Critical analysis of smart city from an NGO's perspective towards sustainable urban development

A case study of Indonesia's new capital city

Via Apriyani

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Lund University Centre for Sustainability Studies

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Supervisor: Sanna Stålhammar, LUCSUS, Lund University

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Abstract

Urban establishment from scratch based on a smart city vision has been mainstreamed as a strategy to achieve urban sustainability goals. However, the smart city model itself has been criticized because of how the techno-centric solutions it uses could potentially lead to economic and social inequality. Urban Political Ecology (UPE) focuses on how the urban production process involve commodification of nature, causes environmental damage, and ignores social justice value. As a response, UPE encourages a dissensus approach to create an inclusive and environmentally sustainable urban development. Using UPE and the right to the city framework, this thesis critically analyzes the smart city concept and investigates socio-political dynamics behind the urban production process from activists' dissensus. It is based on a single case study analysis of Indonesia government's plan to establish new country's capital from scratch in East Kalimantan, which was opposed by local and national NGOs.

Findings show that the smart city being planned by the Indonesian government reflects a neoliberal smart city vision. Meanwhile, the new capital establishment is regarded by activists as a project driven by oligarch interests and that benefit large corporations. The project is also considered to lack transparency, ignore local and public voices, cause marginalization and reduce East Kalimantan's environmental carrying capacity.

Construction of the new national capital does not guarantee the betterment of Jakarta's socio-ecological condition and realization of a sustainable new capital city. Therefore, activists urge the government to cancel the project and focus on restoring Jakarta's condition instead.

My thesis reveals that civil society dissensus can potentially help sustainable urban development that is socially just and environmentally sustainable. Thus, the government and urban planners must take into account dissensus-based approach in the future city projects.

Keywords: Smart city, new city establishment, sustainable urban development, activists, urban political ecology, right to the city

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Table of Contents

List of tables

List of figures

List of abbreviations

BAPPENAS	: Ministry of National Development Planning
CSO	: Civil Society Organization
MOEF	: Ministry of Environment and Forestry
NGO	: Non-Governmental Organization
NUA	: New Urban Agenda
PE	: Political Ecology
PUPR Ministry	: Ministry of Public Works and Housing
RQ	: Research Question
SDGs	: Sustainable Development Goals
UPE	: Urban Political Ecology

1 Introduction

1.1 Research problem

A city is a community's living space that provides opportunities for people to improve their quality of life. Yet, on the other hand, it is at risk of experiencing socio-ecological crisis as half the world's population currently living in cities (Alavibelmana & Fazekas, 2018). It has been predicted that urban populations could increase by 60-70% (2.5 billion) in 2050, which will occur mainly in Asia and Africa (World Bank, 2019).

Given those facts, policy makers and urban researchers are urged to develop a city that could encourage prosperity and social equity while still protecting the environment. The city concept that meet those criteria has been alluded in the Habitat III Conference of New Urban Agenda (NUA) (UN Habitat, 2014). Since then, several city models such as smart city (Fainstein, 2000), which has been alluded to in the Habitat III Conference of NUA is considered able to solve the complexity of city problems and commonly attributed to future sustainable urban development (Beretta, 2014; Monfaredzadeh & Berardi, 2015).

However, critiques of smart city have emerged, mostly by questioning whether the 'smartization' could really lead to sustainability of ecological protection and social inclusion in ever-growing urban setting. Martin, Evans, & Karvonen (2018) argued that instead of bolstering urban sustainability, smart city is rather accommodating neoliberal urban capitalist and supporting economic growth. It happens as smart city success is often measured by the participation of technology companies in the development and put the efficiency gain of urban service as a mean to achieve economic growth (Wiig, 2016; Haarstad, 2016b). Also, Xie, Tan-Mullins, & Chesmehzangi (2019) criticize the smart urban development and its policy-making processes as lacking civil society participation and being too top-down.

Meanwhile, Kaika (2017) asserts that in searching for a sustainable urban form, the smart city concept with techno-managerial resolution, which is built upon the consensus-building approach, is not a promising option. Conversely, civil society's voice in the form of dissensus can perform as a living indicator that can show what problems and where should be addressed in the process of developing sustainable cities (Kaika, 2017).

Based on those arguments, I argue rather than adopting a smart city to realize urban sustainability, the government and city planner should account for citizen dissensus in the production for a more inclusive and sustainable urban development. Therefore, this research critically analyzes the smart city establishment process in a vision to achieve sustainability from an Urban Political Ecology (UPE) perspective.

As the smart city concept starts to be mainstreamed in the discourse of present and future sustainable urban development, it is necessary to critically assess the smart city creation process. This thesis contributes to the nuance on critical literature of the smart city model in the context of building city from scratch. Moreover, it also provides an empirical exploration about dissensus practice for a more socially inclusive and environmentally friendly city, which is grounded on the process of civil society's dissensus.

Within the scope of this paper, civil societies are represented by NGOs' activists who critically confront Indonesia's current government plan to build a new capital city, to replace Jakarta as the country's capital. In this thesis context, following Cooper's (2018) definition about civil society organization, I regard NGOs that consist of activists as a part of civil society.

This study uses the case of Indonesia government's plan to build new capital city from scratch, which is designed to be sustainable with a smart city approach. First, I chose this case study since it exemplifies a production process of a new urban area from scratch labelled with smart city in the vision to achieve urban sustainability. Second, the project itself is controversial and opposed by the activists from local and national non-governmental organizations (NGOs).

1.2 Research questions

Upon mentioned backgrounds and aims of the study, the following overarching research questions (RQ) are formulated as follows:

RQ1: How is Indonesia's government planning for sustainable urban development from scratch using smart city concept?
RQ2: Why do activists oppose the establishment of a new capital city?
RQ3: How is the government's planning (country capital relocation and new city establishment) assessed by activists?

RQ4: What are the alternatives of urban development form that activists envisioned to make the new capital city more sustainable?

1.3 Relevance to sustainability science

This study is conducted in sustainability science, a field of study that aims to find a sustainable solution for development issues in a limited planetary boundary context. The research field is characterized by the interrelated analysis between environmental and social sciences (Clark & Dickson, 2006; Kates et al., 2001). Exploring urban issues using sustainability science becomes relevant as the solution needed requires knowledge integration amongst other disciplines beyond urban science (Acuto, Parnell, & Seto, 2018).

As the center of social and economic activity, usually with high or dense populations, a city to some extent offers transformational changes in regard to efficiency and innovation (Horvat et al., 2018). However, as it becomes urbanized, cities need to expand over time and exaggeratedly consume natural resources, which consequently poses risks to environmental carrying capacity (Campbell, 1996; Allen, 2009).

Besides environmental issues, social conflicts frequently occur in city development processes. These conflicts could be, first, the arbitrary decision-making process in urban development characterized by overly top-down approach and neglection of locals (Yu, 2012; Cheng & Hu, 2009; Piew & Neo, 2013). Second, in the matter of resource appropriation conflict between local communities, official authorities, and capital holders or corporations (Campbell, 1996).

Sustainability science is interested in trying to reconcile the above urban development conflicts as investigated by previous scholars (Gibson, Ostrom & Ahn, 2000). Likewise, this thesis critically studies smart city development and explores activist's contestation regarding that from an UPE standpoint. Drawing on that, sustainability science grounding on the dissensus practice, potentially can help to realize an inclusive and sustainable city.

1.4 Thesis structure

This thesis is composed into parts starting from introduction covering brief overview of urban context and smart-sustainable city notion as the research problem. Part two covers the case study background,

overview of conflicts that arise in the new capital city establishment planning, and justification of why I selected this case to be investigated. Scene-setting that takes a stance on smart city critique and production of urban environment stemming from UPE will be presented in part three. I present the theory section that includes critiques of smart city, UPE, and right to the city framework to guide the analysis of this study in part four. Then, part five describes the methodology section including limitations and ethical considerations. Part six encompasses the results based on my research questions, while the discussion will be covered in part seven. Lastly, I end this thesis with a conclusion section and recommendation for future research.

2 The case study

2.1 Establishing smart and sustainable Indonesia's new capital city

In August 2019, Indonesia's current President, Joko Widodo announced an astounding government's decision to establish the new capital city to replace Jakarta, located partly in Kutai Kartanegara and North Penajam Paser, East Kalimantan. Designed to be built on 256,000 hectares, Indonesia's new capital city is 3.5 times larger than Jakarta , and is being constructed on the state-owned concession land which is used by private companies under concession permits for industrial forest and coal mining enterprises (Ihsanuddin, 2019).

Economic, social, and environmental reasons are underlying the government's justification to relocate country's capital. According to a study by Ministry of National Development Planning (BAPPENAS, 2020c), Jakarta's urbanization rate is already very high, causing acute environmental and social issues in the form of air and water pollution, traffic congestion, clean water crisis, floods, and land subsidence. Therefore, having the country's capital to be relocated outside Java Island is necessary.

It has been decided that two districts in East Kalimantan which are 2,000 km away from Jakarta will be the new capital location, as can be seen in the Figure 1 below (Wijaya, 2019). Strong arguments enunciated by the government in choosing the location are the importance of propagating economic growth outside Java Island and the geographic position of East Kalimantan, which is positioned exactly in the midpoint of Indonesian archipelago (BAPPENAS, 2020c).

