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INTERNATIONAL SEMINAR

LAND AND SPATIAL PLANNING POLICE
FOR SUSTAINABLE DEVELOPMENT

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PROCEEDING

INTERNATIONAL SEMINAR

LAND AND SPATIAL PLANNING POLICE FOR SUSTAINABLE DEVELOPMENT

Author:

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FOREWORD

The discussions of agrarian arrangement, land administration and spatial planning should be seen as an integrated entity and cannot be separated each other. On a more traditional way, land administration giving the function to provide land data for taxation purpose, but on a broader context, recent development refers to the establishment of land administration system scoping a more extensive function such as supporting economic development, environmental management, and social stability and justice. In this condition, the need of an integrated land administration system, covering aspects of agrarian arrangement and spatial planning, is inevitable. On a broader context, integrated land administration, agrarian and spatial planning covering some aspects correlated each other. The implementation of high technology in land measuring and mapping, supported with a solid and up to date land database management for cross-sectors purpose, data sharing policies, multi-sectors management related to land management, consistencies between agrarian arrangement, land administration and spatial planning to avoid conflicting on the implementation, and also how those can function optimally as a tool to achieve social justice and improvement of quality and stability of life. This is not an easy work, especially for developing countries such as Indonesia, where those needs are usually conflicting with the need of economic growth and infrastructure development as 'the one and only measurement tool" to quantify the success of development. Other issues, such as access and asset justice of land, poverty, gender and generation, customary land and indigenous people, community empowerment, and other technical issues such as disaster management and land use, utilization and tenure control are neglected on agrarian and spatial planning practices.

This proceeding is a collection of papers presented on the international seminar of "Integrated Land, Agrarian and Spatial Planning for Sustainable Development" held by STPN on September 19-20, 2019, contain ideas, findings and experiences, practical and empirical, related to agrarian arrangement, land administration and spatial planning, to provide recommendation for a more comprehensive of integrated agrarian, land and spatial planning implementation. The findings and discussions are expected to be a tool for multi-sectors stakeholders related to the issues, not only limited to the Ministry of Agrarian Affairs and Spatial Planning, but also for other institutions, as a part of counteraction of perceptions related to land management and spatial planning, for a better future and sustainable development of Indonesia.

CONTENTS

SUB THEME 1

LAND ADMINISTRATION TECHNOLOGYPROCEEDING

SYMPTOMS OF CADASTRAL D-I MEASUREMENT AND MAPPING STUDENTS WITH THE REGULATION OF THE MINISTER OF AGRARIAN AND SPATIAL / HEAD OF NATIONAL LAND AGENCY NUMBER 33 OF 2016 CONCERNING LICENSED CADASTER SURVEYORS.

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Abstract

Ownership of a plot of land requires legal certainty, in this case, the certainty of location, boundaries of land parcels, and status of land rights. Placement of land boundaries is the authority of the Ministry of Agrarian and Spatial Planning / National Land Agency. Therefore, as stated in the Nawa Cita program by the President of the Republic of Indonesia, Ir. H. Joko Widodo, the need for work partners as a means to accelerate these activities, from now on referred to as the Cadaster Surveyor following what is stated in the relevant Ministerial Regulation. The profession of a Cadaster Surveyor is one of the important professions within the Ministry of Agrarian and Spatial Planning / National Land Agency and not a few people say if it's not easy to get the profession title. Based on the previous regulations, this Cadaster Surveyor profession is done by diploma one graduate (D-1) or diploma three (D-3) in the field of mapping survey. In other words, diploma one graduates from the National Land College (STPN) also took part in the procurement of this profession. However, based on the new rules of work that can be done by diploma one graduate (D-1) both administrative and measurement assignments must now be forced to be transferred to graduates of the undergraduate level or vocational high school with short training and require alumni of diploma one to leave the Land Office. However, the government is standardizing the measuring profession through competency certification carried out by the Professional Certification Institute (LSP) to realize this year's government program which focuses on building human resources to be able to compete in the era of the Industrial Revolution 4.0. Therefore, with the new regulation, what is the future of diploma one graduate who has been aimed at the Cadaster Surveyor profession? And what policies are needed to save the future of alumni from diploma one from STPN? `The research method taken is by looking for references and collecting data from various regulations that exist within the central and regional governments, not only that but also by looking for data from friends' opinions in the Ministry of Agrarian and Spatial Planning / Head of National Land Agency or personal experience.

Keywords: Cadaster, Land, Ministerial Regulation, and Industrial Revolution 4.0

A. Introduction

Ownership of a parcel of land requires legal certainty, in this case, the certainty of location, boundaries of parcels of land, and the status of land rights. Determination of land parcels is the authority of the Ministry of Agrarian Affairs and Spatial Planning / National Land Agency, however, to accelerate the implementation of land registration as stipulated in the Nawa Cita program President of the Republic of Indonesia Ir. H. Joko Widodo is needed by partners as a means to speed up the activity, hereinafter referred to as the Cadastral Surveyor in accordance with what is stated in the Regulation of the Minister of Agrarian Affairs and Spatial Planning / Head of the National Land Agency of the Republic of Indonesia Number 33 of 2016 concerning Licensed Cadastral Surveyors.

The profession of a Cadaster Surveyor is one of the important professions in the Ministry of Agrarian Affairs and Spatial Planning / National Land Agency. Many people say it is not easy to get a Cadastral Surveyor Profession. According to Cogan (1983, 21), the profession is a skill

that is in practice based on a certain theoretical structure from some parts of the lesson or even science. Meanwhile, according to the Big Indonesian Dictionary, the profession can be interpreted as a field of work that is based on specific education skills (skills, vocational, etc.).

B. The Linkage of Ministerial Regulation 33 Of 2016 Concerning Licensed Cadastral Surveyors

Based on Article 1 sub-chapter number 3 of the Regulation of the Minister of Agrarian Affairs and Spatial Planning / Head of the National Land Agency of the Republic of Indonesia Number 33 of 2016 concerning Licensed Cadastral Surveyors, Licensed Cadastral Surveyors are partners of the Ministry of Agrarian and Spatial Planning / Heads of National Land Agency appointed and dismissed by Minister of Agrarian Affairs and Spatial Planning / Head of the National Land Agency, which consists of Cadastral Surveyors and Assistant Cadastral Surveyors. Surveyor according to the Federation Internationale de Gymnastique (FIG) is a professional with academic qualifications and an expert in the field of measurement and mapping engineering knowledge.

Judging from the theory it is undeniable that the task of a surveyor is very 'elegant', reversed to the elegance of the surveyor, what is the status of the surveyor especially in Indonesia? Can it be considered feasible? What is the position of the Regulation of the Minister of Agrarian and Spatial Planning / Head of the National Land Agency of the Republic of Indonesia Number 33 of 2016 concerning Licensed Cadastral Surveyors on this matter? We need to know together the causes of the issuance of this policy including that the implementation of the land acceleration program throughout the territory of the Republic of Indonesia is still constrained by the limited number of Cadaster Surveyors, so it is necessary to strengthen policies, institutions, funding, and Cadaster Surveyor resources for the intended acceleration, as well as bearing in mind that the policies previously seen as ineffective and constrained by problems. The question is, based on the policy that has just been born in a few months, what is the impact on the Cadastral Surveyors, especially the Assistant Surveyors? We need to know that the presence of Regulation of the Minister of Agrarian and Spatial Planning / Head of the National Land Agency of the Republic of Indonesia Number 33 of 2016 concerning Licensed Cadastral Surveyors more or less makes a difference of perception in the context of the 'future' of licensed cadastral surveyor assistants.

Based on Article 38 paragraph 3 of the Regulation of the Minister of Agrarian and Spatial Planning / Head of the National Land Agency of the Republic of Indonesia Number 33 of 2016 concerning Licensed Cadastral Surveyors, Cadastral Surveyors and / or Cadastral Surveyor Assistants are required to join or form KJSKB (Licensed Cadastral Surveyor Service Office) in accordance with the provisions legislation, no later than 1 (one) year since the promulgation of this Ministerial Regulation. This is also clarified in Article 9 paragraph 2 part c of the Regulation of the Minister of Agrarian Affairs and Spatial Planning / Head of the National Land Agency of the Republic of Indonesia Number 33 of 2016 concerning Licensed Cadastral Surveyors saying that the requirements to take the exams referred to in Article 9 paragraph 1 are secondary school

education vocational, diploma one (D-1) or diploma three (D-3) in the field of surveying and mapping, for Assistant Surveyor Cadastral. From these two articles, it can be concluded that a Licensed Cadastral Surveyor Assistant is obliged to have an office in a Licensed Cadastral Surveyor Service Office and a Licensed Cadastral Surveyor Assistant graduate is a diploma graduate in the field of surveying and mapping. This means that a diploma graduate from the National Land College (STPN) enters that understanding. Indirectly, alumni of diploma one must work in a Licensed Cadastral Surveyor Services Office and not in the Land Office. This is one of the things that makes a diploma graduate anxious. The purpose of issuing this regulation is indeed quite good, which is to clarify and accelerate the process of land registration, but many diploma alumni who say "means we are not in the Land Office and have to work in the Licensed Cadastral Surveyor Services Office huh? Then what is our status now? " Status. One word that has a big impact on its person.

Through these new regulations or often referred to as Ministerial Regulation 33/2016, a diploma graduate is like a biological child who is set up and must leave his own house. Why is that? Work in the Land Office which has been carried out by diploma one alumni both in administrative and measurement tasks must now be forced to be transferred or transferred or given to bachelor graduates and requires alumni one to get out of the Land Office. This is like getting support from one of the provinces in Indonesia, namely the Regional Office of the National Land Agency of Central Java Province. The Head of the Regional Office of the National Land Agency of Central Java Province in its Circular dated 18 November 2016 said clearly that the Alumni of Diploma I Measurement and Mapping of Cadastral because his position was not permitted to become Non- permanent Employees (PTT).

How about the alignments of this regulation for diploma one? This does not mean that we are reluctant to carry out the tasks of the State which have been entrusted to us for decades, but we feel cornered by this regulation. As if there is no point in us here. Science, time, sweat that we poured out so far as if it has no meaning. We can now be said to be private employees. This is because based on Ministerial Regulation 33/2016 which has the right to hold the status of Licensed Cadastral Surveyor Assistant not graduated from one diploma but graduates of vocational high schools, diploma graduates of three and those who undergo a brief education training are entitled to become a Licensed Cadastral Surveyor Assistant. What is our special? If our answer is special because we have a license, they are not only diploma graduates but also given the right by Ministerial Regulation 33/2016 to get a license. What are our privileges because we give money to a larger country for a license while they don't? We thought joking wasn't that funny.

From the point of view, how else can we believe that our Ministry, the Ministry that is always superior to its superiority, the Ministry where we forge science so far has indeed taken sides and is there for us? Never mind siding to see us also does not seem. If our reasoning is equated with other education graduates because the Ministry of Agrarian Affairs and Spatial Planning / National Land Agency are in need of many surveyor assistant staff to meet and

overcome Indonesia's 100% mapped target by 2025, that is not a scientific answer in our opinion but it is merely a reason that is covered by circumstances. Is that a solution?

One diploma alumni are not merely in the hundreds. There are as many as 23 alumni. If each generation graduates a diploma of one cadastral measurement and mapping of +/- 300 cadets, the Ministry of Agriculture and Spatial Planning / National Land Agency will accumulate +/- 6900 skilled alumni in the field of cadastral mapping and mapping. Why is such a large number not maximally empowered?

Although the regulation of the Minister of Agriculture and Spatial Planning / National Land Agency number 33 in 2016 has been revised by the Regulation of the Minister of Agriculture and Spatial Planning / National Land Agency Number 11 of 2017 concerning changes to the regulation of the Minister of Agrarian Affairs and Spatial Planning / Head of National Land Agency number 33 years 2016 regarding licensed cadastral surveyors which gave a little fresh air to the Diploma One alumni of the National Land High School especially with the abolition of article 38 Ministerial Regulation number 33 of 2016 which indirectly cornered the STPN 1 diploma alumni.

C. Comparison with Other Office Bond Schools

Some time ago, prospective students / Cadets admissions were received at ministries/institutions that had official education institutions in 2019. Based on the announcement from the Ministry of Administrative Reform and Bureaucratic Reform of the Republic of Indonesia number B / 393 / S.SM.01.00 / 2019 regarding the admission of prospective students/cadets to ministries/institutions that have an official educational institution in 2019 there are 8 (eight) Institutions / Institutions of Education Services that hold official bonding programs for students/cadets with a total of approximately 9,176 students/cadets.

Table 1. List of Total Student Admissions / Services Association 2019

No.	Educational Institutions / Institutions	Amount Received
1	KEMENKEU/PKN STAN	3.000
2	KEMENDAGRI/IPDN	1.700
3	BSSN/STIN	100
4	KEMENKUMHAM/POLTEKIP and POLTEKIM	600
5	BIN/STIN	250
6	BPS/STATISTIKA POLYTECHNIC STIS	600
7	BMKG/STMKG	250
8	KEMENHUB/ 11 Schools, POLTEK, and ACADEMY	2.676

However, why is the Ministry of Agrarian and Spatial Planning / National Land Agency which should have more importance than other ministries not included in the list of 8 (eight) Institutions / Ministries? This also includes one of the social envy of cadets from STPN cadets and other service Higher Education students. Although there is a lot of information that in 2020

STPN will transform into one of the Higher Education Institutions that uses the Office Bonding system in it.

Apart from the status of STPN who was pioneering from the Office to become a Service Association, the STPN Alumni Diploma One in the past 2 (two) years has received a breath of fresh air from the Ministry of ATR / BPN with the opening of the CPNS formation especially for graduates of Diploma One after approximately 3 years the president gave instructions on the ASN moratorium. Based on the Appendix Announcement of the Selection Results of Prospective Civil Servants of the Ministry of Agrarian Affairs and Spatial Planning / National Land Agency in 2017 number 25 / Peng- 100 / IX / 2017 the number of participants who passed the selection of the Measurement Officer Formation of Graduates of Diploma One Measurement and Mapping of Cadastral there are 510 participants, whereas based on Appendix I Announcement of the Results of the Selection Acceptance of Prospective Civil Servants of the Ministry of Agriculture and Spatial Planning / National Land Agency 2018 number 1 / Peng-100.KP.01.01 / I / 2019 369 participants passed the selection with the position of measuring officer. From these two years, it can be said that there were around 879 STPN One Diploma Alumni who passed to become ASN in 2017 and 2018.

Based on the data collected by the authors through a personal search there are around 137 Diploma One Alumni of STPN 2017 graduates to ASN through 2017 Admission and 2018 or around 41% of the total 2017 Alumni graduates around 336 Cadets, where at the reception of 2017 CPNS there were 108 Alumni (32%) and acceptance of CPNS 2018 of 29 Alumni (9%).

Based on these data it seems that STPN Diploma One Alumni especially graduates in 2017 have been absorbed into ASN in the Ministry of almost 50% of the total Alumni in 2017 with two appointment periods. But if we compare it with the number of alumni who become ASNs from other National Institutions, this can be said to be very different. According to one employee at the School of Land Transportation, Ismayanti Ridha Nurpratiwi, Amd.LLAJ, the number of STTD graduates in 2017 there were 233 people with alumni absorbed into ASN in the Ministry of Transportation totaling 177 people or equivalent to around 75% of the total graduates and about 25% percent of other people remain empowered within the Ministry of Transportation such as being aide, caregivers and the like. The amount of uptake to ASN as much as 75% is certainly not solely obtained without guidance from the institution. One of the evidences is the announcement of the Ground Transportation High School number UM.007 / 8/4 / STTD-2019 about the follow up to the Announcement of the Head of the High School Land Transportation number UM.007 / 722 / STTD-2019 related to CPNS TKD CPNS Training and Training Prospective regular graduates and alumni of STTD graduates who have not been absorbed into Civil Servants, and this briefing has also been held since 2016 (source: www.sttd.ac.id).

All this anxiety and fear began with the so-called Ministerial Regulation 33/2016. Does the government really believe that this regulation has a good impact on all parties in it? A few months after this decision was born many disputes arose regarding the perception of this regulation. In Central Java, after this regulation was born several Land Offices immediately

issued a diploma alumni from the Land Office but in Bengkulu Province, for example, one diploma alumni could still help complete the land work at the Land Office. Is this what is meant by "Regulations go according to plan?".

D. Conclusions

In my opinion, it is necessary to make a 'rescue' for the alumni of the National Land College diploma. We do not ask for anything fancy but we only ask for clarity to where and how we will be in the future, nothing more than that. Whatever the government's efforts in the process of meeting the targets of the national work program, we will continue to support and implement it wholeheartedly. We are BIOLOGICAL CHILDREN Ministry of ATR / BPN. Not BIOLOGICAL CHILDREN FEELING STEP CHILDREN, right? Is it true that our home is also in the ATR / BPN Ministry? We hope that there is a solution based on the principles of Religious, Humanist, Nationalist, Democratic and Populist based on the 1945 Constitution of the Republic of Indonesia regarding this matter.

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COMMUNITY PARTICIPATION IN THE IMPLEMENTATION OF COMPLETE-SYSTEMATIC LAND REGISTRATION IN MAGELANG REGENCY

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Abstract
Community Participation, Systematic Land Registration, Land Office of Magelang Regency. This paper aims to discuss the added value of the community participation and identify work steps of land registration that involving community participation in the implementation of PTSL in the land office of Magelang Regency. The method used in this study is descriptive qualitative which describes the activities of community participation and identify information about obstacles in the field in the implementation of PTSL. The results of this study concluded that PTSL would run smoothly if there is community participation in terms of collecting juridical data, juridical and physical data entry and legal and physical data links. By involving the community in PTSL through designated officers, the community feels more involved and increase in enthusiasm, not only in determining the position of the object but also in realizing for the success of PTSL.
Keywords: Community Participation, Systematic Land Registration, Land Office of Magelang Regency.

A. Introduction

Article 19 of Law Number 5 of 1960 concerning Basic Regulations on Agrarian Principles (UUPA) mandates that to guarantee legal certainty, the government shall register land in all regions of the Republic of Indonesia, with the provisions stipulated in Government Regulation. The Government Regulation referred to is Government Regulation Number 10 of 1961, which was revised with Government Regulation Number 24 of 1997 concerning Land Registration.

According to Government Regulation Number 24 of 1997 referred to as Land Registration is a series of activities carried out by the government, continuously and regularly, including the collection, management, bookkeeping, and presentation and maintenance of physical and juridical data, in the form of maps and lists, concerning fields land parcels and apartment units, including the granting of proof of rights for parcels of land for which there are rights and ownership rights over the apartment units and specific rights which burden them.

To date, the ratio of registered land parcels throughout Indonesia have not reached 50%, despite the Government's efforts to accelerate land registration through programs as outlined in regulations relating to the implementation of land registration. The object of land registration covers parcels of land that are owned with ownership rights, usufructuary rights, building use rights, and usufruct rights, management rights, waqf land, ownership rights over flats, mortgage rights, and state land. In the case of state land as the object of land registration, registration shall be carried out by recording the land parcels that constitute state land in the land register.

Based on data from the data centre and information of the Ministry of ATR/BPN in 2017, data on the number of registered parcels in the entire territory of the Republic of Indonesia is only 44% of around 100 million parcels of land in Indonesia. In 2018, the target set by the government was 8.394.000 parcels for physical data collection, while for juridical data collection

it was targeted at 7.842.317 parcels. The registered land data in Magelang Regency in 2018 was 40.5% (421,924 parcels) of the total land parcels of around 1.040.854 parcels.

To achieve the target as mandated, accelerated mass registration of land is carried out to pursue that goal. The activity of accelerating complete land registration is one of the national priority programs as stipulated in the Regulation of the Minister of Agrarian Affairs and Spatial Planning/Head of National Land Agency Number 35 of 2016 and updated with the Regulation of the Minister of Agrarian Affairs and Spatial Planning/Head of National Land Agency number 1 of 2017 and finally revised by Regulation of the Minister of Agrarian Affairs and Spatial Planning/Head of National Land Agency Number 6 of 2018.

Problems arising from the "delay" of the land registration program are in terms of carrying out land registration and the consequences of carrying out land registration. Two prominent issues in carrying out land registration are the issue of regulations and the problems of the implementing apparatus because these two things need to be explicitly highlighted how far the rule is implemented and how now the implementing apparatus can carry out.

The preparation of human resources in the Ministry of ATR/BPN has been carried out by the National Land College, through the educational program Diploma I Cadastral Surveying and Mapping Program, especially measurement officers, with a Cadastral Assistant Surveyor license, which annually graduates around 320 people Assistant Cadastral Surveyor. In 2016, after 21 years of its establishment, DI-PPK STPN had produced 5234 alumni with 2681 people (51%) working for the ministry of ATR/BPN and 2553 people (49%) working as Cadastral Surveyor Assistant (ASK) or in other sectors. (Aisiyah and Kusmiarto, 2018). By comparing the number of parcels that should be measured and mapped with the number of D1-PPK alumni, it is assumed that the Ministry of Agrarian Affairs and Spatial Planning (ATR/BPN) is lack of human resources of cadastre surveyor to meet the goal. To be able to meet the human resource needs of Surveying and Mapping Officers/Cadastral Surveyor Assistant, the Ministry ATR/BPN organizes vocational training, with a curriculum that is tailored to the learning curriculum in the Cadastral Surveying and Mapping Diploma I Program. The Vocational training is a short six months of education and training for the candidate of Cadastral Surveyor Assistant, organized by Office of ATR/BPN throughout Indonesia. The requirements to follow this program are at least graduated from High School or Vocational High School (Kusmiarto and Aisiyah, 2018). Thus the preparation of human resources to carry out mass land registration activities is expected to be accelerated.

However, the acceleration of the preparation of human resources has not yet affected the acceleration of land registration activities; furthermore, we need a model that involve people so that the implementation time can be accelerated, a land registration model that includes community participation is necessary. There are many models of community participation can be implemented to help expedite the implementation of activities/work programs implemented by the government (Kusmiarto, Yulfa, and Mustofa, 2018).

In Magelang Regency, the implementation of land registration activities was carried out by implementing a community participation model. Complete-Systematic Land Registration

(PTSL) activities carried out in Magelang Regency in 2018 are 45,000 parcels of land with the realization of PTSL to date 421.924 parcels of land or 40.5% of the total land parcels. This paper aims to find out more the importance of the role of rural communities in this PTSL. The aims this paper are (1) to describe community participation in the implementation of PTSL in the Land Office of Magelang Regency; (2) knowing the added value of carrying out community participation in the implementation of PTSL.

B. Methods

This research is descriptive qualitative, describing the focus of the study covering the activities of the juridical data collection process, legal and physical data entry and juridical and physical data links and knowing the role of the community in filing juridical and physical data for the implementation of complete systematic land registration. While qualitative is intended to describe information about obstacles in the field in the implementation of these activities.

The reason for choosing a location in Magelang Regency is that a Complete Systematic Land Registration (PTSL) activity is currently being carried out involving community participation. Variables used include the stages of implementing a complete systematic land registration namely: (a) determining the location of activities for the complete systematic land registration acceleration; (b) the establishment of the acceleration adjudication committee; (c) collection of physical data and juridical data on parcels of land; (d) verification of rights and accounting for land rights; (e) issuance of certificates of land rights, at the non-physical data collection stage. The stages that are in focus are stage c: physical data collection and juridical data.

The types of primary data collected are in the form of interviews with the Head of the PTSL team and officials who are responsible and responsible for the implementation of this activity, whereas secondary data came from filing work documents from the juridical task force activities of the adjudication committee for the acceleration of complete systematic land registration in Magelang regency.

The data collection techniques used in this study were by an interview with land office officials of the Magelang Regency, as well as from documentation, namely identifying for documents/archives which form the basis of work mechanisms in implementing a complete systematic land registration. Data analysis was performed by looking at each research variable associated with the research objectives so that the two proposed research objectives could be answered.

C. Result and Discussion

1. Community participation in the implementation of PTSL in Magelang Regency

PTSL according to Regulation of the Minister of ATR/BPN No. 6/2018 is the land registration activity for the first time carried out simultaneously for all land registration objects in the entire territory of the Republic of Indonesia in one rural/urban area or other name of the

same level, which includes the collection of physical and juridical data concerning one or several object of land registration for registration purposes. The objectives of PTSL are (1) to realize legal certainty and legal protection of community land rights based on simple, fast, smooth, safe, fair, equitable and open and accountable principles; (2) increasing the welfare and prosperity of the people and the economy of the state; (3) reduce and prevent land disputes and conflicts. Completion of PTSL activities includes 4 clusters: Cluster 1 (K1), i.e., land parcels whose physical and juridical data meet the requirements for the issuance of a land rights certificate; Cluster 2 (K2), i.e. land parcels whose physical and legal data meet the requirements for the publication of their land rights certificate but there are cases in the court and/or dispute; Cluster 3 (K3), i.e. land parcels whose physical and juridical data cannot be recorded and issued a certificate of land rights because the subject and/or object of the rights have not fulfilled specific requirements stipulated in this ministerial regulation; and Cluster 4 (K4), i.e. land parcels whose objects and subjects have been registered and have been certified, both uncharted and mapped but not in accordance with field conditions or changes in physical data, must be mapped into a systematic complete land registration map.

The total number of parcels of land registered in Magelang Regency was 421.924 parcels (40.54%) of the total number of 1.040.854 parcels of land. The description of PTSL in the land office of Magelang regency can be seen when compared to the targets at the central and provincial level in central java, for more details can be seen in Table 1.

Table 1. PTSL targets in Central, Central Java Province and Magelang Regency

Year	Central (Parcels)	Province (Parcels)	Regency (Parcels)
2017	5.000.000	645.983	17.500 (2.7%)
2018	7.000.000	1.200.000	45.000 (3.7%)
2019	9.000.000	1.575.000	60.000 (3.8%)

From Table 1. can be seen that PTSL in 2017 with a target of 17.500 parcels in Magelang is still sporadic system, not yet carrying out systematic land registration in terms of the number of applicants adjusting the ability of each village. In 2017, PTSL implementation was spread in 54 villages. In 2018, PTSL, the target of PTSL was 45000 parcels can carry out ultimately, with all land parcels registered whether or not certified. In 2018, PTSL was spread in 24 villages. The target of the Magelang Regency in the last three years continues to increase. For the smooth implementation of the PTSL is based on the objectives of the program which aims to ensure legal certainty of land rights, improve people's welfare and reduce disputes or conflicts, then for the success of the government program it needs to involve the community, so that the community can play an active role and become part of the program, so that eager to help the implementation of the program.

PTSL activities are carried out in stages: (1) Planning; (2) location determination; (3) preparation; (4) the establishment of the PTSL adjudication committee and task force; (5)

counseling; (6) physical and juridical data collection; (7) research of legal data for proof of rights; (8) announcement of physical and juridical data and their legalization; (9) affirmation of conversion, recognition of rights and granting of rights; (10) bookkeeping rights; (11) issuance of certificates of land rights; (12) documentation and submission of results of activities; (13) reporting.

The implementation of PTSL is constrained in juridical data collection activities, whereas physical data collection activities have been completed well in advance. The difficulty of juridical data collection is mostly since when the juridical data collection was carried out, the landowner was not in place or was unknown to the surrounding community. For more details, the obstacles identified by the land office in implementing PTSL are as follows: (1) PTSL regulations, but the implementation is still targeted as K1; (2) The existence of 3 (three) ministerial joint decision letter regarding low pre-PTSL costs; (3) The basis of letter's rights c that has been disconnected from the current owners; (4) Low public awareness to certify their land; (5) Not balanced between the target and the availability of human resources and existing equipment; (6) Juridical data collection for K3 are delicate because the community response is non-existent/passive; (7) Synchronizing existing parcels in map with new parcels is difficult; (8) Implementation of K4 on the certificate is difficult, because it is not responded by the public.

By looking at the identification of obstacles in the field, most of which relate to the community, the Magelang District Land Office began to implement this program by involving the community directly, namely at the sixth step, namely the collection of physical and juridical data. However, in this case, the collection of physical data is carried out by a third party with self-management. Juridical data collection is carried out by working groups formed in the hamlet with members of the hamlet head and designated community members. Each working group is accompanied by officers from the land office who are in charge of directing or providing solutions if there are difficulties/obstacles in the field. The working groups are tasked with completing juridical data collection with a focus on their respective hamlets, so the number of working groups depends on the number of hamlets in the village concerned. This effort is more effective because the working group consisting of the hamlet head and one community member knows better the history or physical condition of the land parcels in the hamlet area, so that the juridical data collection officer is relatively faster, or in other words the obstacles due to the low response of the community can overcome. As evidence, we can see in Table 2. below, which shows an increase in the number of targets and realization from 2017 to 2019.

Table 2. PTSL Targets and Realization of Magelang Regency in 2017-2019

Year	Targets (Parcels)	Realization (Parcels)
2017	17.500	17.200
2018	45.000	43.783
2019	60.000	49.408

2. Added Value from The Implementation of Community Participation

Several influential factors to make the community participation approach workable are: (1) Motivation, incentives for groups to work together must be present if interaction and involvement are to be continued; (2) Community leadership, the existence of leadership structures in formal and informal organizations in the community; (3) Ability to do a Learning approach, the flexibility to try new activities and methods and provide feedback mechanisms to learn from success and mistakes. In this case, the community has given the right to make their own choices and bear the consequences; (4) Resources, the capability of resources in the community (Yeung and McGee, 1986). In (Sastropoetro, 1988), Gordon W. Allport argues that a person who participates experiences the involvement of his ego which is more than participation in work or task alone, which means the participation of his thoughts and feelings. While Keith Davis said that involvement in the mental involvement of a person's thoughts and emotions/attitudes in a group situation that encourages him to contribute to the group to achieve goals and take responsibility for the business concerned.

Based on some of the theories, it is known that people will be motivated to do something if they know that there is an effect on sustainability. If the community has merged into a role that he believes has benefits, then the ego of the person/community is not just eager to complete the task, but there has been involvement of his thoughts and feelings. This condition causes a community group to be more motivated to contribute or anything to achieve the goals of the group that they have known before. If this is related to community participation in the implementation of PTSL, then the condition of the community in Magelang Regency by being involved in working groups related to PTSL activities, they are increasingly included emotionally that their role is very decisive in achieving their goals, so they are more eager to undertake to collect juridical data, juridical and physical data entry and juridical and physical data links, with consideration that the sooner they complete the work, the faster the land parcels in their hamlet will be registered.

D. Conclusions

The results of this study concluded that PTSL would run smoothly if there is community participation in terms of collecting juridical data, juridical and physical data entry and juridical and physical data links. By involving the community in PTSL through designated officers, the community feels more involved and increasing enthusiasm, not only in determining the position of the object but also in realizing for the success of PTSL.

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SUB THEME 2

SMART CITY FOR SUSTAINABLE DEVELOPMENT

LAND SPATIAL DATA DEVELOPMENT TO ESTABLISH SMART CITY

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Abstract
The concept of smart cities is characterized by effective and efficient services and full of information technology. To support the realization of a smart city, the government should have development planning of main sectors. Development planning requires accurate, complete and easily accessible land data. Land data is highly demanded for plotting of development location and inquiry of land status. The accuracy level of spatial land data can be achieved if the base map used is parcel-based and has a single reference system. Complete land spatial data will be achieved if all parcels in the city area have been mapped and registered. Complete land-based city map will provide complete basic information for laying out development plans. While the ease of access to land data will be possible through an information system that is integrated with various government-owned information system units. Overall, land spatial data will support the development of smart city infrastructure and legal certainty for the acquisition and use of land needed. The purpose of this paper is to provide input on the application of land data in the development of smart city infrastructure.
Keywords: smart city; land data; land parcels

A. Introduction

1. Background

Development of technologies affect the demands of the community to be able to live more properly in urban areas. The concept of service in urban areas has shifted from traditional cities to modern cities. If the concept of a modern city is only marked by infrastructure development, that is not sufficient. Millennial society, besides requiring complete facilities and infrastructure, also requires an automatic, easy and comfortable life. Life is a picture of urban human activity at this time that very takes into account the timeliness, accuracy and clarity. With consideration of these activities, information technology is the backbone of the formation of smart cities which are the highest conditions of modern cities.

Smart city is a form of modern city concept that relies heavily on information technology. Community services from smart cities must be very easily obtained. The existence of information technology in smart cities is the backbone of life of smart cities. Internet network must connect all parties and exchange data called the internet of all things. The existence of smart cities has become the identity of important cities in developed countries. Indonesia does not want to be left behind by countries that already have smart cities. Some big cities began to improve themselves to get to smart cities like Jakarta, Surabaya, Bandung, Medan and Makassar.

Definition of smart city according to Business Dictionary is a developed urban area that creates sustainable economic development and high quality of life by excelling in multiple key areas; economy, mobility, environment, people, living, and government. Excelling in these key areas can be done so through strong human capital, social capital, and/or ICT infrastructure.

Smart city infrastructure according to the World Council on City Data (WCCD) consists of smart mobility, smart connected infrastructure, smart environment, smart economy, smart

government. Furthermore, Pratama (2014) states that smart cities are built on the following elements, namely smart economy, smart mobility, smart management, smart society, intelligent life and smart environment.

The characteristics of smart cities according to Hao, *et al* (2012) consist of:

1. Interconnection between urban areas that combines communication network, internet, sensors and recognition.
2. Integration of urban information systems which include application, data and internet systems.
3. Development of urban management and service collaboration.
4. The latest ICT (Information and Communication Technology) application that motivates various stakeholders to create innovations and urban development movements.

Development of smart cities is inseparable from the completeness of the spatial data of the city. Spatial data that needs to be prepared includes visualization of integrated parcels and related themes. Spatial data sources are from various government agencies in one reference so as to guarantee the accuracy of the information produced. The construction of various facilities and infrastructure of smart cities is very dependent on the availability of spatial data on various themes. One important spatial data is the data on the control and use of land parcels produced by the Ministry of Agrarian Affairs and Spatial Planning / National Land Agency.

a. Objectives

This paper aims to provide an overview of strategies for utilizing land-based data owned by the Ministry of Agrarian Affairs and Spatial Planning / National Land Agency both at central and regional levels. Land data is needed by the City Government to provide legal certainty in the construction of facilities and infrastructure. General description of the status of land in all areas of the city will be input on the stages of city development certas.

The benefit of this paper is for the city government to provide ideas on the use of land data available at all Land Offices in Indonesia. Whereas for the Land Office is to provide insights on the importance of maintaining land data in order to bring benefits not only to institutions but also to the community and the city government in general.

B. Materials And Methods

This article is a scientific study that explains land data for smart city development. The material used in this paper is literature and ideas that support scientific studies. While the method used is descriptive analysis method that explains the theme in this paper theoretically and empirically

C. Results and Discussion

Land spatial data used for smart city development are:

1. Layer high-resolution satellite imagery and aerial photography
2. The ground plane layer is registered

3. Layer of soil utilization
4. Layer allotment of space
5. Layers of land values

High-resolution satellite imagery layers and aerial photographs provide visualization of the terrain in urban areas. The visualization is in the form of existing infrastructure such as roads and railways, bridges, and various existing public facility buildings. In addition, identifiable landscapes such as rivers, water basins, coastlines and land cover. All of the visualizations must be on a scale that is detailed enough to make it easier to plan the construction of the required facilities and infrastructure.

The image data used must have a georeferencing system so that it can be used as a basis for thematic spotting data plotting. Besides the image data used is the most recent data. For areas that have high building density, aerial photographs should be used to easily identify ownership boundaries. The imagery and aerial photo layers provide the background for displaying various thematic spatial data layers.

The technical requirements for satellite imagery and aerial photography that can be used in the context of developing smart cities are as follows:

- Resolution of satellite imagery and aerial photography within 1 m resolution or more detail
- Correction of geometry according to technical provisions
- An adequate level of image clarity for identification of parcels
- Coverage of the city
- The maximum image retrieval time is 3 years

The registered parcels layer is spatial data of parcels that already have land rights and have been registered at the Land Office. Presentation of data is in the form of a general description of a block or collection of parcels of land with rights over these fields. Classification of land parcels is based on data on types of land rights from the Land Office which are then generalized. This spatial data is important for the development strategy and development of various smart city facilities and infrastructure. If necessary for operational actions, land ownership data can be directed to the Land Office according to applicable regulations.

Land use layer is about activities or businesses that are running on each land parcel. Classification of land use classes is adjusted to the depth of information needed. For example, the use of land for trade, services, industry, settlements and so on. Detailed land use data must be carried out in a separate mapping survey and the results plotted on an image map or aerial photograph. Spatial data on land use is important as input regarding socio-economic conditions in the form of spatial distribution in urban areas.

The spatial allotment layer is derived from a detailed map of the city spatial plan and zoning allocation. The data displayed consists of spatial pattern maps and spatial structure maps. The two maps are important to be used as material for the analysis of smart city spatial that is to find out areas that can be used for certain sectors and the development of facilities and

infrastructure. If the allotment layer is overlaid with a land use map, information will be obtained whether or not there has been a deviation.

The land value layer is derived from the land value zoning map available at the Land Office. The purpose of presenting this layer is to find out the estimated land value in all areas of the city so that it can be considered if the development of urban facilities and infrastructure will be done. The land value zone can also be used as a comparison with the land tax value as a basis for consideration of various types of tax services.

To develop smart cities is through the development of a spatial database in one system, which includes the following stages:

1. Preparation of spatial database framework
2. Determination of the type of spatial data to be collected and data sources
3. Spatial data collection from various data sources
4. Standardize the spatial data collected
5. Simulation of spatial data harmonization
6. Implementation of the use of spatial data in a single system

The linkages between the stages of spatial database development can be described in a cycle scheme as follows:

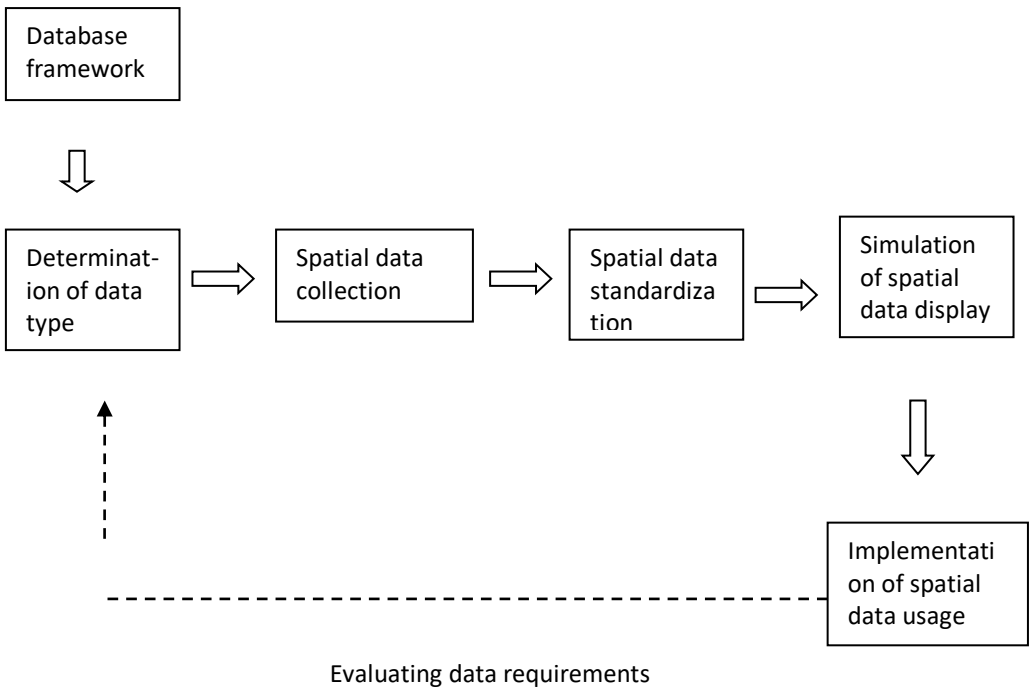

Figure 1. The Stages Of Spatial Database Development

Spatial database framework is part of the overall database framework. Therefore spatial databases must be connected to various non-spatial databases. Specifically, the preparation of a spatial database framework includes technical specifications for data collection, processing and storage. Also required is the application platform and database system settings at various levels of data usage. The data security and data distribution system is made in the overall framework.

Determination of the type of land data related to smart cities has been mentioned previously which includes 5 types of data. Nonetheless, the overall data framework can be linked to various types of thematic spatial data. Each data set must have a connection and purpose of the presentation. Therefore the data that will be displayed in the spatial information presentation system must be calculated from the technical aspects.

Spatial data collection is a follow-up to determining the type of data needed. The spatial data needed must have identified the data source and the condition of the available data. Data collection mechanisms must go through coordination between government agencies so that implementation can proceed according to schedule and data collected in accordance with technical specifications.

Spatial data collected in one database system must have technical uniformity. Considering the data sources producing thematic maps have different references, so a georeferenced standardization of the data collected is needed. Besides the technical standard mapping, uniformity is also carried out on the data structure. This is very important so that spatial data links in the database system can run smoothly and correctly.

After all spatial data is standardized, the next important step is to simulate spatial data presentation. Spatial data presentation can be done on various platforms, so it needs settings for certain platforms. Spatial information needs for smart cities must be able to reach the equipment closest to the user such as smartphones and various gadgets. Thus the spatial data presentation simulation must be on various platforms to test the reliability and feasibility of the data presentation for the user.

The last part of spatial data development for smart cities is the implementation of the use of spatial data by all parties, both government, private and community. In this section procedures and conditions regarding access to spatial data and the use of the information must be specified.

Spatial data management for smart cities must be done centrally in the City Government and operationally submitted to a local government work unit. In addition, it is necessary to determine the roles and responsibilities of each central and regional agency that produces maps for data updating purposes.

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BUILDING SMART AND SUSTAINABLE CITIES THROUGH STRATEGIC WASTE MANAGEMENT. A CASE STUDY OF THE 23-CITIES OF TOKYO

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Abstract
The potential of smart and sustainable cities in remediating environmental problems and waste management is an important topic that needs to be investigated in academic research. Over the past few decades, the increasing waste per-capita and the complexity of the waste composition have been a major challenge for the waste managers throughout the world. Thus, the need to have clear policies and innovative methods in waste management is the best solution to face this challenge. Tokyo, the capital city of Japan, is one of the largest city in the world in term of its economy, liveability, environment, and accessibility. Tokyo Metropolitan area is home for about 37 million inhabitants, which account for 30% of Japan's total population, making it into the largest urban agglomeration in the world. As a consequence, waste management in Tokyo becomes more challenging as the population continues to grow. The Tokyo Model, the municipal waste management system, is estimated to have an important role in the practice and implementation of waste management in Tokyo. This paper focuses on the main features of The Tokyo Model and its potential impact on waste management and environmental problem. The research is conducted by qualitative document analysis, and the data were obtained from the annual report of CAT23 and the waste facilities observation in Tokyo. As a result, by a combination of good governance, high technology, and environmental awareness by the community, since 1990, Tokyo has continuously succeeded to reduce the amount of waste and the landfill disposal amount.
Keywords: Smart city; sustainable development; waste management; good governance; Tokyo model

A. Introduction

The 11th Sustainable Development Goal aims to make cities and human settlements inclusive, safe, resilient, and sustainable. Nowadays, many cities around the world have difficulty to manage the rapid of urban development, because of the high concentration of population, economic activities, energy consumption, and the production of municipal solid waste. Over the past three decades, populations around the world have continued to increase, from 4.84 billion in 1985 to 7.51 billion in 2017 (The World Bank, 2017). Furthermore, 55% of the population lives in urban areas and is projected to increase by 1.5 times to 6 billion people in 2045. With this rapid population growth and urbanization, annual waste generation is expected to increase by 70%, from around 2 billion tonnes in 2016 to 3.4 billion tonnes in 2050 (The World Bank, 2019a). Also, according to the Global Waste Management Outlook 2015 for a broad grouping of urban wastes, which includes Municipal Solid Waste (MSW), commercial and industrial waste, and construction and demolition waste is estimated around 10 billion tons annually. As the increasing of waste generation, it results in the need for greater demand for waste collection and appropriate waste management solutions. The main goal of municipal solid waste management is to

treat the waste in a socially and environmentally acceptable manner with appropriate and supported by clean technologies.

A World Bank study showed that there is a positive correlation between waste production and the income level of the country. Waste production initially decreases at the lowest income level and then increases at a faster rate for additional income changes at lower income levels than at high-income levels. In low-income countries, 48% of waste is collected in cities; however, the proportion drops into 26% outside the urban areas (The World Bank, 2019b). Usually, the local government in the outside of urban areas lack the resources and capacities for appropriate waste management solutions. As a result, these areas implement a short-term solution, such as involving the partial collection, transportation, and disposal into unsanitary dumpsites or landfills. The challenge for this short-term solution is the lack of available land in most cities for solid waste disposal because this approach only spatially displaces solid waste. Often, they move the waste into rural areas, concentrates soil and water pollution, exacerbates greenhouse gas (GHG) emissions, and increases difficulties in the final treatment of waste. This fact shows that, in the future, the role of waste management will continue to be important, especially in low-to-middle income countries, which are currently having good economic growth.

This paper, therefore, focuses on the role of waste management towards achieving sustainable cities, which takes the 23-Cities (23 Special Wards) of Tokyo Metropolis as a research area. Tokyo is a regional government that covers 23 special wards, 26 cities, five towns, and eight villages (TMG, 2018). The 23-cities of Tokyo, which also known as Eastern Tokyo, are 23 municipalities (cities) that together make up the core and the most populous part of Tokyo, Japan. It was originally known as Tokyo City, and in 1943, it was abolished to become part of the Tokyo Metropolis.

The 23-cities system experienced several reforms to become what it is today. It was formerly positioned as special local public entities within Tokyo Metropolis. However, with the aim to enhance their independence and autonomy, the system was reformed in 2000. One of the results was the duties of municipal waste management were transferred to the 23-cities, which waste management is then known as the "Tokyo model." The main bodies which play a major role in the Tokyo model are the 23-cities of Tokyo and Clean Authority of Tokyo (CAT23). The CAT23 is a special-purpose body established by the 23-cities in order to deal with the joint of the waste management system (CAT23, 2017).

Tokyo is chosen as a study area because it was considered successful in reducing the volume of per-capita waste generation while maintaining economic growth. The data used in this paper is the 2018 annual report by CAT23 and the result of direct observation by the author to one of the CAT23 facilities called Toshima Incineration Plant. This plant was completed in June 1999 and is located in Kami-ikebukuro, Toshima, Tokyo, with an area of

12,000 square meters and has two incineration units with a combined capacity of 400 tons of waste per day (CAT23, 2019).

B. Waste Management as part of Smart Cities and Sustainability Development Framework

To better understand the concept of sustainability, when studying cities, it is important to understand the meaning of sustainable development. According to WCED (1987), sustainable development is not a fixed state of harmony; however, it can be seen as a process of change in which the resources exploitation, investment direction, technological development, and institutional change are consistent, between the present and future needs. In line with this concept, Castells explained that a city or ecosystem could be defined to be sustainable if "its conditions of production do not destroy over time the conditions of its reproduction." On easier terms, he said that a sustainable city is a condition when people and their generation can live under the same condition (Castells, 2000).

In addition, Ahvenniemi *et al.*, in their research on the differences between sustainable and smart cities, stated that urban sustainability frameworks contain more about a combination of indicators that measure environmental sustainability; compared to smart cities framework, which is more dominantly discussing social and economic aspects. Also, the main difference is the smart cities contain a much stronger focus on modern technologies and smartness compared to urban sustainability framework. Briefly, the main and general goal of smart cities is to improve sustainability through the help of technologies. On the results of the study, they found that waste management is an important indicator, both in the smart cities framework and the urban sustainability framework. (Ahvenniemi et al., 2016).

Waste management is the activities to manage waste from its inception to its final disposal. It includes the collection, transport, control, and prevention of production (UNSD, 1997). Waste management is an issue that impacts some aspects of the economy and society. Also, it has strong linkages to other global challenges, such as climate change, health, poverty reduction, food and resource security, and sustainable production and consumption. The United Nations Environment Programme introduces four entry points that correspond to the three 'pillars' or 'domains' of sustainability and to their integration into the SDGs agenda (United Nations Environment Programme, 2015). The four entry points are environment and climate change into the environmental domain, good governance into the social domain, enterprise and creating sustainable livelihoods into the economic domain, and SDGs integration. The action of the political case is strengthened when waste management is viewed as an entry point and part of a sustainable development issue.

C. The Waste Generation Trends and the Local Government Initiatives in the 23-Cities of Tokyo

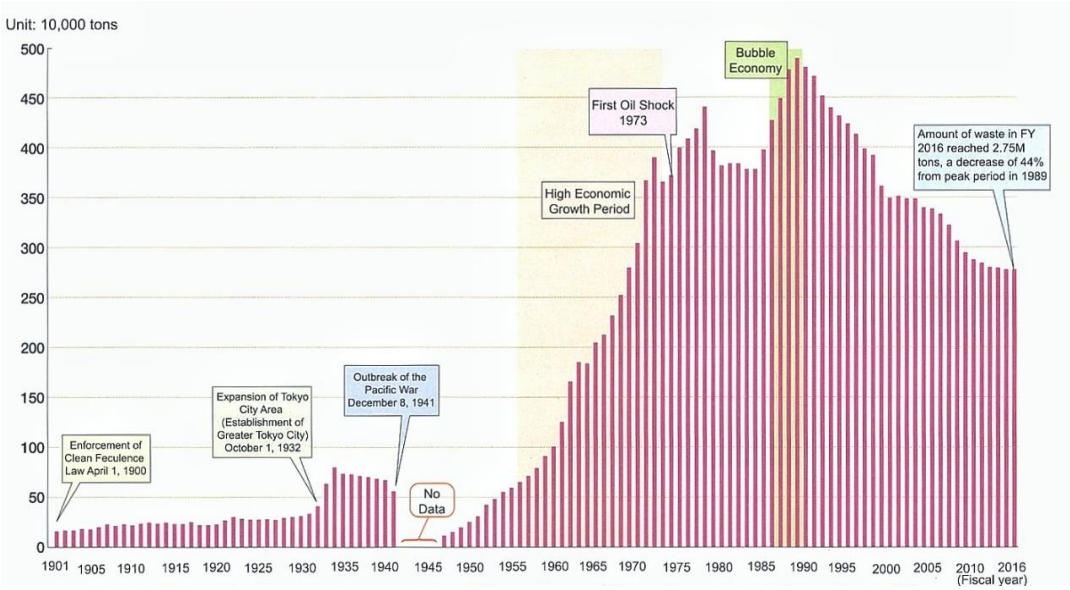

Figure 1. The transition of Waste Amount in the 23-cities of Tokyo, 1901 – 2016

Japan, a country with an area of 377,973 km² (Geospatial Information Authority of Japan, 2018), had a population of approximately 126 million in 2018 (Statistics Bureau of Japan, 2019) with the third-largest nominal GDP and fourth-largest by Purchasing Power Parity (PPP) in the world (IMF, 2016). Tokyo, officially Tokyo metropolis, is one of the 47 prefectures of Japan. In 2016, according to United Nations, The Greater Tokyo area (Tokyo Metropolis, Yokohama, Kawasaki, Saitama, Chiba, and Sagamihara) was estimated to have approximately a total population of 37 million, with an area of 13,500 km2, giving it a population density of 2,642 people/km2. Behind New York City, The Greater Tokyo is the second-largest single metropolitan area in the world, in terms of built-up or urban function landmass at 8,547 km2.

Figure 1 shows the transition of waste generation in the 23-cities of Tokyo, from 1901 to 2016. The long history of waste management in Tokyo began in 1900, where the first law on waste disposal for Japan was enacted as a "clean feculence law", and waste disposal (collecting/disposing) was the responsibility of the city government. In 1924, the concrete steps taken by the government towards waste management were shown by the completion of the construction of the first waste incineration plant in Osaki Town. Furthermore, during the rapid economic period (1956-1974), Tokyo experienced a deterioration in the environment around the landfills due to the large amount of waste that landfilled without proper treatment. The amount of waste increased continuously during this period, from around 600 thousand tons in 1956 to around 3.8 million tons in 1971. This trend has caused

many problems for residents around landfill areas. This problem led the Tokyo Metropolitan Governor to declare "War against Waste" in September 1971 and expressed his determination to seriously consider building a new incineration plant to solve the waste problem.

As a result of increased consumption and expansion of production activities due to the bubble economy, the waste generation increased continuously as much as 29% from about 3.8 million tons in 1984 to 4.9 million in 1989, with about the 3.7% decrease of the population during the same period of time. Because of these trends, the government revised the waste management act in 1991 and issued several initiatives program to promote waste recycling in collaboration with residents and private business operators. One of the government's initiatives is to campaign a program titled "TOKYO SLIM" at June 1989 as a step to increase public awareness of the serious problem of waste and encourage their participation in waste reduction and recycling activities. Since then, the government initiative program has continued to the present, including the imposition of fees for large-sized waste in 1991, the rules to use translucent waste bag in 1993, introduction of resource recovery using waste collection points in 1999, full implementation of waste plastics thermal recycling in 2009, and the utilization of incineration ashes as cement raw material in 2015. As a result, the waste generation has decreased to 27 consecutive fiscal-years from 1989, with 2.75 million tons in 2016, a decrease of 44% from the peak period in 1989.

Table 1 shows the transition of waste disposal amount and landfill disposal amount in the 23-cities of Tokyo from 2010 to 2016. The amount of waste collected by the government has continued to decline from about 1.94 million tons in 2010 to about 1.79 million tons in 2016. Carry-in waste is waste that taken directly to an incineration plant or landfill disposal site, etc. by an approved business operator. In 2016, of the total 2.75 million tons of waste generated, only 348 thousand tons were taken to landfill disposal. The total population in 2016 was 9.3 million people; thus, the average amount of waste produced per person per day was around 812 grams. According to the 2018 waste report by CAT23, in 2015, the total cost needed to process waste (cost incurred for collection, transfer, treatment, and disposal) is around US $ 550 per ton.

Table 1. The transition of Waste and Landfill Disposal Amount, 2010-2016 (Unit: Tons)

Fiscal Year	City Collected Waste (A)				Carry-In Waste (B)	Total (A+B)	Landfill Disposal Amount
	Combustible	Incombustible	Large-sized	Total (A)			
2010	1,794,839	88,314	58,770	1,941,923	934,511	2,876,434	356,535
2011	1,784,097	80,917	62,206	1,927,220	914,215	2,841,435	417,625
2012	1,757,357	74,150	61,965	1,893,472	937,049	2,830,521	363,374
2013	1,738,273	70,751	60,998	1,870,022	946,787	2,816,809	360,349
2014	1,712,530	64,793	55,169	1,832,492	950,826	2,783,318	357,666

2015	1,708,716	58,245	56,822	1,823,783	960,201	2,783,984	365,487
2016	1,678,490	51,817	57,901	1,788,208	966,085	2,754,293	348,675

Source: Clean Authority of Tokyo 23, 2018

Furthermore, Table 2 shows the composition of the combustible waste, which is dominated by paper waste and kitchen waste, with around 44% and 22% respectively. Also, it shows the composition of incombustible waste, which dominated by glass, stone, and metal, with around 22%, 21.7%, and 19.5% respectively.

Table 2. Waste Composition, Fiscal Year 2016

Waste Composition	A	B
Paper	44.49%	1.85%
Kitchen Waste	21.70%	0.77%
Plastics	18.01%	10.70%
Textile	6.06%	0.77%
Rubber/leather	1.14%	0.90%
Home Appliance, etc.	0.57%	20.45%
Glass	-	22.07%
Stone	-	21.73%
Metal	-	19.50%
Wood, grass, etc	-	1.26%

Source: Clean Authority of Tokyo 23, 2018

A = waste carried into the incineration plant;
B = waste carried into the incombustible waste processing center.

D. Treatment of Waste in the 23-Cities of Tokyo

Historically, waste management in Tokyo has reformed several times. The first modern regulation on waste management was the Waste Disposal Law of 1900, and the Tokyo Metropolitan Government (TMG) established the Bureau of Waste Disposal in 1960. Since April 1, 2000, the duties of municipal waste management were transferred to the 23-Cities and CAT23. Since then, it was decided that each of the 23 Cities would independently manage its waste collection and waste transfer. Then, the intermediate waste treatment was carried out jointly by CAT23, because some cities did not have an incineration plant and to maximize treatment efficiency. At the end of the waste management, to regulate the final disposal (landfill) is the responsibility of TMG.

1. The municipal solid waste flow in the 23-cities of Tokyo

Each city sets collection days and areas based on the type of waste. TMG categorized waste into general waste or municipal solid waste and industrial waste. The municipal solid waste includes a household waste (combustible, incombustible, and large-size waste), night

soil (pumped), and special-controlled general waste (e.g., electric appliances and infectious waste). The industrial waste includes 20 items of waste produced by businesses determined by law and regulation (e.g., cinder shell, sludge, oil waste) and specially-managed industrial waste (e.g., explosives, poisons, infectious). After each type of waste is collected, the transfer method is determined based on its type to ensure efficient transfer. The collecting vehicle will load combustible waste to the collection site, then immediately transferred to an incineration plant. Meanwhile, incombustible waste will be transferred to an incombustible waste processing center, which located on the waterfront in Chubo or Keihinjima, and the large-size waste will be delivered to the large-size waste pulverization processing facility.

Combustible waste is incinerated in safe, stable, and efficient at 19 incineration plants. Also, incineration can prevent any bacteria, vermin and foul odors, and maintains a sanitary environment. The volume of combustible waste is reduced to around one-twenty by the incinerating method. This method utilizes electricity and heat generated by heat energy during the incineration process, and through wind and solar power plants. The incineration process will generate two types of ash, namely bottom ash and fly ash. Then, the bottom ash will be melted into slag and recycled into cement material, before finally being taken to a landfill in a much smaller volume. The incineration plant continues to operate for 24 hours and uses heat energy generated from the combustion of waste to operate. As a result of the incineration process, it not only produces electricity but also can produce hot water. In addition, this incinerating method indirectly help reduces CO_2 production because if the waste is not burned and takes it directly to the disposal site, the location will be filled very quickly. Also, pests and strong odor will generate around the landfill site and methane gas, which has a greenhouse effect 20 times more than the CO_2 emitted. To reduce greenhouse gases, it is important to reduce waste.

Incombustible waste is processed at two incombustible waste processing centers. The process is divided into pulverization and separation. Incombustible waste is carried to the receiving yard to be crushed into 15 cm pieces by a rotating hummer. Furthermore, the magnetic separator machine will separate iron and non-iron, which will then be sent to the disposal landfill separately. While for the large-sized waste, it is processed at the large-sized waste pulverization processing facility. The large-sized waste will first be separated into two types, namely incombustible and combustible, then crushed into pieces of less than 15 cm in length. Finally, the large-sized waste residues after pulverization can be incinerated in incineration plants, and waste that is not suitable for incineration will be sent to landfill disposal.

2. Revenue and expenditures of the clean authority of Tokyo

In order to cope with the expenditure on waste management costs, funds have been administered. The total initial budget for the 2017 fiscal year is US $ 735.55 million. The revenue received by the clean authority includes:

a. US $ 334 million (45.4%) obtained from the amount paid by each of the 23 cities for the incineration plant operational costs.
b. US $ 245.03 million (33.3%) obtained from disposal fees paid by businesses and proceeds from sales of electricity generated, etc. Table 3 shows in detail the revenue obtained from the sale of energy generated by the incineration plants.
c. US $ 104.41 million (14.2%) obtained from loans and subsidies received for reconstruction of incineration plants.
d. US $ 48.98 million (6.7%) obtained from the transfer from financial adjustment fund.
e. US $ 3.1 million (0.4%) obtained from other funding sources.

Table 3. Effective Use of Heat, 2016 Fiscal Year

Total Power Generated	1,202.06 M kWh
Electricity Sold	689.96 M kWh
Income from Electricity Sold	US $ 98.019 M
Supplied Heat (charged)	415000 GJ
Income from Heat Sold	US $ 1.8582 M

Source: Clean Authority of Tokyo 23, 2018

While for expenditures during the 2017 fiscal year, the details are as follows:

a. US $ 467.40 million (63.5%) for maintenance costs required for a routine inspection of incineration plants, utility costs, costs for purchasing chemicals to protect the environment, and labor costs.
b. US $ 186.71 million (25.4%) for the reconstruction of incineration plants.
c. US $ 50.69 million (6.9%) for the management expenses for the main office, labor costs of the main office, and operational costs for the assembly.
d. US $ 31.11 million (4.2%) for repayment of loans.

3. Landfill Disposal Sites Established and Managed by the Tokyo Metropolitan Government (TMG)

Finding space for final disposal sites is one of the biggest challenges for every megacity in the world. The difficulty for the government will be greater along with the development of urban functions in the city. Tokyo also faces the same challenge and has found the answer on the bayside of the disposal site. Since 1927, waste has been dumped into Tokyo Bay with No.8 Site (Shiomi, Koto Ward) became the first location (location map can be seen in Appendix. A). Figure 2 shows the sizes of waste landfills and the tonnage of

landfill waste. The TMG is now managing and installing two bay-side disposal sites in the Tokyo Bay, namely the Central Breakwater Outer Landfill Site No.2 with an area of 199ha and the New Sea Surface Disposal Site with an area of 319 ha (for more detailed maps, see Appendix B). After waste is collected, incinerated, and pulverized, these disposal sites will receive incineration ash and municipal solid waste residue from the 23-cities of Tokyo, sludge from water and sewerage, and industrial waste from small and medium enterprises located in Tokyo. The Bureau of Port and Harbor is responsible for the construction of the disposal site, while the Bureau of Environment is responsible for the waste filtering.

At landfill disposal sites, the waste will be dumped by the sandwich method. The landfill area will be covered with soil before the waste is dumped into disposal sites. Then the waste is arranged to a height of 3 meters, then covered again with soil with a thickness of 50 centimeters. Landfill disposal is performed by repeating these steps (to resemble a sandwich pattern). This method can prevent waste from scattering, prevent the spread of unpleasant odors, prevents vermin (prevents incubation of insect eggs), and also prevents waste from burning.

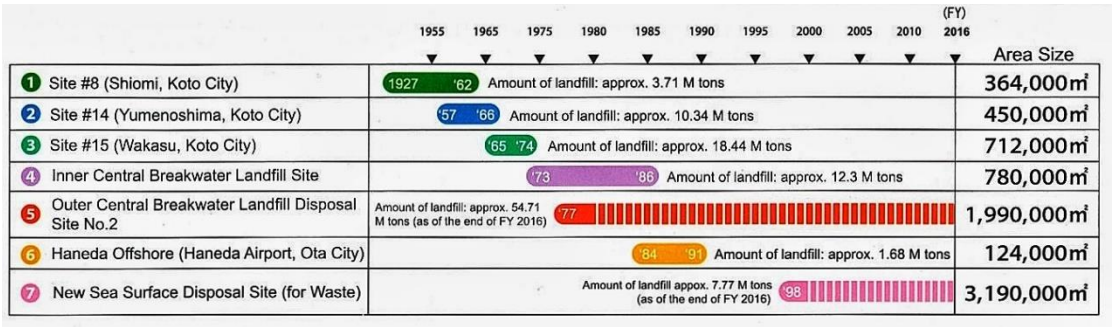

Figure 2. The Changes of Disposal Sites

Landfill disposal sites can be categorized into three types based on the impact level of waste on the environment, namely inactive waste landfills, controlled landfills, and strictly controlled landfills. The outer central breakwater landfill disposal site and the eastern area of the new sea surface disposal site, currently active landfill disposal sites, are types of controlled disposal sites, which accept general waste and industrial waste. These disposal sites are operated and managed under environment-related laws and regulations, including the Waste Management and Public Cleaning Law. Some control needs to be carried out on these disposal sites, such as water control, soil control, and gas control. Rainwater from the landfill site is collected to a reservoir located at the side of the peripheral road and then sent to a water treatment plant to be purified by using various methods. For the gas control, as waste decomposes, it generates gases (55% methane, 25% Carbon dioxide, 15% nitrogen, 1% oxygen). These gases are used to generate electric power, which is utilized at the landfills to help prevent global warming.

In conclusion, the implementation of dumping methods and various controls at these disposal sites are expected to reduce the area of landfills needed and reduce the adverse impact of waste on the environment. However, according to a plan carried out by TMG, Tokyo bay is expected to be full within about 50 years. There is no more room to expand the landfill area further south to the bay because it will disrupt shipping lanes. The best solution is to make the best use of existing materials. As an effort to reduce the waste going to the landfill, people in the 23-cities of Tokyo have carried out the practice of 3Rs (reduce, reuse, and recycle).

4. The Tokyo 3Rs: Reduce, Reuse, and Recycle

The implementation and enforcement of the 3Rs are also listed in the Tokyo model under the clean authority of Tokyo (CAT23). The 3Rs is considered as a keyword for a way of life that reduces waste and use resources wisely. The campaign given by CAT23 towards the community related to 3Rs is to reduce, reuse, and recycle waste. First, reduce what can become a waste. This is the most important step to finding ways to avoid making waste in people's daily lives. Waste can also be a resource, but by doing it alone, a recycling-oriented society cannot be built. People can reduce waste by refraining from buying things that can easily become wasteful, refusing additional packaging, storing items and using them for as long as possible, and not wasting food by leaving leftover. The second step is reusing goods that still have benefits because it can conserve energy and resources compared to making something new. People can do this step, for example, by choosing returnable bottles, using refillable items, making good use or flea markets and recycles shops, and be creative about alternative usage. If the previous two steps have been optimally carried out, and the waste is still generated, the third step is to recycle the waste and make it a new resource; for example, by separating waste and resources properly and choosing to use recycled goods.

