosion in Ghana [37], shoreline changes in the Canadian Arctic [38], in Italy [39] and, the productivity of salt marsh vegetation in California USA [40], changes in coastal topography due to storms on the northern coasts of Germany [41] and Italy [42], and morphological changes due to the earthquake and tsunami in Japan [43]. UAV is different from satellite imagery or aerial photography methods, which are more expensive and cannot be used. Drone technology is cheaper, easier to operate, and more flexible whenever you need field data.

In order to identify plots of land that are inundated by tidal water at the location of land acquisition for the Semarang-Demak Toll Road, the land acquisition committee and the Ministry of Public Works and Public Housing conducted a mapping using a UAV. The results of the UAV through drones show that the land acquisition locations for which the toll road will be built have all been affected by tidal or tidal flooding on the north coast of Semarang and Demak. In addition, it also clearly shows the almost evenly distributed puddle of water in the planned location of the Semarang-Demak Toll Road. The location where the sea wall and retention pond will be built is already filled with tidal water [44].



Figure 2. Video of UAV Land Procurement Location for Semarang–Demak Toll Road

3.2. The Emergence of Destroyed Land Due to Natural Event

The tidal or tidal flood disaster on the coast of Semarang City and its surroundings has long been a concern [45]. Tidal flooding caused by sea-level rise is a global event [46]. Land affected by tidal flooding due to sea-level rise due to global warming is not expected to return to land [47]. Land that has been covered by seawater without any effort or adaptation to cope with sea-level rise and land subsidence will forever be an ocean [48]. Handling sea level rise and land subsidence in Semarang and its surroundings can be learned from the experiences of other countries [49]. Japan managed to stop land subsidence and prevent the coast of Tokyo City from sinking by carrying out harsh measures such as building concrete embankments, sea walls, floodgates, reclamation, and elevation combined with soft measures such as evacuation and early warning systems [48]. The construction of the Semarang-Demak Toll Road integrated with the sea wall is the government's effort to deal with tidal flooding (harsh measures) as in Japan and Jakarta.

The Semarang-Demak Toll Road map with a photo map of 2004 shows that most toll roads are located on agricultural land in Sriwulan, Bedono, and Purwosari Villages, Sayung District, Demak Regency (Figure 3). Information from the three village heads, supported by land and building tax data, confirms that the area was primarily agricultural land. According to the Ministry of Public Works and Public Housing, there are approximately 273 plots of 91.8 ha in the three villages, which are the locations for the planned construction of the Semarang-Demak Toll Road integrated with the sea embankment indicated as destroyed land. Bedono and Sriwulan villages are the areas in Demak Regency that are worst hit by tidal flooding, and most of their agricultural land is permanently inundated by tidal or tidal flooding, with an area of 400 ha. Not all land affected by permanent rob in the three villages was affected by land acquisition (Figure 4).