Figure 1. Indonesia's new country capital, located in District Kutai Kartanegara and North Penajam Paser, East Kalimantan Province (Wijaya, 2019)

The government's decision has been unanimous, and the initial construction of road access will take place in July 2020. It is also widely announced that the new country's capital will be embedded with the smart city concept to achieve urban sustainability. The government emphasizes the characteristics of smart city which are denoted by the existence of a modern society and followed by the manifestation of innovative measures through technological approaches in urban planning and management, design and structuring buildings. It is hoped that the smart approach will be able to overcome social and environmental development challenges that occur in Indonesia's new capital city (PUPR Ministry, 2019).

2.2 The contested city project

Despite being supported because of opportunities it offers to restore Jakarta and spur economic growth for Kalimantan region, the new city establishment received rejections and critiques. First, predominant arguments from the NGOs include perceptions that new city establishment will exacerbate forest cover loss and threaten indigenous people of Kalimantan (Ibukotauntuksiapa.id, 2019). Second, relocation of the country's administrative center, including 1.5 million civil servants who work there, that is targeted to be done in 2024, is deemed too ambitious and unrealistic (Mufti & Fachriansyah, 2020; Pennington, 2018).

Prominent environmental organizations such as Greenpeace Indonesia argue that building a town from zero for new capital city is unnecessary, as it will not guarantee a better ecological improvement of Jakarta. They contested that the relocation option will not resolve problems of traffic congestion, floods, air and water pollution in Jakarta, rather it will move the city's predicament into new place and degrade local environmental quality. They also argued, the establishment of a new city was carried out haphazardly, without adequate public consultation processes, specifically with local people whose settlements will be displaced (Greenpeace Indonesia, 2019). Figure 2 below shows a parcel of land with the combination of settlement and forested landscape in North Penajam Paser, a district in which the new capital city will be built.

Figure 2. An aerial view of parcel of land in North Penajam Paser District which will be designated for the new capital city (Source: Gumay, 2019a)

Similarly, a coalition of NGOs who call themselves #BersihkanIndonesia[1] movement have objections towards the new capital city establishment. The NGO activists' concerns are mainly about the environmental condition of East Kalimantan that has been degraded due to extractive industries. Additionally, they assert that, new city establishment in East Kalimantan will threaten the survival of

[1] #BersihkanIndonesia is a coalition of NGOs that critically opposes government's plan to relocate country's capital and establish the new city. It consists of NGOs such as Indonesia Mining Advocacy Network (JATAM), Indonesian Forum for Environment (WALHI), Trend Asia, Pokja 30, Pokja Pesisir, and Forest Watch Indonesia.

indigenous people. It also is imposing risks to the mangroves ecosystem, which so far has a vital socio-ecological role for the local fishermen community (Ibukotauntuksiapa.id, 2019).

3 Setting the scene: critics to production of urban nature and smart city

This part will contextualize the case study I raise in this thesis, which I perceived to represent the new urban production phenomenon based on a smart city approach. The mega project being carried out by Indonesia's government, moving the country capital to a new yet-to-be built city, is considered as government's strategy to mainly tackle Jakarta's urbanization woe and environmental crisis (BAPPENAS, 2020c). The similar approach has been done in other countries such as South Korea, under an urban regeneration policy manifested in a project called Wangsimni New Town (Hyeon, 2011).

In the Indonesian context, especially under President Jokowi's administration, this is not the first project in which the government carrying out a new city establishment. In 2018, the President has agreed to establish a new aerotropolis city from scratch in Yogyakarta, which has been criticized by Edita (2019) due to its political-economic motives and undesired local socio-environmental impacts. She found, the creation of new city allocated for an international airport will only serve economic interests of certain group proven by private parties' investment in the project, while on the other hand, leave powerless locals with displacement and inequality issues.

On the other hand, using smart city as the model for Indonesia's new national capital development considers the city as a center of economic growth and wealth producer. It utilizes technological innovation to make the city more competitive and attractive to investors (Hollands, 2008). According to Verrest & Pfeffer (2018), a smart city is often applied in conjunction with efficient and green city labels, and is used as an urban development strategy to deliver social and environmental sustainability in the city.

Nevertheless, the smart city concept being applied as a strategy to accomplish urban sustainability has its own critics. An empirical study by Xie, Tan-Mullins, & Chesmehzangi (2019) criticized Chinese smart city projects has having a lack of civil society involvement and leaving the impression that the public consultation process is merely a symbolic act. Viitanen & Kingston (2014) argue that smart city regards urban sustainability as a chance for companies to provide solutions based on the digital technology products and thus reinforce neoliberal economic growth (Vanolo, 2014).

4 Theoretical framework

In this research, I use an urban political ecology (UPE) perspective, since my focus in this study is an urban context. Critiques towards a smart city, also from the previous scholars, are used as I intend to critically challenge smart city that applies in this case study. Hereafter, using UPE and the right to the city by Lefebvre (1966), I aim to explore and analyze the alternative sustainable urban forms which socially just and environmentally sustainable that activists advocated for.

4.1 Critics to smart city and paradox to sustainability

Smart city is often interlinked with the application of digital technologies to pursue smart and sustainable urban growth (Harrison & Donnelly, 2011) that is environmentally responsible and socially just (Martin, Evans, & Karvonen, 2018). Meanwhile Caragliu, Bo, & Nijkamp (2011) describe smart city as a governance model which can facilitate the achievement of environmental welfare, social inclusivity, and digitally-spurred economic well-being. The latter definition is associated with the development of a neoliberal and technocentric smart city concept that often is interpreted identically with a sustainable city vision (Martin, Evans, & Karvonen, 2018).

A neoliberal smart city is the result of overlapping visions of future cities which encompasses sustainable city, digital city, and industrial city. It intends to achieve urban service efficiency and perform smart development to primarily pursue economic growth, as shown in Figure 3. It also promotes the integration of city infrastructure, public service systems and enhancement of economic benefits through innovative digital technology (Martin, Evans, & Karvonen, 2018).

Nevertheless, Glasmeier & Christopherson (2015) and Hollands (2014) contest the neoliberal smart city vision as a concept that is not concern about ecological preservation and social equity goals, instead placing economic growth as the central goal of urban development. It is done through the digitization of city infrastructure, which generates a new market and new culture of smart appliances consumption (Hollands, 2014).

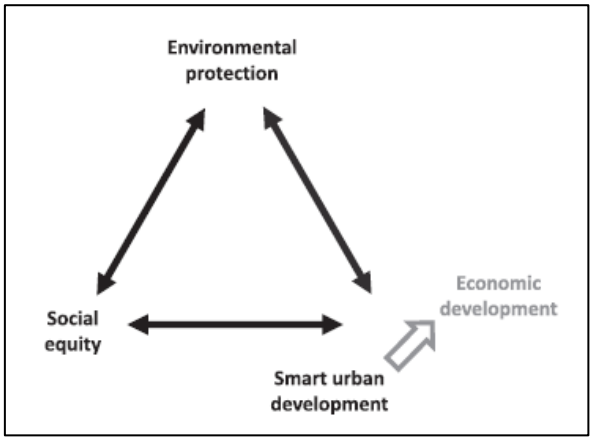

Figure 3. Critics to the neoliberal smart city vision that aims smart urban development for economic growth. The emphasis is not on the social and environmental sustainability, rather it substantiates the development of neoliberal economic in the urban growth (Martin, Evans, & Karvonen, 2018)

Many other scholars have also critiqued that smart and digital technology is far from its sustainability promise and cannot be equated with the sustainable city notion (de Jong, Joss, Schraven, Zhan, & Weijnen, 2015; Viitanen & Kingston, 2014). Kaika (2017) argues that to some extent, smart indicators might be able to counterbalance social and environmental issues, yet we cannot rely on them as sustainable urban strategies for the longer run. Meanwhile Xie, Tan-Mullins, & Cheshmehzangi (2019), concluded that recent smart-eco city implementation seem to incrementally stray from its genuine spirit, which is to encourage integrated social, ecological, and economic sustainability.

4.2 Urban political ecology (UPE)

The next theoretical perspective I use in this study is UPE, yet firstly I will give an overview of political ecology (PE) which is the origin of UPE. PE refers to a field of critical research characterized by its focus in trying to search for the relations between political, economic, and social sphere which cause and shape environmental problems (Brown & Purcell, 2005; Robbins, 2012). Bryant (1999) argues PE discipline has emerged given the fact that environmental issues are not occurring solely due to natural cause, but are innately connected with political-economic aspect, specifically with the power issue. Additionally, Schmink & Wood (1987) practically defines PE as a way to illuminate how is environmental resource utilized under the influence of political and economic power.

In light of the dynamics of urbanization and socio-ecological problem that occur therein, UPE emerged and is interpreted as a framework that helps to scrutinize the dynamic of urban environments in connection to political power. Extensively, UPE is useful to dismantle political, economic, and social

influence that shape urban landscape and the problems it creates, and unequal impacts distribution between distinct social groups and urban spaces (Swyngedow & Heynen, 2003).

4.2.1 Production of urban nature

Urbanization is understood as a process of change from typically rural and natural landscapes into assembled, man-made, urban infrastructure landscapes (Allen, 2009). The UPE perspective involves commodification of nature (Heynen, Kaika, & Swyngedouw, 2006), in which material could possibly be exchanged, used, owned, and transformed (Coe, Kelly, & Yeung, 2007) and generates socio-metabolic processes. The intensifying of metabolic processes (also known as socio-ecological interaction) is what makes nature become urbanized.