As a result of the collaboration between good governance, high technology, and environmental awareness by the community, since 1990, Tokyo has continuously succeeded to reduce the total amount of waste and the landfill disposal amount of waste. Figure 3 shows the total amount of waste in Japan compared to the 23-cities of Tokyo. It also shows the amount of waste in incineration disposal, landfill disposal, and resource recovery in the 23-cities of Tokyo. In 1989, the amount of waste generated in the 23-cities of Tokyo reached its peak with a total of 4.9 M tons, of which only around 2.9 M tons were incinerated, and as many as 2.4 M tons were dumped directly into landfill disposal. However, with some initiative programs are taken by the government, as previously explained, and by working with several parties, until 2016, the amount of waste taken directly to landfill disposal decreased by 85% from 2.4 M tons in 1989 to 0.35 M tons in 2016. In addition, the amount of waste in 2016 was around 2.75 M tons, a decrease of 44% from 1989, and also more than 90% of the waste has undergone an incineration process.

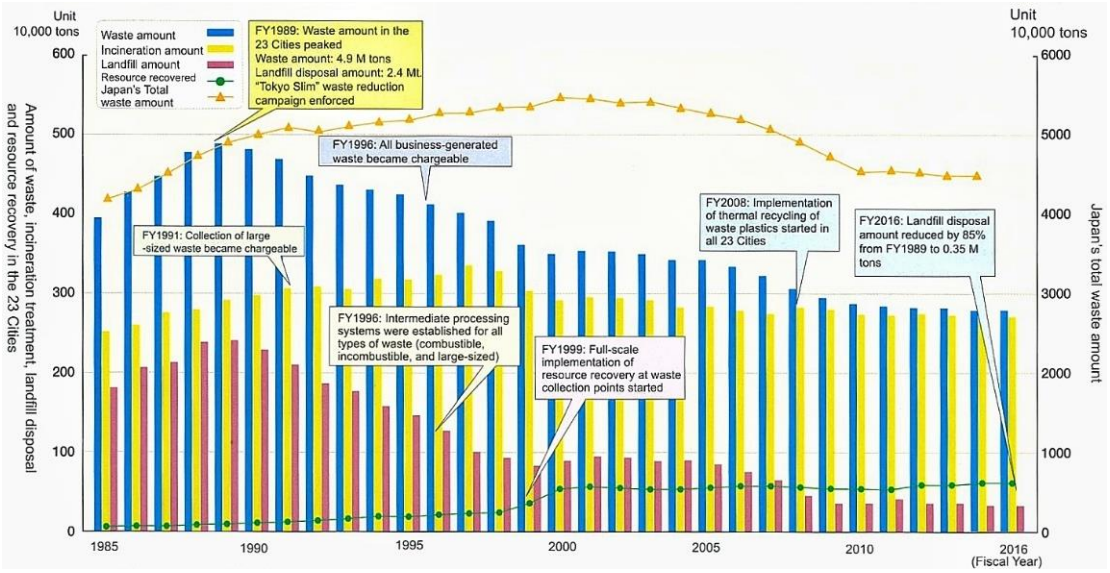

Figure 3. The transition of Waste in Total, waste in Incineration Disposal, Landfill disposal, and Resource Recovery of Japan and the 23-cities of Tokyo, 1985-2016 Fiscal Years

E. Conclusion

The paper provides a review of the main features of The Tokyo Model and its potential impact on waste management and environmental problem. It is important to treat the waste in a socially and environmentally acceptable manner, and also essential to secure space for landfill disposal sites to maintain and develop urban functions. As a result of the collaboration between good governance, high technology, and environmental awareness by the community, since 1990, Tokyo has continuously succeeded to reduce the total amount of waste, and also more than 90% of the waste has undergone an incineration process. By incinerating waste into ash with a smaller volume of about one-twenty, Tokyo can be considered successful in overcoming the limited availability of land for landfill disposal. The Clean Authority of Tokyo has also introduced and conducted business cooperation with several countries, such as Malaysia, Indonesia, Thailand, Myanmar, Russia, and Turkey. In conclusion, with this collaboration, the Tokyo model might also be able to have a wider positive impact in other countries in the future.

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Appendix A. Geographical Locations of Landfill Sites

Source: Clean Authority of Tokyo 23, 2018

1 = No.8 Site (Shiomi, Koto Ward); 2 = No.14 Site (Yumenoshima, Koto Ward)

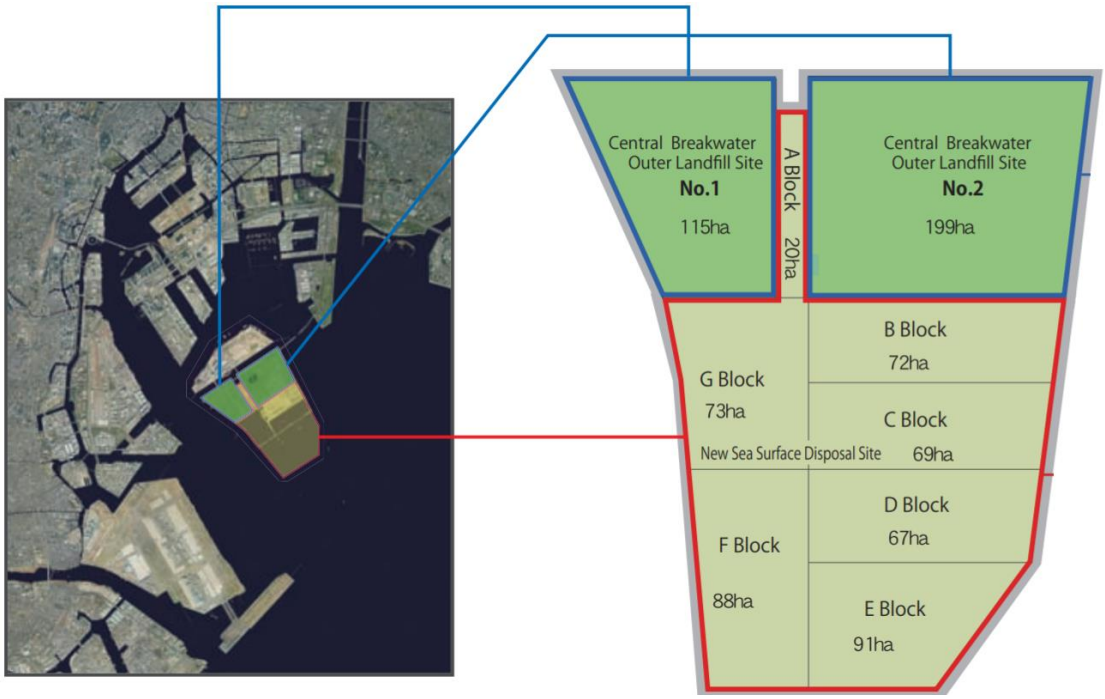
3 = No.15 Site (Wakasu, Koto Ward); 4 = Central Breakwater Inner Landfill Site

5 = Central Breakwater Outer Landfill Site (Phase 2)

6 = Haneda Offshore Landfill Site (Haneda Airport, Ota Ward)

7 = New Sea Surface Disposal Site

Appendix B. The Map of Central Breakwater Outer Landfill Site and New Sea Surface Disposal Site



SUB THEME 3

MULTI-SECTORS LAND MANAGEMENT

THE ROLE OF GOVERNMENT GUARANTEES IN ENVIRONMENTAL AND SOCIAL MANAGEMENT FOR INFRASTRUCTURE DEVELOPMENT

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Abstract

The Indonesian government is currently focusing on infrastructure development to stimulate economic growth with equal distribution of infrastructure throughout Indonesia. Good Infrastructure availability will improve connectivity between regions so that the flow of goods and services becomes more efficient. However, infrastructure development has challenges in managing the impact on complex environmental and social conditions. The Indonesian government encourages the acceleration of infrastructure development, one of which is by providing government guarantees through the Badan Usaha Penjaminan Infrastruktur (BUPI). The existence of the BUPI can accelerate infrastructure development by providing guarantees to Project by requiring feasibility of environmental and social aspect. These conditions encourage the sustainable infrastructure development by looking carefully to ecological equilibrium, social conditions of the community, and respect for local culture.

Keywords: Infrastructure; Government Guarantee; BUPI; Environmental and Social

A. Introduction

Economic growth is one indicator to measure an economic performance. Government will find it difficult to improve people's living standards without positive growth. However, economic growth does not only guarantee the creation of justice and social welfare in society. One of the main challenges in Indonesia's development today is to overcome the problem of inequality that not only occurs in the individual dimension, but also the region.

One factor driving the change is inter-regional infrastructure development. As a driver of economic growth, infrastructure plays a significant role in regional development. Some empirical facts show that the development of infrastructure capacity in a region goes in harmony with economic development (Calderon & Serven, 2004). This is because economic development has demanded the availability of adequate infrastructure and supporting facility. The existence of infrastructure drives an increase in the productivity of the production factors.

The Indonesian government encourages infrastructure development by involving the private sector through the scheme of Government and Private Investor Cooperation (Presidential Regulation No. 38 of 2015). The scheme of cooperation is an alternative to financing infrastructure development in the public interest by referring to the specifications established by the Government as a Contracting Agency by considering risk sharing with the Private Investor. The cooperation between Government and Private Investor is carried out based on the Principles: Partnership, Benefit, Competing, Risk Management, Effective and Efficient. To encourage this scheme of cooperation, the Government provides support, which is to support project feasibility and providing government guarantee

The infrastructure guarantee is a guarantee for the financial obligations of the Contracting Agency for the occurrence of infrastructure risk in accordance with the risk allocation stated in the cooperation agreement. Infrastructure guarantees are carried out by *Badan Usaha Penjaminan Infrastruktur* (BUPI) to provide certainty and comfort for investors in investing (Presidential Regulation No. 78 of 2010). BUPI, in this case PT Penjaminan Infrastruktur Indonesia in providing Infrastructure Guarantee must ensure the feasibility of the project, which are technical, financial, economic, legal, and environmental and social feasibility. The feasibility of environmental and social aspects to ensure infrastructure projects can not only encourage economic growth, but also ensure the benefits of the project for social and ecological sustainability.

B. Material and Methods

Infrastructure guarantees are carried out after ensuring the project is technically, economically, and financially feasible, the project meets the legal aspects, and has considered the environmental and social aspects properly and appropriately. PT PII will carry out 4 stages of the project guarantee process, which is screening, appraisal, structuring, and monitoring.

At the screening stage, PT PII will conduct initial identification of environmental & social project risks and obligations for managing environmental & social aspects carried out by the Contracting Agency. Then in the appraisal stage, PT PII will conduct an assessment to ascertain whether the Indonesian regulatory requirements and PT PII Environmental and Social Protection Principles have been met by the project, and whether the project has identified significant impacts & developed an appropriate management plan. Both of these are considered as the feasibility of the project which determines the provision of infrastructure guarantees. Furthermore, in the structuring phase, PT PII ensures that all parties are committed to managing and monitoring significant impacts in the cooperation agreement and ensures that the commitment plan will be carried out by each party according to the agreed risk allocation. During the monitoring phase, IIGF will monitor the implementation of impact management in accordance with environmental documents and agreed improvement plans on a regular basis.

C. Result and Discussion

Infrastructure development with a scheme of the Government and Private Investor cooperation is carried out in 4 stages, which are: Planning, Preparation, Transaction, and Construction & Operation (Bappenas Regulation No 4 of 2015). In the planning stage, the Contracting Agency identifies the project to be carried out and ensures the collaboration scheme between the government and private investor is the best choice for infrastructure development by considering value for money. After that the Contracting Agency will

prepare the project by conducting a pre-study project feasibility study, submitting government support and / or government guarantees, and submitting the project location determination. In the following stages, the Contracting Agency conducts project transactions by assessing market interest, determining the location of the project, procurement of business entities, and signing of project agreements with selected business entities

The Contracting Agency requesting infrastructure guarantees will submit a guarantee proposal to PT PII. Furthermore, PT PII will carry out the project appraisal process by ensuring technical feasibility, financial, economic, legal aspects fulfilment, and consideration of environmental and social aspects. Environmental and social aspects are an important consideration because infrastructure projects are expected to be of benefit to the social community by not eliminating local cultural identity and ecological sustainability so that the project can be sustainable. Consideration of the environmental and social aspects of the project refers to the IIGF's Environmental and Social Protection Principles, namely the Principles that are built based on Government of Indonesia regulations on Environmental and Social Protection and Management and best practices in managing environmental and social impacts of the project as describe in table below.

Tabel 1. Government of Indonesia regulations on Environmental and Social Protection

No	Principle	Description
1.	**Environmental and Social Assessment**	PT PII ensures that guaranteed projects meet the following elements: • Project screening and categorization • Environmental and social assessment • Environmental management and monitoring plan • Project management capacity • Stakeholder involvement • Complaints management • Reporting
2.	**Labor and Working Conditions**	• Promoting fair treatment, non-discrimination and equal opportunities for all workers • Prevent child labor, forced labor, and migrant workers who violate Indonesian Government regulations • Prioritize safe and healthy working conditions and practices
3.	**Resource Efficiency and Pollution Prevention**	• Prevent pollution and manage impacts arising from project activities • Ensure project compliance with existing standards and best practices • Promoting the sustainable use of resources

No	Principle	Description
4.	**Community Health and Safety**	• Work to avoid or minimize risks and impacts on the health, safety and security of affected communities, which may arise from project activities • Seek security of personnel and property in accordance with human rights principles and strive to avoid or minimize the risk of conflict to affected communities
5.	**Land Acquisition and Involuntary Resettlement**	• Ensuring that land acquisition and relocation are forced to be based on principles: humanity, justice, expediency, certainty, openness, agreement, participation, welfare, sustainability and harmony. • Avoid forced displacement, but if it cannot be avoided it is necessary to ensure that affected communities receive appropriate and fair compensation. • The social impacts of land acquisition must be avoided, reduced / compensated, through an environmental and social assessment process in accordance with the Environmental and Social Assessment Principles. • This principle is not triggered if the land acquisition is done voluntarily
6.	**Biodiversity Conservation**	• Ensure that the project applies the principles of biodiversity conservation and sustainable use of natural resources. • Ensuring the sustainability of ecosystem services.
7.	**Cultural Heritage**	Ensure that the Project identifies and protects cultural heritage that may be affected by the project.
8.	**Indigenous People**	• Anticipate and avoid, or if not possible, minimize and / or compensate for the negative project impacts that may occur on indigenous peoples whose existence is recognized by Government of Indonesia regulations. • Encourage project managers to involve indigenous peoples at the planning and implementation stages of the project

PT PII will conduct an environmental and social aspect project assessment to ensure the safeguard principles are triggered and the management plan prepared by the contracting agency. If based on the results of the assessment there are conditions that have not been met by project, a Commitment Plan will be prepared which is a corrective action plan that will be mutually agreed between the contracting agency and the private investor. In addition, an assessment is carried out on the Contracting Agency and Private Investor's capacity in managing environmental and social impacts in accordance with the agreed risk

allocation. This makes it easy to identify the risk owners and estimate the costs arising from the project;

The challenge in applying this safeguard principle is to change the perception that environmental and social aspects are not a priority in project implementation and the costs arising from managing environmental and social impacts of the project will be a burden that can increase investment costs. However, good communication between the contracting agency and the private investor is an entry point to ensure that consideration of environmental and social aspects of the project is an important thing to do to ensure the sustainability of the infrastructure project to be carried out.

D. Conclusion

The government continues to encourage economic growth by evenly develop infrastructure in Indonesia to improve services and the flow of goods and services. One form of government support in providing infrastructure guarantees through PT PII to increase investment certainty for the private sector. One of the considerations in providing infrastructure guarantees in environmental and social aspects, where the project must meet the principles of environmental and social protection and have an appropriate and realistic impact management plan. The existence of PT PII can accelerate infrastructure development by providing guarantees to the Project by requiring feasibility of environmental and social aspects. These conditions encourage the sustainable infrastructure development by looking carefully to ecological equilibrium, social conditions of the community, and respect for local culture.

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Presidential Regulation No 38 of 2015 concerning cooperation between the government and business entities in providing of infrastructure

Presidential Regulation No 78 of 2010 concerning Infrastructure guarantees in government cooperation projects with business entities carried out through infrastructure guarantee business entities

THE PROBLEMATIC LAND ACQUISITION FOR THE SPECIAL ECONOMIC ZONE DEVELOPMENT OF *TANJUNG KELAYANG* IN BELITUNG REGENCY

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Abstract

As a developing country, Indonesia is incessant in doing development in all sectors both industry and tourism, which can support the economy of the community. Infrastructure development requires land, but not all land parcels can be used as construction sites. The limited use of land for development can be caused by the factors of the land itself, the human factor as the owner of the land, and the regulatory factors. On progress, the laws and regulations for the land acquisition for development have been improved by making a division between development for the public interest and development for the private interest. In connection with the great social and economic inequality between regions, it is necessary to accelerate development specifically in certain regions. This is taken into consideration for the establishment of the Committee for the Acceleration of Priority Infrastructure Provision (KPPIP) based on Presidential Regulation No. 75 of 2014 concerning the Acceleration of Provision of Priority Infrastructure. In addition, several regulations were issued to support the efforts to accelerate development, including Law No. 39 of 2009 concerning Special Economic Zone, Presidential Regulation No. 3 of 2016 concerning the Acceleration of National Strategic Project Implementation as amended by Presidential Regulation No. 58 of 2017 concerning Amendment to Presidential Regulation No. 3 of 2016 concerning the Acceleration of the Implementation of National Strategic Projects; and Presidential Instruction No. 1 of 2016 concerning the Acceleration of the Implementation of National Strategic Projects. One of the National Strategic Projects being implemented is the development of the *Tanjung Kelayang* Special Economic Zone (SEZ) which is one of the 10 (ten) Priority Tourism Areas located in Belitung Regency, Bangka Belitung Province. Many problems related to land acquisition for the *Tanjung Kelayang* Special Economic Zone Development including land acquisition process issues and the location permit.

Keywords: Land Acquisition; Special Economic Zone; Process Issues; The Location Permit

A. Introduction

As a developing country, Indonesia is incessant in doing development in all sectors both industry and tourism that can support the economy of the community. Infrastructure development requires land, but not all land parcels can be used as construction sites. The limited use of land for development can be caused by 3 (three) factors, namely: (1) the land factor itself, for example the location and conditions that are not possible; (2) human factors as land owners, for example the owner's willingness; and (3) factors of laws and regulations, for example spatial planning. The government realizes that the issue of land availability for development is an issue that needs serious attention. On Progress, the laws and regulations for the land acquisition for development have grown, namely by making a division between development for the public interest and development for the private interest.

In the last decade, due to the still sharp social and economic inequality between regions, it is necessary to accelerate development specifically in certain regions. This

consideration is the basis for the establishment of the Committee for the Acceleration of Priority Infrastructure Provision (KPPIP) based on Presidential Regulation No. 75 of 2014 concerning the Acceleration of Provision of Priority Infrastructure. In addition, several regulations were issued to support the efforts to accelerate development, including Law No. 39 of 2009 concerning Special Economic Zones, Presidential Regulation No. 3 of 2016 concerning the Acceleration of National Strategic Project Implementation as amended by Presidential Regulation Number 58 of 2017 concerning Amendment to Presidential Regulation No. 3 of 2016 concerning the Acceleration of the Implementation of National Strategic Projects; and Presidential Instruction No. 1 of 2016 concerning the Acceleration of the Implementation of National Strategic Projects.

There are 16 (sixteen) National Strategic Projects whose construction requires acceleration, namely: (1) the road sector; (2) the railroad sector; (3) airport sector; (4) port sector; (5) housing sector; (6) energy sector; (7) water and sanitation sector; (8) sea dike sector; (9) Post-State Border Sector (PLBN) sector; (10) the dam sector; (11) irrigation sector; (12) the technology sector; (13) the regional sector; (14) the smelter sector; (15) electricity program; (16) the aircraft industry program.

One of the National Strategic Projects being implemented is the development of the *Tanjung Kelayang* Special Economic Zone (SEZ) which is one of the 10 (ten) Priority Tourism Areas located in Belitung Regency, Bangka Belitung Province. The determination of *Tanjung Kelayang* as a SEZ was carried out with Government Regulation No. 6 of 2016 concerning the *Tanjung Kelayang* Special Economic Zone. *Tanjung Kelayang* SEZ is designated as a Tourism SEZ that has geostrategic advantages, close to ASEAN countries such as: Singapore and Malaysia. In accordance with the meaning that the Special Economic Zone is an area with certain restrictions that has regional geoeconomic and geostrategic advantages and is given special facilities and incentives as an investment attraction (http://kek.go.id), the *Tanjung Kelayang* SEZ is worthy of being targeted by the government in increase economic growth and become one of the National Strategic Projects.

It cannot be denied that the development of SEZ and all other National Strategic Projects requires land as the area of infrastructure development. So far, land acquisition regulations only recognize 2 (two) procurement procedures, namely land acquisition for public use and land acquisition for private interests. Since the laws and regulations governing the National Strategic Project are 'special', of course the process of land acquisition should also be given special treatment, namely by holding certain facilities for the land acquisition.

Thus, judging from its purpose, land acquisition for the benefit of the National Strategic Project can be classified into specific land acquisition - because it is strategic - which distinguishes it from land acquisition for public use and land acquisition for private

interests. This research is intended to find out the facilities provided through laws and regulations and Government policies (both Central and Regional) in the acquisition of land for the intended strategic interests, specifically the development of SEZs in *Tanjung Kelayang* , Belitung Regency.

Land acquisition for the development of tourism areas is not development in the public interest as stipulated in Law No. 2 of 2012 concerning Land Acquisition for Development in the Public Interest, but is subject to the land acquisition regime for private interests. Nevertheless, since the development of the tourist area in *Tanjung Kelayang* is a National Strategic Project, the land acquisition process is carried out by obtaining certain facilities.

Traced from the history of land acquisition, the construction of the *Tanjung Kelayang* SEZ with an area of 324.4 ha located in the District of Sijuk is unique because the land in the coastal area was originally owned by local residents who were then 'compensated' by private companies. Then the land that has been compensated is issued a certificate of Right to Manage (HPL) on behalf of the Government of Belitung Regency. In connection with the issuance of Right to Manage (HPL), a private company that had 'freed' the land from the local population was brought a civil suit to the Tanjung Pandan District Court. In the trial, peace was reached between the Belitung Regency Government and the Plaintiff, where one of the contents of the agreement was that the Belitung Regency Government released its HPL into State land. The former State Land of the HPL then became the *Tanjung Kelayang* SEZ development area and has been issued a certificate of Right to Build (HGB) in 3 (three) development companies which are a consortium for the development of the *Tanjung Kelayang* SEZ.

Based on the description, it turns out that the land acquisition of *Tanjung Kelayang* SEZ still causes various problems. As quoted from radarbangka.co.id that after the *Tanjung Kelayang* Coastal Area which officially became a Special Economic Zone (SEZ) after it was signed by President Joko Widodo still leaves problems. The land used for SEZ is suspected to be still in dispute, because in the management of land submitted to the Stakeholders there is a dispute with community land. The issue of land acquisition until the land dispute has been protracted and impressed by the omission by related parties, mutual claims between the Regional Government issuing the location permit and the BPN issuing the certificate (Radarbangka, 2016).

B. Literature Review

1. Land Acquisition Conception

In Law No. 2 of 2012 limitative classification of the public interest has been determined, namely :

a. efense and security;
b. public roads, toll roads, tunnels, railway lines, railway stations, and railroad operations facilities;
c. reservoirs, dams, weirs, irrigation, drinking water channels, water drains and sanitation, and other irrigation structures;
d. ports, airports and terminals;
e. oil, gas and geothermal infrastructure;
f. power plants, transmissions, substations, networks and distribution of electricity;
g. government telecommunications and informatics networks;
h. waste disposal and treatment sites;
i. government / Regional Government hospital;
j. public safety facilities;
k. public cemeteries of the Government / Regional Government;
l. social facilities, public facilities, and public green open spaces;
m. nature reserves and cultural reserves;
n. government / Regional / village Government offices;
o. structuring urban slums and / or land consolidation, sera housing for low-income people with rental status;
p. government / Regional Government education or school infrastructure;
q. government / Regional Government sports infrastructure; and
r. public markets and public parking lots.

That is, outside of the 18 (eighteen) (public) interests, the development is classified as private interests.

The study of the differences between public land acquisition and private interests is a difference in the 'objectives' of development itself. Meanwhile, the study of land acquisition can also be seen from the 'method' of land acquisition. There are 3 (three) types of land acquisition methods, namely: (1) the normal way, namely through buying and selling, exchanging or in other ways agreed by both parties (privatsrecht); (2) by means of land acquisition (gemeenschapelijkrecht); and (3) by extraordinary means or by force, namely by using institutions to revoke land rights (*publieksrecht*) (Gunanegara 2006, 1-2).

In practice, the distribution of the three methods is implemented as follows: first, the acquisition of land in the usual way for the development of private interests. Second, land acquisition (*gemeenschapelijkrecht*) and extraordinary or forced methods (*publieksrecht*) are carried out for the development of public interests. Although Law No. 2 of 2012 regulates 'land acquisition', but in its implementation regulations (Perpres No. 71 of 2012) it is possible to obtain land rights through privatsrecht as stipulated in Article 121, namely the procurement of small-scale land that is no more than 1 ha; which was later changed to 5 ha based on Perpres No. 40 of 2014). In other literatures, ways of taking land can be done in 2

(two) ways, namely: (1) with the agreement of the land owner; and (2) without the consent of the land owner. In the latter case, land grabbing is also called "compulsory acquisition, resumption, compulsary purchase, expropriation, eminent domain or condemnation" (Douglas Brown 1996, 1-2).

Land acquisition in the 'normal' way (privaatsrecht) is subject to the Civil Law regime because the procurement process is left to the agreement of both parties. Thus, the provisions of Article 1338 of the Civil Code apply to the agreement. The article reads: "All treaties made legally apply as a law for those who make them". For the validity of the agreement, it must be carried out in good faith and meet the subjective and objective conditions as stipulated in Article 1320 of the Civil Code, namely: "For an agreement to be valid, four conditions are required: (1) an agreement of those who bind themselves; (2) the ability to make an engagement; (3) a certain thing; and (4) a lawful cause.

Agreements between landowners to transfer or relinquish their rights to land to those who need land can be done through buying and selling, exchanging, leasing, or through an agency releasing land rights. Related to the National Land Law system, the agreement must pay attention to the provisions on the subject that is allowed as the holder of land rights.

2. Land Acquisition for Private Purposes

For private interests, land acquisition or land acquisition can be achieved in 2 (two) ways, namely: (1) by buying and selling; and (2) by releasing land rights by the owner. The first method is done through a deed of sale and purchase in front of the PPAT, and is only possible if the party who needs the land meets the material requirements as the subject of the rights to the land to be sold.

As determined in the National Land Law that legal entities (private) are only possible to be subject to the Right to Cultivate (HGU), Right to Build (HGB), and Right to Use (HP). In the event that the party who needs the land does not meet the requirements as the subject of the rights to be obtained, or if the land to be acquired has not yet been registered, then the mechanism of 'release of land rights' is adopted.

According to Law No. 2 of 2012 concerning Land Acquisiton for Development in the Public Interest, the relinquishment of rights is the termination of legal relations from parties entitled to the state through the Land Agency. Meanwhile, in the Decree of the State Minister for Agrarian Affairs / Head of the National Land Agency No. 21 of 1994 concerning Procedures for Land Acquisition for Companies in the context of Investment; relinquishment or surrender of land rights is the activity of releasing the legal relationship between the holder of land rights and the land under his control by providing compensation on the basis of deliberation. Therefore, if the relinquishment of land rights is intended not in the public interest, then the intended release does not have to be done through the Land Agency or the land authority.

According to Article 131 Verse (3) Regulation of the Minister of Agrarian Affairs / Head of the National Land Agency No. 3 of 1997 concerning Provisions for the Implementation of Government Regulation No. 24 of 1997 concerning Land Registration, the release of land rights can be done through:

a. notarial deed, which states that the holder concerned waived the right, or
b. statement from the right holder, that the relevant right holder relinquishes the rights made in front and witnessed by the Camat of the relevant land, or
c. statement from the right holder, that the relevant right holder relinquishes the right made in front of and witnessed by the Head of the Land Office.

Through the release mechanism, the rights to the released land are to become State land and then an application for land rights is submitted by the party who needs the land. The release is generally by giving compensation to the holders of land rights. Overall, the procedure for acquiring land for private interests is as follows:

a. Confirmation of agreement with Regency / City Regional Spatial Planning (RTRW) at the Regency Development Planning Agency (BAPPEKAB) or City Development Planning Agency (BAPPEKOT).
b. Location Permit from the Regent / Mayor for an area of more than 1 (one) ha.
c. For those with an area of less than 1 (one) ha, submitting a Change in Space Use (P2R).
d. Acquisition of land through the process of 'transfer of rights' or the transfer or relinquishment of HAT.
e. Granting of Land Rights.
f. A drying permit is not required if: (a) land for an industrial business is in an industrial area; (b) the land to be obtained is from the authority or the organizer of the development of an area with the spatial plan of the development area; (3) the land to be obtained has obtained a Location Permit.

3. Special Economic Zone (SEZ)

To accelerate economic growth and equity between regions and between regions, primarily maintaining the balance of the progress of a region in the unity of the national economy, the Government established a Special Economic Zone (SEZ). In Law No. 39 of 2009 concerning Special Economic Zones it is said that Special Economic Zones are areas with certain limits within the territory of the Republic of Indonesia which are determined to carry out economic functions and obtain certain facilities. SEZs consist of one or more zones, namely: export processing, logistics, industry, technology development, tourism, energy, and / or other economies.

Law No.23 of 2014 concerning Regional Government in Article 360 also affirms that "to carry out certain governmental functions that are strategic in the national interest, the

Central Government may stipulate special areas within provincial and / or district / city areas". One such special area is a special economic zone (Article 360 Verse (2) Letter f). The SEZ institutions at the Central and regional government levels are as follows:

a. National Council at the Central level formed by Presidential Decree.
b. Zone Councils established in each province which are partly designated as SEZ and SEZ Administrator in each SEZ.
c. Managing Business Entity which is conducting business activities in SEZ, which can be in the form of State Owned Enterprises (BUMN) / D, Cooperative Business Entity, Private Business Entity and joint venture between private and / or cooperatives with the Government, and / or provincial government, and / or district / city government.

Locations that can be proposed to become a SEZ must meet the following criteria: (a) in accordance with the Regional Spatial Plan and not potentially disturb the protected area; (b) the relevant provincial / district / city government supports SEZ; (c) located in a position that is close to an international trade route or close to an international shipping lane in Indonesia or is located in an area of potential superior resources; and (d) have clear boundaries. Throughout Indonesia, there are eleven SEZs: (1) *Arun Lhokseumawe*; (2) *Sei Mangkai* in Simalungun Regency; (3) *Tanjung Api-Api* in Palembang, (4) *Tanjung Lesung*; (5) *Tanjung Kelayang* in Belitung Regency; (6) *Maloy Batuta Trans Kalimantan*; (7) Mandalika Island; (8) Bitung; (9) Palu; (10) *Morotai* in Maluku; and (11) *Sorong* in West Papua.

In the Special Economic Zone Law, the provisions regarding land are regulated in 2 (two) articles, namely:

a. Article 36: In the SEZ it is easy to obtain land rights in accordance with statutory provisions, and
b. Article 37: Business entities that have acquired land in locations that have been designated as SEZs based on Government Regulations are granted land rights.

As an implementing regulation of the SEZ Law issued Government Regulation No. 2 of 2011 concerning Implementation of Special Economic Zones which was later amended by Government Regulation No. 100 of 2012 concerning Amendment to Government Regulation No. 2 of 2011 concerning the Implementation of Special Economic Zones. Then PP No. 96 of 2015 concerning Facilities and Convenience was issued in Special Economic Zones.

4. Land Rights in Special Economic Zone

In Government Regulation No. 96 of 2015 concerning Facilities and Facilities in Special Economic Zones, it is stated that the facilities and facilities provided to Business Entities and Business Actors in KEK include: 1) taxation, customs, and excise; 2) goods traffic; 3) employment; 4) immigration; 5) land; and 6) licensing and non-licensing.

Facilities and facilities regarding land are regulated in Articles 73 to 78, which in general are as follows:

a. Land acquisition in SEZ locations refers to the location permit or location determination that has been determined in the context of establishing SEZ.
b. If the land acquisition in the SEZ location is based on the proposal of the ministry / agency, provincial government, district / city government, or State Owned Enterprises / D and the source of funds comes from the State Budget / D, the implementation refers to the determination of location / location permit and is carried out based on the provisions of the legislation in the field of land acquisition for development in the public interest,
c. If the land acquisition in the SEZ location proposed by a Private Business Entity, the implementation refers to the location permit and is carried out directly through the sale and purchase, exchange or other means agreed by the parties and in accordance with the existing location permit.
d. For SEZ locations where land acquisition is referred to in 'letter b', then the right granted is a Right to Manage (HPL). In this HPL, land rights can be given to Business Actors as follows:
    1) Right to Build (HGB) with a period of 30 (thirty) years and can be extended for a period of 20 (twenty) years and renewed for a period of 30 (thirty) years.
    2) Right to Use (HP) with a period of 25 (twenty five) years and can be extended for a period of 20 (twenty) years and renewed for a period of 25 (twenty-five) years.
    3) The extension and renewal of the aforementioned Right to Build (HGB) or Right to Use (HP) is provided when the Business Actor has commercially operated.
    4) If the cellphone is intended for residential / property ownership in the tourism SEZ, the extension and renewal of the cellphone is given when the occupancy / property has been legally owned in accordance with statutory provisions.
e. For agrarian, spatial and land services, Ministry of Agrarian Affairs and Spatial Planning / National Land Agency delegates authority in the land sector to the SEZ Administrator and / or places officers in the One Stop Integrated Service located in the SEZ Administrator's office.
f. The SEZ administrator and / or officers at the One Door Service provide services which include:
    1) serve requests in the context of service in the field of agrarian, spatial planning and land affairs;
    2) provide information, facilities, recommendations in the field of agrarian, spatial planning and land affairs;
    3) carry out coordination with relevant agencies, both at central and regional levels;
    4) helping to solve problems in the fields of agrarian, spatial planning and land affairs;

5) Monitor and supervise the implementation of the timeliness of completion of services in the fields of agrarian, spatial planning and land affairs; and
6) Coordinating and consulting to the land office, Regional Office of the National Land Agency and the Ministry of Agrarian Affairs and Spatial Planning / National Land Agency to accelerate the service process in the field of agrarian, spatial planning and land affairs.

g. Based on the agreement with the holders of land rights, foreigners / foreign business entities can own residential / property that stands alone with the Right to Use for 25 (twenty five) years and is renewed on the basis of the agreement set forth in the agreement; or Ownership Rights of the Flats on the Right to Use.

5. *The Right to Manage*

The Right to Manage is defined as the controlling right of the State whose authority to exercise is partially delegated to the holder (Article 1 number 4 of the Regulation of the Minister of Agrarian Affairs / Head of the National Land Agency No. 9 of 1999 concerning Procedures for Granting and Cancellation of State Land Rights and Right to Manage).

The regulation of Right to Manage is not found in the Agrarian Law, but it is implied in General Explanation II (2) Agrarian Law that states: "By referring to the objectives stated above, the State can provide such land to a person or legal entity with a certain right according to its designation and needs, for example ownership rights, usufructuary rights, usufructuary rights or usufructuary rights or give it in management to a ruling body (department, department or autonomous region) to be used for the implementation of their respective duties".

Related to that Boedi Harsono said that Right to Manage in the systematics of land tenure rights were not included in the land rights group. The Right to Manage holder does have the authority to use the land that is claimed for his business needs. But that is not the purpose of granting such rights to him. The main objective is that the land in question is provided for use by other parties that need it (Boedi Harsono 1997, 247). In the provision and granting of land, the right holder is given the authority to carry out activities which are part of the State's authority, which is regulated in Article 2. In connection with this, Right to Manage is not in fact a right to land, but is an "shake-up" from The Right to Control from State".

Initially, the land authority granted the Right to Manage only to Departments, Departments and Self-Administered Areas. In subsequent developments, subjects from the Right to Manage are: (Arie Sukanti Hutagalung and Oloan Sitorus 2011, 40):

a. Rulers (Departments, Departments or Autonomous Regions, and customary law communities (General Explanation of the Agrarian Law and Article 2 Verse (4) of the Agrarian Law).

b. Government-owned Legal Entities whose entire capital is owned by the Government / Regional Government in the context of regional development, industry, tourism, ports, housing / settlements (PMDN No. 5 of 1974).
c. Public companies, Persero or other forms engaged in the supply, procurement, and maturation of land for business activities (Minister of Internal Affairs Regulations No. 5 of 1974).
d. Authority (Presidential Decrees No. 41 of 1973 jo No. 94 of 1998).

In Article 67 of the Regulation of the Minister of Agrarian Affairs / Head of the National Land Agency No. 9 of 1999 concerning Procedures for the Granting and Cancellation of State Land Rights and Management Rights, it is stated that those who can be subject from Right to Manage (HPL) are: (a) Government Agencies including Regional Governments; (b) State-Owned Enterprises; (c) Regionally Owned Enterprises; (d) P.T. Persero; (e) Authority Bodies; (f) Other Government legal entities appointed by the Government.

Judging from the various formulations of HPL's authority in various laws and regulations, the contents of the HPL's authority include (1) Planning the designation and use of the land concerned; (2) Using the land for the purpose of carrying out its duties; (3) Submit the parts of the land to the other party according to the conditions determined by the company that holds the rights.

The three authorities show that the Right to Manage (HPL) contains 2 (two) nature of authority, namely public (numbers 1 and 3) and civil authority (number 2). Although it contains civil authority, HPL is not a right to land as ownership rights, business use rights, building rights or use rights as stipulated in the Agrarian Law. Therefore, "HPL cannot be traded, but can be released (returned to the State) and then given to another party with a right according to the applicable laws and regulations" (Maria SW. Sumardjono 2008,213-214). Boedi Harsono also states that HPL is not a right to land because: 1) it is not included as a right to land in a system of tenure rights; 2) the granting of the HPL is not intended to be used by the HPL holder, but its main purpose is that the relevant land is provided for use by other parties who need it. In providing and granting land, the right holder is given the authority to carry out activities which are part of the State's authority (Boedi Harsono 1997, 247).

As the delegation of the State's Right to Control, which is regulated in Article 2 paragraph (2) of the Agrarian Law, shows that the Agrarian Law is an authority in the field of public law. The Constitutional Court, in the decision of the Right to Judge Material several laws related to Resources such as the Oil and Gas Law, Electricity, Water Resources, Management of Coastal Areas and Small Islands; also argues that the control of the State includes five functions that constitute public authority, namely: formulating policies

(beleid), making arrangements (regelendaad), administering (bestuursdaad), carrying out management (beheersdaad), and conducting supervision (toezichthoudendaad).

In several laws and regulations relating to and related to HPL it is stated that HPL gives the authority to "hand over portions of the land to third parties". Initially the land rights that can be granted over the HPL are usage rights for a period of 6 (six) years and then can be granted with ownership rights, or building rights for a period as referred to in Agrarian Law jo Government Regulation No. 40 of 1996 concerning Right to Cultivation (HGU), Right to Build (HGB) and Right to Use (HP).

C. History of Land Tenure in Belitung Regency

From interviews with officials of the Agrarian and Spatial Planning / National Land Agency Office in Belitung Regency, information was obtained that all land in Belitung Regency was State land or land that was directly controlled by the State. Thus the process for applying for land rights is carried out through 'granting of rights'. In some cases there were found Zegel Letters issued by the Village authorities before 1960. In such a case the process of requesting rights based on 'zegel' rights was processed through conversion (adjustment of old rights to new rights under the Agrarian Law), because it is considered as customary land. The land with the Zegel Letter was converted to ownership rights. However, if the zegel is issued after 1960, then the application for the rights submitted by the zegel holders is done through the 'granting of rights' over State land. In Belitung Regency there are no customary lands and swapraja/royal lands (interview, 3 May 2018).

Considering that on the island of Belitung there are many Indonesian citizens of Chinese descent, the information obtained states that there is no policy from the Provincial Government of the Bangka Belitung Islands and also from the local District Government and which prohibits the granting of Proprietary Rights to such Descendants.

D. The Problematic Land Acquisition For The Special Economic Zone Development Of *Tanjung Kelayang* In Belitung Regency

Tanjung Kelayang Special Economic Zone is stipulated by Government Regulation No. 6 of 2016 concerning *Tanjung Kelayang* Special Economic Zone, which is the Tourism Zone with the main activities of tourism. The Government Regulation stipulates that the area of the *Tanjung Kelayang* SEZ is 324.4 Ha (three hundred twenty four point four hectares) which is located in the Sijuk Subdistrict of Belitung Regency with the following boundaries: North is bordered by the South China Sea, the east is bordered by Keciput Village, Sijuk District, Belitung Regency; the south bordering Tanjung Binga Village, Sijuk District, Belitung Regency; and in the west bordering the South China Sea and Tanjung Binga Village Beach, Binga District, Belitung Regency.

According to information from the results of an interview with Mr. Imam Fadli who served as Head of the Legal Section of the Belitung Regency Government, the idea for the Special Economic Zone was the beginning of a letter to the Regent regarding land reserve data. Because of the back up, the funds that capitalize are Business Entities. Since the issuance of Law No.2 of 1999 concerning location permit for the backup scheme, there has been no more. For investors, HGB above HPL is considered economically less compared to pure HGB. There are two opinions about HPL: HPL as an asset and HPL not an asset, if HPL is an asset there is capital issued. SEZ is a proposal from PT. BELPI. There are location permit requirements for SEZ while this Business Entity already holds the right to be let alone a location permit. HGB above HPL outside SEZ is still available. Because their big companies have a lot of capital so they are strong enough to apply for HGB over HPL in many regions. Around the 1990s there were investors coming in and the Regional Government agreed to establish a joint venture of PT. PLTDC, the HPL is around 92 hectares, even though the area is 200 hectares, outside it has become private property. This also causes problems. All those who depart from the reserve land are considered HPL on behalf of the Regional Government (interview, 3 May 2018).

Problems began to arise when the promulgation of Government Regulation No. 6 of 2016 concerning the *Tanjung Kelayang* Special Economic Zone, while the location designated as SEZ already had HGB status on behalf of the company, above the HPL of Belitung Regency Government. As explained earlier, traced from the history of land acquisition, the development of the *Tanjung Kelayang* SEZ with an area of 324.4 ha located in the Sijuk District area is unique because the land in the coastal area was originally owned by local residents who were then 'compensated' by the company private. Then the land that has been compensated is issued a certificate of Management Rights (HPL) on behalf of the Government of Belitung Regency. In connection with the issuance of the HPL, a private company that had 'freed' the land from the local population was brought a civil suit to the Tanjung Pandan District Court.

When viewed from the Belitung Regency Regional Spatial Planning Map Year 2005-2015, information is obtained that the area used as the *Tanjung Kelayang* Special Economic Zone is indeed dominated as a tourism area and production forest, for tourism areas symbolized by a horizontal red line of shading while production forests are symbolized by color light green as shown in Figure 1.

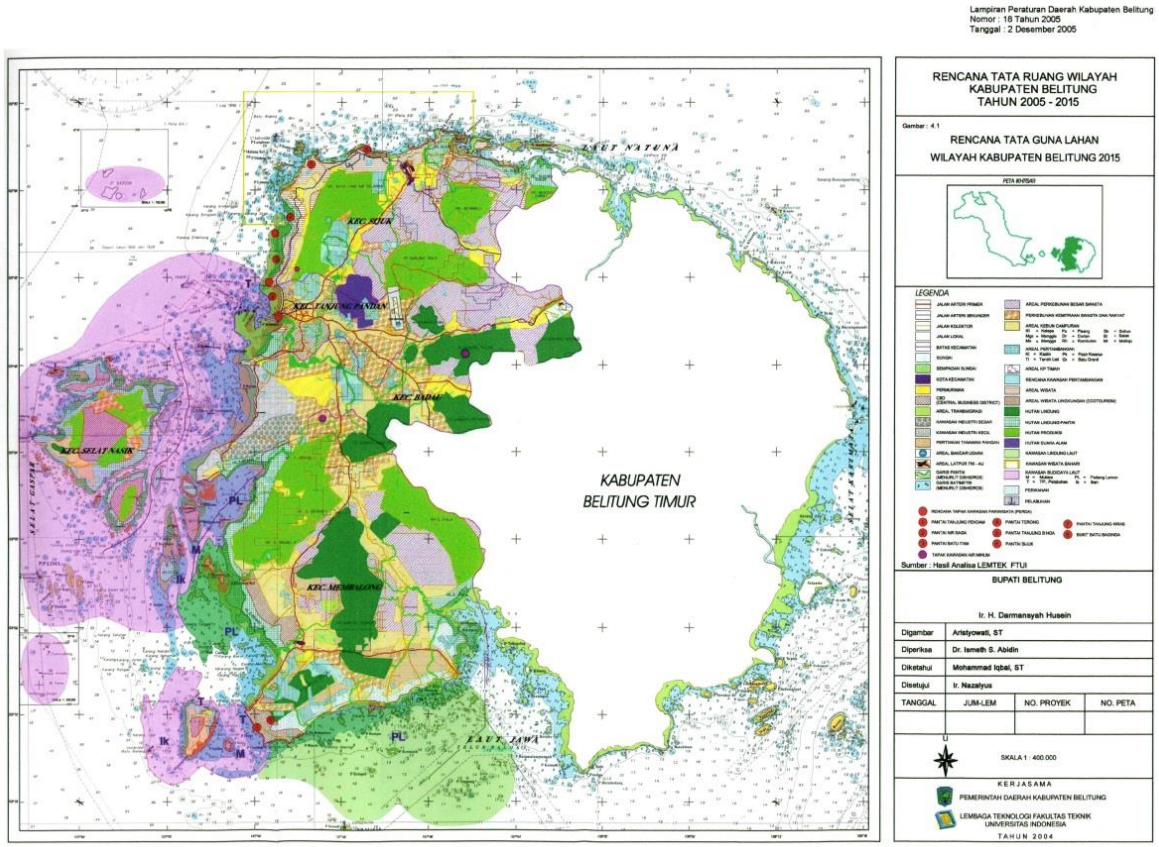

Figure 1. Map of Spatial Planning for Belitung Regency in 2005-2015

Map of Regional Spatial Planning that is used as a reference for *Tanjung Kelayang* land acquisition is a map of the old Regional Spatial Planning or which was made before Government Regulation No. 6 of 2016 concerning the *Tanjung Kelayang* Special Economic Zone. Of the Regional Spatial Plan, the *Tanjung Kelayang* Region is intended for tourist areas, so that it does not violate its Regional Spatial Plan.

Tanjung Kelayang Special Economic Zone Proposing Business Entity is a P.T. Belitung Pantai Intan, domiciled in South Jakarta, is headquartered at Sultan Hasanudin Street No.69, Kebayoran Baru, South Jakarta 12160. As for the Business Entity, the consortium SEZ builders and managers consist of :

1. P.T. Belitung Pantai Intan, domiciled in South Jakarta, headquartered at Sultan Hasanudin Street No.69, Kebayoran Baru, South Jakarta 12160.
2. P.T. Tanjung Kasuarina, domiciled in South Jakarta, headquartered at Dharmawangsa VII / 9 Street Kebayoran Baru South Jakarta 12160.
3. P.T. Nusa Kulila, domiciled in South Jakarta, is headquartered on Dharmawangsa VII / 9 Street, Kebayoran Baru, South Jakarta 12160.

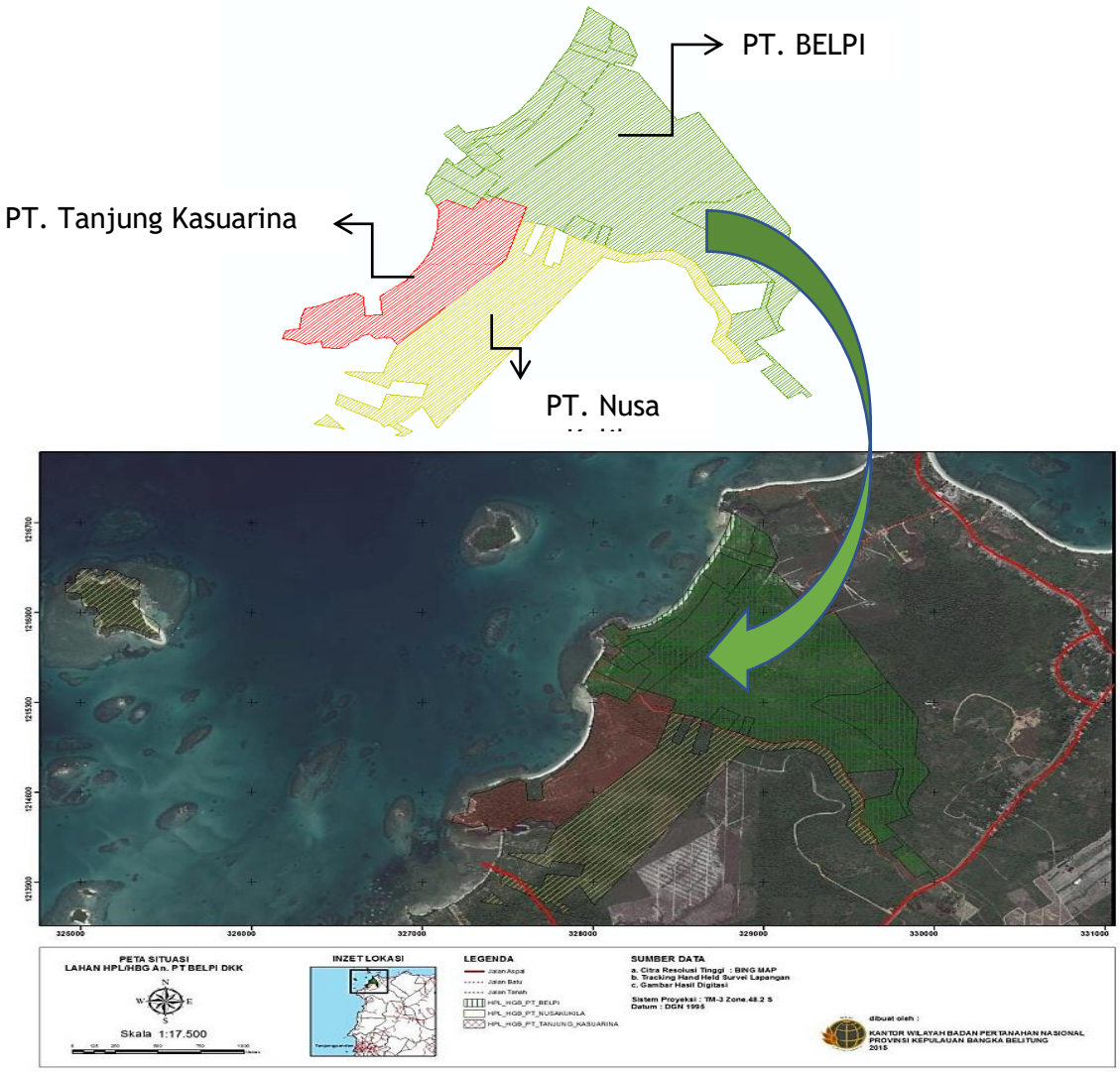

Figure 2. Situation Map

From the Situation Map that is overlaid with the image as shown in Figure 2, that for the color of green shading the most extensive area is the HGB area above the HPL requested by PT. BELPI, while the yellow shading is the HGB area above the HPL requested by PT. Nusa Kukila and the red shading are HGB areas above the HPL requested by PT. Tanjung Kasuarina.

In Government Regulation No. 6 of 2016 it is emphasized that the Business Entity carrying out the construction of the *Tanjung Kelayang* SEZ is ready to operate within a maximum period of 3 years from the enactment of the Government Regulation (March 15, 2016). If within 3 (three) years the *Tanjung Kelayang* SEZ is not yet ready to operate, the National Council for Special Economic Zones:

1. make changes in the area or zone;
2. provide an extension of time of no more than 2 (two) years;
3. do business entity replacement; and / or
4. Proposal of cancellation and revocation of *Tanjung Kelayang* SEZ.

If an extension of the time period has been granted and the *Tanjung Kelayang* SEZ is not yet ready to operate because it is not a negligence or force majeure of the business entity, the Special Ecomonic Zone National Council may provide an extension of the development time. The history of land tenure from the *Tanjung Kelayang* SEZ is as follows:

1. November 19, 1992 between Belitung Regency Government and P.T. Belitung Permai Intan (P.T. BELPI) was held an MOU on Development Cooperation and Management of Tanjung Binga Tourism Objects.
2. After that the 'land acquisition' was carried out by the community in Tanjung Binga Village and Keciput Village, Tanjung Pandan District, where the acquisition fee was prepared by PT. BELPI.
3. In 1992 a Location Permit was issued (document not found) in the context of the issuance of HPL Belitung Regency Government.
4. In 1993 issued the 'Extension of Location Permits' in 1992 for 1 (one) year.

In the period 1994, 1996 and 1997 19 (nineteen) certificates of Management Rights (HPL) were issued a.n. The Belitung Regency Government, which is entirely located in Tanjung Binga Village, Sijuk District. Then, above 19 (nineteen) Management Rights (HPL) were issued 19 (nineteen) Building Rights (HGB).

In further developments in 2012 the three Private Legal Entities holding the HGB filed a civil suit with the Belitung Regency Government (Defendant I) and the Government of the Republic of Indonesia Cq. National Land Agency Cq. Regional Office of the National Land Agency of Bangka Belitung Province Cq. Belitung Regency Land Office (Defendant II) to the Tanjung Pandan District Court registered in case No.18 / Pdt.G / 2012 / PN Tdn. November 14, 2012. Because based on the Republic of Indonesia Supreme Court Regulation No. 1 of 2008 concerning the Implementation of Mediation in the Courts, the Panel of Judges provided an opportunity for both parties to make a settlement with mediator Eka Yektiningsih, SH, one of the Judges at the Tanjung Pandan District Court based on Letter of Determination Number: 18 / Pdt.G / 2012 / PN.TDN dated December 12, 2012.

The Tanjung Pandan District Court in its decision dated February 27, 2013 contained a Peace Agreement between the two parties whose contents outline were as follows:

1. Defendant I with the assistance and support of Defendant II agreed and agreed to process the change of HGB land status on behalf of the Plaintiffs over HPL to HGB status on behalf of the Plaintiffs; where Defendant I ensures revoking, releasing and canceling HPL on behalf of Defendant I. The process of changing the certificate of HGB over HPL to HGB on behalf of the Plaintiff will be carried out by Defendant II (Belitung Regency Land Office) in accordance with the applicable laws and regulations.
2. The Plaintiff is willing to pay compensation to Defendant I in the amount of Rp. 80,000,000 (eighty million) per year for the duration of the HGB above the validity of

HPL until 2027 or for 14 (fourteen) years, which is charged to the Plaintiff. I (PT Belitung Pantai Intan) by 50% (fifty percent); Plaintiff II (P.T. Tanjung Kasuarina) of 30% (thirty percent); and Plaintiff III (P.T. Nusa Kulila) by 20% (twenty percent); which was paid in full at once to Defendant I.

3. The Plaintiff is willing to provide compensation to Defendant I of 2.5% (two point five percent) which is agreed based on the total area of land to be built by the Plaintiff which is 30% (thirty percent) of the total area of land owned by the Plaintiff, with the following formula:

   2.5% (30% of the total Land Area x NJOP applicable at the time of payment)

   with each breakdown:

   a. Plaintiff I: 2.5% (30% x 1,946,633 M2 x NJOP applicable at the time of payment);
   b. Plaintiff II; 2.5% (30% x 503,049 M2 x NJOP applicable at the time of payment);
   c. Plaintiff III: 2.5% (30% x 937,145 M2 x NJOP applicable at the time of payment).

If the Plaintiff in implementing Tanjung Binga tourism development exceeds 30% (thirty percent) of the total land area, the Plaintiff is required to provide compensation to Defendant I of 2.5% (two point five percent) for the excess (additional) land area used.

Before the HPL was released by the Belitung Regency Government, Head of the Revenue Service, Financial Management and Regional Assets of the Belitung Regency Government on the date. 9 April 2013 No. 900/663 / DPPKAD Belitung Regency issued a letter stating: that during the 1990-2002 fiscal year the Belitung Regency Government did not allocate / budget funds in the Regional Development Budget for land acquisition activities in relation to land management in Tanjung Tinggi Beach Tourism Area, Keciput P.T. Nusa Kukila, P.T Tanjung Kasuarina, P.T. Belitung Pantai Intan and P.T. Putra Ciptawahana Sejati.

In addition, the Chairperson of Regional Assembly in Belitung Regency on April 10, 2013 No.170 / 095 / DPRD / IV / 2013 concerning recommendations submitted to the Belitung Regent, among others, provided recommendations for the release of certificates of Management Rights on behalf of the Government of Belitung Regency for the process of completing the Building Use Certificate Certificate. on behalf of PT Nusa Kukila, P.T Tanjung Kasuarina, P.T. Belitung Pantai Intan and P.T. Putra Ciptawahana Sejati by the Belitung Regency Land Office.

Following up on the Court's decision, the letter of the Head of the Regional Financial and Asset Management Revenue Service, as well as the Recommendation of the Belitung Regency DPRD Head, the Belitung Regent submitted a request for Cancellation of 19 (nineteen) Certificates of Management Rights (HPL) on behalf of the Belitung Regency Government to the Head of the Belitung Regency Land Office dated May 24, 2013 Number 180/985 / DPPKAD / 2013.

Upon the request for cancellation, the land authority (BPN RI) gave instructions regarding the process of releasing the Right of Management (HPL) by issuing Letter Number 726 / 27.1-600 / II / 2014 dated February 26, 2014 concerning "Guidelines for the Abolition of Management Rights on behalf of the Regional Government of the Belitung Level Level II. requested by PT Nusa Kukila, P.T Tanjung Kasuarina, P.T. Belitung Pantai Intan and P.T. Putra Ciptawahana Sejati, located in Belitung Regency, Bangka Belitung Islands Province; which was signed by the Deputy for Land Assessment and Handling of Land Disputes and Conflicts, provided the following explanation: "Based on the Internal Case Title at the BPN RI on January 13, 2014, it was agreed that the removal of the HPL of the Belitung Regency Government would be guided by the Decision of the Tanjung Pandan District Court dated. January 23, 2013 No.15 / Pdt.G / 2012 / PN.Tdn and date. 27 February 2013 No.18 / Pdt.G / 2012 / PN.Tdn pursued through the release of rights in accordance with the conclusion of the Case Title, namely:

1. Decision of the Tanjung Pandan District Court dated. 27 February 2013 No.18 / Pdt.G / 2012 / PN.Tdn. used as a basis for follow-up administration of the land in question.
2. In accordance with the aforementioned decision there is no need for cancellation, but it is done through the relinquishment of rights by the Belitung Regent before a Notary Public and for the application file for the cancellation of the Right of Management (HPL) to be returned to the Regional Office of National Land Agency in the Province of Bangka Belitung Islands.
3. With the release of the Right of Management (HPL) by the Regent of Belitung, the Right of Building (HGB) above it was erased and the former HGB holder could then submit an application for land rights through the Belitung Regency Land Office in accordance with statutory provisions.

The release of Management Right by the Belitung Regent was the basis for the Head of the Belitung Regency Land Office to cross off the land book and other general registers of land registrations. On August 15, 2014, the Regent of Belitung Regency released the 19 (nineteen) HPLs by making a Legalized Release Statement before the Notary Mrs. Linawati Hasan, S.H. in Belitung

Theoretically HPL can be released so that the lands released become land that is directly controlled by the State (state land). In the case of HPL being released, what is the legal status of the land rights that are on it? Some argue that even though the HPL was released, the rights to the land on it remained 'alive'. This opinion is based on the argument for the abolition of land rights as regulated in Agrarian Law and Government Regulation No.40 of 1996, namely:

1. The expiration of the period as specified in the decision to grant or renew or in the agreement of the award;

2. canceled by the competent official, management right holder or right owner before the time period expires, because:
   a. non-fulfillment of rights holder obligations and / or violations of the provisions referred to in Article 30, Article 31 and Article 32 (for Right of Building /HGB) or Articles 50, 51 and 52 (for Right of Use/ HP); or;
   b. non-fulfillment of conditions or obligations contained in the agreement to grant HGB / HP between the holder of the HGB / HP and the holder of the Right to Ownership or the agreement to use the land for Management Rights; or
   c. court decisions that have permanent legal force;
3. is voluntarily released by the rights holder before the period ends;
4. revoked based on Law No. 20 of 1961;
5. abandoned;
6. the land is destroyed;
7. Rights holders no longer qualify as subjects of rights.

On the other hand there is an opinion that when the HPL is released, the rights to the land that is on it (HGB / HP) is also erased. This opinion refers to the Letter of the Head of BPN RI Number 726 / 27.1-600 / II / 2014 dated February 26, 2014 concerning "Guidelines for the Abolition of Management Rights on behalf of the Regional Government of the Level II Regency of Belitung requested by P.T. Nusa Kukila, P.T Tanjung Kasuarina, P.T. Belitung Pantai Intan and P.T. Putra Ciptawahana Sejati, located in Belitung Regency, Bangka Belitung Islands Province, which in one of its conclusions stated: "With the release of HPL by the Belitung Regent, the HGB that was on it was erased and subsequently the former HGB holder can submit land rights applications through the Land Office Belitung Regency in accordance with statutory provisions.

E. Closeure

As explained in the previous section that there are 19 (nineteen) HGB of P.T. Belitung Pantai Indah, P.T. Tanjung Kasuarina, and P.T. Nusa Kukila with a total area of 2,693,695 m2, which is located above 19 (nineteen) HPL of Belitung Regency Government with a total area of 3,393,695 M2.

The HGB certificates of the three companies issued in 1994 are listed in column 'i) Designator' written: "Right to Build this is above Management Right No." ... Tanjung Binga Village.

In 2015 there was a change of the 1994 HGB Certificate form with the reason for the existence of a new certificate form. It's just that on the blank certificate of the old HGB it is written that the HGB is mentioned above. (so) Tanjung Binga Village, then in the new HGB blank, the editorial 'Above Management Rights' is gone. On the 'Registration for Transfer of Rights, Assignment of Rights and Other Registration' page of the HGB Certificate (new

blank after the change) records the event of the release of the HPL and the basis for the release of the said HPL.

Regarding the status of the HGB above the HPL after the release of the HPL, it can be stated that actually with the release of the HPL, the HGB also becomes 'delete'. The basis of this opinion is that theoretically, land rights are born due to 3 (three) things, namely: (1) statutory provisions; (2) stipulation of the Government; and (3) agreements with holders of land rights. The explanation in point (1) is a conversion condition; point (2) is the granting of rights to land (state); while point (3) is the existence of land rights on land rights such as HGB or HP on HM; or HM, HGB and HP above HPL.

The HGB above HPL was born because previously there had been an agreement between the prospective HGB holder and the HPL holder that the HPL holder agreed to give part of the land from HPL to the prospective HGB holder. Based on the agreement as outlined in the agreement, the HPL holder submits the HGB application to the land authority so that the HGB is then issued to the third party. Therefore, if the HPL is deleted, the HGB should also be deleted because the HGB is based on, or because of the existence of the HPL.

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Law No.23 of 2014 concerning Regional Government

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Presidential Regulation No. 58 of 2017 concerning Amendment to Presidential Regulation No. 3 of 2016 concerning the Acceleration of the Implementation of National Strategic Projects

Presidential Instruction No. 1 of 2016 concerning the Acceleration of the Implementation of National Strategic Projects

Regulation of the Minister of Agrarian Affairs / Head of National Land Agency No.3 of 1997 concerning Provisions for Implementing Government Regulation No. 24 of 1997 concerning Land Registration

Regulation of the Minister of Agrarian Affairs / Head of National Land Agency No. 9 of 1999 concerning Procedures for the Granting and Cancellation of Rights to State Land and Management Rights

Decree of the Minister of Agrarian Affairs / Head of the National Land Agency No. 21 of 1994 concerning Procedures for Land Acquisition for Companies in the Framework of Investment

THE POLICY CHALLENGE OF PRIVATE LAND MANAGEMENT FOR CONSERVATION OF YELLOW-CRESTED COCKATOO AND ITS HABITAT IN MASAKAMBING ISLAND, INDONESIA

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Abstract

Yellow-crested small cockatoo (Cacatoa sulphurea abbotti) is an endangered species lives in residential area with private ownership in Masakambing Island, Sumenep Regency, East Java, Indonesia. Recently, the population only remain between 22-25 birds. Their habitat requires 3 important trees to support their living: nesting trees, sleeping trees and feeding trees. However, conservation efforts is not easy, as they share space for living with human, while in a small island, land is scarce, and available resources are limited. Therefore, its conservation effort need community involvement. Generally, sharing access to the land resources are intended to social and economic aspects. The study aimed to find out the distribution of important trees as habitat for yellow-crested cockatoo and propose land management policy in supporting conservation activities of yellow-crested cockatoo in Masakambing. The analysis uses qualitative method with interactive model. The results showed that 90% of the yellow-crested cockatoo habitat was in a residential area with private ownership. The Private Land Conservation policy with conservation easement approach can be implemented to conservation of yellow-crested cockatoo in Masakambing. Unfortunately, the Private land Conservation Policy and conservation easement approach have not been regulated clearly.
Keywords: Conservation; Cockatoo; Masakambing Island, Conservation Easement

A. Introduction

Indonesia is rich in biodiversity, and has numbers of animals and plants categorized as protected and endangered species. Referring to Goverment Regulation No 7/1999, there are 221 animals and 73 plants that listed as protected. One of them is yellow-crested cockatoo, an endemic species living in Masakambing Island, Kecamatan Masalembu, Sumenep Regency, East Java Province, Indonesia. This species has unique character, with its small body compare to usual cockatoo. Living in a small island in Masakambing, this species should shares limited space and resources with inhabitants, and unfortunately, this place is not a conservation area, make it more difficult in designing conservation program to protect this species. In Indonesia, according to Act No.5/1990. conservation area is divided into 2 (two) categories: Nature Reserves (KSA) and Nature Protection Area (KPA). KSA is an area with certain characteristics, on land and in water, having main function as a preservation area of diversity of plants and animals and their ecosystem and as a life support system. KSA consists of nature reserves and wildlife reserves. On the other hand, KPA is an area with certain characteristics, on land and in water, that have the function to protect life support system, preserve plant and animal

diversity, as well as sustainable use of biodiversity and its ecosystem. KPA consists of National Parks, Grand Forest Parks and Nature Tourism Parks.