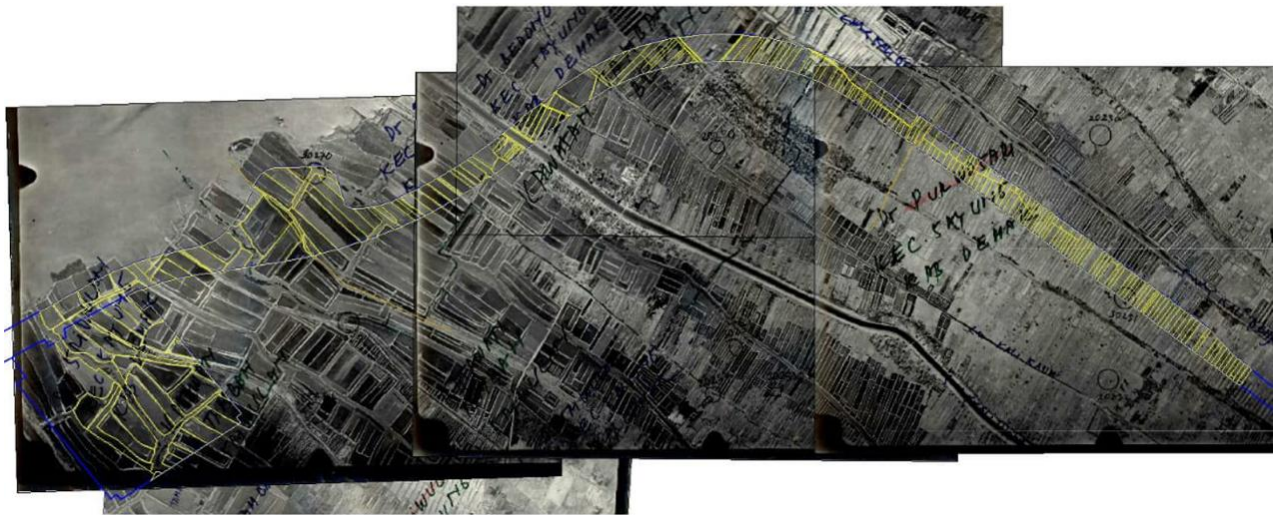


Figure 3. Locations of Sea Walls and Sea Wall Retention Ponds in Demak Regency Photo Map of 2004

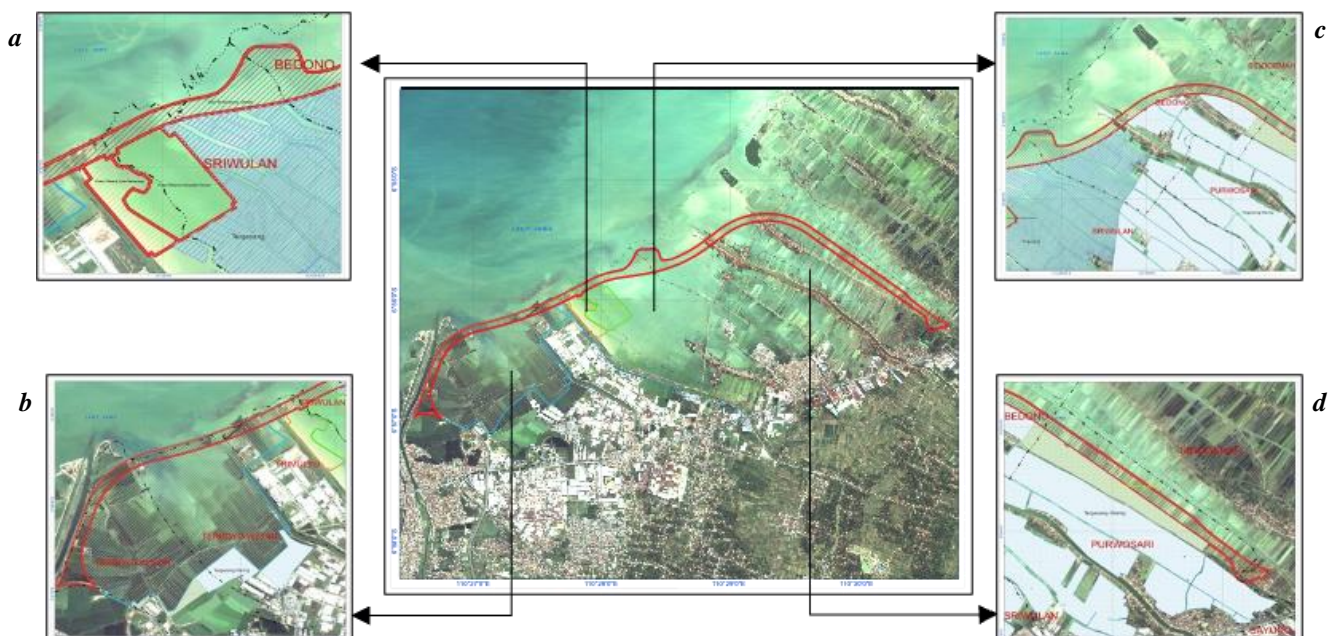


Figure 4. Semarang-Demak Toll Plan overlay with High-Resolution Satellite Imagery of Geospatial Information Agency 2018