UPE acknowledges that the material shaping of city environments is dominated and controlled by elite groups with vested interests, while on the other hand caused marginalization, especially to local communities, and created unequal distribution of environmental damage (Heynen, Kaika, & Swyngedouw, 2006; Murray, 2009). Marxist's view on UPE corroborates this argument by asserting that physical properties which form urban environments are regulated and manipulated to provide benefits for elite groups and serve their interests while risking environmental quality and social integrity (Swyngedouw & Heynen, 2003).

By these means, UPE brings attention to how urban capitalism is practiced and produces socio-environmental inequalities through creation and recreation of capital accumulation towards nature in an urban development context (Keil, 2005; Swyngedow, 2015). Capital accumulation can be manifested through urban infrastructure development. It contributes to landscape transformation and political dominance by groups who have power over the economy (Song, 2013; Robbins, 2012).

4.2.2 Sustainable city production based on a dissensus approach

Besides being useful for critically scrutinizing the process of production of urban nature, UPE can assist urban researchers to explore alternative urban forms which may nurture more environmentally sustainable, socially inclusive, and equitable planning for smart city development. Thereby, UPE provides a counter narrative to the eco-modernization (i.e. smart city) approach[2] that dominantly is

[2] An urban development approach that is oriented towards digital technology solutions and capitalism practice and is criticized for rarely concentrating on the value of socio-ecology (Chang & Sheppard, 2013; de Jong, Wang, & Yu, 2013).

used in sustainably labelled urban projects. It is done so by contesting and questioning unequal power, resources circulation, and distribution of benefits and expenses from an urban production process (Xie, Tan-Mullins, & Cheshmehzangi, 2019).

Moreover, as it is recognized that the exclusion and lack of locals' participation would evidently erode urban sustainability goals (Kumssa & Mwangi, 2011), Heynen, Kaika, & Swyngedouw (2006) demands more democratic urban planning processes to achieve social inclusivity and impartial power distribution. In light of those arguments, Kaika (2017) captures the road towards a just and sustainable city would be achieved not through social consensus, but through dissensus practices. She argues that in practice, instead of inviting usual stakeholders, such as city planners, technocrats, and consultants, and listening to their consensus over sustainable urban indicators, we must pay attention to those have not been involved and included in the urban development process. These groups who demand changing the strategy and framework in the way sustainable urban development goals are achieved could potentially provide alternative living indicators and accurately direct to where and what to focus on. Additionally, instead of informing locals who will be affected by urban development project with the final information, or merely invite them as passive participants in public hearings, they should be notified and included in the planning process from the beginning (Kaika, 2017).

4.3 Right to the city

The second theoretical framework that I use to answer my research question regarding the alternative sustainable urban form that activists envisioned for is the right to the city. Since it was first coined by Lefebvre in 1968, the right to the city concept has been expanded by other scholars. In this study, I refer to Purcell's (2003) interpretation.

Purcell (2003) developed the right to the city theory from Lefebvre's perspective on *new notions of citizenship* and argued that the urban landscape becomes a novel scale and new terrain for citizens to seek and exercise their rights. He added, the right to the city consists of an extensive list of rights, including the right to common space, right to safe settlement, right to water and so on. Notably, he highlighted the right to appropriate city spaces and right to participate in the creation of city's landscape. The former refers to a citizen's right to use urban space and put citizen's needs above all else. While the latter calls for citizen participation and equivalent positions in the process of deliberation and decision-making that may affect city space development progress.

The application of this framework for the analysis of smart city development could help to challenges urban capitalism practices and shed light on citizens' needs over private parties' economic interests regarding urban spaces and the use of it.

5 Methodology

5.1 Research design: case study

This is a case study with a focus on the case of Indonesia government's plan to establish a smart city from scratch.

Creswell & Poth (2018) consider case study as a method to discover a case in real world profoundly, through the collection of various information sources. Similarly, Bryman (2012) adds that a case-based research design often associates with a specific place or organization and aims to examine the context intensively backed up by theoretical framework in the analysis. The case study itself is bound by certain context of time and place and entails the unit of analysis. In this research, I used a single case study within the setting of building a new urban area with smart city concept as the unit of analysis.

The case study design is considered appropriate to grasp various views upon the case and emphasize in-depth details of it (Flyvbjerg, 2006). This applies to describing intensively a smart city concept that Indonesia's government is trying to implement for the new capital city in the pursuit of urban sustainability. Also, in a way to untangle its sociopolitical dynamic and relations to local social-environmental conditions. Correspondingly, activists' dissensus regarding the project will also be a subject of exploration.

5.2 Research strategy

I apply a Qualitative method to investigate the case study. This method is chosen not only because it favors a case study-typical approach. It is preferred considering its usefulness to conduct a thorough exploration and comprehensive understanding of an issue (Bryman, 2012; Creswell & Poth, 2018). Especially, in relation to my case study, activists have various perceptions and opinions regarding sociopolitical dynamic processes behind the establishment of Indonesia's new capital.

Since I use UPE as an overarching perspective, a deductive approach will be applied. As described by Banerje-Guha (2009), UPE is considered helpful for studying general development processes in the specific context of urban areas.

Moreover, I used purposive sampling in this qualitative study. It follows Bryman (2012) argument's that contends, purposive sampling approach is performed in its relation to research's aims. It allows researchers to refine unit of analysis based on certain criteria that are relevant to answer RQs.

Following purposive sampling approach, snowball sampling is chosen as a technique to sample participants involved in this research (Bryman, 2012). It is called snowball because it helps the researcher find more contacts from the initial sample group in data collection process. Practically, I initiated contact with a few people that represent governmental and NGO institution. Through them, I obtained more pertinent contacts to get more interviewees.

Snowball sampling is beneficial to get opportunities to gain contacts and explore the connectedness of a person to others within a relevant research-sample group. As researchers are often constrained by the availability of contact information, this method is quite helpful for researchers to find contacts in a remote research site they are not familiar with and online contact searching is not possible.

5.3 Research method

5.3.1 Data collection

The research that I conduct is a qualitative study. To obtain the data, I conducted documents review and interview described as follow.

Documents review

Documents review was conducted as the initial stage of data collection process. The documents that I reviewed were sourced from governmental institutions and NGOs as can be seen in Table 1 below. The criteria for selecting the documents are based on its relevance to case study and they are usually issued by organizations that involved in Indonesia's new capital city project.

Table 1. List of documents I used in the study (own illustration)

Document name	Source
Annual Report Year 2019	PUPR Ministry (2019)
Draft Law of the National Capital	BAPPENAS (2020a)
Academic Paper of Draft Law of the National Capital	BAPPENAS (2020b)
Mini Book of National Capital Relocation Planning	BAPPENAS (2020c)
Executive Summary of Strategic Environmental Assessment of Country's Capital Relocation	Ministry of Environment and Forestry (2020)
Preliminary Study of Social Aspect of Country's Capital Relocation Planning to East Kalimantan	Yulaswati & Callista (2019)
A Report of *'The New Capital for Whom?'*	Johansyah et al., (2019) Retrieved from https://www.jatam.org/2019/12/17/ibu-kota-baru-untuk-siapa/

Besides the above documents, I also looked into official press releases retrieved from '*The 6th and 7th New Capital City National Dialog'* that covered the themes of smart and sustainable city as well as studies of social and cultural aspects. The documents I listed above helped me to expand my knowledge and complete information I need.

Furthermore I looked for online articles published by #BersihkanIndonesia coalition, which is available at https://ibukotauntuksiapa.id/. Rapley (2007) claims that online articles are useful to help academic researchers find the information and resources they need. The information provided in the website assisted me to get an initial understanding of activists' critical perceptions regarding the city project. Finally, it helped me to get a preliminary overview and partly understand the situation before I conducted the interview process.

Interviews

This thesis is based on semi-structured interviews as a primary data collection method. Semi-structured interviews, according to Bryman (2012), is a type of interview in which the interviewer prepared a set of questions associated with the research questions beforehand. The same set of questions are asked to all respondents in a respective sample group.

Before conducting the interviews, I performed pilot interviews to one in each sample group. Pilot interviews to Governmental Institution and NGO was held on the 6th and the 12th of February, respectively. As suggested by Bryman (2012), a pilot interview is useful to go through all the questions and see how it flow so interviewer can prepare for any unforeseen possibility. Basically, there were no significant changes to my set of interview questions after the pilot interview was conducted. However, my interviewee advised me to clustering questions based on the sub-topics so that the interview flow could be more directed. The pilot interview also made me familiar with the process and gave initial contextual information.

Meanwhile, the actual semi-structured interviews were carried out with 14 people, which consist of 5 people from Governmental Institutions and 9 people representing NGOs' activists in Jakarta between the 6th – 21st of February 2020. Most of the interview sessions were held in person, while 2 respondents were interviewed online due to their locations outside of Jakarta. Each interview session took between 30 and 90 minutes.

Governmental Institutions consist of the assigned ministries mandated by the President to be involved directly in the new capital city project. These ministries include Ministry for Public Works and Housing, Ministry of National Development Planning or BAPPENAS, and Ministry of Environment and Forestry. NGO activists I met are civil society organizations in coalition with the #BersihkanIndonesia movement. They are Indonesian Forum for Environment (WALHI) National and East Kalimantan level, Trend Asia, and Forest Watch Indonesia. Besides NGOs that associated with #BersihkanIndonesia, I have also organized semi-structured interviews to other social-environmental NGOs that shared critical opinions regarding the project. They are including 350. id, Greenpeace Indonesia, and Indonesian Legal Aid Foundation. A set of interview questions and an overview of interviewee profile can be seen in Appendix 1 and 2.