In Masakambing, yellow-crested cockatoo has to share living space with the inhibitants, who owned the land with private ownership. Some efforts has been implemented to preserve its existence, but unfortunately, it has not been show expected result yet. Recently, the population of small yellow-crested cockatoo only left 22 to 25 species, and is threatened to continue to decline. Generally, population decreasing of endagered species are caused by expansion of agricultural land, over-exploitation of natural resources, urbanization, industrialization, pollution, fires, the presence of other species (exotic species), genetically modified organisms (GMOs), climate change, illegal trade, changes in habitat situation, limitation of habitat range (Castelletta, et al 2005 and Zegeye. 2016). In the case of Masakambing Island, the threat of yellow-crested cockatoo population is due to the decreasing area and quality of its habitat.

Discussion about endangered species conservation is important. Endangered species in the wildlife include yellow-crested cockatoo is one of ecosystem element as part of the concept of Sustainable Development Goals (SDGs). This concept is a reference of the Millennium Development Goals (MDGs) that has been ratified as the goal of Indonesia's development. More clearly, Chen, et al (2019) states the existence of ecosystems will provide services that has benefit for humans both directly and indirectly related to ecological processes, energy and information. This is in line with the theory of "sustainability development" which states the success of development can be achieved when the community obtain the benefit from resources both abundant and scarce (Odum 1971).

Conservation efforts need to be conducted immediately involving not only by biological technique approach but also multidimensional approaches. Sodhi, et al (2011) and Bennet, et al (2017) stated that conservation activities of protected animal are not related to individual animal only but correlated to habitat management. Discussion about habitat of yellow-crested cockatoo will strongly related to land and space management of Masakambing Island. However, this discussion become more challenging since the area of Masakambing is owned by individual ownership. Moreover, limited space and natural resources, as characterized by small island like Masakambing, put more pressure on its conservation effort.

When a conservation area shared location with residential area, conservation program should be designed in a more careful way. The greatest threat of conservation of protected species when blend in resident is the degradation of habitat caused by livestock grazing, predators, fires and clearing of endemic vegetation (Smith et al. 1994, 315-338). Even though the farming approach has been applied, without integrated management of farming activities, it will harm conservation activities (Saunders 1994). Specifically, in conserving bird species, the provision of nesting trees need long duration despite it has been conducted by good spatial planning and coordination and supported by the community (Manning. 2004). Basically, it needs a big role relatively in vegetation structure, environmental control and good land management for bird conservation efforts Daniels and Kirkpatrick (2006)

The policy of land management has significant affect for conservation efforts in both public and private lands (Merenlender, et al. 2004). Considering the importance of land management for conservation, Gary, et al (2019) spesifically have identified the location of animals, it is contributed to the land management policies for conservation efforts. The habitat of yellow-crested small coccatoo needs 3 important trees, consist of nesting trees, feeding trees and sleeping trees, and is separated each other as different trees. The aim of the study was to find out the description of the distribution of important trees as habitat for yellow-crested small cockatoo and propose land management policy in supporting conservation activities of small-crested yellow cockatoo in Masakambing Island.

B. Methods

1. Research Location

The research was conducted in Masakambing Island, located Masalembu Sub-district, Sumenep Regency, East Java Province, Indonesia. It has an area of 7.79 km2 and located in Java Sea. The geographic location is 5042 '- 5047' south latitude and 114039 '- 114045' east longitude. Administratively, Masakambing Island is divided into two sub-village: Ketapang and Tanjung.

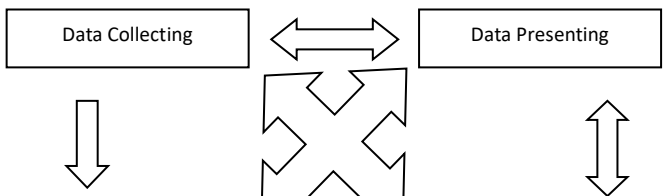
2. Data

The data used in this research are primary and secondary data that obtained from observation, interviews and literature studies. Interviews were conducted to the key informants, consist of conservation figure of yellow-crested small cockatoo in Masakambing Island, the village government of Masakambing Island, The Agency of Natural Resources Conservation of East Java (BBKSDA of East Java), Non-Government Organization of KKI-IPP (Indonesian Parrot Conservation Project), and the Research and Development Center of Ministry of National Land Agency/ Agrarian and Spatial Planning.

3. Data Analysis

The analysis uses a qualitative analysis approach. It is conducted by examining and interpreting non-numerical observation data to find the meaning and patterns of fundamental relationships (Babbie, 2012). Qualitative analysis model uses an interactive mod

Figure 1. Qualitative Analysis with Interactive Model



(Source: Miles, et al (2014)

C. Results and Discussion

1. Distribution of An Important Trees for Yellow Crested Cockatoo

Small yellow-crested cockatoo requires at least 3 types of trees for their living environment: nesting, feeding and sleeping trees, and this trees are different each other. The nesting tree is a tree used by the birds for breeding, from laying eggs and taking care the cheepers. The birds will make a hole in a fractured branch, usually a decayed branch – or sometimes hole that has been left by other birds. This hole is usually made by the couple of birds before mating. The tree that used by the birds for nestsing have characteristics as follow:

a. fracture of dead tree or weathered tree or tree cracks.
b. height range from 8-25 meters.
c. Diameter of 28-105 meters.
d. located on a stem or branch at a height of 6-15 meters from the ground.
e. the diameter of hole is round or oval with a diameter ranging from 12-23 cm.
f. the depth of the hole is 68 cm and the base of hole are wood chips and leaf fragments with thick is 10 cm.

There are several types of trees that can be used as nesting trees, but currently the active nesting trees are breadfruit, kapok, coconut, tamarind and magnifera. At present, there are 9 active nesting trees; 1 locates in mangrove area and 8 of them locate in plantations area and residential area. This nesting trees are concentrated in the Ketapang sub-village.

Meanwhile, feeding trees consist of fruit trees, seeds and flower nectar. Each species has different level of consumption for yellow-crested cockatoo . Based on the results of the KKI-IPP study, palm fruit was consumed at the highest level during the breeding period. Meanwhile, coconut trees was consumed at the the highest level during non-breeding period. This trees are spreaded along the island, in mangrove, plantation and residential area in the Ketapang and Tanjung sub-village. But, at present, the movement of yellow-crested cockatoo in the searching of food in the Tanjung sub-village is lesser than before.

Sleeping trees are the trees that used by yellow-crested cockatoo in non-breeding period. Sleeping trees are dominated by coconut trees, and only 1 magnifera tree that is located in the mangrove area is used by the bird for sleeping tree. It can be concluded that the sleeping trees will be close to the tall and deciduous trees. That trees are used by yellow-

crested cockatoo to monitor surrounding condition to ensure its safety and comfortability. Based on the distribution, the area of sleeping trees concentrated in the Ketapang sub-village only.

Based on an inventory that conducted by (KKI-IPP 2013), interview with conservation leader in Masakambing Island and the observations, there are 14 species of trees that used by yellow-crested cockatoo for nesting, sleeping and feeding. One type of tree can have single or more then one functions. The distribution of functions of trees type is presented in table 1, while the distribution of the trees is shown in figure 2.

Table 1. The Important Tree Specieses For Yellow-Crested Cockatoo in Masakambing Island

No	Jenis Pohon Penting	Funsi		
		Nesting	Feeding	Sleeping
1.	Coconut	■	■	■
2.	Breafruit	■	■	
3.	Kapuk randu	■	■	
4.	Tamarind	■	■	
5.	Kedondong	■		
6.	Star Fruit	■		
7.	Galompe	■		
8.	Palm	■		
9.	Rumbia	■		
10.	Moringa	■		
11.	Duluk-duluk	■		
12.	Tanjang	■		
13.	Pidada	■		
14.	Magnifera	■		■

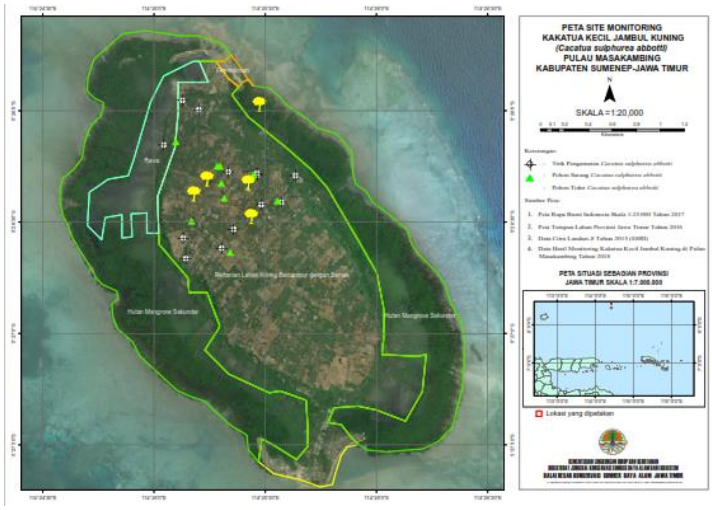
Source: KKI-IPP (2018)

Currently, the existence of these species of the important trees are threatened by the introduction of new commodity that is cultivated by the inhabitant, that is clove. This commodity is cultivated widely because it has high economic value, although it requires a high input intake (fertilizer, pest and disease control and irrigation). In fact, commodities with high input intake will damage the ecological system that has been exist (Kiley-Worthington, 1981). On the other hand, the introduction of new commodities need much attention related to the existing of environmental conditions. Even , crop cultivation that is oriented to generate income, should be able to facilitate the protection of typical biodiversity (Khoury. Et al. 2019a). Unfortunately, this condition become a global problems, not only in Masakambing Island. (Khoury Et al, 2019b) found that agricultural cultivation in most countries and regions still did not meet conservation priorities.

The distribution of important trees for the life of yellow-crested cockatoo in Masakambing Island is more concentrated in Ketapang sub-village. It is caused by vegetation

condition in Ketapang is better compare to Tanjung, due to the expansion of settlements and land conversion for other purposes. This expansion is mainly related with the increase of population in Masakambing. Recorded in 2012, the population of Masakambing are 1,115, and increased into 1,365 in 2017. Other land use change also occurred due to land clearing in mangrove area for shrimp and milkfish ponds.

Figure 2. The Distribution of Important Trees for Yellow-Crested Cockatoo in Masakambing Island



(Source: The Agency of Natural Resources Conservation of East Java, 2018)

This condition becomes significantly alarming if land management to support habitat protection is not being conducted immediately. Tight protection of the area from damage through appropriate zoning will support conservation programs (Calado, et al. 2014). Moreover, Masakambing Island as a small island has high vulnerability. Nurse et al, (2001) stated, the vulnerability and insularity of small islands are caused by geographical limitations of natural resources, water resources, infrastructure and human resources.

2. *Land Management Policies of Yellow-Crested Cockatoo Conservation and its Habitat*

Indonesia already implemented policy of conservation activities as regulated by Act No 5/1990 concerning the Conservation of the Biodiversity and its Ecosystems. The law states that conservation activities consist of protection, preservation and utilization, and can be conducted in the area of the Nature Reserve Area (KSA), which consists of nature reserves and wildlife reserves. Moreover, they can also be conducted in theNature Protection Zone (KPA), which consists of National Parks, Grand Forest Parks and Nature Tourism Parks. Unfortunately, this regulation is hardly applicable in the habitat of yellow-crested cockatoo in Masakambing Island, where almost all land were possessed by private ownership.

Likewise, the policy of PP 7/1999 concerning Preservation of species of animals and plants still faces obstacles. In this policy, preservation activities are directed including

identification, inventory, monitoring, habitat and population development, species rescue, research and development. In the case of conservation of yellow-crested cockatoo in Masakambing island, the habitat development activities will be constrained by land ownership.

A more general and more possible policy to be implemented is Act no 26/2007 regarding spatial planning. In this Act, spatial planning can be directed in favor of the conservation efforts of yellow-crested cockatoo and their habitat. Through this regulation, the structure, pattern, arrangement and implementation of the land (in spatial perspectives) will be framed on the effort to conserve yellow-crested cockatoo and their habitat.

Furthermore, through PP 15/2010 regarding the implementation of spatial planning, the focus will be on providing policies related to the conservation of yellow-crested cockatoo in Masakambing Island. Through this regulation, Masakambing Island can be determined as a national strategic area. National strategic area is a region whose spatial planning is prioritized because it has a very important influence nationally on state sovereignty, national defense and security, economic, social, cultural, and/ or environment, including areas that have been designated as world heritage. Considering that yellow-crested cockatoo is classified as one of the 25 national priority animals, in accordance to SK Dirjen PHKA No. 200/ IV / KKH / 2015, it is possible to establish Masakambing Island as a protected area or national strategic area. Likewise, this animal has become a world concern where IUCN has placed as critically endangered species. Through this stipulation, it is hoped that the program and funding will get better attention.

Unfortunately, the regulation facilitation has not been able to be utilized yet maximally by the Sumenep Regency Government. The Government of Sumenep Regency through the Regional Regulation of Sumenep Regency Number 12 /2013 concerning Spatial Plan (RTRW) of Sumenep Regency has not yet accommodated to the interests of the Masakambing Island region as conservation of yellow-crested cockatoo. The policies and spatial planning of Sumenep has not been favor of yellow-crested cockatoo and its habitat conservation. This regulation only mentioned on the increaing of coastal and small island ecosystems conservation.

In fact, the village government of Masakambing Island established policy through Village Regulation No. 1/2009 concerning Protection of yellow-crested cockatoo and their habitat. This rRegulation stated that there are rights, obligations and participation of the Masakambing Island village community in protecting yellow-crested cockatoo and their habitat. The regulation also mentions the prohibition for not having, storing, trading and carrying out yellow-crested cockatoo and it parts. The regulation also regulates habitat protection for the birds. The removal of nesting trees and feeding trees of yellow-crested cockatoo are prohibited, and the regulation clearly mentioned the trees species in detailed. Explicitly, the regulation also mentioned sanctions in the form of money and other.

3. The Proposal of Land Management Policy for the Yellow-crested cockatoo and its Habitat Conservation

It is difficult to set up Masakambing as a conservation area in a whole, since all of land in this island is owned by people with private ownership. Moreover, limited land and natural resources available, aggravated by the need of the people for livelihood, make conservation effort become more challenging. A sharing living space for the people and the birds should be designed carefully. However, it is possible to design a conservation program by the concept of Private land Conservation (PLC). According to Capano, et al (2019) PLC is land under private ownership such as individuals, families or other non-public institutions that is managed to support biodiversity conservation goals. Capano also stated that tPLC is useful for (i) increasing all protected areas, (ii) increasing the diversity of stakeholders that involved in making conservation policies, (iii) increasing the connectivity of ecological and socio-economic, and (iv) reducing social conflict. This PLC become a challenge for 11 Aichi Biodiversity targets which states in 2020 at least 17% of terrestrial and inland water areas and 10 % of coastal and marine areas, especially areas that are very important for biodiversity and ecosystem services, need to be conserved through systems that are managed effectively, fairly, representative, well connected and ecologically (Bingham, et al. 2017).

However, in the case of Masakambing the concept of PCL is not solely solve the problems. Conservation management policies on smaller scope still not binding yet and have top-down character. In fact, effective and efficient conservation efforts are suggested to have a bottom-up character that start forom awareness and continued with community participation. The review of (Thaman, et al. 2016) explained the bottom-up conservation activities showed better results as happened in Fiji. Likewise, the existing policies still emphasize the prohibition and accompanied by sanctions that seem coercive. In fact, incentive policies need to be implemented to raise awareness and community participation in the conservation of yellow-crested cockatoo and their habitat. This is demonstrated by the success of bird conservation in Ethiopia and Costa Rica has been mentioned that effective dan efficient success use the incentive approach (Sekerciog˘lu. 2012).

Other alternatives that able to accommodate those needs is the concept conservation easement. The topic of conservation easement on PLCs is very popular. (Capano, et al. 2019) reported that conservation easement term is mentioned 508 times in journal abstracts regarding PLCs. This is more compared to the term of landowners that are mentioned 329 times and the program 326 times. The popularity of conservation easement was also discovered at a conference in California. Communities prefer to implement conservation easement because they still can use their land even though certain management rights are restricted (Cheever, 1996).

In fact, conservation of yellow-crested cockatoo and its habitat in Masakambing Island would be very effective revolutionary if all of island area turned into KSA or KPA. But, this is

a difficult choice because many residents will lose land ownership, productive activities and long-established social and cultural roots will be uprooted. The best policy solution is application of conservation easement. Through the conservation easement policy, the community still owns the land but is they restricted to use their land for conservation purposes with consequence community will recieve rewards or tax reduction Gustanski and Squires (2000); (Kiesecker, et al. 2007). The principle of conservation easement is voluntary by placing land ownership is permanent on the community, land using for conservation purposes, avoiding high costs and avoiding of socio-political complexity and stability (Merenlender Et al. 2004).

If this policy is applied in Masakambing Island, communities that have important trees for yellow-crested cockatoo can still own and control their land but there are regulations and management restrictions. Consequently, the community who have important trees will get a reward, incentive or tax reduction. This policy has aimed to provide the protection and conservation for the habitat that is needed by yellow-crested cockatoo in Masakambing Island.

The next challenge is the formulation of policiy related to the form regulation in a more detailed and clear way. It is needed to carry out study to determine who will carry out conservation easement. (Merenlender et al. 2004) provide several alternative stkaholders that possible to do the conservation easement; such as private institutions, partnership institutions or government on central or regional level. Therefore, to measure the degree of involvement, a stakeholder engagement study is needed. The study is intended to identify stakeholder and the degree of importance and influence on the conservation of yellow-crested cockatoo and it habitat, yet to determine who does what (Reed et al. 2008).

At this time, several stakeholders who have been involved in the conservation of yellow-crested cockatoo and its habitat has been identified: the village Government of Masakambing Island, The Agency of Natural Resources Conservation of East Java (BBKSDAJawa Timur), NGO KKI-IPP. However, it is very possible to propose the Sumenep Regency Government, the Government of East Java Province which have regional authority; and National Land Agency/ Ministry Spatial which has a domain in spatial planning. These stakeholders must be encouraged to participate.

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LEGAL PROTECTION FOR CUSTOMARY LAW COMMUNITY LAND ON GRANT OF RIGHT TO CULTIVATE

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Abstract

Plantation production commodities have a function as one of the sources of the country's foreign exchange, but the case between the Cultivation Rights and the Customary Law Community continues to occur, resulting in weakening the existence of the Customary Law Community Land. This is due to factors from the Customary Law Community Land: there is no standardization and classification of its existence, unclear land boundaries, and how the type of legal protection is. Besides that, there is also a lack of understanding and care from the Government and Regional Governments over the existence of the Customary Law Community Land, as if the Customary Land / Customary Community's land area is a free State Land, so it does not need permission from the Customary Law Community. Based on the background above, the research questions are whether standardization, classification of the existence of Customary Community Land is needed in the context of legal protection, and what are the steps to realize it. The research method is empirical juridical method with a holistic and integrative approach. The aim of the research is to optimize legal protection for the Customary Law Community Land for the granting of Cultivation Rights on the land. Therefore, in the future, the existence of the Customary Law Community Land will still be well maintained.

Keywords: Traditional Land Consolidation ; Residental ; Peri-Urban ; Concept ; Bubakan Village.

A. Introduction

The 1945 Constitution article 33 paragraph 3 mandates that "the land, water and natural resources contained therein are controlled by the State and used for the greatest prosperity of the people". These natural resources consist of renewable resources and non-renewable resources. Natural resources are always associated with regional development in Indonesia because natural resources play a role as the backbone of the national economy and will still be relied upon in the medium term (Djakapermana 2010). In the rotating wheel of the Indonesian economy, plantation commodities and mining production have a function as one of the country's foreign exchange sources. The implementation of plantation and mining activities requires land to carry out its business activities. In connection with the need for land, land can occur on land indicated in the control of customary law communities, and some have even become cases of disputes, conflicts and cases between the Rights of Business as granting rights over land for the use of plantations.

The case of Cultivation Rights occurs due to several things, first neglected either partially or wholly by the rights holders who are then worked on by the Customary Law Community in the land of the Cultivation Rights, secondly since the beginning of the process has been questioned by the Customary Law Community namely starting from the initial stages of licensing in the framework of granting the right to cultivate them has been deemed non-existent by the investor, the Government and the Regional Government and

all three of the Customary Law Communities have been compensated but still leaves problems because they believe as those who control the land they obtained from their ancestors is a customary right to manage natural resources and not limited to just utilizing State Land, so that when the Right to Use expires, the period of time has expired, it can return to being the Customary Law Community Land for them to be re-managed, and or the case of dispute develops into a conflict that is peaceful. the pack is wide and cannot be solved switching to settlement in court, this is also a protracted settlement and because so far the State approach has positive normative legal norms, so in the end it has resulted in harming the Customary Law Community. This happened in various provinces in Indonesia and even fell victim, including PT. Barat Selatan Makmur Investindo (BSMI) in Meuji Lampung, Hak Guna Usaha The development of argobusiness in oil palm plantations in Kotabaru Regency, South Kalimantan PT. Sumbawa Island (Abby 2016). Customary law communities need land for their means of life as farmers farming (primary needs) and on the other hand the right-holders on the pretext of wanting to re-use their land on the grounds of being temporarily neglected for various reasons including the main ones due to the impact of the economic crisis, even on the side there are other Cultivation Rights that are guaranteed collateral rights in banking institutions both government-owned, private, and even foreign, this makes the disputing parties become more let alone guaranteed in a government-owned bank of course causing losses to the state finances.

Based on the above background, there are 2 (two) substances depicted with two slicing circles which overlap between the scope of the Customary Community Community Land and Business Rights, each of which has its own laws and regulations and precisely the laws relating to protection the law of the existence of the Customary Community Land in positive state law has not or lacked legal protection, this is because so far there is no standardization, the classification of the existence of Customary Land / Customary Community Land even does not synchronize between sectoral laws. As referred to in Constitution Number 5 of 1960 (Constitution No.5 Year 1960) Concerning Primary Agrarian Regulations and based on the FIFTH DICTUM, it can also be referred to as the Primary Agrarian Law in Article 3, indeed it is not included as land rights as referred to in Article 16 of Law No.5 Year 1960 or indeed a broader right that is the right to manage natural resources is not limited to land rights and also there is no certainty of its boundaries, then if there is a case between the right to operate based on positive law Countries and regional spatial plan arrangements that have not been fully protected, have resulted in the existence of the Customary Law Community Land being increasingly eliminated and weakened. Relating with the description above, the formulation of the problem is: 1) Is it necessary to standardize, classify the existence and registration of Customary Community Land in the context of legal protection?; 2) What is the formula to objectify the legal protection? The research method is not enough only with normative juridical but with empirical juridical

because it must be a holistic and integrative approach of the value of legal philosophy that tends to the value of Justice and Utilization is not limited to the value of legal certainty with the implementation of positive state law, but the approach of legal sociology and anthropology law in order to explain the resolution of conflict cases based on the potential of local wisdom due to the unequal distribution and management of natural resources, power and authority of the positive constitution of the State, while aiming to optimize legal protection, including in the role and regional autonomy based on the Constitution No. 32 Year 2004 About Regional Government has a large role (Syahmunir 2005) and together with the Government guided the Constitution No.6 Year 2014 About the Village so that in the future the desired condition is the existence of Community Land Customary Law is well maintained. As for the Schematic Figure Case Framework for Conception Flow Analysiscompletion is as follows:

Figure 1.Image of Circular Space Circular of Customary Law Community Land Case with Cultivation Right:

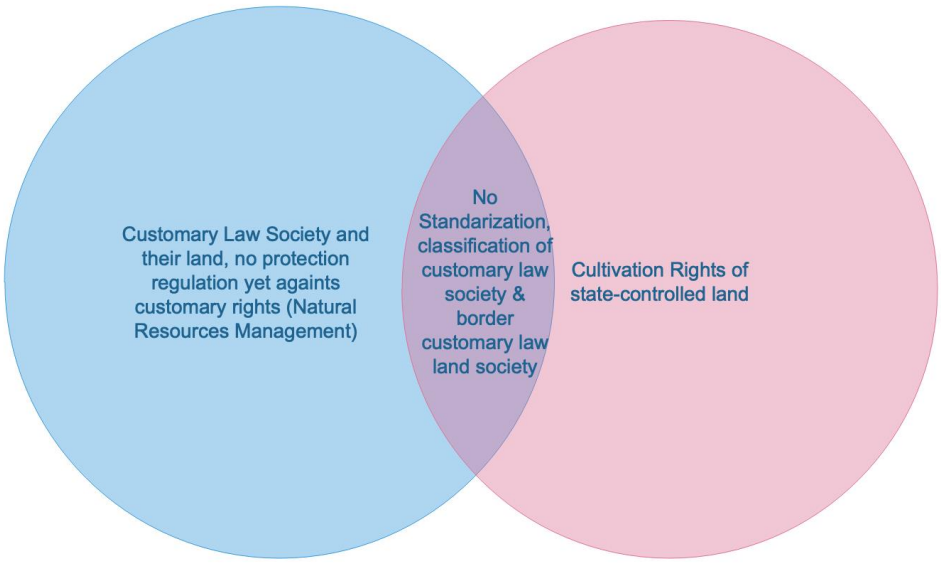
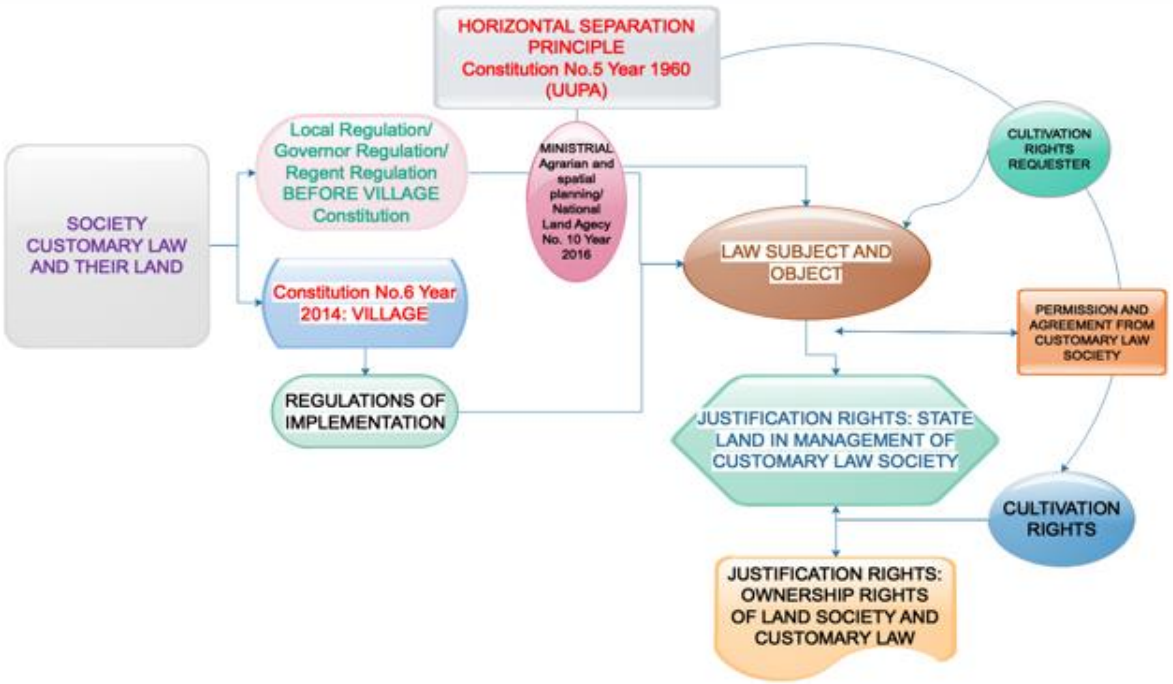


Figure 2. Image of Mind-Framework Flow Completion Concept



B. Existence of Indigenous Law Communities

Constitutional arrangements relating to the existence of indigenous peoplesas legal subjects have been seen since the 1945 Constitution of the First Republic of Indonesia, there are three main provisions which are the basis for the existence and rights of indigenous and tribal peoples, namely Article 18B Paragraph (2) and Article 28I Paragraph (3 and Article 32 Paragraph (1) and Paragraph (2) Article 18B Paragraph (2) The system approach is that the Government recognizes and respects the customary law community units and their traditional rights as long as they are alive and in accordance with the development of society and the principles of the Unitary State of the Republic of Indonesia as stipulated in the law, while Article 28I paragraph (3) the system approach is Human Rights that the State respects cultural identity and traditional community rights respected in line with the development of times and civilization. (1) the system approach is that the State advances Indonesia's national culture in the midst of world civilization by guaranteeing the freedom of the people in maintaining and developing their cultural values, while Article 32 Paragraph (2) the system approach is that the State respects and maintains regional languages as national cultural assets.

In relationto Article 18B paragraph 2 of the 1945 Constitution of the Republic of Indonesia, as a result of the First Amendment to the 1945 Constitution above this article contains 4 (four) conditions for the existence of Customary Law, as follows:

1. The sentence of the 1945 Constitution "as long as it is still alive", impliesthat the Customary Law must be truly and factually still alive in the community.
2. The sentence "in accordance with the development of society", contained the condition that the values contained in the Customary Law are still recognized as

long as the values are in accordance with the situation and conditions and actual.

3. The sentence "*in accordance with the principles of the Unitary Republic of Indonesia*", implies the requirement that the Republic of Indonesia and the entire region in which the community lives are an inseparable unit. That indigenous people are part of the existence of the Homeland itself.
4. The sentence "set in constitution", contains a requirement that Indonesia is a constitutionalcountry.

According to Syahmunir, in order to gain a deep understanding of the structure of the Customary Law community, it is important to understand / know territorial factors and genealogical factors that underlie the formation and survival of the Customary Law community (Syahmunir 2005). There are three types of community legal arrangements based on territorial factors, namely:

1. *Dorpagemeenschap* (village people):
2. *Streekgermeenschap* (community area);
3. *Dorpenbond* (village union).

Territorial factors are factors that are bound to a particular area, apparently the factors that have the most important role in each emergence of legal alliance (Wignjodipuro 1973). While geneological factors, namely factors based on blood descendants, in reality do not occupy an important role in the emergence of a legal alliance. Villages in Java and in Bali are examples and territorial arrangements based on territoriality, especially those including village community structures (*dorpsgemeenschap*). Regarding the regional community (*Streekgermeenschap*), if a certain area there are several villages, each of which has its own arrangement and management, stands alone but all of them are subordinates of the area, possessing property controlling the jungle between or surrounded by land planted and lands the villagers left behind. Examples of KURIA in Angkola and Mandailing or MARGAin South Sumatra. Furthermore, about Village Serkat arises when several villages which are located nearby hold an agreement to maintain the common interest, for example irrigation, a body which is a collaboration between the management, the highest authority over land in the village, for example SUBAK in Bali. The composition of the customary law community which is geneological as mentioned above is now difficult to show, this may be due to the development of era, very traffic advance, inter-tribal relations are familiar and the boundaries between one another are less strict as before , as well as the development of modernization and globalization is now difficult to show the territorial dgeneologi, meaning that it enters into geneological unity and must be domiciled / silent within the relevant fellowship area. For example *uma* in the Mentawai Islands, Kuria or forest in Tapanuli, Marga in Palembang and *Nagari* in Minangkabau. Even in Maluku Province, the Customary Law Community's Land according to information (Sitorus 2019) consists of the

highest Communal Land / *Nagari*, which is Communal / Public Law, then underneath both MARGA Land is Private Communal and the third is Individual Land (Private).

Furthermore according to (Syahmunir 2005), differences in population in some groups are found in most Customary Law environments, only the classification principle in one region is different. In the outline of the classification principle in most regions are as follows:

1. Included in the first class are the owners of rice fields / fields with yards.
2. Included in the second group are the yard owners only.
3. Included in the third group are people who do not own landor yard.

Thus the principle of classification of land ownership rights.

Article 3 of Primary Agrarian Law as referred to in Article 1 and Article 2 accommodates the existence of customary rights and similar rights from customary law communities, as long as in reality there must still be such that it is in accordance with national and state interests based onnational unity and may not conflict with higher laws and regulations, this existence is strengthened by Article 5 of the Primary Agrarian Law applies to land, water and space is customary law, as long as it does not conflict with interests national and state based on the unity of the nation with Indonesian Socialism as well as with the regulations contained in the Primary Agrarian Law and other regulations, everything by heeding the elements that rely on religious law. Therefore customary community land is always associated with customary rights. Based on the aforementioned matters, it can be stated that the Primary Agrarian Law is one of the basic laying down of concepts and regulatory material concerning the recognition of indigenous and tribal peoples. The birth of the Primary Agrarian Law is to eliminate dualism in land constitution in Indonesia, namely the existence of lands that are subject to Western constitution and are also subject to constitution, so as to create regulation. Substantially, the Primary Agrarian Law was made in the context of carrying out further Article 33 Paragraph (3) of the 1945 Constitution of the Republic of Indonesia. The Primary Agrarian Law was not presented to regulate the existence of customary law communities. The mention of indigenous peoples in the Primary Agrarian Law regarding their position as subjects who are entitled to receive power from the State in the context of exercising the right to control the State and have customary rights. The Primary Agrarian Law holds firmly the concept that customary rights holders are indigenous and tribal peoples. This can be seen in Article 3 of the Primary Agrarian Law which states, "*Bearing in mind the provisions in Articles 1 and 2 of Primary Agrarian Law the implementation of customary rights and similar rights of indigenous peoples, as long as in reality*"

The understanding of the Law Society and the Customary Law community is different. (Pujosewojo 1971) defines the legal community as a society that establishes, is bound and subject to its own legal system. While the Customary Law Community is a

community that arises spontaneously in certain areas whose establishment is not established or ordered by higher authorities or other authorities, with or very great solidarity among its members, who view non-members of the community as outsiders and use their territory as source of wealth that can only be fully utilized by its members. Utilization by outsiders must be with permission and certain rewards in the form of recognition and others. The community that develops the characteristics of customary law (communal, strong inner bonds between members both due to geneological, territorial and genealogical factors) is the so-called customary law community.

According to (Sumardjono 2001), some of the main characteristics of customary law communities are they are a group of people, have their own wealth apart from individual wealth, have certain territorial boundaries and have certain authority. The Customary Law Community has one of the most important rights related to its living space, namely "customary rights" as stated in Article 3 of the Primary Agrarian Law; Bearing in mind the provisions in Article 1 and Article 3, it is stated that; the exercise of customary rights and similar rights of indigenous and tribal peoples, as long as in reality they still exist, must be such that they are in accordance with national and state interests, which are based on national unity and may not conflict with the law and other regulations high.

The Primary Agrarian Law itself does not provide an explanation of the customary rights, except to mention that what is meant by customary rights is *beschikkingrecht* in the customary law library. Customary rights as a juridical technical term are rights inherent as specific competencies in the customary law community, in the form of authority to manage and regulate land in its entirety, with internal and external applicability.

According to (Harsono 2008) customary rights are a series of authorities and obligations of a customary law community related to land located within their territory. Customary rights contain two elements, namely the element of belonging to the field of civil law and the element of authority to regulate the control and use and lead the use of shared land which includes the field of public law whose implementation is delegated to the Customary Chief himself or together with the Customary Elders of customary law communities concerned. The customary rights in the customary law community are the highest tenure rights. The individual rights to a portion of the shared land are directly or indirectly mirrored to him. The holders of customary rights are the customary law community, some are territorial because their citizens reside in the same area as Minangkabau. There is also a genealogic whose citizens are bound by blood ties, such as tribes and clans. The object of customary land rights is all land within the community area concerned, it is not always easy to know with certainty the boundaries of the customary land of a territorial customary community. If the genealogic customary law community knows which land belongs to the shared land because the customary rights cover all land, then in the relevant customary law community there is no "res nullius". The creation of

customary land rights as a concrete law was originally created by the ancestors, leaving or conferring the relevant land to people who are a certain group. Customary Rights as a legal institution already existed before because the customary law community concerned is not the only one who has customary rights. For a particular customary law community, customary rights can be created because the separation from the parent customary law community becomes a new independent customary law community with part of its parent territory as its customary land.

(Harsono 2008), explained that the existence of customary rights is recognized for a certain customary law community as long as in fact it still exists, among others, it can be known from the daily activities of the customary chief and customary elders in reality which are recognized as duty bearers the authority to regulate control and lead the use of customary land which is the common land of the members of the indigenous peoples concerned. In addition to being recognized, its implementation is limited in the sense that it must be such that it is in accordance with national and state interests based on national unity and may not conflict with higher laws and regulations, as stated in the Explanation of the Primary Agrarian Law. Ulayat Rights, which in reality no longer exist, will not be revived, nor will new Ulayat Rights be created. In the framework of the National Land Law, the task of authority which is an element of customary rights has become the task of the authority of the Republic of Indonesia as the Attorney and Nation Officer. In fact, the strength of customary rights tends to decrease with the stronger personal rights of the community members or members of the customary law community concerned over the pieces of customary land under their control. Therefore, customary rights will not be regulated and the Primary Agrarian Law will not be regulated because the regulation of such rights will continue to exist, so customary customary rights are allowed to continue according to local customary law.

Constitution Number 32 of 2004 regarding Regional Autonomy, which generally contains enforcement of the transfer of the implementation of the authority of the state's right to control the district or city government. This law also expressly regulates the authority of the government in the field of land as a mandatory government. Regional governments have the authority to regulate the issue of the designation and use of land in the regions. Customary is recognized and regulated in Article 2 paragraph (9) of Constitution No. 32 of 2004 which reads: "*The state recognizes and respects the legal community units along with their traditional rights as long as they are still alive and in accordance with the development of the community and the principles of the unitary state*". Recognition given to the legal community along with their traditional rights (in this case the Customary Law community), the regional government in issuing policies must of course pay attention to the existence of existing customary law communities by not acting as they wish in exercising their authority due to the existence of laws and regulations that both will

support the implementation of the government and the community (customary law community) in development, in order to achieve the desired goals. For this reason it is necessary to make good laws and regulations with careful preparation. Related to the responsibilities of the Regional Government in legalizing the existence of the Customary Law Community and also the Customary Land or Customary Community Land in the framework of regional autonomy authority regulated in Constitution Number 32 of 2004 concerning Regional Government, also regulates the authority of the regional government and the existence of the customary law community through Regional Regulations, including in:

1. Article 203 paragraph (3) states: Election of village heads in a community unit can be accompanied by traditional rights as long as they are still alive and whose existence is recognized applies provisions, local Customary Law stipulated in the local regulation based on government regulations.
2. Elucidation of Article 204 states: the term of office of the village head in this provision can be excluded for the customary law community unit whose existence is still alive and recognized as stipulated by the Regional Regulation;

Relatedto the above mentioned in Article 203 and the Elucidation of Article 204 it is clear that the unity of the customary law community that is still alive and recognized, is determined by Regional Regulation. And the authority to make regional regulations lies within the regional government. As for Article 22 point a of Law No. 32 of 2004 stated that in holding autonomy, regions have the obligation to protect the community, maintain national unity, unity and harmony, and the integrity of the Republic of Indonesia. By observing this Article, it is clear that the customary rights of indigenous and tribal peoples also need protection from the Regional Government if the community's rights are increasingly marginalized due to injustice and oppression of the customary rights of the customary law community.

Based on the discussion relating to the implications of the granting of the Cultivation Right above, the results can be obtained that the existence of the Customary Law Community and their land or customary land is required to standardize and classify their existence based on Regional Regulations, so that if the Cultivation Right is granted on the Legal Community Land it can be identified which of these clusters is communal customary land / communal customary land (public law) or private communal (public and civil) or private individuals. According to (Jaya 2019), the Customary Law Community Land Registration in Bali was conducted in the Customary Village in Badung through the Systematic Complete Land Registration Program in 2017 as the subject and object of registration based on the Minister of Agrarian and Spatial Planning / BPN No.10 of 2016 concerning Procedures Determination of Communal Rights on Land of Customary Law Communities and Communities in Specific Areas and registration of ownership rights to the

place of worship for temples which had been done for several years before, although it was issued field by field in addition to the name of the holder of the land rights of the customary village. the column of instructions along with the name of the physical mastery of residents who have lived for decades. This can be a guideline for land ownership of indigenous and tribal peoples who have regional regulations as in the Province of Bali.

C. Implications for provision on land use indigenous law community.

The right to operate as referred to in Article 28 Paragraph (1) of the Primary Agrarian Law is the right to cultivate land that is directly controlled by the State for a specified period of time, for an agricultural, fishery or livestock company. The Right to Cultivate is granted for a maximum of 25 years and for companies that require a longer period of time can be granted for a maximum of 35 years, followed by Government Regulation Number 40 of 1996 concerning Land Use, Land Use and Building Rights. At the request of the rights holder and considering that the company fulfills its obligations properly, it can be extended for a maximum period of 25 years. The definition of land which is directly controlled by the State is the principle of horizontal separation which is also adhered to by the Primary Agrarian Law based on customary law as well as the Right to Building and Use Rights, there is a separation between land ownership and ownership of buildings and or plants on it, this can be seen in the articles governing four kinds of primary land rights concerning Ownership Rights, Business Use Rights, Building Use Rights and Use Rights only on Ownership Rights are the strongest, fulfilled, hereditary rights to land that can be owned by those who fulfill the requirements However, on top of ownership rights, buildings and / or plants owned by other parties can even be in the form of Building Use Rights or Use Rights with an agreement or permit from the holder of ownership rights over his land. The Right to Build as stipulated in Article 35 Paragraph (1) of the Primary Agrarian Law is granted to those who fulfill the conditions on land that is not their own, in this case there are two types of acquisition, the first is based on a Decree on Granting of Land Rights based on Ministerial Regulation State Agrarian No. 9 of 1999 that the basis of rights as the basis for acquisition of both the land has a certificate of rights other than the Right to Building and or has not been certified other than State Land, both formerly owned by customary land and or the like, then in the Decree on the Granting of the Right to Build on the dictum decides it is contained clause based on the letter of release of the land rights "is released into land which is directly controlled by the State" so that the substance is the same as the type of acquisition of land use rights and use rights. Whereas the Right to Use as regulated in Article 41 Paragraph (1) of the Primary Agrarian Law is the right to use funds or collect the proceeds from land that is directly controlled by the State or land owned by someone else, which gives the authority and obligations specified in the decision to grant it by an official authorized to give or in an agreement with the land owner, which is not a lease or

land management agreement, everything as long as it does not conflict with the soul and the provisions of the Primary Agrarian Law, agreement with the land owner, this is based on the imposition of the Right to Use on Rights Belonging to two types of acquisition of rights, namely granted on land controlled directly by the State or on land owned by someone else, it seems likely that based on the Decree on Granting of Land Rights based on the Regulation of the Minister of Agriculture No. 9 of 1999, the second acquisition that the Right to Build and Use Rights can be obtained based on the Granting of the Decree on the granting of his Rights over Management Rights as the basis for his rights and or based on the Deed on Building and Use Rights over Property Rights based on Government Regulation Number 24 year 1997 Concerning Land Registration and its implementing regulations, namely Regulation of the Minister of Agrarian Number 3 of 1997. Acquisition of Cultivation Rights There is a difference that the granting of the Right is only on land that is directly controlled by the State and does not regulate the granting on someone else's land such as Right to Use above, in addition to originating from land that is directly controlled by the State and also from land that is not his property, why are the provisions of the application of the principle of Horizontal separation in the Right to Cultivation not just the same as in the Right to Build and Use Rights when the substance of the three is the same above? land that doesn't belong to him either can mean the land that is directly controlled by the State or is land owned by someone else based on the Deed of the Actor of the Land Deed.

The right to operate as referred to in Article 28 Paragraph (1) of the Primary Agrarian Law is the right to cultivate land that is directly controlled by the State for a specified period of time, for an agricultural, fishery or livestock company. The Right to Cultivate is granted for a maximum of 25 years and for companies that require a longer period of time can be granted for a maximum of 35 years, followed by Government Regulation Number 40 of 1996 concerning Land Use, Land Use and Building Rights. At the request of the rights holder and considering that the company fulfills its obligations properly, it can be extended for a maximum period of 25 years. The definition of land which is directly controlled by the State is the principle of horizontal separation which is also adhered to by Primary Agrarian Law based on customary law as well as Right to Building and Use Rights, there is a separation between land ownership and ownership of buildings and or plants on it, this can be seen in the articles governing four kinds of primary land rights concerning Ownership Rights, Business Use Rights, Building Use Rights and Use Rights only on Ownership Rights are the strongest, fulfilled, hereditary rights to land that can be owned by those who fulfill the requirements However, on top of ownership rights, buildings and / or plants owned by other parties can even be in the form of Building Use Rights or Use Rights with an agreement or permit from the holder of ownership rights over his land. The Right to Build as stipulated in Article 35 Paragraph (1) of the Primary Agrarian Law is granted to those who fulfill the conditions on land that is not their own, in this case there are two types of

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According to (Harsono 2008) , in Article 33 paragraph 3 of the 1945 Constitution formulated with the term "controlled" , the nature of the relationship is stated as public legal relations by the Primary Agrarian Law in Article 2. Paragraph 2 provides details of the authority to control from the State in the form of activities:

1. Regulate and administer allotment, use, supply and maintenance the earth, water and space;

2. Determine and regulate legal relationships between people and actions legal actions concerning earth, water and space;
3. Determine and regulate legal relationships between people and actions legal actions concerning earth, water and space.

Furthermore (Harsono 2008) With the details of the authority to regulate, determine and carry out various activities in Article 2, the Primary Agrarian Law provides an authentic interpretation of the Right to Control of the State intended by the 1945 Constitution, as law which is merely public in nature. As is the case with Ulayat Rights, the delegation of authority to the rights of the Nation which is based on public law does not cover and does not affect the legal relationship which has a civil perspective, the rights still belongs to the Indonesian Nation; is a "contradiction in termia nis" if someone talks about the Land Rights of the State. The legal relationship between the State of the Republic of Indonesia and the joint land of the Indonesian people is merely a public law perspective. Whereas Ulayat Rights as well as the Nation's Rights contain two elements, namely the right to belong to the civil aspect and the task of the authority to manage the perspective of public law.

According to (Lakburlawal 2016), Cultivation Rights as regulated in Article 28 paragraph (1) of Law no. 5 of 1960 was granted over land directly controlled by the State. Thus lands which are given to Right to Cultivate should be abandoned his rights as customary land into state land under Government Regulation No. 40 of 1996. Thus, when Right to Cultivate ends, the status of land given Right to Cultivate turned into state land and communal land this eliminates unitary status of indigenous peoples. It is in many cases the cause of land disputes between indigenous peoples as holders of communal land by the company when the term Right to Cultivate ends. The desire of indigenous peoples to obtain justice is as fairly as possible in a fast and inexpensive way through litigation institutions. But disputes are often resolved in a very long period of time and cost a lot of money so that the desire to get justice.

According to (Tehupioty 2016), guided by Government Regulation Number 40 of 1996 in conjunction with Regulation of the Minister of Agrarian Affairs / Head of BPN Number 9 of 1999 specifically in the granting of Cultivation Rights, various documents that must be attached are location permit or appointment permit the use of land or a land permit in accordance with the regional spatial plan and proof of ownership of land acquisition followed by evidence in the form of the release of forest area, or the release of customary land, other proof of land acquisition. Based on this, finally the Right to Cultivate is issued. This can happen that at that time there were no claims from the customary law community because they did not know about the existence of these rights or the company had taken approaches with several members of the customary law community, apparently they were not a legitimate party of the customary law community concerned. However, because in the past the rights of indigenous and tribal peoples have not obtained the

normative norms, so a formal approach is more prominent. Empirical facts show that there are claims from indigenous peoples who feel they are not included in the process of granting such rights, which are located in the area of the indigenous peoples concerned. These are the things that then lead to the demands of indigenous and tribal peoples so that customary land or customary land rights are recognized and given to the community the opportunity to participate in business activities or conduct cooperation / partnerships with communities through SOEs and large private sector to create a climate better and more conductive business or investment, both for local and foreign entrepreneurs in the area of the customary law community, so as not to cause a shift in the rights of the customary law community (customary land / ulayat) which is a human right.

One of the problems that was allegedly the cause of the inability of implementing the laws and regulations related to indigenous and tribal peoples was the problem of sectoralization. Each agency has and develops its own policies and programs. This sectoralization which then causes conflict both latent and manifest among government agencies so that legal recognition of the Customary Law Community's land is delayed there is no certainty, as related to the granting of Cultivation Rights is the standardization and classification of the Customary Law Community and its land or customary land based on UU no. 18 of 2004 concerning Plantations, as follows:

1. Community is still in the form of community (*rechtsgemeinschaft*);
2. There are institutions in the form of customary authorities;
3. There is a clear area of customary law;
4. There are institutions and legal instruments, especially traditional justice that are still obeyed; and
5. There is an inauguration with local regulations.

Based on the results of the description above, it was obtained a discussion that from the initial stage of the activity of granting location permits in the context of granting the right to use the land in order to accommodate the customary community's land whose existence really exists, it is considered to be the basis for the right to grant the right for business use ; The land use rights that are not used in accordance with their designation are terminated before the time period expires due to a condition that has not been fulfilled and / or neglected as referred to in article 34 of the Primary Agrarian Law which regulates why business rights are erased, even for the right to use the business that has expired. the holder of a leasehold him as the holder of the rights keperdataannya still have a chance to fight through the legal system to the State in this case the Government (Ministry of Agrarian Spatial Planning / National Land Agency), therefore the granting of the right to cultivate also considers the granting of the right to build and right to use, which is the granting of the right to use the land on the Customary Law Community's land. In order to revise the refinement of the principle of horizontal separation on to be adjusted as well as

on right to build and right to use in addition to land that is directly controlled by the State or also land owned by people Another in this case can accommodate on public land as a base of indigenous land rights to cultivate of its kind that can be certified or not, as long as it is under the standardization, classification and limits stipulated by regional regulation which clearly is very necessary.

D. Legal Protection of Indigenous Law Communities on Business Rights

The ownership certificate of ownership under the name of the joint rights holder, Desa Adat and the owner of each field in the Bali Province is the first milestone in the reconstruction. The first reconstruction is the registration of customary land and/or customary law communities, the second reconstruction is. The normative ideal is the granting of a certificate of an expanse of land with the name of the holder of the right over the land as the customary village, while the community members are given the Use Rights over the Property Rights based on the deed of sale / purchase PPAT. The success of land titling in Bali Province can be an initial milestone and a solution in other provinces or if it cannot be certified enough to be registered up to the map of the land parcels and the land register or at least there is only a map of the boundaries as a completeness of its determination by Regional Regulation. Then if there is an application for a Cultivation Right on it, after there is an agreement with an institution and the customary law community in the area according to the applicable provisions, the application for the right to Cultivate the Cultivation Right can be done either on Land Ownership or on Land which is directly controlled by the State by being granted agreement and written in the Decree on Granting of Cultivation Rights and records on the certificate if the time period has ended returned to the State Land and management is back to the Customary Law Community as long as it still exists, if it does not exist then return it to the Land which is directly controlled by the State. Following up on the above, as a revision of the provisions for granting right to cultivate in the Primary Agrarian Law that not only on land that is directly controlled by the State but can be expanded as in the case of granting of the Right to Use, also on land that is not his property in the proposed Revision The Land Law and studies related to this title have never been done by other authors.

Based on the results and discussion, it can be concluded that the Reconstruction of the Granting of Concession Rights on Customary Law Community Land is a strategic legal policy that tends to social politics in favor of the people in the form of strengthening the existence of customary law community land that is still there as mandated in the 1945 Constitution and as an effective and efficient solution to ease the handling of problems and control of the land, so that the aim is to eliminate or at least minimize land cases both disputes, conflicts and cases of RIGHT TO CULTIVATE, especially related to customary

community land. The suggestion from the author is that the ideas contained in this paper can be included in the Draft Land Law, which until now has not yet been realized.

Based on the discussion of the above matters, it is necessary to standardize and certify the Customary Law Community Land, but bearing in mind that there is one problem that is allegedly the cause of the non-implementation of legislation related to indigenous and tribal peoples is the sectoralization issue. Each agency has and develops its own policies and programs. This sectoralization has led to latent and manifest conflicts between government agencies so that legal recognition of the Customary Law Community's land has been delayed there is no certainty, whether the standardization and classification of the Customary Law Community and their land or Ulayat Land based on Law No. 18 of 2004 concerning Plantations as described above or based on what is stipulated in Law No. 6 of 2014 concerning Villages with the basis of their considerations, first: the existence of a regulation on the Customary Law Community, the formation of a Customary Village is closely related to the authority of regional autonomy in the Regional Government based on Law No. 32 of 2004 concerning Regional Government; the second consideration is that the substance of the equality of the three laws is also related to Article 2 Paragraph 4 of Law Number 5 of 1960 (Primary Agrarian Law) is submitted to the Regional Government, namely the regent/mayor that is the legal product of the Regional Regulation. This is in line as conveyed by Maria Sumardjono as a resource person at the National Seminar: Characteristics of Subjects, Objects, Problems and Solutions of Customary Land / Land in Land Development on July 16, 2019 at Sekolah Tinggi Pertanahan Nasional (STPN) Yogyakarta that the Village Law can be a standardization and classification arrangement for the Customary Law Community and land with legal considerations in addition to being a regulation is also flexible . In addition, the Ministry of Agrarian Affairs and Spatial Planning/National Land Agency No. 10 of 2016

The Village Law regulates the Village Customary Institutions in Chapter XII Village Community Institutions and Village Customary Institutions, Part Two: Village Customary Institutions Article 95: Paragraph (1) The Village Government and the Village community can form a Village traditional institution, Paragraph (2) The Village Customary Institution referred to in Paragraph (1) is an institution that carry out the functions of customs and be part of the original arrangement of the Village that grows and develops on the initiative of the Village community. Paragraph (3) Village customary institutions as referred to in paragraph (1) are tasked with assisting the Village Government and as partners in empowering, preserving, and developing customs as a form of recognition of the customs of the village community.

Chapter XIII Specific Requirements for Adat Villages Part One Structuring of Adat Villages: Article 96: The Government, Provincial Governments, and Regency/City Governments shall conduct the arrangement of customary law community units and be

designated as Customary Villages. Article 97 Paragraph (1) The determination of Indigenous Villages as referred to in Article 96 fulfills the following requirements:

1. indigenous peoples and their traditional rights are actually still alive, whether territorial, genealogical, or functional;
2. customary law community unit and their traditional rights are seen in accordance with community development; and
3. customary law community unit and their traditional rights in accordance with the principles of the Unitary State of the Republic of Indonesia.

Article 97 Paragraph (2) Unity of customary law communities and their traditional living rights as referred to in paragraph (1) letter a must have territories and at least meet one or a combination of the following elements:

1. people whose citizens have feelings together in groups;
2. customary government institutions;
3. property and / or custom objects; and / or
4. the device of customary law norms.

(3) The unity of the customary law community and their traditional rights as referred to in paragraph (1) letter b is deemed appropriate to the development of the community if:

1. its existence has been recognized based on applicable laws as a reflection of the development of values that are considered ideal in today's society, both laws that are general or sectoral in nature; and
2. the substance of such traditional rights is recognized and respected by members of the community concerned and the wider community and does not conflict with human rights.

(4) A customary law community unit along with their traditional rights as referred to in paragraph (1) letter c is in accordance with the principle of the Unitary State of the Republic of Indonesia if the customary law community unit does not interfere with the existence of the Unitary State of the Republic of Indonesia as a political unit and legal entity which:

1. does not threaten the sovereignty and integrity of the Unitary Republic of Indonesia; and
2. the substance of the customary law norms is appropriate and does not conflict with the provisions of the legislation.

Article 98 Paragraph (1) Customary Villages are stipulated by Regency / City Regional Regulations ; with a map of the boundaries ; Paragraph (2) Establishment of Traditional Village Traditional Village of the establishment referred to in A yat (1) is done by taking into account the implementation of village administration, the implementation of Rural Development, Rural community development and empowerment of village communities and supporting infrastructure.

The formation and supervision of this Indigenous Village is also regulated in this Village Law

The existence of indigenous and tribal peoples in all or parts of several provinces including Bali, West Sumatra, Central Kalimantan, Banten, Bengkulu has been regulated by regional regulations and followed up by the governor / regent / mayor regulations / decisions. Then Law No. Th.2014 (Village) CHAPTER XII regulates the Village Customary Institutions and CHAPTER XIII regarding the Specific Conditions of Indigenous Villages, in addition to strengthening but also providing limits on the standardization of requirements and procedures for the existence of indigenous and tribal peoples and the implementation of the regulations. Existing regional regulations regulate this before the enactment of the law can still be enforced as long as in fact in the field the requirements mentioned above are met and of course the regional regulations need to be adjusted to the village law.

As for the de facto existence of customary villages regulated by Regional Regulations which have successfully been certified by the National Strategic Program (PSN) of Complete Systematic Land Registration (PTSL) in Bali Province in 2017, this follows the certificate of ownership of land over places of worship which had been several years before, although it was published field by field in addition to the name of the holder of the land rights on the customary village as well as the name of the physical control of the residents of the community for decades. This can be a guideline for land ownership of indigenous and tribal peoples who have regional regulations as in the Province of Bali. The certificate of ownership with the name of the joint rights holder, namely the Customary Village and the owner of each field in the Province of Bali, can be an initial milestone of the legal protection of the Customary Law Community Land.. The success of land titling in Bali Province can be an initial milestone and another provincial solution.

Based on the results of the discussion above, it can be concluded that the Legal Protection of Customary Law Community Land for the Granting of Cultivation Rights is as follows:: 1) Required Standards and Classification society should be a rakat Customary Law as a Subject Law and the soil as the object of law; 2) To the Customary Law Community that has been determined by the Regional Regulation, it is necessary to attach a Map of the Regional Limits resulting from the Inventory, Ownership and Land Use Inventory Team (IP4T) as stipulated in the Regulation of the Minister of Agrarian Affairs and Spatial Planning / National Land Agency No. 10 of 2016; 3) For the certainty of the region as an attachment to the Regional Regulation it is the Local Government be able to finance a Land Sector Map and 4) As for the classification of the Customary Law Community and the land that has been stipulated by the Regional Regulation as well as the Communal Land classification, such as the land of the Pakaraman Customary Village in Bali, the participation can be considered; 5) Granting of Cultivation Rights on Customary Law Community Land that has been certified as a Right of Ownership after obtaining permission

and agreement from the customary institution / customary village; 6) Granting of Cultivation Rights on Customary Law Community Land which cannot be certified , then it is pursued by the process of granting rights to State Land by including clauses in its decision letter and referring notes on land certificates and land books if the Land Use Rights have ended up being State Land again to become State Land again the authority to manage the Customary Law Community as long as it still exists.

So that when the public land laws have been certified then there is a request Right to Cultivatein it, after agreement with the agency

As for as the closing of this paper that the Legal Protection of the Land of Indigenous People with regard to the provision of leasehold is a Strategic Policy of the National Law that the tendentious in Social and Political agrarian favor of the people in the form of strengthening the existence of the Land of Indigenous People really still exist, as mandated in U ndang U ndang D asr 1945 , as well as a solution that is effective and efficient with the tendentious on potential local wisdom prioritize Philosophers Value at Law in the form of Justice and Expediency in addition to be sure, for ease of handling of the problem and control of the land, that aims to eliminate or at least to minimize land disputes, conflicts and cases regarding the right to cultivate specifically related to customary community land. The suggestion from the author is that the ideas contained in this paper can be included in the Draft Land Law, which until now has not yet been realized.

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CASE STUDY OF LAND ACQUISITION FOR SUSTAINABLE TOLL ROAD CONSTRUCTION

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Abstract

Toll road construction requires extensive land. For the sake of fulfilling the land, sometimes it is forced to sacrifice forest area and the acquisition of community-owned land around the toll road construction area. The construction of toll roads is important to improve connectivity between regions, but it always constrained by land acquisition issues that cause conflicts in surrounding community and often involve the existence of land middlemen. In the process of land acquisition for toll roads, there are procedures for the payment process that have been determined. However, the standard formal procedures that have been established have loopholes that allow for fraud in its application. In theory, Sustainable development is a concept that aims to create a balance between development dimensions such as economic, social and environmental. The research was carried out by looking at cases in two constructions, Kanci-Pejagan and Semarang-Bawen Toll Roads, which in their construction were take over the paddy fields owned by local residents and also forest land. Research methods using case study methods. The objectives is to explore the case in land acquisition for land development that is important for the future development. Data is obtained from in-dept interview with figures, discussion forums with surrounding communities, field observation, as well as from learning various related documents. The findings expected to be obtained are comparison of problems in the two land acquisition locations and comparison of community perceptions, in terms of economic, social and environmental aspects. Conclusion, for sustainability of road construction that requires the acquisition of land owned by the population it is necessary to anticipate common problems and changes in people's lifestyle, related to the economy, social and environment. This research is significant in contributing knowledge to similar conditions in land acquisition for the purposes of toll road construction and improving existing practices.

Keywords: Sustainable; development; acquisition; land; case

A. Introduction

Land acquisition is a way to take over a certain amount of land that is controlled by several communities to be used in development. In conducting land acquisition, there are many obstacles, therefore a mechanism is needed to conduct land acquisition, so that the land acquisition process can run well and also minimize all legal risks in the future (Surono 2016). The land acquisition system for the benefit of toll road construction has provided legal protection for victims, especially those who are entitled to compensation, but in practice there are still various problems. (Lumenta 2014) Nearly all developments bring about positive and negative effects, so does the toll road. (Sumaryoto 2010) The construction of the toll road influences the increase in the value of the surrounding land. (Prapti,2015). The value of land has a relationship with the highway. (Harum 2017). The urgency of infrastructure needs to sustain economic growth cannot be denied anymore. (Wirabrata 2011). The main obstacle in

infrastructure development is land acquisition. (Sembanyang 2011). Road infrastructure contributes positively to regional economic growth. (Ma'ruf 2013) Toll road development requires extensive land. (Huda 2010). The impact of the use of the land for toll roads can affect community independence. (Santoso 2015). The novelty in this research was carried out by looking at cases in two land acquisition locations for the construction of the Kanci-Pejagan Toll Road and the Semarang-Bawen toll road, which in the process sacrificed the rice fields owned by local residents and forest land. As a finding is a comparison of the problems in the two land acquisition locations based on the perception of community groups, for the purposes of sustainable development. This research is important in contributing knowledge to similar conditions in land acquisition for toll road construction purposes.

1. Policy and form of disputes in land acquisition

Law Number 5 of 1960 concerning Basic Agrarian Regulations is a national law in the field of land for all Indonesian people. Land has popular values so that both in policy making, decision making and the application of its policies need to be done by deliberation without unilateral decisions, without physical pressure, weapons, bodily abuse, destruction of property, moral pressure, security threats and so on. Land also has a value of social justice for all people and is in favor of the people. These values are the basic norms for the Indonesian people to act and behave and to be used as a guideline and basis for legislation in the field of land. In the implementation of land acquisition for development, normatively, the stages of the implementation of land acquisition are regulated clearly and in detail according to the provisions of the legislation, but in fact, there are various legal problems that often arise in the land acquisition process that causes disputes. Ranging from state administrative disputes (used to wrestle decisions on location determination), civil disputes related to objections to the determination of compensation, criminal disputes related to falsification of land documents, embezzlement and even corruption. While customary disputes are related to customary rights issues, land overlapping disputes, administrative errors in the implementation of land acquisition, to environmental disputes. These disputes can hamper the construction of a project, even causing projects to stall for years. Enforcement of Law No. 2 of 2012 concerning Land Acquisition, together with its derivative regulations as a legal umbrella, is very much expected to ensure the smoothness of the land acquisition process for development in the public interest.

2. Three main pillars of sustainable development

Sustainable development is a development process that aims to meet current needs without compromising the needs of future generations. Social aspects, economic aspects and environmental aspects, are the three main pillars in sustainable development that need to be integrated. Sustainable development aims to improve the welfare of society, to meet human needs and aspirations. Sustainable development in essence is aimed at seeking equal distribution of intergenerational development in the present and the future. Development must be sustainable due to moral reasons. ecological reasons, and economic reasons. These three main aspects are explained as follows. Social aspects, are aspects that are influenced by humans as community supporters in terms of interaction, interrelation and interdependence. Matters which are the main concern in the social aspect are the stability of the population and participation of local communities in decision making. Economic aspects, are aspects that are closely related to economic growth and efforts to find ways to advance the economy in the long run and improve the welfare of the present generation and to improve the welfare of future generations. For example, such as efficiency in the use of natural resources and creating a business climate. The environmental aspect, is an aspect that is often highlighted when discussing sustainable design, because it is directly related to natural factors, so that things that show environmental degradation are clearly seen and felt. For example, such as minimizing waste and environmental damage, increasing responsibility and care for natural resources and the environment.

