

Aerotropolis: At What Cost, to Whom?

An analysis of social and environmental impacts of New Yogyakarta International Airport (NYIA) project, Indonesia

Ellen Putri Edita

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Supervisor: Maryam Nastar, LUCSUS, Lund University

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Abstract

Following the idea of aerotropolis, New Yogyakarta International Airport (NYIA) was initiated under Masterplan for Acceleration and Expansion of Indonesia's Economic Development to strongly promote the role of Yogyakarta as part of the economic and tourism centers in Indonesia. However, the establishment of this national strategic project is not without controversy. Groups of local people refused to be displaced because the airport development was built on their agricultural land, which served as the main source of livelihood for them. This project also raised environmental concern since there was a delay in its environmental permit. Using urban political ecology framework, this research investigates the connection between social and environmental impacts of the aerotropolis development in the region and the driving forces behind the decision to establish the project.

Findings reveal that aerotropolis project leads to local people suffer from displacement, relocation, poor compensation, and lost livelihoods as well as identity as farmers. The aerotropolis expansion also potentially sparks water shortage issue and shoreline changes because a lot of infrastructures will be developed to support the area. The social and environmental impacts in this area are driven by neoliberalism practice, which is performed by government of Indonesia through the involvement in bigger connectivity network and the implementation of public private partnership mechanism to support infrastructure developments.

Aerotropolis project from NYIA development, which was initially planned to reduce the high economic gap in Special Region of Yogyakarta province seems to exacerbate the existing condition. In the end, people who cannot follow the rhythm of urbanization that is created from this project will remain marginalized because they are left without any choice. Meanwhile, some other people will gain more economic benefit since NYIA will become an international gateway for more investment to come.

Keywords: Aerotropolis, socio-environmental impacts, infrastructure development, connectivity, economic growth, neoliberalism

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List of abbreviations

NYIA	New Yogyakarta International Airport
MP3EI	Masterplan Percepatan dan Perluasan Pembangunan Ekonomi Indonesia
RPJMN	Rencana Pembangunan Jangka Menengah Nasional
MoU	Memorandums of Understanding
ASEAN	Association of Southeast Asian Nations
MPAC	Masterplan of ASEAN Connectivity
BIMP-EAGA	Brunei Darussalam, Indonesia, Malaysia, and Philippines – East ASEAN
IMT-GT	Indonesia, Malaysia, Thailand – Growth Triangle
PPP	Public private partnership
SDG	Sustainable Development Goals

1 Introduction

Aerotropolis is defined as an area centered on a major airport and surrounded by development of non-aviation infrastructures, integrated transportation, and service facilities, which is functioned to gain economic benefit (Cyrek & Weltrowska-jęch, 2013; Kasarda & Appold, 2014). Following the idea of aerotropolis, New Yogyakarta International Airport (NYIA) was initiated as a strategic infrastructure project listed in Masterplan for Acceleration and Expansion of Indonesia's Economic Development (MP3EI)¹ (Regional Secretary of Special Region of Yogyakarta, 2017; Coordinating Ministry of Economic Affairs, 2011). Originally, MP3EI was an ambitious program that served as a starting point to transform Indonesia to be one of developed countries in the world by 2025. Located in Special Region of Yogyakarta province, Indonesia, the establishment of NYIA is anticipated to strongly promote MP3EI's mission in preparing city of Yogyakarta as part of economic and tourism centers in Indonesia (Coordinating Ministry of Economic Affairs, 2011, Widiyanto, 2017). Such a development will encourage multiplying effects for societies since it not only enhances airport service for societies, but also contributes for economic development locally and nationally (Angkasa Pura I, 2017). In the existing new government, the unrealized NYIA project, is adopted and continued under National Medium Term Development (RPJMN)² for the 2015-2019 period (Utama, 2017). At this moment, construction of this megaproject is rushing to meet deadlines. Because the airport is included in one of the national strategic projects, the construction process started in October 2018 is expected to be finished in April 2019 (Cabinet Secretariat of the Republic of Indonesia, 2019; Indonesia, 2017; Wismabrata, 2019). If the target can be achieved, construction of NYIA will be the fastest airport construction in the world (Wismabrata, 2019).

Apart from its crucial position in national development planning, the establishment of NYIA brings different layers of issues. The idea to transform productive land into airport led to refusal from local people to give their houses and land to the government. Their disagreement was based on the fact that most people who live in the airport area are farmers who are strongly dependent on agricultural land to earn money (Muryanto, 2018; BPS Statistics of Kulon Progo Regency, 2018). As a result of

¹ In Indonesian, it is called Masterplan Percepatan dan Perluasan Pembangunan Ekonomi Indonesia (Coordinating Ministry of Economic Affairs, 2011)

² In Indonesian, it is called Rencana Pembangunan Jangka Menengah Nasional (Ministry of National Development Planning, 2014)

defending their land, groups of local people who refused to be displaced experienced intimidation, such as physical violence, cut-off from electricity, and termination of road access from multiple stakeholders of airport development (Akbar & Muzayyin, 2018). Furthermore, this infrastructure development also sparks concerns about environment since there was an issue with the delay in its environmental permit (Muryanto, 2017).

The issues mentioned above illustrates infrastructure development is not without controversy. While the benefits of projects such as NYIA in terms of boosting economic growth is well promoted by policy makers and development agencies (UNECE, 2006; Wang & Sun, 2016), their social and environmental impacts have not been left unnoticed. Research on environmental impacts shows that infrastructure development is a driver for higher greenhouse gas emission, lower quality of water, and fewer amount of biodiversity (Tong et al., 2016, Beilfuss & Triet, 2014). Meanwhile, from a social perspective, infrastructure development frequently create tension with local people. Several studies show that infrastructure projects predominantly cause displacement, relocation, poor compensation, and loss of livelihood and identity of local people (Fernholz, 2010; Oh, 2018).

Given the context above, this research aims to analyze the driving forces behind the development of aerotropolis as well as the social and environmental impacts of the project in the region. The following overarching questions will structure this research:

RQ1: How has the aerotropolis been developed?

RQ 2: What are social and environmental impacts of the project?

RQ3: What are driving forces behind the development of the project?

In addressing these questions, this research will initially introduce the brief tension that arises from NYIA establishment, which is covered in Chapter One. Chapter Two will describe background information about national plans that lead to NYIA establishment and the importance of the airport along with its aerotropolis concept. Urban political ecology, which is employed as theoretical framework will be demonstrated in Chapter Three, while Chapter Four will cover methodology of the study. Chapter Five will provide results of study that encompass how the aerotropolis is developed and its social and environmental impacts. Chapter 6 will bring discussion about multiple driving forces behind the development of the project. Last but not least, Chapter 7 will provide conclusion and recommendation for further research.

2. Background

2.1 Masterplan for Acceleration and Expansion of Indonesia's Economic Development (MP3EI)

Masterplan for Acceleration and Expansion of Indonesia's Economic Development (MP3EI) was launched in 2011 by former president of Indonesia, Susilo Bambang Yudhoyono, as a response to dynamic condition of regional and global economic that creates more challenges for Indonesia future development. Located in the center of new economic gravity, which is East Asia (including South East Asia), Indonesia should prepare to face this phenomenon so that this country is able to foster economic development that can be evenly distributed for all people in societies. In hierarchical national plan of Indonesia, MP3EI is not an independent program because it is an integral part of existing national development planning, Long Term Development Plan 2005-2025 and Medium-Term Development Plan 2004-2009. In particular, MP3EI program aims to transform Indonesia into one of developed countries in the world by 2025, which has GDP of USD 4 - 4,5 Trillion and economic growth of 7 - 9 percent each year (Coordinating Ministry for Economic Affairs, 2011).

Unlike other programs that usually implement Business as Usual concept, MP3EI applies "Not Business as Usual" new way of thinking, which leads to new way of working and performing business (Coordinating Ministry for Economic Affairs, 2011). In the implementation, "Not Business as Usual" concept means that this approach will not be an ordinary work since there is an expectation of MP3EI to emphasize that a successful economic development does not only rely on the hand of government. In contrast, it has to be collaborated with all elements in societies and local government of 33 provinces in Indonesia (Sahaya & Arto, 2011). Due to the fact that Indonesia has limited state budget, the accomplishment of economic development of Indonesia will strongly depend on collaboration with private sector, including state-owned business and both local and foreign investors (Coordinating Ministry for Economic Affairs, 2011).

