INTEGRATING DISASTER RISK MANAGEMENT AND LAND ADMINISTRATION SYSTEM IN YOGYAKARTA SPECIAL REGION: A LEGAL ANALYSIS

BY

SUNARNO

A thesis submitted in fulfillment of the requirement for the degree of Doctor of Philosophy in Law

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ABSTRACT

Land administration system (LAS) is one of the core elements of government administration in promoting and guaranteeing security of land tenure of the people and businesses. The objective of LAS is to ensure a stable system in maintaining relationships between land, individuals, businesses and other legal entities. Agencies entrusted to manage LAS are responsible for implementing land policies, which includes equitable land distribution in accordance with the law and regulations. LAS is designed to operate in relatively stable environments with the aim to maintain records of transactions between the government and the people, and also dealings between people. Disaster Risk Management (DRM) assumes a dynamic role in a chaotic post-disaster environment, aiming to facilitate faster assessment of damages, injury, loss of life and property. This also includes providing assistance in the form of medicine, food, shelter and basic infrastructure. In designing disaster risk based policies, a community should consider disaster risks and ther spatial distribution, steer more sustainable land development and use, reduce the vulnerability of affected people in high risk sites. This research's objective is to investigate the benefits of integrating the LAS with DRM aspects in achieving post disaster land tenure security. Integration of DRM principles into LAS is necessary in addressing post disaster recovery and reconstruction. Planning of LAS must consider all strategic elements in order to reduce the impacts of disasters at all phases and also taking into account the various risks associated with the exposed population. The LAS system can be a catalyst to improve the lives of poor and disadvantaged, empowering them through public participation by strengthening legitimacy and transparency in the process of policy making. This will promote social acceptance and adherence. The research method used is a mixed mode of case study on the LAS developed after the Merapi Eruption Disaster to restructure the land administration system in the Sleman District, Yogyakarta Special Region, Indonesia. The research identified that developing a link between LAS and DRM will aid in adopting strategic measures to develop knowledgeable communities that would be more resilient in facing challenges posed by natural disasters and also cooperate in post disaster reconstruction. The incorporation of DRM aspects into LAS has capacity to shape a more sustainable and resilient community that is able to adapt to unforeseen circumstances. The research concludes with a proposal for developing a model of LAS integrated with aspects of DRM including the legal regulatory, administrative aspects, standards and procedures for managing pre-disaster mitigation, and preparedness for possible disasters, organization of emergency measures, coordination of recovery operations, identifying rights of the displaced communities.

ملخص البحث

في مواقع متدهورة ذات مخاطر وقيود كبيرة. إن منظمة الأغذية والزراعة للأمم المتحدة (FAO) تشعر بقلق عميق إزاء هذه القضية التي يتم تناولها بطريقة شاملة من خلال الدليل الموجز الاختياري المتعلق بالإدارة المسؤولة لإمتلاك الأراضي. يهدف هذا البحث إلى التحقق من العلاقة بين LAS وDRM والإدارة الجيدة للأراضي لتحقيق حيازة الأراضي الآمنة. كما يهدف للحصول على اجابات للأسئلة التالية: ما هو المنطق وراء اندماج إدارة مخاطر الكوارث مع نظام LAS في الممارسة الحالية للانتعاش وإعادة البناء بعد الكوارث؛ ما الخطوط العريضة الرئيسية لإدارة الحقوق الرقمية في LAS. وتمّ استخدام خليط من طرق البحث التي تضمنت استخدام نهج دراسة حالة تركز على ما بعد كارثة ٢٠١٠م MerapiEruption مع نظم إدارة الأراضي التي أُنشئت في Yogyakarta بأندونيسيا. وقد خلص البحث إلى أن جامعة الدول العربية يجب أن يعاد تصميمها لدعم سياسة DRM والممارسات التي تغطي مبدأ وإجراءات الوقاية قبل وقوع الكارثة والتخفيف والتأهب للكوارث المحتملة، وتنظيم إجراءات الطوارئ، وتنسيق عمليات الاستعادة، و تهجير السكان وإعادة الإعمار. وينبغي أن تهدف عملية التخطيط بعد ذلك إلى تحفيز جميع العناصر الاستراتيجية خلال جميع مراحل التدخل على التخفيف من المخاطر المختلفة المرتبطة بالسكان المعرضين للكوارث. ويمكن أن تكون عملية LAS حافزاً لتحسين قدرة الفقراء والأكثر حرماناً بتمكينهم من خلال الجمهور من تعزيز الشرعية والشفافية في عملية صياغة السياسات وتطوير البرامج وتعزيز القبول الاجتماعي. وضعت إدارة الكوارث الطبيعية مع نظام إدارة الأراضي النموذجية الجديدة الخطوط العريضة الاستراتيجية التي ينبغي القيام بها بشكل أفضل مع الناس أكثر من الأرض. يجب تطبيق LAS لجعل الناس أكثر قدرة على مواجهة قضايا الكوارث الطبيعية، وأكثر التزاماً في الاستجابة بطريقة منظمة لخطط الطوارئ للإخلاء، والترحيل، وإعادة التوطين. كما ينبغي أن تسهم في تشكيل مجتمع أكثر استدامة وتكيفًا ومرونة، خاصة عند التعرض لظروف غير متوقعة.