B. Material and methods

This research was conducted using a qualitative approach. The research locations chosen were around the Semarang-Bawen toll road section and around the Kanci-Pejagan toll road section. The reason for choosing these two locations is because the construction of the Semarang-bawen toll road section was carried out by striking a portion of the green forest where the replacement location used a community farm area, while the construction of the Kanci-Pejagan toll road used the paddy field area which was allegedly up to around ninety percent of the paddy fields belonging to residents around. At that location there was also a dispute related to land acquisition. Data collection through field observations, literature studies, focus groups and in-depth interviews. In-depth interviews were conducted with key sources of information, namely local government officials, village officials as well as local residents who work as traders, farmers / cultivators, both the landowners and laborers. Data

analysis methods are carried out through the process of identification, categorization and interpretation. (Matthew, 1984).

C. Results and discussion

1 Situation overview at two land acquisition locations for toll road construction

At the location of the Kanci-Pejagan toll road construction, the entire land in terms of proportion shows that the use of paddy land occupies the largest proportion. This section crosses two districts, namely Cirebon and Brebes districts, and uses paddy fields up to around 91.14%. Most of the affected land has an area of less than 500m2, which means many of the sacrificed landowners are small farmers. Based on available data, the total number of paddy fields in the kanci-pejagan segment reached 266.10 ha, and the loss of harvest in the two harvest periods was 212 tons. Many farmers are forced to change professions, or migrate to other areas that have large tracts of land.

At the location of the Semarang-Bawen toll road construction in Semarang district, the impact of toll road development has more diverse conditions. Different from the kanci-pejagan section where farmers around the village land are crossed by toll roads, in the semarang-bawen section, the location of toll road construction is far from the village of Jatirungo. However, because this village was used as a location to replace forest areas which were affected by the construction of the Semarang-bawen toll road, the community was also affected by land acquisition, which is generally plantation land. Most of the residents' livelihoods are farmers and farm laborers. Most of the land is in the form of fields and rain-fed rice fields, which are planted with palawija in the form of vegetables and beans. In the process of land compensation, as a result of feeling treated unfairly, protests from residents arose, causing turmoil and conflicts, between residents driven by local NGOs and the government.

2. Perception of community groups around the location of toll road construction

The community groups affected by land acquisition are the landowners' farmers group, smallholders' groups, cultivators, traders, communities around the toll road. Based on the Land Owners Farmers group, part of the compensation value is not proportional to the community's need to be able to buy new land. Farmers also feel forced by the land organizing committee to agree on the location of other nearby villages. Land tenure has tended to be owned by landlords since the Dutch era, so that the difficulty of farmers in the compensation process is due to not having land documents. Whereas in the Cultivators group, the difficulty

faced was finding alternative work/profession switch or looking for work in another location. While the Cultivators group, felt that farmer income fell due to the narrowness of the fields. Pro responses were obtained from the traders' group. Though in the initial stages have difficulty finding locations that many customers, but can adjust quickly. Counter-responses were obtained from the community groups around the toll road who felt difficulty in crossing the toll road. In addition, the south side of the toll road is mostly flooded so that the price of farmers' land has fallen, on the other hand, on the north side of the toll road, the supply of irrigation is decreasing and difficult to obtain because the irrigation water network is cut off.

The community groups affected by land acquisition are the landowners' farmers group, smallholders' groups, cultivators, traders, communities around the toll road. The counter reaction from the Farmers Owned Land group was due in part to the compensation value not in accordance with the agreement. The farmers rejected the agreement that was not finalized, made use of local NGOs, and tended to ask for the Land Procurement Committee to handle it directly. While the group of Cultivators felt the need to find other alternative work by migrating to big cities or working on other cities. Also cons, farming group complained about the loss of income from farming. Pro reaction is from a group of traders who can adjust. While the community groups around the toll road are concerned about clearing the forest area.

3. Problems in land acquisition in terms of social, economic and environmental aspects

The intervention of the land broker in the process of land acquisition in the construction of the toll road worsens the condition of the surrounding community. In the process of land acquisition for toll roads, there are procedures for the payment process that have been set. In this procedure, if an agreement has been reached between the committee and the land owner, payment will be made immediately, and to ensure the compensation money (for land acquisition) reaches the owner without deduction, the safest is the land owner to open an account. Opening an account at a bank, in addition to making it easier for committees to make payments through transfers, also to minimize the occurrence of quotations by certain individuals. However, in reality, in the process of land acquisition, land brokers use the available gaps so that the money from the land payment remains in their hands. Land brokers first buy neighboring land at cheap prices, and use a notarial deed. Land brokers with all their tricks make agreements, so residents can transfer payments to them.

According to community leaders, there are some residents who made an agreement through a notary that confirms that the landowner does not object to being named in the

payment for buying and selling their land, between the broker and the party who needs the land. In addition, land brokers also deceive citizens into avoiding objections if a bank account is made by the land broker, if later it is required. Furthermore, there is a statement that confirms that if the residents receive land purchase and purchase payments from those who need land through a bank on their behalf, then the residents will immediately transfer their authority or power to the bank to transfer or transfer the payment money to the land broker. The residents learned later that the price offered by the land acquisition team was higher than what they had agreed with the land broker, so the landowner felt disadvantaged and filed a lawsuit in court accompanied by a local NGO. This small purchase price of land creates a burden for farmers because the compensation money is insufficient to buy land for change in other suitable locations. Land acquisition also causes the need for new types of work. Livelihood changes that result in changes in income and ways of life that must be adjusted, including the need to improve new skills besides farming. But the hope of returning to the former occupation as a farmer remains, so that migration occurs to other locations that have large tracts of land.

Table 1. Comparison of Problems

Sustainable Development	**Problems Based on Community Perceptions**	
	Kanci-Pejagan	**Semarang-Bawen**
Social	Conflict	Conflict
	Migration	Migration
	Livelihood Change (Professional Transfer)	Livelihood Change (Professional Transfer)
	Changes in status from landowners to smallholders	
Economic	Land Compensation Value	Land Compensation Value
	Land Broker	Land Broker
	No Land Document	Loss of Revenue
	Land Value Decreases	
Environmental	Flood	Clearing forest area
	Drought due to Damaged Irrigation	

Source: Writer documentation.

D. Conclusion and Recomendation

1. Conclusion

The finding of the problem due to the acquisition of land for toll roads at the two construction sites of the Kanci-Pejagan toll road and the Semarang- Bawen toll road section is, from a social aspect, a conflict arises in the process of land acquisition, which among others is triggered by local NGOs, until there is migration of residents to search for new land in another location or a profession change occurred for residents who did not migrate. While the problem from the economic aspect is, the value of land compensation that is felt inadequate, including the existence of a land broker that is detrimental to the community. From the environmental aspect, problems arise from flooding to drought and deforestation, so environmental balance needs to be considered.

2. Recomendation

As a recommendation for the government, from the social aspect, it is necessary to empower the local community groups to bridge communication between the government and the community and pay attention to the availability of jobs. From the economic aspect, it is necessary to develop procedures that do not allow land brokers to harm the community and determine adequate land compensation values and empower community groups around the location to increase community independence and educational programs. From the environmental aspect, efforts to restore the environment need to be done around the land that was diverted for development, to minimize losses due to environmental damage.

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LAND PROCUREMENT FOR THE DEVELOPMENT FOR PUBLIC BENEFITS (STUDY CASE IN JAVA, CENTRAL AND JAVA EAST)

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Abstract

Indonesian government currently is intensively developing various infrastructures for the improvement of the economy: widening toll roads, adding railroad tracks, building dams, increasing electricity networks, expanding airports, and so on. Based on the needs of the development of infrastructure, regulation is subsequently set up regarding land procurement for public benefits which is stated in Act No. 2 Year 2012 on Land Procurement for the Development for Public Benefits. However, Act No. 2 Year 2012 has advantages and drawbacks. There are at least three advantages: (1) it provides certainty that law considers public necessity, both in terms of the location of the construction and the price; (2) there is a time limit for the execution of the construction, so that it guarantees the completion of land acquisition; (3) the value of 'switch loss' is carried out by appraisal (the result of the sum of the land price, the building process and planting late). As for the drawbacks, there are at least three of them: (1) funds originating from State Budget or Local Government Budget are only used for land procurement and Badan Usaha Milik Negara or State-owned Enterprise (SOE) gets the assignment specifically; (2) the potential increase and loss in cash compensation as the result of communication with the public occur before SP2LP is published; (3) the repeated requirement of initial bill for the completion of the land acquisition is beyond the limit of the time period, which results in SP2LP potential rejection. Moreover, land procurement for public benefits turns out causing various problems that arise in three stages, though it is only the first of four series of land procurement activities. Many cases occur due to the incomplete documents during the planning process made by parties who need the lands. This causes cessation or termination of the construction in some sections of toll-roads, for example in Central Java and East Java. Among the problems are: (1) the exclusion of additional costs which is actually required in the early stages of land procurement; (2) the incomplete data comprising location of the land, vast land, the status of land and the number of areas of land related to land procurement project; (3) money locker r Ugi to land TKD, land endowments are also ground the rest of the te rkena project procurement of land. Another problem is in terms of land assessment which needs sufficient time span between location planning and determination of the location, because the longer the time span, the more money it costs. Principal issues that is also important is that the human resources involved in the activities of land procurement has not yet fully apprehended the rules of the implementation of land procurement for the development for public benefits. They do not fully understand the rules and regulations that apply when they prepare for the documents needed during the planning process, where the perception sometimes differs between one and another. Based on the problems that occur, it can be concluded that the most important thing among the activities of land procurement for the development for public benefits is the comprehension of human resources about the regulation as well as the preparation of documents during the planning process which needs guidance from National Land Agency from the beginning until the end.
Keyword: Land acquisition

A. Land Acquisition Problems

The object of land acquisition regulated by Law Number 2 of 2012 is land, land and underground spaces, buildings, plants, objects related to land or other that can be valued. These objects can include land owned by citizens or lands that are controlled or managed by the government, such as village treasury land, waqf land, or land that is clung to use rights.

In land acquisition, the release of land owned by individuals is relatively smooth, different from the village treasury land (TKD), government-owned land, SOEs, and waqf land where the process of relinquishing rights does not only involve landowners (in this case also referred to as land managers) and implementing land acquisition (Ministry of ATR / BPN), but also requires other licensing channels that aim to prevent the land allotment / change and not cause losses both in economic and social terms.

Tanah Kas Desa (TKD) is a village asset that has the main function as a source of village income and is fully managed by the village. , so the release process must go through village deliberations. Actually, the definition of Village Cash Land (TKD) is not explicitly mentioned in the legislation governing village wealth, even in the Minister of Domestic Affairs Regulation No. 1 of 2016 on Village Asset Management also does not explain in detail the rules regarding village treasury land management but in Minister of Domestic Affairs Regulation No.4/2007 concerning Management of Village Wealth article 1 and article 2 states that village treasury land (bent land) is part of village wealth and belongs to the village. In the context of land acquisition, article 15 of the regulation also explains that "village assets in the form of village land may not be released from ownership rights to other parties , unless necessary for public interest".

As village treasury land (TKD) for the release process for waqf land is regulated by Law No.41 of 2004, PP No. 42 of 2006 and PWI No. 1 of 2008 concerning Recommendations to Change Wakaf Land Property. And waqf land can only be waived by the ruislag process, or by finding another land substitute that has the same value , and is reused in accordance with the allotment of the waqf. Waiver of rights and replacement of waqf land involves various parties as well as involving cross-institutions with different coordinating authorities, so that obstacles are often encountered that cause the release and replacement of wakaf land cannot be carried out quickly. Some obstacles that cause the release and replacement of waqf land cannot be carried out quickly, including: 1) the release of waqf land and the search for replacement land must be carried out by nadzir as the mandate holder of the waqf land manager; 2) in general, the release of waqf land requires a long time. The land appraisal process was carried out three times at the district, provincial and central levels. Often, in waiting for this permit, replacement land is no longer available because it has been sold to another party, or the value of replacement land has increased in price; 3) the value of the results of the land assessment is small / few, because the location of the land or its area is not extensive, so nadzir has difficulty finding a replacement land in accordance with the price of the result of the valuation. 4) the amount of compensation for waqf land must be used entirely to buy replacement land, so that the allocation does not change and does not change the social moral mandate contained therein, but in reality it is very difficult to use the compensation money in the exact amount as the results of the assessment, karema to date there are no regulations governing the use of the remaining money from the payment of waqf

land compensation. 5) the process of managing the waqf land is entirely in the duties and authority of nadzir, and is very dependent on nadzir's initiative. In fact, there is no legal regulation that binds nadzir related to the release of waqf land rights, or even nadzir does not have sufficient knowledge about the procedure for releasing land rights for land acquisition. This causes the completion of waqf land often hampered and long.

Another problem is related to the land acquisition stage, which is the planning stage, where agencies requiring land should prepare the planning stage in accordance with Law No. 12 of 2012 Article 15 and Article 16. The planning stage must be set forth in a planning document containing several things important such as the preparation of costs or budgets that sometimes do not include other costs needed from the early stages of land acquisition such as administrative costs or costs for socialization to owners or authorities / managers of land objects affected by land acquisition projects. In the view of agencies that require land, land acquisition planning documents are made partially. And this creates obstacles because the land acquisition should be completed in one year with a comprehensive budget , so if funds are not yet available then the land acquisition should be postponed.

Also included in the planning document is the status of the land parcels affected by the land acquisition project, because there is no status of land parcels in the planning documents found in the field. also the number of plots affected, where this data should have existed since the planning. Therefore the role of the Ministry of ATR / BPN in relation to these two matters is very important in preparing planning documents. Problems with the status as well as the number of plots affected by the project also result in changes to the construction or design of the project that requires the approval of the central PPK (Jakarta), so that the processing time is stopped.

The issue of land valuation must also be considered in the time span between planning and location determination, because too long a span of time can cause land prices to surge dramatically. Appraisal compensation appraisal that does not oversee land acquisition from the beginning to the end of land acquisition which results in frequent price mismatches at the time of valuation.

The main problem that is no less important is that the actors or human resources involved in land acquisition activities do not fully understand the rules of land acquisition.

B. Analysis of Law Number 12 of 2012

Law Number 12 of 2012 includes several advantages and disadvantages that can be a bit of thought or analysis for the perfection of this law.

The strengths of Law No.12 of 2012 include: (1) providing legal certainty regarding community objections, both to the construction stage / location and objections to prices; (2) there is a time limit for the implementation of activities so that it guarantees the completion of land acquisition; (3) the value of compensation is carried out by an independent appresial

team that provides an assessment of land parcels (the results of the sum of the prices of land, buildings and plants), making it easier to carry out price deliberations, and (4) providing certainty for post-consignment land status.

As for the drought from Law No.12 of 2012 are: (1) can only be used for Land Procurement whose source of funds comes from the APBN / APBD and BUMN that get special assignments; (2) potential for plants and buildings to grow due to communication with the community before the SP2LP was issued; (3) demand a repeat from the beginning if the completion of the land acquisition exceeds the deadline for the potential rejection of SP2LP.

C. Recommendation

1. The planning document should also provide clarity in the process of compensation stages for the Village Cash Land and the Waqf Land. The main thing is the arrangement of a cross-sectoral coordination between related agencies / departments, so that the approval procedure from the Ministry of Home Affairs and the Ministry of Religion does not take a long time.
2. The BPN needs to be involved from the beginning of the planning, and the appraisal should also be bound by a contract stating that the appraisal is obliged to assist when giving compensation.
3. Needs to be disseminated to the procurement regulations ta nah so that people'm truly understand will of their rights
4. Separate compensation needs to be calculated for those affected due to the development project.
5. A regulation needs to be made for the legal umbrella in the process of planning and preparation stages for land acquisition which are the objects of Government agencies, Village Kas Land (TKD) and waqf lands so that the implementation process is faster.
6. Training or workshops need for the committee and the executor of the land acquisition, especially for agencies that need land for development in the public interest, so that land acquisition can be carried out from the planning stage to the final stage of yield submission.
7. Even if it is possible to hold an education and training for land acquisition providers to better understand and equate perceptions in land acquisition activities.

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STRATEGIC ASPECTS OF ESTABLISHING LAND BANKS IN LAND ACQUISITION FOR PUBLIC INTEREST IN INDONESIA

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Abstract

Currently, the government has a great responsibility in implementing various development programs that need land resources. These land resources are used for the development of housing and settlements, business and tourism, energy and food security, infrastructure, connectivity, maritime and other regional development. Limited land resources become the major problem in implementing this strategic program. The breakthrough effort can be used is the establishment of Land Banks. This research uses descriptive method and has carried out with a combination of literature studies with primary and secondary data collection. The location of the research was conducted at the Directorate General of Land Procurement of the Ministry of ATR / BPN, the Regional Land Office of Banten Province, and the Land Office of the City of South Tangerang. The results show that the Land Banks become a priority to be immediately implemented in Indonesia because the land acquisition process in Indonesia has experienced various obstacles. One inhibiting factor is that the government does not have a land reservation which can be used at any time for development purposes. The strategic aspect of the need for a Land Bank is the acceleration of land acquisition process. Land acquisition can run faster and more effectively as the Land Bank is an instrument to accommodate land that can later be utilized by the government to support the development. Another benefits of the existence of Land Banks are the government can acquire land before there is a need, Land Banks make it possible to provide land for the public interest with relatively cheap price, direct development patterns according to spatial planning, control land markets, prevent land speculation and make improvements in the framework of land development in rural and urban areas. Sources of Land that can become Land Banks assets are: state general reserved land, unutilized government asset land, arising land, former mining, land affected by spatial change or land consolidation policies, land releasing from forest areas, land from the direct procurement process, public procurement, or similar grants and donations.
Keywords: Strategic aspect; Land banks; Land acquisition

A. Introduction

1. Background

In the nation and state, the government has an obligation to guarantee the fulfillment of the basic rights of its citizens such as shelter, decent work, clothing, adequate food and adequate environment, so that the State is required to empower every inch of land within the territory of Republic of Indonesia. This condition must get serious attention due to the increasing number of population. Based on statistical data in 2017 Indonesia's population of 262 million with a growth rate of 1.49 percent, it means the Indonesian population increases by 4 million every year. On the other hand, the number of parcels of land is static but must be able to meet the basic needs of the population.

In addition to meet with the basic needs of citizens, the government also requires land to implement strategic / priority programs such as housing and settlements, business and tourism development, energy and food security, infrastructure, connectivity, maritime and

regional development. Land limitation is the main problem in achieving this strategic program. That problem needs a breakthrough effort with the need for the establishment of a Land Banks. This effort to overcome that problem must continue to be made because of many problems in land acquisition in the public interest, such as difficulties to acquire land and anticipating soaring land prices.

The institutional transformation of the land manager from the National Land Agency to the Ministry of Agrarian Affairs and Spatial Planning / National Land Agency at the Joko Widodo Government Work Cabinet, has made the task and authority even greater. President Joko Widodo's vision and mission of food sovereignty and economic independence will be achieved by prioritizing agrarian reform programs, land acquisition and asset legalization.

At the beginning of the formation of ministry of Agrarian Affairs and Spatial Planning, the Minister of Agrarian Affairs and Spatial Planning / Head of the National Land Agency has stated that some of the focus of the ministry's work are handling land disputes, improving services to the community, establishing Land Banks, providing land for development and arranging the organizational structure of the ministry. The discourse of the establishment of a Land Banks continues to flow from 2014. In the Opening of the Indonesia Property Expo 2017 Exhibition at the Jakarta Convention Center, Friday, August 11, 2017, President of the Republic of Indonesia Joko Widodo has ordered each region to prepare a Land Banks to address the limited land. If the regions have a Land Banks, it will be easy for developers to build housing because the land is already available, as well as to anticipate land control by speculators or land mafias so that land prices become unreasonable.

Considering the importance of the Land Banks in Indonesia and its relation to land acquisition, land management and land development, it is necessary to study in more depth the need to immediately establish a Land Banks. Institutions, available land resources, required regulations of the establishment of Land Banks will have to be in accordance with the social conditions of the community, the needs of the government in carrying out development and the rules of land law that apply in Indonesia. Based on various things above, it is necessary to conduct research related to, "Strategic Aspects of Establishing a Land Banks in Land Acquisition in Indonesia."

2. Research Purposes

The purpose of this study can be formulated as follows:

a. To find out the importance of the establishment of Land Banks in Indonesia.
b. To find out the role of Land Banks in supporting Land Acquisition activities in Indonesia.
c. To inventory the potential reserves of land resources in Land Banks.

B. Literature Review

1. Definition of Land Banks

Land Banks as stated in the book "the best practice Land Banks" is an institution formed to promote the revitalization (revive) the environment of property, especially for the restructuring of ownership and use, housing and settlements in urban areas, in addition to some development that leads to an industrial / commercial application of Land Banks authority.

Based on the literature approach, the definition and activities of Land Banks can be in the form of:

a. Land Banks in the context of the public sector as a government strategy to deal with urban renewal, preserve open space and stabilize the value of owned land in certain areas;
b. Technically, a Land Banks is a practice of land acquisition / acquisition with the intention of developing / maturing in order to meet future development needs;
c. Land Banks is a concept related to accessing land for the provision of public services for housing, industry, agriculture, with land management, directing land markets and preventing land speculation.

Maria Sumardjono (2008), stated that in general Land Banks institution is intended as any government activity to provide land, which will be allocated for later use. It can also be seen from its function, Land Banks institutions can be divided into two categories, namely: general Land Banks institutions (general Land Banking) and special Land Banks institutions (special or Land Banking projects)

According to Ranitya Ganindha (2015), Land Banks is one of the important resource management tools to increase the productivity of land use. The method used in Land Banks is market control and stabilization of local market land. Land Banks guarantees the availability of land for various development needs in the future, the efficiency of the Regional and state budget (APBN / APBD), reducing conflicts in the process of land acquisition and reducing the adverse effects of land liberalization. Land Banks management is related to how to planning, organizing, implementing and supervising of Land Banks activities in realizing the objectives of Land Banks. Supported by adequate regulations and strong institutions, Land Banks management can finally realize the six functions of Land Banks, namely land keepers; as a land warrantee; as a controller of land acquisition; as a land manager; as a land appraisal; and as a land distributor. The concept of Land Banks activities must contain policies and strategies for optimizing the use of land.

To further provide clarity, the description of Land Bankss can be compared with conventional banks in general, as follows:

2. The Basic Principles and Purposes of Establishing Land Banks

The basic principles of establishing a Land Banks are as follows:

a. the executor of Land Banks activity in urban area is directed as an effort to empower land as the wealth of the Indonesian people for the achievement of people's welfare. This means that land which is an asset of the nation must be used as fairly and optimally as possible in order to achieve the common goal of improving overall community welfare.
b. In the effort of creating a land agency, the role of the government is necessary, formally it has become legal that the authority of the government is to regulate and carry out the designation, use and supply of land and maintenance of land.
c. Land Banks institutions can guarantee the availability of land by increasing the usability and effectiveness in land use, and considering the physical condition of the land, as well as the balance of land distribution ratio by aligning the interests of individuals, communities, government and private sector and always paying attention to the social function of the land in the context of sustainable urban development.
d. Land Banks activities can achieve optimal land use and are able to improve the welfare of landowners, by actively involve landowners in the management of Land Banks institutions.

The establishment of a Land Banks is one of the alternatives to accelerate land acquisition for public purposes, it has the following objectives:

a. Ensure the realization of the objectives formulated in Article 33 paragraph (3) of the 1945 Constitution, namely that the earth, water and natural resources contained therein are controlled by the State and used for the greatest prosperity of the people, the realization of which is national development that is sustainable, fair, and equitable for the interests common people;
b. As an instrument for implementing various land policies and supporting regional development efficiently and effectively;
c. Control the procurement, utilization of land fairly in order to carry out development.

In addition, the specific objectives of Land Banks are:

a. Provide ready land to build both physically and administratively, i.e. land for sale has been completed with a certificate of land rights;
b. Providing land for various purposes, especially residential development sites for the middle class and below, able to control land prices and eradicate land speculation;

3. Land Acquisition for Development of The Public Interest

According to Maria Sumardjono (2008), as is known, the main objective of land policy is the provision of land needed for development in the right location, at the right time, and at a reasonable price. To control the price of land is one of the tasks in the context of implementing land policy, the government can intervene through various means / techniques, such as:

a. land acquisition;
b. land use regulation / regulation;
c. provision, maturation and distribution of land through Land Banks institutions; and
d. taxation policy.

According to Law Number 2 of 2012 concerning Land Procurement for Development in the Public Interest, it is stated that land acquisition is an activity of providing land by providing appropriate and fair compensation to the rightful parties. The objects of land acquisition are land, upper and under ground spaces, buildings, plants, objects related to land, or others that can be valued. While the public interest is the interest of the nation, state and society that must be realized by the government and used as much as possible for the prosperity of the people.

The aspect of land acquisition is an important thing that makes the Land Banks as a solution for the provision of land for development in the public interest. The problem of the difficulty of finding land, compensation, and large financing in land acquisition further reinforces the need to establish a Land Banks in Indonesia.

4. Land Reverse of Land Banks

According to Maria Sumardjono (2008), Land Banks institutions can acquire land through buying and selling, land acquisition / revocation of land rights, and other means, such as exchange or acquisition through or as a result of land abandonment. Related to the discourse of public Land Banks institutions and special Land Banks, alternative land acquisition for the State of Indonesia can be explained as follows:

a. With respect to special Land Banks activities, land acquisition can be carried out in two ways, namely the acquisition / revocation of land rights and sale and purchase
b. With regard to the activities of public Land Banks institutions which are according to their nature, their use cannot be determined at the time of the acquisition process, so the acquisition should be carried out by buying and selling
c. It was further conveyed that; the object of a Land Banks institution was State land or right land. State land may include, among other things, ex-erfpacht land rights, ex-private land, non-renewable land use rights, and abandoned lands, etc.

C. Conceptual and Theoretical Framework

Limited land in meeting human needs, in the context of the state can be broken down into two problems, namely the fulfillment of basic needs for citizens and the fulfillment of government obligations in meeting the needs of citizens through development programs in all fields. Much of the success of the development carried out by the government is related to the land acquisition process. Issues of land acquisition for public use, such as the difficulty

of finding available land, the complexity of the process of compensation to uncontrolled land prices makes the effort to establish a Land Banks a priority.

The scheme for the establishment of a Land Banks with all its rights, obligations and authorities in its management must be supported by the existence of land sources that potentially become objects of the Land Banks. The next management mechanism related to the procedure for its acquisition, utilization and release needs to be elaborated in greater depth in view of the availability of legislation supporting the establishment of the Land Banks. Searching for these land resources needs to be carried out at the level of district, provincial and related agencies such as the Ministry of Agrarian Affairs and Spatial Planning / National Land Agency, Directorate General of State Assets of the Ministry of Finance, to support the success of the establishment of the Land Banks.

D. Research Method

1. Research Approach

The research approach used is descriptive method. The main purpose with this method is to describe the nature of a state that is temporarily running at the time of the study, and examine the causes of a particular symptom. According to Consuelo G. Sevilla (2006), descriptive research method as an activity which includes collecting data in order to test hypotheses or answer questions regarding the situation at the time that is running from the subject of a study. In the implementation of this research approach is carried out with a combination of literature studies with primary and secondary data collection. The formulation of concepts, theories and management of Land Bankss uses literature that is relevant to matters relating to the establishment of Land Bankss and their problems in Indonesia. Primary data collection is done by survey method and interviewing some people as policy makers related to Land Bankss. Secondary data collection is more emphasized on the need related to the potential of the reserve and distribution of Land Banks objects at the district and provincial levels as a support for the establishment of a Land Banks.

With this approach, it is expected that researchers will obtain research results in the form of literature analysis, analysis of interview results and reinforced with field data about the potential of Land Banks object reserves in certain locations, so we get a conclusion that illustrates the urgency of the establishment of a Land Banks.

2. Research Location

The research was conducted at the Directorate General of Land Procurement of the Ministry of ATR / BPN, the Regional Land Office of Banten Province, and the Land Office of the City of South Tangerang.

3. Types and Sources of Data

Data sources of this research are reference books, journals and scientific publications related to the Land Banks, informants and documents from relevant agencies. The type of

data obtained in this study is in the form of information processed from primary data and secondary data. Primary data is qualitative data obtained from the results of in-depth interviews with informants, while secondary data is data taken from related agencies by means of data documentation.

Primary data taken in this study are data from direct interviews with informants, including in the form of:

a. Knowledge of theories, concepts, urgency of the need to establish a Land Banks in Indonesia;
b. Discourse on management and regulation of the existence of the Land Banks.
c. Carrying capacity related to the existence and all potential reserves of Land Banks objects;

While secondary data taken in this study are data that are in the Land Office of South Tangerang City and Regional Land Office of Banten Province, in the form of:

a. Data on Distribution of Abandoned Land in Banten Province;
b. Land acquisition documents for development for public use in Banten Province;
c. Data on lands that can become reserves for Land Banks objects including their distribution in Banten Province.

4. Data Analysis Techniques

The steps of data analysis in this research are generally carried out as follows:

a. Observation and study of relevant libraries that are directed to answer the research objectives.
b. Careful data collection and tracking related to the research objectives of the informants.
c. Recapitulation and analysis of secondary data related to the distribution, amount and extent, in the analysis of Land Banks object reserves.
d. Analyzing data and information thoroughly to get a clear picture of the urgency and existence of a Land Banks.
e. Drawing conclusions.

This research is a qualitative research by collecting secondary data by searching literature or desk study combined with primary data obtained through interviews (field study)

E. Result and Discussion

1. Problems with the Process of Land Acquisition for Development Purposes

The conventional land acquisition process has a problem because of the long time to start construction, this is because the government does not have land reserves that can be used to start the development process as soon as possible. The complicated process of land acquisition causes the development process to take a long time. With the existence of the

Land Banks, it is expected that an accelerated land acquisition process for development will occur because potential land is already available through a Land Banks mechanism.

Land acquisition includes several procedures that take time and energy involving cross-sectoral institutions. In the land acquisition process there are at least 3 stages in the land acquisition process, namely planning, preparation and implementation. In Banten Province these stages are as regulated in Banten Province Governor Regulation No. 93 of 2014 concerning the Implementation Guidelines for the Preparation of Land Procurement Stages for Development in the Public Interest in Banten Province, which can be explained as follows:

a. Planning stages

In making planning documents process, agencies that require land make coordination and asking for assistance from relevant agencies or professionals in finding data on land area, location and land status include:

1) determining the coordinates of land acquisition objects
2) estimating number of fields
3) status of land registered in the object
4) surface area

This activity is funded by agencies that need land.

b. Stages of Preparation

After the planning document is received by the Governor, it is marked by proof of receipt given to the agency that requires the land. Furthermore, within 10 days the Governor formed a Preparation Team and Secretariat.

During the preparatory stage, the notification of development plans is also carried out to the rightful parties and affected parties (socialization). In practice in Banten Province, notification of the development plan can be carried out several times, it can be day or night at an agreed place in accordance with the culture of the local community plus an announcement in the local newspaper.

At this stage the Preliminary Data Collection is also carried out by the Preparation Team within 30 working days of the notification period of the development plan. The Initial Data Collection Product is a temporary List / data of objects and subjects in the location of the development plan signed by the Chairperson of the Preparatory Team.

Public Consultation is carried out after the initial data collection, at the time of this public consultation the right party must have asked how much compensation and even asked and or asked for planning documents to open the compensation budget stated in the planning document. At the public consultation stage, the purpose and objectives of the development plan are conveyed by the agency requiring land, the stages and time of the process of carrying out the land acquisition are conveyed by the Provincial Government, the role of the appraiser, tax incentives, objects assessed for compensation and forms of

compensation delivered by the BPN, while concerning rights and the obligation is conveyed by the regional office of ministry of law and human rights.

Public Consultation is followed by repeated public consultation with the aim of inviting the opposing parties and if necessary, door to door. The agreement and / or disagreement over the location of the development plan is stated in the Minutes along with the reasons signed by the parties and the Preparation Team.

c. Implementation Stages

The stages of implementation include 11 sub-activities, namely:

1) Preparation of implementation
2) Inventory and Identification
3) Announcement
4) Verification of Field Maps and Nominative Lists
5) Procurement of Land Assessment
6) Estimated compensation
7) Notification of Amount of Indemnity and Deliberation on Form of Indemnity
8) Validation
9) Payment of Compensation and Waiver
10) Depositing compensation money to the Court
11) Submission of Results

Besides the many stages that must be passed in the land acquisition process, there are several obstacles that accompany the land acquisition process including:

a. Number of public fasilities whose unclear land status;

Many social facilities and public facilities are still unclear so it is difficult to determining the subject of compensation recipients.

b. Land of Government Agencies both Central and Regional Government;

Many lands of central government and regional government agencies have not been properly inventoryed while in the field, the land parcels of government assets have been occupied by the community.

c. Waqf land;

The unclear status of waqf land also causes difficulties in the process of compensation due to the fact that many waqf land has not been registered so that conflict can occur.

d. Objection to compensation assessment;

Even though the compensation assessment process has been carried out by an independent appraisal body, there are still some parties that have objected to the amount of compensation.

e. There is occupation on the State land whose status is unclear;

State land is land that is not clung to private rights on it, for example ex-use land right that has not been extended but in reality many people work on the land while the legal process is still ongoing.

f. There is land that remains unpaid;

Remaining land for land acquisition that is not possible to be managed productively because of limited access or very minimal area to be managed cannot be paid for compensation

g. There are lands whose owners are difficult to identify;

The number of registered land parcels that is still insufficient cause difficulties in identification of landowners.

h. There is a Sacred Grave;

Trust and social conditions for something that is considered sacred sometimes make it difficult in the process of land acquisition, especially if the location of the land that will be the object of development through or using places that are sacred.

i. Village roads whose land status is unclear;

There are village roads whose status is unclear because as is the custom of village communities in Indonesia in general, roads for villagers' access are the result of local community social agreements, but with the value of compensation that will be accepted the agreement is no longer obeyed by individuals who feel entitled to receive compensation.

j. Forestry Land;

The existence of individual control over land over a forest area results in the compensation process being not simple. On one side, the forest area is an area designated for forest preservation on the other hand the area inhabited is controlled and cultivated not according to its designation. The inhabitants feel that they are entitled to receive compensation, but the status of the land which is a forest area has the consequence that the land can be used in addition to its designation after there is a decree to release the forest area.

k. There was a change in progress in the middle of the implementation.

The land acquisition process sometimes occurs dynamics adapted to field conditions, for example there is a change in the toll road in the development process while the land acquisition process is already in progress.

Starting from the obstacles and constraints above the land acquisition process experienced major obstacles in the process of determining compensation recipients because of the multiple interpretations of regulations so that field implementers had difficulty determining who is entitled to the compensation. This is also due to the minimal number of registered fields, so that the recipient of the compensation must be explored carefully and thoroughly to avoid problems later on.

These obstacles and problems caused the land acquisition process to be delayed and deviated from the planning and time in the Standard Operating Procedure (SOP) resulting in cost overruns.

An example of the 2017 Land Acquisition progress in the typical small scale public land acquisition in South Tangerang is presented in the following table:

Tabel 2. Small Scale Land Acquisition Progress in South Tangerang City Period 1 january to 31 December 2017

NO	Segment	Location	Parcels						
			Number of Parcel	Area (M2)	Parcel that have been paid/granted	Area (M2)	Residual Land Parcels	Area (M2)	Note
A	**BASIC INFRASTRUCTURE ACTIVITIES**								
1	Fly Over Gaplek	Kelurahan Pondok Cabe Udik & Pamulang Timur Kec. Pamulang, Kel. Ciputat dan Cipayung Kec. Ciputat	19	3,151	19	3,151	0	0	Finish
2	Tandon - Pertanian Terpadu Street	Kel. Ciater Kec. Serpong	3	1,241	3	1,241	0	0	Finish
3	Bhayangkara Street	Kel. Paku Jaya Kec. Serpong Utara	-	-	-	-	-	-	Surveying and Mapping, Planning Phase
4	Sport Field	Kel. Pamulang Barat Kec. Pamulang	54	7,850	32	4,119	22	3,731	Stage VI prices have been submitted and in the process of filing for payment
5	TPA/TPST Cipeucang	Kel. Kademangan Kec. Setu dan Kel. Serpong Kec. Serpong	16	22,097	13	20,307	3	1,790	Placement (location determination) has been carried out and is currently in the stage of identification and inventory
Total			**92**	**34,339**	**67**	**28,818**	**25**	**5,521**	**0**
B	**BASIC NON-INFRASTRUCTURE ACTIVITIES**								
1	Integrated Agricultural Region	Kel. Ciater Kec. Serpong	7	2,230	6	1,922	1	308	In the process of submitting BSD PSU to the City Government
2	SDN Ciledug Barat	Kel. Benda Baru Kec. Pamulang	1	1,020	1	1,020	-	-	Finish
3	Gedung Kantor Pemerintahan Tahap I	Kel. Serua Kec. Ciputat dan Kel. Pondok Benda Kec. Pamulang	89	39,177	34	6,086	55	33,091	In the process of payment for compensation

NO	Segment	Location	Parcels						Note
			Number of Parcel	Area (M2)	Parcel that have been paid/granted	Area (M2)	Residual Land Parcels	Area (M2)	
4	SMPN	Kec. Ciputat	-	-	-	-	-	-	In the process of clarifying ownership documents and awaiting a study of location determination from the Office of Education and Culture
5	Pasar Ciputat	Kec. Ciputat	-	-	-	-	-	-	Preparation of land acquisition planning documents
TOTAL			**97**	**42,427**	**41**	**9,028**	**56**	**33,399**	
TOTAL A+B			**189**	**76,766**	**108**	**37,846**	**81**	**38,920**	

Source: Land Office City of South Tangerang 2018

2. Legal Foundation of the Establishment of the National Land Banks Management Agency

The existing legislation has actually mandated the establishment of a Tanah bank. These regulations include:

Based on the constitution articles 4 and 33 paragraph 3 the lives of the people are controlled by the state. Land as stated in the previous explanation is the livelihood of many people because land management is related to the regulation of community welfare in this case the state needs to regulate its management and use.

The Basic Agrarian Law (UUPA) of 1960 in article 2 mandates the existence of a Land Authority Agency which can be interpreted as the need to establish a body that manages state land, while in article 6 it mandates the existence of social functions over land.

Law No. 2 of 2012 concerning land acquisition in the public interest contains a definition of the land acquisition agency for the implementation of development in the public interest, and this is a necessity in accelerating the development process.

Law No. 17/2007 concerning RPJP 2005-2025 also pertains to the establishment of a land management body mandated in Presidential Decree No. 2/2015 on the 2015-2019 RPJMN which mandates the government to form a Land Banks before 2019.

3. The Importance of Land Banks in Indonesia

The concept of the Land Banks has been developing for quite a long time in developed countries in the Americas and Europe. Urban planners in these countries suggest that the city government take vacant land on the outskirts of the city for planning long-term use and control the condition of the city that is not organized.

Land Banks is a government agency / agency that carries out integrated land management, including planning, acquisition, development, construction, construction, use, utilization, as well as security and maintenance. The purpose of the establishment of the agency is to ensure the availability of land for development, the economy, and the public interest as an instrument of controlling land prices, maintaining the balance of land tenure, and managing state public reserve land (TCUN)

4. Land Banks and Land Procurement Processes in Indonesia

One of the benefits of a Land Banks is to support the implementation of land acquisition in the public interest. It is expected that with the existence of the Land Banks, the land acquisition process for public interest can run faster and more effectively. The acceleration was due to the Land Banks being an instrument that accommodates land which would later be used by the government to support development.

5. Land Banks Organization Structure

In the proposal of the organizer and the management of the Land Banks in Indonesia by the Ministry of Agrarian Affairs and Spatial Planning / National Land Agency that the organizing organ of the National Land Banks (BATANAS) consists of the Land Banks Committee, the Supervisory Board and the Implementing Board. The Land Banks Committee is established by the President and the Chairperson of the Committee is held by the Minister of Agrarian Affairs and Spatial Planning / Head of the National Land Agency, while the members consist of the Minister of Finance, the Minister of Public Works and Public Housing (PUPR) and can be added by other relevant ministers. The Land Banks Committee has the authority to determine the Board of Trustees and the Executive Board. Considering the strategic main tasks and functions of BATANAS, it is necessary to have a structure of the Land Banks Implementation Board that is able to accommodate asset management, planning and development, land use and financial fields as the carrying capacity of carrying out the tasks. Bearing this in mind the Supervisory Board consists of the Head of BATANAS and several Deputy and Internal Supervisory Units.

Understanding the Strategic aspects of BATANAS in national development as an effort to increase economic growth and social welfare for all Indonesian people, it is deemed necessary that BATANAS is domiciled in the Capital City and has regional representation in the Republic of Indonesia.

6. Authority, Rights and Obligations of BATANAS

The authority, rights and obligations of BATANAS can be described as follows:

a. BATANAS Authority

1) As the main operator of land collectors and managers in Indonesia;
2) Bodies that have independent authority regulated in a Presidential Regulation;
3) Can participate in making spatial planning;

4) Can develop land use with third parties;
5) Can be appointed as land manager of government-owned land or other parties;
6) Can invest and form an Independent Business Unit.

b. BATANAS Rights

1) Can own land with HPL status and can be utilized by placing HGB, HGU and Use Rights on top of the HPL;
2) Can obtain funding sources from the APBN;
3) As a government agency / agency, it may not be subject to land acquisition and ownership tax (BPHTB and PBB) before being used by third parties;
4) Can acquire land through the establishment of the authority of the Ministry of Agrarian Affairs and Spatial Planning / BPN from a valid source;
5) Can obtain revenues and profits that are managed directly by the agency

c. BATANAS Obligations

1) Providing land for development programs and public interests;
2) Conducting land planning and development to increase productivity;
3) Maintain land use in accordance with spatial planning;
4) Maintaining land price stability to support the public interest and low-income people (MBR);
5) Facilitating the business world in making investments by providing land more efficiently and effectively.

7. National Strategic Program

The need for land in government programs through national strategic projects will increase every year. The role of the Land Banks as a provider and manager of land will be increasingly felt and the potential of the Land Banks to take part in facilitating the development process will be increasingly needed going forward. Current national strategic programs include the development of Special Economic Zones, Infrastructure Projects, Development Projects and Transportation Center Construction. In more detailed types of activities include;

a. Special Economic Zones; including the construction of 11 special economic zones and 17 industrial development zones. For example KEK Bitung, North Sulawesi Province which will have an area of 92.96 Ha and will focus on industrial and logistical activities.
b. Infrastructure Projects; covering 69 toll road infrastructure projects and 5 non-toll road infrastructure projects. For example, the Probolinggo-Banyuwangi Toll Road with a length of 156 Km is estimated to require a land area of 1,325 Ha.
c. Development Projects; covering the construction of 60 dams, 8 drinking water projects and 3 one million housing projects. For example, the construction of 12 apartment units in Pasuruhan Regency which requires an area of 1,630.05 m2.

d. Construction of Transportation Centers; including 22 railroad infrastructure projects, 7 airport projects and 10 port projects. For example Patimban Harbor in West Java Province requires at least 360 hectares of land.

8. Potential Resource of National Land Banks

The ATR / BPN Ministry as the institution that forms the Land Banks, has a potential land source. Due to the absence of a land manager function, the potential of this land to become abandoned land, so that it is necessary to accelerate the formation of a Land Banks so that abandoned land can be optimized for development.

Sources of Land Objects that can become Land Banks assets are as follows:

a. State General Reserve Land (TCUN)
b. Land assets of the government that have not yet been utilized
c. Land arises, grows, or ex-mining
d. Land affected by spatial change policies or land consolidation
e. Land release of forest area
f. Land from the direct procurement process, public procurement, or similar grants and donations
g. Land that is the State General Reserves can be obtained from abandoned land, erpacht land, absentee land and maximum excess land.

Table 3. Land Resources for Land Banks

No	Land Resources	Right Types	Mechanism of Acquisition
1.	Abandoned Land	Cultivation Right (HGU), Building Right (HGB), Customary Right (Tanah Ulayat)	Acquisition/buying and selling
2.	Government Land	HGB	Acquisition/buying and selling
3.	HGU Land	HGU	Acquisition/buying and selling
4.	Absentee land	Ownership Right (Hak Milik)	Acquisition/buying and selling
5.	Public Facility	Management Right (HPL) of Developer	Grant
6.	State/ Regional Owned Enterprise (BUMN / BUMD) land	HGU, HGB	Acquisition/swap
7.	Confiscated Land	BPPN Asset, bank confiscation, Court Decision	Revocation, purchase from KPNKL

Source: Bernhard Limbong, 2013

In practice, Land Banks have a number of problems related to operational financing, especially related to the availability of funds at the beginning of the formation, how to balance the objectives and financial resources and the needs of large-scale funding resources, so that

the effectiveness of Land Banks operations depends on stable and sustainable sources of funds.

With the existence of a state Land Banks that can acquire land before the need arises, Land Bankss make it possible to provide land for the public interest relatively cheaply, direct development patterns according to spatial planning, control land markets, prevent land speculation and make improvements in the context of rural and urban land development.

9. Potential Constrain of Implementing Land Banks in Indonesia

Although the Land Banks is an institution whose existence is needed in Indonesia, its operations will encounter various obstacles that need to be considered together how to eliminate or reduce these obstacles. The main obstacles for implementing a Land Banks in Indonesia are:

a. Land Administration in Indonesia is still weak

As we all know, the number of registered and mapped plots in Indonesia is still very minimal. It is important that we look closely at establishing a Land Banks in Indonesia. If we do not know for sure who owns the land and where the land it owns as the primary purpose of the cadastre, then the process of acquiring land assets anywhere will be a big problem. Completeness of the land administration system is an absolute requirement in land acquisition. At present the number of registered and mapped lands in Indonesia is still below 50% and is being pursued in terms of quantity and quality through the Systematic Complete Land Registration (PTSL) program. However, obstacles in the field in the process of determining who is entitled to the parcels of land are still matters that need to be considered together. The complexity of the tenure system based on local customs and habits makes the land registration system in Indonesia not simple. The process of juridical verification of landowners to determine who is entitled to a parcel of land often takes a long time and sometimes results in endless conflicts and disputes. For this reason, it is necessary to consider the process of simplifying land registration that provides security guarantees for implementing land administration duties but also protecting the civil rights of landowners.

b. The Availability of state general reserve land (TCUN) has not been detected optimally.

The weak and complex land administration and tenure administration also make it difficult to detect the country's common reserve lands. As an example of the termination of the right to use the business, the ex- HGU land does not automatically become state land due to constrained priority rights, the debate over the right seems endless, so it does not provide legal certainty. The granting of land status is also a problem because its determination is not simple, because it must go through a complicated and time-consuming civil court process and the incompleteness of our land administration system to detect where there is neglected land as well as a simple mechanism for determining which parcels of land to be abandoned or not. Likewise absentee land, so far absentee land has not or less become the main topic in

agrarian reform efforts. In fact many parties, people or business entities, control the sale and purchase of agricultural lands by carrying out legal smuggling. Because it is not a priority to control and neglect, the presence of absentee land is becoming more widespread and the impact is the issues of inequality in land tenure and the massive conversion of agricultural land to non-agricultural land. The three examples above are actually the result of the incompleteness and disorder of land administration in Indonesia.

c. Aspects of spatial planning

The discrepancy between spatial planning and development has become an issue that is often discussed. Development should be preceded by spatial planning. And spatial planning should be realized with a detailed map of the desired spatial planning concept. It is often the case that development has not been preceded by detailed infrastructure mapping or ploting so that it often results in environmental disasters as well as the non-optimal use of infrastructure that has already been built.

The Land Banks as an institution providing land for development acceleration will experience obstacles in carrying out its duties if the existing spatial component does not make significant improvements.

F. Conclusions and Recomendations

1. Conclusion

a. Land Banks is a priority to be implemented immediately in Indonesia because all this time the land acquisition process in Indonesia has experienced various obstacles. One inhibiting factor is that the government does not have land reserves which can be used at any time for development purposes.

b. Strategic aspects of the need for a Land Banks in the land acquisition process in the public interest is the implementation can run faster and more effectively. The acceleration was due to the Land Banks being an instrument that accommodates land which would later be used by the government to support development. Another important aspect with the existence of Land Banks is that the government can acquire land before there is a need, Land Bankss make it possible to provide land for the public interest relatively cheaply, direct development patterns according to spatial planning, control land markets, prevent land speculation and make improvements in the framework of land development rural and urban areas.

c. Sources of Land Objects that can become Land Banks assets are as follows: State General Reserve Land (TCUN), Unused government asset land, arising land, growing, or former mining, land affected by spatial change policy or land consolidation, Land from the release of forest area, Land from the direct procurement process, public interest procurement, or similar grants and donations.

2. Recommendation

a. Discussion on Land Procurement in Land Bankss is only limited to the description of land needs for development in the public interest, a broader discussion is needed to strengthen the process of the importance of establishing a Land Banks.

b. Need more in-depth study related to the process of transferring land rights to land which has the potential to become a source of reserves for the Land Banks.

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COMPARING LAND EXPROPRIATION PROCEDURE BETWEEN INDONESIA AND TAIWAN

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Abstract

In order to increase Indonesia's economic growth through infrastructure development, recently the Government of Indonesia makes efforts to accelerate projects considered to be strategic and have great urgency to be realized within a short period of time. Related to rapid development in Indonesia, Ministry of Agrarian and Spatial Planning/ National Land Agency (NLA) has a very strategic role to provide Land for Development in Indonesia. But the problems such as lack of data in the Land Administration, the existence of individual controls over the forest, informal occupancy over the land, limited government budget, etc have resulted in an ineffective compensation process. On the other side, the government of Taiwan has been known as the government that has success story to provide Land for Taiwan's Development. This paper tries to compare procedure for land expropriation between Indonesia and Taiwan. The result of the paper tries to answer the question of how to accelerate the process of Land Expropriation in Indonesia based on the lesson learned from Taiwan.

Keywords: Land expropriation, success story, acceleration

A. Background and Context

Infrastructure development is a priority program in the era of President Joko Widodo (Current Indonesian President). The development requires land acquired through the mechanism of land acquisition. Based on the facts that the land acquisition process is a process that is not simple and time-consuming due to various factors including, the difficulty of determining the owner of the land rights that will receive compensation, the process of determining compensation is complicated, the threat of criminal penalties for carrying out tasks that create fear in exercising its authority as executor of land acquisition.

As Stated by (Chen, 2018) Taiwan is a developed country in Asia that has experience in carrying out the process of land acquisition for the construction of public facilities. Taiwan's success has been widely recognized by other countries. The financing strategy by involving the private sector to carry out development is one of the keys to success in the development process in the public interest. Other strategies related to the success of the land acquisition process will be explained in this paper with the hope of providing policy recommendations in the land acquisition process for development in Indonesia.

B. The institution Responsible for Land Affairs in Indonesia

The Ministry of Agrarian Affairs and Spatial Planning / National Land Agency (NLA) is an institution responsible for the policy formulation process and policy implementers in the field of land and land administration. This was stated in the Basic Agrarian Law (BAL) of 1965 (UUPA) as follows: The implementation of all matter related to land may be delegated to the

autonomous regions and customary law communities. The rights of controlled by state provide the authority:

1. to regulate and implement the appropriation, the utilization, the reservation and the cultivation of that earth, water and air space as mention above.
2. to determine and regulate the legal relations between persons, concerning the earth, water and air space.
3. to determine and regulate the legal relations between persons and legal acts, concerning the earth, water and air space

The institutional transformation of the land manager from the National Land Agency to the Ministry of Agrarian Affairs and Spatial Planning / National Land Agency (NLA) at the Joko Widodo era, has made the task and authority even greater, to carry President Joko Widodo's vision and mission of food sovereignty and economic independence, which will be achieved by prioritizing agrarian reform programs, land acquisition and asset legalization.

The National Land Agency (NLA) has the primary responsibility of carrying out Land Registration to ensure legal certainty over the subject and object of land rights. The process of collecting data and information about parcels of land known as the cadastral process is carried out for legal certainty.

Land Registration as a part of Land Administration in Indonesia is conducted by Ministry of Agrarian and Spatial Planning/ National Land Agency. The cadastral system adopted in Indonesia is a registration of titles with the negative system. As it is stated in Article 19 BAL, the certificate of land title is valid as the strong (not positive or absolute) evidence. As long as it is otherwise inversely proven by the court, then the certificate of land title is the strongest evidence.

Data on land parcels contained in Indonesia are as follows: The number of parcels of land in Indonesia is 90,622,503 parcels with a number of registered parcels is 35,789,766 parcels. It can be seen that ± 61% of parcels have not been registered. It makes difficulties in order to answer the question who legally own which land. Started from 2016, The Government of Indonesia (Ministry of Agrarian and Spatial Planning/ National Land Agency) has a big project to accelerate Land Registration by the Project Named PTSL (Pendaftaran Tanah Sistematik Lengkap/ The Complete Systematic Land Registration), The aim of the project is all parcels in Indonesia is registered in Land Registration System at 2025.

One of the policies that is closely related to the land registration process is the land acquisition process. As one of the parties responsible for the land acquisition process, the ministry of agrarian and spatial planning / BPN has a tough task to carry out the process to smooth the implementation of infrastructure development which is the government's priority program at this time.

C. Types and Process of Land Acquisition in Indonesia

1. Definition of Land Acquisition

The importance of attention to the current land acquisition process in Indonesia because the current government program that prioritizes infrastructure development requires the provision of land for development. 245 projects and 2 programs, it will require around Rp 4,197 trillion, with funding sources from the State Budget Rp 525 trillion, State-owned Enterprises (BUMN/D) Rp 1,258 trillion and Private Sector Rp 2.414 trillion.

According to (Sumardjono, 2008), as is known, the main objective of land policy is the provision of land needed for development in the right location, at the right time, and at a reasonable price. To control the price of land which is one of the tasks in the context of implementing land policy, the government can conduct the government to intervene through various means / techniques, such as:

a. land acquisition;
b. land use regulation / regulation;
c. provision, maturation and distribution of land through land bank institutions; and
d. taxation policy.

According to Law No. 2 Year 2012 concerning Land Expropriation for the Development of Public Interest Infrastructure, it is stated that land expropriation is an activity of providing land by giving fair compensation to the rightful parties. Objects of land acquisition are land, upper and lower ground space, buildings, plants, objects related to land, or other things that can be assessed. Whereas the public interest is in the interests of the nation, State and society which must be realized by the government and used as much as possible for the prosperity of the people.

2. The Process of Land Acquisition

The Process of land acquisition in Indonesia can be summarized as diagram below:

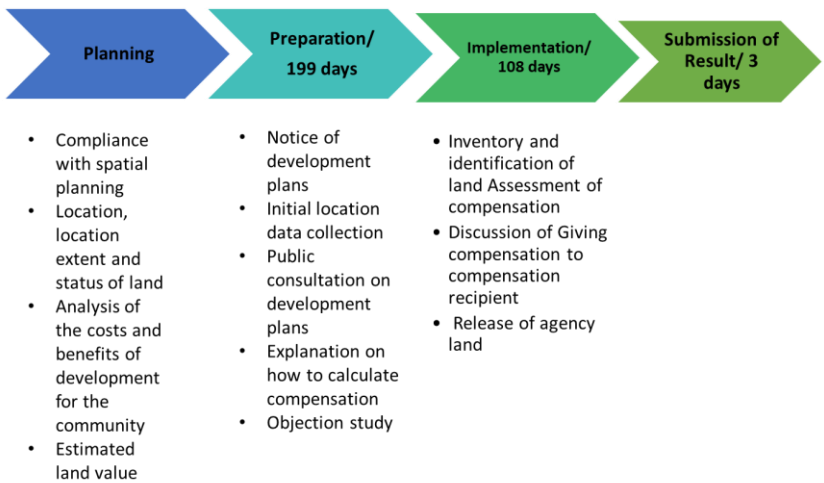

Diagram 1. Standard stages and time of land acquisition process in Indonesia

The process is started with planning stages, followed with Preparation stages, and ended with Implementation Stages.

a. Stages of Planning

In this stage, the agencies requiring land make coordination and asking for assistance from relevant agencies or professionals in finding data on land area, location and land status include:

1) determine the coordinates of land acquisition objects
2) estimated number of fields
3) status of land registered in the object
4) surface area

This activity is funded by agencies that need land.

b. Stages of Preparation

After the planning document is received by the Governor, it is marked by proof of receipt given to the agency that requires the land. Furthermore, within 10 days the Governor formed a Preparation Team and Secretariat.

During the preparatory stage, the notification of development plans is also carried out to the rightful parties and affected parties (socialization). Notification of development plans can be carried out several times, it can be day or night in an agreed place in accordance with the culture of the local community plus an announcement in the local newspaper.

At this stage the Preliminary Data Collection is also carried out by the Preparation Team within 30 working days of the notification period of the development plan. The Initial Data Collection Product is a temporary List / data of objects and subjects in the location of the development plan signed by the Chairperson of the Preparatory Team.

Public Consultation is carried out after the initial data collection, at the time of this public consultation the right party must have asked how much compensation and even asked and or asked for planning documents to open the compensation budget stated in the planning document. At the public consultation stage, the purpose and objectives of the development plan are conveyed by the agency requiring land, the stages and time of the process of carrying out the land acquisition are conveyed by the provincial government, the role of the appraiser, tax incentives, objects assessed for compensation and the form of compensation delivered by the BPN, while concerning rights and the obligation is conveyed by the ministry of law and legislation Regional Office.

Public Consultation is followed by repeated public consultation with the aim of inviting parties to object and if necessary, door to door. The agreement and / or disagreement over the location of the development plan is stated in the Minutes along with the reasons signed by the parties and the Preparation Team.

c. Implementation Stages

The stages of implementation include 11 sub-activities, namely:

1) Preparation of implementation
2) Inventory and Identification
3) Announcement
4) Verification of Field Maps and Nominative Lists
5) Procurement of Land Assessment
6) Estimated compensation
7) Notification of Amount of Indemnity and Deliberation on Form of Indemnity
8) Validation
9) Payment of Compensation and Waiver
10) Safekeeping of compensation money to the Court
11) Submission of Results

The complete stages of the land acquisition process in Indonesia can be seen in the diagram below:

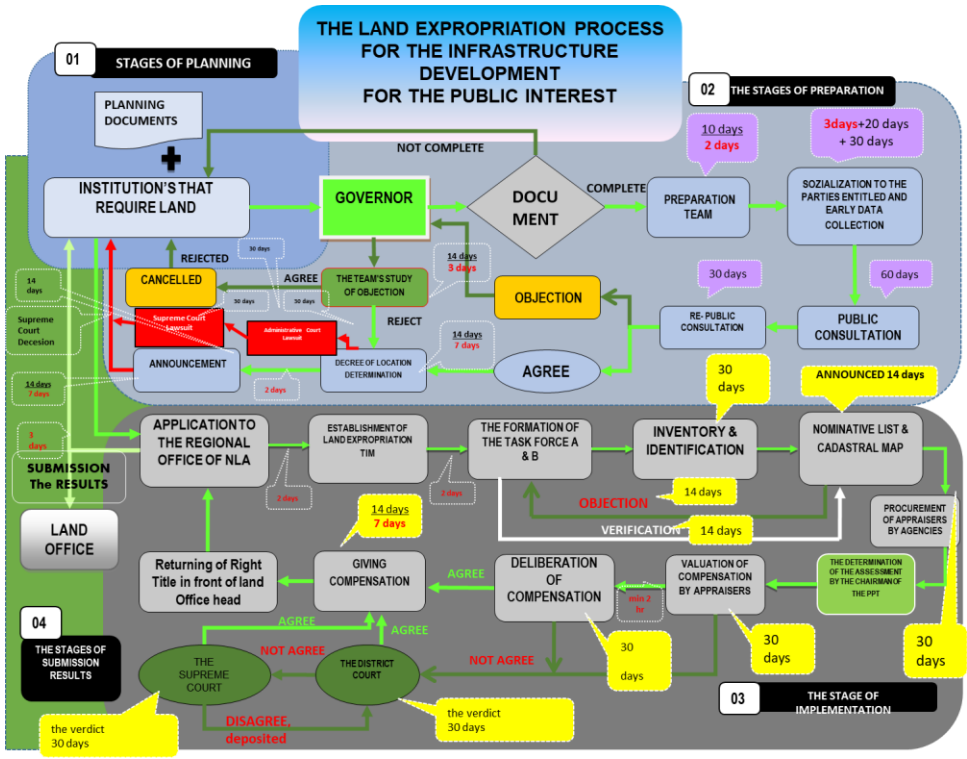

Diagram 2. Full Stages of the Land Acquisition Process in Indonesia

3. *Constraints in the Land Acquisition Process in Indonesia*

Sometimes the period to finish land acquisition process cannot be achieved as the schedule because a lot of factors that will be explained on this sub chapter. Based on research conducted by (Suyudi, et al., 2018), there are several issues related to land acquisition in Indonesia, namely:

a. There are doubts from the executor of the land acquisition to act because of the criminal threat in the land acquisition process as a result of interpreting the regulations that are different from the law enforcement apparatuses and the land acquisition executor.
b. Because of lack of data in the Land Administration, NLA has difficulty to determine the subject of compensation
c. The land assets of government and State Land have been occupied by the public.
d. There are village roads whose status is unclear because, as is customary, the village roads are the result of the social agreement of the local people, but the agreement will not be obeyed by person who feel entitled to receive compensation.
e. The existence of individual control over the forest land resulted in the compensation process being not simple. On one side of the forest area is an area designated for forest sustainability on the other hand the area is inhabited. People who inhabit feel entitled to compensation but the status of land which is a forestry area has the consequence that the land can be utilized only in addition to its allocation.
f. Although the compensation assessment process has been carried out by an independent appraisal body, there are still some parties who object to the amount of compensation.

4. The Concept of Land Bank in Indonesia

In order to handle the various problem in land acquisition process, the NLA has the idea to implement land banking in Indonesia. The Benefit of Land Banking is to support the implementation of land expropriation for the public interest. It is expected, the process of land expropriation for the development of public interest can run faster and more effectively. The Land Banking is an instrument that accommodates land that can be utilized by the government to support development.

Land Bank Authority	As the main operator of land collectors and managers in Indonesia;
	Agency that has independent authority regulated by Presidential Regulation;
	Can participate in spatial planning;
	Can develop land use with third parties;
	Can be appointed as land manager of land owned by the government or other parties;
	Can invest and form an Independent Business Unit.
Land Bank Rights	Can own land with Management Right Title which can be utilized by placing Secondary Title (Right of Building, Right of Use etc)
	Can obtain funding sources from the National Budget;
	As a government agency, The Land that collected by Land Bank can not be subject to land acquisition and ownership tax (BPHTB and PBB) before being utilized by third parties;
	Can obtain land through the determination of the authority of the Ministry of Agrarian Affairs and Spatial Planning / BPN from legitimate sources;
	Can earn income and profits that are directly disbursed by the body.
Obligations of Land Banking	Provide land for development programs and public interests;
	Conduct land planning and development to increase productivity;
	Maintain land utilization in accordance with spatial planning;
	Maintaining the stability of land prices to support public interests and low-income communities (MBR);
	Facilitating the business world in making investments by providing land more efficiently and effectively.

Diagram 3. Land Bank Concepts in Indonesia (Limbong, 2013)

D. Land Acquisition Mechanisms in Taiwan

1. Land Acquisition Types and Processes in Taiwan

Based on (Interior, 2000), In Taiwan there are three types of expropriations: land acquisition, expropriation of land allotment zones, and incidental takeovers. Basically, zone takeover and land takeover are the same, but zone takeovers can only be used in more limited situations (such as urban revitalization) and are subject to more strict procedural requirements. Whereas Incidental Takeover refers to land acquisition with a combination of land and zone takeover procedures.

Public interests and needs are the two main criteria that must be met before the state exercises expropriation power. Taiwan's constitution protects private property rights, but it also stipulates that private property rights and other human rights can be limited, in line with the "principle of proportionality". The takeover must be "in the public interest" and "as far as is strictly necessary."

Property acquisition is actually more limited to certain objectives / interests including: National defense, communication or transportation, public utility companies, water conservancy, public health and environmental protection, government office buildings, office buildings of local government agencies and buildings - other public buildings, educational, academic and cultural ventures, Social welfare, and state-owned enterprises and other businesses in accordance with the law.

The state can also take over property for the following businesses: building subways, railways, highways, city roads, science parks, export zones, national parks, public housing, public cemeteries, airports, fishing ports and international business ports, wild animal protection zones, waterways, and high schools and elementary schools; preserving cultural heritage; land consolidation; urban renewal; flood prevention; building a crop market.

With regard to agricultural land used to establish industrial zones / other designations, the competent authority responsible for the relevant industry must consider the objectives of the public interest and the need for expropriation at the time of appointment or rezoning. Agricultural land in principle cannot be changed, unless it is difficult to avoid changing its land use. Changes in the allocation also require a comprehensive assessment of the public interests and needs of the takeover project. Variables to be considered include:

a. Social factors: Including the number of people affected by expropriation, the age structure of the affected population, and the level of impact of the planned takeover on the surrounding community, lifestyle and health risks for disadvantaged groups.
b. Economic factors: Including the effects of planned takeovers on tax revenues, food security, increase / decrease in employment or population that may be forced to change jobs, takeover costs, public facilities needed by the government at all levels, government expenses and expenses, agriculture, forestry, fisheries, or livestock industry chains and land use integrity.

c. Cultural and ecological factors: Includes changes in urban / rural landscapes, cultural heritage, living conditions or lifestyles caused by the takeover plan, and their impact on the ecological environment of the area, surrounding population or society as a whole.
d. Sustainable development factors: Includes national sustainable development policies, sustainability indicators, and national land use planning.
e. Others: Other relevant factors that must be evaluated by the Ministry of Home Affairs as the main responsible parties for Land Acquisition activities to review the assessment of public interests and needs.