Within MPEI, there are three main integrated strategies in order to encourage the success of its vision. First is potential economic development through multiple economic corridors that represent their own region specialties. Aims of creating these corridors are to increase benefit of agglomeration, enhance regional potential, and lower inequality of economic development throughout the country. MP3EI divides Indonesia into six main economic corridors, which are:

- Sumatra as center for production and processing natural resources along with energy reserves
- Java as a driver for industry and service provision
- Kalimantan as a center for production and processing mining and energy reserves

- Sulawesi as a center for production and processing agriculture, fisheries, oil, gas, and mining
- Bali-Nusa Tenggara as a gateway for tourism and food support
- Papua-Maluku Islands as a center for food, fisheries, energy, and mining.

The development of economic corridors is performed along with infrastructure development to increase connectivity. As a result, the role of roads, airports, harbor is fundamentally important for achieving the purpose of economic development in Indonesia (Coordinating Ministry for Economic Affairs, 2011). Figure 1 illustrates map of economic corridors of Indonesia.

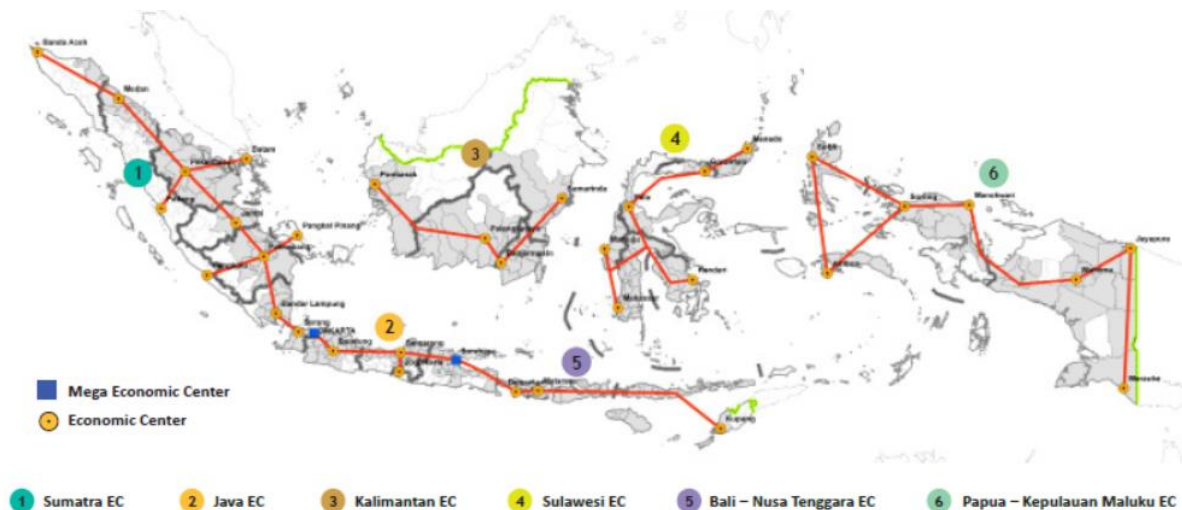


Figure 1. Map of Indonesia economic corridor. Source: Coordinating Ministry for Economic Affairs (2011)

The second strategy is generation of locally integrated and globally connected national economic connectivity. Locally integrated refers to a supportive system for flow of goods, services, and information within Indonesia, while the latter attributes to network that can connect Indonesia with other countries of the world by generating international entrance in seaport or airport. The third one is human resource along with science and technology enhancement to support economic development in the six corridors. Good human resources can help steering sustainable economic growth, considering that at this moment the economic growth is very dependent on capitalism system (Coordinating Ministry for Economic Affairs, 2011).

In the end of his leadership, President Yudhoyono only accomplished several projects that were planned in MP3EI. Lack of governance, land acquisition issues, and low interest of investment were among the main reasons why this program was not as successful as it was anticipated before (Indonesia Investment, n.d.). Accordingly, after the end of President Yudhoyono era, MP3EI vision has been adopted by elected president, Joko Widodo through National Medium Term Development

Plan (RPJMN) between 2015-2019 (Utama, 2017). Although term of MP3EI is no longer used by President Widodo, however, RPJMN 2015-2019 applies the same vision with it (Indonesia Investment, n.d.).

Similar with its predecessor, RPJMN 2015-2019 is developing strategic regions, which in MP3EI era are called economic corridor. The strategic regions, furthermore, will be developed based on their own potential capacity and connected through acceleration of infrastructure development. In this context, in order to enhance connectivity of the strategic regions, RPJMN 2015-2019 targets to build 2650 kilometer arterial road, 1000 kilometer highway, 3258 kilometer railway, and 15 new airports. Beside building new infrastructures, RPJMN 2015-2019 is also developing the existing ones, such as developing 24 existing seaports and 9 airports for air cargo services (Ministry of National Development Planning, 2014).

2.2 Aerotropolis and New Yogyakarta International Airport (NYIA) establishment

Under responsibility of Angkasa Pura, a state-owned company who has an authority to control airport management in Indonesia, New Yogyakarta International Airport (NYIA) is built in Temon sub-district, Kulon Progo district, Special Region of Yogyakarta province, Indonesia. The establishment of NYIA becomes a tangible solution to the prolonged problem that has to be faced by Yogyakarta, since its old airport, Adisucipto, could no longer accommodate more passengers nor be expanded because it is located in the middle of the city (Ramdhani, 2018; Angkasa Pura I, 2017; Yanuar, 2015). With a bigger capacity, NYIA is established on an area of 637 hectares that encompasses five local villages, which are Jangkaran, Sindutan, Palihan, Glagah, and Kebonrejo village (Angkasa Pura I, 2017). Figure 2 illustrates the location of NYIA.

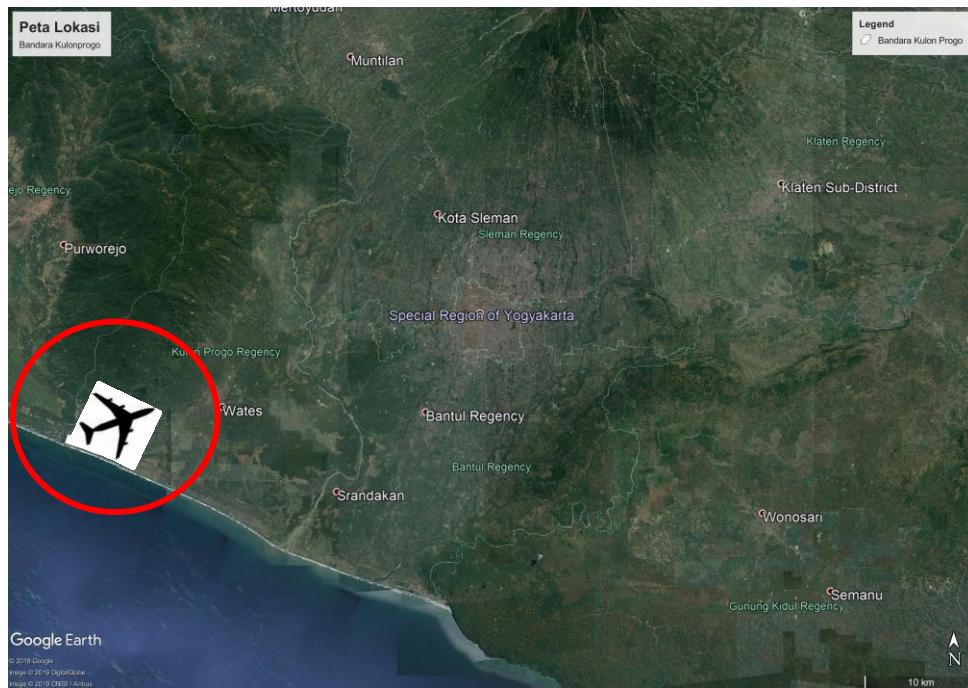


Figure 2. Location of New Yogyakarta International Airport. Source: Own illustration based on Google Earth

NYIA is a planned project of two consecutive national development plans, MP3EI and RPJMN 2014-2019 period (Utama, 2017). In MP3EI, Yogyakarta serves an important role because this city becomes a part of the economic centers in the Java corridor along with Jakarta, Bandung, Semarang, and Surabaya (Figure 3). As previously noted, the Java corridor is designed to become a driver for industry and service. Ministry of Industry (2016) indicates the government will focus to develop batik (signature fabric from Indonesia), leather, and timber industries in Yogyakarta as a response of MP3EI. Besides that, after the establishment of NYIA, fashion, culinary, and craft are the key targets of industrial development in Yogyakarta (Hanoto, 2018). Meanwhile, the service sector is linked with another role of Yogyakarta as the part of tourist destination cluster in Bali-Nusa Tenggara corridor along with Surabaya, Malang, Denpasar, Mataram, and Bima (Coordinating Ministry for Economic Affairs, 2011). In this regard, Special Region of Yogyakarta has prepared several strategic tourism areas within or outside this province (in a close distance) that can be pushed to increase economic growth from NYIA establishment. The tourism areas are Gunung Kidul Karst, Prambanan – Kalasan temples, city of Yogyakarta, south coast of Yogyakarta, Merapi – Merbabu mountains, Borobudur – Mendut – Pawon temples, and Dieng area (Special Region of Yogyakarta Development Planning Agency, 2018).