5.3.2 Data analysis

This study follows the approach to data analysis outlined by Creswell & Poth (2018) that identify common several stages of data analysis in qualitative study. They include preparing and sorting out data, encrypting and shortening data, and lastly visualizing it into tables and figures and presenting it in the discussion. Additionally, Bryman (2012) classified qualitative data analysis methods into some types in which one of them I used is thematic analysis. It refers to an approach to categorize voluminous qualitative data into certain patterns and themes which based on the themes in interview guide (Bryman, 2012).

Thematic analysis is useful to analyze transcripted text I obtained from interviews. Technically, I applied thematic analysis approach by transcribing interview records manually into text, assisted by field notes I made during the interviews. Afterwards, I familiarized myself with the content of the transcripts by reading through the text thoroughly several times. Next, I sorted out the words and labelled them into codes. Later, I classified and incorporated the codes into subthemes and larger themes that applicable to my research questions. Lastly, I examined and noted down the themes in tabulation matrix which I found eased me to going back and forth in the process of writing result and discussion part.

5.4 Limitations and ethical consideration

One difficulty I experienced when conducting the data collection process with representatives of government institutions was limited access to some documents. For example, I intended to get a complete document of the Rapid Strategic Environmental Impact Assessment Study issued by the Ministry of Environment and Forestry. However, due to the ongoing process and layers of bureaucracy, I was unable to get the document. Meanwhile, I was unable to involve all the NGOs in the #BersihkanIndonesia movement because of their tight schedules and location outside of the city. Additionally, some politically sensitive information conveyed by activists in the interviews cannot be included in the data analysis because they require further verification.

Regarding ethical concerns in qualitative study, I followed some important points, mainly in regard to researcher and participants, that should be noticed at every stage of research process suggested by Creswell & Poth (2018). First, when conducting preliminary contact with respondents, I disclosed aims of the research and let them know that their participation in this collection data process is voluntary and will not posit them at unexpected risk in the future. That step is achieved through giving out

informed consent forms (see Appendix 4) to all of my respondents. Second, in presenting and writing the data, I have tried to be aware of any kind of information which could potentially harm respondents by protecting their privacy, and did not incorporate parts they felt should be off record in the data analysis.

6 Results

In this section, I describe the results I got from interviews and document analysis. The first part focuses on the discussion about the new capital city project, starting with the government's justification of the urgency to relocate national capital along with the reasons for choosing East Kalimantan province as the location of the new capital city. The smart city definitions and components that guide Indonesia's government in building new capital and its operationalization in relation to sustainability goals will also be depicted. The second part highlights on the activists' contestation against this project. They regard the relocation of the country's capital as caused by lack of good governance and motivated solely by the interests of political elites and concession holders who control the land in the prospective locations of Indonesia's new capital. The third part presents activist viewpoints on the new capital city establishment process which is considered to less involving civil society, benefits the extractive companies of industrial forest and coal mine, and potentially causes undesired social and environmental impacts to the local. Activist views on the alternative of sustainable urban development of this project are also described in the fourth section. → may be better in the method section

6.1 Planning for smart-sustainable Indonesia's new capital city

Before describing the smart city concept that government has planned in the new capital city context, I will elucidate the government's justifications why it is necessary for Indonesia to build a new capital including reasons for picking East Kalimantan as the location. This is important from UPE framework that considers process of urban environment production as the result and is affected by political resolution. Besides, it will help the analysis to my other RQs which focus on an NGOs perspective that contested the project.

6.1.1 Reasons for relocation

The decision to move country's capital to East Kalimantan emerged based on assessment of Jakarta's condition, which generally is no longer ideal to serve as country's capital (BAPPENAS, 2020a). More

details about why it is necessary to move the country's capital and establish the new city outside Java Island, including:

- **Environment:** Jakarta's environmental burden is too heavy. Issue that the city will sink in the near future is already frequently heard (E.T.P., personal communication). Additionally, conversion of agricultural land to settlements occurred massively with the average rate per year above 40%. While land development outside Java is happening at low rate, for example in Kalimantan 9.29% and Sulawesi only 4.88%. Jakarta and Java also experienced water crisis due to pollution, population pressure, and vast infrastructure development (PUPR Ministry, 2019; T.D.V., personal communication).
- **Social and demographic:** Java's population density is already in vulnerable category (E.T.P., personal communication). The island is now occupied by approximately 150 million people (57% of national population) (PUPR Ministry, 2019).
- **Economic and development**: Compared to other islands, Java Island contributes the most to the national GDP's percentage. It is mainly because of current country's capital, Jakarta, that was not only appointed as country's administrative but also business, finance and trade center. Consequently, uneven distribution of economic growth outside Jakarta and Java occurs (J.L.; T.D.V., personal communication).
- **Politics**: National's capital has a strategic political position proven by its influence to boost regional economic growth as such in Jakarta and Java Island. Therefore, it was decided to move the capital city to Kalimantan Island (T.D.V., personal communication).

Hence, given those considerations, North Penajam Paser and Kutai Kartanegara district located in East Kalimantan have been chosen for the new capital city location. Based on the interviews, those locations were chosen because of the strategic geographical location in the middle of Indonesia archipelago and proximity to existing cities such as Samarinda and Balikpapan, so that the economy of new capital could grow. From the safety aspect, although East Kalimantan is vulnerable to floods and forest fires, this region is classified as more resilient to other natural disasters. Furthermore, the province still has abundant of land and water resources. Lastly, East Kalimantan people are open and able to accept new people who later will occupy the new capital city (J.L.; T.D.V., personal communication).

6.1.2 Smart and sustainable city component

Zoning and facilities

The new capital city will occupy a total land area of 256,000 ha divided into three main zones (as can be seen in Figure 4 below), including 1) core area of 5,644 ha, 2) national capital area of 56,180.87 ha, and 3) expansion area with the total of 256,000 ha (BAPPENAS, 2020c; J.L., personal communication).

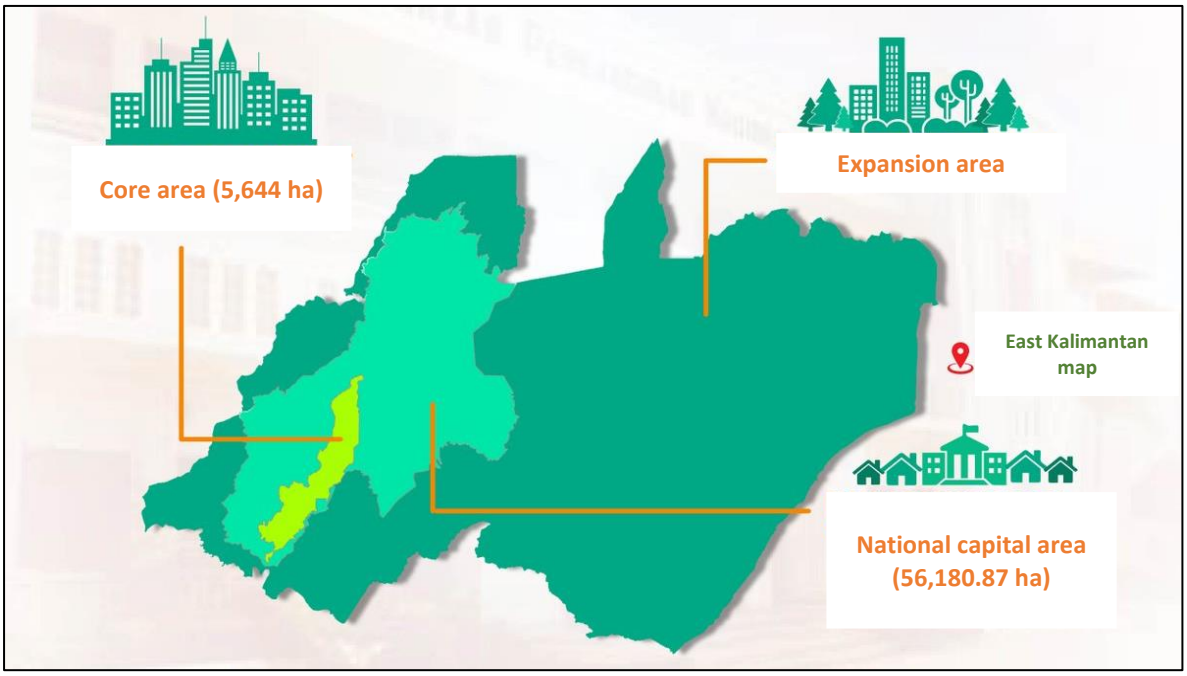

Figure 4. Zonation planning of Indonesia's new country capital (BAPPENAS, 2020c)

Table 2 below shows government and non-governmental facilities which will be built in each zone.

Table 2. Distribution of planned facilities in each zone (PUPR Ministry, 2019; BAPPENAS, 2020b)

Zone		Facility
1	Core area	• Presidential palace • State agency office (executive, legislative, judiciary) • Cultural park • Botanical garden
2	National capital area	• Settlement for state civil servants, national armies, police • Diplomatic compound • Education and health • University, science and techno park • High tech and clean industries • R & D center • MICE/ convention center • Sport center • Museum

Zone		Facility
		• Shopping mall • Military base • Public settlement
3	First expansion area	• National park • Orang Utan conservation • Public settlement
4	Second expansion area	• Metropolitan • Development area to adjacent provinces

How is the smart city concept operationalized?