APPROVAL PAGE

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DECLARATION

I hereby declare that this thesis is the result of my investigations, except where otherwise stated. I also declare that it has not been previously or concurrently submitted as a whole for any other degrees at IIUM or other institutions.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF PICTURES

LIST OF ABBREVIATIONS

ADB	: Asian Development Bank
AADMER	: ASEAN Agreement of Disaster Management and Emergency Response
BAL	: Basic Agrarian Law
BPN	: Badan Pertanahan Nasiona (National Land Agent)
BPK	: Finance Supervision Body
BAPPENAS	: Body of National Development Planning
BAPEDA	: Badan Perencanaan Pembangunan Daerah
BPPD	: Badan Pengendalian Pertanahan Daerah (Regional Land Management Agency)
BNPB (D)	: Badan Nasional Penanggulangan Bencana (Daerah)
BPPS	: Badan Pusat Pengkajian Statistika
DIY	: Daerah Istimewa Yogyakarta (Yogyakarta Special Region)
DPR (D)	: Dewan Perwakilan Rakyat (Daerah)
DML	: Disaster Management Law
DRM	: DRM
DRR	: Disaster Risk Reduction
GLG	: Good Land Governance
HFA	: Hugo Framework for Action
HM	: Hak Milik
HGU	: Hak Guna Usaha
HGB	: Hak Guna Bangunan
HP	: Hak Pakai
IMF	: International Monetary Fund
IPCC	: International Program for Climate Change
ISDRR	: International Strategy for Disaster Risk Reduction
LAS	: Land Administration System
LRM	: Land Risk Management
LRR	: Land Risk Reduction
LUM	: Land Use Management
MPR	: Majelis Permusyaratan Rakyat
PMA	: Penanaman Modal Asing
PKI	: Partai Komunis Indonesia
PP	: Peraturan Pemerintah
P2KP	: Projek Penanggulangan Kemiskinan Perkotaan
Perpres	: Peraturan Presiden
Permen	: Peraturan Menteri
RECOMPAC	: Reconstruction – Rehabilitation Planning and Community Based Settlement

RRR	: Right, Restriction and Responsibility
TGT	: Tata Guna Tanah
KPK	: Komisi Pemberatansan Korupsi
KRB	: Kawasan Rawan Bencana
UNECE	: United Nation for Economic Comision of Europe
UNSFDRR	: United Nation for Sendai Framework for Disaster Risk Reduction
UU	: Undang Undang
UUD	: Undang Undang Dasar
WCDR	: Word Commission for Disaster Risk
WTO	: World Trade Organization

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Disaster impacts heavily affects resources such as property and land in developing nations. The relevant agencies have set the main issues[1] faced by people and public institutions in solving the problems. Efforts such as assessing, distinguishing, examining, m have been put into introducing best policies[2] in order to protect the affected people. Providing an integrated nexus in administering land information and managing risks is fundamental in ensuring effective land governance practices and improve the resilience of the community.[3] Land information and risk management in Indonesia and most Asian countries need to be improved in order to develop land risk governance system. This study also aims to analyse the legal aspects and proposes integration of disaster risk management principles and land administration system in improving the Land administration system in the Indonesian province of Yogyakarta Special Region.