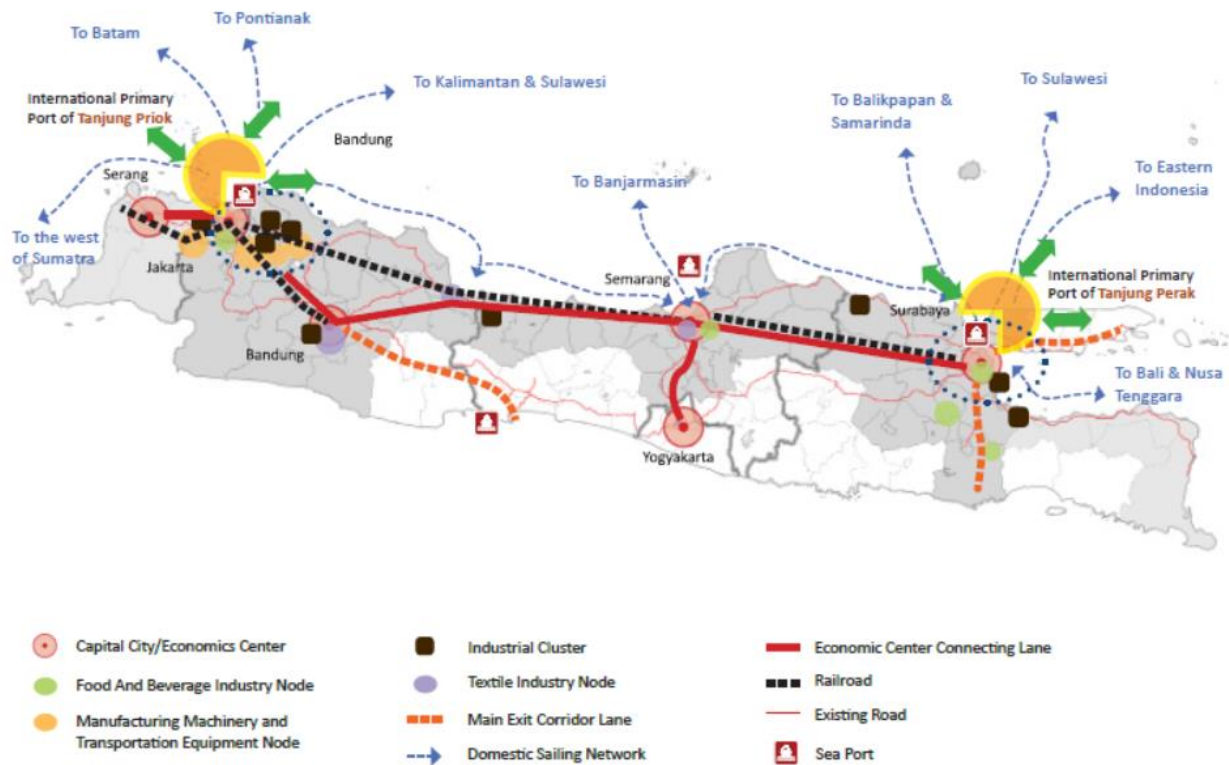


Figure 3. Map of center of economics in Java corridor, showing that Yogyakarta is connected with other big cities of this corridor. Source: Coordinating Ministry for Economic Affairs (2011)

Similar with the vision in MP3EI, Yogyakarta is also mentioned as one out of ten Indonesian’s metropolitan cities in RPJMN 2015-2019. Reflecting from these facts, the establishment of NYIA is essentially concerned in supporting the roles of the city of Yogyakarta in the future. Furthermore, both MP3EI and RPJMN believe that infrastructure development is a vital matter because it can escalate connectivity between center of economics so that economic development can be evenly distributed throughout Indonesia (Coordinating Ministry for Economic Affairs, 2011; Ministry of National Development Planning, 2014).

Based on Regional Secretary of Special Region of Yogyakarta (2017), NYIA is directed to be developed as aerotropolis. The aerotropolis of NYIA will occupy 1389-hectare area in total, spreading to a distance of 30 kilometers from the airport (Wardana, Firmansyah, & Laksana, 2017; Rasyid, 2016). The areas included in this coverage are Sleman Regency, city of Yogyakarta, Bantul Regency, and Purworejo Regency. In practice, the aerotropolis development from NYIA can potentially trigger wider region development (Rasyid, 2016).

The aerotropolis development serves an important role to foster economic growth of Special Region of Yogyakarta (Regional Secretary of Special Region of Yogyakarta, 2018). This is due to the fact that

that this province has the highest economic gap in Indonesia for the past years (BPS Statistic of Indonesia, 2019). Between four regions that owns by province, Yogyakarta and Sleman Regency has high regional GDP with 60%, while Kulon Progo and Gunung Kidul Regency only reach 21%. Connectivity, uneven infrastructure development, investment, and number of tourist are among the key drivers that leads to this massive gap. Responding to this, NYIA along with its aerotropolis is included in development priorities by government of Special Region of Yogyakarta to help overcoming the existing economic gap issue in Special Region of Yogyakarta (Regional Secretary of Special Region of Yogyakarta, 2018).

3 Theoretical framework

This research uses urban political ecology as a framework to understand interrelations between social, ecology, economy, and politics in the development of NYIA. Therefore, this section will look into theories on urban political ecology, which encompasses theory about production of urban environment, neoliberalism and role of the state, and uneven socio-environmental consequences.

3.1 Urban political ecology

Urban political ecology is a theory of urban research, which examines involvement of political concern in urban theory and implementation (Swyngedouw, 2015). From perspective of Marx, urban political ecology is a concept that helps unveiling interlink between economic, social, political, and ecological processes, which drives unequal and injustice urban generation (Swyngedouw & Heynen, 2003). The emergence of this approach is rooted in the fact that relation between urban and environment is frequently untouched since most of environmental relations strongly focus on sustainability and politics that create universal discussion, such as climate change, deforestation, and desertification (Heynen, Kaika, & Swyngedouw, 2006). Furthermore, there is a common perspective that recognizes cities as contradictory element with nature, ecology, and environment, leading to more exclusion of urban in environmental subjects. On the contrary, urbanization is initially a process of creating new as well as complicated socio-ecological relations through socio-ecological changes (Keil, 2003; Swyngedouw & Heynen, 2003). The continuation of urban nature formulation encompasses a power struggle of social actors to preserve and generate their environment. This happens within multiple types of conflicts, such as gender, class, or ethnic. Hence, urban political ecology is useful in seeking justice by tracing who gets benefit over others, or who is more vulnerable because of others in the process of socio-ecological changes (Swyngedouw & Heynen, 2003). It also

critically investigates who creates what socio-ecological arrangement and to whom it is generated (Heynen et al., 2006).

Based on Blaikie & Brookfield (1987), the transformation of nature in local or regional scale have a connection with global political economy. Here, the relation between environment and politics in local scale through political ecology is closely related with struggle of class, efforts of industrialization, and accumulation of capital (Robbins, 2012). Considering that the whole relations is very complex, it is crucial to determine precise variables that support causal relationship and appropriate scales so that relevant policies, which influence social changes can be tracked (Blaikie & Brookfield, 1987; Robbins, 2012).