Indonesia's government defines smart city as a concept that seeks to manage urban resources efficiently and provide public services effectively through the provision of accurate information and international-standard facilities. The aims are to improve public service efficiency and people's quality of life as well as to achieve sustainable urban development (BAPPENAS, 2020b; PUPR Ministry, 2019). The definition of sustainable development referred by the government follows the 1987's Brundtland Report, which is the development to meet current needs without compromising the needs of future generations (BAPPENAS, 2020b).

Technically, there are several smart city components to be implemented in the new capital city that are expected to achieve social, environmental, and economic sustainability, as shown in Table 3 below (BAPPENAS, 2002b).

Table 3. Smart city components planning in relation to sustainability outcome in Indonesia's new capital city project (Interviews and documents)

Component	Content	Expected outcome
Smart government	• Governance and public services that are faster, more efficient, effective, responsive, communicative, and continuously improve bureaucratic work through innovation and integrated technology adaptation (BAPPENAS, 2020a).	Social sustainability
Smart people	• A humanistic, productive, dynamic, and interactive community ecosystem with high level of digital literacy (BAPPENAS, 2020b). • Not only about technology that government is trying to promote, but also people's sustainable behavior (T.D.V., personal communication).	Social sustainability
Smart living	• Comfortable and efficient place to live (T.D.V., personal communication).	Social sustainability
Smart mobility	• Well-integrated intermodal transportation (BAPPENAS, 2020b).	Social and environmental sustainability

Component	Content	Expected outcome
	• Consider the use of energy-efficient transportation technology and smart vehicles such as autonomous cars to reduce emission (J.L., and T.D.V., personal communication).	
Smart environment	• City which can support people's walking behavior (T.D.V., personal communication). • Integrated environmental monitoring system assisted with smart technology to control pollution and monitor forest fire (J.L, E.T.P., personal communication). • In relation with forest city concept, technology such as drones could help to monitor forest. It can minimize cost, expand surveillance area, and result more accurate data (T.D.V., personal communication).	Environmental sustainability
Smart energy	• Use of RE as the main energy source, managed with smart grid application (BAPPENAS, 2020a). • Deployment of RE was not mentioned clearly in the interview. Yet it was mentioned that transition to RE might be gradual, because fossil fuel is still dominantly used for the initial phase of development (E.T.P., personal communication).	Environmental sustainability
Smart water	• Integrated and smart water recycle system. • Use of technology to monitor water quality in upstream part. • Collect rainwater with reservoir and infrastructure design (T.D.V., personal communication).	Environmental sustainability
Smart waste	• Build landfill or recycle center that can be monitored (T.D.V., personal communication).	Environmental sustainability
Smart economy	• Use of environmental services-based economy such as bioprospecting and forest commodity to generate income (E.T.P., personal communication).	Economic sustainability

6.2 Activists' contestation towards the project

Recurring statements I found a lot from activists who contest the project, show that whatever urban approach or concept used by the government, they reject the construction of the new capital city. Therefore, I recognized that confrontation shown by activists is not precisely about smart city concept per se but rather criticism towards relocation planning and the selection of East Kalimantan. Activists argued that the development must be based on a socio-ecological justice and free from the capitalist interest which in this case is clearly performed to serve the coal mining and industrial forests extractive business' interest (A.A.B; Y.I., personal communication). Hence, to answer RQ 2, I will focus and expand on the two aspects as shown in Figure 5 below.

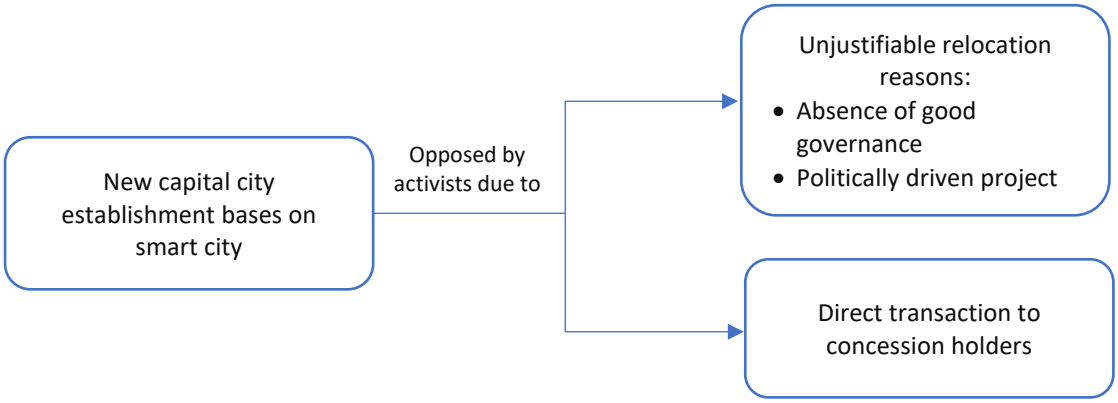

Figure 5. Opposition arguments expressed by activists (own illustration)

6.2.1 Unjustifiable relocation reasons: Absence of good governance and politically driven project

Section 6.1.1. revealed reasons used by the government to justify their plan in moving country's capital off Java. Contrarily, activists argued that the national capital relocation is not urgent (Y. T., Y. I., I. T., personal communication) because there are still many other agendas that must be prioritized by the government, as my interviewee asserted:

There are still many other resolutions that must be carried out by the government instead of moving and establishing the new capital city so that social justice mandate for all Indonesian people can be achieved (Y.T.).

Urgency to move country's capital is not so strong. If Jakarta can still be fixed, it should be fixed first through stricter law enforcement (I.T.)

Activists also argued that national capital relocation will not guarantee betterment of Jakarta (IT personal communication). They perceived that environmental and social crisis occurring in Jakarta is a result of poor governance (Johansyah et al., 2019; Y.T., Y.P., personal communication). Activists believed that the decreasing of Java's ecological carrying capacity happens because of government's failure to enforce regulations and control infrastructure development.

Moreover, an activist assessed that relocation of country's capital will not narrow down economic disparity between Java and the other islands. Y.P. (personal communication) argued, economic

equality should have been achieved beforehand as the government has adopted decentralization system which allows each province to develop regional economic potency with support from the central government.

Politically, Johansyah et al., (2019) contended that the megaproject of new capital city establishment is a form of political debt payback to oligarchs and businessmen who have financed the campaign for the 2019's presidential election. In the interview A.A.B. and Y.I. confirmed:

The reason to establish the new capital city is more driven to pay for a political debt. This analysis is based on pieces of knowledge we built and carried out before the announcement of 2019's presidential election result. This mega project became a political commodity of the ruling regime to pay extractive companies who have financed political campaigns in the general election period (A.A.B; Y.I.).

6.2.2 Direct transaction to concession holders

The second argument contested by activists is regarding reasons behind East Kalimantan selection. Activists highlighted that the land status being projected for zone 1, 2, and 3 of new country's capital on delineation of 180,000 ha is not a vacant land. It is state-owned land being utilized by private companies under the concession permit for oil palm plantations, coal mining, power plant, and pulp industry (see Figure 6) (A., personal communication). The core area (zone 1) covering an area of 5,644 hectares, is a concession land for natural forest production operated by a giant pulpwood company. Meanwhile, 42,000 hectares, within the capital city area (zone 2) is a concession land for planted forest production whose company is owned by a sibling of one of the current Indonesia ministers (Johansyah et al., 2019). The new capital city establishment project is predicted to benefit these corporations, which I will elaborate more in section 6.3.

Figure 6. Parcel of land planted with acacia owned by a large papermill company, will possibly be converted to zone 2 of national capital area (Massola, Rosa, & Rompies, 2019)

With the above facts, activists concluded that the deliberation of new country's capital location was done not based on consultation with the locals but with large enterprises who hold land concessions and close to the political elites.

6.3 Activists' assessment regarding the project

From the interviews, I classified four themes on how activists critically perceived the new capital city project which I explained below.

6.3.1 Lack of participatory process

The process of new capital city establishment seems untransparent and neglects civil society and indigenous communities' opinions. Most of the activists which represent CSOs I interviewed were never involved in the intense and impactful deliberation process. National Mining Advocacy Network's activist argued that decision making to move national capital is a crime against public participation and do not deserve to be called as a public policy because there has no public consultation process

especially with East Kalimantan people who will be most affected (Ramadhan, 2019). Similarly, although the government claimed that consultations have been held with locals, activists considered the process is not participatory and the information being disclosed is disproportionate (Y.T., A.A.B., I.T., personal communication).

6.3.2 Huge benefit to extractive industries

Activists remarked that, locals and indigenous groups would not benefit from the construction of a new capital. Instead, it will become a new burden for them (S.N.D., personal communication) and deprive them of their living space (I.T., personal communication). Contrarily, since the transactions are not carried out with locals (A.A.B., personal communication), mining companies and industrial forest concession holders who are close to the political elites are those who will benefit the most from the new capital city project.

This happens due to land swap mechanisms regulated in government regulation number 104 from 2015, concerning procedures for changing designation and function of forest area. Land swap, or exchange of forest areas, according to the regulation is defined as the change of permanent production forest and / or limited production forest areas to become a non-forest area that is compensated by replacement land from non-productive forest areas and / or convertible production forests into permanent forest areas (President of the Republic of Indonesia, 2015). This regulation means concessionaires will potentially get land in other regions to be swapped with their former land (Johansyah et al., 2019).