Basically, only state can use the power of land acquisition. The Ministry of Home Affairs has the power to approve or reject land acquisition projects. In Taiwan, central government agencies, city governments, regional governments, city governments, and irrigation associations are agencies that can apply for land acquisition. However, land acquisition for the private sector is also possible.

2. Land Compensation Mechanism in Taiwan

The land market value must be used to compensate for land acquisition. The compensation value that takes into account; construction costs (such as houses); agricultural costs (trees); costs incurred to increase land; business loss; and relocation costs. Compensation must be paid within fifteen days after the end of the public announcement period, and the public announcement period is 30 days. City / district governments make public announcements and notify land acquisition with the approval of the Ministry of the Interior.

Compensation for construction repairs is equal to the cost of replacement at the time of the takeover. City / district governments are responsible for calculating the cost of replacing themselves or assigning real estate appraisers to carry out assessment / property valuation work. Only legal land and buildings are entitled to compensation. Compensation for agricultural crops must be determined based on the value of the harvest, on condition that the harvest will be harvested in less than one year from the date of expropriation.

According to relevant laws and regulations, landowners who have incurred costs to improve land (such as building canals or dams and opening roads) and stopping repair work can receive compensation.

State administrative courts are subject to local government judgments about current market value. Administrative courts in Taiwan only conduct "procedural reviews" about determining compensation for taking, rather than "substantive reviews". That is, the administrative court only checks whether all the procedures set out in the rules and laws have been followed or not.

In principle, potential land users / agencies who need land must negotiate in good faith and in their best efforts with landowners needed for business, before submitting an

application to the Ministry of the Interior for land acquisition. Land use applicants must bargain with the owner based on "market value". However, the market value in the takeover procedure must be approved by the Land Value Evaluation Committee, while the market value is defined as "average normal transaction prices on the market"

In Taiwan, landowners are excluded from taking any part of the development surplus (for example: an increase in the value of land resulting from the development carried out). Therefore, for expropriation of ordinary land, all development surpluses go to the state. Whereas the takeover of the zone allows the recipient of compensation to obtain a development surplus. In the zone takeover procedure, the recipient of the compensation has the choice to choose between compensation in the form of cash (as in the land acquisition procedure) and compensation in another form of receiving post-development parcels in exchange for cash compensation. The size of the land as post-development compensation must not be greater than 50%, but greater than 40% of the pre-development land area, because the market unit value is often more than double post-development so people often choose the second option.

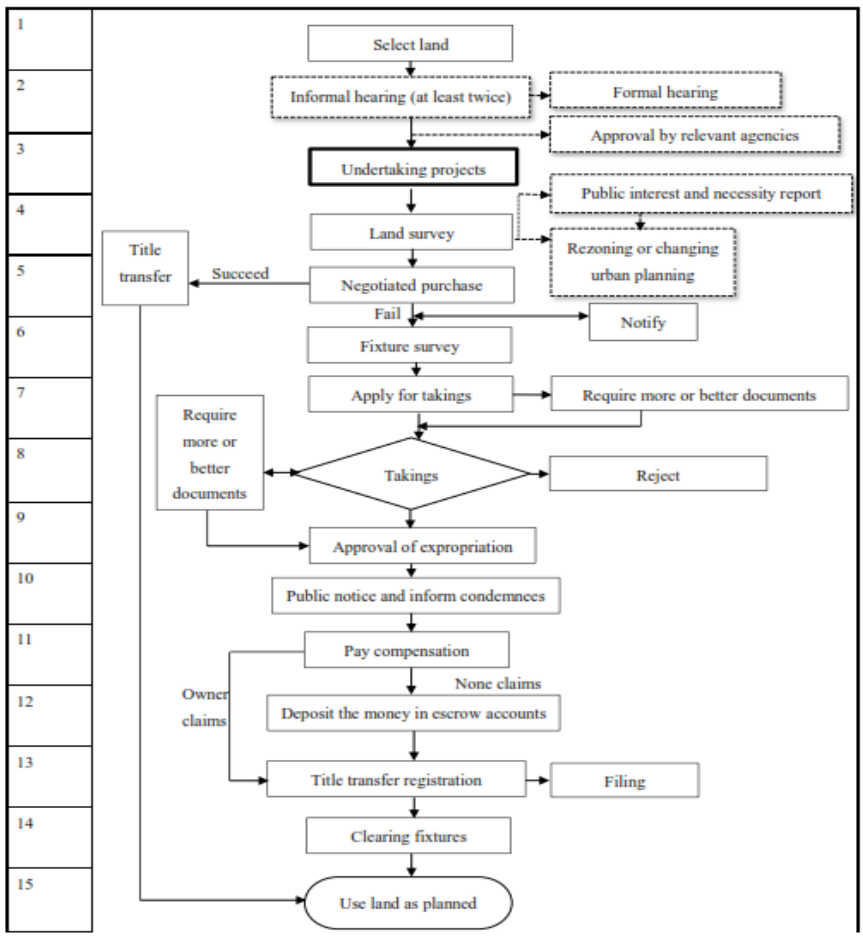

Diagram 4. Land Acquisition Process in Taiwan (Chien Chang, 2016)

3. Dispute Resolution Mechanism

Everyone with an interest in land acquisition can reject the contents of public announcements about land acquisition during the announcement period. The amount of compensation included in the announcement. The regional government must investigate this matter and inform the person concerned in writing about the findings and actions taken. If they are still dissatisfied, and they are still concerned about the amount of compensation, the local government has the discretion to refer the matter to the Land Value Evaluation Committee for reconsideration. If they still don't agree with the results of the review, they can start an "administrative appeal." If the objection relates to the procedure, the Review Committee in an administrative appeal is expected to conduct a "benefit review"; that is, modifying legal and invalid administrative decisions. In other words, they must consider every aspect of administrative action, examine whether it is in accordance with government policy, and explore whether different decisions will be better or not.

The last stop in the dispute resolution mechanism is the administrative court, except if the convictors lose and bring their case to the Constitutional Court, the primary court is the High Administrative Court. In principle, the claimants can appeal to the Supreme Administrative Court if the decision of the high court is against the law, in this case, in Taiwan the administrative court highly respects the administrative / Government institution in the case of appraisal of takeover compensation.

4. Public Private Partnership Mechanism in Taiwan

In Taiwan the Public Private Partnership (PPP) mechanism is carried out to encourage development. PPP is an infrastructure financing model that divides development responsibilities into two parties, namely the government and the private sector, for example in the process of developing the fast train transportation facility, the model of cooperation undertaken is as follows:

Diagram 5. Example of a PPP Mechanism implemented in the construction of a Fast Train in Taiwan (Cheng, 2018)

The main reason for private participation in the development process is because of the limited funds owned by the government and the nature of private companies that are more effective and efficient than government institutions.

E. Conclusion

Taiwan's success in the development process uses land acquisition procedures because there are several keys, namely:

1. Good coordination between government agencies, both executives (ministries and regional governments) and judicial institutions (Judiciary, Prosecutors and police) so that conflicts that occur due to land acquisition processes can be minimized. It should be noted here that the court in this case the administrative court only hears cases that are administrative violations rather than substantive cases.
2. The judiciary highly respects government institutions, in this case the ministry and the regional government in the land acquisition process.
3. There is an option for people affected by land acquisition to choose compensation with money or they benefit from the development process carried out by obtaining parcels of land (although with a smaller area) in the zone of land to be acquired.
4. Involve the private sector with the Public Private Partnership mechanism to finance the development process.
5. Legal land as the only object for land acquisition that will receive compensation will push land owner to register their land.

F. Recommendation

1. Based on lessons learned from Taiwan, especially the strong coordination between government agencies in Taiwan in the Land Procurement process for the public interest, The process of land acquisition in Indonesia requires improvement in terms of coordination between government agencies (Judiciary, executive and legislative institutions) to equalize the perception that government programs are for the welfare of the people so that unnecessary legal processes occur in relation to the land acquisition process in Indonesia will not happen.
2. Responsibilities of development process can be shared between the government and the private sector to accelerate and streamline the development process by considering the limitations of government funds.

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THE APPLICATION OF FAIR REPLACEMENT VALUES IN LAND ACQUISITION: INDONESIAN VALUATION STANDARDS 204/2018

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Absract

The economic growth supported by infrastrucrture and public facilities frequently involved people' s land acquisition and even relocate the residence. The Government og thr Republic of Indonesia issued the regulation in the form of Law no.2 of 20120n Land Acquisition for Public Interest to ascertain that the infrastructure and public facilities are established using the appropriate cost, at the precise location and giving the compensation. The principle of land acquisition in general perception may mean two things. Those arethe releasing right and the giving of fair compensation. From the above meaning, it can be concluded that at least there ia a process of releasing and the process of fair compensation giving. The releasing of right is actually related to the voluntary of the land owner in giviin their rights for the sake of public interest. Yet, in one side, the state has to ascertain that the land owners obtain the same compensation or even better than the value of the previously owned lands. The determination of the sum of the compensation is done by the land value in accordance with the Indonesian Appraisal Standard (SPI) 204 of 2018 by fair compensation. The value of the owners' interst is based on parity of market value by considering the extraordinary elements in the form of non physical loss for the release f the property. The paper is aimed at reviewing the application of appropriate compensation in land acquisition for the development in Indonesia. The method used was library research that is by comparing papers, the realted regulations on fair compensation applied by several countries in the world. From the references learned, it can be concluded that the application of appropriate compensation of SPI 204 has accommodated both material and immaterial consideration. They are the emotional loss (solatium) and other losses. Yet, the fact is that the valuation done by the appraisal actor is subjective and considers only on the physical loss. The role of appraisal activity is actually vital and therefore, for the sake of professionalism, the enactment of legal draft of valuers should be of a priority.

Key words: compensation on land acquisition, market value, appropriate compensation

A. Introduction

The development, nowadays, is focused on the infrasturucture. The development becomes one of the excelences in the priority programs of Joko Widodo and Jusuf Kala's governmental system. It is hoped that the system is able to speed the economic growth and improve the connectivity of ideology to reach the nation's independence. (LBH Bandung 2017, 8 dalam Suntoro 2019). AS the legal base of the acceleration of the infrastructure development, the president has already issued the Presidential Regulation No 58 of 2017 as a change of the Pressidential Regulation no. 3 of 2016 on the Acceleration of National Stategic Project Implementation (PSN). The policy determined 245 projects beginning from non toll national/ strategic road, the building of toll, infrastructure on railroads, harbours, electricity which need Rp. 4.700 triliun (Suntoro 2019).

There are at least the government's priority sectors related to land acquisition. They are among aothers: land transportation like toll roads, and railroads, electricity and sea transportation. It is amitted that the achievement is is still far from the epected result as

compared with those of other countries' achievement in building the public facilities. (Yusuf 2016). For example, the realization of building toll roads beginning from 1978 to 2015 was only 949 km (Badan Pengatur Jalan Tol 2016 in Yusuf 2016) and Pablo(2019) mentioned that the toll road built up to 2018 was aslong as 782 km. Knowing the importance of toll roads for logistic transportation, the government has speeded up the building process nsince 2015. The target of toll roads building is 1.070 km in 2019. (data from Komite Percepatan Penyediaan Infrastruktur Prioritas 2015 and the planned target is 1000 km up to 2019). The total sum of the toll building druinh Joko Wi's era will be 1.852 Km.

The process of the building frequently is hindered by the long process of land acquisition itself. The main problem of land acquisition is really the balance of interst between the individual and the public interest. (Sumardjono 2015). The significance of the development using the individuals' lands is that the whole society members may get the utilizationas is mentioned in Article 6 of UUPA which states hat the all functions land has to have a social function.

Sumarjono (2008) states that the authentic intrepretation of Article 6 of UUPAs as follows: (1) the principle should be for all land rih as meant by Article 16 (paragaph 1); (2) te land rights may not be deviated and should be utilized by the holders; (3) there must balances between the individuals and the public interest; -- the individuls' interest should be respected and admitted . This balance is difficult to be synthesized Sumardjono (2008, 249.). The right holders have given their valuable belongings for the sake of public interest voluntarily.their participation in the development constuitues the basic principle to be obedient in implementing the social function of land right. Moreover, Sumarjono (2008, 250) asks to what extent their right is appreciated will be another problem the discussion.

Danuza (2016) sates that the main constraints in the land acquisition is the amount of the compensation. Logically those releasing their rights should receive an appropriate compensation. Frequently in the process of land acquisition, the participants are not satisfied enough as the compensaton is perceived to be "certainly loss". Very often the compensation wanted by the paticipants is considered to be too high. The problem is not whether the society is willing to release their rights but rather on how much the compensation they will receive.

The sense of compensation is not the same as buying and selling transaction (Sumardjono 2008, 250) , yet to make the compensation is regarded as fair it may not make te receivers richer or poorer as compared to the previous condition.

The regulation related to land acquisitionin Indonesia is uncluded in Law No 2. of 2012 on Land Acquisition. One of the things regulated intha law is the determination of compensation based on the independent valuers. Before the appilcaton of the law, the value of compensation has not got any basis. (Yusuf 2016). Based on the previous regulation on land acquisition – Presidential regulation No. 36 of 2005 on Land Acquisition for Development for

Public interest and its changes, that was Presidential Regulation No. 36 of 2006, the basic value being used as base of compensation was NJOP or the real value. The use of NJOP or eal value arouses problems and uncertainty of compensation for the right owners.

Researches related to compensation has been done many rimes. Penelitian terhadap ganti kerugian dalam pembangunan untuk kepentingan umum telah beberapa kali dilakukan. Suntoro 2019 did a research on how the regulation on fair and appropriate compensation from the viewpoint of human right and how the valuation was done by Kantor Jasa Penilai Publik (KJPP) to determine the compensation. The regulation related to comensation on UU No. 2 of 2012 does not go on line with the 1945 Constitution especially Aarticle 28 paragraph 4 and Article 36 paragraph (3) UU No. 39 of 1999 on Human Rights.

Sujatmiko and Suriadi (2010), on their research on land acquisition, at Bawen-Ungaran toll road, concludes that there was a relative compensation in the form of a gap between expectation and reality. Another research was done by Rinandar 2019. He studies the impact of land acquisition on the land market, people's socio-economic changes West Java International Airport. There was also a land use change from agricultural to non agricultural lands, and the increase of land prices. Ghatak dan Mookherjee 2014 did a researchon land acquisition for industrialization and compensation of displaced farmers, the paper addresses the question of how farmers displaced by acquisition of agricultural land for the purpose of industrialization ought to be compensated. Prior to acquisition, the farmers are leasing in land from a private owner or local government with a legally mandated sharecropping contract. Compensation rules affect the decision of the landlord to sell the land ex post to an industrial developer, and incentives of tenants and landlord to make specific investments in agricultural productivity. Efficiency considerations are shown to require farmers be over-compensated in the event of conversion. Prasetyo *et al.* writes the valuation of compensation in the process of land acquisition customary land for the pulic interest through the general standard used by Royal Institution of Chartered Surveyors (RICS) adopted by MAPPI (Masyarakat Profesi Penilai Indonesia). The fators affecting the value of compensation related to land acquisition on adat land are among others: (1) the clear evidence of the right of ownership in Indonesia is the main factor to decide the value as it ascertain the legal certainty of legal ownership. The lands having no registration/ clear right was regarded under value as compared to those having clear rght of ownersip. (2) the non monetary factors attached to adat lands;-- socio-cultural values, are in general, subjectively identified; (3) the Indonesian spatial planning also affect the dertermination of values either before orafter valuation related to position of lands.

Alias and Daud did a research on payment of adequate compensation for land acquisition in Malaysia in 2015**.** The law in Malaysia requires the state to pay compensation adequately; however, adequate compensation is not defined in the statute. Historically, the courts seem to have succumbed to the pretense that the adequacy requirement may be

achieved by giving sufficient monetary rewards in exchange. The questions are what monetary quantum is appropriate to constitute the constitutional mandate of adequate compensation; what should be the measure of compensation; what makes compensation adequate, and what are the tests of adequacy? A questionnaire survey was conducted among practicing valuers to discern their views with regard to the above issues. This survey revealed the views that compensation attributes under the stipulated laws are not adequate to fulfill adequate compensation notion under the spirit of Article 13 of Federal Constitution 1957. There is a need to review the heads of compensation structures by incorporating other countries practices such as payment of solatium or premium as over and above total compensation. Most of the valuers believed that land acquisition need not necessarily present the best alternative for the government to secure land for development.

Based on the above explanation, the paper is aimed at studying prblems on how the land compensation for land acquisition is applied in Indonesia. The libry study is done by comparing the regulations anf papers on fair compensation for land acquisition for the sake of public interest in several contries in the world.

B. The Concept of Fair Compensation Value for Land Acquisition

The general principle of Land acquisition has two meanings. They are land right releasing and the giving of fair compensation. The above two senses implies the process of releasing and simultaneously there is a fair compensation for the land right owners.The releasing of land right is actually related to the voluntary action of the owners to give their lands sonsidering that the lands are the sake public interest. However, the state has to ascertain that the owners have the same or more amount when the process takes place. Thus, the process should be comprehensively understood from the very beginning till the end.

The value is an opinion of an economic use on land ownership, or the price purchased at the transaction process. So, value is not a fact. Since a value is a fact, it should be objectively measured and well understood. In relation to valuation, the basic value is fundamental as in it there is assumption used to value. For example hypothesis on transaction, the relationship and motivation of parties dealing with the asset at market price. This depends on the purpose of each valuation.The fundamental concept of a value is based on market perspective. Thr value should be based onmarket not on the existence. One of the values extensively used is market value. The market value according to Standar Penilaian Indonesia (SPI) is estimation on sum of money obtained from an asset transaction on the date of valuation netween the buyer wanting to buy and the seller wanting to sell in a independent transaction in which the marketing is appropriately done, and the two parties act for the sake of their understanding, carefulness, and without any compulsion.

From the above definition on market value, it can be concluded that hypothetically the mentioned value considers the appropriateness of transaction on the open market viewpint.

If this is related to the sompesation, it may a differen perspective. This is resulted from the land acquisition which is based on compensation, therefore, hypothetically, those involved in the transactions do not fulfill the mening of market value (Yusuf 2016).

SPI 103 on Scope of Duty has regulated the relationship between the basic value and the objective of valuation. The objective of a valuer to value the land acquisition for the public interest is Appropriate Compensation Value (NPW). NPW in SPI 306 is similar to Nilai Ganti Kerugian found in Land Acquisition Law.

The sense of the above market value is that both the buyer and the seller do the the transaction voluntarily whereas in the situation of both buyer and seller transact unwillingly, the process of transaction is only based on regulation. If seen for the owner's viewpoint there must be some possibilities. They are (1) the owner does not to sell so that he will never agree to the price offered (2) the is person wanting to take this opportunity to speculate (3) the owner want to take an advantage of offering very high prices (4) the owner wants to have a compensation of appropriately.

The decision of NPW as a basic value was inspired by UUPT. UUPT has decided he amount of compensation to be given to the land owners, and compensation. What is meant by compensation is the amount appropriate , and fair compensation given to the parties having the right to reeive.The term compensation for citizens is not something strategic and acceptable (Yusuf 2016). This right underlies Komite Penyusun Standar Penilaian Indonesia (KPSPI) MAPPI to carry out collecting opinions and doing library study to seek the terminoligal synonyms sitable for the above definition and the unrsatnding of compensation value according to UUPT.

The value of Compensation expresses two menaings of appropriate and fair comensation which represent to categories. First, the object of land acquisition is land, the space above it, buildings, and plants. Second, thingd related to land as well as everythin tha can be valued. The appropriate compensation and fair of the land comensation object require two related concepts. The sense of appropriate does not go in line with appropeiaate transaction;-- buying andn selling mentioned above. The value of comensation doe not place the the buyer and seller in the perspective of selling and buying, but rather on compulsion. The market value is the highest vaue of real property basd on market perception (*highest and best use*/HBU. Other compensations regulated in the stipulation of compensation is the compensation related to land right. The physical loss belongs to land, bulidingsand pants, whereas the non physical loss includes the comensation of rekasing land right and other losses counted during the transaction process.

The physical loss, according to SPI 102 dan 306 is the loss of property (land and those related to land).

The measurement of NPW is based on the concept contained in the definition. First, The opinion of value of an asset is in the form of physical fulfillment measured using the similarity of market value. This means that the asset should be related to land. The premise used should conider HBU. Using this premise, thr economic value will give the highest value of land as well as buildings related to land. The valuaton of asset belonging to the non physical loss uses one, two or more approaches of market, income, and cost. Those approaches can be used to measure objects like lands, space above the lands, under the lands, bulidings, plants all things related to lands like utility including all tings relatd to buildings. Second, the value of opinion for unseen asset" belongs to te category of non physical loss. This can be devide into several forms which can be conyed as addition to Market Value as a representative of non phyical loss. UUPT explaians that the term "the valuable loss" is a non physical loss similar to manetery value, like the loss of business or jobs, cost of place movement, transfer of profession, rest of properties.

C. Application of Substitution Value in Land Acquisition in Indonesia and Several Countries

One thing that needs to be understood is that the value of compensation is not the same as buying and selling, but in order to be called fair, the compensation should not make someone richer or vice versa compared to the previous situation. In the United States, a country that embraces individualistic liberalism, there are several formulas that can be chosen in finding the fair market value of a property, which are; (1) sales of similar properties; (2) capitalization of income; (3) replacement cost less depreciation; and (4) a combination of these various methods (Haman 1971, Haar 1976 in Sumardjono 2008).

Laws and regulations in Brazil contain alternative indices that can be selected as a standard to provide compensation value, including: (1) the value determined for tax collection; (2) profits derived from the property (land rights); (3) location; (4) the condition of the land (maintained or not); (5) market value obtained over the past five years from equal land rights. The speciality of Brazil is that the profit-earning capacity of land rights is taken into consideration (Kitay 1985 in Sumardjono 2008).

Whereas, the points of consideration for determining compensation in India include: (1) the market value of the land when the land acquisition was announced; (2) losses as a result of splitting up certain parcels of land; (3) losses as a result of reducing the profits from the land since the announcement of the taking of the land until concrete action is taken. The areas that are set aside to estimate the amount of compensation are: (1) an increase in land value associated with future use, and (2) improvements made after the announcement of the taking of the right (Kitay 1985 in Sumardjono 2008).

In Singapore and Taiwan, holders of land rights are asked to "offer" the land to be taken at the price of the valuation for tax collection. To be able to carry out this system requires

reliable information about land and a sophisticated taxation system. In Singapore (Article 33 verse (1) Land Acquisition Act 1970) and Malaysia (Land Acquisition Act 1960), there are similarities in matters that can be taken into consideration to determine the amount of compensation. These things are as follows:

1. market value at the time of announcement of the land rights taking;
2. losses that result in other land rights (from the right holder) or losses on the decrease in the right-holder's income;
3. the cost of moving a place or job;
4. repairs made with the notice of the competent authorities;
5. increase in land supply from other parcels of rights holders caused by its use in the future;
6. losses resulting from the splitting of the land rights of the right-holder;

Article 34 letter h of the Land Acquisition Act states that evidence of the sale price of equal land rights will not be considered unless the right-holder can prove that the sale and purchase that occurred was in good faith and not for speculative purposes.

While in Malaysia, the things that are not considered in making an assessment of compensation, include:

1. an increase in market value as a result of repairs made within a period of two years before the taking of the land rights is announced;
2. decrease in land value due to the use of land that can be detrimental to health;
3. urgency of taking the land;
4. objection of the right holder to leave his land;
5. damage to the land after the announcement of the taking of the land;
6. any increase in land value as a result of future use;
7. repair costs incurred by the rights holder after the announcement of the taking of rights, except with the permission of the authorities (Ibrahim and Sihombing 1989).

Assessment of compensation in Indonesia based on SPI 204 includes:

1. Compensation for loss of the relinquishment of rights from the land owner that will be given a premium and measured in cash based on the provisions of the applicable laws and regulations. This substitution may include matters relating to:
    a. there is the potential for job loss or loss of business including the transfer of profession.
    b. emotional loss (solatium), is an intangible loss associated with expropriation of land used as a residence from the owner.
    c. matters not yet regulated in points a and b above can be anticipated based on applicable planning documents, so that appraisers can consider the amount of premium for related non-physical losses.
2. Transaction costs, the basic assumptions formed from a number of costs of moving, emptying, tax / BPHTB, PPAT.

3. Compensation on waiting period, i.e. the amount of funds calculated as a substitute for the time difference between the valuation date and the estimated date of compensation payment.
4. Loss of the remaining land, is a decrease in the value of land due to taking part of a parcel of land. In the event that the remaining land can no longer be used in accordance with its designation, the replacement of the entire parcels of land can be calculated, if it is based on a written agreement with the assignor and refers to the applicable laws and regulations.
5. Other physical damage, for example parts of the building which were cut off due to land acquisition, thus requiring repair costs to function properly.

But there are things that have not been regulated in SPI 204, for example, things that are related to the provision of public consultations or such, the construction of resettlement, educational programs and motivation provision, procurement of work facilities, and compensation for business facilities.

Another thing that is not included in the consideration to determine the amount of compensation in various countries is if its use does not meet the provisions on building or health standards (New York, Hong Kong, Sri Lanka). Likewise, in Nepal and the Philippines, as well as in Malaysia and Singapore, the sentimental attachment of rights holders to their land and the urgency of taking rights are not taken into consideration in determining compensation (Kitax 1985 in Sumardjono 2008). Unlike in Indonesia, which considers an emotional loss (solatium), which is an intangible loss associated with expropriation of land used as a residence from the owner.

Developments and problems related to compensation are also experienced by the PRC, which is seen as one of the countries with the fastest economic development. In the PRC, which has not yet been found a comprehensive law governing land acquisition, developments can be noted in relation to the criteria for compensation that generally applies to lands that are collectively owned (Ding 2005 in Sumardjono 2015). Compensation consists of 4 (four) components, which are: (1) compensation for land; (2) assistance for resettlement; (3) compensation for plants and objects related to the soil; and (4) providing employment opportunities to affected people (labour / job resettlement). Land compensation and support for resettlement are given to community groups (collective communes), while compensation for crops is given to farmers.

There are three things that can be noted related to compensation for land acquisition in the PRC. First, there are clear criteria for compensation for agricultural / rural land that have increased when compared between 1986 Land Administration Law (LAL) and 1998 LAL. However, in practice, the amount of compensation for land must be shared between community groups and farmers, and in this division farmers get a smaller share so that it impacts on their socioeconomic conditions. Second, the provision of compensation for non-

physical losses in the form of employment opportunities (labour / job resettlement) does not always work well, even it is often given in the form of money instead. Third, in the PRC, the definition of fair compensation that reflects "the value of land and is sufficient to warrant non-worse-off living standards for farmers who lose land" is not accompanied by clear criteria / benchmarks so the results are often " ad-hoc "and" arbitrarily "so that it is not achieved in accordance with the" just and fair "compensation objectives (Sumardjono 2015).

Determining the amount of compensation to land is not an easy process, because there are various factors that must be taken into account in its calculations. These factors are alternative indices that will be used according to the situation and condition of each object and subject to land rights. Because the determination of the amount of compensation is the most crucial and directly touches the sense of justice of the holders of land rights, the determination of the index of various factors that can affect land prices must be carefully prepared.

D. Role of the Assessment Institution in Determining Fair Reimbursement Values

Theoretically, giving compensation is different from buying and selling (willing seller-willing buyer) because of sacrifice / coercion, uncertainty about the sustainability of socioeconomic welfare, loss of material rights, and loss of the right to enjoy the pleasures of life in the place of origin. In summary, when talking about compensation, inevitably it must be admitted that the sense of loss is not only for objects that are physical, but also includes a sense of loss of things that are non-physical, for example the loss of social networks that have been formed since a long time ago, losing the inner bond with the place of origin of a person and his ancestors and descendants. Therefore, in modern life, for example through Article 1246 of the Civil Code, what is meant by compensation includes two things, namely the loss suffered directly and the benefits that could have been obtained. Therefore, it makes sense if the type of compensation in land acquisition consists of physical and non-physical compensation (Sumardjono 2008). Respect for land rights taken for development purposes is manifested in the provision of compensation. In reality, one of the most complicated things in any process of taking land rights is the problem of determining compensation.

In Indonesia, the matter of compensation for the first time in the national land law is stipulated in Law No. 20 of 1961 which states that adequate compensation is based on real value. Furthermore, the regulation on compensation according to Act No. 2 of 2012 Article 1 number 10 of Act No. 2 of 2012 states that "compensation is an appropriate and fair compensation to those who are entitled to the land acquisition process." In the Act or Presidential Decree, no explanation is given regarding the meaning of "proper" and "fair". "Proper" and "fair" are qualitative. Unfortunately the Law is not further elaborated on the "proper" and "fair" benchmarks (Sumardjono 2015).

The new legal mechanism in land acquisition according to Law Number 2 of 2012 is the granting of authority to the appraisal in this case represented by the Office of the Public Appraisal Service (KJPP) to conduct an assessment of the object to be subject to compensation. The results of this assessment are final, meaning that the government and / or entities that require community-owned land pay according to the results of the assessment and close the deliberations regarding the size and amount, limited to deliberations regarding the form of compensation (Article 31 paragraph 1 and Article 34). The presence of the appraisal as an institution that conducts an assessment is considered to be more professional and objective in determining compensation in accordance with Law 2 of 2012. This attributive policy is part of a new mechanism for land acquisition for development in the public interest which in previous practices was always carried out by the Land Acquisition Committee (the government itself) or limited by appraisers involved by the Land Procurement Committee as the mechanism in Presidential Decree Number 6 of 2005 and 36 of 2005 concerning Land Procurement for Implementation of Development in the Public Interest.

According to Suntoro 2019, one of the factors that most often becomes a problem in assessments is that the results of the assessment are not up to date and ignore the facts about the existence of immaterial values. Various issues in the assessment have also been identified by the Financial Professional Development Center, Secretary General of the Ministry of Finance of the Republic of Indonesia as the appraisal advisor (KJJP), which occurs because:

1. Appraisal does not yet understand the stages of preparation, planning, implementation, and submission of results due to the limited socialization and duration of land acquisition;
2. there is no planning document or Nominative List from the Land Procurement Committee so that appraisal has difficulty in determining the value of compensation and has an impact on the amount received by the community;
3. There are administrative problems with the delay in signing the location determination document so that the time needed for the appraisal is longer;
4. Manipulation of location date data so that the appraisal carries out an assessment just after the infrastructure is built. As a result the assessment results are inaccurate and have an impact on legal findings;
5. Low understanding of the Indonesian Assessment Standard (SPI) which is used as the main basis in determining compensation to the public.

In the 2013 SPI, Market Value is defined as the "estimation" of the amount of money that can be obtained from the exchange of an asset or liability at the valuation date, between buyers who are interested in buying and sellers who are interested in selling, in a bond-free transaction, for which marketing is conducted properly, where both parties act on the basis of their understanding, prudence, and without coercion. "Assessment is subjective in which the value generated will depend on the knowledge and skills of the assessor.

On the other hand, due to limited data presented in the Nominative List by Task Force B of the Land Office (Suntoro 2019). The data submitted have not included the entire object information both material and immaterial as the basis for calculation / assessment. The existing practice, in general, only presents physical data only. On the other hand, the Appraisal Bill has not been ratified by the Government through the Ministry of Finance of the Republic of Indonesia to the DPR, even though it has been submitted to the DPR. In fact, this law is expected to be paying for appraisal organizations spread across various professions both government and private, assessment mechanisms and standards, performance monitoring, professional code of ethics, and improving the quality of appraisers. The impetus for accelerating the passage of this bill is expected to make an appraisal assessment of objects belonging to the public more professional, clear criteria, objective, and respect for human rights, including in the acquisition of land for public interest. In SPI No. 204 of 2018, the valuation of compensation uses the calculation of Reimbursement Value which actually can accommodate material and immaterial calculations including emotional loss (solatium) and other losses. The data presented by Suntoro 2019, in fact the results of research in South Sulawesi, West Java and Yogyakarta revealed that the assessment was very subjective by the appraisal and emphasized the calculation of physical losses. The appraisal's role in the land acquisition mechanism in Law Number 2 of 2012 is very vital, therefore, in addition to encouraging professionalism in conducting the assessment, the ratification of the Appraisal Bill becomes a priority thing to do.

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encouraging professionalism in conducting the assessment, the ratification of the Appraisal Bill becomes a priority thing to do.

E. Conclusion and suggestion

The professional appraisal organization has formulated the Indonesian Assessment Standard (SPI) Number 204 Year 2018 which is an update of SPI 306 2015. In SPI No. 204 of 2018, the valuation of compensation uses the calculation of Reimbursement Value which actually can accommodate material and immaterial calculations including emotional loss (solatium) and other losses. But the fact is the assessment conducted emphasizes the calculation of physical losses. On the other hand, valuation is an assumption that is subject to subjective and varied results where the value generated will depend on the knowledge and skills of the assessor. The appraisal's role in the land acquisition mechanism in Law No. 2 of 2012 is very vital, therefore it needs to be encouraged by the appraiser's professionalism in carrying out the appraisal. In addition, it is necessary to immediately ratify the Appraisal Bill as a basis and reference for the implementation of the appraiser's task, including valuation to compensate for land acquisition for public use.

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SUB THEME 4

AGRARIAN REFORM

LOCAL PESANT ORGANIZATION ROLES IN THE AGRARIAN REFORM

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Abstract

This study aimed to reveal the roles of local-peasant organization in the agrarian reform at Kulonbambang Hamlet, Sumberurip Village, Doko District, Blitar Regency, East Java Province. The study location is also known by the community as "Kulonbambang Plantation". Local-peasant organization that played roles in the agrarian reform at Kulonbambang Hamlet was Pawartaku (Paguyuban Warga Tani Kulonbambang or Kulonbambang Peasant Association), which is a member of the Aryo Blitar Peasant Association. In the context of forming a cooperative, Pawartaku received support from Sitas Desa (Yayasan Solidaritas Masyarakat Desa or Village Community Solidarity Foundation). Local-peasant organization has several roles: 1) to build awareness of peasants to obtain land rights, 2) to fight against the plantation company which controls the land reclaimed, 3) to help resolve the agrarian conflict, 4) to help agrarian structuring, 5) to support the registration of land reform objects, and 6) to facilitate the capital access to peasants.
Keywords: Peasant, organization, roles, agrarian, and reform

A. Background

Kulonbambang Plantation is located at Kulonbambang Hamlet, Sumberurip Village, Doko District, Blitar Regency, East Java Province boundering: (1) In the North and East with the Sirah Kencong Plantation controlled by PTP XXIII Bantaran. (2) In the South with Pidjiombo Plantation controlled by Perhutani. (3) In the West and North with Mount Kawi and Batok Protection Forest.

Kulonbambang Plantation is a former *erfpacht* right, covering an area of 936.07 Ha which consists of verponding: (1) Number 71 covering 204.97 Ha; (2) Number 232 covering 629.54 hectares; (3) Number 236 covering 63.14 Ha; (4) Number 311 covering 34.11 Ha; (5) Number 327 covering 4.31 Ha.

At that time, the owner of the Kulonbambang plantation was NV. Cultuur Maatschapij Ardirejo Soerabaja. In 1949 the community had settlements at the Kulonbambang Plantation site and was administratively recognized as Bangunsari Village. In 1966 the people of Bangunsari Village were only permitted to till the land, and their ownership of land at the Kulonbambang Plantation location was not recognized. In 1973 hak guna usaha (right of exploitation) were given to PT. Sari Bumi Kawi with the Minister of Home Affairs Decree Number SK.77 / HGU / DA / 1973 dated October 20, 1973. In the same year (in 1973), Bangunsari Village was abolished, and the people in this village became plantation residents, and administratively belonged in Sumberurip Village. This makes the Sumberurip Village area has two categories, namely: Sumberurip Village located in the plantation area, and Sumberurip Village which is outside the plantation area.

B. Agrarian Conflict

When they became residents of this plantation, Kulonbambang peasants were referred to as *wong persil* (parcel people), namely low class peoples who experienced acute poverty. In the 1998 reforms, Kulonbambang peasants used this moment to reclaim Kulonbambang Plantation land. They form the Pawartaku (Paguyuban Warga Tani Kulonbambang or Kulonbambang Peasant Association), is a member of the Aryo Blitar Peasants Association. The area of Kulonbambang Plantation before redistribution reached 936 Ha, consisting of 420 Ha of tea and coffee, and 328 Ha of clove plants.

The Kulonbambang conflict began in 1998, and ended in 2002, after the Blitar Regent issued a decree, it is as follows: (1) completing all Kulonbambang plantation obligations with Malang KP2LN (Kantor Pengurusan Piutang dan Lelang Negara) and other obligations; (2) releasing part of the HGU (Hak Guna Usaha) area covering 255 Ha, to be used as land reform objects, and to be redistributed to the peasant who are entitled to receive, according to the demands of the community (Pawartaku); (3) submit extension of HGU to the authorized agency.

As a follow up of the Decree of Blitar Regent, on May 1, 2003, the Director of PT. Sari Bumi Kawi releasing part of the HGU (Hak Guna Usaha) area covering 255 Ha with a notary deed, to be redistributed to the peasant of Kulonbambang (Pawartaku members). Yet in its realization, the release of land rights was not carried out by PT. Sari Bumi Kawi, then the peasant of Kulonbambang continued to fight. Furthermore, the Blitar Regency Land Office took the initiative to conduct mediation, to bring together PT. Sari Bumi Kawi with the peasant of Kulonbambang. The result was agreed that the land area to be redistributed is not 255 Ha, but 280 Ha.

C. Agrarian Conflict Resolved

In 2010, PT. Sari Bumi Kawi made the Deed of Release of Rights. This was responded by the Land Office of Blitar Regency by forming a Land Reform Committee which consisted of: (1) Blitar Regent; (2) Head of the Blitar Regency Land Office; (3) Chief of the Resort Police of Blitar Regency; (4) Chair of Blitar District HKTI; (5) Head of Blitar District Agriculture Service; (6) Doko District Head; and (7) Chief of Sumberurip Village.

Then the Land Reform Committee held a Land Reform Meeting, the result of which was a decision, to redistribute the ex-HGU land of PT. Sari Bumi Kawi has an area of 280 hectares to the people of Kulonbambang who have the rights. In 2011 the land reclaimed by peasant of Kulonbambang was approved as TOL (Tanah Obyek Landreform or Landreform Object), covering an area of 280 Ha. In the same year (in 2011), the Blitar Regency Land Office issued a Decree on the Implementation of Landreform and Decree on the Implementation of Land Consolidation.

The Decree on the Implementation of Land Consolidation contains provisions on the implementation of consolidation of ex-HGU land of PT. Sari Bumi Kawi covering an area of 25 Ha. Meanwhile, the Decree on the Implementation of a landreform containing a land area of 255 Ha will be redistributed to the people of Kulonbambang who have the rights, as well as a request to immediately make their land redistribution decree. The request for an immediate Decree on Land Redistribution covering an area of 255 Ha was carried out by the Head of the Blitar Regency Land Office to the Head of the BPN (Badan Pertanahan Nasional or National Land Agency), through the Head of the Regional Office of the BPN in East Java Province.

Two hundred and fifty five hectares of land redistribution are given to 350 peasant households consisting of: (1) Kulonbambang Village community, as many as 60 peasant households; (2) Tlogorejo Village community, as many as 100 peasant households; (3) Kampung Anyar community, as many as 140 peasant households; and (4) the people of Kampung Tlogosari, as many as 50 peasant households.

D. Agrarian Arrangement

The details of land use resulting from redistribution are as follows: (1) For settlements this include residential houses and cattle pens, covering an area of 700 square meters or 0.07 Ha per peasant's household. (2) For cultivation it includes gardens and food agriculture, the area is determined by the Pawartaku organization. (3) For the collective land of the Pawartaku organization, it includes buildings for the education of citizens, agricultural demonstration plots, meeting halls, open fields, and so on. For the benefit of the organization it covers an area of 46 Ha, spread over three villages, namely Bambang Village as wide as 15 Ha, Anyar Upper-Lower and Tlogorejo Villages 21 Ha, and Tlogosari Village 10 Ha. (4) For social and infrastructure it includes places of worship, roads, open fields (football/sports), and others.

The details of the classification of land division by Pawartaku: (1) Classification A is for the leader or member of the organization which is considered to have meritorious and determines victory he gets 4.9 Ha of agricultural land to be cultivated, and 0.07 Ha of residential land. (2) Classification B, is for leaders or figures in organizations that are active in the struggle, obtain agricultural land to be cultivated covering an area of 2 Ha, and residential land covering an area of 0.07 ha. (3) Classification C is for a member of the organization that fights, gets 1.2 Ha of agricultural land to be cultivated, and 0.07 Ha of residential land. (4) Classification D is for young people or young cadres of organizations who are actively involved in the advocacy process, as well as mapping and measurement, they get 0.3 Ha of agricultural land to be cultivated. (5) Classification E is for an organization that accompanies peasant when fighting for land title, obtaining agricultural land to be cultivated covering an area of 1 Ha, and residential land covering 1 Ha.

The redistribution of ex HGU land at PT. Sari Bumi Kawi covering an area of 255 Ha was not carried out based on Government Regulation Number 224 of 1961, but was based on local wisdom, namely an agreement obtained during Rapat Presidium Tanah Perjuangan Kulonbambang or the Kulonbambang Struggle Land Presidium Meeting. At the meeting a classification of recipients of land redistribution was made this benchmarks is as follows: (1) Militancy, namely toughness when struggling; (2) Cultivation, namely those who continue to cultivate land; (3) contributions, namely those who actively fund the struggle; (4) Struggle; namely those who participate in the struggle; (5) Concern, namely those who are active in social and community activities.

Meanwhile, the collective land of 46 Ha designated for the Pawartaku organization was registered in the name of 90 of Pawartaku officials, and a Deed of Agreement was made before a Notary. The goal is that the land is not misused, so that the land can be used by all members of Pawartaku to improve its socio-economic conditions.

E. Land Registration of Landreform Object

Article 2 paragraph (2) of the Presidential Decree Number 55 of 1980 concerning Organization and Procedures for the Implementation of Landreform states that the socio-economic enhancement is carried out by: (1) strengthening property rights and giving content to the rights function; and (2) improving national productivity in order to enhance people's income and living standards.

The TOL (Landreform Object) was certified by the Land Office of Blitar Regency in 2012 include: (1) 35 Ha for collective land, namely for joint arable land, Peasants Education and Training Center, and other public facilities. (2) 25 Ha for housing, roads, rivers, and so on what processed through land consolidation.

The Peasants Education and Training Center is intended to maintain the fighting spirit of Kulonbambang peasants to achieve prosperity. The collective land ownership (35 Ha) is intended to continue to maintain the solidarity of the peasants of Kulonbambang. Then the land parcels resulting from the redistribution carried out in 2011 what registered to obtain a certificate of land ownership, until finally the certificate was issued, and distributed on April 4, 2012. At the handover of the certificate dated 4 April 2012 symbolic planting of tree seeds the donations from Djarum Foundation was done the amount is 5,000 tree seeds and will be planted on collective land.

The certificate of land ownershipthat are handed over to the recipient peasants is that the land redistribution is different from the certificate of ownership in general, because there is a statement that this land is the result of the release of PT. Sari Bumi Kawi HGU, and can not be transferred in part or in whole for 10 years.

The limitation of the transfer effort is intended as follows: (1) There is no concentration of land ownership; (2) There is no seizure of assets when the recipient of the land

redistribution collects his land and defaults on his obligations; (3) Land cultivated by the recipient of land redistribution by himself; (4) A spiritual relationship was established between the recipient of the redistribution of land and the land.

F. Establishment of a Credit Union

On March 9 2013 the recipients of land redistribution formed a saving and credit cooperative *(koperasi simpan pinjam)* was named "Pawartaku Credit Union", the purpose of which was: (1) reviving the spirit of togetherness (collective struggle); (2) fulfill peasants capital needs; and (3) anticipating bad credit, and the release of customer land to other parties.

The Pawartaku member was facilitated by Yayasan Solidaritas Masyarakat Desa (Sitas Desa) or the Village Community Solidarity Foundation, to study the management of credit cooperatives or savings and loan cooperatives to Yayasan Cindelaras or the Cindelaras Foundation in Yogyakarta. In 2017, members of the cooperative "Pawartaku Credit Union" reached 385 people with assets reaching Rp. 370 million.

G. Conclusion

Local peasant organizations that play roles in agrarian reform in Kulonbambang Hamlet was Pawartaku (Paguyuban Warga Tani Kulonbambang or Kulonbambang Peasant Association), who are members of the Aryo Blitar Peasant Association. In the context of forming a cooperative, Pawartaku received support from Sitas Desa (Yayasan Solidaritas Masyarakat Desa or Village Community Solidarity Foundation).

Local peasant organization has roles of: **First**, to build awareness of peasants to obtain land rights. **Second**, to fight against the plantation company which controls the land reclaimed. **Third**, to help resolve the agrarian conflict. **Fourth**, to help agrarian structuring. **Fifth**, to support the registration of land reform objects. **Sixth**, to facilitate the capital access to peasants.

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INCLUSIVE AGRARIAN REFORM DESIGN FOR FAMILY HOPE PROGRAM AND DIFFABLE PEOPLE IN KEDIRI REGENCY

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Abstract
Agrarian Reform according to Presidential Regulation Number 86 of 2018 is carried out through two stages, namely the Asset Reform and Access Reform and there is an expansion of the subject and object of the Agrarian Reform. The research was conducted to design an inclusive Agrarian Reform design that combines Program Keluarga Harapan (Family-Hope Program) and diffable people as subjects and former land use rights in Sempu Village, Ngancar District, Kediri Regency as its object. The research aimed to (1) know the primary need of PKH and diffable people; (2) create the design of inclusive Agrarian Reform for PKH and diffable people, (3) describe the involvement of stakeholders and community participation in supporting the design, and (4) identify the existing constraints in the making of the design. The method used was descriptive-qualitative using a rationalistic approach. The results showed that PKH and diffable people need to improve the quality of life through economy, education, health, and social welfare. There are 52 plots of land that were used as designs for land use, namely agricultural and non-agricultural land. This design is expected to be a new idea in the completion of the Agrarian Reform starting from the asset reform through the granting of corporate and individual rights with land redistribution followed by access reform involving stakeholder synergy.
Keywords: design of agrarian reform; PKH; diffable; inclusive

A. Introduction

Agrarian Reform is part of Nawacita's point 5 which is a national priority agenda to improve social justice and people's welfare by encouraging Land Reform and 9 million hectares of land ownership program. Therefore, the government strengthens this matter by issuing Presidential Regulation Number 86 Year 2018 concerning Agrarian Reform (Perpres Number 86 Year 2018). The issuance of the Perpres appears new things in the implementation of land redistribution including the expansion of the subject and object of land redistribution. The expansion of the subject is divided into 3 (three) individuals, community groups with joint ownership rights, and legal entities. Meanwhile, the expansion of the object of the Agrarian Reform is not only agricultural land, but also non-agricultural land.

Agrarian Reform according to Perpres Number 86 Year 2018 is a restructuring of the structure of authorization, ownership, use, and utilization of land that is more fair through reforming assets accompanied by structuring access to prosperity for the people of Indonesia. Asset reform is the restructuring of the structure of authorization, ownership, use, and utilization of land which aims to create justice in authorization and ownership of land. Asset

reform is the granting of opportunity to access capital and other assistance to support the reforming assets carried out to the subject of Agrarian Reform which aims to improve the welfare with land utilization as its basis or in other words community empowerment.

According to the data from the Directorate General of Agrarian Management of the Ministry of Agrarian Affairs and Spatial Planning / National Land Agency at the 2019 national work meeting, the target of land redistribution in 2018 is 352,906 plots of land and increased in 2019 to 750,000 plots of land spread across 31 Provinces. The Kediri District Land Office received a target for land redistribution of 300 plots of land in 2018 and increased to 600 plots of land in 2019.

As the target for land redistribution increases, new breakthroughs are needed to accelerate the implementation of this land redistribution. Ohe of the ways is through Agrarian Reform with an inclusive land redistribution for the family of hope program and differently abled (Diffable) people. According to Article 1 point (1) Regulation of the Minister of Social Affairs Number 1 year 2018 (Permensos Number 1 year 2018), the Family of Hope Program (PKH) is a conditional social assistance program for families / individuals who are poor and vulnerable who are registered in the integrated data handling program for the poor, processed by the Social Welfare Data and Information Center and designated as PKH Beneficiary Families (KPM). Whereas, Diffable is a different ability to carry out an activity in a way that is considered normal for a human (Bascha 2015). Inclusive is a way of approach to build and develop an open, friendly environment without looking at differences background, characteristics, abilities, economic status, conditions, culture, and others (Rafik 2012). Thus, the design of Agrarian Reform is a land redistribution program that accommodates PKH and the diffable as recipients of land redistribution without discriminating against their background, abilities, physical, economic, social, and cultural conditions.

The design of this inclusive agrarian reform can be seen from 4 (four) aspects, namely (1) the object of agrarian reform with the support of individual ownership rights or joint ownership rights; (2) the use of land that varies with agriculture or non-agriculture; (3) the subject of Agrarian Reform is for PKH and diffable people; and (4) Equality of men and women as subjects of Agrarian Reform. The four aspects above can be expected the recipients of the Agrarian Reform object in order to improve their standard of living.

The embryo that can be used as an asset reform model such as in Sempu Village, Ngancar District, Kediri Regency is ± 9.49 hectares of state land as a result of the release of Cultivation Right Number 1 in Sempu Village by PT Sumber Sari Petung in 2011. This area

produces plots of land that are separately located in Sempu and Ringinsari sub-villages, but still within Sempu village. This land which will be used will be designed as an inclusive Agrarian Reform design.

Embryos that can be used for access reform are imposed on Article 15 of Perpres Number 86 year 2018 which supports to increase economies of scale, add value, and encourage entrepreneurial innovation in the subject of Agrarian Reform. The great opportunities in the access reform begin with assistance, business assistance, facilitation of capital access, and marketing. This has been carried out by the Ministry of Social Affairs through PKH. The purpose of PKH based on Article 2 of Permensos Number 1 year 2018 is to (1) improve the standard of living of KPM through access to education, health and social welfare services; (2) increase the income of poor families; and (3) reducing poverty and being balanced. According to data from the Ministry of Social Affairs in 2017 the number of KPM PKH was 6,228,810 KPM, increasing in 2018 to 10,000,232 KPM. In Kediri District, in 2017 the number of KPM PKH was 44,791 KPM and increased to 78,072 KPM PKH in 2019.

Departing from the description above, this study will discuss Agrarian Reform by reforming its assets through the redistribution of the former state land owned by PT Sumber Sari Petung land and reforming its access requires PKH and diffable people in Sempu Village, Ngancar District, Kediri Regency. The aim of the design of the inclusive Agrarian Reform is to complete the implementation of the Agrarian Reform which has so far conventionally launched a road to design an Agrarian Reform that can truly be used as an inequality reform that functions everywhere. possibly among community members or between generations (Shohibbudin 2018, 47).

From the background discussed above, 4 (four) questions arise to support the design of Agrarian Reform, namely (1) what is the main need in making an inclusive design of Agrarian Reform for PKH and diffable people; (2) How is the appropriate design to realize an inclusive Agrarian Reform that can encourage economic independence for PKH and the diffable people; (3) What forms of stakeholders' participation and community's participation in supporting the success of this design; and (4) What will be moved in making this design?

The method used is a qualitative research method with rationalistic research. This research is examined from (1) the meaning and interpretation of Presidential Regulation Number 86 Year 2018; (2) analysis of the implementation of the land redistribution program that has been carried out in Sempu Village in 2012, 2013, and 2014; and (3) analysis of the programs, policies and decisions of relevant stakeholders in Kediri Regency. The next step is

to combine the three things into an updated design by making the Agrarian Reform inclusive for PKH and the diffable people with an appropriate, easy to implement, and able to improve their economy.

An initial study on Agrarian Reform was carried out by Winoto (2008) by creating an alternative model of unification of subjects and objects in the same location as well as delivery mechanisms to build business activities to improve the standard of living of potential beneficiaries. Another study conducted by Nurdin (2017) is by asking the model of the Desa Maju Reforma Agraria (Damara) as a combination of agrarian coordination and village development for poor families / farmers who do not own land. The aims are to (1) reduce structural inequalties and agrarian conflicts; (2) participatory and sustainable spatial planning; (3) forming joint business groups in the village; and (4) encouraging integrated pre-production, production, and post-production of agriculture at the same time as self-help by the community. In line with the above study, Shohibuddin (2016) designs an Agrarian Inclusive Village by establishing (1) democratic relations between the state and village in the management of Agrarian Resources (SSA) in the village, (2) democratic relations both within the village and outside the village in SSA governance, and (3) guarantee of community economic and political access to the SSA in the village.

In general, this research relies on studies that have been carried out before, but in the course of the study, there has not been much room for Agrarian Reform for PKH and the diffable people. In the future, this research is expected to fill the space by making an inclusive design of Agrarian Reform for PKH and the diffable people.

B. Inclusive Agrarian Reform

1. The Main Needs of the Family Hope Program and Diffable People

The main needs needed by KPM PKH and the diffable people are how to improve the quality of life of poor/vulnerable families through improved economic access, education, health, and social welfare to be more directed and sustainable. PKH is an inseparable part of national development. If PKH runs successfully, it will be an indicator of the success of national development through poverty reduction.

The mechanism of PKH implementation starts from planning, validating PKH data, determining PKH participant candidates, family capacity building meeting, monitoring and evaluation. PKH's journey over time has proven to be the most effective social assistance program and has a significant direct impact on poverty reduction in Indonesia. It can be seen

from a number of indicators including (1) the reduction in poverty rates to 0.58%; (2) the PKH program has expanded from year to year throughout Indonesia; (3) increasing KPM PKH access to health, education and social welfare facilities; and (4) increasing income and educational achievement while reducing dropout rates.

Sempu village has 232 KPM PKH with 301 components. Every PKH KPM has 1 PKH caretaker in the family who is assigned as an intermediary for the delivery of information from PKH facilitators. The PKH caretaker was involved in the inclusive Agrarian Reform design plan made by researchers. The majority of KPM PKH has PKH components for school children ranging from elementary, junior high, and high school. In addition, the majority of the livelihoods of PKH KPM are farm laborers and have an average income ranging from 1,000,000.00 IDR to 1,500,000.00 IDR every month. The biggest hope of KPM PKH is to get venture capital assistance.

a. Rights and Obligations of the Hope Family Program

PKH subjects in implementing this program have rights, obligations and sanctions. PKH has the right to include (1) getting social assistance and complementary assistance; (2) getting facilitation, advocacy, and mediation from PKH facilitators; and (3) get health service facilities, education and social welfare. The details of PKH rights are as follows.

1) Social Assistance and Complementary Assistance

According to Article 1 points (6) and (8) Permensos Number 1 of 2018 states that PKH social assistance is assistance in the form of money, to a family and / or someone who is poor, unable and/or vulnerable to social risks. Meanwhile, complementary assistance is assistance in the form of money, goods, and services in the fields of health, education, energy subsidies, the economy, as well as meeting other basic needs as a complement to social assistance.

The president's direction in a limited meeting on Inclusive Finance on April 26, 2016 in Jakarta stated that every social assistance and subsidy that was distributed non-cash or entered into the account number of each KPM PKH. The aims are to (1) increase efficiency, transparency, and accountability in the distribution of aid; (2) provides opportunities to save and manage finances; and (3) facilitate the integration of other social assistance in the framework of poverty alleviation programs.

Table 1 Amount of Money Received by All PKH Components in Sempu Village

No	Component	Participants	Number of Participants	Number of Assistance Each Participant *(IDR)*	Overall Amount *(IDR)*
1	Health	Pregnant/Nursing mothers	10	2.400.000	24.000.000
		Children aged 0-6 years old	35	2.400.000	84.000.000
2	Education	Primary School Students /Equivalent	112	900.000	100.800.000
		Middle School Students/Equivalent	47	1.500.000	70.500.000
		High School Student/Equivalent	21	2.000.000	42.000.000
3	Welfare	Severe Disabilities	1	2.400.000	2.400.000
		Elderly	75	2.400.000	180.000.000
Amount			**301**		**503.700.000**

Source: Results of Secondary Data Processing by Researchers, June 2019

The amount of assistance for each PKH participant is divided into 4 phases or divided every 3 months. In addition to KPM PKH receiving social assistance, they were also given education and socialization by PKH facilitators on banking on how to manage finances carefully for their lives to be more directed, planned, and sustainable.

Complementary assistance has a role in supporting the PKH program as one of the poverty reduction programs and accelerating sustainable national development. Complementary assistance programs involve several ministries and state-owned corporation. There are 6 (six) complementary assistance programs in Sempu Village, namely (1) the implementation of the Smart Indonesia program by providing educational facilities using the Smart Indonesia Card (KIP) as a sign of membership; (2) the implementation of the Healthy Indonesia program by providing services and access to health at the nearest health facility using the Healthy Indonesia Card (KIS) as a sign of membership; (3) non-cash food assistance to KPM PKH every month in the amount of 110,000.00 IDR in the form of rice and eggs through 2 agents in Sempu Village appointed by the Social Service Office of Kediri Regency; (4) subsidized LPG cylinders and the provision of stoves to each KPM PKH that has been carried out once; (5) the provision of PLN subsidies to PKH houses that have electricity with 450 VA power in accordance with the integrated data for the poor handling program; and (6) the provision of elderly social security in the amount of 2,000,000.00 IDR to 15 KPM PKH in Sempu Village, which is divided once every 3 months in the amount of Rp. 500,000.00 IDR.

2) Assistance to the Harapan Families Program

PKH subjects and PKH facilitators conduct a Family Capability Enhancement Meeting (P2K2) at least once a month as a structured learning process to strengthen the behavior

changes in PKH KPM. P2K2 has 5 (five) objectives, namely (1) increasing knowledge and skills regarding the importance of education, health, and financial management for parents and children; (2) maintaining and strengthening positive behaviors related to the economy, child protection, disability, and the elderly; (3) increase the ability of participants to recognize the potential within themselves and their environment so that it can be used to improve the welfare of their families and communities; and (4) building the ability of PKH participants to make decisions, and determine their own future.

All facilitators in Ngancar District every Monday and Friday hold a meeting with fellow PKH facilitators for planning activities, socialization, education, evaluation, and monitoring regarding PKH. PKH assistants provide assistance to each PKH KPM using the home visit method or hold PKH caretaker meetings in the village to improve the ability of PKH KPM.

3) Health, Education and Social Welfare Facilities Services

PKH participant rights besides getting social assistance and complementary assistance also get facilities in the fields of health, education, and social welfare. This program also provides obligations for PKH participants in order to improve their standard of living.

Table 2. Obligations and sanctions of PKH participants

No	Component	Participants	Obligations
1	Health	a. Pregnant/Nursing mother	1) Examination of pregnancy in health facilities 4 times in the trimester 3x. 2) Childbirth by health workers in health facilities 3) Health check twice before the baby is 1 month old
		b. Children aged 0-6 years old	1) Complete immunization 2) Routine weight check 3) Providing supplements / vitamin
2	Education	Primary, middle, and high school students/equivalent	1) Registered at a school / equality education 2) Minimum 85% of class attendance
3	Welfare	a. Severe disabilities	1) Health maintenance as needed. 2) Health checks can be carried out by health workers through home visits
		b. Elderly	1) Health checks can be carried out by health workers or visiting elderly polite health centers (if available). 2) Participating in social activities (day care and home care)

Source: Results of Secondary Data Processing by Researchers, June 2019

Sanctions given to PKH participants who did not follow the directions of PKH implementation were given a sanction of reducing aid by 10% for each month. Then, if the PKH component does not fulfill commitments for three consecutive months, it cannot receive assistance at a later stage (Ministry of Social Affairs 2015, 7).

b. Diffable People Rights and Obligations

Persons with disabilities in Indonesia begin to guarantee (1) equal accessibility to persons with disabilities, (2) equal position in law, and (3) equality of human rights. Most people with disabilities in Indonesia live in vulnerable, underdeveloped, and poor conditions due to the limitations, obstacles, difficulties and deprivation of the rights of persons with disabilities. Persons with disabilities need assistance, protection, attention, and fulfillment of the same rights in order to lead a prosperous, independent and non-discriminatory life. Village officials, Sempu Village community, and PKH facilitators need to work together to ensure equality in education, health and social welfare services for persons with disabilities or diffable people. One of the efforts to handle the problem of persons with severe disabilities is carried out by the Ministry of Social Affairs through the Assistance Program for Persons with Severe Disabilities.

The data of diffable people in Sempu Village in 2017 amounted to 26 people, then researchers interviewed 8 (eight) of them. Some of them get recognition, protection, and fulfillment of the same rights as other communities. The right of persons with disabilities is to participate and get assistance from both the regional and village governments. The goal is that they get an independent and prosperous life. On the other hand, not all of the implementation in Sempu Village got it. One of them is due to the lack of openness of the family of diffable people to get used to socializing with the surrounding community. In addition, the diffable people lacked confidence in the potential that exists in him even though he was actually able.

2. Design of Inclusive Agrarian Reform

The inclusive design of Agrarian Reform that will be discussed in this study includes assets reform and access reform. The uniqueness that exists in Sempu Village is trying the opportunities for PKH and diffable people involvement to reduce the gap of ownership, land tenure, and accelerate national development by making PKH or the diffable people as development agents. State land used in this program is the release of PT Sumber Sari Petung (SSP) Cultivation Rights in 2011 covering ± 9.49 ha or 52 plots of land that have not been included in the 2012, 2013, and 2014 land redistribution program because (1) the name did not match the list of beneficiaries of land redistribution program, (2) potential beneficiaries are classified as 'doubtful' and some have died, and (3) some of the land is sold under the hands of persons to people outside the village. The details can be seen in table 4.

Table 3. Types of Land Redistribution in Sempu Village in 2012, 2013 and 2014

No.	Classification	Beneficiaries	Number or plots of land	Total Area *(hectares)*
1	Type A	Communities whose land became the land of PT SSP's HGU in 1968 – 1969	25	6,48
2	Type B	Communities residing in the village but whose land is not the land of PT SSP's HGU	2	0,30
3	Type C	Communities that do not yet have a house (Rumpang Karang)	14	1,67
4	Type D	Communities that at the time of registration (inventory) have only just married	11	1,04
Jumlah			**52**	**9,49**

Source: Puslitbang BPN RI, 2013

In terms of land use and utilization, the majority of Sempu Village is used for pineapple farming and sometimes uses intercropping of clove or avocado plants (Puslitbang BPN RI, 2013). In 2019 there will be even more variety in agriculture, which will encroach on other fruit and vegetable crops. The current tenure and ownership of the land redistribution program is undergoing a lot of changes because (1) buying and selling under the hand, (2) the land management system with bonded or leased, and (3) some are inherited to heirs and then divided into small parts in terms of family cultivation of the land.

The village government has the authority to support the design of inclusive agrarian reform, one of which is by making village regulations (Perdes). According to the explanation of Law Number 6 year 2014 concerning Villages, the Perdes were stipulated by the Village Head after being discussed and agreed with the Village Consultative Body whose drafting process included the participation of village communities. This Perdes is used as a legal framework as well as a policy in the administration of government and village development so it must not conflict with statutory regulations.

The purpose of the Perdes in the design of this inclusive Agrarian Reform is to (1) strengthen cooperative management institutions as joint rights holders, (2) strengthen recipient subjects both PKH caretaker and diffable people, (3) regulate the community empowerment model, and (4) regulate the use, utilization and management of land, from pre-implementation to post-redistribution of land. All of this aims so that the land given to PKH caretaker and diffable people can be cultivated more efficiently, productively, and sustainably. A map of the Agrarian Reform design plan can be seen in Appendix A.

The researcher elaborated on the subject's criteria for PKH and the diffable people in Sempu Village. The criteria for the subject here are divided into 2 (two), i.e.

a. Family Hope Program

PKH subjects included in the design were PKH caretakers totaling 232 KPM PKH and divided into two criteria including:

1) PKH caretaker who is physically capable to manage agricultural land, and
2) PKH caretaker who are unable to physically manage agricultural land are then included in the non- agricultural design.

b. Diffable People

Diffable people in Sempu Village numbered 26 people. The diffable people subjects included in this design also have the following criteria:

1) Difable people who are physically capable and become the subject of Agrarian Reform totaling 7 (seven) people consisting of 5 diffable people and 2 potential tuna persons; and
2) People with diffable who are physically unable to be subject to Agrarian Reform because their lives depend on their families totaling 19 people consisting of 5 people with mental disabilities, 4 people with mental disorders, 7 people who are deaf, 2 people who are blind, and 1 person with severe disabiliy. Then what was included in this design was one of the diffable people in his family.

After the subject of the inclusive design of Agrarian Reform has been identified, the researchers then divide into 3 (three) designs, namely (1) ownership, consisting of individual ownership and joint ownership, (2) land use, which consists of agricultural and non-agricultural land use, (3) access reform, which consists of relevant stakeholder programs that support the design of this inclusive Agrarian Reform.

a. Ownership Right Design

Agrarian Reform Opportunities that can be utilized for PKH and the diffable people in Sempu Village, namely by individual ownership rights and joint ownership rights that are determined through village planning and development (musrenbang). Musrenbang is a planning forum (program) implemented by the village government, village communities, and other stakeholders. Musrenbang is able to build an understanding of the interests and progress of the village by photographing the potential and sources of development that are not available from both inside and outside the village (Djohani 2008, 3).