Jerneck et al (2011) believe that sustainability science is a field of study that explores interaction between socio-ecological system. In this regard, the process of creating new socio-ecological relations in urban political ecology reflects connection between natural and social system in sustainability science since nature is inseparable element within urban practice. Furthermore, the interrelated nature and society relation in sustainability science should be understood through multi-scalar process, where global occurrence influences socio-ecological process in specific place (Kates et al., 2001). This makes sustainability science a suitable scientific field for urban political ecology studies as they encompass the connection between local socio-ecological changes and larger scale of political economy.

3.1.1 Production of urban environment

Urbanization is a transformation process from natural environment into built environment. This mechanism entails commodification arrangement, where nature is traded or monopolized for making the new environment (Heynen et al., 2006). Harvey (1996) believes that nature inherently exists in produced environment. Therefore, elements that look unnatural, such as river dams, cities, or irrigation tool, basically have natural aspects within them because they are results of historical socio-ecological process that involves power dynamics to determine access and control (Swyngedouw & Heynen, 2003; Bell, 2015). Based on Swyngedouw & Heynen (2003), the changes of socio-environmental condition along with historical-geographical production process constantly generate new “natures” in the new social and physical environment of cities.

From the lens of urban political ecology, nature that shapes urban environment is controlled and shaped by elite people with their own interest and eventually leave marginalized people in vulnerable condition. This process covers intersection between social, political, and economic

process from urban environment establishment (Kaika & Swyngedouw, 2000). From this interconnection, the uneven urban environment is created and at the same time causes uneven geographical development. The unequal geographical development from complex relation of socio-ecological changes in urban environment needs comprehensive realization of role of natural element which later shapes intended environment that reveals social power (Heynen et al., 2006). Robbins (2012) insists that social actors who have power and motives transform natural element with further indication of investment, social action, and urban politics into unavoidable phenomena in the city, such as higher rents, properties and fuel price, as well as more domination of people.

Infrastructure development is shown to have an integral relation with urban growth. In this regard, the urban infrastructures have the capacity to trigger land use changes and capital accumulation through political economy (Song, 2013). Based on Blake & Barney (2018), the socio-ecological changes caused by infrastructure development are affected by socio-political condition, which involves the intervention of state and transnational governance. Under capitalism, legitimized infrastructure development drives uneven urbanization by benefitting people who transform the nature environment, while leaving underclass residents to be displaced (Batubara, Kooy, & Zwarteven, 2018).

3.1.2 Neoliberalism and the role of the state

Harvey (2006) discovers that neoliberalism is a part of political economy operations, aiming to accelerate entrepreneurial release in order to enhance human welfare. Although practice of neoliberalism is frequently considered as free movement, it originally cannot stand alone because it is an interlinked practice that can bring more severe effects compared with capitalism (Heynen & Robbins, 2005). According to Banerjee-Guha (2009), the implementation of neoliberalism in city is reflected through privatization, increase of public private partnership in infrastructure sector, growth of gentrification, less involvement of the state in urban development, more challenges faced by elected government official in city planning, and higher global competition. Current trend shows that changing in law, regulation, and market encourage faster commodification of nature that leads to environmental inequalities. Under neoliberalization, the city generates unequal share of private capital, leading to formulation of specific price control in certain place. This system, at the same time, sparks inequality towards marginalized people since they become the side who lose from continuation of price control arrangement (Sassen, 1999).

Although there have been clear evidences that infrastructure development can potentially harm indigenous people and environment, the state tends to stimulate flow of infrastructure cultivation to

follow their own interests (Blake & Barney, 2018). Blaikie & Brookfield (1987) argue that the state transfers its power to elite groups or people. This accumulation of power perpetuates suffer of marginalized people through means of taxation, policy, and control of resources. Furthermore, under capitalist growth, the state sets specific policy that becomes a major tool for fostering industrial growth through infrastructure development (Brenner & Theodore, 2002). In larger scale, the national state also acts as a bridge to connect national economy with global market. In this regard, the state generates new forms of legitimacy so that global capital can emerge in a specific place. As global capital gets stronger and national government gets more internationalized, local people gets weaker because they no longer have power to resist this new transnational system (Sassen, 1999).

The economic motive behind state role in raising infrastructure development is closely related with political support that will be obtained by government. Ascher & Krupp (2010) argue that selection of infrastructure development, which will be run in a country is very dependent with time horizon. Government tends to choose infrastructures that will bring benefit to them in short period, so that they receive more recognition from it. This could also lead to lack of maintenance of infrastructure both in developed or developing countries. Ascher & Krupp (2010) report that government tends to only focus on construction process of infrastructure development, which can eventually attract more political return.

3.1.3 Uneven socio-environmental consequences

Investment in infrastructure development to create built environment comes with environmental and social issues in different scales. However, the biggest impact sparked from this project often happens on more local scale due to less attention of sustainability strategies in formulating integrated decision towards infrastructure establishment (Morrissey et., 2011). Drawing from this critical issue, Fernholz (2010) discovers that there are several issues that emerge because of social conflict created from infrastructure development on local scale. The conflicts consist of displacement, relocation, poor compensation, and loss of livelihood and identity.

Displacement has been widely recognized as a major impact of infrastructure development (Fernholz, 2010). In many occasions, infrastructure development is more visibly accompanied by violence and intimidation towards local people who oppose to be displaced or refuse to change their livelihood (Blake & Barney, 2018). After agreeing to the displacement, the problem that had to be faced by local people was still continuing. Fernholz (2010) argues that relocation of displaced people is a very complicated step since it is forced on local people, who neither have enough information nor power to defend their land. Moreover, Fernholz (2010) argues that compensation is often

misunderstood because relation between human and nature is very complex. This is related with the fact that local people have their own value and sense of identity towards their relations with natural elements.

From an environmental perspective, the physical formation of infrastructure can bring detrimental impacts by the degrading environment and destroying the ecosystem (Ascher & Krupp, 2010). However, frequently said as the only feasible solution that can be offered, infrastructure development tends to give implications that environmental impacts are not highly taken into account because of economic, political, and social relations (Islar & Boda, 2014). Pointing out from the process of urban environment generation, the uneven geographical development leads to uneven environmental impacts that are often experienced by low income people. An infrastructure project that aims to reduce environmental impacts on one hand, can create impoverishment and environmental vulnerability in different places on the other hand with the help of capitalism system (Batubara et al., 2018). Similar with this, low income communities have to face environmental impacts as a result of large scale infrastructure development, which is designed to embody government's ambition (Blake & Barney, 2018).

4 Methodology

4.1 Research design and strategy

This research implements case study research design. Based on Bryman (2012), case study allows intensive and specific investigation of a particular case. This approach is also suitable to fully understand multiple perceptions because it highlights deeper detail behind the problem (Flyvbjerg, 2006). In my research, I chose establishment of NYIA since it encompasses conflicts between local people and multiple stakeholders of NYIA development from various scales. From perspective of multiple stakeholders of NYIA development, the aerotropolis development of NYIA is recognized as a means to strengthen position of Yogyakarta as a center of economy and tourism in Indonesia that will eventually foster national economic growth. In local scale, such an effort is expected to raise regional income considering that this province has the highest economic gap in Indonesia (BPS Statistic of Indonesia, 2019). Meanwhile, tension arises when groups of people refused to be displaced from the airport area due to their dependency of agricultural land to make a living. Other than that, NYIA case is predicted to raise concern about environmental implications because there was an issue with the delay in its environmental permit (Muryanto, 2017). Another logic behind case study selection comes from Schramm (1971), who argues that a case study basically an approach to

observe a decision, which entails reason behind it as well as its implementation and outcome. Referring to this, a case study will ultimately help this research to get bigger picture of the decision of government to build a new airport in this region that leads to current pros and cons.