However, because the process is not transparent, activists are still unaware of how the compensation mechanism will be carried out. Nevertheless, activists believe that land swap mechanism will occur and is predicted to trigger deforestations and damage environment of other areas (A.A.B.; Y.I.; Y.P., personal communication).

Similarly, coal mining businesses who have not reclaimed the pits (Figure 7) will be free from their responsibility (Y.T., personal communication). This happens because most of the mining pits being left by companies are no longer actively operating, so the obligation to reclaim mining pits is shifted to the government (Petriella, 2020).

Figure 7. Aerial view of mining pit in Samboja Subdistrict, Kutai Kartanegara District, East Kalimantan Province (Gumay, 2019b)

6.3.3 Undesirable social impacts to locals

Besides the lack of public participation and disproportionate benefits to businessmen, activists also perceived that the new capital city establishment will cause adverse social impacts in East Kalimantan. At this stage, land speculators have emerged, and land prices in the North Penajam Paser and Kutai Kartanegara region began to soar (S.N.D., A.R., A.A.B., personal communication). Land prices in East Kalimantan before President Jokowi announced the location of new capital city was only around USD 60 - 1,850 per hectare. But since the province was chosen, land prices have surged to about USD 30,680 per 1.5 hectare (Massola, Rosa, & Rompies, 2019).

Marginalization of locals and loss of livelihoods are the other social impacts that activists are worried about, as most of Paser and Kutai people's livelihood are farmer and foresters (Yulaswati & Callista, 2019). Farmland conversion and water use for urban areas will threaten farmer's livelihoods (Y.T., personal communication). Cited from Massola, Rosa, & Rompies (2019), one of the Kalimantan tribesman stated:

This is a close-knit community. We don't want the big-city mentality. If I don't have coffee or sugar, I just go next door. I'm afraid the capital-city mentality will take over (Jubaen, a tribesman in Kalimantan).

Additionally, considering that the new capital city will be inhabited by 1.5 million of residents from Jakarta[3], it is feared that identity and economic disparity will emerge due to educational background gap and locals unreadiness adapting to urban environmental setting (A.Y., personal communication).

6.3.4 Environmental impacts

The new capital city establishment will worsen the ecological conditions of East Kalimantan, which previously has been damaged due to mining and industrial forestry practices (Y.T., personal communication). Urban infrastructure will decline local's environmental carrying capacity, disrupt natural landscape, and reduce forest cover (S.N.D.; Y.T.; Y.P., personal communication). Further, the large amounts of land needed for the national capital area and its future expansion will lead to more natural forest clearing and encroachment of protected forest area (Y.P., personal communication). Various Kalimantan endemic timber species, orangutans and their habitats are predicted to loss. Air quality of East Kalimantan will be declining because of large reliance on coal as a source of energy and haze resulted from forest fire (S.N.D., personal communication).

6.4 The alternatives of sustainable urban development

Activists, who explicitly reject the new capital city establishment regardless of smart and sustainable city concepts that government planned, urged the government to cancel the plan and restore Jakarta by reducing development permits and enforcing stricter environmental laws (A.R., personal communication). They also asked the government to restore East Kalimantan as quickly as possible by insisting extractive industry corporations to responsible for the environmental damage they created (A.A.B., Y.T., personal communication).

Other than that, if the choice to move the country's capital from Jakarta is the ultimate decision that must be executed, then it would be better to consider choosing for the existing city to avoid massive

[3] As country's administrative office will be relocated to the new capital city, it is projected that the people who work as civil servants in the central government institutions, including their family, will be moved too (PUPR Ministry, 2019).

land clearing impact. This alternative emerges because the current government's plan to build city on the land sized equivalent to 3.5 times of Jakarta size is deemed as unwise decision which would exacerbate deforestation rate (Y.P., personal communication).

Beside the above arguments, activists also mentioned some points regarding socially inclusive and environmentally sustainable city development. Civil society participation in formulating the vision and design of the city must be an important part. Input and criticism, or even dissensus, from civilians must be considered to make the process participative (A.R., personal communication). The government and urban planners must pay attention to society needs, such as the need for the common and widely accessible urban open spaces (A.Y., personal communication).

Meanwhile, to realize an environmentally sustainable city according to activists, the government must assess environmental carrying capacity comprehensively, use landscape approach to determine land suitability, and manage local natural resources wisely (Y.T., Y.P., A. Y., personal communication). The use of renewable energy must be highly considered to avoid greenhouse gas emissions and air pollution (S.N.D., Y.P., personal communication). The amount of green open space must be increased too (Y.P, personal communication). Imperatively, a new city must be climate-resilient, which in this case, is perceived by activist has not been addressed in the current inception planning stage (I.T., personal communication).

7 Discussion

The above results show that the smart city planned by Indonesia government does not promise a sustainable new city embodiment and instead is evaluated by activists as to serve oligarchs interest under the guise of city project. Therefore, the first part of the discussion will focus on the smart city criticism along with its contradiction between the city establishment project and sustainable development principle, especially those which relates to social justice and environmental sustainability aspect. Secondly, I will highlight the politicization and capitalization of the new capital city development which closely is linked to political-economic motives and involves commodification of nature. Lastly, dissensus-based approach for more socially inclusive and environmentally sustainable urban development will be discussed.

7.1 Neoliberal smart city project

From the results I obtained in RQ1, the smart city definition explicitly mentioned by BAPPENAS (2020b) and PUPR Ministry (2019) reflects what Martin, Evans, & Karvonen (2018) defined as a neoliberal smart city vision. The efficiency of urban services and infrastructure is directed to obtain economic benefits and is characterized by private parties' involvement in the development process.

Urban neoliberalism practice in the case study is reflected through funding scheme scenario in which the total cost of US$ 33.7 billion (IDR 466 trillion) will be sourced dominantly from private parties (see Figure 8). Of the total, the government proposed 19.2% from the state budget, 54.4% from the public-private partnership, and 26.4% from the private sector (Mufti, 2020). Financing schemes that involve more private parties raise the question, for whom is the new capital city built? The involvement of the private sector will threaten political transactions and potentially harm society, because private investment invariably expects economic gains (Y.P., personal communication).

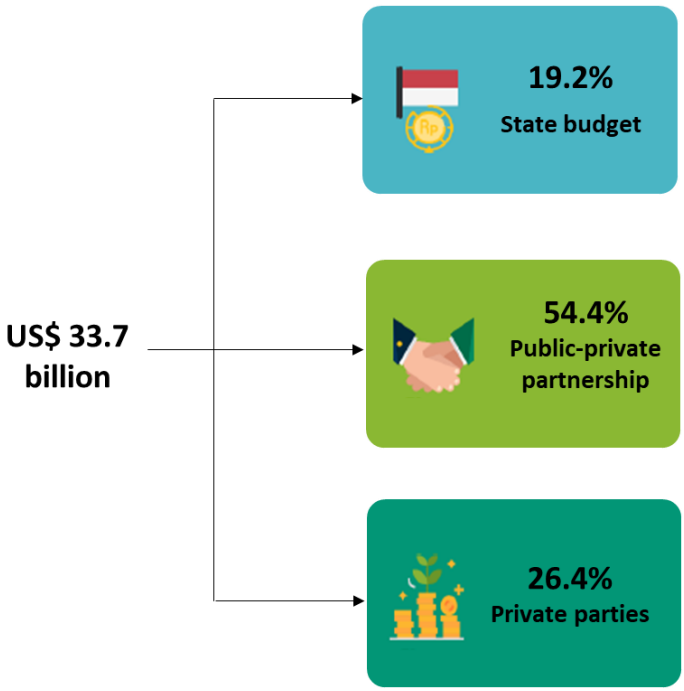

Figure 8. Three schemes to fund Indonesia's new capital city project (BAPPENAS, 2020c; Mufti, 2020)

The involvement of private parties to develop the smart city, as shown in Figure 8, has been announced by the government. Some foreign companies from the United Arab Emirates, the United States, and Singapore have shown their interest in investing in several sectors such as drinking water services, healthcare, waste management, telecommunications, housing, industry, and transportation sectors, (Mufti, 2020). From this point, it is clear that the project characterizes smart urban neo-liberalization practices (Brenner & Theodore, 2003; Kitchin, Cardullo, & Feliciantonio, 2018).

Beside reflecting neo-liberalization, the smart city component to achieve social, economic, and environmental sustainability as shown in Table 3 is too techno centric. Hollands (2008) and Viitanen & Kingston (2014) argue that the techno-centric approach will only benefit digital technology companies and create unequal distribution of economic growth. It is because the companies would be able to accrue profit from the digitization of urban services using the technology they provide. Recently, the largest Japanese telecommunications company, SoftBank has a plan to invest in the new country capital's smart city development. The company has met President Jokowi and the Ministers to discuss that matter in January 2020 (Japan Info, 2020).

Barthel, Folke, & Colding, (2010) also argue that environmental sustainability goals which depend on smart technology may disconnect people's relation with nature and erase their socio-ecological experience. Consequently, their capacity to manage natural ecosystems will decline (Colding & Barthel, 2013). In the context of Indonesia's new capital city, smart environment (see Table 3) with the use of technology system to control pollution, monitor forest fires (J.L., E.T.P., personal communication), and achieve energy efficiency may be more safe for the environment, but on the other side might lower people's sensitivity towards the ecosystem and its complex web of life (Colding & Barthel, 2017).