The determination of this ownership model learns from the experience of land redistribution that has taken place in Sempu Village, in which some land is traded under the hand, even though it is not permissible to transfer it within 10 years. The majority of the

causes of buying and selling are due to economic factors and are prone to exclusion. Exclusion is a situation where people are in a situation of not having access to land or a situation where land is controlled in the form of private ownership that results in poor people being driven out of their land by or over people in power. Conditions and exclusion processes are created from the interaction of four powers, namely regulation, power, market, and legitimacy. Real examples include the government's land certification program, the process of land tenure or cultivation (leasing, buying and selling, pawn, profit sharing, credit, and debt receivable), and land conversion (Hall, Hirch & Li 2011). To protect that, all researchers made 2 (two) designs of their ownership models as follows.

1) Individual Ownership Rights

The process of granting land of individual ownership right is given to KPM PKH in the poorest category according to the integrated database (BDT) managed by the national team for the acceleration of poverty reduction. The PKH subject determined for individual ownership here is based on the existing BDT in the village through the village musrenbang mechanism by making the priority scale of the PKH participant the most suitable for obtaining the land redistribution certificate. The main requirement is that the PKH subject does not own land, works as a poor farm laborer, and is known to have a work ethic and a strong will to work on the land to be given. The expectation of granting individual property rights is to provide land assets to farm workers who do not own land and fall into the category of poor / small but have the capacity, ability, and a strong work ethic in managing land. Furthermore, the village government facilitates for the reforming of its access assisted by local governments and related agencies.

2) Joint Ownership Rights

The subjects used here are community groups formed by village musrenbang. Community groups consisting of PKH and diffable people can be in the form of cooperatives or business entities that are formed with legally binding perdes and have a clear vision going forward. The hope is to be able to absorb the workforce and be able to provide considerable economic opportunities and be supported by both the village and regional governments. The advantage of this ownership design is that it is strong in ownership because it is not privately owned but is a group so that it reduces exclusion and the land is actually utilized. In addition, the implementation can be felt by all members of the group. The mechanism used is the consolidation approach of the village in terms of ownership. This group cooperates with

Bumdes and the Small and Micro Enterprises (UKM) of the village as partners and supporters to strengthen this group.

The village government in supporting this joint ownership right must create a Perdes that is used to strengthen the group's institutions which include (1) PKH subjects and diffable people as members of cooperatives, (2) funding sources, (3) management, (4) revenue sharing, and (5) beneficiaries. The land management model is similar to the agrarian waqf design in which management is given to the community groups and used as shared resources (Shohibuddin 2019, 69). The aim is that the land can be cultivated more efficiently, productively and sustainably by cooperatives.

b. Land Use Design

1) Design of Agricultural Land Use

The Agrarian Reform Land Objects which will be made into a design are 49 agricultural land plots which are located separately and are located in 2 (two) hamlets, namely Sumberpetung and Ringinsari Hamlets. The land is divided into the subject of Agrarian Reform both individuals and community groups so that the land can be used optimally by the people of Sempu Village. Then, the technical distribution through the village musrenbang mechanism by making a perdes to strengthen the legality of the law while making it easier to get capital assistance from the village, regional and central government.

The use of agricultural land is managed by cooperatives formed through Perdes. The management of cooperatives from PKH and diffable people are given the freedom to regulate how to use and make use of this agricultural land. It is started from the plants to be planted, the production sharing system, marketing and profit sharing. Some of the profits from this management are returned to the cooperative for business development. In terms of ownership rights are stronger because to reduce land fragmentation and institutionally more solid because they have a spirit of togetherness, family, and the desire to progress.

PKH caretaker and diffable people who are members of the cooperative do their own land using the rotating planting system. Meanwhile, other cooperative members helped implement it. To support this design, the village and regional governments helped to encourage the sustainability of the cooperative by providing funds and assistance. One source of funds that can be utilized is through the mechanism of using village funds.

2) Design of Non-Agricultural Land Use

The land that is used as a design for non-agricultural land use amounts to 3 fields which are located in Sumberpetung Hamlet and next to the Indian Village tour. This is a great

potential that can be utilized as an economic center and a local UKM production center in Sempu Village. Examples of a village economic center that can be built are as follows.

a) Mini market for marketing local products in Sempu Village and surrounding areas as village icons,
b) Village meetinghouses for village development activities,
c) Stage for displaying local village arts, and
d) Production room for small and micro creative economy businesses in Sempu Village.

This non-agricultural land management is assisted by Bumdes and involves local UKM to increase the carrying capacity in this design. PKH caretaker and diffable people who are unable to carry out agricultural activities due to physical limitations are involved in the management of this non-agricultural land design because physical activity is not too much and can be empowered in the production of creative economy and UKM Sempu Village. PKH was involved in the production and marketing stages of the creative economy managed by Bumdes and also seven types of UKM in Sempu Village. Meanwhile, the diffable people were involved in marketing by becoming a mini market employee for marketing local products in Sempu Village.

3) Institutional Design

This institutional design is a description of who the relevant stakeholders are in Kediri Regency including (1) the Land Office; (2) Social Office; (3) Cooperatives and Micro Business Office; (4) Agriculture and Plantation Office; (5) Ngancar Village Office; and (6) Financial Institutions; (7) PKH, diffable and community. This institutional design aims to support the implementation of an inclusive Agrarian Reform design in Sempu Village which must synergize effectively, efficiently, and sustainably. The overall design is described in a short scheme which can be seen in Appendix B and Appendix C.

3. Forms of Stakeholder Involvement and Community Participation

Stakeholders' involvement starts from planning, implementation, post implementation, monitoring, and evaluation. The aim is to motivate, facilitate, and bridge the needs of PKH and the diffable people with the implementation of the Agrarian Reform program. The involvement of relevant stakeholders in supporting the empowerment of PKH and the diffable people must be supported by the synergy between relevant stakeholders. In the case of the design of an inclusive Agrarian Reform for PKH and the diffable people only need to

combine the potential of land redistribution in terms of structuring their assets with access reform made by the involvement of relevant stakeholders below.

a. Land Office of Kediri Regency

The land office has full control in asset reform of the design of the inclusive Agrarian Reform, namely its land redistribution program. Involvement starts from (1) preparation of operational operational instructions, (2) coordination of preparation and planning of activities, (3) determination of location, (4) counseling, (5) inventory and selection of subjects and objects, (6) measurement and mapping of fields, (7) the panel of landreform consideration committee in order to determine the subject and object of redistribution, (8) determination of land redistribution object, (9) issuance of the land redistribution decree, and (10) the issuance and submission of certificates. Another task of the land office is to connect with related agencies after the land redistribution program to strengthen the assets and cultivation of their land so that the recipient of the land can utilize their land optimally to improve their welfare.

b. Social Office of Kediri Regency

The Social Office plays a role in the selection of PKH and diffable people and makes assistance activities after the Agrarian Reform program with relevant stakeholders. Social Office in Kediri Regency has programs in overcoming the poor through PKH and the diffable people in 2018 and 2019 including (1) training on making processed food product in 12 villages, (2) training on making crafts in 10 villages, (3) making fertilizer in 1 village, and (4) providing assistance for business development to 14 diffable people from Bank Negara Indonesia, which is carried out at the Social Office of the Kediri Regency

c. Cooperative and Micro Business Office of Kediri Regency

The Office of Cooperatives and Micro Business plays a role in training, mentoring, and strengthening of businesses to PKH participants and the diffable people by collaborating with relevant stakeholders. At present, UKM in Kediri Regency are encouraged to be more advanced and must go public in line with the construction of a new airport in Kediri Regency which is under construction.

The Office of Cooperatives and Micro Business has a program of activities that have been carried out in 2018 and 2019 including (1) training on product variants such as cassava and tofu; 2) Mangga Podang festival as a local brand of Kediri Regency; 3) a preservative tofu festival prepared to go international; 4) training of processed food products; (5) capital assistance to micro and small entrepreneurs; (6) assessment of quality, quantity and

continuity of products in cooperation with UKM of East Java Province as well as the Food and Drug Supervisory Agency of Kediri Regency (BPOM); (7) training of processed food products in 37 villages; (8) training in making crafts in 17 villages; (9) training in making souvenirs, screen printing, footwear, and shoes in 8 villages; (10) packaging training in 1 village; and (11) training for new entrepreneurs in 7 villages.

d. Agriculture and Plantation Office of Kediri Regency

The task of the Agriculture and Plantation Office of the Kediri Regency is assisted by the Agricultural Extension Center (BPP) in each district. The program of activities carried out by BPP in Ngancar Subdistrict in 2018 and 2019 are (1) training of processed food products, (2) training and post-harvest cultivation, (3) providing assistance of pineapple seeds and other plants, (4) field schools conducted 8 meetings involving farmer groups combined, and (5) provision of agricultural machinery.

Kediri Regency is the third largest pineapple producer nationally because in addition to suitable land, many pineapple enthusiasts also have pineapple fruit varieties namely Pasir Kelud I and Pasir Kelud II as local brands so as to create economic added value in Ngancar District. This must be supported by relevant stakeholders to strengthen institutions, industries, and infrastructures in order to increase pineapple production and productivity of pineapple farmers in Ngancar District.

e. Sempu Village Office

The role of the apparatus and the Head of Sempu Village here cannot be relinquished in supporting the design of inclusive Agrarian Reforms including (1) the process of land redistribution from planning, implementation to post-program activities; (2) determining the subject and object of Agrarian Reform through village musrenbang; (3) development of productive-scale agricultural economic enterprises focused on policy (one village one superior product) which covers aspects of production, distribution, and marketing using village funds; (4) capacity building for PKH and the diffable people; and (5) mediating between top down local government policies and bottom up community aspirations or participation.

f. Financial Institutions

The financial institution recommended by the Kediri Regency Social Service is the Kediri Regional Bank because it has a lower interest rate than other financial institutions which is 6% each year. In addition, the cooperation that can be done is in partnership with the Sri Jaya cooperative. This cooperative is a joint farmer group cooperative which is one of

the most advanced in Ngancar Subdistrict located in Sempu Village. This cooperative offers a low interest rate of 3% each year. Aside from being a savings and loan cooperative, it also provides agricultural needs such as seeds, agricultural machinery, fertilizers, etc. in Sempu Village with an average turnover of 400,000.00 IDR until 500,000.00.IDR. Financial institutions are also encouraged to carry out a Corporate Social Responsibility (CSR) program to Sempu Village to improve the welfare of the community while at the same time encourage sustainable economic development to improve the quality of life together. Examples of CSR that can be implemented by providing educational scholarship assistance, building public facilities, and providing financial assistance that is useful for PKH and the diffable people in Sempu Village

g. PKH, Diffable People and Community Participation

The participation model carried out by the community in general as well as PKH and the diffable people in particular in Sempu Village pushed for bottom up policies. The policy is important because the community knows better what they need in their daily lives which can significantly improve their welfare. Most programs carried out by the local government and the central government directly run the program regardless of the potential of the village community and what the community wishes. This needs to be avoided for the implementation of this inclusive Agrarian Reform program so that implementation between the central, regional and village governments goes hand in hand, directed, and sustainable.

4. Obstacles encountered

Constraints in dealing with the inclusive design of Agrarian Reform are challenges that must be faced for the betterment of the village and its people. These constraints include (1) the land object of the inclusive Agrarian Reform is partly controlled by residents outside the village of Sempu, (2) the planning of the inclusive Agrarian Reform design must harmonize the policies of the central/regional government that are top down with proposals from PKH and the diffable people are bottom up, (3) the willingness of the community to start a new concept is rather difficult and requires a relatively long time; and (4) lack of Corporate Social Responsibility (CSR) from Kampoeng Anggrek and Kampung Indian tourism place to Sempu Village.

C. Conclusion and Recomendation

1. Conclusion

The design of inclusive agrarian reform is expected to be a new idea in the completion of conventional agrarian reform. This design includes the implementation of land redistribution starting from granting individual ownership rights and joint ownership rights with the use of agricultural and non-agricultural land. Furthermore, the implementation of access reform involves the synergy of relevant stakeholders and identifies any obstacles that will occur in their implementation.

The main needs needed by KPM PKH and the diffable people are how to improve the quality of life of poor families to be more directed, prosperous, and sustainable through improving economic access, education, health, and social welfare. You do this by giving rights as well as obligations to PKH and the diffable people through social assistance, complementary assistance, and the Family Ability Improvement Meeting (P2K2).

2. Recommendation

a. The implementation of the inclusive Agrarian Reform design must be supported by all relevant stakeholders and top-down government policy directions must be in sync with the wishes of the community, PKH, and diffable people through bottom-up villages.
b. This program requires openness and synergy between stakeholders related to the implementation of the program that has been implemented as well as what will be implemented. The goal is that the program policies implemented by the relevant stakeholders can be directed, sustainable, and do not overlap the roles within them.
c. Improving Corporate Social Responsibility of Kampoeng Anggrek and Indian Village tourism

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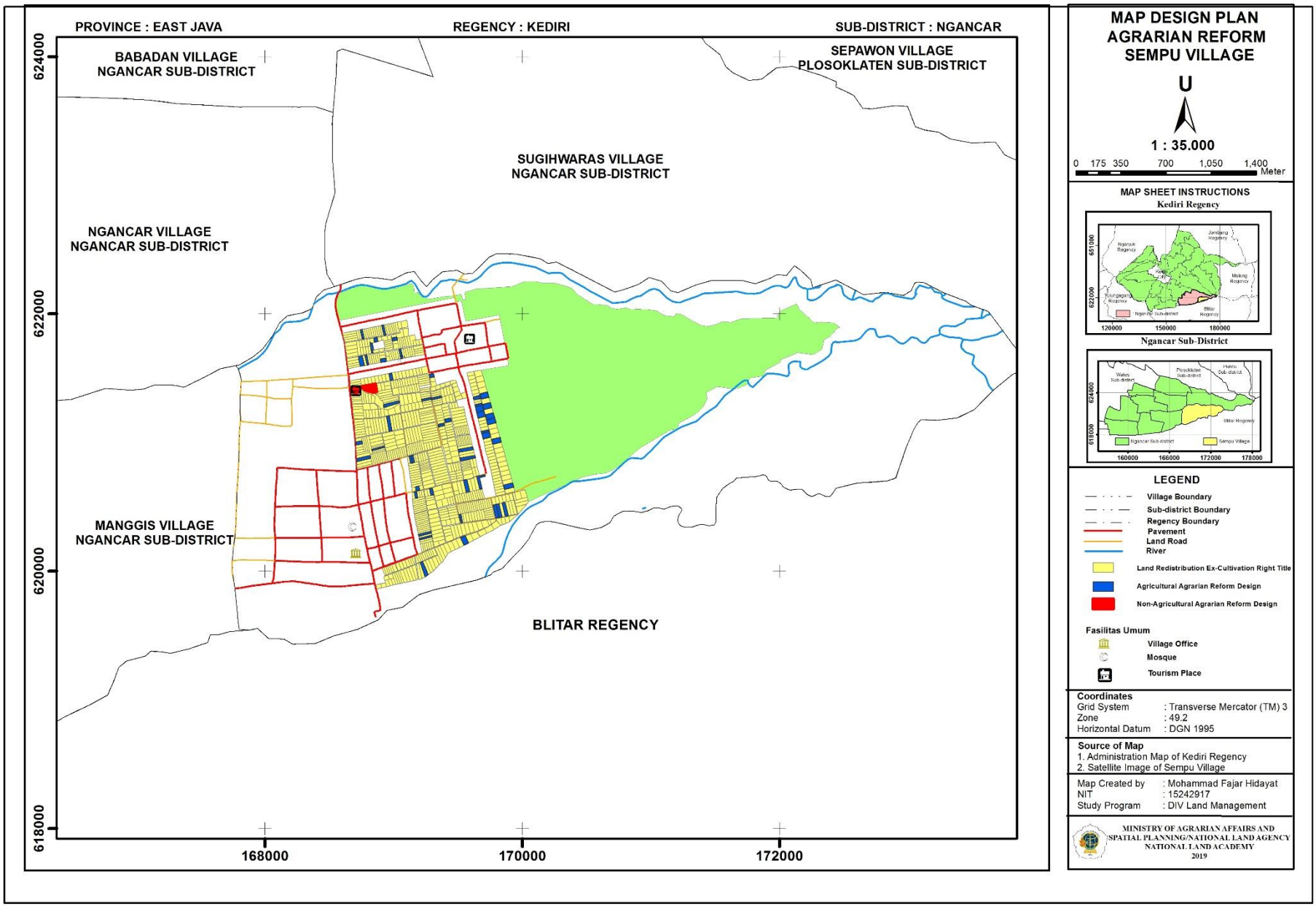
Minister of Education and Culture Regulation Number 50 Year 2015 concerning General Guidelines for Indonesian Spelling

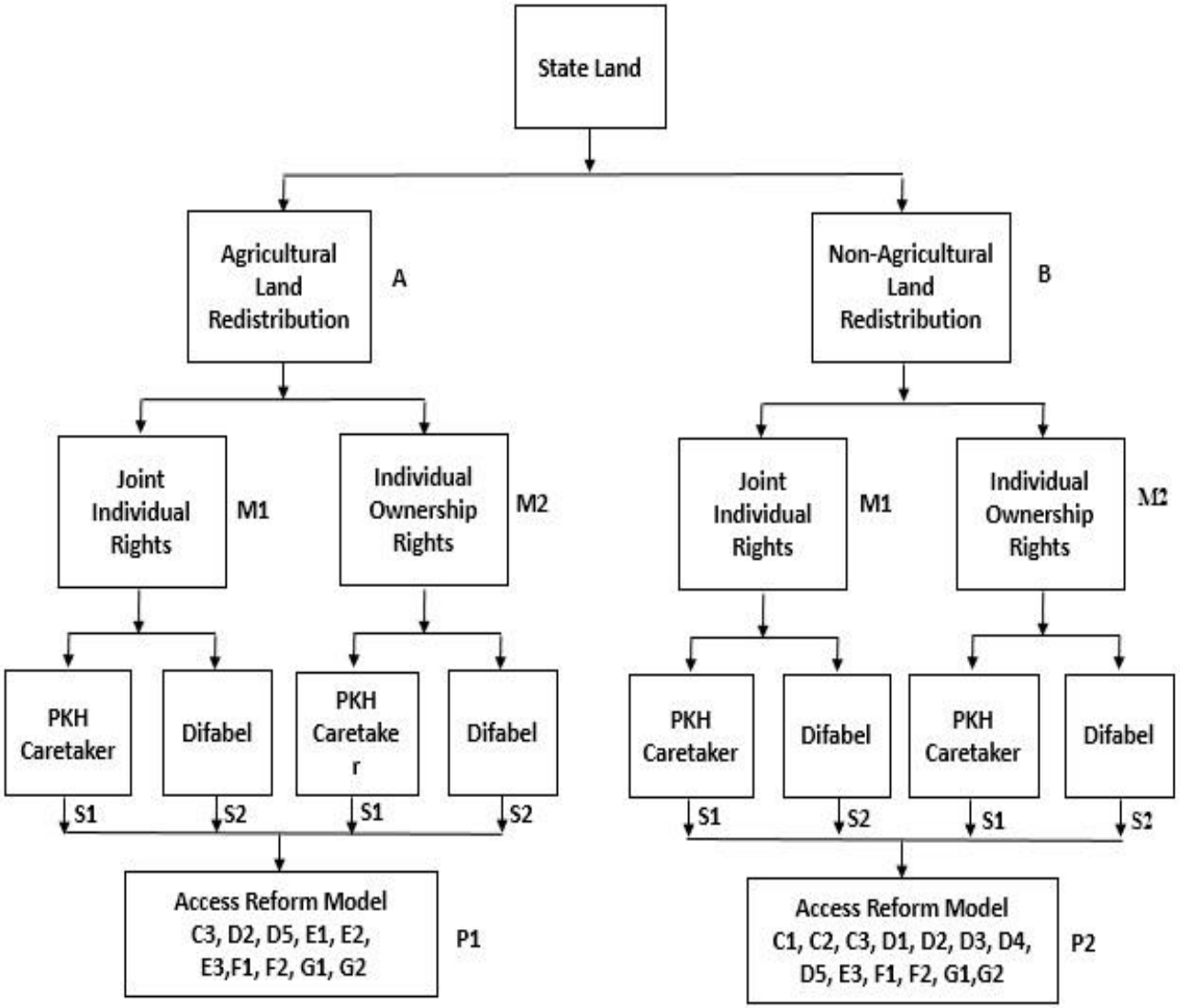
Presidential Regulation Number 86 Year 2018 concerning Agrarian Reform

Appendix A



Picture 1. Map of Sempu Village's Inclusive Agrarian Reform Plan
Source: Results of Secondary Data Processing by Researchers, June 2019

Appendix B



Access Reform Model of PKH and Difabel

Social Office (C)
1. Training on making food preparations
2. Craft making training
3. P2K2 PKH and Disabilities

Cooperative and Micro Business Office (D)
1. Increasing the quality of production, product development and diversification
2. New Entrepreneur Training
3. Training, assistance for product distribution and marketing
4. Strengthening and protecting the business
5. Facilitating capital and entrepreneurship development

Agriculture and Plantation Office (E)
1. Provision of assistance for plant seeds and agricultural machine tools
2. Training in improving the quality of seeds and plants
3. Product training, facilitation, distribution and post-harvest marketing

Sempu Village Office (F)
1. Granting assistance with the village fund mechanism
2. Granting distribution and marketing support

Financial Institutions (G)
1. Granting capital assistance
2. Granting Corporate Social Responsibility (CSR)

Picture 2. Flow Chart of Access Reform
Source: Results of Secondary Data Processing by Researchers, June 2019

Appendix C

No	Kode	Penataan Aset	Penataan Akses
1	AM1S1P1	Granting state land by the mechanism of redistribution of agricultural land with joint ownership rights to PKH administrators	a) Family Capacity Building Meeting (P2K2) b) New Entrepreneur Training c) Facilitation of capital and entrepreneurship development d) Provision of assistance for plant seeds and agricultural machine tools e) Training in improving the quality of seeds and plants f) Product training, facilitation, distribution and post-harvest marketing g) Providing assistance with village funding mechanisms h) Product distribution and marketing support i) Providing capital assistance j) Providing Corporate Social Responsibility (CSR)
2	AM1S2P1	Granting of state land through the mechanism of redistribution of agricultural land with joint ownership rights to the difabel people	
3	AM2S1P1	Granting state land by the mechanism of redistribution of agricultural land with individual ownership rights to the PKH management	
4	AM2S2P1	Granting of state land by the mechanism of redistribution of agricultural land with individual property rights to persons with difabel people	
5	BM1S1P2	Granting state land through the mechanism of non-agricultural land redistribution with joint ownership rights to PKH management	a) Training on the preparation of food preparations b) Training in making crafts c) P2K2 PKH and Difabel d) Increasing the quality of production, development and product diversification e) New Entrepreneur Training f) Training and assistance for product distribution and marketing g) Strengthening and protecting the business h) Facilitation of capital and entrepreneurship development i) Product training, facilitation, distribution and post-harvest marketing j) Providing assistance with village funding mechanisms k) Product distribution and marketing support l) Providing capital assistance m) Providing Corporate Social Responsibility (CSR)
6	BM1S2P2	Granting state land by the mechanism of non-agricultural land redistribution with joint ownership rights to the management of persons with difabel people	
7	BM2S1P2	Granting of state land by the mechanism of redistribution of non-agricultural land with individual ownership rights to PKH management	
8	BM2S1P2	Granting of state land by the mechanism of non-agricultural land redistribution with individual ownership rights to persons with difabel people	

Picture 3.. Access Reform Explanation
Source: Results of Secondary Data Processing by Researchers, June 2019

LAND REFORM IN BANTUL : REGISTRATION OF AGRICULTURAL LANDS FROM ABSENTEE LAND

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Abstract

Redistribution of the object of land reform is the distribution of land controlled by the state and has been confirmed as an object of land reform given to cultivators who have met the requirements of Government Regulation No. 224 of 1961. One object of land reform is absentee land. Land redistribution has been carried out in various regions in Indonesia including in Bantul Regency, Yogyakarta Special Province, in 1981, 1982, 1990 and 1992. In implementing the redistribution of agricultural land from absentee land, several problems appear: 1) the recipient of a redistribution decree has not registered to the land office; 2) the exact number of objects of land reform that have or have not been issued is unknown; 3) the emergence of problems related to the transfer of objects of land reform; 4) the existence of constraints faced by recipients of redistribution in implementing the required provisions in a redistribution decree. This paper describes the implementation of the registration of agricultural lands from absentee land in Bantul Regency and the factors that hinder the implementation of the process of registration and the solutions. The implementation of the registration of agricultural lands from absentee land in Bantul Regency is completed through two mechanisms: 1) re-redistribution of land registration; and 2) new redistribution of land registration. Factors that hinder the implementation of registration of agricultural land from absentee land can be divided into two types: 1) subject and/or object of land redistribution that has not been registered by the recipient of the redistribution listed in the redistribution decrees of 1990 and 1992; and 2) the inheritance factor of objects of land reform.
Keywords : land reforms; land redistribution; land registration; absentee land.

A. Introduction

Inequality of tenure, ownership, use, and utilization of land and the difficulty of community access to land are major problems that are being faced by the Indonesian people. The concentration of land in a small part of the community on one side and the many people who do not own land, on the other hand, have an impact on the escalation of conflicts and land disputes.

One of the government's efforts to create an optimal and fair arrangement of tenure, ownership, use, and utilization of land is through the Land Reform policy through land redistribution. Land redistribution is the distribution of lands that are controlled by the state and have been confirmed as being objects of Landreform given to smallholders who have fulfilled the requirements of Government Regulation No. 224 of 1961, with the aim of improving the socio-economic situation of the people by means of equitable and fair distribution of land over the sources of livelihood of the peasants in the form of land, so that with this division a fair and equitable distribution can be achieved (BPN, 1996).

Land redistribution has been carried out in various regions in Indonesia, but in fact many redistribution decrees issued during the initial land reform implementation in Indonesia were issued only to achieve targets so that they did not pay attention to

administrative order, the location of distributed land was unclear, redistribution recipients did not control and working on the land, after exceeding the fifteen-year term the recipient of the redistribution does not fulfill the obligations in accordance with the provisions required in the redistribution decree, many even transfer their rights without permission before fulfilling the obligations specified in their redistribution decree, causing problems and prolonged disputes.

In Bantul Regency, Yogyakarta Special Region, land redistribution of objects of land reform was carried out in 1982, 1990 and 1992, but in reality redistribution of agricultural land from absentee land still leaves a problem, namely there are still recipients of redistribution decrees that have not been obtaining a certificate of ownership because the owner has not registered the rights to the Bantul Land Office and the exact number of each land reform object that has not yet been issued or not issued is known, as well as issues relating to the transition of the land reform object, the obstacles faced by redistribution recipients in implementing the provisions required in the Redistribution Decree so that it requires in-depth study.

This paper outlines the implementation of the land registration of agricultural land from absentee land in Bantul Regency and the factors that prevent the implementation of it and how it is resolved.

B. Material and Methods

The location of this research is Bantul Regency of Yogyakarta Special Region which consisting of 17 sub-district 75 villages and 933 hamlets. From 17 existing sub-districts, absentee land is found and spread in 8 Districts in 18 Villages.

Following the problems studied, types of research used to answer the problem in the formulation of the problem are the kind of empirical legal research, legal research is done by examining the primary data (Soekanto, 1986). Primary data is the data that comes from the community and/or people involved directly with the problems examined, which includes secondary law.

Primary data sources are data that has not been processed, obtained directly from respondents. Respondents in this study were 135 recipients of absentee land redistribution. One of the results is data on the factors that hinder the implementation of the land registration of agricultural land from absentee land in the Bantul Regency. Meanwhile, secondary data were obtained from literature and documentative results in the form of theories, archives regarding the implementation of land reform, especially the implementation of land redistribution and the implementation of land registration from absentee land in Bantul Regency and other necessary data relating with research objects. Secondary data is data that is needed to complete primary data. The results obtained data

on the location of the study area, land area, status of ownership, population and development, population density, area of land ownership and population livelihoods.

C. Result and Discussion

1. Inventory of previous land redistribution results

Based on the results of the inventory activity, it is obtained a list of agricultural lands which are determined by the regent's decree as objects of land reform from absentee land. The land redistribution from absentee land were carried out in 1981, 1982, 1990 and 1992. The objects of land reform from absentee land were distributed to farmers who fulfill the conditions. The previous process of redistribution of agricultural land carried out by the Bantul Regency Land Office is as follows :

a. Redistribution of absentee land in 1981 and 1982, preliminary data collection was carried out by the Office of the Agrarian Directorate of the Special Region of Yogyakarta and the Indonesian Land Registry Branch Office, at that time the Basic Agrarian Law was not yet fully implemented in the Special Region of Yogyakarta.
b. Redistribution carried out in 1990 and 1992.

   Research in Bantul shows, the process of implementation of the redistribution of agricultural land conducted by National Land Agency Regional Office of Yogyakarta and the Bantul Land Office, consist of granting of ownership rights to 54 absentee farmers with an area of 2.1740 hectares, granting of ownership rights to 69 absentee farmers with an area of 1,8152 hectares, granting of ownership rights to 74 absentee farmers with an area of 3,0362 hectares, granting of ownership rights to 105 absentee farmers with an area of 2,1287 hectares, and granting of ownership rights to 105 absentee farmers with an area of 2,5455 hectares.

In 1987 and 1989 a re-study of recipients of land redistribution was carried out at the village office. The study was conducted by asking for clarification from village officials and land tenants, so that data obtained that the lands on these criteria are stated as follows:

a. Remain as absentee land
b. Not as absentee land.

2. Implementation of land registration of absentee land in Bantul Regency

The land certification program through land redistribution in Bantul Regency was carried out in 2013 through state funding (APBN). Based on the Decree of the Head of the Regional Office of the National Land Agency of the Special Province of Yogyakarta Number: 09 / Kep.34 / III / 2013, dated March 13, 2013 concerning the Determination of Land Redistribution Location for Land Reform Objects in the Yogyakarta Special Region in 2013. Allocation of land redistribution activities in 2013 for all Special Region of Yogyakarta as many as 500 parcels, each Land Office received a budget allocation for 125 parcels.

From the results of identification of the 1990 and 1992 redistribution decree, as well as the identification of absentee lands which have been confirmed as objects of land reform, but until 1992 have not been redistributed, there are 72 parcels (her-redistribution) and 63 parcels (new redistribution), as in the table 1 :

Tabel 1. List of registration of land redistribution of land reform's objects/ absentee in Bantul Regency

No	Village	District	Her Redistribution (parcels)	New Redistribution (parcels)	Total
1.	Sumberagung	Jetis	2	48	50
2.	Patalan	Jetis	3	-	3
3.	Triharjo	Pandak	1	6	7
4.	Gilangharjo	Pandak	1	-	3
5.	Srihardono	Pundong	38	2	40
6.	Seloharjo	Pundong	27	5	32
Total			**72**	**63**	**135**

In accordance with the technical guidelines for the implementation of the land reform activity in 2013 the Regional Office of the National Land Agency of the Special Province of Yogyakarta and the instructions of the Head of the Regional Office of the National Land Agency of the Special Province of Yogyakarta with his letter Number 1140/400.34/VII/2013 concerning land redistribution, that the mechanism of redistribution certification activities land is as follows:

a. Mechanism for land registration of her-redistribution :

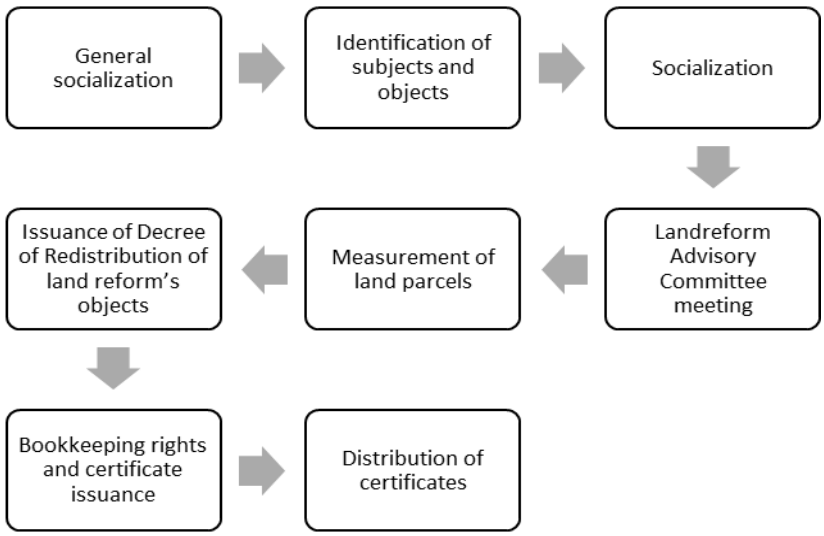

Figure 1. Mechanism for land registration of her-redistribution

1) General socialization.

General socialization is to provide information or socialization about land redistribution activities, which is carried out by the Head of Regional Office of BPN Yogyakarta Special Region Province.

2) Identification of subjects and objects.

Identification of subjects and objects beginning with inventory and monitoring activities conducted by the team of registration of land redistribution. The team consists of officers from the Regional Office of the BPN Yogyakarta Special Region Province and officers of the Bantul Land Office on Land Landform objects that have been redistributed with a redistribution decree in 1990 and 1992 that have not yet completed the registration of their rights.

The identification of subjects and objects begins with the inventory and monitoring activity carried out by the team of registration of land redistribution that have been redistributed with the redistribution decree in 1990 and 1992 that have not yet completed their registration rights. The team consists of officers from the Regional Office of the BPN Yogyakarta Special Region Province and officers of the Bantul Land Office.

3) Socialization.

Socialization was given to the recipients of redistribution (farmers/cultivators) from the identification of subjects and objects listed in the 1990 and 1992 redistribution decree as many as 72 fields, to community leaders, religious leaders, sub-district heads, village heads / village heads, village representative bodies (BPD).

4) Landreform Advisory Committee meeting.

The Bantul Landreform Advisory Committee (PPL) conducted a meeting to provide suggestions and considerations for the proposed recipients of land redistribution of Landreform objects. The results of the trial, consideration and conclusions of the Landreform Advisory Committee meeting are described in the minutes of the Bantul Landreform Advisory Committee meeting.

5) Measurement of land parcels.

Measurement and mapping of land parcels carried out by the cadastral surveyor in accordance with norms and standards at the National Land Agency. The resulting output is Map of Parcels and Letter of Measurement (Surat Ukur).

6) Issuance of Decree of Redistribution of land reform's objects

Decree on the granting of ownership is issued by the Head of the Bantul Land Office in accordance with the authority granted under the Regulation of the Head of the National Land Agency of the Republic of Indonesia Number 1 of 2011 Jo. Head of National Land Agency Number 3 of 2012, Decree prepared by the Land Arrangement and Management Section at Bantul Land Office, taking into account the settlement procedures determined by the Office of Computerized Land Office (KKP) program, and in the Decree stated "The land

parcels may not be transferred in part or in whole within a period of 10 years, except for those who fulfill the conditions with written approval from the Head of the Land Office"

7) Bookkeeping rights and certificate issuance.

The process of administering land registration activities concretely is marked by the List of Registration (DI). The List of Registration is certain codes for recording each of the land registration activities.

8) Distribution of certificates.

The certificate of land ownership rights that has been completed, distributed to the recipients of land redistribution program.

b. Mechanism for land registration of new-redistribution.

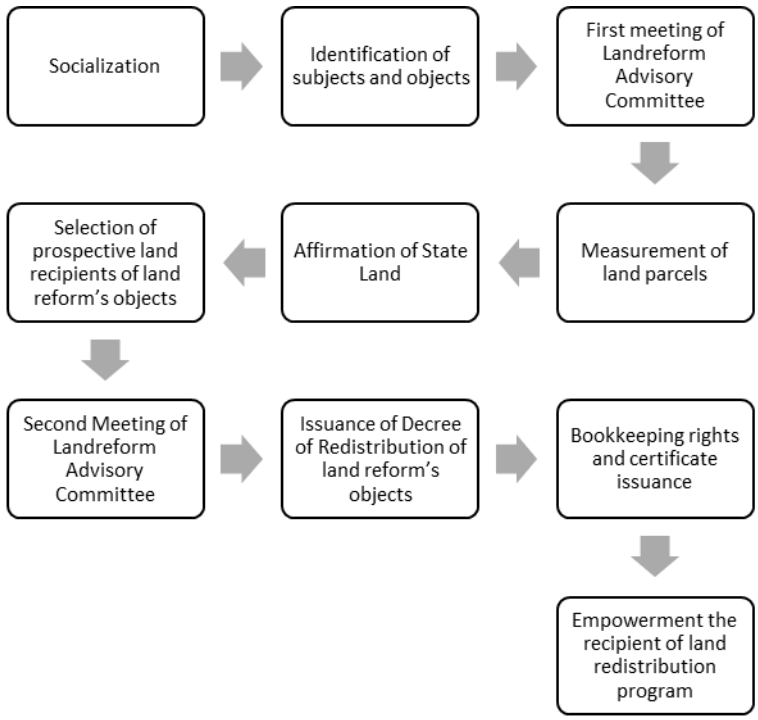

Figure 2. Mechanism of land registration of new-redistribution

1) Socialization
2) Identification of subjects and objects
3) First meeting of Landreform Advisory Committee

The first meeting of Landreform Advisory Committee was held in the context of affirming the land of the land reform object. The meeting discussed the results of an inventory and monitoring of land reform objects that have the potential to be affirmed as new redistribution objects, including lands from former state land of absentee land.

4) Measurement of land parcels
5) Affirmation of State Land

Proposal of affirmation of state land as an object of land reform by the Head of the Bantul Regency Land Office to the Head of the Regional Office of the National Land Agency

of the Special Province of Yogyakarta, based on the minutes of the meeting of The Landreform Advisory Committee is equipped with supporting documents.

6) Selection of prospective land recipients of land reform's objects

The results of the inventory activity are then selected against potential land recipients. The main purpose of the selection process is to examine and ensure that potential land recipients have actually met the requirements in accordance with the provisions of the implementation guidelines.

7) Second Meeting of Landreform Advisory Committee in order to determine subjects

Discussing the results of the selection of prospective land recipients whose purpose is to assess and decide whether the prospective land recipient meets the requirements in accordance with the applicable provisions for ownership rights and discusses the pieces of land along with the location of the land and the area of land to be received by each subject of land recipients.

8) Issuance of Decree of Redistribution of land reform's objects

9) Bookkeeping rights and certificate issuance

10) Empowerment the recipient of land redistribution program.

Empowerment the recipient of land redistribution program aims to ensure that land recipients make optimal use of the land received so that in turn can improve the living standards of the subjects receiving land redistribution

3. Factors hampering the implementation of land registration in the redistribution of agricultural land from absentee land and its settlement efforts.

Implementation of the registration of agricultural land as a result of absentee land redistribution in the framework of the implementation of land reform in Bantul Regency, in principle has been carried out properly according to the instructions of technical implementation of the land reform in 2013 and the legislation that exists, and has issued 135 certificates of ownership rights, which had been delivered to the recipient of land redistribution which has the right and fulfill the requirements in accordance with Article 8 and Article 9 of Government Regulation Number 224 of 1961.

The success that has been achieved does not mean that there are no obstacles encountered in its implementation. This is proven by the existence of several redistribution recipients, namely 72 redistribution recipients in 1990 and 1992 who have not registered their rights to the Bantul Land Office, and there are 63 farmers working on the state land from absentee land which in 1992 had not been redistributed.

The main problems and factors that hamper the implementation of the registration of agricultural land from absentee land in Bantul Regency include:

a. The number of her-redistribution object areas in Bantul Regency which was originally registered 376 parcels of land which were estimated to have not been certified, was then socialized to the tenants and checking the Land Book in the Land Office, in fact there were only 72 land parcels left because 304 other land parcels have been registered through routine mechanisms;

b. State land from absentee's former land, originating from absentee's possession land due to: (a) protracted inheritance, (b) new absentee, (c) inheritance with romusha's heirs.

After being examined in the land book and in the name list, based on the name of the recipient of the land redistribution, apparently only 72 names of land redistribution recipients were found in accordance with the decree which had not yet been registered. The factors that cause the existence of redistribution farmers who have not registered their rights are 72 parcels registered in the 1990 and 1992 redistribution decree (Farida, 2016), among others:

a. Factors of incompatibility of redistribution recipient subjects listed in the Decree with those working on their current land.

b. There is no evidence of payment of income income/ land price to be paid by the redistribution recipient.

c. Measured boundary markers that should be the obligation of redistribution recipients to install and maintain boundary markers have apparently been missing/ lost

d. The small factor of the area of land received, because the area of land received by redistribution recipients is relatively very small.

Factors that are the reasons for redistribution recipients have not registered their rights, seen in the table 2 as follows :

Table 2. Factors that prevent redistribution recipients from registering their rights (her redistribution)

No.	Reasons that hamper	Amount	Percentage
1	Incompatibility between the subject of redistribution recipient and current cultivators		
	a. Recipient dies	65	90 %
	b. The recipient is still alive	7	10 %
2	There is no proof of payment of fees to the state / land price, because:		
	a. Disappeared during an earthquake	43	60 %
	b. There was a family trading / 'Nyusuki' / giving severance before the land owner left his land.	29	40 %
3	The measured boundary is missing	72	100 %
4	The size of land received is small		
	a. The land area under 500 M^2	63	87,5 %
	b. The land area above 500 M^2	9	12,5 %

Furthermore, the factors which hampered the registration of former state land absentee land (New Redistribution), include:

a. Inheritance protracted
b. Inheritance with heirs unknown domicile (romusha, transmigration, political prisoners G30S/PKI)
c. New absentee

4. Alternative solution to the factors that hamper the implementation of the registration of agricultural land from absentee land in Bantul:

Alternative solutions to the factors that hamper her-redistribution activities:

a. Incompatibility of redistribution recipient subjects with current tenants.

Because most of the 90% of redistribution recipients registered in the decree have died and the cultivation is continued by their heirs (children), with the condition that they must reside at the location of the land and be accompanied by a statement of physical mastery along with a complete history of cultivation, witnessed by 2 witnesses and known by the local village head.

b. Proof of payment of fees to the state/ price of land, partly because :

1) Disappeared/ destroyed during the earthquake on May 27, 2006, while proof of repayment is a requirement to be able to register the certificate, it needs to be completed with a statement of loss that is known by the village head of the location of the land;
2) The factor of the family relationship between the redistribution recipient and the former owner (sibling), and in general the cultivators get the claim by giving severance/ buying and selling family when the owner will leave his land (transmigration, going outside Java), severance pay or 'nyusuki' can be considered as direct compensation payment. In the Decree of the Minister of Home Affairs No. 13 of 1984 it is possible for the implementation of compensation payments for absentee land and maximum excess land and technical payments are regulated in Minister of Home Affairs Decree No. 257 in 1975.

c. Boundaries of land parcels that have been measured are lost.

Because the her-redistribution file already has an area of size and a picture of the situation at the time the decree was issued in 1990 and 1992, it was necessary to check the field and re-measure to ensure that changes were made to the land object, then a minutes of re-measurement and determination of the boundary for further processing were made.

d. The size of land received is small.

The size of land received by the redistribution recipients is relatively very small, on average under an area of less than 500 m2, causing them to be unenthusiastic to register their rights. The certificate of land rights has a strong evidentiary value compared to evidence of letters other than certificates so that with the issuance of certificates of

ownership the name of the right holder which is an authentic deed must be accepted as correct information in it both concerning physical data and juridical data.

Alternative solutions to the factors that hamper new redistribution activities:

a. Prolonged inheritance.

Considering that the process of division of inheritance that has been protracted is not processed by the registration of the land, so that it causes the process of division of inheritance which is stratified through several generations and there is absentee land tenure, then the agricultural land can be used as object of land reform. For this reason, the land must be released into land that is directly controlled by the State to be used as land for the land reform object, then distributed to farmers who fulfill the provisions of Article 8 and Article 9. Government Regulation No. 224/1961 concerning the Implementation of Land Distribution and Giving Compensation.

b. Inheritance with heirs whose domicile is unknown.

Conditions of unclear domicile of the heirs have no provision for settlement in customary law, so that part of the inheritance can not be re-registered even though the physical land is controlled or sought by someone else

Whereas the ownership of land by a subject whose ownership is unknown is very difficult for the administration of land. This is because the customary law recognizes the rights of ownership but is not able to provide solutions to administrative problems when trying to do the registration of land, and therefore legally the ownership of land is subject to the provisions of the Absentee consideration since the death of the heir to the land in question has been cultivated / into the land concerned, but concerned resides in Absentee.

c. New absentee land.

Land redistribution (new redistribution) in the Special Region of Yogyakarta only originates from absentee land, so there is a need to carry out an inventory and identification of the possibilities that these lands have the potential to be absentee land, to make a clear pedigree, the Village Heads and their staff are willing and able fulfill the requirements specified in the framework of Absentee land redistribution activities in its territory.

D. Conclusion and Suggestion

1. Conclusion

Based on the description above, the authors draw conclusions as follows:

a. Implementation of the registration of agricultural land as a result of absentee land redistribution in the context of implementing land reform in Bantul Regency, in principle has been carried out properly in accordance with the technical guidelines for the implementation of land reform activities in 2013 and determined legislation, and 135 certificates have been delivered to the redistribution recipients who are entitled and meet the requirements in accordance with Article 8 and 9 of Government Regulation No. 224 of 1961.

b. The implementation of the land registration of agricultural land from the absentee land redistribution in Bantul Regency through 2 (two) mechanisms, namely the her-redistribution land registration (her-redistribution) and new redistribution land registration.

c. Factors that hamper the implementation of land registration as a result of absentee land redistribution, can be divided into two types, namely:

   1) In the implementation of her-redistribution land registration which are inhibited are: the exact number, names of recipients of redistribution and location of land not yet registered by the recipient of the redistribution listed in the 1990 and 1992 redistribution decree are not known; incompatibility of redistribution recipient subjects with current tenants; proof of payment of fees to the state/ price of land for registering certificates are lost; boundaries of land parcels that have been measured are lost; the size of land received is small, the average area are less than 500 m^2; and the ignorance of the redistribution recipient to register his rights to the Land Office.

   2) In the implementation of the land registration of former absentee land (new redistribution), the inhibiting factor is that absentee land obtained is inherited land where the owner has died and the heir does not immediately register the inherited land, and inheritance with Romusha's heirs, where the heirs are currently unknown, the land of absentee where the owner is a political prisoner (G.30.S.PKI).

2. Suggestion

Suggestions that the author can conclude are:

a. The need for the National Land Agency to resolve land problems that occur in the community. This is done through the identification and monitoring of land reform objects that have been redistributed with the redistribution decree in 1981, 1982, 1990 and 1992, so that it is known that parcels of land whose rights have not been registered.

b. The need for socialization to the public on the implementation of the land registration of agricultural land from absentee land stated in the old redistribution decree in 1981, 1982, 1990 and 1992 (her-redistribution), also to the cultivators the former state land of absentee land in Bantul Regency.

c. The need for a National Land Agency to coordinate with the regional government in the context of the implementation of the District Landreform Advisory Committee Meeting which results in the form of Minutes of the Landreform Advisory Committee Meeting, to determine the subject and object of land redistribution of Land reform objects in Bantul Regency.

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RELEVANCE OF AGRARIAN REFORM IN INDUSTRY 4.0: LAND DISTRIBUTION VS LAND BANK

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Abstract

Redistribution of agricultural land is regulated in Indonesia by Constitution (Undang-Undang) No 56/1960. Its main purpose is to improve the welfare of farmers by releasing and distributing land for farmer's possession as part of the Indonesian Land reform Program. The program was held to provide an equitable share of farmer's living resources in order to create social justice. However, it is not clear on how effective this program is, because based on a research conducted by Research Centre for Population (Peneliti Pusat Penelitian Kependudukan) of the Indonesian Institute of Science, Indonesia is currently encountering a crisis of regeneration of farmers from old farmers to the younger generation in the village. This research explored the possibility of Indonesia's agricultural development in Industry 4.0 Eras, when the young people unwillingly to be farmers anymore. This may cause Indonesia to turn into an importer country. This regeneration crisis also has the potential to affect the conversion of agricultural land into non-agricultural land functions and further endangering Indonesia's food security. This talk explores a study on the number of land conversion function in Indonesia. This study was done by surveying data collected from Government Data Statistic. The study found the optimal percentage that was most effective for the Land Redistribution Program, which was less than five percent. Moreover, is Land Bank may become the next solution for the crisis. This study is hoped to be able to further develop awareness of the importance of Land Redistribution Program evaluation. In addition, it is also hoped that the government can consider other programs to improve people's welfare, while at the same time still preserving Indonesian agricultural land.

Keywords : agrarian, land distribution, land conversion, land reform, farmer welfare, land bank

A. Introduction

In 2011, the concept of "Industry 4.0" was first introduced at the Hannover Messe industrial exhibition in the city of Hannover, Germany. It commenced the transformation of fundamental challenge to the way economies and societies organize themselves in domestic policy by technological advances (WEF 2019). The World Economic Forum White Paper for the year of 2019 also acknowledge that this wave of technological disruption is coinciding and interacting transformations in the global economic and political context. This notion already been intensively delivered through entire sector. The concept proposed by the industry 4.0 approach relies on creating an environment in which all elements are connected to each other in a seamless and effortless way (Braun 2008).

Agrarian, the main sector in economic, roles as a food provider also received major influence from the technology development, resulting in the emergence of term like Agricultural 4.0 dan Farming 4.0 (Braun 2018). Moreover, notice from Braun (2018) that agricultural business model innovations require the combinations of economic benefits with sustainable agricultural approach for human and environment. It generates significance necessity of constant resources, namely human and land. Thomas Robert

Malthus's 'Dismal Science' states that population growth in a country will always be faster than food growth in a country. The problem derived from food production resources scarcity, especially for agricultural land, considering the existing in limited number. Since land is a vital object for dwelling and government infrastructure projects.

In order to maintain the sustainability of agricultural land, the key factor in agrarian sector, since 1961 Indonesia conducted Agrarian Reform Program. It regulated by Constitution (Undang-Undang) No 56/1960 and held by Ministry of Agrarian and Spatial Planning Affairs. Agrarian Reform was conducted with main purpose to improve the welfare of farmers and in the other hand, it also increasing the economic growth and productivity nationally. Land reform conducted by releasing and distributing land for farmer's possession as part of the Indonesian Agrarian Reform Program. The program was held to provide an equitable share of farmer's living resources in order to create social justice as mandated in UUD 1945.

During the first period of President Joko Widodo's rule in 2015-2019, Agrarian Reform was concluding as one of his major programs, namely nawa cita, and used for Republic Indonesia Medium-Term National Development Plan (RPJMN) arrangement. Until August 2019, realisation of land distribution from expiration of Right to Cultivate (Hak Guna Usaha (HGU)), abandoned land, and other State Land is 573.432 parcels or an area of 440.085 Ha, and land distribution from releasing of forest areas with the realization of certificate issuance of 25,310 parcels or an area of 19,490 Ha.

In addition of Industry 4.0 is taking shape, the government must consider the changing in agricultural industry. Which system more reliable in regards of government role to undertake scarcity, is it land distribution program or the land bank system that can generates the sustainability.

This paper will criticize and examines by SWOT Analysis for both system in the government point of view that promote their role as the guardian of national economic sovereign. Qualitative data will be deriving from literatures that prominence with both systems and the quantitative data such will support the conclusion. This discussion limited on economic perspective. Land distribution would rule out the land dispute, while land bank system focusing on finance instrument.

Since the high demand of land, we will lose more agricultural land continuously when it does not manage properly. This study is an urgent matter to decide how to maintain the agricultural land sustainability. As Alexander (2015) stated "Both people and land lie at the heart of community and it is land that creates the place and the space; we are stewards of land, and it support and protects us; we neglect and abuse land, and it soon mirrors our fractured community".

B. Material and Methods

1. Land Distribution Profile in Indonesia

Land Reform in Indonesia began with UUPA 1960 issued and in accordance with Perpu 56/1960 concerning Determination of Agricultural Land Area. The regulation intend was to distribute land to landless farming communities by providing a minimum of two hectares of agricultural land.

Based on 2013 Indonesian Ministry of National Development Planning White Paper, up until 2012 there was four major problem in National Agrarian Reform Program (NARP) implementation:

a. Land which becomes the object of agrarian reform (TORA)-as already compiled in the Draft Government Regulation (RPP) of Agrarian Reform-derived from the following eight types of land status categories:
   1) State land as a former abandoned land
   2) Land conversion forest area;
   3) State land that arise from other sources (free state land, state land from western rights, state land originated from arising land);
   4) Former swapraja land;
   5) State land originating from former minerals, coal and geothermal mining;
   6) State land originates from the release of forest areas;
   7) State land originates from exchanges or other civil law acts others in agrarian reform context; and
   8) Land surrendered by the right holders to the state for agrarian reform.
b. Unenviabilities of proper agrarian reform's recipient data;
c. Indistinct Operational Land redistribution delivery mechanism;
d. Cadastral measurement and identification of the tenure, tenancy, usability, and Land Use (P4T) does not cover all national areas yet.

Table 1: Land Distribution Performance 2010-2014

Year	Allocation		Realisation		Percentage	
	Total Area	Average/ year	Total Area	Average/ year	Total Area	Average/ year
1961-2004	2.398.001	54.500	1.153.685	26.220	48.11%	48.11%
2005	5.482	5.842	15.579	15.579	284.18%	266.67%
2006	2.346	2.346	7.018	7.018	299.15%	299.15%
2007	92.151	92.151	86.295	86.295	93.65%	93.65%
2008	267.363	267.363	240.627	240.627	90.00%	90.00%
2005-2008	349.519	87.349	367.701	91.925	105.20%	105.24%

Source: Ministry of Agraria an Spatial Planning Affairs Renstra 2010-2014

2. The Basic Concept of Land Bank

Land Bank concept has been widely applied in many countries, thus far many expertise defines it differently. Alexander (2015) approach Land bank as "governmental entity that focuses on the conversion of vacant, abandoned, and foreclosed property into productive use.". While Koesoemo (2015) stated Nederland, which is use this system to support their agricultural industry, has minimum two public institution that define the land bank description: Dienst Landdelijk Gebied (DLG) lead land banking as "The structural acquisition and temporary management of land in rural areas by an impartial state agency with the purpose to redistribute and/or lease out this land with a view to improve the agricultural structure and/or reallocate the land for other purposes with a general public interest". While Domeinen define it as an activity of "holding of land for strategic purposes like infrastructure and city extension". Maria S.W Soemardjono formulates the function of land banks, including:

a. Land collectors or land keepers;
b. securing land for various development needs in the future (land warrantee);
c. land purchaser;
d. land distribution for various development purposes (land distributor).

Koesoemo (2015) depicture the concept of land banking as a means of land management from The Netherlands as one of the originators, in 3 (three) groups, namely:

a. Exchange land banking;

The land bank will purchase land which will then be retained for a while itis released/exchanged with third parties

b. Financial instruments; and

Carried out by the government buying land for leasing to farmers for a long period (generally 26 years). This concept emerged in agricultural sector, for example a farmer is experiencing financial difficulties as working capital, so he can sell his assets and land to the land bank with the right to repurchase after a certain period and the farmer can also continue to work on the land by renting to a land bank.

c. Land bank as developer.

Generally carried out by the private sector by purchasing large amounts of land with the expectation that in the future there will be changes in the function of the land location (speculation) such as changing into residential areas, recreation, economic activities so that it will increase the value of the land.

In Indonesia, land bank system has been adopted by private and regional public sector, but nationally yet. In regard to the land acquisition referred to UU 2/2012 concerning Land Procurement for Public Interest, government both central and regional are obliged to guarantee the availability of land for public use and funding. Furthermore, it was determined that in the land acquisition needs to be considered, several things such as:

a. spatial plans;
b. national / regional development plan;
c. the strategic plan; and
d. work plan for each agency that requires land

3. Agricultural Sector Development in Indonesia

a. Human Resources

BPS data notes that in 2003-2013 period, the number of farmer households decreased by 5,10 million, from 31,23 million in 2003 to 26,14 in 2013, further the 2013 agriculture census reports that the number of farmers is reduced by one million people per year. This figure is quite astonishing because it has implications for the sustainability of the agricultural sector. Moreover, Indonesian agricultural model is a family farming model that has been proven capable of maintaining agricultural production and farmers existence.

Therefore, BPS stated the smallholder household growth also experienced negative growth 25,07 percent, from 19,02 million in 2003 decreased to 14,25 million in 2013. The absolute degradation number happen in Central Java Province with 1,32 million household and 81,04 percent in DKI Jakarta. Meanwhile, the positive countermeasure occurs in Papua Province with 135,61 thousand number of household escalation or 79,87 percent.

The cause of the declining of agricultural subject can be formulated as follows:

1) Reduction of smallholder household with land ownership les than 0,10 Ha are 5,04 million or 53,75 percent from 2003;
2) Based on BPS 2011 Catalog, 47, 57 percent of farmers are in the age group >=50 years old, which means their productive age projection maximum only 20 years ahead;
3) Buletin Anggaran DPR (2017) stated that farmer is unattractive profession due the welfare concern. The enhancement of Agricultural productivity is unparallel with welfare growth. It is reflected in the declining of Farmer Exchange Rates (NTP) that close to 100, means the acceptance of farmers is almost break even with the production's expenditure and left small amount of profit. Beside that the low bargaining power of farmers shows that agribusiness supply chain system not yet supports farmers' welfare.
4) Wiyono (2015) in his study stated that the income per capita of the agricultural sector was the lowest compared to others. In addition, 39 percent of farmers' education level is not completed elementary school. Although education is biased in this sector, it does not close the possibility of education levels can help innovations that increase agricultural productivity.
5) Nurmawiya and Kurniawan (2019) formulated the most of the farmers in Yogyakarta are not ready to encounter industry 4.0 era in term of quantity and quality.

6) According to the World Bank, urban in Indonesia has an average population growth of 4.1 percent per year and made Indonesia as country with the rate of urbanization the fastest in the world. Minister of Village, Development of Disadvantaged Regions and Transmigration notes currently the percentage of population in rural areas are still 50.2 percent of total population in Indonesia. This situation issued population reduction predictions until 2035 rural population will decreased by 0.64 percent per year.

b. Natural Resources (Land) Avaibility

Wiyono (2015) in KRKP Farmer Regeneration Study Report represent the real correlation between area of land ownership with parental interest make his son a farmer. Respondents whose land ownership was more than 1 hectare will encourage their children to become farmers, in the other hand, respondents who own less than one hectare of land do not want his son works as a farmer. Understandable reason of this matter is because of land area immensely related to efficiency. The more land area, level efficiency is getting higher and resulted in significant rise of productivity.

Based on BPS data for Agricultural Land Area by Utilization in Indonesia, 2013 – 2017 there is insignificant growth number of agricultural lands in 1,06 percent and nationally Area of Wetland by Province, 2013 – 2017 growth in negative number by -0,31 percent. For conclusion the average number of agricultural land growth is less than 2 percent. Meanwhile, Pusat Data dan Sistem Informasi Pertanian Report for 2012-2016 period notes 16 percent decreasing in the number of Area of Temporarily Unused Land by Province in Indonesia, 2012 – 2016.

4. SWOT Analysis

SWOT is an acronym for Strengths, Weaknesses, Opportunities and Threats. Sammut-Bonnici and Galea (2017) define SWOT analysis as an activity to "evaluates the internal strengths and weaknesses, and the external opportunities and threats in an organization's environment", objectively "SWOT analysis is to use the knowledge an organization has about its internal and external environments and to formulate its strategy accordingly". They also elaborate the used as "The internal analysis is used to identify resources, capabilities, core competencies, and competitive advantages inherent to the organization". While "The external analysis identifies market opportunities and threats by looking at competitors' resources, the industry environment, and the general environment".

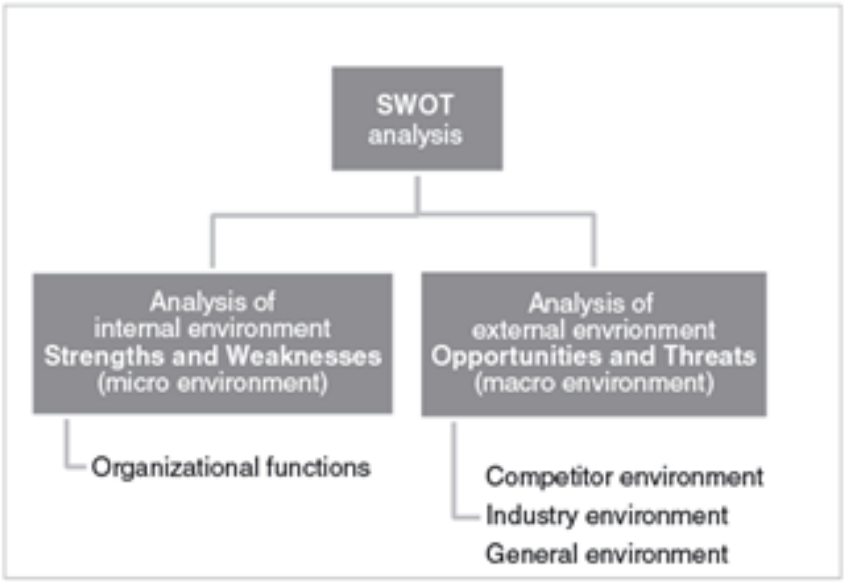

Figure 1. SWOT Analysis
Source: https://www.researchgate.net/publication

In regards to do this research, we use adaptation of the SWOT Analysis is Weihrich's TOWS Matrix. "The matrix identifies potential tactical strategies that could be deployed for the purpose of exploiting opportunities or defending against threats through the leverage of the existing strengths and the reduction of weaknesses" (Sammut-Bonnici and Galea,2017).

This paper adapted the matrix from tactical strategies based on four different positions:

a. The first quadrant attempts to maximize opportunities arising from each the external environment and eliminating the system internal weaknesses that hinder its growth.
b. The second quadrant is an ideal situation where an organization can maximize on both strengths and opportunities.
c. The third quadrant would examine the government strategy uses the internal strengths that can counteracts threats from competitors, the industry, and the greater environment.
d. The WT strategy in the fourth quadrant is the worst-case scenario when an organization has to minimize both its weaknesses and its threats. However, external forces may not be avoidable by the government.

All this analysis conducting in regards of preserving the agricultural sustainability.

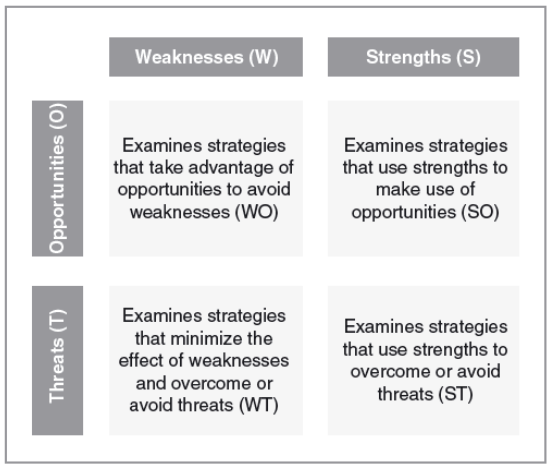

Figure 2. Weihrich's TOWS Matrix

Source: https://www.researchgate.net/publication

C. Result and Discussion

1. SWOT Analysis of Land Reform Performance in Indonesia

Strengths	***Weakness***
• Agrarian reform program completion; • Poverty mitigate by reducing land ownership gaps and provide access to land as an asset for land poor farmers; • National agricultural productivity improvement which is lead to the per capita income rising. • Farmers can access capital from certificates as collateral.	• Regulatory is still guided by the 1960 Agrarian Law; • There are no update regulations that are in line with the progress of the times lead to Unenviabilities of proper agrarian reform's recipient data, Indistinct Operational Land redistribution delivery mechanism and Cadastral measurement and identification of the tenure, tenancy, usability, and Land Use (P4T) does not cover all national areas yet; • The state has no control over land after it has been distributed to the subject of land reform; • conversion of agricultural land cannot be prevented.
Opportunities	***Threats***
• Assistance programs for young farmers who support agriculture in terms of quantity and quality (example: Young Farmers Program) • Farmers can independently developes their agricultural business with its own assets that leads to development of agricultural productivity; • Industry 4.0 makes it easy to access supply chains that support agriculture industry	• Agricultural land's transfer of function of due to poverty • Land mafia • crop failure • Farmer negative regeneration (lack of interest in continuing the farmer profession)

2. SWOT Analysis of Land Bank System

Strengths	***Weakness***
• The state has absolute control because the land bank is a national asset; • Land use change can be avoided except for development purposes; • Controlling land mafias who want to control ownership by exploiting the farmers poverty; • Safeguard national sovereignty from foreign ownership.	• In Indonesia it is still a study discourse; • Special regulations are needed to regulate it; • It takes time to prepare the system and mechanism;
Opportunities	***Threats***
• The prospect of conceive new income from small-scale Non-Tax Revenue (Pendapatan Negara Bukan Pajak) from Right to Cultivate (HGU); • The prospect of improving high quality agriculture industry because land is cultivated by generations who really want to become farmers but are constrained by land ownership (example: Young Peasant Ambassador Program).	• Opposition from pro land reform institutions in regards of poor farmers interest; • Opposition from land mafia, developer.