In terms of research strategy, the case study of aerotropolis development of NYIA employs qualitative research method. Bryman (2012) demonstrates that qualitative approach focuses on acknowledging social phenomenon through analysis and observation of shareholders. As noted before, there are different reactions towards decision of NYIA establishment. In this regard, qualitative method helps delivering comprehensive insights to reveal the interpretation of NYIA establishment of each relevant participant. Furthermore, qualitative research is frequently followed by inductive approach, where the theory comes up after performing observation (Bryman, 2012). However, in this study I mainly implement deductive approach because urban political ecology theoretical framework has been proven to be useful in previous similar study regarding infrastructure development (Banerjee-Guha, 2009). Additionally, as highlighted in Bryman (2012), qualitative research often reinforces purposive sampling because it highly considers unit selection in a strategic way in order to answer research questions. In this respect, I implement snowball sampling as one of purposive sampling types. Bryman (2012) defines that snowball sampling happens when researcher initiates the first relevant people or group as source of data. Later, these people give recommendation of other relevant participants, whom they think have experience of the specific case (Bryman, 2012). Choosing snowball sampling definitely gives me advantages. This is due to my limitation as a researcher who mostly depend on online sources to find contacts of relevant participants. By employing snowball sampling, I can reach information of participants, which cannot be accessed from online findings and make a contact with them. This mainly applies for participants who live in affected villages of NYIA establishment. This is also in line with consideration that local people in the airport area are very sensitive to new comers since the conflict of NYIA has come to surface. This occurrence is further explained in ethical considerations and limitations sub section.

4.2 Data sources and collection methods

Triangulation rationale is required for a case study research in order to reach multiple evidences that can cover many variables involved in a particular case (Yin, 2003). In line with this, triangulation is crucial to avoid misunderstanding in qualitative approach (Bryman, 2012). Patton (1999) believes that triangulation works perfectly in performing research because it does not rely on a single method to acquire data, which results in higher confidence in findings. This notion is fundamentally important because each method demonstrates different specific observational phenomenon. On the other

hand, cost, time, and lack of training become barriers in performing triangulation approach (Patton, 1999).

My research employs triangulation method for gaining primary and secondary data collection. In order to collect primary data, I conduct semi-structured interviews, focus group discussion, and direct observation. The semi-structured interviews and focus group were mainly performed in order to obtain perceptions from relevant people who experienced process of NYIA establishment themselves and gather different perspectives towards specific case about the airport. Data collection from these methods were mainly used to address the first and second research question about implementation of NYIA and the socio-ecological impacts from the project. Moreover, direct observation completed the findings because it brought up small details that were not covered by interview and focus group. Meanwhile, for attaining secondary data, I performed official document review. Besides supporting background of the case, document review was primarily conducted to answer the third research question about driving forces behind the decision to build the airport since the context of this question is not directly noticed by local people in the airport area.

4.2.1 Interviews

As an effort to gain comprehensive information from different perspectives, I performed semi-structured interviews between 29 January – 9 March 2019. Each interview lasted approximately 60 minutes. Bryman (2012) defines semi-structured interview as a method of interview, where interviewers prepared list of general questions beforehand. However, the questions can be further expanded as a response throughout the interview.

As noted before, snowball sampling was used to determine relevant interviewees. The first four persons/groups/network/research center I contacted are GRAIN (a non-profit organization based in Spain that supports small farmers and social movement around the world), Jogja Darurat Agraria³ (a solidarity network, which helps voicing agrarian conflict), Polgov UGM (a research center in Gadjah Mada University, Yogyakarta that focuses on politics and government issue in Indonesia), and a colleague of mine who has a friend that became a volunteer in the field when the tension between local people and the airport stakeholders started raising up. Together, they led me to other relevant interviewees. Overall, the participants of interviews were selected based on their involvement in the case of NYIA establishment. However, for local people, this research only focused on people who live

³ In English, it can be translated as Jogja/Yogyakarta Agrarian Emergency

in Glagah and Palihan village, because according to Angkasa Pura I (2017), these two villages are the most affected villages from airport construction with 1237 and 1139 plotted lands each that will be used for the sake of NYIA construction. Due to condition on the field, perception of people from Glagah village was investigated by group interview, while perception of people from Palihan village was investigated by focus group. The detail reason behind this selection is demonstrated in the next sub-section. In total, this research performed 12 individual interviews and 1 group interview. List of interviewees is displayed in Appendix I.

The data collected from interviews were interpreted using a thematic analysis approach. Bryman (2012) argues in thematic analysis, huge amount of data is categorized into subtheme and theme. For the first step of compiling data, I created my own mini transcription manually by writing all important bullet points from all interviewees. After that, I analyzed some similarities and difference between one bullet point to another to gain the subthemes. From this different subthemes, I created big themes. Here, I also elaborated the subthemes with the theory that I have to determine the relevant big themes. The big themes are reflected from the title of section in the results and discussion.

4.2.2 Focus group

Bryman (2012) indicates that focus group is a group interview which involves multiple participants and focuses in specific topic, where dynamic within participants will eventually construct general results. Benefit behind performing focus group is that this method can deepen insights towards people's perception of specific case because it enables every person who participates to investigate reasons behind their individual argument. This focus group aims to further investigate perception of local people in Palihan village as one out of two most affected villages from NYIA establishment. The reason why this activity can be categorized as focus group is because people who participated were the sides that agreed with Angkasa Pura's decision regarding displacement, relocation, and compensation of the affected people from NYIA establishment. This initial information was obtained from a person who connected me to this group of people. Furthermore, the focus group and its specific participants were managed under suggestion of representative of Palihan village because he perceived that not everyone in the village would be open and comfortable in performing individual interview. He also has sufficient understanding about involvement of people in Palihan towards NYIA establishment so that the participants of this activity came from different background. The variety of answers from different participants in this focus group became a foundation to analyze reason behind each participant's statement towards their agreement of Angkasa Pura's decision. In the end,

the focus group was held on February 27th and there were 6 people who participated in this event. List of participants is displayed in Appendix II.

Similar with interviews, the result of focus group is interpreted using thematic analysis. Both data from interview and focus group are elaborated into one comprehensive analysis to determine subthemes and themes.

4.2.3 Direct observation

Direct observation was conducted twice on February 23th and March 9th. The first direct observation is performed by surrounding the airport area with guidance from local person. In this regard, due to the fact that the airport construction has been started and only people who have official access can enter, the observation was only performed outside airport barrier. This activity mainly focused on noticing land use change that happened because of the airport construction, relocation area for displaced people, and the surrounding natural environment of the airport, including Glagah and Congot beach in Kulon Progo. The second direct observation was almost similar with the first one. However, in this step, observation was mainly conducted by focusing on small details around the airport construction area, which probably could give more clues for analysis.

4.2.4 Documents review

Documents review was performed to complement primary data collection in general. However, I specifically used documents review to answer the third research question about driving forces behind the decision to establish NYIA. This is because the data from interviews, focus group, and direct observation is mostly about the occurrence that were experienced by local people themselves. Meanwhile, the driving forces is not directly influenced the local people in the airport area. Therefore, documents review is used to address this concern. In this research, I refer to MP3EI document for the 2011-2025 period (Coordinating Ministry of Economic Affairs, 2011), RPJMN for the 2015-2019 period (Ministry of National Development Planning, 2014), environmental assessment document from the project (Angkasa Pura I, 2017), the economic condition of the affected villages (BPS Statistics of Kulon Progo Regency, 2018), regulation about acceleration of airport development and operation by president of Indonesia (Indonesia, 2017), concept of NYIA establishment (Regional Secretary of Special Region of Yogyakarta Province, 2017), highlighted tourism areas (Special Region of Yogyakarta Development Planning Agency, 2018), and news from local newspaper to obtain the current updates of the case.

4.3 Limitations and ethical consideration

Based on Bryman (2012), having consent forms, which are signed by participants in doing qualitative research can bring positive impact because they will be entirely acknowledged about the research, including their roles in it. However, consent forms can potentially turn into the biggest constraints of qualitative research because it will spark uneasiness in participant's perception that can lead to refusal. In this respect, this research did not use consent forms in each interview. Nonetheless, every single participant was informed about background, vision, and direction of this research as well as their role that can complement the whole analysis through direct conversation. For focus group, letter of permission addressed to head of Palihan village was created under suggestion of participants because this step involved several people in this village at once. Additionally, 11 interviews and the focus group were recorded after attaining permissions from interviewees. This means that the rest were not recorded to respect participants' opinion about recording.