In addition to the criticism on the smart city model, I highlight the sustainable urban principle of social justice issue, which seems to be ignored in the development process of this project. My results confirm the empirical study by Xie, Tan-Mullins, & Cheshmehzangi (2019), which states that the smart city projects often involve complex state and non-state actors at various levels, but lack in public participation. The decision to build a new capital in East Kalimantan was perceived by activists as lacking transparency and neglecting locals' voices. Although the government claims that they have conducted public consultations with traditional leaders and local communities, activists consider it to be non-participatory and not accommodating of community concerns (A.A.B.; A.Y., personal communication). Thus, the likelihood of this project to create social injustice and marginalize local communities exists (Y.T., A.A.B., I.T., personal communication). Whereas, according Kumssa & Mwangi (2011), the lack of community participation can erode the goal of sustainable city.

Social injustice potentially occurs first at the land acquisition stage. Indigenous people would be susceptible, whose customary land often overlapped with forest conservation areas claimed by the government and concession holders. That could happen because indigenous people do not have legal proof of land ownership because, they have usually inherited the land from their ancestors (Yulaswati & Callista, 2019)

The second is the displacement of community villages as a result of the government's plan to restructure the surrounding new capital city area (A.R., A.A.B., personal communication). Although the government is not yet certain whether there will be villages relocation in the process of building the new capital area, BAPPENAS claims that displacement is likely to occur because some of the areas that are inhabited now will be vulnerable to floods within the next 100 years (T.D. V., personal communication).

Finally, social injustice in the form of marginalization to locals due to their inability to compete with urban migrants from Jakarta (A.Y., personal communication) and failure to adapt to the smart city technology (Hollands, 2008). This can happen because the average education background of East Kalimantan people is only a high school graduate, while Jakarta people at least have completed university degree level (Yulaswati & Callista, 2019). These findings reinforce Kaika's (2017) and Edita's (2019) arguments about urban development impact in the form of local's displacement and social inequality.

7.2 Politization of urban space production

7.2.1 Serve economic interest of capitalist

In this section I highlight how this project from UPE's perspective is endorsed by capitalists and motivated by political economy. It first is reflected from the decision over East Kalimantan as the new capital location, whose land status is a concession area managed by oil palm, paper, and coal companies (Johansyah et al., 2019). Although the government has its own arguments behind the East Kalimantan selection (see section 6.1), activists argue that it is strongly related to the land concession status owned by large companies who have strong relations with current ruling regime. The selection of East Kalimantan location will not only benefit corporation's concession holder through land swap mechanism but also through responsibility annulment especially for coal companies that left mining pits (A.A.B., A., Y.I., personal communication; Johansyah et al., 2019).

Under such conditions, it is arguably reasonable if activists perceive that this project will only favor corporates and political elites, because at its inception, negotiation and decision-making process are performed directly with them, not with locals or public. The extractive industries have their chance to secure their asset and are still able to run its business in other land located outside the new capital city

area due to land swap mechanism (A.A.B., Y.T., personal communication). This empirical result justifies UPE analysis in viewing urban development project that is dominated and controlled by elites for economic interests while on the other hand marginalize locals (Heynen, Kaika, & Swyngedouw, 2006).

7.2.2 Commodification of nature

New capital establishment on government-owned land concessions utilized by extractive industries also reflects commodification of nature practice. It encompasses the act of natural resources conversion into commodities that can be used, owned and changed (Heynen, Kaika, & Swyngedouw, 2006).

Transformation of forested land into urban areas is the first form of commodification of nature. The government, who has authority over the land, takes back the utilization permit from the concession holders and subsequently converts it for the new urban environment. Those actions have consequences on the enactment of land-swap mechanism, which could be regarded as the second type of commodification of nature. Land-swap takes place as a form of compensation to companies for relinquishing of concession land and in this case applies because it is regulated in the Government Regulation number 104 of 2015 concerning procedures for changing forest functions. In the regulation it is stated that industrial forest companies can propose the land-swap mechanism in the other areas of land (Johansyah et al., 2019).

7.3 Dissensus-based approach for sustainable development

In this part, I want to emphasize the importance of dissensus echoed by civil society to achieve sustainable urban development. my results reveal that urban development from scratch, with the enactment of smart city model, does not guarantee the accomplishment of sustainability goals. On the contrary, it reflects a neoliberal smart city project that aims to serve the interests of political oligarchies and corporates. Moreover, its development process does not reflect social and ecological justice value, instead potentially marginalizing locals and indigenous community and damaging the environment.

It is important to consider dissensus and contestation from civil society as an approach to realize sustainable urban development. Kaika (2017) argues, socially inclusive and environmentally sustainable city can be achieved through public dissensus practice, not through the government and

business as usual stakeholders' consensus with which often promoting smart city indicator and technology as the solutions for urban problems.

Dissensus practices for sustainable urban development is in line with the right to the city notion which emphasizes, first, the fulfillment of the right to participate in the decision-making process of urban environment production. Consequently, locals and civil society must be fully involved since the inception and given the opportunity to influence the policies being taken which affect their lives. Secondly is the right of appropriation, which means, civil society's right to access the city spaces (Purcell, 2003). The involvement of civil society in the city development projects can help to realize the city spaces they need. It can also eliminate potency of an exclusive city form that can only be accessed by certain group.

In the case of Indonesian new capital city establishment, the government should give activists and civil society the opportunities to participate in the decision-making and ask them whether it is necessary to relocate country's capital and build the new city. Extensively, if the choice to move the country's capital away from Jakarta is imperative for long-term consideration, then the government should be very attentive to locals whose existence and livelihood will be very disproportionately impacted.

My interviews with the activists show that the new capital city project does not have strong reasons and tends to benefit the political and corporate elites. Thus, the contestation articulated by the activists is more about insist the government to stop this mega project and focus to solving the social ecological crisis that occurred in Jakarta and East Kalimantan.

With the findings and analysis described above, my thesis contributes to a critical study of smart city concept with the emphasis on the reflection of neoliberal city vision that put economic growth as its primacy. It also reveals how its urban development process is contrary to the sustainable urban development principle in the value of socially equitable city. Additionally, exploration of dissensus from activists' perspective has the potential to become a method that can be encouraged by sustainability scientists to develop cities that are socially inclusive and environmentally sustainable with the extension of civil society involvement.

7.4 Further research

Considering this study was carried out in the early stage of the project plan and the process is still evolving, more critical research on the smart city and a thorough study regarding environmental and social impacts of the project need to be conducted. In addition, to get a more comprehensive arguments, the sample of the research group need to be expanded to local community of East Kalimantan who will be affected by this project.

8 Conclusion

The smart city approach embedded in the new city development project has been used as an approach to create a sustainable city. Yet, the smart city concept has been criticized by urban researchers as a concept that is not concerned with environmental sustainability and social justice issues. Similarly, the new urban production from UPE's perspective has the tendency to commodify nature, which will only benefit certain groups, while on the other hand cause social injustice and environmental damage. Using critical literature on the smart city concept and UPE, which function as a hatchet and seed framework, this thesis critically analyzes the case of Indonesia's new capital development which is opposed by NGOs' activists.

My results show that the dissensus expressed by activists is not merely about smart city concept being enacted in the new capital city establishment. But more on the basis principle on how it has been decided and planned which is perceived as lacking transparency, ignoring social and ecological justice value, benefiting extractive industries, and not resolving socio-ecological problems in Jakarta and East Kalimantan. Although activists briefly mentioned how technically a city can be claimed as sustainable, it is not the point that activists want to focus on. Rather, they strongly recommend that the government cancel the national capital relocation and new city establishment planning. Finally, they also ask government to restore Jakarta's ecological condition and resolve socio-ecological conflict that occurs in East Kalimantan.

This thesis contributes to how sustainable city development that promotes social and ecological justice value can be pursued with a civil society dissensus approach. In the future, all forms of development, especially in the urban context that will have a wide impact to people, should involve civil society in decision making process and placing people's right to the city above other else.

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Appendices

Appendix 1. Semi-structured interview questions

Questions for ministerial institutions:

1. Since when your institution is involved in the project?
2. What are the duty and roles of your institution in this project?
3. What is the background and objective of the new capital city establishment?
4. Why was East Kalimantan province chosen as the new capital location?
5. What kind of smart city concept that government is planning for?
6. Why this concept is preferred?
7. In what ways smart city concept will help and deliver the pursuit of sustainable urban development?
8. Has the government prepared for smart-sustainable manifestation? What to expect from the measure taken?
9. How does smart city vision relate to forest-eco city concept? What to expect from the measure taken?
10. Is your institution working together with any of related local governmental institutions or private parties? To what extent they are involved?
11. To what extent civil societies are involved in this project?
12. Was there any consultation process with local people prior to the designation of East Kalimantan as the location of new capital city?

Questions for local and national NGOs:

1. Can you tell what your organization is about?
2. Is the social and environmental pillar of sustainability part of your organization ideology?
3. When is the first time you heard about the new capital smart city project?
4. Regarding the new capital project, what does your organization think and perceive about establishing city from scratch and enacted with smart city concept?
5. From your organization perspective, what are the purpose of the new city establishment and reasons behind the national capital relocation?
6. Who will be benefitted the most from the project and why?
7. Have you or local community representative been invited by the government to take part in public consultation process?
8. Are there any social impacts to local community who lives in the new capital location? If yes, what are the impacts and does the government respond to that?