The results of the toll road plan map overlay, the results of the Semarang City Task Force A measurement on the latest satellite image show that the sea wall and retention pond development plans are almost entirely located on parcels of land that are already in the form of seawater (Figure 4). The sea dikes and retention ponds in the Semarang City area will pass through three sub-districts, namely Terboyo Kulon, Terboyo Wetan, and Trimulyo in Genuk District (Figure 4.b). A total of 115 plots of land with approximately 283 Ha needed to construct toll roads in the three urban villages are indicated as destroyed land because tidal waves inundate the physical field throughout the year. This is in line with the projection that permanent tidal flooding will affect most of the three sub-districts in 2031.

The plots of land indicated to have been destroyed at the land acquisition site have long been recognized by academics and the public as areas affected by tidal flooding or permanent tidal flooding. The government needs to anticipate the impact of stipulating that part of the submerged land at the land acquisition site as land is destroyed. Different treatments for land affected by the tidal flood that belongs to the community can cause social jealousy. This includes the fact that the construction of the sea wall is only partially inundated by tidal flooding and does not cover other areas in Demak.

The intense emotional bond between the community and the environment where they live must be a severe concern in handling tidal floods, including land acquisition for the construction of sea walls. The strong bond can be seen in the majority of the community (81%) preferring to stay even though there is a tidal flood rather than having to move. The community's emotional bond with the land that has been destroyed by tidal flooding must still be a concern that cannot be ruled out in the land acquisition process.

3.3. Legal Certainty on Land Destroyed Due to Natural Events

In Indonesia, legal protection against the impact of sea-level rise and land subsidence that causes tidal flooding has not been expressly regulated. Law Number 24 of 2007 concerning Disaster Management and Government Regulation Number 64 of 2010 concerning Disaster Mitigation in Coastal Areas and Small Islands does not mention disasters caused by climate change that occurs slowly, including tidal floods and floods categorized as disasters flood due to heavy rain and occurs suddenly [50]. The limited coverage of flood disasters in the disaster law makes tidal flooding due to rising sea levels or land subsidence impossible. Suppose the tidal flood can be categorized as a disaster. In that case, the government can determine disaster-prone areas and prohibit or free land controlled by the community through compensation as stipulated in Article 32 of Law Number 24 of 2007 concerning Disaster Management. The unclear regulation of tidal flooding as a disaster causes the handling of tidal floods to be not optimal, and there is no legal certainty regarding plots of land that are indicated to be destroyed by the community.

Semarang-Demak integrated sea wall. The construction of a sea wall as a solution to tidal flooding requires that it is built on plots of land submerged by tidal flooding. However, the legal status of the parcels of land permanently submerged by tidal flooding is not yet clear. If it is investigated regarding destroyed land, it can be found in the fundamental agrarian law as one of the causes of the abolition of land rights as referred to in Article 27, Article 34, and Article 40 of Law Number 5 of 1960. The absence of further regulation regarding destroyed land is an obstacle to constructing the toll road. In line with Law Number 11 of 2021 concerning Job Creation, the government is trying to resolve various problems faced by the National Strategic Program, one of which is the Semarang-Demak Toll Road. Destroyed land is one of the strategic issues answered by Law Number 11 of 2021 concerning Job Creation through the issuance of Government Regulation 18 of 2021, which regulates the definition, procedures for determining, and rights and obligations of the owner of the destroyed land.