Another ethical consideration from this research is about the group interview. In practice, the group interview was not formally executed. Previously, from the initial information that I obtained through snowball sampling, the people from Glagah village that I referred are the people who refused to be displaced. As such, I originally wanted to perform focus group with them in order to gain the opposite perspective from the previous one. However, when I asked whether it was possible to arrange focus group to participants' representative from Glagah village, I was informed that it would be impossible to execute it. He told me that on that time, the targets were very busy re-building their life mentally and physically after being displaced. He argued that it would not be a wise decision to gather them all formally and ask them about their past experience towards the displacement and current lives. Furthermore, on that time, the targets were building their new houses by their own, meaning that they did not have time to be interviewed. Therefore, he suggested me to do the interview informally. The group interview was executed with one person as a central interviewee, while the rest were involved while they were building houses and preparing their foods.

A major difficulty was encountered in contacting local people of Glagah and Palihan village. After collecting some information from first several interviews, some interviewees suggested to find the right person that can welcome newcomers to do research in the airport area. This was based on the fact that there was a tension, which involved different layers of people and purposes because of NYIA establishment. In this regard, some people start suspecting newcomers because they did not want the previous unpleasant occurrence to happen again. As a response, it took a while for me to

find the right local persons to be interviewed. However, with the help of snowball sampling, I received several contact recommendations that in the end welcomed me on the site as a researcher.

5 Aerotropolis: At what cost, to whom?

In this section, I analyzed how the establishment of NYIA through aerotropolis development reflects urbanization process that is intertwined with social, ecological, political, and economic processes. In the first section, I explained how NYIA is developed as a process towards aerotropolis in Kulon Progo. The second section illustrated the social impacts that happened because of the airport development. Due to a huge amount of social impacts that might overlap with each other, I categorized them based on combination between results of interview as well as focus group and the theory from Fernholz (2010), who focuses on detrimental impacts of infrastructure development in developing countries. Another reason for using the categorization outlined by Fernholz (2010) is that it encompasses the all social impacts from the overall process of NYIA establishment, which are before construction, during construction, and after construction. Meanwhile, the third section described the potential environmental impacts that will happen from aerotropolis development. Since the airport has not been operated yet, the environmental impacts will be explained by reflecting phenomenon that have been currently experienced by city of Yogyakarta because of increasingly widespread infrastructure development. Another environmental impact will be explained by looking at the previous trend of ecological change in the airport area.

5.1 The aerotropolis development

The establishment of NYIA is supported by different layers of government. On a national scale, this project received full support from President Widodo. Besides adopting this project in RPJMN 2014-2019, President Widodo also included NYIA project into one of the national strategic projects since 2016 (Cabinet Secretariat of the Republic of Indonesia, 2019). According to Committee of Accelerating Priority Infrastructure Provision (2016a), the national strategic projects refer to the projects, which are regarded as important and urgent for fostering Indonesia's economic growth. In more local scale, Governor of Yogyakarta shows his supports to NYIA establishment by giving permission and recommendation for constructing the new airport in Kulon Progo district. The same supports come from Regent of Kulon Progo who gives recommendation and provides letter of statement of spatial planning availability (Angkasa Pura I). Besides multiple legitimation supports, NYIA also received financial support from GVK Group from India through public private partnership

scheme (NGO1; Susanty, 2016). In 2011, this company has signed memorandums of understanding (MoU) to fund the NYIA project (Susanty, 2016).

Looking at what is happening right now, RS2 believes that concept of aerotropolis that is used by NYIA is very related the vision of MP3EI to foster larger scope of economic growth. By using this concept, area around NYIA will be developed as commercial spaces, offices, housings, public facilities, industries, and warehouses (Regional Secretary of Special Region of Yogyakarta Province, 2017). Figure 4 shows how aerotropolis concept of NYIA will be implemented in the future.

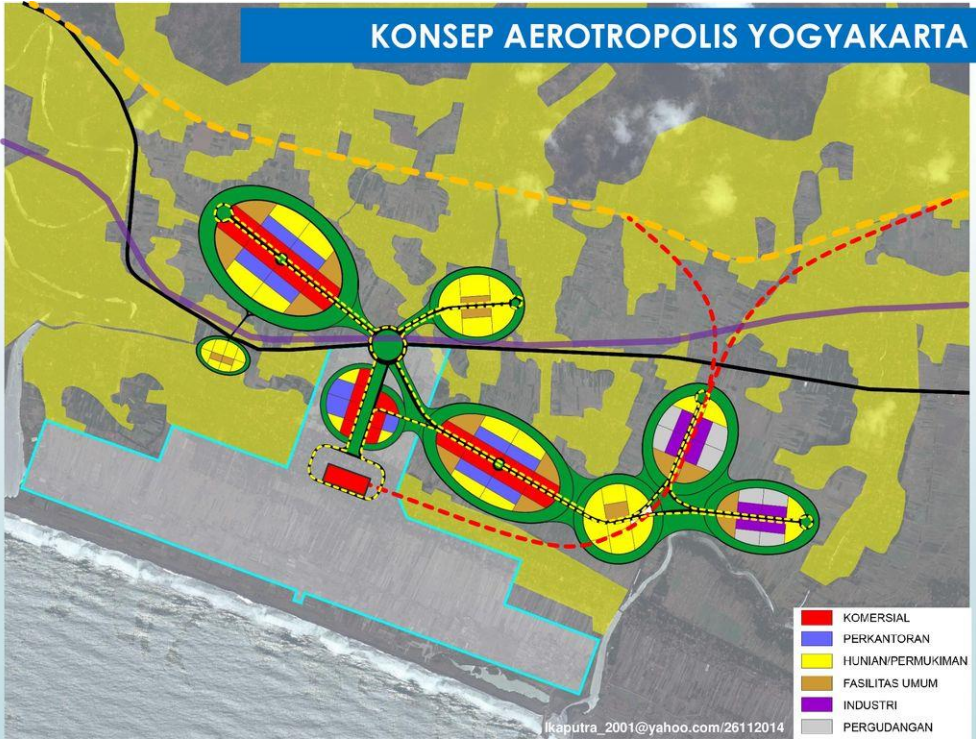


Figure 4. The aerotropolis concept of NYIA, illustrating different land use plans in the area around the new airport. The different colors description: red is commercial area, light purple is office area, yellow is housing area, brown is public facility, dark purple is industrial area, and grey is warehouse area. Source: Regional Secretary of Special Region of Yogyakarta Province (2017)

Besides main facilities, the aerotropolis will be supported with integrated transportation network, considering that the new airport is planned to be able to accommodate up to 20 million passengers per year (Fauzi & Putriani, 2017). In response, RS2 demonstrates that the airport will not stand alone without train access. In order to accommodate this access, Angkasa Pura will build Kulon Progo train station on 2400 m² area, which connects to two nearest existing train station from NYIA, Sentolo and Wates (Angkasa Pura 1). Wojo and Kedungdang train station will also be activated to support the train network (Fauzi & Putriani, 2017). Besides train access, Fauzi & Putriani (2017) demonstrate that

local government of Yogyakarta has prepared connecting road between the airport and Borobudur tourism area. Furthermore, establishment of South ring road underpass of Special Region of Yogyakarta province have been arranged in order to make NYIA more accessible for people, not only from Indonesia, but also from other countries (Fauzi & Putriani, 2017; Nugroho 2019). In larger scale, Purnomo, Hidayat, & Kumoro (2019) report that a toll road project that links Solo, Yogyakarta, and Semarang is under preparation. This 148 km toll road in total with IDR 12 trillion investment will connect three airports along its way: Adi Sumarmo, NYIA, and Ahmad Yani. Figure 5 illustrates the transportation network of the aerotropolis.