8.1. What is local community's general opinion regarding this project? (only for local NGO)

9. To achieve urban social inclusivity, in what ways or which aspect should the government address for?

10. To what extent does the project have impacts to the local natural landscape and ecological quality?

11. How do you think that the smart-forest city concept be able to compensate this impact?

12. To achieve environmental well-being, in what way or which aspect should the government address for?

13. Are there any other alternatives of urban development form that you envisioned for to make a city more sustainable?

14. Are there any other important points regarding this project that you like to share?

Appendix 2. Brief profile of interviewees

No.	Initials	Role/ Institution	Purpose
1.	J. L.	Head of regional arrangement of the new country capital task force team/ Ministry of Public Works and Housing	To understand reasons behind the new capital city establishment and know smart city concept that government is planning for particularly with regard to urban design and infrastructure planning
2.	M. S.	Staff of regional arrangement of the new country capital task force team/ Ministry of Public Works and Housing	
3.	S. K.	Staff of regional arrangement of the new country capital task force team/ Ministry of Public Works and Housing	
4.	E. T. P.	Director of Environmental Impact Prevention on Regional and Sector Policies at the Directorate General of Forestry Planning and Environmental Management/Ministry of Environment and Forestry	To understand reasons behind the new capital city establishment and know smart city concept that government is planning for particularly with regard to environmental aspect
5.	T. D. V.	Director of urban, housing, and settlement/Ministry of National Development Planning	To understand reasons behind the new capital city establishment and know smart city concept that government is planning for particularly with regard to city's grand design and masterplan
6.	S. N. D	Indonesia team leader/ 350.id	To refine interview questions and its flow; to explore activist's perspective regarding reasons behind establishment of the smart-new capital city, investigate the potency of social and environmental impacts and the alternative of sustainable urban development
7.	A. R.	Manager of spatial planning and GIS/ WALHI (Friends of Earth Indonesia)	To explore activist's perspective regarding reasons behind establishment of the smart-new capital city, investigate the potency of social and environmental impacts and the alternative of sustainable urban development
8.	A	Campaign staff/ Forest Watch Indonesia	To explore activist's perspective regarding reasons behind establishment of the smart-new capital city, investigate the potency of social and environmental (especially forestry aspect) impacts and the alternative of sustainable urban development
9.	Y. T.	Director/ WALHI East Kalimantan	To explore activist's perspective regarding reasons behind establishment of the smart-new capital city, investigate the potency

No.	Initials	Role/ Institution	Purpose
			of social and environmental impacts and the alternative of sustainable urban development
10.	A. Y.	Head of Campaign and Network Division/ Indonesian Legal Aid Foundation	To explore activist's perspective regarding reasons behind establishment of the smart-new capital city, investigate the potency of social and environmental impacts and the alternative of sustainable urban development
11.	Y. P.	Senior Forest Political Campaigner/ Greenpeace Indonesia	To explore activist's perspective regarding reasons behind establishment of the smart-new capital city, investigate the potency of social and environmental impacts and the alternative of sustainable urban development
12	I. T.	Indonesia Digital Campaigner/ 350.id	To explore activist's perspective regarding reasons behind establishment of the smart-new capital city, investigate the potency of social and environmental impacts and the alternative of sustainable urban development
13	A. A. B.	Program Director/ Trend Asia	To explore activist's perspective regarding reasons behind establishment of the smart-new capital city, investigate the potency of social and environmental impacts and the alternative of sustainable urban development
14	Y.I.	Staff/ Trend Asia	

Appendix 3. Notes from pilot interview

1) Pilot interview to government's representative was held on the 06th of February 2020, lasted 60 minutes in BAPPENAS office. The person whom I performed pilot interview is a staff at Directorate of Urban, Housing, and Settlement who has been working there since March 2019. I chose him as my pilot test respondent considering the relevance of his background who works under directorate office involved directly in the preparation of the new capital establishment. Overall, the pilot interview was running well, my interviewee has understood all of interview questions. One important feedback useful to improve the flow was to group several questions into each sub-theme so respondents know the type of questions being examined. Also, I have been suggested to not jump into other type of questions beyond the questions in sub-theme that is being discussed. Although I found the information that my respondent given to me was very comprehensive, I cannot include it in my analysis as he requested. Yet, the pilot still helped me to familiarize myself with the terms and background information.

2) Pilot interview to NGO's representative was held on the 12th of February 2020 via skype and took about 45 minutes. The person to whom I conducted pilot test is a team leader of 350 Indonesia and has concerns to the new capital city establishment plan. I selected her upon the recommendation of my colleague. Conducting online pilot interview helped me to predict any technical challenges that may appear and disrupt the process. In general, the pilot interview was good, and she gave me valuable input on how to make concise questions that can be understood easily by the interviewees. Also, I decided to include information she gave me in my analysis as she agreed on that.

Appendix 4. Informed consent

Surat Permohonan Izin

Sebuah penelitian mengenai analisis konsep *smart city* dan disensus dari perspektif aktivis organisasi non-pemerintah dalam kaitannya dengan pembangunan kota yang berkelanjutan: Studi kasus pembangunan ibu kota negara (IKN) baru Indonesia

Peneliti
Via Apriyani, MSc, Student, Environmental Studies and Sustainability Science,
Lund University, Sweden
vi0332ap-s@student.lu.se , +6287889096198, +46704356852

Tujuan studi dan latar belakang
Tujuan dilaksanakannya studi ini adalah untuk mengetahui rencana implementasi konsep *smart city* pada proyek pembangunan ibu kota baru dalam kaitannya dengan tujuan mencapai kota yang berkelanjutan; mengetahui dinamika proses sosial politik pada proyek tersebut; mengetahui disensus atau ketidaksepakatan pada proyek tersebut dari perspektif aktivis organisasi non-pemerintah lokal dan nasional; menganalisis potensi disensus tersebut untuk membangun kota yang inklusif dan berwawasan lingkungan berkelanjutan.

Apa yang dilakukan selama penelitian?
Pada tahap pengambilan data penelitian ini menggunakan metode wawancara kepada pihak pemerintah dan organisasi non-pemerintah (NGOs). Pemerintah, dalam hal ini diwakili oleh lembaga kementerian yang terlibat langsung dalam merencanakan pembangunan IKN baru. Sedangkan NGOs terdiri dari organisasi yang bergerak di bidang lingkungan dan sosial yang memiliki perhatian terhadap proyek IKN baru ini.
Narasumber organisasi pemerintah akan ditanyakan perihal seputar konsep *smart city* dan manifestasinya yang direncanakan diterapkan di IKN baru serta kaitannya dengan pencapaian tujuan kota yang berkelanjutan. Narasumber NGOs akan ditanyakan perihal disensus mereka terhadap rencana pembangunan kota baru dan kaitannya dengan konsep *smart city*.

Potensi manfaat yang diharapkan
Hasil dari penelitian ini diharapkan dapat menjadi rekomendasi bagi para pembuat kebijakan publik terkait pembangunan dan pengembangan wilayah kota yang berkelanjutan, khususnya pembangunan infrastruktur yang dapat memberi manfaat bagi semua pihak.

Partisipasi dan pembatalan partisipasi

Partisipasi Bapak/Ibu dalam penelitian ini bersifat sukarela. Bapak/Ibu memiliki hak penuh untuk membatalkan partisipasi dalam penelitian saya tanpa batas waktu. Ketika Bapak/Ibu menyatakan mengundurkan diri sebagai narasumber, segala data baik catatan penelitian maupun rekaman suara yang berkaitan dengan keterangan yang telah Bapak/Ibu berikan akan dimusnahkan.

Hasil penelitian

Hasil penelitian saya akan dapat diakses secara virtual di website Lund University pada tautan https://www.lumes.lu.se/alumni/lumes-alumni-and-theses setelah penyusunan *master thesis* ini selesai. Bila Bapak/Ibu menghendalki file tesis saya, saya akan mengirimkannya melalui surat elektronik pribadi Bapak/Ibu.

Pertanyaan lebih lanjut

Bila Bapak/Ibu memiliki pertanyaan lebih lanjut mengenai penelitian ini atau mengenai hak sebagai narasumber pada penelitian ini, dimohon untuk tidak ragu menghubungi saya pada email yang tertera di lembar permohonan izin ini. Bapak/Ibu juga dipersilahkan untuk menghubungi *thesis supervisor* saya, Sanna Stålhammar, pada alamat surat elektronik sanna.stalhammar@lucsus.lu.se atau kepada *Director of Studies*, Karin Steen karin.steen@lucsus.lu.se

Pemberian izin:

- Saya telah membaca surat permintaan izin atas penelitian yang dilakukan oleh Via Apriyani
- Saya memiliki kesempatan tanpa batas waktu mengenai keterlibatan saya sebagai narasumber dalam penelitian ini
- Saya mengetahui bahwa ketersediaan saya menjadi narasumber bersifat sukarela dan saya memiliki kesempatan untuk mengundurkan diri kapan pun
- Saya setuju untuk berpartisipasi dalam studi ini
- Saya mengizinkan Via Apriyani untuk mengadakan wawancara dalam proses pengambilan data terkait topik penelitian yang diambil.

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PO Box 170, SE-222 70 Lund, Sweden, Address: Biskopsgatan 5
Phone: +46 (0) 222 04 70
E-post vi0332ap-s@student.lu.se website http://www.lucsus.lu.se