By "Article 1 Paragraph (12)" of *Government Regulation* 18 of 2021, destroyed land has changed from its original form due to natural events and cannot be identified anymore so that it cannot be functioned, used, and utilized correctly. The use of the phrase "*Natural Event*" in Article 1 Paragraph (12) and Article 66 Paragraph (1) makes the scope of regulation of destroyed land more inclusive and not limited to the concept of disasters that occur in a short time as defined in the legislation on the disaster. The concept of destroyed land can be applied to tidal flooding, a chronic phenomenon that tends to last a long time with slow escalation and predictable severity [51].

The spirit of regulating the destroyed land is to provide certainty of land rights that have changed shape and function, such as land affected by tidal flooding. By the Regulation of the Minister of Agrarian Affairs and Spatial Planning/National Land Agency, Number 17 of 2021 concerning Procedures for Determination of Destroyed Land, the provision of spiritual funds for destroyed land is only given to the owner of destroyed land which the government or other parties took over for the development of the public interest. Ideally, spiritual funds are provided to all victims of the destroyed land.

This shows the limitation of destroyed land, which only covers the issue of land rights status and has not touched on efforts to overcome the impact of tidal flooding directly. Prior to determining the destroyed land, the landowner is given priority to carry out reconstruction or reclamation within 1 (one) year. If the owner does not undertake any reconstruction or reclamation within 1 (one) year, the plot of land is designated as destroyed land. If the plot of land is designated as

destroyed land, the Management Rights or Land Rights will be null, and the evidence of ownership held by the community will be withdrawn. It is hoped that the regulation of destroyed land will encourage the community to be more active in maintaining or restoring the function of the land.

This will indirectly encourage people to be more concerned about the potential danger of tidal flooding. Public awareness of potential hydro-meteorological hazards that threaten the environment is something that the government needs to encourage to handle tidal flooding. With the provision that land is destroyed, the implementation of development for the public interest will not be hampered by land indications that are destroyed due to tidal flooding or tidal flooding. The provision of spiritual funds for destroyed land affected by land acquisition for the public interest shows a concern for the community's emotional bond with the land lost due to tidal flooding.

4. Conclusion

The boundaries of land parcels that have been inundated by tidal water cannot be identified directly in the field because the physical field is already in the form of seawater with different depth variations. The results of the UAV via drones show that the land acquisition locations for which the toll road will be built have all been affected by tidal or tidal flooding and water puddles that are almost evenly distributed at the location of the planned construction of the Semarang-Demak Toll Road. This indicates that the land has been destroyed. Government efforts are needed to anticipate the impact of stipulating part of the submerged land at the land acquisition site as destroyed land. The government must give the same treatment to people whose land is affected by the tidal flood, which will be used to construct the Semarang-Demak Toll Road.

Legal certainty over the destroyed land, which is the location for the land acquisition of the Semarang-Demak Toll Road, needs to be held immediately. Therefore, the government presents Government Regulation 18 of 2021, which, among other things, regulates the definition, and procedure for determining, as well as the rights and obligations of the owner of the destroyed land. This was born to provide clarity about the existence of the destroyed land. In addition, the Minister of Agrarian Affairs and Spatial Planning/National Land Agency Regulation Number 17 of 2021 concerning Procedures for Determination of Destroyed Land is as follows: the provision of spiritual funds for destroyed land is only given to the owner of destroyed land, which the government or other parties took over for the development of public interests. These government actions are carried out to accelerate development for the public interest in the future and encourage people to take better care of their land and be more concerned about the potential for tidal flooding due to global warming or land subsidence.

5. Declarations

5.1. Author Contributions

Conceptualization, E.S. and R.S.; methodology, E.S.; software, H.P.; validation, M.Y.; formal analysis, H.P.; investigation, R.S.; resources, M.Y.; data curation, E.S.; writing—original draft preparation, E.S.; writing—review and editing, E.S.; visualization, H.P.; supervision, M.Y.; project administration, E.S.; funding acquisition, R.S. All authors have read and agreed to the published version of the manuscript.

5.2. Data Availability Statement

The data presented in this study are available in the article.

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5.5. Conflicts of Interest

The authors declare no conflict of interest.

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