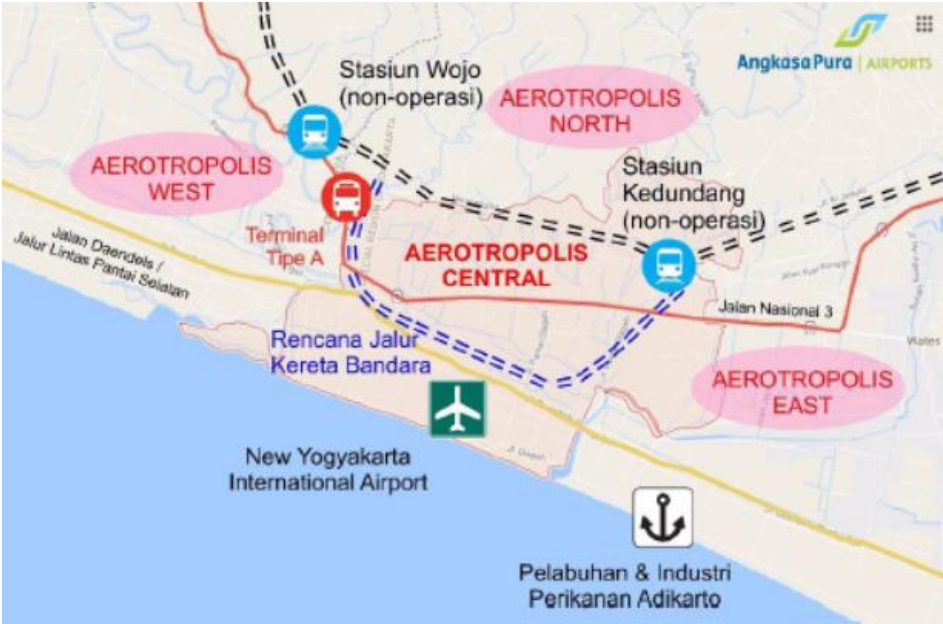


Figure 5. The transportation network to support NYIA and aerotropolis. Source: Fauzi & Putriani (2017)

Developing aerotropolis concept means one certain thing, NYIA will be a magnet for people to come (RS1, RS2). LP1 shows that several areas near the airport have been plotted for building hotels. In the last few years, there was growth of property investment in Kulon Progo. The growth started peaking in 2018, when seven hotels were attracted to invest in the areas around the airport due to their strategic locations. Such investments have never happened before in Kulon Progo (DPMPT Kulon Progo, 2019). Since the issue of NYIA came up, land is becoming a promising business in Kulon Progo for the people who have land or the people who have money to buy land because price of land in Kulon Progo is significantly increasing overtime (RS1). In many circumstances, local people who have money started buying land that can be sold later so that they will get multiple profits in the end (RS1). Current condition shows that all the road that head to the airport are filled with banners that

advertise land. Most of them work in the same way, highlighting how close the land is to the airport (Figure 6). This means that the airport is a high selling points to attract investors.



Figure 6. Land sales banner along the way to NYIA. Each highlights its close distant to the airport. Source: Own picture from the field

Furthermore, according to NGO1, establishment of NYIA will be integrated with a vision of Yogyakarta as a MICE (Meeting, Incentives, Convention, and Exhibition) city. Based on Nugraha (2015), Yogyakarta is very potential to be a MICE destination since it already has supporting facilities and infrastructure, such as multiple hotels with huge capacity to accommodate a lot of people. With the existence of a new airport, Yogyakarta is expected to attract more tourists and people to come because this city is more accessible locally and internationally (Metasari, 2019).

The ambience of economic excitement from NYIA establishment is not only experienced within Yogyakarta, but also its surrounding cities and province. Hernawan (2018) argues that as the closest city from the airport with only seven kilometers apart, Purworejo is ready to take opportunities from the existence of NYIA. Although this city is not a part of Special Region of Yogyakarta province, the close distance to the airport is a plus point that is not owned by other cities, even the city of Yogyakarta itself, which is located 40 kilometers away from the airport. Since the construction of NYIA began, Purworejo has experienced the effects of the increased development. This fact is shown by rising land prices along the main road of Purworejo to NYIA. Therefore, in order to maximise the economic benefit, government of Purworejo is taking a lead to light up economic atmosphere in this city by preparing shopping centers, warehouses, industries, tourism centers, housing estates, hotel, and port in the next two years (Hernawan, 2018; Suyitno, 2019). Similar with Purworejo, city of

Kebumen also does not want to miss the golden opportunity. RS2 believes that with the presence of NYIA, some parts of Kebumen are potentially designed as centers of giant industries. Supriyanto (2018) showcases that Mirit and Ambal district has been proposed to be included in the new Kebumen spatial planning document as industrial areas in response to the airport construction that will be completed in the near future.

5.2 The social impacts

Behind the domino effect of economic growth that is affected by NYIA, the establishment of NYIA leads to suffering of local people in many ways. Following from what has been outlined by Fernholz (2010), local people in NYIA development area have to endure four major detrimental issues, which are displacement, relocation, poor compensation, lost livelihoods and identity.

5.1.1 Displacement

Being constructed on 5 villages in 637-hectare area, NYIA has a big issue in land clearing procedure because it entails the process of displacing people of Glagah, Palihan, Sindutan, Kebonrejo, and Jangkaran from the prospective airport area. The land clearing process, which came first in the overall NYIA establishment procedure is probably the most controversial step of the project because it highlighted the struggle of local people to defend their land (Muryanto, 2018; Utama, 2017; Akbar & Muzayyin, 2018). On the other hand, as was mentioned before, construction process for NYIA development had been supported by permissions and recommendations from different layers of government of Indonesia. Other than that, Angkasa Pura had a tight deadline for land clearing and the displacement process because President Widodo through Law Number 98 of 2017 has officially instructed this company to accelerate construction and operation of NYIA megaproject so that this airport can be finished by April 2019 (Indonesia, 2017). Such supports from national to local government of Indonesia become a huge power for Angkasa Pura to execute displacement by saying that NYIA is built for the sake of Indonesia (Kepal SPI, 2017).

Angkasa Pura 1 (2017) notes that in total, there were 2600 families that needs to be displaced for the sake of the airport development. However, the displacement process was not run as smooth as it was expected because people were separated into two main group. The first group consist of people who agreed with the displacement, while the rest is the people who disagreed with this movement.

In the struggle to secure their land, issue of exclusion is experienced by local people who refused to be displaced. NGO2 indicates that there is corruption of information in socializing NYIA to local people. In accordance to this, local people who opposed to be displaced were not allowed to join

discussions between Angkasa Pura and local people (VT3). They were not allowed to enter the discussion room even though they brought the official invitation letter from Angkasa Pura (LP11).

In contrast, another version of the argument comes from village officer. LP3 perceives that local people who opposed displacement always refused to come to meetings with Angkasa Pura, although they had been invited for many times. Responding to this, VT1 argues that that in practice, coming to the meetings with Angkasa Pura was sometimes considered as an agreement towards the airport. This finding probably becomes the reason why people who opposed displacement refused to join the discussion of airport establishment. Furthermore, the crucial role of NYIA in MP3EI and RPJMN 2015-2019 period as well as national to local government supports of this megaproject possibly implied a tendency of people who opposed the airport and the displacement for not coming to the discussion because whatever they argued, the airport construction will still be continued.

As time goes by, the number of local people who struggled to defend the land started decreasing. VT1 demonstrates that in the middle of displacement process, there were 100 families, which still live in their own houses inside the airport area. However, this number kept decreasing to 35 families and eventually only 15 families were left in the last struggle (NGO2, LP11). The falling number of people who disagreed was mainly rooted from the fact that there was oppression and violence treatment, which were performed by Angkasa Pura, police, and state-owned electricity company to local people who chose to stay in their land (VT1, VT2, NGO2, RS1, GO1, LP11). Many evidences showed that people who refused to sign agreement of displacement experienced electricity cut, houses and cultivation yields damage by heavy machinery without prior notification, road access destruction, and criminalization (VT1, VT 2, NGO2, RS1, GO1, LP11).

The people dragged to leave their houses (NGO2)

They use military practice to force them to leave (RS1)

They even ruined my agricultural yield that had just been harvested (LP13)

Due to continuous oppression from the airport stakeholders, several local people who still stood for their belief to refuse displacement lived in tents inside the airport area because they no longer had houses but they did not want to leave their land. There, people lived with limited facilities and poor air quality because of the large amount of dust from the construction process that had begun (LP2, LP11, LP13).

In the end, the land clearing was ultimately successful for Angkasa Pura since there was no house or tent left in the airport area (NGO2, LP2). This practice also shows that strategy used by Angkasa Pura

to sterilize the airport area was working because it positioned local people without any choice but to move (LP2, LP11).

5.1.2 Relocation

In the case of NYIA, something that has to be underlined is that people who agreed with relocation did not necessarily mean that they agreed with the airport.