Most Asian countries are prone to natural disasters[4]. The highest level of risks can be derived and interchanged from both natural and non-natural consequences that negatively impact the economy, social system and also the ecosystem. Asian cities developed in hazard prone areas such coastlines, floodplains, within top of or nearby

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[1] World Bank, *the Economics of Natural Disasters*-The World Bank Documents, 2010.

[2] https://en.wikipedia.org/wiki/Risk_management, accessed on 10thJanuary 2017.

[3] Stig Enemark, *Sustainable Land Administration Infrastructures to support Natural Disaster Prevention and Management,* Ninth United Nations Regional Cartographic Conference for the Americas New York, 10-14 August 2009, Item 7(a) of the provisional agenda, strategy, policy, economic, and institutional issues,1-14.

[4] Rajib Shaw Atta-ur-Rahman Akhilesh Surjan Gulsan Parvin Disasters and Resilience in Asia, ISBN: 9780128023778. Paperback ISBN: 9780128021699, Published: Butterworth-Heinemann, Published Date: 22nd January 2016 at 368.

seismic faults, and around the shadow of volcanoes may experience higher temperatures and severe weather caused by cyclones.[5] These often harm residents and properties, and also cause hazardous flooding, storm surges, earthquake, tsunamis, and lava of volcanoes to happen. Moreover, with climate change, the intensity and frequency of hazardous weather are expected to increase with the sea level change and permanent coastal inundation which will further exacerbate the risk of disaster. Indonesian cities are rapidly explanding and developing in order to meet the demand for affordable housing, infrastructure and essential public facilities in an efficient and cost-effective manner. In many cases, infrastructure is erected on disaster prone locations, such as wetlands and hilly areas where obstruction of natural drainage can occur.[6]

The land information system with relevant assessments could be a strategic tool in identifying and minimizing various disaster risks. By combining disaster risk information with the relevant information on land tenure, value, and use, the necessary risk prevention and mitigation measures can be reconstructed, assessed and redesigned in relation to legal, economic, physical, and social consequences. Ideally, DRM should be integrated in designing the land use planning and land management policy and processes.[7]

Consequently, disaster risk in urban areas largely increased the need to address within the context of wider urban development. In this situation, there must be a connection established between LAS and disaster risk reduction process in order to enable urban land use management processes, such as land use planning, development

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[5] Word Bank, Disaster Risk Management Overview October 16, 2014, https://www.Worldbank.Org/En/Region/Eap/Brief/Disaster-Risk-Management Accessed at 01 March 2014.

[6] See Tadleer, New Ecological Risk, In *Journal Risk of Risk Analysis*, (Cambridge University, 2017), 1-20.

[7] Stig Enemark, *Sustainable Land Administration Infrastructures….,* 12.

control, green field development, and urban redevelopment to be given due consideration in order to reduce risks.

Disaster risk reduction-based land use planning can be intended for comprehensive interaction between hazards and urban growth patterns.[8] Urban land-use management processes provide insight in understanding how hazards interact with existing and future urban patterns, which can be beneficial in proposing preventive measures (policy, investment, and capacity) for risk-sensitive development. For example, land use policies can manage spatial development strategies in steering development away from flood prone areas. Similarly, the tools for development control, such as zoning, can discourage development in high risk areas. A site plan for green field areas can also disclose disaster risk information which allows potential investors to adequately assess the cost and benefits of land development.

LAS incorporated with disaster risk reduction measures can help increase political and economic stability. By incorporating disaster risk considerations in city land use management processes, implementation of risk-sensitive urban growth may be more politically acceptable and also economically viable. For instance, acquiring a large parcel of land at an unstable slope that restricts development may not be politically and economically viable when landslide risk reduction objectives are taken into consideration. It may become feasible when it addresses local development issues like the need for recreational and open spaces.

Integrating disaster risk considerations in land use management process does not necessarily involve introducing new approaches, rather it requires established policies and processes to be adjusted. The other advantages of urban areas in

[8] Timothy w. Collins, "The Political Ecology Of Hazard Vulnerability: Marginalization, Facilitation And The Production Of Differential Risk To Urban Wildfires In Arizona's White Mountains," *Journal Of Political Ecology*, *University of Arizona*, vol. 15, no. 1 (2008). Could be accessed Through: Https: //Journals.Uair.Arizona.Edu/Index.Php/Jpe/Article/View/21686.

Southeast Asian countries are support for investments on land zones for industrial development in public facilities and services, rationalizing disaster risks through city land use planning processes with economic growth.