D. Conclusion

Since Indonesia encounter crisis in farmer regeneration and land scarcity, it is time for the government to start evaluating the recent land management due its scarcity and food security. Especially in the industry 4.0 era which all mechanism covers by technology, is Indonesia enable to survive with traditional farming system and struggle with the problem of providing land.

Based on SWOT Analysis, Land Reform emphasized on economic recovery of poor farmers with access to asset from land distribution. However, farmers regeneration crisis, negative growth of agricultural land, land for development purposes and limited number of TORA (Tanah Objek Reforma Agraria) became unresolved burden. Moreover, because of un-update regulation the government loses its control function, both in terms of land conversion, as well as providing land for public use.

On the other hand, Land Bank system is able to provide solutions both in economic growth and scarcity. TORA object would be maintaining as national state property and leased to farmers who need agricultural land both for industry and smallholder household. Therefore, The Government control function can be carried out optimally.

Both Land Reform and Land Bank system has an unlimited opportunity in industry 4.0 era to improve agricultural industry and leads to economic growth. However, Land Bank system offer a prospect of conceiving new income from small-scale Non-Tax Revenue) from leasing.

Eventually, both systems have the same enemy in the implementation. Intervention from many opposite parties cannot avoided, but can be minimalize and managed under steady control function system and regulation.

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INTEGRATED AGRARIAN, LAND AND SPATIAL PLANNING POLICIES FOR SUSTAINABLE DEVELOPMENT : AGRARIAN REFORM POLICY AND ITS BEST PRACTICES AT SANGGAU DISTRICT, WEST KALIMANTAN

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Abstract

The Minister of Agrarian and Spatial Planning/Head of the National Land Agency as the organizer of government affairs in the field of Agrarian/Land and Spatial Planning to implement policies towards the direction of equitable development based on justice, including implementing the President's commitment, including: (1) Presidential Decree No. 88 of 2017 concerning the Settlement of Land Control in Forest Areas (PPTKH); and (2) Presidential Decree No. 86 of 2018 concerning Agrarian Reform. Both of these are part of an equitable development policy package. Agrarian Reform is a re-structuring of the structure of ownership, use, and utilization of land that is more equitable through Asset Arrangement and accompanied by Access Arrangement for the prosperity of the Indonesian people. The assignment given by the President to the Ministry of Agrarian Affairs and Spatial Planning / National Land Agency, the level of implementation in the regions was at the Land Office of Sanggau District, in relation to this task to the extent that the Land Office of Sanggau District carried out tasks given and what policies and efforts to apply the Agrarian Reform concept in achieving the target of the tasks given by the President in relation to Agrarian Reform? This study is based on our experience as practitioners as implementers of the land redistribution program. The Land Office of Sanggau District is trying to describe and extract targets in a national priority program specifically in the Land Redistribution activities which are part of the Agrarian Reform.

Keywords : Agrarian Reform, Land Tenure, Policy.

A. Introduction

The Ministry of Agrarian and Spatial Planning/National Land Agency is the Ministry which is under and responsible to the President and chaired by a Minister/Chairman. Based on Presidential Decree No. 17 of 2015 concerning the Ministry of Agrarian Affairs and Spatial Planning and Presidential Decree No. 20 of 2015 concerning the National Land Agency, the Ministry of Agrarian and Spatial Planning/National Land Agency has the task of conducting government affairs in the field of Agrarian/Land and Spatial Planning to help the President in organizing state government.

The Minister of Agrarian and Spatial Planning/Head of the National Land Agency as the organizer of government affairs in the field of Agrarian/Land and Spatial Planning to implement policies towards the direction of equitable development based on justice, including implementing the President's commitment, including: (1) Presidential Decree No. 88 of 2017 concerning the Settlement of Land Control in Forest Areas (PPTKH); and (2)

Presidential Decree No. 86 of 2018 concerning Agrarian Reform. Both of these are part of an equitable development policy package.

Agrarian Reform is a re-structuring of the structure of ownership, use, and utilization of land that is more equitable through Asset Arrangement and accompanied by Access Arrangement for the prosperity of the Indonesian people. In the future, the President of Indonesia will direct, as part of equitable development, an action program to carry out the Redistribution of Asset/Agrarian Reform. Agrarian Reform is intended to bring about justice in the control, ownership, use and utilization of land, territories and natural resources. Agrarian Reform is also part of the resolution of agrarian disputes between communities and companies or the government.

The President in this case puts three important activities. First, accelerate the implementation of Asset Redistribution (Agrarian Reform) and Social Forestry which are targeted to provide opportunities for people who have no land/assets to be involved in economic activities. Second, continuing community assistance in the use, utilization, and production on the land object Agrarian Reform and Social Forestry thus more productive. Third, continue to accelerate the legalization (certification) of people's lands and waqf land, so that it has legal certainty and prevents disputes over land.

The assignment given by the President to the Ministry of Agrarian Affairs and Spatial Planning / National Land Agency, the level of implementation in the regions was at the Land Office of Sanggau District, in relation to this task to the extent that the Land Office of Sanggau District carried out tasks given and what policies and efforts to apply the Agrarian Reform concept in achieving the target of the tasks given by the President in relation to Agrarian Reform? This study is based on our experience as practitioners as implementers of the land redistribution program. This study will explain how we implemented the agrarian reform policy within the scope of Sanggau District.

B. Material and Methods

1. The Concept of Agrarian Reform

It has been mentioned in Article 33 paragraph (3) of the 1945 Constitution that the earth, water and natural resources contained therein are controlled by the State and used for the greatest prosperity of the people. The contents of the article are noble ideals which should be manifested in land management in Indonesia. This means that the establishment of laws, policies, and government programs should refer to these ideals.

As a further regulation of the article above, it has been arranged in more detail into Law Number 5 of 1960 concerning basic regulations on agrarian principles. The essence of these regulation is briefly aimed at (Tjondronegoro, 2012):

a. Laying the groundwork for the drafting of national agrarian law which is a tool for bringing prosperity; happiness and justice for the State and the people, especially the peasants, in the framework of a just and prosperous society.
b. Laying the groundwork for establishing unity and simplicity in land law.
c. Laying the groundwork to provide legal certainty regarding land rights for the people as a whole.

Based on what is envisioned by Law Number 5 of 1960, we can also understand that the actual purpose of agrarian reform is also the main ideals of the regulation. As described by Setiawan (2006), agrarian reform is a rearrangement of ownership, control and use of agrarian resources, especially land for the benefit of farmers, farm laborers, and the common people in general which also forms the basis for the process of national industrialization. The essence of agrarian reform is the redistribution of land ownership. In order to provide the expected results, the redistribution of land to be followed by a number of support programs that essentially will provide opportunities for recipients of land to achieve success in the early stages of the exercise program.

2. Presidential Decree Number 86 of 2018 concerning Agrarian Reform

As explained in Presidential Decree No. 86 of 2018, agrarian reform is restructuring of the control, ownership, use, and more equitable use of land through asset restructuring and accompanied by an access arrangement for the prosperity of the Indonesian people. Meanwhile, the definition of an asset structuring is reordering control, ownership, use and exploitation of land in order to establish justice in the field of control and ownership of land. While the access arrangement is providing opportunities and access to capital and also assistance to the subject of agrarian reform in order to improving the welfare based on the utilization of land, which is also called community empowerment. It can be simply described as follows:

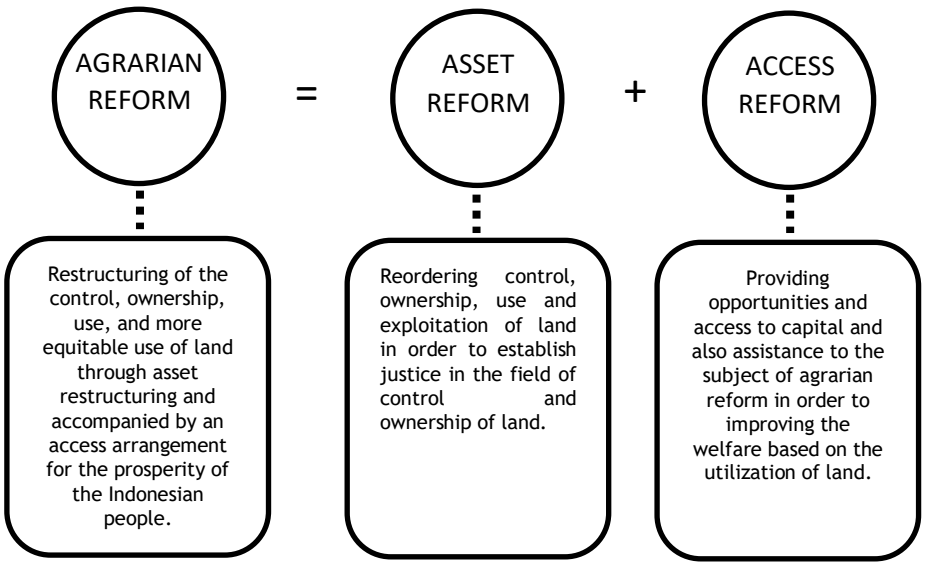

Figure 1. Agrarian reform concept as explained in Presidential Decree No. 86 of 2018.

The Ministry of Agrarian and Spatial Planning/National Land Agency in stages for the last three years (2017 to 2019) has been given the task of the President in the context of Agrarian Reform in the form of Asset Arrangement where targets are given to reorganize land ownership, ownership, use and utilization in order to create justice in the field of land ownership and ownership both through Complete Systematic Land Registration (*PTSL*) and Land Redistribution (*RA*) activities. Targets given by the Government to the Ministry of Agrarian and Spatial Planning/National Land Agency in the last three years where: 5 million fields in 2017, increased to 7 million fields in 2018, and then 9 million fields in 2019.

C. Result and Discussion

Agrarian Reform journey often been in the spotlight of agrarian activists in its implementation. A lot of criticism coming and some even say that the implementation of agrarian reform is only for land certificates and does not touch the land redistribution program. However, we try to present a reality in a story that land redistribution was also conducted throughout Indonesia even at national borders, which are the frontline of the state. One of the provinces in the national boundary that implements a land redistribution program is West Kalimantan, in Sanggau Regency. Sanggau Regency is located in the middle of West Kalimantan, and is divided by the Kapuas River with all the resources contained in it. Sanggau is special because in the north it borders Sarawak, Malaysia. Agrarian Reform is currently on progress at this homeland.

The Sanggau Land Office tries to set out and extract targets in a specific national priority program in Land Redistribution activities that are part of the agrarian reform. Agrarian reform in Sanggau is inseparable from the full support of the regional government, religious leaders, community leaders, youth leaders and other stakeholders. In Sanggau District, the Agrarian Reform Task Force (*GTRA*) has also been formed, which is a forum for coordination and synergy of various parties to implement agrarian reform.

1. Asset Reform

In asset management activities that will be discussed only about land redistribution while the legalization of assets is not discussed in this paper.

Release of Forest Areas (Law No. 41/1999 Jo. Government Regulations 104 and 105 of 2015):
Land originating from the release of state forest areas for agrarian reform land objects.

Changes in Forest Area Boundaries (Law No. 41/1999 Jo. Presidential Decree 88 of 2017):
Land derived from disposal of state forest land for agrarian reform land objects and / or the result of changes in forest boundaries.

Presidential Decree Number 86 of 2018 concerning Agrarian Reform:

1. Cultivation rights and building use rights that have expired, are not requested for extension and / or renewal of their rights and are not used / utilized in accordance with their function;
2. State land used / utilized by holders of cultivation rights or building use rights exceeds the area stated in the decree granting the relevant rights;
3. Former lands of abandoned land that are utilized for Agrarian Reform;
4. Land arises;
5. Land resulting from agrarian disputes and conflicts.

Figure 2. Agrarian Reform Land Objects are based on regulations.

From the picture above we can see that the source of the land of agrarian reform objects that we must follow up in order to achieve the desired goals of Presidential Regulation Number 86 of 2018 concerning Agrarian Reform. We try concentrating determine the location with reference to these provisions, where in 2018 from 7,500 a given target field can we accomplish 100% to make the arrangement of assets include:

a. Location of Relinquishment of Forest Areas, with reference to the Indicative Land Map of the object of agrarian reform from the Ministry of Environment and Forestry.

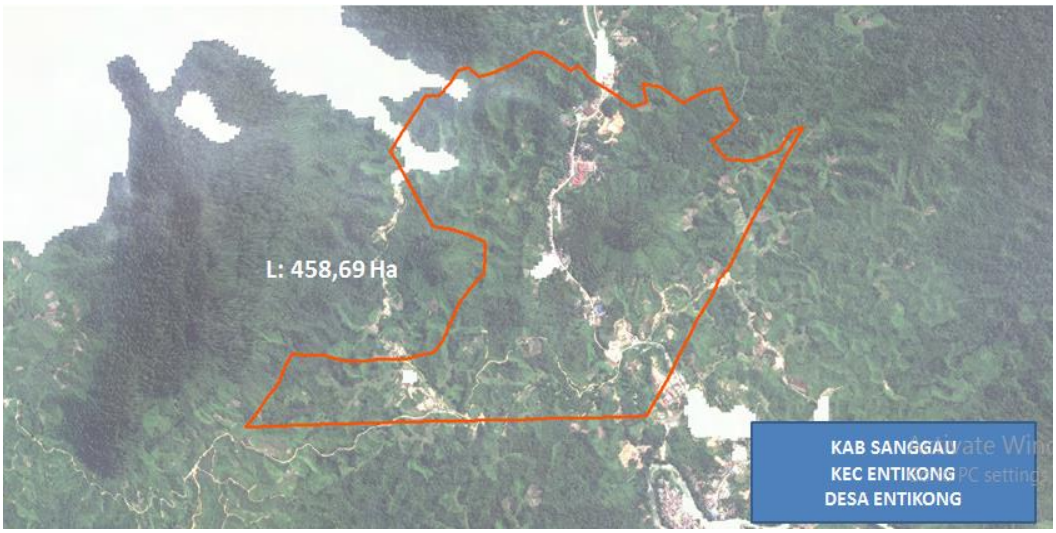

Figure 3. Forest Decree Release No. 2822/MenLHK-PTKL/KUH/2015 dated 25 June 2015 in Entikong Village.

b. The release of 20% of Plantation.

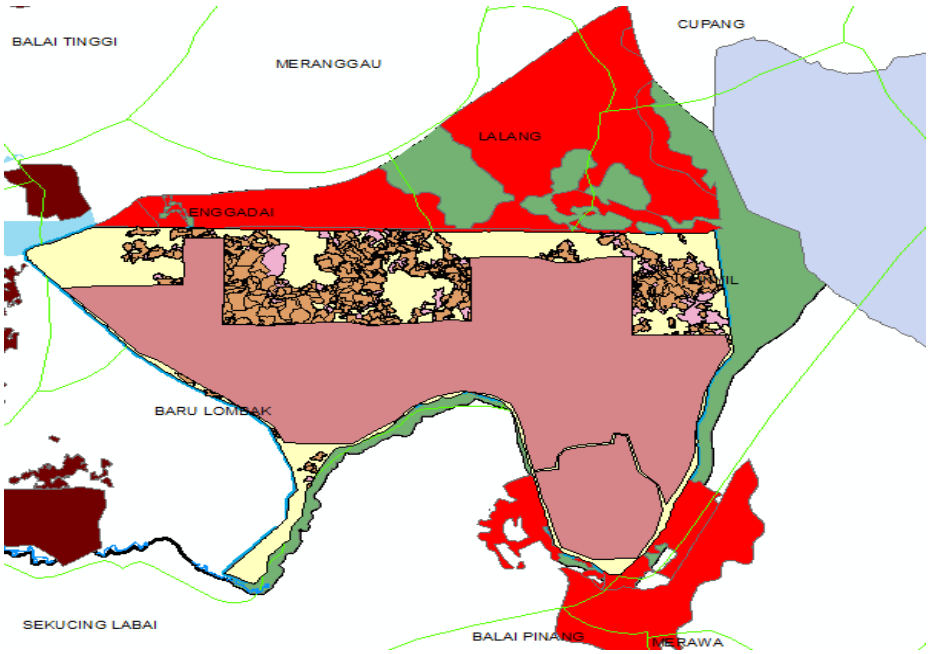

Figure 4. Release of forest area based on the Decree of the Minister of Forestry No.: SK.262/Menhut-II/2011 dated 18 May 2011 concerning the release of a part of the 10,935.40 Ha convertible production forest area located in the Ambawang and Gunung Tinjil forest groups for oil palm plantations on behalf of Sumatera Jaya Agro Lestari Ltd.

c. Inventory of Land Control, Ownership, Use and Utilization of 3,000 Plots (became the land of agrarian reform objects in 2019).

For 2019 we acquired the target as many as 14,000 plot and still proceed with completion targeted for cadastral measurements on 24 August 2019 and certification in October 2019. As for our location 2019 is a further development of the agrarian reform land resource objects that exist, in which:

a. Release of Forest Zone, based on an Indicative Map of the land of agrarian reform objects from the Ministry of Environment and Forestry (Boundary Results).
b. Voluntary Release from Cultivation Rights (Indicated Land Abused) for Kebun Ganda Prima Ltd. covering an area of + 12,000 Ha.

Figure 5. Location of Kebun Ganda Prima Ltd. which has been released.

c. From inventory control, ownership, use and exploitation of land by 2018 as many as 3,000 plots.

Land Office of Sanggau Regency also participate actively with local governments and Forest Area Consolidation Agency Region III West Kalimantan in order to follow up the Presidential Decree No. 88 of 2017 on the Settlement of Land Tenure in In the Forest Zone, where to Sanggau has asked the Ministry of Environment and Forests through the Regent. Furthermore, the Governor requested a release of forest area of ± 17,723.39 Ha, where the Ministry of Environment and Forestry is targeting the release of 980,000 hectares of Land for Agrarian Reform Objects to be completed in July 2019.

2. Access Reform

In agrarian reform the structuring of assets must also be accompanied by structuring access. The Land Office of Sanggau District has made this happen through Community Empowerment/Post-Land Redistribution activities. Our activities in the form of Land Recipient Development, where the Ministry of Agrarian Affairs and Spatial Planning as facilitators and motivators, coordinate and involve the Regional Government, the Office of Small and Medium Enterprises and Trade, Banking, Communication and Information, so that finally formed:

a. "*Sumber BPN*" Farmer Group that produces Black Rice / *Telasi* Rice;
b. "*Pengaria*" (Agrarian Crafts) Farmer Group - Production of Matting from Palm Leaf Sticks.

Figure 6. Access reform activities.

Slightly quoted from Usep Setiawan, Key Expert of the Presidential Staff Office during the Tiong Kandang Great Indigenous Conference, in Tae Village, Sanggau District where he explained the important role of the Ministry of Villages, Disadvantaged Regions and Transmigration, especially the Director General of Development and Empowerment Village Communities to develop the people's economy after receiving their customary forest decree or post-certificate of land redistribution as the object of agrarian reform. "The Ministry of the village must go to locations where the agrarian reform and social forestry has been running for the economic empowerment of the people". The Ministry of Villages is only one of many other Ministries that can contribute directly to the efforts to achieve the objectives of the Agrarian Reform that was proclaimed by the President of the Republic of Indonesia.

D. Conclusion

The explanation above illustrates our concern in order to support and achieve the goals of the Agrarian Reform as mandated in Presidential Regulation No. 86 of 2011 concerning Agrarian Reform. Determining and implementing Redistribution activities from agrarian reform object land sources as referred to in the Presidential Regulation is not an easy thing but also not an impossible thing. Need to struggle, sacrifice and high enthusiasm to achieve the concept and purpose of Agrarian Reform, which rearranges control, ownership, use, and more equitable use of land through the Asset Structuring and accompanied with Access Structuring for the prosperity of the people of Indonesia.

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CAUSE AND IMPACT OF LAND-USE CHANGE (LUC) ON FOOD SECURITY (CASE STUDIES IN PADANG, BANTEN, YOGYAKARTA, WEST LOMBOK, and BALI)

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Abstract

The protection of the utility of rice land is very important because every year rice lands in Indonesia are reduced by 150 thousand to 200 thousand hectares. Rice lands are the most quickly changed because they are easily be treated. In addition, rice lands are also considered an attractive investment because they are cheap. Rice land's contour is flat, has water, near access road, and economically a very attractive location for investment. Rice land value is relatively cheaper than the other land use as economically. Land use change caused frail food security, so the land use change has to be stopped by government.
This paper is to discuss about the land use change and susceptible food security. The purpose of this study was to: determine the cause LUC in agricultural and the impact of LUC in food security
The main determining factor of land use change was: 1). Increasing population; 2). Disobeying the rules of land use. The determining factor of food security was the massive land use change. Recommendations of this study were: 1). Decreasing population by using Family Plan Program; 2) decisive of the rules.
Keywords: Land Use Change, Food Security

A. Introduction

Indonesia is known as a fertile archipelago region for agricultural, especially in Java Isand and Sumatra Isand. Java and Sumatra have plenty volcanoes and still active until now, so that it become fertile lands. This condition makes Indonesia has to stable on food security, but in fact, The Jakarta Post reported:

> "While data has become the primary fuel for the digital economy, the accuracy of our agriculture data, notably on the production and consumption of food commodities, has always stirred up heated debates every time prices rise and commodities must be imported to stabilize prices"..[1]

That is the ironic, Indonesia has fertile lands, but consumption of food commodities must be imported. Why? The PAN AP[2] data said that

> "Precious rice land is being lost to industrialisation and urbanization in many Asian countries. Rice farmers are removed from their livelihoods, become victims of forced migration and suffer from hunger. Invasions of rice lands by foreign investors have

[1] https://www.thejakartapost.com/academia/2018/05/28/broadening-food-security.html .Jakarta / Mon, May 28, 2018 / 07:59 am

[2] Pesticide Action Network Asia and the Pacific (PAN AP) is one of five regional centres of PAN, a global network which aims to eliminate the harm caused by pesticides and promote biodiversity-based ecological agriculture. It is committed to the empowerment of people especially women, agricultural workers, peasants and indigenous farmers. PAN AP launched its Save Our Rice Campaign in 2003 in response to the powerful threats arising against rice, the staple food of half the world's population. The foundation of the Campaign is the "Five Pillars of Rice Wisdom": (1) Rice Culture, (2) Community
Wisdom, (3) Biodiversity-based Ecological Agriculture, (4) Safe Food and (5) Food Sovereignty. The Campaign is dedicated to saving traditional local rice, small rice farmers, rice lands and the rice heritage of Asia. PAN AP Rice Sheets provide relevant information on the threats to rice and are written from the people's perspective. Enquiries may be sent to: panap@panap.net.

> been encouraged by the nation states as well as by global actors like World Bank (WB) and the International Monetary Fund (IMF), in line with the neo-liberal open market policies"(Anonymous, no date)

That is why food security in Indonesia always depends on import commodity. As PAN AP data, rice land being lost because of LUC. Conversion of land in term LUCs[3], it cannot be avoided in implementation of development. Demands of society needs more higher for the lands, often lead to conflict of interest in land use(Rumetna, Sediyono and Hartomo, 2017). The result of Rumetna et al.

> "The results of this study of land use in 2011, there are thirty one classifications, while in 2015 there are thirty four classifications. The pattern of distribution of LUC shows that LUC in 2011-2015 has a Complete Spatial Randomness pattern. Land use suitability with the direction of area function at RTRW is 24030,406 Ha (46, 995406%) and incompatibility of 27103,115 Ha or equal to 53, 004593% of the total area of Bantul Regency".

It is terrible fact that land use suitability in Bantul just only 46, 9%, and incompatibility 53, 01 %. This data indicated LUC in Bantul is very massive.

In National scale, Pahala Nainggolan is one of deputy in KPK (Corruption Eradication Commission) said that," every year, land-use change (rice fields) 50.000 hectare – 60.000 hectare".[4] How horrible it is, when rice fields reducing per years 50.000 hectare, how about food security in Indonesia, when the population are always rises.

This study aims to determine

1. causes of LUCs, and
2. Implication to food security.

B. Causes of LUC

In Indonesia, Land use itself divided two types of utilization, agricultural lands, and non-agricultural lands. Non-agricultural lands, according Boedi Harsono is the lands that used for off farms activity. The use of no agricultural lands, are:

1. Housing includes: residential, recreation area, cemetery, fields, and soon.
2. Company land (for example, lands use for: markets, shops, warehouses, cinemas, banks, stations, and so on)
3. Industrial land (for example, land use for: fabrics, printing shop, printing office, and so on)
4. Services land (for example, land use for: government offices, churches, mosques, hospitals, schools, and other public facilities).
5. Empty land, is the land that is ready to build.

Commonly, the drift of change of land use actually from agricultural to non-agricultural, it is impossible when the opposite drift. According N Supardan et al.

[3] It is similar within the term of land use change and land conversion

[4] https://www.mongabay.co.id/2016/11/23/pemda-masih-minim-terapkan-larangan-alih-fungsi-lahan-pertanian/

> "LUC or land conversion can be interpreted as a change in the function of part or the entire region of the original function into other functions that have a **negative impact** on the environment and the potential of land itself". (Supardan et al, 2018).

The term of negative impact on environment described by Radoslava Kanianska, who was research in Europe, explain that LUC could influence:

1. Traditional landscape disappearance

The disappearance of traditional agricultural landscape is an on-going process, accompanying the general trend of agricultural abandonment in Europe. In Slovakia, traditional agricultural landscape is described as agricultural ecosystems that consist of mosaics of small-scale arable fields or permanents agricultural cultivations such as grasslands, vineyards, and high- trunk orchards or early abandoned plots with a low succession degree.(Kanianska, 2018)

2. Contribution of climate change

Anthropogenic land-use activities and changes in land use/cover caused changes superimposed on the natural fluxes. Land-cover changes are responsible for surface and vegetation modifications what reflects in surface albedo and thus surface-atmosphere energy exchanges, which have an impact on regional climate. Terrestrial ecosystems are important sources and sinks of carbon and thus land-use changes reflect also in the carbon cycle. The important contribution of local evapotranspiration to the water cycle—that is precipitation recycling— as a function of land cover highlighted yet another considerable impact of land-use/cover change on climate, at a local to regional scale.(Kanianska, 2018)

3. Biodervisity losses

Agricultural has impact on biodiversity. Biodiversity according Webster's dictionary is biological diversity in an environment as indicated by numbers of different species of plants and animals. Thus many species of plants and animals has losses, caused by LUC.

4. Eutrophiciation

Eutrophication is a process of pollution that occurs when a lake or stream becomes over rich in plant nutrients as a consequence it becomes overgrown in algae and other aquatic plants.

5. Agro ecosystem services degradation

Disservices from agriculture can include degradation or loss of habitat, soil, water quality, and other off-site, negative impacts.

And the other hand Castro et al, argued: two contrasting trends in Land Use and Land Cover changes have been identified over the last several decades. First, industrial development, which is an intensification of agricultural practices and urban expansion, is reshaping the landscape. Second, a concurrent increase in the abandonment of rural areas has led to a decrease in traditional agricultural practices. Both processes feature heavily in the case study and are identified as the key drivers of global change.(Quintas-Soriano *et al.*,

2016).Castro's research in condition that industrial development is making reshaping landscape and economic profits provided by greenhouse. But, industrial development itself has negative impact, pollution and ecological impact.

In Indonesia, the impact of LUC not only as described by Kanianska, but also influence on food security.

Lamidi et al, have researched in Serang city (Banten), the result showed:

> " The annual change of rice fields in the period of 1993-2000 is 265.14 Ha, in 2000-2007 is 90.43 Ha, and in 2007-2016 is 91.67 Ha. Overall, during the period of 1993-2016 (23 years) the rice fields in Serang City decreased by 29% from 11576 Ha in 1993 to be 8262 Ha in 2016. This means that every year the rice fields in Serang City decreased about 144 Ha or about 1.3%. The biggest rice field conversion is to be settlement and agro forest".(Lamidi et al., 2017)

Emphasis of that data are every years the rice fields in Serang city decreased about 144 ha, whereas Serang city has 8,138 ha of technical irrigated rice field. It means sixty years later Serang City has no rice field. Next Lamidi explained about the type of conversion, that the conversion of rice field is mostly for housing construction needs. Almost 74.96% rice field becoming housing. It is not surprisingly, when the data of population in Serang showed increasing.[5] The increase of population leads to LUC, especially in housing. People need lands to build a hose as a dwelling, while land does not increase in area.

In Bali, LUC has been researched by Supardan et al.," The land conversion is mainly for housings and settlement purposes".

Table 1. Land Use Change of Denpasar City 2002-2015

LUC	Topographic Map 2002 (Ha)	SPOT Imagery 2015 (Ha)	LUC (Ha)
Lake	10.33	10.33	0
Ponds	384.14	384.14	0
Mangroves Forest	2.27	2.27	0
Swamp forests/Peat	245.47	245.47	0
Grasslands	195.53	182.62	-12.91
Plantations/garden	687.68	660.78	-26.90
Settlement and its activities	8621.76	10357.34	1.735.58
Swamps	33.79	33.79	0
Rice fields	5238.15	3543.34	-1.694.81
Scrub	20.5	19.98	-0.52
Moor / fields	111.23	110.79	-0.44
Non-cultivated vegetation area	32.5	32.53	0

Source: Supardan et al, 2018

[5] In the period of 2001-2006 when Serang was still part of Serang District, the population growth was just average 1.3% per year. In the period of 2008 - 2016 after Serang became an autonomous city, the population increased from 493,232 in 2008 to 643,205 in 2015 or increased by 25% or an average of 3.5% per year.

Tabel 1 shows rice fields decreased 1.694.81 ha between 2001-2015, and Settlements increased 1.735.58 ha. It means, alot of rice fields have changed becoming settlements. The twelve indicators of LUCs, only settlements have increasing. Settlements take over all LUC in Denpasar.

LUC In Sidoarjo district East Java Province increasing 2.66% at 2012, and 60% converted by settlements/ housing. (Linda Cristi Corolina dkk, 2012)

Agus Ikhwanto said" in Malang city which covers an area of 110.06 km^2 year to year it continues to shrink due to the shifting function of rice lands into settlements as well as area used for the economy".(Ikhwanto, 2019)

In Padang, West Sumatra, LUC to setlements is about 150 to 200 hectares.(Mustafa, 2017) acording Cetral Bureau of Statistics (BPS), Suryamin in (Mustafa, 2017)6, household that planted rice 14.2 million in 2003, and fell down to 14.1 million in 2013. It means in decenial, peasent in Padang has decreased a hundred thousand peasant.

König et al., have researched in Yogyakarta:

"From 1993 to 2006, urban built-up areas and new rural settlements doubled, while the area of agricultural land decreased by 25%. Rural areas, including home- or forest gardens, now account for 16%, and urban areas for 4%. The remaining area belongs to forests and coastal protection zones"(Hannes Jochen König et al, 2010)

All LUC's researchers have data that showed LUC in their research sites changed to be settlements (housing). When population growth is increasing, and people needs settlements for livinghood, thus settlement demands is increasing too. LUC from agrarian to non-agrarian more profitable than the opposite way. That's why people prefer exchange their rice fields to settlement.

Population change was the most direct factor affecting land use change, causing changes in the intensity and structure of land use by changing the quantity structure, pattern and product demand of land use. (Li *et al.*, 2015)

C. The Impact Of LUC on Food Security

Food security is the fact that a place is able to produce or obtain enough food to feed its population[7]. In Yogyakarta the conversion of wetlands led to the loss of rice production by 18.359,27 tons during the period 2006-2015.(Yoga Prasada et al, 2011). Rate of LUC on rice shoes in table 2 bellow:

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[6] Badan Pusat Statistik, http://www.voaindonesia.com/content/bps-jumlah-petani-diindonesia-terus-berkurang/1949152.html,. Accessed on 19-08-2019: 13:42

[7] definition food security took from.Cambridge dictionary

Table 2. Rate of LUC on Rice Field in the Yogyakarta Province

Year	Rice Field Area (ha)	LUC of Rice Field (ha)	Opening Rice Field Area (ha)	Reduction of Rice Field Area Rate (%)
2006	56.218,00	0,00	0,00	0,00
2007	55.540,00	678,00	0,00	-1,21
2008	55.332,00	208,00	0,00	-0,37
2009	55.325,00	7,00	0,00	-0,01
2010	55.523,00	0,00	198,00	0,36
2011	55.291,00	232,00	0,00	-0,42
2012	55.110,00	181,00	0,00	-0,33
2013	55.336,00	0,00	226,00	0,41
2014	54.417,00	919,00	0,00	-1,66
2015	53.553,00	864,00	0,00	-1,59
Total	551.645,00	3.089,00	424,00	-4,82
Rate	55.164,50	308,90	42,40	-0,48

Source: BPS 2016

The table 2 describes that rice field area have fluctuation year to year. LUC of rice field area has decreased 3.089 ha in period 2006 to 2015. Although in 2010 and 2013, there are opening rice field area, but it is not enough to cover up of LUC. Remember that opening opening rice field area wasn't taken from settlement, but the other land use such as forest, field, and plantation land.

Lost of rice production data shows bellow in table 3:

Table 3. The Impact of LUC of Rice Field on The Lose of Rice Production (2006-2015)

Year	Productivity (ton/ha)	LUC of Rice Field area (ha)	Lost of Rice Production (ton)
2006	5,35	0,00	0,00
2007	5,82	678,00	3.948,03
2008	5,69	208,00	1.184,53
2009	6,27	7,00	43,90
2010	6,05	0,00	0,00
2011	6,05	232,00	1.403,80
2012	6,74	181,00	1.220,70
2013	5,79	0,00	0,00
2014	5,79	919,00	5.318,26
2015	6,06	864,00	5.240,04
Total	59,62	3.089,00	18.359,27
Rate	5,96	308,90	1.835,93

Source: BPS, 2016

Rice production in Yogyakarta is decline along 2006 until 2015. If table 2 is compared with table 3, there are linkages each other. When The opening area of Rice field happen, there were not lost of rice production. It can be resumed that LUC of rice field annoying rice production.

Malthus has warned 200 year ago that people have to preserved their land for agricultural.

"Let us now take any spot of earth, this Island for instance, and see in what ratio the subsistence it affords can be supposed to increase. We will begin with it under its present state of cultivation.

If I allow that by the best possible policy, by breaking up more land and by great encouragements to agriculture, the produce of this Island may be doubled in the first twenty-five years, I think it will be allowing as much as any person can well demand.

In the next twenty-five years, it is impossible to suppose that the produce could be quadrupled. It would be contrary to all our knowledge of the qualities of land. The very utmost that we can conceive, is, that the increase in the second twenty-five years might equal the present produce.

Let us then take this for our rule, though certainly far beyond the truth, and allow that, by great exertion, the whole produce of the Island might be increased every twenty-five years, by a quantity of subsistence equal to what it at present produces. The most enthusiastic speculator cannot suppose a greater increase than this. In a few centuries it would make every acre of land in the Island like a garden. Yet this ratio of increase is evidently arithmetical. It may be fairly said, therefore, that the means of subsistence increase in an arithmetical ratio".(Malthus, 1798)

We must concern about Malthus's warning, population will always tend to outrun the growth of production, thus the increase of population must be controled for food security. The increase of population causes LUC, and LUC causes decrease of production (food).

Table 4 shows the projection of population in Indonesia 2010-2035. "The Result of projection show that the Indonesia's population next twenty five years are increasing from 238.5 million in 2010 to 305.6 million in 2035".(BAPPENAS-BPS-UNFPA 2013)

Table 4. The Projection of Population in Indonesia 2010-2035

No	Province	Year					
1	Aceh	4 523,1	5 002,0	5 459,9	5 870,0	6 227,6	6 541,4
2	Sumatera Utara	13 028,7	13 937,8	14 703,5	15 311,2	15 763,7	16 073,4
3	Sumatera Barat	4 865,3	5 196,3	5 498,8	5 757,8	5 968,3	6 130,4
4	Riau	5 574,9	6 344,4	7 128,3	7 898,5	8 643,3	9 363,0
5	Jambi	3 107,6	3 402,1	3 677,9	3 926,6	4 142,3	4 322,9
6	Sumatera Selatan	7 481,6	8 052,3	8 567,9	9 000,4	9 345,2	9 610,7
7	Bengkulu	1 722,1	1 874,9	2 019,8	2 150,5	2 264,3	2 360,6

8	Lampung	7 634,0	8 117,3	8 521,2	8 824,6	9 026,2	9 136,1
9	Kep. Bangka Belitung	1 230,2	1 372,8	1 517,6	1 657,5	1 788,9	1 911,0
10	Kepulauan Riau	1 692,8	1 973,0	2 242,2	2 501,5	2 768,5	3 050,5
	Pulau Sumatera	**50 860,3**	**55 272,9**	**59 337,1**	**62 898,6**	**65 938,3**	**68 500,0**
11	DKI Jakarta	9 640,4	10 177,9	10 645,0	11 034,0	11 310,0	11 459,6
12	Jawa Barat	43 227,1	46 709,6	49 935,7	52 785,7	55 193,8	57 137,3
13	Jawa Tengah	32 443,9	33 774,1	34 940,1	35 958,6	36 751,7	37 219,4
14	DI Yogyakarta	3 467,5	3 679,2	3 882,3	4 064,6	4 220,2	4 348,5
15	Jawa Timur	37 565,8	38 847,6	39 886,3	40 646,1	41 077,3	41 127,7
16	Banten	10 688,6	11 955,2	13 160,5	14 249,0	15 201,8	16 033,1
	Pulau Jawa	**137 033,3**	**145 143,6**	**152 449,9**	**158 738,0**	**163 754,8**	**167 325,6**
17	Bali	3 907,4	4 152,8	4 380,8	4 586,0	4 765,4	4 912,4
18	N T B	4 516,1	4 835,6	5 125,6	5 375,6	5 583,8	5 754,2
19	N T T	4 706,2	5 120,1	5 541,4	5 970,8	6 402,2	6 829,1
	Bali dan Kep. Nusa Tenggara	**13 129,7**	**14 108,5**	**15 047,8**	**15 932,4**	**16 751,4**	**17 495,7**
20	Kalimantan Barat	4 411,4	4 789,6	5 134,8	5 432,6	5 679,2	5 878,1
21	Kalimantan Tengah	2 220,8	2 495,0	2 769,2	3 031,0	3 273,6	3 494,5
23	Kalimantan Selatan	3 642,6	3 989,8	4 304,0	4 578,3	4 814,2	5 016,3
24	Kalimantan Timur	3 576,1	4 068,6	4 561,7	5 040,7	5 497,0	5 929,2
	Pulau Kalimantan	**13 850,9**	**15 343,0**	**16 769,7**	**18 082,6**	**19 264,0**	**20 318,1**
25	Sulawesi Utara	2 277,7	2 412,1	2 528,8	2 624,3	2 696,1	2 743,7
26	Sulawesi Tengah	2 646,0	2 876,7	3 097,0	3 299,5	3 480,6	3 640,8
27	Sulawesi Selatan	8 060,4	8 520,3	8 928,0	9 265,5	9 521,7	9 696,0
28	Sulawesi Tenggara	2 243,6	2 499,5	2 755,6	3 003,0	3 237,7	3 458,1
29	Gorontalo	1 044,8	1 133,2	1 219,6	1 299,7	1 370,2	1 430,1
30	Sulawesi Barat	1 164,6	1 282,2	1 405,0	1 527,8	1 647,2	1 763,3
	Pulau Sulawesi	**17 437,1**	**18 724,0**	**19 934,0**	**21 019,8**	**21 953,5**	**22 732,0**
31	Maluku	1 541,9	1 686,5	1 831,9	1 972,7	2 104,2	2 227,8
32	Maluku Utara	1 043,3	1 162,3	1 278,8	1 391,0	1 499,4	1 603,6
	Kep. Maluku	**2 585,2**	**2 848,8**	**3 110,7**	**3 363,7**	**3 603,6**	**3 831,4**
33	Papua Barat	765,3	871,5	981,8	1 092,2	1 200,1	1 305,0
34	Papua	2 857,0	3 149,4	3 435,4	3 701,7	3 939,4	4 144,6
	Pulau Papua	**3 622,3**	**4 020,9**	**4 417,2**	**4 793,9**	**5 139,5**	**5 449,6**
	Indonesia	**238 518,8**	**255 461,7**	**271 066,4**	**284 829,0**	**296 405,1**	**305 652,4**

Source:(BAPPENAS-BPS-UNFPA, 2013)

The problem is land has not increase but the population has increase, whereas increasing of population need more production.

D. Conclusion

1. The Government should be prevent LUC, especially from agricultural land to non-agricultural land. Therefore The Government should be inforce Government Regulation Number (No). 1 of 2011 on Regulation of the Impementation of Law No. 41 of 2009. The purpose of The Government Regulation are:

a. To guarantee the reserved sustainable agricultural land;
b. To control sustainable of LUC of agricultural;
c. To establish independence, sustainability, and sovereignty National food;
d. To increase empowerment, revenue, and prosperity for peasent;
e. To assurance farming business;
f. To establish equilibrium of the ecology;
g. To prevent redundant the investment of agricultural infrastructure.

Although this Government Regulation is enough to prevent LUC, but in fact until now LUC from agricultural land to non-agriclutural land always occur. So The Government must be firm about implementation of this Government Regulation.

2. When the Developers want build settlement, they must be build with layers building. for exampes developer has 5 parcels of land and building, land ownership and the building was made into the one area of land with a building field 5 layers. Like ***spekkoek***[8] that has many layers. so the settlement does not require huge lands.
3. The Government must drum up Familiy Plan[9] programs again. The purpose of the Family Plan Program in Indonesia was limited the maximum a family only had two children.

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[8] Cake from Netherland

[9] In Indonesia known with KB (Keluarga Berencana), this program was implemented 1980 till 1995. But up to 1995 this program was not actived.

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SUB THEME 5

SPATIAL PLANNING AND DISASTER RISK REDUCTION

CLASSIFICATION OF FOOD SECURITY BASED ON LAND CONVERSION USE IN COLOMADU SUBDISTRICT, KARANGANYAR DISTRICT, INDONESIA

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Abstract

Colomadu Subdistrict is a rice production area (rice surplus area).Today many of the agricultural lands are experiencing land use conversion resulting in a decrease in rice production and a decline in food security. The objectives of the research are to know: 1) the pattern of land use conversion, 2) the factors that influence land use conversion, 3) the classification of food security in the Subdistrict of Colomadu. The research method is related to the distribution pattern of land use conversion of agricultural land to non-agricultural, and is analyzed using the continuum nearest-neighbor (C-NN). The data distribution of agricultural land use conversion to non-agricultural is carried out with the help of ALOS satellite imagery. Several factors that influence the conversion of ricefield to non-ricefield land use are analyzed by multiple regression.The independent variables are: population density, area of agricultural land (ricefield), and accessibility.The dependent variable is the conversion of agricultural land use to non-agricultural. The population of this study was entire villages. All villages are observed as research units (survey method). The results of the study are based on hypothesis 1, and were analyzed by calculating the value of T (nearest neighbor distribution index) from the C-NN analysis, the T value of the calculation result is 1.32. It can be concluded that the conversion of land use in Colomadu Subdistrict tends to be random. This shows that development planning based on land use conversion in Colomadu Subdistrict, Karanganyar District (Regency) has not been assessed in Colomadu Subdistrict, but it is evenly distributed throughout. Hypothesis 2 stated that land use conversion is influenced by population density, agricultural land area and accessibility. Hypothesis 3 is the classification of food security as one way to determine the area development planning in the Subdistrict of Colomadu.
Keywords: Land use conversion ; Rice surplus

A. Introduction

Land is a part of the earth's space and is a place for people to do activities. Land is a basic need for biotic survival. As a development determinant, humans should be able to maintain the physical/abiotic environment sustainability. Humans also have the ability to choose for housing, clothing, and food. Choosing is a human expression related to culture (Soemarwoto, 1995). Sustainable food availability is an environmental condition related to the physical soil (abiotic environment). Food needs and the availability of housing are two conflicting factors in land requirements. One is needed to retain the continuity of self-sufficiency. But on the other hand, land is converted from agricultural land to non-agriculture land for housing.

Agricultural land resources provide a very wide range of socio-economical and environmental benefits. Therefore, the loss of agricultural land due to land conversion to non-agricultural uses will have an impact on various developmental aspects. Broadly speaking, the benefits of agricultural land can be divided into 2 categories which are as follows: 1) indirect benefits and 2) direct benefits. Indirect benefits are

the benefits that are gained as secondary effect of the exploitation activities carried out by landowners. One example is the preservation of biodiversity or the existence of certain types of plants whose benefits are not known directly, but will be useful to meet human needs (nature and environment sustainability) in the future. Direct benefits can also be referred to as used values. Direct benefits are generated from exploitation or farming activities on agricultural land resources, so the activity can describe the socio-economic life of the area. However, human desire to improve economic life does not mean humans should sacrifice nature reserves (Munasinghe 1992, and Juhadi 2007).

Agricultural cultivation (land productivity) is the safest land use, because it maintains environmental sustainability. Some limiting factors on the environment need to be taken into account, so that regional development brings sustainable results. Prevention of environmental change in the form of land use conversion is expected to reduce urbanization. Lack of employment in rural areas in farming sectors might lead to urbanization.Urbanization often causes various socio-economic problems in urban areas (Soerjani et al. 2001)

According to Sandy (1983), the purposes of relating land as a place is divided into two things, namely those related to legal rights of the land and those related to the land's use. If a transaction is carried out on the land in the sense of a place, then several other parameters (in addition to the area) are needed and must also represent the land. Buying and selling, compensation, collateral, guarantee, pawning or mortgages are some examples of transactions on land that require a "price" or "value" as a reflection of the benefits or use of the land.

The development of rapid development and high rate of population growth are factors contributing in the increased demand for land both in urban and rural areas, which in turn will decrease food security in the area. The more land use conversion, the less food security (Irawan. 2005; Sihaloho. Dharmawan and Rusli. 2007; Rohmadiani. 2011; Astuti. 2011)

The land used for development is largely obtained from the conversion of agricultural land. Land that has been converted to non-agricultural land tends to decrease its productivity and has an effect on the reduced food security. Some of the factors that influence the decline in food security are population density, land area, and accessibility.

The pattern of land use conversion from agricultural to non-agricultural ultimately determines food security. Conversion of land use from agricultural to non-agricultural in Indonesia tends to be clustered, because most land use conversions from agriculture to non-agriculture have "contagious" or "follow-up" nature. Food security is influenced because of the conversion of land use from agricultural to non-

agriculturalthat has a "follow-up" pattern (Irawan. 2005). Conversion of land use from agricultural to non-agriculturalthat has random and uniform/regularpattern tends to have different food security compared to those with clustered pattern.

In general, due to development, the availability of land in urban and rural areas is limited. This raises urban and rural land issues, including an increase in land prices, uncontrolled food security, and various conflicts of interest. Lands needed for industry and various economic activities compete with lands needed for housing (Sari et al. 2010).

Environmental development rate in the Subdistrict of Colomadu has an impact on land use conversion, especially changes in agricultural land to non-agricultural land. Ritohardoyo (2009) stated that the environment is identical to land. Human activities cannot be separated from land, whether the land is for agricultural, housing, or for industry. In food gathering, the land for agricultural cultivation is the main factor, but the conversion of land use always occurs on agricultural land.

The development plan launched by the government is an essential effort to manage natural and environmental resources to be carried out consciously and wisely. It is expected that every human action will not cause environmental damage. But in reality, the conversion of agricultural land use has an unfavorable impact on the environment resulting in a decrease in food security.

Existing natural resources in the form of land and water can be used to obtain agricultural productivity, especially rice. Both inextensification and intensification methods. Colomadu Subdistrict cannot increase agricultural production through extensification because Colomadu Subdistrict is classified as a very dense population (National Land Agency RI, 2009). The possible effort to increase agricultural production in Colomadu Subdistrict is by intensification, which should emphasize in land use planning to increase land productivity.

Ownership of agricultural land cannot guarantee farmers to be able to support their families. Many farmers sell their land because the land has a high price. Since the land is sold, the farmers are forced to change profession. The buyers of the land have a tendency to convert agricultural land to non-agricultural. Some opinions conclude that land use conversion from agricultural land to non-agricultural land is an incremental conversion process, meaning that if there is land use conversion at a location, then some subsequent conversions will be followed and there is a positive relationship between land conversion from agricultural land to non-agricultural. The more conversion of land use from agricultural land to non-agricultural, the more decreases seen infood security (Irawan, 2005; Sihaloho. Dharmawan.danRusli. 2007; Rohmadiani. 2011; Astuti. 2011)

One of the problems faced in Indonesia, including Colomadu Subdistrict, is an increase of population every year. These problems indirectly trigger land use conversion because of land is needed by the population. Increased population growth results in increased development in housing and industry. The development of housing and industry will simultaneously reduce food security due to the conversion of land use from agricultural to non-agricultural.

The research area is the administrative area of Colomadu Subdistrict. Geographically Colomadu Subdistrict is located between 7031'21 "up to 7033'3" South Latitude and 110043'33 to 110048'12 "East Longitude with the borders are as follow:

1. North side is bordered by Boyolali District.
2. East side is bordered by Surakarta City.
3. South side is bordered by Sukoharjogetan District.
4. West side is bordered by Boyolali District.

The study area is the administrative work area of the Colomadu Subdistrict of Karanganyar District, more information of the study area can be seen in Table 1.

Table 1. The size of the research area of Colomadu Subdistrict in each district

No.	Village Name	Size (ha)	Percentage (%)
1	Baturan	129,2	8,26
2	Blulukan	163,9	10,48
3	Bolon	163,2	10,43
4	Gajahan	72,6	4,64
5	Gawanan	131,3	8,39
6	Gedongan	179,3	11,46
7	Klodran	117,7	7,52
8	Malangjiwan	206,4	13,2
9	Ngasem	152,5	9,75
10	Paulan	97,7	6,25
11	Tohudan	150,4	9,62
Jumlah		1564,2	100,00

Source: Karanganyar District Statistic Bureau. 2014

Based on the background, the research objectives are as follows: (1) analyzing the conversion of agricultural land use in a random pattern in Colomadu Subdistrict; (2) analyzing factors of population density, rice field area, and accessibility in Colomadu Subdistrict; (3) analyzing the classification of food security in Colomadu Subdistrict with the criteria of high food security, medium food security, and low food security as consideration of the direction of development in Colomadu Subdistrict.

From the background and research objectives above, the hypothesis can be formulated as follows:

1. The pattern of land use conversion from agricultural to non-agricultural is random.
2. Factors that influence the conversion of agricultural land use to non-agriculture are: population density, rice field area, and accessibility.
3. Classification of food security in Colomadu Subdistrict, Karanganyar District is one way to maintain food security.

B. Research methods

The research area is Colomadu Subdistrict of Karanganyar District. Satellite imagery was used to determine the research area. The satellite imagery used is the ALOS (Advanced Land Observing Satellite) satellite image with the PRISM sensor (The Panchromatic Remote Sensing Instrument for Stereo Mapping) and has a spatial resolution of 15 meters. The instrument is accurate to map the surface of the earth on a scale of 1: 25,000 or smaller (Jalzarika. 2008). The sample in question is all villages in Colomadu Subdistrict that have experienced land use conversion to non-agricultural from 2004 to 2014. As a consideration of the research area, that is, Colomadu Subdistrict is quite high in conversion to agricultural land use because it is located in an area bordering an urban area (Surakarta City). Sampling method used in this study is a census method which observes all research populations as samples (research objects). Because each population/sample has almost the same degree and qualifications, all population has the same chance to be a sample.

Agricultural areas in Colomadu Subdistrict have a strategic role in supporting food productivity in Colomadu Subdistrict. Besides agricultural land,Colomadu Subdistrict also has complex characteristics, both in terms of physical land, socio-economic conditions, and society. This is thought to be influenced by the conversion of agricultural land use to non-agricultural. For more detailed maps of the administration area of the Subdistrict of Colomadu can be seen in Figure 1.

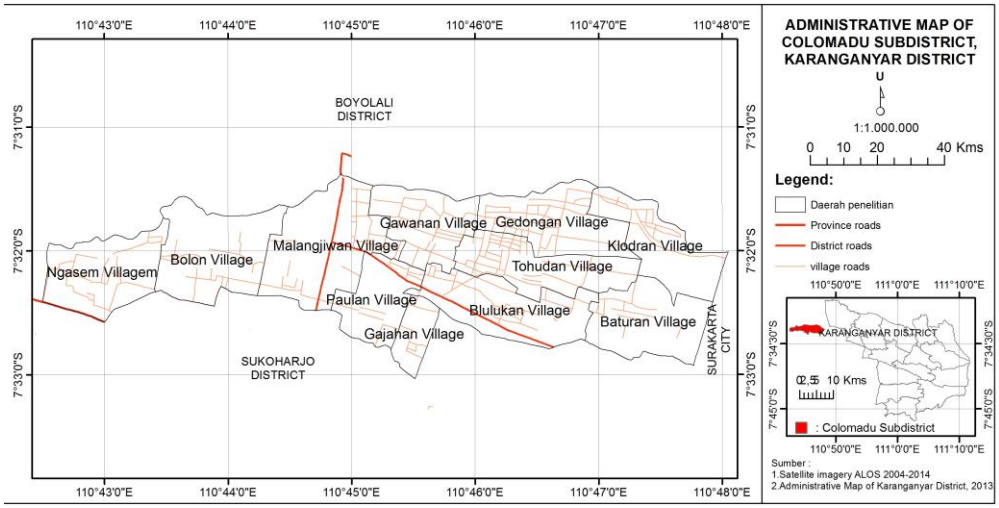

Figure 1. Map of Colomadu Subdistrict Administration, Karanganyar District

Data and variables used in this study were classified into 4 (four) groups based on the research objectives as follows.

1. The pattern of agricultural land use conversion in Colomadu Subdistrict is obtained by calculating the distance at each land use conversion location through the land use conversion map interpreted by ALOS Satellite Imagery. Then analyzed by Continum Nearest Neighbor Analysis. Land use conversion is only distinguished from agriculture to non-agriculture.

   In this study linking the distribution patterns of land use conversion in Colomadu Subdistrict with the nearest neighbor analysis. This analysis is used to determine the distribution pattern of land use conversion whether it follows a clustered, random or uniform pattern. as indicated by the magnitude of the T value (Hagget in Bintarto and Hadisumarno, 1982). The results of this analysis can provide an overview of the tendency of a conversion to the use of land, the reason of a tendency to a certain pattern, associated with factor analysis that explains the preferences of the community in choosing a location for land use conversion. T value (nearest neighbor distribution index) itself is obtained through the following formula.

$$T = \frac{\bar{j}_u}{\bar{j}_h} \quad \text{.....(1)}$$

T : neighboring dispersion index

$\bar{j}_u$: the average distance measured between a point and its nearest neighbor;

$\bar{j}_h$: the average distance obtained when all points have a random pattern= $\frac{1}{2\sqrt{p}}$

p : the point density in each km2 is the number of points (n) divided by the area of the area in km2 (A). so that it becomes: $\frac{\sum n}{A}$.

In conducting analysis of nearest neighbors, it is important to note several important steps as follows:

a. Determining the boundaries of the land being studied;
b. Changing the distribution pattern of observation units in the topographic map to point distribution pattern;
c. Giving sequence numbers for each point for an easier analysis;
d. Measuring the closest distance in a straight line between one point and to its closest neighbor;

e. Counting according to Hagget in Bintarto and Hadisumarno (1982) is interpreted with the Continum Nearest Neighbor Analysis as in Table 2 below.

Table 2. Conversion distribution based on T value

No.	Pattern	T
1	Follow-up (clustered)	0-<1
2	Random	≥1-<2.15
3	Uniformed	≥2.15

a) The pattern of distribution land use conversion is analyzed by Continuous Nearest Neighbor (C-NN) analysis with the principle of grouping one cell with neighboring cells based on the similarity they have.

2. Several factors that influence land use conversion are determined by population density, rice field area, and accessibility variables. The data are collected from relevant agencies. Field data collection or field data checking and satellite image delineation / digitization was done. In this study the variables that affect land use conversion are used in the classification of food security. Further variables that affect land use conversion can be explained as follows:
   a. Land use conversion variable; land use conversion from agriculture to non agriculture can be obtained from the interpretation of ALOS Satellite Imagery. From the delineation of Citra Salelit ALOS in 2004 and 2014, a land use conversion will be obtained. Conversion of land use for 15 years will then be obtained per year and per village. From the average land use conversion per year and a percentage of the area per village calculated, a variable land use conversion per district will be obtained
   b. Population density variable; population density is obtained from population and area size and village potential from monographic data / village profiles. The operation of this variable can affect the pressure on food security, due to the high rate of growth and population growth due to unplanned expansion of residential areas (Mantra 1991). The most complete and accurate source of population data is obtained from the population census. Population census is conducted every 10 years. so that the data needed urgently needs to be surveyed (census). Population data in this study is needed because the population is the subject and object of a plan. The rate of population growth is influenced by birth. death and

migration. According to Rumbia (2008) population density will change according to population growth.

c. Rice field variable; the existence of agricultural land (rice fields) is obtained from the interpretation of ALOS Satellite Imagery. From the delosation of the ALOS Satellite Image in 2014 at the time of the study, an area of agricultural land per village in 2014 will be obtained.

d. Accessibility variables; accessibility is calculated based on the proximity of the land unit to the main road, while also based on the dominance of the area with the existence of the road (Weber. 1909). The existence of roads is grouped into provincial roads, district roads, sub-districts. village roads and footpaths / villages.

3. Determining classification of food security by these criteria: classification of high food security, medium food security, and low food security through overlapping of variables that affect land use conversion, while variables that do not affect land use conversion are not used in the classification of food security.

The determinants of the conversion magnitude of agricultural land use to non-agricultural land were determined using Multiple Regression Analysis (Ritohardoyo. 2011). The multiple regression model that is built is as follows.

$Y = \beta o+\beta 1x1+\beta 2x2+\beta 3x3+ E$ .....(2)

The above formula or formula (2) can be solved using 3 equations by 3 variables that composed it, but to simplify the calculation, the SPSS software was used:

$\sum Yi = n\beta_o + \sum\beta_1 X_{1i} +\sum\beta_3 X_{3i}$

$\sum X_{1i}\, Y_i= \beta_o X_{1i} + \beta_1(\sum X_{1i})2 + \beta_3\sum X_{1i}X_{3i}$

$\sum X_{2i}Y_i = \beta_o X_{2i} + \beta_1\sum X_{1i}X_{2i} +\beta_3\sum X_{2i}X_{3i}$

$\sum X_{3i}Y_i = \beta_o X_{3i} + \beta_1\sum X_{1i}X_{3i} + \beta_3\sum(X_{3i})$

Y: land use conversion;

X_1: population density;

X_2: accessibility;

X_3: spatial order.

β_o. β_1. β_2.β_3: coefficient determined based on observational data.

Food security classification is determined through overlays of several maps. The maps in question are the result of several factors that cause the land use conversion. As a reference, (estimation) the causes of land use conversion are: maps of population density, rice field area, and accessibility. To find out the contribution of each variable to land use conversion, multiple regression was used. To find out the role and strength of the relationship of every variable to the factors formed, a calculation was performed using partial test. Determination of food security classification through scoring and map overlay,

while determining food security classification it is necessary to determine the class interval using the following formula:

$$I = \frac{t_{maks} - t_{min}}{k} \quad \text{.....(3)}$$

I = Class interval;

t_{maks} = totalscore of all variables with maximum value (High);

t_{min} = totalscore of all variables with minimum value (Low);

k = the ammount of classes is 3 (three) classes according to the final results of the classification, i.e.: classification of high, medium and low food security

According to Saaty (1994). In determining the score (scoring) on each attribute of a variable the Analytical Hierarchy Process (AHP) can be used. The definition of AHP is to abstract the structure of a system to study the functional relations between components and the impact on the system as a whole. The AHP approach uses a scale proposed by Saaty (1994) ranging from a weight value of 1 to 9. A weight value of 1 represents "equally important". It means that the attribute with the same scale has a weight value of 1. While the weight value of 9 represents the case of attributes that has "absolute importance".

In AHP, the determination of policy priorities is done by discovering people's perceptions rationally. After that convert the intangible (unmeasured) factors into the general rules so they can be compared. The recommended values (grades) to make a pairwise comparison matrix are as follow:

grade 1 : equally important (equal);

grade 3 : slightly more important (slightly);

grade 5 : strongly more important (strongly);

grade 7 : very strongly important (very strong);

grade 9 : extremely important (extreme).

In addition to the grading values, each value in between can also be used. i.e. 2. 4. 6. and 8. Some of these values illustrate the relationship of interest between the odd values that have been mentioned. Scoring techniques can be seen in Table 3.

Table 3. Scoring and data source

	Variable	Assumption of calculation	Grouping of research results (attributes)	Score	Data source
1	Population density	Population density per village	Less dense	9	Grouping based on data from each villages
			Dense	5	
			Very dense	1	
			Moderate	5	
			Low	1	

2	Rice field area	Rice field area resulting from the sum of rice fields per village	High	9	Grouping based on data from each villages
			Moderate	5	
			Low	1	
3	Accessibility	Road availability at the village level	High	9	Colomadu Subdistrict Administration Map
			Moderate	5	
			Low	1	

Source: Score determination using AHP from Saaty (1994)

In every variable score, the total score will be obtained subsequently, afterwards the total score is used as the foundation for determining the classification of food security. Food security classification is determined based on the total score generated by the overlay map of the determining factors. Food security classification is determined based on the results of class intervals calculation according to formula (3) to obtain the classification as shown in Table 4.

Table 4. Classification of food security in Colomadu Subdistrict

No.	Classification	TOTAL SCORE
1	High food security	$> (t_{min} + 2I) - \leq (t_{min} + 3I)$
2	Moderate food security	$> (t_{min} + I) - \leq (t_{min} + 2I)$
3	Low food security	$\leq t_{min} + I$

Source: Classification is based on formula (4)

The assumptions that were formed were ColomaduSubdistrict administration with high, medium, and low food security classifications, so the highest total score is the classification of food security in areas with low population density, vast rice fields, and low accessibility (dominant roads) compared to other regions (villages). On the contrary the condition that has the lowest total score is a region with a high level of density, low land area, and high accessibility compared to other regions.

C. Study results and discussion

Results and discussion of the study performed in the administrative area of each village in Colomadu Subdistrict are as follows.

1. Land Use Conversion Distribution Pattern

In order to obtain land use conversion from each research unit an overlay was carried out between the 2004 Land Usage Map (Appendix 1) and the 2014 Land Usage Map (Appendix 2) and the results of the overlapping differences between the Maps of 2004 and 2014 in the form of Map of Land Use Conversion from agricultural to non-

agricultural in 2004-2014 for each research unit in Colomadu Subdistrict as shown in Figure 2.

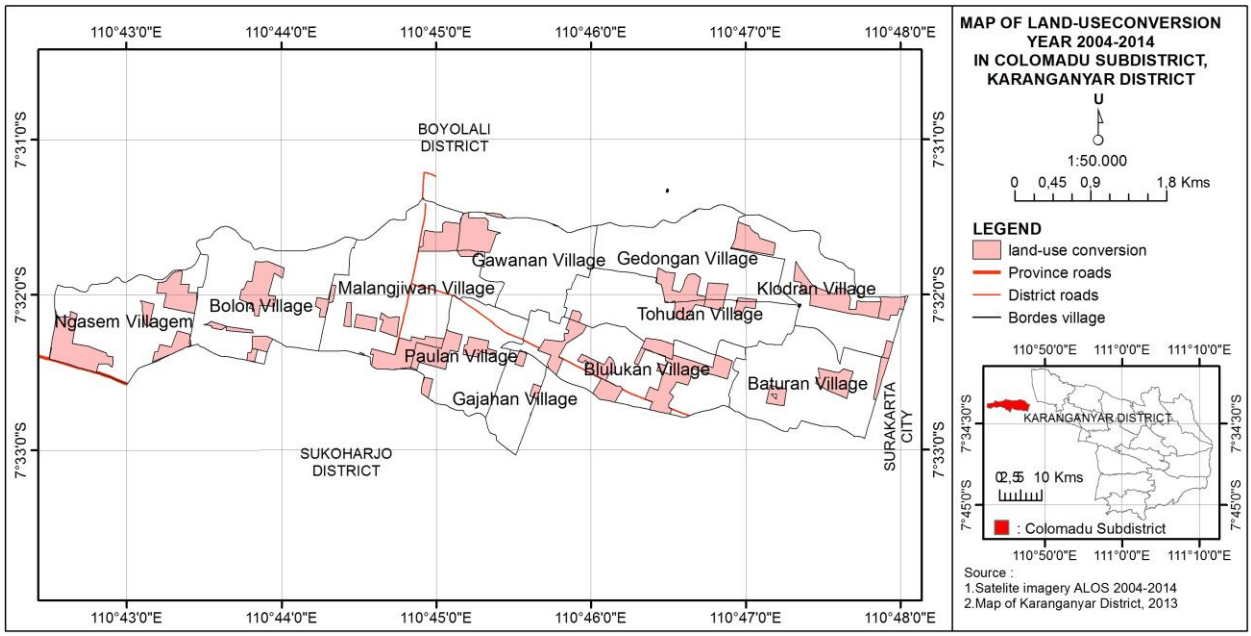

Figure 2. Land Use Conversion Maps in 2014-2014 in Colomadu Subdistrict, Karanganyar District

From Figure 2, we can determine the extent of the conversion of land from agriculture to non-agriculture usage in Colomadu Subdistrict, Karanganyar District for 2 (two) periods, 2004 to 2014 as can be seen in Table 5.