Generally, it is expected that land risk management initiatives will continue to be high profile issues as climate change brings more frequent and severe weather events. The future of community capacity building relies srongly on improved quality control procedures for managing hazards to land and property through the management of land administration information and engagement of all stakeholders.

Thus, critical land problems such as tenure safety, land-use planning, development control, land acquisition and land governance are necessary to be solved in ensuring prosperity. Land disputes, particularly in post disaster phases directly affect the capacity of the communities, the condition of housing and access to basic needs, public services and facilities. The damage caused can lead to ecological change and man-made process that demand permanent relocation or resettlement of the affected population. Sustainable housing of people is necessary in tackling the obstacles against devastating natural hazards. Therefore, the stages of hazard control involving land problems must be solved strategically as the nexus between hazard risk management and the fair functions of LAS are strongly inter-assembled.

Regarding the operation of the land tenure, the mechanisms of disaster risk reduction and DRM highlighted several strategic sources of tenure insecurity after a natural disaster:[9]

(1) Incomplete, expired lease or fraudulent land identification documents;

(2) Lost or damaged land title identification documents;

(3) Inadequate legal recognition of other forms of land tenure than ownership;

[9] Engin I. Erdem, *Land Tenure and Disaster Risk Management*, Disaster Risk Reduction Program Florida International University, April 2011.

(4) Land grabbing by those in power and with resources;

(5) Inheritance disputes among family or community members;

(6) Inappropriate procedures guiding reconstruction in areas classified as unsafe; and

(7) Breakdown of formal or customary land institutions;

Natural catastrophes can lead to land speculation and grabbing when good governance of land administration system and recovery phases are not able to address the weaknesses. Within the DRM framework, it suggested for introducing a better quality policy and legal framework to strengthen the capacity of the marginalised and under privileged communities. Highlighting the land problems in various phases of DRM will assist displaced people to protect their land rights, and successful relocation to an appropriate environment.

For enquiry of the theoretical principles, policy and legal framework above, a case study of the practice and procedures adopted in the Yogyakarta Special Region, will be made. Since 2006, the government of Yogyakarta Special Region has endeavoured to mainstream disaster risk reduction into post-disaster recovery and rehabilitation. This initiative could identify the research objectives to lead this thesis. Interestingly, every post-disaster recovery program in Indonesia is required to incorporate 'Post-Disaster Need Assessment' and formulation of 'Action Plan for Rehabilitation and Reconstruction'. The Body of National Disaster Management (BNPB) Regulation No. 17/2011 on rehabilitation and reconstruction has further internalised the disaster risk reduction efforts in the recovery process. The public authority promoted "building back better" approach in most of the post-disaster reconstruction projects since 2006. This included the Mount Merapi eruption disaster

that happened in 2010. The legal framework, policy, standard operating procedures are very useful basis for this research case study.

Results of this study can contribute towards strengthening the capacity and also reduce the vulnerability of victims of natural disasters. Climate change is very likely to increase the frequency and intensity of extreme weather events, such as heat waves, tropical cyclones, flood and droughts. According to ISDR, list of natural disaster since 1975 involving more than 10,000 fatalities highlights that five out of ten worst disasters occurred between the year 2003 and 2008. Many experts in disaster management suggest that hazards generate more defenceless people who survived but failed to tackle their basic needs, suffered from serious privation and continue to live in severe bankrupt situations. Meanwhile, the most unfortunate groups are more likely to live in hazard-prone land, and are at the greatest risk of displacement and loss of livelihood assets in the catastrophe. In these situations, DRM strategies will often involve more than one areas of livelihood, ideally within different microclimate. People may also become landless due to the death of a family, an inability to prove prior occupation, or from damage to the land that leaves it unusable. Once displaced people lose their economic relation with their associated livelihood assets, they are more vulnerable to the shock of disaster and have more difficulty in resuming livelihood. If livelihoods are not recovered, they face the prospect of selling assets at reduced prices just to feed their families. However, some house owners lose access to their pre-disaster basic needs and are unable to come back to their land and properties. The sharecroppers, farm labourers and informal settlers are those who are badly affected by the disasters. Secure land tenure enables claims to land that could be validated and facilitate the return of the displaced people to their places of livelihood, food production and activities that is essential for rebuilding their lives.