Table 5. Area of land use conversion in Colomadu Subdistrict in 2004 and 2014

No	Villages	Area of Conversion (km^2)	Area of Conversion	
			Ha	%
1	Baturan	0,00013781895	1,378	9,481443
2	Blulukan	0,00015543025	1,554	10,69304
3	Bolon	0,00017122120	1,712	11,7794
4	Gajahan	0,00004215380	0,422	2,900028
5	Gawanan	0,00011221380	1,122	7,719902
6	Gedongan	0,00013903675	1,390	9,565223
7	Klodran	0,00012013510	1,201	8,264858
8	Malangjiwan	0,00020648465	2,065	14,20539
9	Ngasem	0,00014282495	1,428	9,825838
10	Paulan	0,00009501165	0,950	6,536456
11	Tohudan	0,00013123405	1,312	9,028426
Jumlah			14,536	100,000

Table 5 shows that land use conversion for 10 years from 2004 to 2014 was 14,536 ha or the average annual rate was: 1,454 ha. To find out the pattern of land use conversion, we use the Nearest Neighbor Analysis (K-NN) continuum by Hagget in Bintarto and Hadisumarno (1982). In analyzing K-NN, it is necessary to map the distribution of land use conversions in Colomadu Subdistrict from the results of overlapping maps of land usage in 2004 and land usage in 2014 with results as shown in Figure 2. The results of land use conversion from agricultural to non-agricultural analysis patterns using K-NN by calculating the value of T (nearest neighbor distribution index) using formulas as in Formula (1) with ArcGIS Software results: T = 1.32. T equal to 1.32 is located between ≥1- < 2.15 so it can be said that land use conversion in Colomadu Subdistrict tends to be random. T = 1.32 indicating the development in Colomadu Subdistrict, Karanganyar District based on the land use conversion is evenly distributed (random) in all villages in Colomadu Subdistrict (Figure 2).

2. *Several factors leading to conversion of land usage*

The results of delineation and digitization of LANDSAT Satellite Imagery in 2004 and 2014 in the form of maps is able to illustrate the condition of the area (location) of research on land usage / utilization for agricultural and non-agricultural purposes in the area of each village in Colomadu Subdistrict, Karanganyar District, while population density, rice field area, and accessibility are obtained from Colomadu Subdistrict in the form of numbers, resulting in data collection as shown in Table 6.

Table 6. Results of research data collection in Colomadu Subdistrict, Karanganyar District

No.	Conversion	Population density (people/ha)	Rice field area (ha)	Accessibility
1	1,38	76,07	27,55	2
2	1,55	34,55	61	2
3	1,71	37,59	83,4	3
4	0,42	27,13	35,75	1
5	1,12	39,15	31,75	2
6	1,39	37,53	66	2
7	1,2	40,04	39,95	2
8	2,06	52,37	47,6	3
9	1,43	30,89	80,3	1
10	0,95	28,61	49,15	1
11	1,31	34,41	78,3	1

From the data collected as shown in Table 6, then the dependent and independent variables are determined, the independent variable (Y) is the conversion of land usage, while the dependent variables are: population density (X_1), rice field area (X_2), and accessibility (X_3). The results of the regression correlation calculation using SPSS are shown in Table 7.

Table 7. The results of the calculation of each influence variable on the affected

No	Variable	Variable	
		T	Sig T
1	PDDK	2,001	0,0856
2	RICE FIELD	3,217	0,0147
3	ACCESS	2,838	0,0251
(Constant)		-1,168	0,2809

Source: Data processing using SPSS

Using a significance level of 10% (0.10) and compared it to sig T in Table 7, if sig T < significance level of 10% then the variables are related and vice versa. From Table 7 we can notice that all variables (sig T) are smaller than the significance level (10%), statistically it can be concluded that X_1, X_2 and X_3 variables affected the Y variable, the greater the value of T (column3) Table 7, the greater the effect for land use conversion, the sign (+) / (-) (Table 7, column 4) is used to determine the direction of the relationship, (+) means the the relationship has the same direction and (-) the opposite direction. In this study X_1, X_2 and X_3 are unidirectional (+) so that it can be interpreted as the more densely populated, the more rice field area and the more roads are paved the higher the conversion.

3. Zoning of land appraisal

The conversion of agricultural land usage to non-agricultural land is essentially caused by competition in land usage (land) between the agricultural and non-agricultural sectors. The competition in land usage is affected by (two) main factors, i.e.: (a) limited agricultural land resources; and (b) population growth. The area of agricultural land in each area that is available is relatively fixed or limited, so population growth that requires land will shift land requirements from agricultural to non-agricultural land. The residents apart from housing (housing and industry) also need a land to fulfil the need for staple food (rice). Ilham in Irawan (2005) said that the conversion of agricultural to non-agriculture usage is strongly influenced by population growth and urban areas are defined as areas that have high accessibility. Land use conversion is a part of development activities that cannot be avoided, as long

as there are development activities the conversion of agricultural to non-agricultural land usage will go on. Population growth stimulates an increase in land requirements for the construction of housing, industry, trade areas, and other public facilities (Simatupang and Irawan, 2003). Conversion of agricultural to non-agricultural land usage can be triggered by the pulling of land zoning for non-agricultural activities. The phenomenon of conversion of agricultural land cannot be separated from the policies adopted by the government. For example, the subsidy policy for the construction of low-cost housing will increase the demand for land, while social policies (family planning) are unable to reduce the rate of population growth, nor can policies on the construction of transportation facilities and other public facilities that are not well planned (Irawan 2005).

The reduction of agricultural land area is permanent, meaning that it is not possible to reverse non-agricultural land into agricultural land, so food quantity tends to decrease because the conversion of land usage for a certain period of time (year 1 to year n) will be cumulative. Figure 2 illustrates the cumulative land use conversion. Reducing agricultural land area will be difficult to stop as long as there is a growing population since conversion of agricultural land usage is permanent and cumulative. The conversion of permanent and cumulative agricultural land is often not realized as it is usually done based on the assumption of a temporary effect (Sudaryanto, 2003). Conversion of agricultural land usage caused by population factors can cease if there is no population growth (zero growth). If the population increase is 0, then all that remains is to regulate the conversion of agricultural to non-agricultural land usage so as to establish sustainable agricultural land, however, zero growth is difficult to achieve, especially with the family planning program of an increasingly powerless government.

The pattern of conversion of agricultural land usage in this study area is random (Figure 2) meaning that the area of conversion of agricultural land usage will increase every year because it is generally contagious (Irawan. 2005) in other words once the conversion occur, the area of agricultural land converted at that location will be even greater due to the 'contagious' conversion of agricultural land usage that occurs in the surrounding location. Symptoms of transmission of conversion of agricultural land usage are in line with population growth which is a characteristic of the development of an area consequently in the need for land for non-agricultural activities and will increase from year to year. This tendency cause conversion of agricultural land usage difficult to avoid, in other words yearly agricultural land conversion is inevitable.

The development of remote sensing technology (remote sensing) allows the collection of geographical data to be less time-consuming, costs and energy-saving compared to terrestrial (field) methods. Data collection can be done through a variety

of images (images) such as aerial photographs, satellite images and radar images. Remote sensing is a form of science and art, as well as skills to obtain information about regional objects or symptoms by analyzing data obtained using tools without direct contact with the area or symptom under study (Lillesand and Kiefer, 1993). The results of the interaction between power and objects recorded by the sensor and the results of the recording are referred to as remote sensing data. The data must be translated into information about regional objects or symptoms that are sensed. The process of translating data into information is called data analysis or interpretation. The role of remote sensing is vast in data information systems and its management, i.e. to detect changes, calibrate, and develop new models in scientific disciplines (Sutanto 1998)

Spatial data processing systems through remote sensing (satellite imagery) results can be based on maps and can be used to obtain geographic information of an area according to need, and use it as a directive meaning to determine policies that need to be taken according to the environmental conditions (Narulita, et al. 2008). Zoning in the form of spatial data is a form of geographic information and can be stated in numerical data or in tabular form. Tables (physical data) and spatial data in this study will facilitate further discussion. The discussion in this study will focused solely on the direction of food security zoning in Colomadu Subdistrict. The term zones means the separation of an environmental space into several parts or several area. Zoning of agricultural food security per village has a variety of potentials and activities but prone to conflicts of interest between land users. This difference in interests can lead to conflicts in spatial usage which ultimately will cause environmental damage. Zoning of food security is expected to restrain or reduce the rate of conversion of agricultural land usage for development in the study area so that the direction / design of food security zoning per village is in accordance with the allotment for a comprehensive and integrated needs, especially for land requirements for a sustainable development (Motik et al. 2007). Zoning with the additional (grouping) of several maps that have some value (score / grade) can help in analyzing food security, while the results are shown in Table 8.

Table 8. Zoning of food security and skoring

No	Village	Population density (people/ha)	Rice field area (ha)	Accessibility	Population density (people/ha)	Rice field (ha)	Accessibility	Sum	Food security score
1	Baturan	76,07	27,55	2	9	9	5	23	High
2	Blulukan	34,55	61,00	2	1	5	5	11	Moderate
3	Bolon	37,59	83,40	3	1	1	9	11	Moderate
4	Gajahan	27,13	35,75	1	1	9	1	11	Moderate

5	Gawanan	39,15	31,75	2	1	9	5	15	Moderate
6	Gedongan	37,53	66,00	2	1	1	5	7	Low
7	Klodran	40,04	39,95	2	1	9	5	15	Moderate
8	Malangjiwan	52,37	47,60	3	5	5	9	19	High
9	Ngasem	30,89	80,30	1	1	1	1	3	Low
10	Paulan	28,61	49,15	1	1	5	1	7	Low
11	Tohudan	34,41	78,30	1	1	1	1	3	Low

In Hypothesis 2 (statistical conclusions) it is stated that the independent variables X1, X2, and X3 affected the dependent variable (Y). All independent variables related to dependent variable at the statistical conclusion are population density (X1), rice field area (X2) and accessibility (X3). Census data was collected at 'kecamatan' level (all taken). For more details on the size of the food security zoning score of each independent variable see Table 8, while the results of food security zoning in the study area (Colomadu Subdistrict) can be seen in Figure 3.

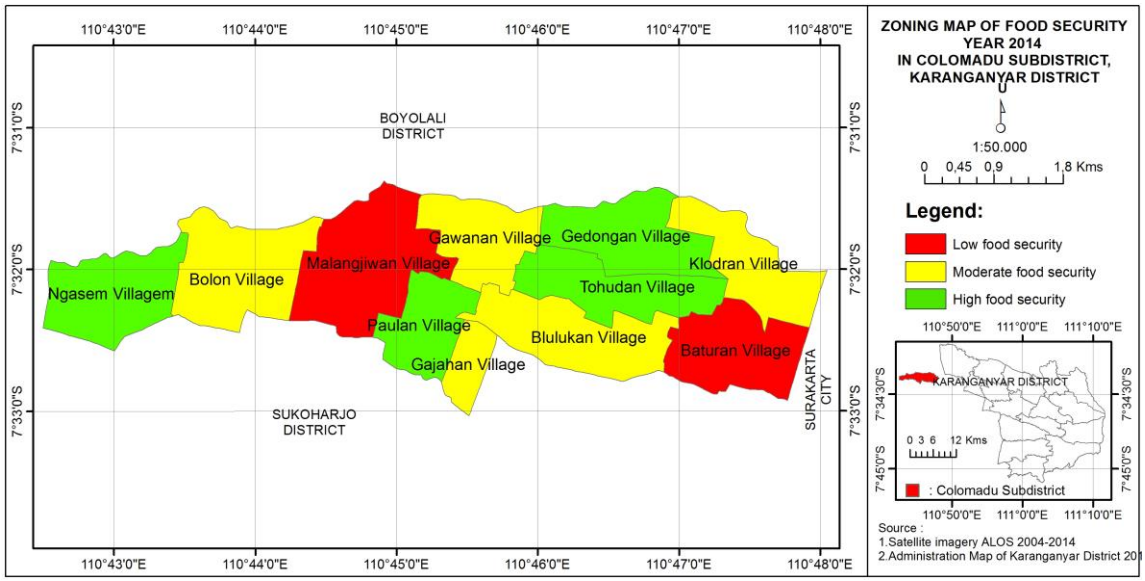

Figure 3. Zoning map of food security per village in Colomadu Subdistrict

Zoning of food security is expected to be utilized for the development of regional development (industry, housing, and offices) especially in the Colomadu Subdistrict area, so that development related to land needs. Zoning of food security in Colomadu Subdistrict can be used as a consideration in decision making on the location of development in accordance with funds available (Figure 3). Funding considerations can be adjusted according to the type or characteristics of development, development for the market will be different from the development for educational and health (Hospital) purposes. Variable population density, rice field area, and accessibility are

variables that affect food security, however the determination of these variables can be reproduced again so the decisions / regional development policies can be more varied.

D. Conclusion and suggestion

1. Conclusion

a. The land use conversion patterns are random.
b. Factors influencing land use conversion are: population density, rice field area, and accessibility.
c. Classification of food security based on land use conversion patterns in Colomadu Subdistrict Karanganyar District, is a way to maintain food security in Colomadu Subdistrict.

2. Suggestion

a. Land use conversion can cause a conflict of interest between social status and food needs, the direction of food security is expected to be implemented in the Colomadu Subdistrict area to maintain sustainable agricultural land.
b. Strict regulations are needed on areas that may be converted to achieve food security in Colomadu Subdistrict, Karanganyar District.

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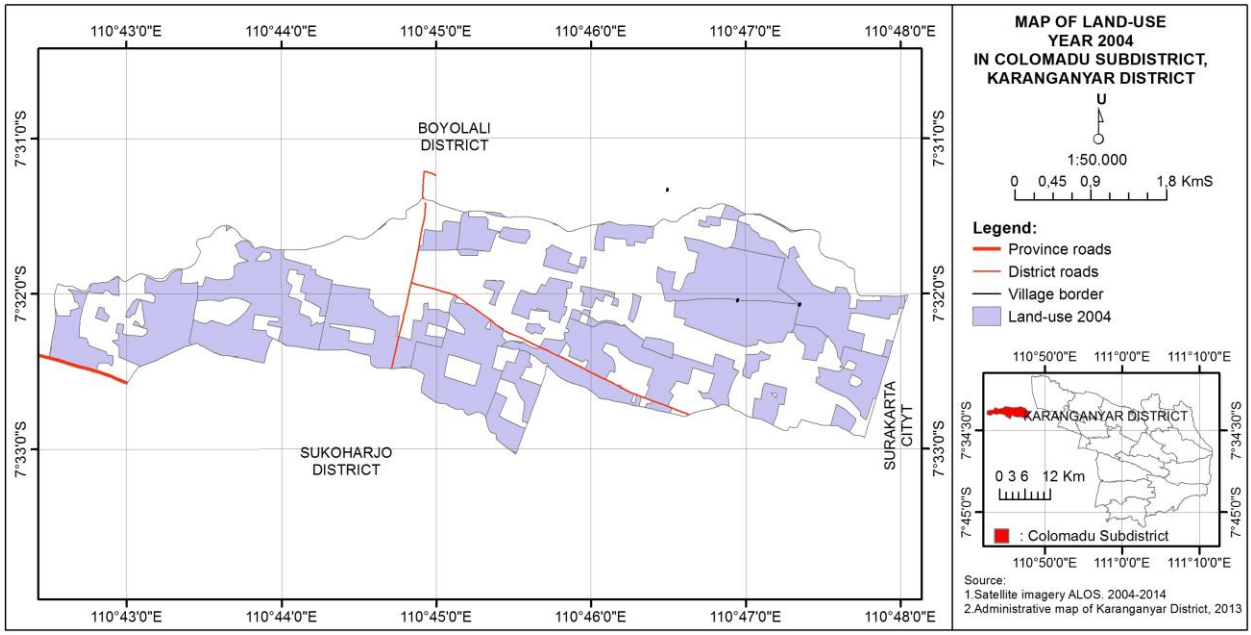
Appendix 1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BOYOLALI DISTRICT
SUKOHARJO DISTRICT
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MAP OF LAND-USE YEAR 2004 IN COLOMADU SUBDISTRICT, KARANGANYAR DISTRICT
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1:50.000
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Legend:
Province roads
District roads
Village border
Land-use 2004
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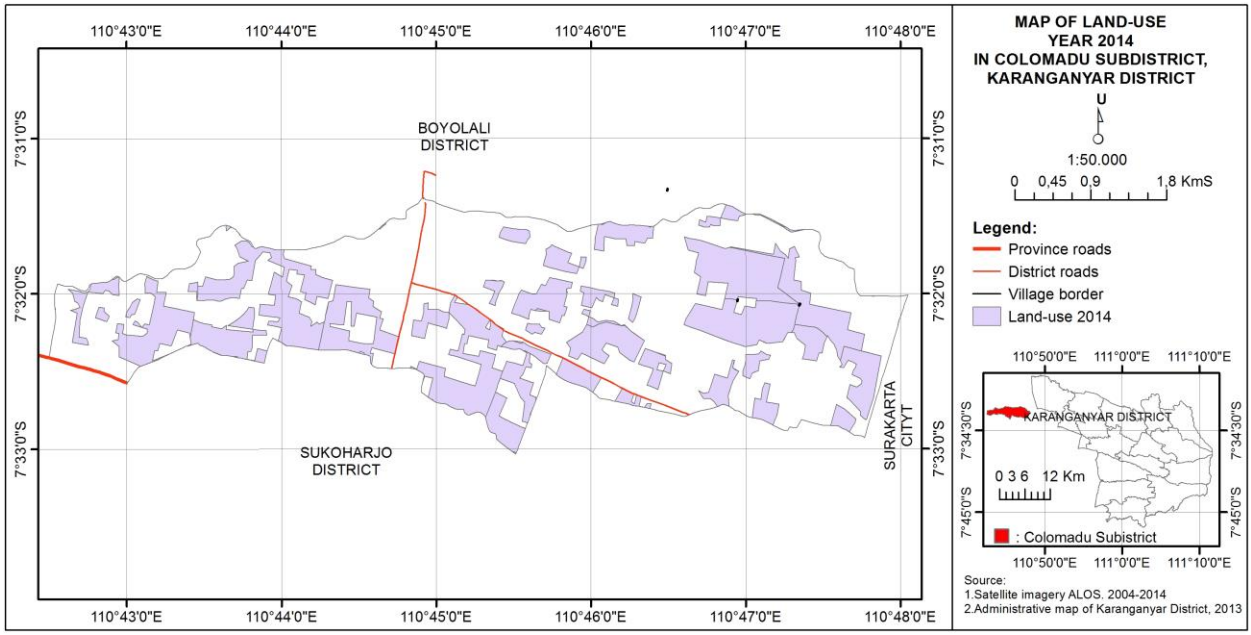
111°10'0"E
7°34'30"S
7°45'0"S
KARANGANYAR DISTRICT
0 3 6 12 Km
: Colomadu Subdistrict
Source:
1.Satellite imagery ALOS. 2004-2014
2.Administrative map of Karanganyar District, 2013

Appendix 2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BOYOLALI DISTRICT
SUKOHARJO DISTRICT
SURAKARTA CITYT
MAP OF LAND-USE YEAR 2014 IN COLOMADU SUBDISTRICT, KARANGANYAR DISTRICT
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Legend:
Province roads
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KARANGANYAR DISTRICT
0 3 6 12 Km
: Colomadu Subistrict
Source:
1.Satellite imagery ALOS. 2004-2014
2.Administrative map of Karanganyar District, 2013

IDENTIFICATION OF MERAPI'S SOUTHERN SIDE SLOPE LANDUSE TO SUPPORT ANALYSIS OF FLOOD FACTORS IN YOGYAKARTA URBAN AREA

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Abstract

Water resources on earth have a fixed volume, but the distribution undergoes changes in the dimensions of time and space through the mechanism of the hydrological cycle. In recent times, the imbalance of the hydrological cycle has begun. In the dry season, the availability of water is increasingly limited, characterized by increasingly frequent and widespread drought phenomena. On the other hand, in the rainy season the phenomenon of flooding is increasing in a large area. Landuse is one of the factors that can have a broad influence on the occurrence of flooding. The phenomenon of flooding and puddle in the Yogyakarta Urban Area in recent years has tended to increase. When rainfall is high, puddles are found in various locations in Yogyakarta Urban Area. These puddles often occur on the main road, thus disrupting community mobility. Analysis related to flooding and puddle in the city of Yogyakarta which is on the south side of the slopes of Merapi is important due to the high economic and socio-cultural activities and also mobility of the population in this region. This study is intended to obtain one of the factors that can affect the incidence of flooding, namely landuse. The research applies qualitative descriptive analysis with watershed concept. The data are derived from remote sensing images in 2017. The results of the study are visualization of the spatial distribution of types of landuse and surface runoff coefficients based on spatial variations in the concept of watershed and spatial planning.
Keywords: Landuse, runoff coefficient, flood, urban area

A. Introduction

As one of the natural resources, water volume on earth is fixed, but its distribution undergoes changes in the dimensions of time and space through the hydrological cycle mechanism. From time to time, there are water resources that are stored as water vapor, rain water, sea water, groundwater, and water stored in vegetation. The balance of the hydrological cycle is influenced by many factors, such as meteorological and climatological elements and land cover. In recent times, the imbalance of the hydrological cycle began to be felt. One of them is the imbalance in water distribution between dry season and rainy season. In dry season, the availability of water is increasingly limited, characterized by the more frequent and widespread phenomenon of drought. On the other hand, in rainy season, the phenomenon of flood is increasing in large areas.

The occurrence of flood is strongly influenced by many factors. Kodoatie and Sjarief (2002 in Kodoatie 2013) state that flood and puddle that occurred at certain location were caused by changes in landuse in watersheds, garbage disposal, erosion and sedimentation, slums along rivers/drainage, improper flood control system

planning, rainfall, river physiographic/geophysical effects, river capacity and inadequate drainage, tides effects, land subsidence and tides, land drainage, weirs and water structures, and damage to flood control buildings. Landuse is a factor that can have a large influence on flood in a broad scope. One example is the occurrence of flood in the middle or downstream areas of the river runoff can be caused by landuse errors in the upstream area.

In the watershed concept, Yogyakarta Urban Area is in the middle zone. An analysis related to flood and puddle in Yogyakarta City, located on the southern side of Merapi slope is important, given the high economic and socio-cultural activities and population mobility in the region. The occurrence of flood in Yogyakarta City can certainly disrupt the economic and socio-cultural activities. In Regional Regulation No. 2 of 2010 concerning the Spatial Planning for the Yogyakarta Province in 2009-2029, Yogyakarta City has a position as the National Activity Center (PKN). This PKN has a function to serve international, national or several provincial scale activities. Meanwhile, news of floods and puddle is getting more frequent in Yogyakarta Urban Area. When rainfall is high, puddles are found in various locations in Yogyakarta City. There were around 71 puddle prone points in nine areas in the city of Yogyakarta that need to be anticipated (Kompas.co, 2008). These puddles often occur on major road sections so that it disrupts community mobility. There were 35 puddle points on the streets of Yogyakarta City that could potentially disrupt traffic flow when heavy rains lasted for more than two hours (Tempo.co, 2015). Poor water absorption or drainage channels in a number of roads, massive landuse changes in a number of catchment sites, and narrowing of river bodies cause flood in Yogyakarta City, especially in river channels and roads in Yogyakarta City (Cendananews.com, 2017).

B. Material and Methods

This study was intended to identify landuse on the southern slopes of Merapi as a supporter of flood factor analysis in urban Yogyakarta. From these objectives, research objectives include: 1) Interpretation of types of landuse, and 2) assessment of runoff coefficients based on the type of existing landuse. Using the watershed concept approach, the scope of research is not limited to the Yogyakarta Urban Area, but also includes the upstream area on the southern slopes of Merapi. Administratively, the spatial scope of the research is presented in Table 1 and Figure 1.

Table 1. Spatial Scope of Research

City/Regency	District	Information
Yogyakarta City	Wirobrajan Umbulharjo Tegalrejo Pakualaman Ngampilan Mergangsan Mantrijeron Kraton Kotagede Jetis Gondomanan Gondokusuman Gedongtengen Danurejan	Yogyakarta Urban Area
Bantul	Banguntapan Sewon Kasihan	
Sleman	Depok Gamping Godean Kalasan Mlati Ngaglik Ngemplak	
	Turi Pakem Cangkringan Seyegan Sleman	The upstream area of Yogyakarta Urban Area (watershed system approach)

Source: Data Processing (2018)

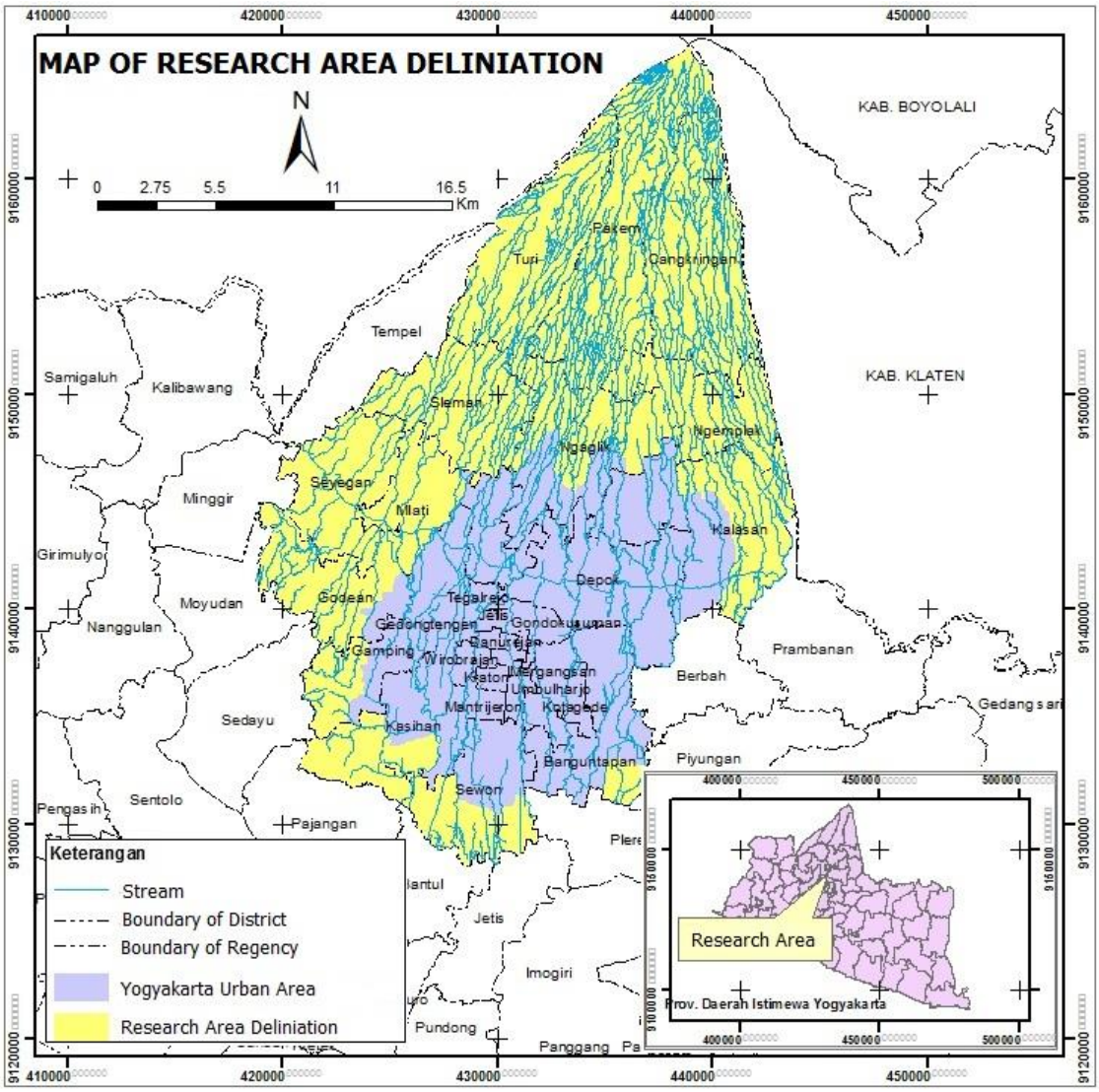

Figure 1. Delineation of Research Area

1. Watershed Concept

Watershed is a land area that is an integral part of a river and its tributaries, which functions to capture, store, and release precipitation to lakes or to the sea naturally, the boundary on land is a topographic and boundary on sea is where the water still affected by land activities (Law Number 7 of 2004). Kodoatie and Sjarief (2010) argued that the watershed is a area of the naturally formed water system where water is captured (derived from precipitation) and will release from the area towards related tributaries and rivers. Suprayogi, et al. (2013) suggested that the watershed zones can be done based on administration, management area, and runoff and sedimentation processes. As presented in Figure 2, based on runoff and sedimentation processes, watersheds can be divided into 3 zones, namely: 1) overland flow and sediment production zones, 2) surface runoff and sediment transfer zones, and 3) sedimentation zones.

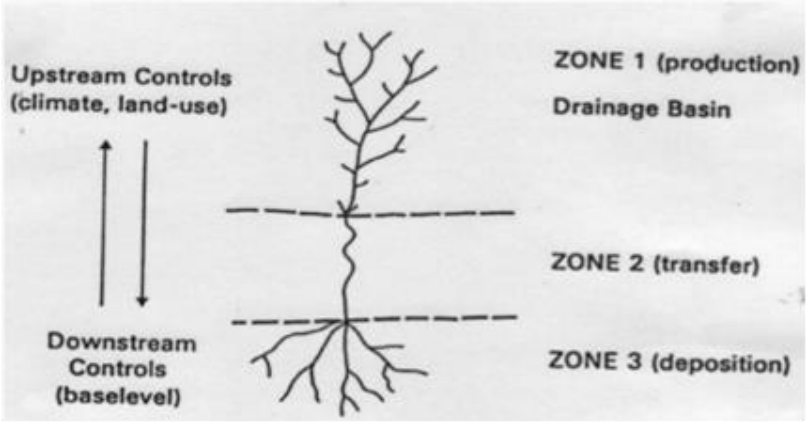

Figure 2. Illustration of Watershed Zone on the Basis of Runoff and Sedimentation Processes

Source : Newson (1997, in Suprayogi, et al., 2013)

2. *Flood Factors*

Flood can occur due to natural factors and human factors (Suprayogi, et al., 2013). According to Maryono (2014), several factors causing floods are extreme climate, decreasing watershed carrying capacity (including river development patterns), planning errors and implementation of regional development, errors in the concept of drainage, and socio-hydraulics (errors in people's behavior towards hydrological components- hydraulic).

Kodoatie (2013) states that flood that occurs at a location is caused by, among others, the following reasons: 1) Changes in landuse in watersheds, 2) Waste disposal, 3) Erosion and sedimentation, 4) Slums along rivers/drainage, 5) Inadequate flood control system planning, 6) Rainfall, 7) Effect of river physiography/geophysics, 8) River capacity and inadequate drainage, 9) Effect of tide, 10) Land subsidence and tidal, 11) Land drainage, 12) Weirs and water structures, and 13) The damage of flood control buildings.

3. *Landuse and Flood*

Landuse regulation is important because it is related to the ability of land to absorb rainwater/presipitation into the ground as a groundwater supply. The more water that enters the ground (infiltration), the chance of surface runoff (overland flow) to become a surface runoff (flood) is also smaller. Basically, the more permeable the land surface, the greater the chance of water to infiltrate so that the runoff coefficient gets smaller. Each type of landuse has a variable runoff coefficient. A description of the runoff that occurred can be presented in the hydrograph, as in Figure 3.

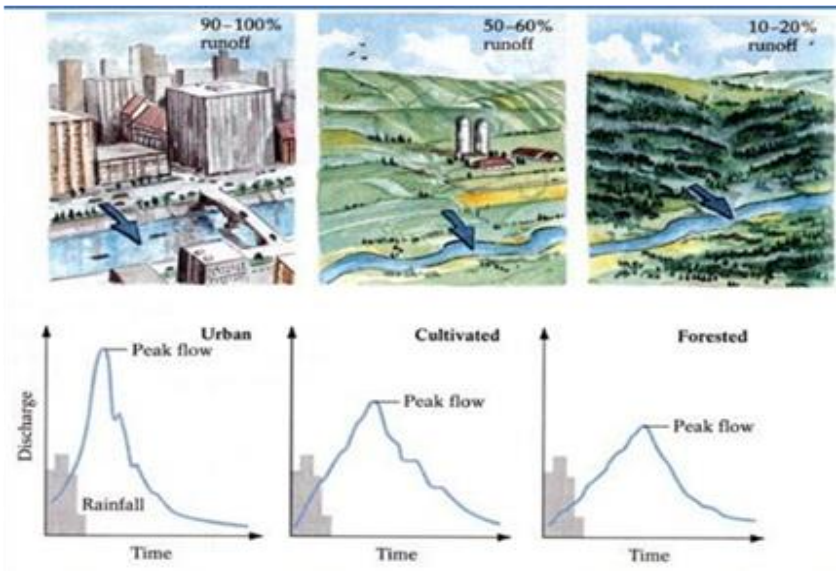

Figure 3. The Relationship Between Land Cover and Surface Runoff Magnitude

4. Urban Area

Urban areas are areas mainly for non-agricultural activities with the arrangement of the area functioning as a place for urban settlements, centralization and distribution of government services, social services, and economic activities (Law Number 26 Year 2007). To be categorized as urban, an area must have the following criteria (Sinulingga, 2005): 1) Population density above 500 people per Km^2, 2) Households involved in agricultural activities are less than 25%, and 3) Have more than 8 urban facilities such as electricity, clean water, secondary schools, theaters, markets, banks, post offices, and so on.

5. Method

The approach used in this study emphasizes on qualitative descriptive analysis. The results of research conducted with this approach are visualization of spatial distribution of land use types and surface runoff coefficients based on spatial variations in watershed and spatial concepts. The quantification carried out in this study is limited to a simple description of each type of the landuse area and the surface runoff coefficient value. The land use identification in this study uses the 2017 recording satellite imagery downloaded from the Google Earth application. The image is then interpreted manually using ArcGis mapping software. The land use classification used refers to the classification of runoff coefficient values according to Haryono (1999), Soewarno (2000), and Tay and Afshar (2014) as presented in Table 2.

Table 2. Runoff Coefficient Used in the Research

Haryono (1999)		**Soewarno (2000)**		**Tay and Ashar (2014)**		**Classification and Value used in the Research**	
Landuse	**Runoff Coefficient**	**Landuse**	**Runoff Coefficient**	**Landuse**	**Runoff Coefficient**	**Landuse**	**Runoff Coefficient**
Business and Shopping Center	0,90	Tropical Forest	<0,03	Downtown business	0,70-0,95	Forest	0,05
Industry	0,80	Production Forest	0,05	Heavy industrial	0,60-0,90	Farm/Field	0,20
Housings (20 houses/Ha)	0,48	Shrubs	0,07	Multiresidential units, attached	0,60-0,75	Ricefield	0,15
Housings (30 houses/Ha)	0,55	Ricefields	0,15	Light industrial	0,50-0,80	Settlement (20 houses/Ha)	0,48
Housings (40 rumah/Ha)	0,65	Farmland, Plantation	0,40	Neighbourhood businesses	0,50-0,70	Settlement (30 houses/Ha)	0,55
Housings (60 houses/Ha)	0,75	Settlement	0,70	Cultivated lands with loamy soils	0,40-0,45	Settlement (40 houses/Ha)	0,65
Ricefield	0,15	Paved Roads	0,95	Suburban residential	0,25-0,40	Settlement (60 houses/Ha)	0,75
Pool	0,20	Solid Building	0,70-0,90	Playgrounds	0,20-0,35	Industry	0,80
Mixed Garden	0,10	Scattered Building	0,30-0,70	General unimproved lands	0,10-0,40	Cemetery	0,25
		Rooftop	0,70-0,90	Park and cemeteries	0,10-0,25	Airport	0,30
		Dirt Roads	0,13-0,50	Woodlands with sandy soils	0,10-0,15	Open Land/Field	0,30
		Hard Layer of Gravel,	0,35-0,70			Undeveloped Land in Yogyakarta City (of parks, yards, fields, cemeteries)	0,25
		Hard Layer of Concrete	0,70-0,90				
		Park, yard	0,05-0,25				
		Field	0,10-0,30				
		Farm, Field	0,-0,20				

Source: Haryono (1999), Soewarno (2000), Tay and Ashar (2014)

Rating of run off coefficients are assessed in the district unit. Using runoff coefficient data for each type of landuse and area of each district, the calculation of runoff coefficient in the district unit is as follows:

$$c = \frac{\sum Ci\ Ai}{\sum A1}$$

with: Ci = Runoff coefficient per landuse

Ai = Area of each type of landuse

In more details, the stages of data processing and analysis using GIS are presented in Figure 4.

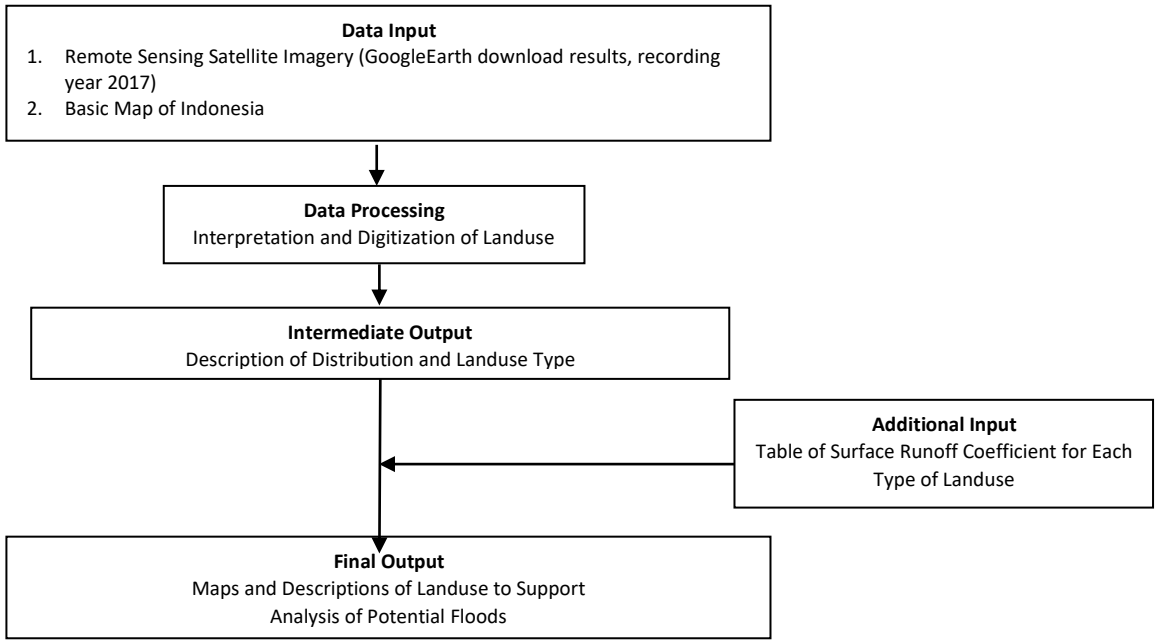

Figure 4. Flowchart of Research Analysis Method

C. Result and Discussion

1. Interpretation of Landuse

Identification of the landuse in this study uses the 2017 recording satellite imagery downloaded from the GoogleEarth application. The image is then interpreted manually using ArcGis mapping software. Based on the results of landuse interpretations, in general, there are differences in variations between the districts within the Yogyakarta City area and the districts outside it. On the interpretation scale of 1:25,000, the landuse in all districts in Yogyakarta City area can only be generally divided into two types, namely developed and undeveloped land. The developed land includes settlements and others (shops, offices, education, warehousing). Undeveloped lands are generally in the form of yards, parks, gardens, cemeteries, and fields in relatively small areas. Meanwhile, landuse in the districts outside Yogyakarta City looks more varied with areas that are still easy to delineate. These landuses

include forests, farms/fields, rice fields, settlements, industry, cemeteries, airports, and open land/fields. The distribution of types and area of landuse as an interpretation result is presented in Table 3 and Table 4.

Table 3. Distribution of Types and Area of Landuse in Research Area Districts in Sleman and Bantul Regencies

Regency	Type and Area of Landuse (Ha)								
	District	Forest	Farm/ Field	Ricefield	Settle ment	Industry	Cem etery	Air port	Open Space
Sleman	Depok		29.48	422.34	2626.25			396.39	
	Gamping		262.24	2076.26	568.90	15.43			
	Godean		91.28	1344.16	1238.76				
	Kalasan		4.58	1755.90	1701.69	10.28			
	Mlati			984.52	1902.25				
	Ngaglik		5.35	3179.62	548.61				
	Ngemplak			2213.23	1524.73	4.97			
	Turi	715.15	2394.70		861.08				
	Pakem	1538.77	714.71	1859.57	991.68	2.70			215.11
	Cangkring	2494.97	51.53	1243.43	693.03				62.76
	Seyegan		57.54		1139.22				
	Sleman			1732.91	1381.73				
Bantul	Bangunta			1166.52	1730.93				
	Sewon			1174.23	1609.07				
	Kasihan		16.27	1167.94	1969.62		8.35		

Source: Data Processing (2018)

Table 4. Distribution of Types and Area of Landuse in Research Area Districts in Yogyakarta City

District	Type and Area of Landuse (Ha)	
	Developed Land (Settlement, Office, Education, Warehouses, Trading and Service)	Undeveloped Land (Park, Field, Cemetery, Farm/Yard)
Wirobrajan	102.52	83.87
Umbulharjo	357.31	225.72
Tegalrejo	216.62	106.84
Pakualaman	55.11	24.15
Ngampilan	47.98	27.04
Mergangsan	158.97	92.68
Mantrijeron	208.15	70.07
Kraton	122.19	38.76
Kotagede	238.23	85.58
Jetis	109.45	71.96
Gondomanan	90.13	14.16
Gondokusuman	311.56	111.42
Gedongtengen	81.36	11.98
Danurejan	82.60	13.13

Source: Data Processing (2018)

2. Assessment of Landuse Runoff Coefficient

Assessment of runoff coefficient in the study area shows that the lowest value of runoff coefficient is in Pakem District, which is 0.21. Meanwhile, the highest runoff coefficient is in Gedongtengen District, which is 0.69. The result of landuse interpretation shows that Pakem District has forest land as much as 28.91% (1,538.77 Ha) and rice fields as much as 34.94% (1,859.57 Ha). Both landuses contribute positively to the runoff coefficient so that around 79% of rainwater in Pakem District has the opportunity to be infiltrated below the land surface and has the potential to become a groundwater reserve. Meanwhile, only 21% has the potential to become runoff water (and also vapour). In Gedongtengen District, the composition of landuse includes 87.16% (81.36 Ha) of developed land and 12.83% (11.98 Ha) of undeveloped land. With this landuse composition, 69% of rainwater (precipitation) falling in the area has the potential to become surface runoff and vapour (through evaporation and evapotranspiration process) and only 31% has the potential to be infiltrated below the surface.

Referring to the Regulation of the Director General of RLPS Number: P.04/V-SET/2009, the results of the study of runoff coefficient values in the study area are grouped into 3 categories, namely good (C <0.25), moderate (0.25 ≤ C ≤ 0.50), and bad (0.51 ≤ C ≤ 1.00). Based on this category, of the 29 districts included in the scope of the study, 3 districts have good runoff coefficient categories, 10 with moderate categories, and 16 others are bad. However, seen from the aspect of area, the moderate category covers the largest area.

As presented in Table 5, the districts with good categories are Ngaglik, Pakem, and Cangkringan Districts. The three districts are administratively located in Sleman Regency, while based on watershed concept, they are in upstream areas. Based on the runoff coefficient value obtained, the role of the three districts as water catchment areas is still functioning well, i.e. more than 75% of falling rainwater can still be infiltrated. Districts that are included in the moderate category are Gamping, Godean, Kalasan, Ngemplak, Turi, Seyegan, Sleman (Sleman Regency), Banguntapan, Kasihan, and Sewon (Bantul Regency). The districts are partly located in the upstream and partly in the middle part of the watershed. Meanwhile, the areas included in the category of bad runoff coefficient are all districts in Yogyakarta City area along with Depok and Mlati Districts in Sleman Regency. Spatially, the distribution of runoff coefficient categories in the study area is presented in Figure 5.

Table 5. The Result of Landuse Runoff Coefficient Assessment in Research Area

City/Regency	District	C-Value (Runoff Coefficient)	Grade C
Sleman	Depok	0.55	Bad
	Gamping	0.25	Moderate
	Godean	0.34	Moderate
	Kalasan	0.39	Moderate
	Mlati	0.54	Bad
	Ngaglik	0.22	Good
	Ngemplak	0.36	Moderate
	Turi	0.25	Moderate
	Pakem	0.21	Good
	Cangkringan	0.23	Good
	Seyegan	0.36	Moderate
	Sleman	0.39	Moderate
Bantul	Banguntapan	0.45	Moderate
	Kasihan	0.45	Moderate
	Sewon	0.50	Moderate
Yogyakarta	Wirobrajan	0.53	Bad
	Umbulharjo	0.56	Bad
	Tegalrejo	0.58	Bad
	Pakualaman	0.60	Bad
	Ngampilan	0.57	Bad
	Mergangsan	0.57	Bad
	Mantrijeron	0.62	Bad
	Kraton	0.63	Bad
	Kotagede	0.62	Bad
	Jetis	0.55	Bad
	Gondomanan	0.68	Bad
	Gondokusuman	0.62	Bad
	Gedongtengen	0.69	Bad
	Danurejan	0.68	Bad

Source: Data Processing (2018)

Within the scope of Yogyakarta Urban Area, areas that have a good runoff coefficient category cover an area of 1,368 Ha, a moderate category of 10,196, 43 Ha, and a bad category of 8,087 Ha. The good category is the Yogyakarta Urban Area which is located in parts of Ngaglik District, while the bad category covers the entire Yogyakarta City area as well as Depok and Mlati Districts. Depok and Mlati districts are part of KPY with the location directly adjacent to the city of Yogyakarta to the north. Thus, it is very natural that the two districts experience the development of built up land as a consequence of the development of the City of Yogyakarta and result in a high coefficient of runoff. This is in accordance with the research of Wijaya and Umam (2015) which states that the development of land built in the city of Yogyakarta

in 2003-2013 has a rate of 329 ha/year with its development center to the northeast of the city of Yogyakarta, which is the area around Gondomanan District and Depok District. In addition, Mlati District also has an area with a probability index of 0.9 (close to 1) which means that the more likely the area is predicted to turn into developed land. Meanwhile, the results of the runoff coefficient assessment indicate that Gondomanan District has the second highest C value in Yogyakarta City.

Yogyakarta Urban Area has spread and experienced an expansion, marked by physical changes in landuse or referred to as the phenomenon of spatial urbanization. The physical form of the Yogyakarta Urban Area has changed, that is, the physical boundaries of the city are outside the Yogyakarta City Administration or often referred to as Under Bounded City (Selang, et al., 2018). Besides Mlati and Depok Districts, the areas that became the physical expansion of the City of Yogyakarta were Gamping, Godean, Ngaglik, Ngemplak, Banguntapan, Sewon, and Kasihan. Wijaya and Umam (2015) suggested that in 2013-2023 the center of the development of the developed land was predicted to be in the southwest direction of Yogyakarta City, namely around Kasihan and Mantrijeron Districts. Along with urban physical development, the seven districts currently have a runoff coefficient in the moderate category. Meanwhile, Mantrijeron District ranks the fourth highest runoff coefficient in the city of Yogyakarta.

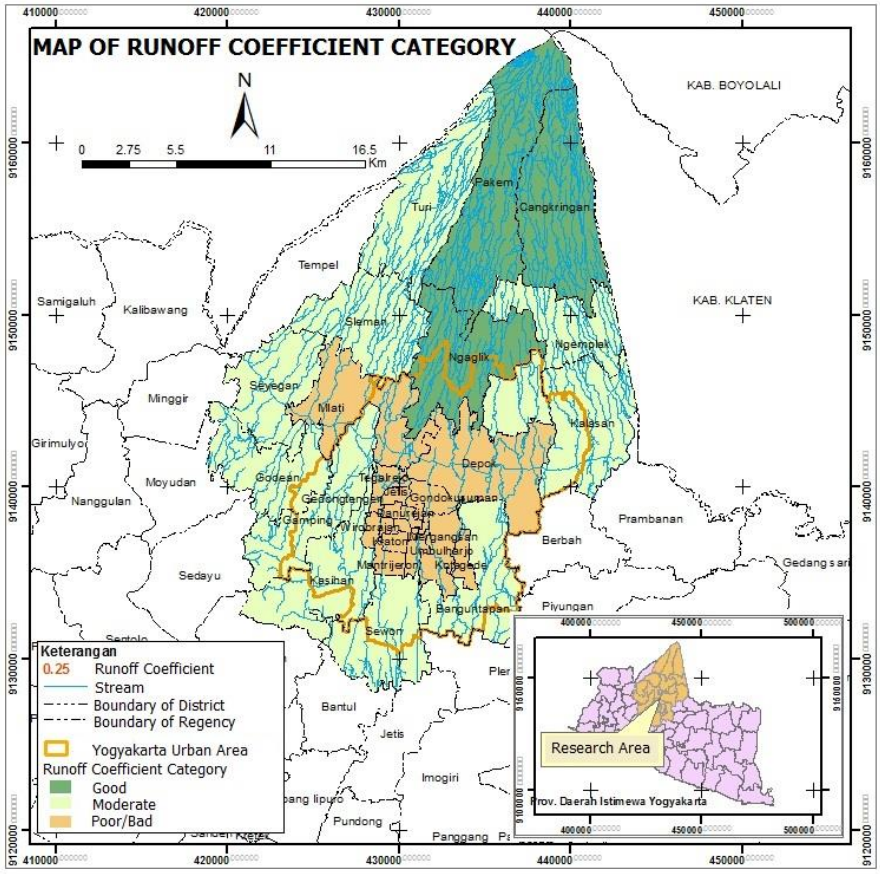

Figure 5. Distribution of Runoff Coefficient Category in Research Area

With the composition of the existing runoff coefficient, it can be assumed that the occurrence of floods and puddle in the Yogyakarta Urban Area is more triggered by the factor of limited infiltration capacity in the Yogyakarta Urban Area itself, especially in the Yogyakarta City area, although the upstream area also continues to contribute to the potential for flooding. Non-structural efforts in the form of landuse control in the study area are needed to reduce the increase in runoff coefficient. For upstream and suburban areas, landuse control is needed to control land conversion from undeveloped to developed so that its function as a recharge area is maintained and even improved. However, the physical development of the Yogyakarta Urban Area is difficult to avoid given its strategic function. For urban areas where built up land already dominates, environmental engineering efforts are needed in order to increase the capacity of rainwater catchment and storage so that surface runoff that has the potential to cause flood and puddle can be minimized. Rahardian and Buchori (2016) mentioned several efforts to conserve water resources related to handling surface runoff, namely the development of Green Open Space, the development of rainwater infiltration wells, the application of Biopori Absorption Hole technology, and the combination of the three conservation efforts. The development of green space is an effort that is closely related to the allocation of space and landuse. Meanwhile, Kodoatie (2013) mentioned the structural methods that can be used to control floods include dams / reservoirs, retention ponds, check dams, river slope building, and retarding basin.

D. Conclusion

Variation in landuse affects the runoffcoefficient in the study area, which ranges from 0.21 to 0.69. From these variations, all districts in Yogyakarta City and Depok and Mlati Districts in Sleman Regency are in the bad category (C value = 0.51-1.0). This value means that more than 50% of rainwater will become surface runoff (and vapour). Meanwhile, other districts which are on the outskirts of Yogyakarta City and have an area designated as the Yogyakarta Urban Area have a moderate category (C value = 0.25-0.50) which means that 25-50% of the rainwater that occurs will become surface runoff . With the composition of the runoff coefficient, it can be assumed that the occurrence of floods and puddle in the Yogyakarta Urban Area is more triggered by the factor of limited absorption capacity in the Yogyakarta Urban Area itself, especially in the Yogyakarta City.

The direction of Water Resources Conservation in the study area is to at least maintain the condition of the runoff coefficient in the upstream area of the Yogyakarta Urban Area which includes Ngaglik District, Pakem District, and Ngemplak District by increasing landuse control so that natural water spaces are able

to accommodate rainwater optimally. For Ngemplak, Turi, and Sleman Districts, environmental engineering needs to be carried out to develop artificial catchment capacity (flood control infrastructure) in order to increase rain catch capacity, considering the high runoff coefficient category (moderate category).

Meanwhile, in Yogyakarta Urban Area itself, in addition to increasing spatial control, it is also necessary to develop the capacity of artificial rain catchment space. However, because the land in Yogyakarta Urban Area, especially those in the Yogyakarta City area is very limited, innovation and variations in the development of rain catchment capacity are needed.

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Regulation

Undang Undang Nomor 26 Tahun 2007 Tentang Penataan Ruang

Peraturan Direktur Jenderal Rehabilitasi Lahan dan Perhutanan Sosial Nomor : P.04/V-SET/2009 Tentang Pedoman Monitoring dan Evaluasi Daerah Aliran Sungai

Peraturan Daerah Provinsi DIY Nomor 2 Tahun 2010 Tentang Rencana Tata Ruang Wilayah Provinsi DIY Tahun 2009-2029

DISTRIBUTION AND CONDITION OF SMALL HILLS (GUMUK) THAT HAVE CONTRIBUTION TO REDUCING NATURAL DISASTER OF TYPOON IN JEMBER REGENCY, EAST JAVA, INDONESIA

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Abstract
Jember Regency has potential for natural disasters of typhoon which are distributed in several sub-district. On the other hand, the landscape of Jember Regency is unique with presence of small hill (gumuk). This study have aims to identify the distribution of location of natural disaster of typoon and the distribution of gumuk in contribution to prevention. The study uses descriptive analysis, mapping and document studies. The results show the potential for natural disasters of typhoons occurred in the sub-districts of Patrang, Sukorambi, Panti, Pakusari, Mayang, Silo, Arjasa, Jenggawah, Ajung, Tempurejo and Jelbuk. Then, the number of gumuk are 442 that distributed in Sumbersari, Arjasa, Jelbuk, Kalisat, Ledokombo, Mayang, Pakusari, Sumberjambe, Sukowono and Patrang Districts. However, the presence of gumuk are believed can reduce natural disaster of typoon. Unfortunately, they are not found in the each location of potential natural disaster of typoon and 56 units of gumuk are in damage condition. Then, the spatial management needs is needed to conserve the existence of gumuk.
Keywords: Gumuk, Typoon; Jember

A. Introduction

Jember Regency is one of the regencies in East Java, Indonesia. Jember Regency is bordered by several other regencies, in the north it is bordered by Probolinggo Regency and Bondowoso Regency, in the east it is bordered by Banyuwangi Regency, in the west it is bordered by Lumajang Regency, and in the south it is directly bordered by the Indian Ocean. Jember Regency has a topographic character surrounded by hills and mountains, those all making Jember region very potential for agricultural land because it's to fertile soil.

Jember Regency also has several uniqueness, one of which is a city with 1000 small hills (gumuk), because almost every area in Jember has small hills (gumuk). The phenomenon of this landscape is very unique because not all regions in Indonesia have these landscapes, in

Indonesia there are only two regions that have that's landscape, there are in Jember and Tasikmalaya. The process of formation of the small hills that's happen because of the activity of the flake in the bowels of the earth which miraculously emerges the bulge on the surface of the soil, in addition there is also the other opinion that the process of the formation of the small hills that happen as a result from vomit of material in the form of lava and from a large explosion of volcanoes in the past.

Small hills has a very big role for the surrounding natural conditions. Moreover, the quantity of small hills in Jember has decreased. The decreased of small hills that caused by excessive exploitation of the small hills (gumuk). Small hills (gumuk) has been sold and

traded changed the function into mining. The content of padas stone, foundation stone, coral stone, plate stone and sword stone that makes the reason for mining of small hills (gumuk).

Reduction of the small hills (gumuk) that can be a potential of disaster in Jember. One of them is the potential disaster for very high disaster was winds that effect in typhoons often ingulf in Jember. This is attributed to the containment of the amount of small hills (gumuk) which is supposed to be the natural solution to prevent typhoons. Its landscape which is higher than the surrounding land makes the small hills function a wind barrier. So that the intensity of very strong winds does not directly damage the surrounding plants or buildings (Apriyanto, 2016).

The Jember Regency's disaster management unit mapped it's area into several areas prone to natural disasters which included floods, landslides, tsunamis and typoon. Some sub-districts are designated as typoon prone areas such as Sumbersari, Arjasa, Tempurejo, and Jelbuk. Hariani, et al (2015) stated that typoon often occur in urban areas, especially during the rainy season. Based on the results of the analysis and evaluation of the Jember regional disaster management agency, it has the potential to experience a typoon. In the last few years from 2016 to 2018 it was dominated by a typoon as much as 35.

B. Methods

1. Research Location

The study location was conducted in 8 sub districts spread in Jember, East Java. The width of the district 3,293.34 km2 consist of 31 sub districts with the northem border of Bondowoso Regency, in the east bordering Banyuwangi regency, in the west bordering Lumajang regency and in the southem part bordering the Indian Ocean. Geographically, Jember regency is located form 7059'6" to 5033'56" southem latitude and 11316'28" to 114003'42" east longitude.

2. Data

The data were obtained from literature studies. The various sources including the distribution map of Jember , thesis results and various journals. Data is obtained from figures who work in the field of conservation and natural sciences.

3. Data Analysis

Data analysis was performed by collecting secondary data which was then analyzed by explaining the relationship between various natural phenomena that occurred in Jember Regency with the uniqueness of the landscape form in Jember district, in this case, small hill which was spread almost in all regions of Jember Regency. The study uses descriptive analys, mapping and document studies.

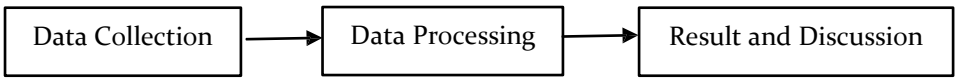

Image 1. Analysis descriptive

C. Result and Discussion

1. The Spread of Small Hills

Based on Astutik (2015), Small Hill is spread into 8 Districts with a total of 442 Small Hill. The distribution data are a) Kalisat District has 103 Small Hill, b) Ledokombo District has 92 Small Hill, c) Pakusari District has 71 Small Hill, d) Sumberjambe District has 45 Small Hill, e) Sumbersari District has 41 Small Hill, f) Jelbuk District has 23 Small Hill, g) Arjasa District has 10 Small Hill, h) Sukowono District has 57 Small Hill. The distribution of the dune was only taken in the North Jember Region but did not cover the entire Jember area. The highest distribution of dune is in Kalisat District with 103 Small Hill and the lowest is in Arjasa District with 10 Small Hill.

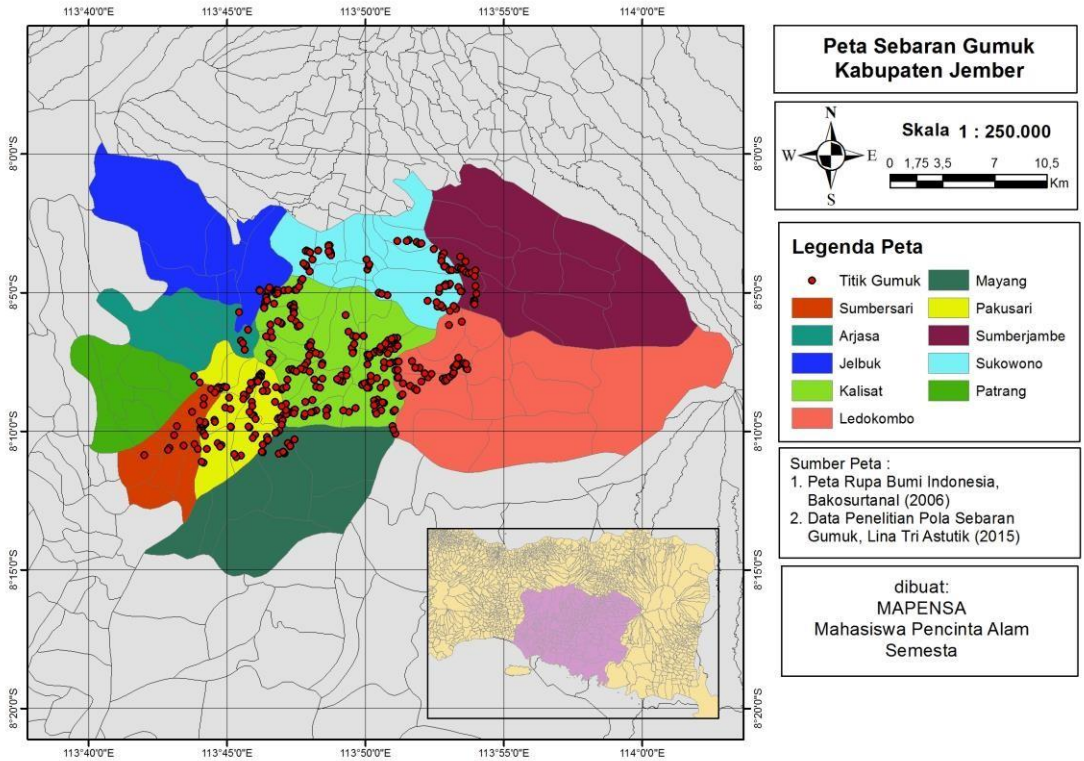

Image 2. The distribution map of Jember regency

According to Sulistyaningsih et al. (1997) there are 2 theories of the formation Small Hill, among others:

a. Verbeek and Vennema (1936), explain that Small Hil in Jember was formed from lava flow formers and then covered by volcanic material originating from Raung Volcano, as well erosion for ± 2000 years, so resulting in different shapes and structures with hills (Sulistyaningsih et al. 1997)

b. Padang (1939), explain that Small Hill in Jember was formed from the West Raung volcano which took place in a big way along with lava flooding and tectonic faults (Faulting).

In the 8 sub-districts in the administrative area are on the west side of Raung Purba Volcano. Based on these 2 theories, it can know that the important factor is the formation of Gumuk and its distribution originating from the direction of the Raung Volcano material and the weathering / erosion or tectonic from raung's mammock of in Jember . But it is also possible that in addition to the 8 Subdistricts Small Hill was formed, because it was still included in the spread area of Raung Volcano material.

2. Data Disaster of Typoon in Jember

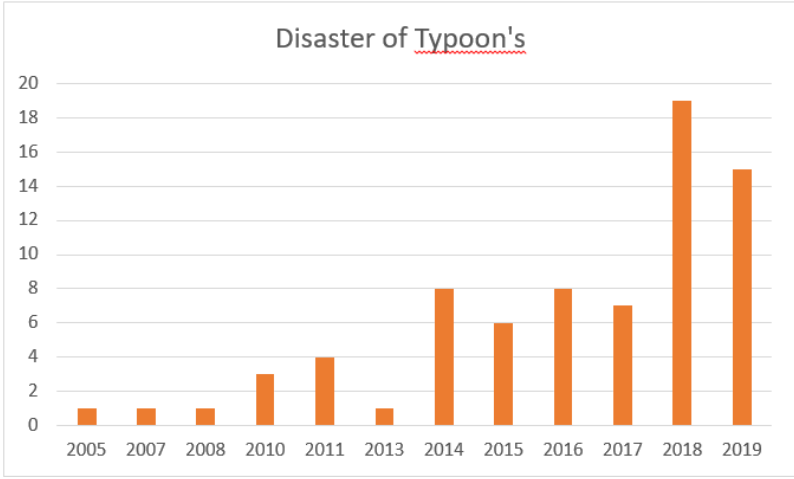

Image 3. Graphic growth disaster of typoon's in several years

Based on BNPB (2019), the growth of typoon disaster in Jember from 2005 to April 2019 experienced a significan increase, since 2011 amounted to 4, and increased in 2014 to 8, and in 2018 to 19. There are several factors that can affect typoon disaster one of which is the existence of small hill. According to Astutik (2015) small hill in Jember at 2015 has a total of 442 with 386 conditions undamaged and 56 conditions mined, 56 small hill that was mined greatly influenced the increase in the typoon disaster.

3. Function of Small Hills

The presence of a small hills has a function as a balance to the surrounding environment. The functions of the small hills include as water storages, mini wildlife sanctuaries, nature conservation laboratories, tours and landscape. Several functions of the small hills that greatly influences the protection of the city of Jember from typoon, namely the small hills as a landscape. Basically the content of the Small Hill is composed of rock which is the main element. Inside the small hills there are andesite lava stones, volcanic breccias, tuff sandstone, tuffs, conglomerate lava breccias and interposed tuffs. The rock is

always being targeted by miners so that it is exploited. Apart from that the rock element makes the small hills very sturdy although the small hills is a catapult from the eruption of a volcano and not the process of formation of the topography of the region itself. This shows that the solid topography causes the wind to break naturally naturally due to collisions with the small hills .

In Image 3.2 each year the potential for typhoons has increased. Even though before exploitation, Jember had a good wind cycle. So that Jember is known as a tobacco- producing city because the winds that come down from the mountains do not directly hit the plants but instead hit the small hills first so that it can be neutralized. But in reality in recent years there has been a decline in tobacco production. This can be attributed to the decreasing number of droughts due to ever greater exploitation. The presence of mining results in the lack of small hills in Jember district as a natural fortress to break wind. So that the direct winds enter damage to agricultural land and residential areas

D. Conclusion

The presence of small hills is believed to reduce the impact of typoon. Unfortunately, out of 442 dune units small hills in Jember, that spread over in 8 sub-districts, 56 of them are known to be damaged. Therefore it is important to have spatial planning to preserve the presence of small hills in the Jember.

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