We are here now, not because we agreed with the airport. Since the airport is built for the sake of the country, we have no option. We sacrificed our land. Therefore, our land is not sold by us. It, instead is needed by this country (LP10)

Based on statement above, we can observe that NYIA is a forced project by multiple entitled stakeholders, leading to powerless people without any option. Furthermore, using Indonesia as a logic behind Angkasa Pura's command to make people agreed to move from their land (Kepal SPI, 2017) is proven to be effective reasoning because LP10's response demonstrates the same logic for the displacement.

In implementation, each of five affected villages has its own relocation area. This relocation area, unfortunately, is not free from payment. People paid for the land and cost of building construction while Angkasa Pura took care of technical procedures in building the houses (LP9, LP10). Regardless of the obligation of people to pay for their new houses, moving to new places does not automatically imply that the problem of displaced people end. LP9 states that he has to wait for another one month in the process of movement to new houses, because on that time his house was not ready yet to be lived. This implies that Angkasa Pura was not well-prepared in taking care of people after displacement process. This issue would be a crucial deal if people who agreed to move did not have another place to stay, while their new houses were still in the construction process. Additionally, although some people think that their existing new houses and neighborhood are more organized, however some elements are irreplaceable in comparison with their previous life. In this regard, they refer to the current condition of their neighborhood that transforms into more urban area. Moreover, the distance between one house to another becomes very close because they no longer have yard. They also no longer have land to be cultivated (LP10). Overall, the current condition in NYIA relocation areas illustrates how forced infrastructure development can produce socially changed life of inhabitants. Figure 7 shows relocation area of Palihan village.



Figure 7. Relocation area of Palihan village. Source: Own picture from the field

5.1.3 Poor compensation

Compensation is closely related with the relocation topic. Before being relocated, land and property of people from Glagah, Palihan, Sindutan, Jangkaran, and Kebonrejo village were appraised by Angkasa Pura to determine how much money they would receive for compensation. Field condition shows that the appraisal process strongly depends on people's reaction towards relocation. The compensation money was smoothly received by people who agreed to be relocated, unless there was internal conflict in their family (LP9, LP10). In contrast, people whose land refused to be appraised had a hard time getting their rights in the end (LP11). Other than that, transparency becomes another issue that differentiates treatment experienced by people who agreed to be displaced and the people who opposed it. For people who agreed to be displaced, from the beginning, the appraisal process that led to compensation was smoothly run. LP10 reports that his house, yard, and agricultural land were counted separately to each other in the appraisal process. This process seemed fair until LP10 questioned about the price given by Angkasa Pura into each asset. This was because he found that the price was significantly different between one house to another, although previously they lived in the same neighborhood.

Worse condition was given to local people who opposed the displacement. LP11 indicates that there was no detail regarding the money he got in the end because since in the beginning, he refused his land to be appraised. As a result, he only received little amount of money, which was not enough to support his family (LP11).

Since Angkasa Pura did not have a chance to measure their land and property assets, consignment process was chosen by this state-owned company for people who refused to be displaced. In the consignment process, Angkasa Pura put the money of people who opposed displacement in court so that the people could take it themselves in the end (NGO2, GO1, LP11). However, besides long and difficult bureaucracy process that makes people who opposed displacement became more vulnerable, this process was also misinterpreted by Angkasa Pura (VT2, LP11, GO1). This state-owned company used consignment as legitimation to displace people who opposed the displacement from their own land. Therefore, as was mentioned above, the violence treatment in displacement process became unavoidable. This shows that on one side, people who disagreed with displacement were never declared their agreement to be displaced or appraised. On the other side, Angkasa Pura felt that they have authority to displace people from their land because they have performed consignment (GO1). Angkasa Pura or other relevant stakeholders of NYIA establishment always think that natural resources can always be valued through economic benefit. On the contrary, it is more complicated because it is closely related with living space. This complex issue is something that was not understood by the government (LP2, LP11)

5.1.4 Lost livelihoods and identity

Issue of livelihood becomes a huge concern in the development of NYIA. As the main source of local people's livelihood, agriculture has significantly contributed to regional income of Kulon Progo (BPS Statistics of Kulon Progo Regency, 2018). With the airport establishment, land use is forced to change from agricultural land into airport area. This occurrence leaves local people in five affected villages without land to be cultivated. From the lens of current livelihood, LP9, a person who agreed to be displaced reveals that at this moment, he does not have activity and occupation because previously he only relied on cultivating rice paddy and chili from his land. In order to support his family, he only depends on the money he received from compensation, which was already reduced to buy the new land that is now built as his house. Similar with this, LP10 also cannot be a farmer anymore because he has no land. However, the condition of LP10 is better in comparison with LP9 because he has part time job in regional branch of national electricity company, which he had before his movement to the relocation area.

Both LP9 and LP10 are still waiting for the responsibility of Angkasa Pura to give them new jobs. Before the displacement process, people from Angkasa Pura had mentioned that local people will be prioritized to receive jobs from the airport. They also performed surveys with the local people to collect data about what kind of current skills they had and what skills they wanted to develop in the

future. By having that data, Angkasa Pura promised to facilitate training centers that could be used to prepare local people to work in the airport, whether in construction or operation process. In turn, this promising effort did not entirely work. After people were successfully displaced and the construction of the airport began, Angkasa Pura said that only people below 35 years old could be included in training centers. This result was very unexpected considering that a lot of farmers have exceeded 35 years old (LP4; LP5; LP6; LP7; LP8; LP9; LP10). Moreover, the current skills that local people filled in the surveys did not change anything, because until this moment, there is no work call from Angkasa Pura (LP9). In reality, more people from outside Kulon Progo currently work in the project (LP7, LP9). In this sense, LP9 felt that Angkasa Pura has lied to him because what happened in the field was not as they promised before. Despite everything that has happened, local people still hope that in the future they will get decent jobs from the project. They do not want to only become viewers in their own land (LP7). Sadly, this concern is only experienced by the people whose houses or land were displaced. For the people who did not experience both such as L8, the anxiety is not there. L8 believes that life is dynamic, therefore they have to be clever to adjust and adapt with current situation. This statement implies that people should try to find another job instead regretting themselves for no longer being farmers or waiting for job offers from Angkasa Pura.

A different story comes from people who were opposed to being displaced. LP11 argues that being a farmer is everything for him. In this sense, he points out that farmers have their own daily activities and capacities to manage their work time because they do not work for somebody else. Due to this reason, being a farmer in his own land is the only choice that he has for the rest of his life. LP13 also adds that being a farmer is a stable job that can support his family over time. He was also very glad to cultivate the land of Kulon Progo because in each harvesting time, he could produce up to IDR 5-6 million. In other words, their land has been really attached with their identity as farmers. Here, people who opposed the displacement put high value on their land because it is the part of their true identity as farmers. Continuing from the compensation issue, the value of land and identity as farmers are the elements that were not acknowledged by Angkasa Pura and other stakeholders of NYIA development since they valued the land only with money. Angkasa Pura perceived that the problem was over only by exchanging local people's land with money.

Ending up without having enough money from consignment process, LP11, LP12, LP13, and LP14 have to look for loans to start their new life. At this moment, they are building their houses on their own. Also, LP11 has to rent land from somebody else to be cultivated because he still wants to be a farmer. However, it costs him more than if he has his own land. A better condition might be experienced by him if he agreed to be displaced and received the compensation money from

Angkasa Pura. However, with current struggles to survive, LP11 confesses that he has no regret about what he is facing right now. He thinks that it is all a risk of struggle to defend his land and keep his identity as a farmer.

Of course, this struggle can only be understood by local people who experienced it themselves. Even, GO1 as representative of government official in Yogyakarta, who received discontent report from the local people affected by airport establishment said that the compensation that was given by Angkasa Pura was already good. However, behind that good parameter, the identity of the farmer and value of the land were not taken into account or they were only simple matters that would never have crossed their mind to think about.

The establishment of NYIA shows that the production of urban nature from agricultural land forces local people who previously relied on this resource to make a living and highly uphold their identity as farmers become the most vulnerable side. Furthermore, the people who were lied to Angkasa Pura regarding job availability in the project cannot be excluded in this suffer because until this moment, they have no other source of income, other than the compensation money. Unfortunately, this suffering will likely continue in the future as the aerotropolis concept will be implemented.

5.3 The environmental impacts

Besides social impacts, environmental concern arises as the magnet of NYIA started working. NGO1 indicates that water shortage is shadowing the NYIA development. This concern is not without reason. Manifesty (2011) reports that since 2011, city of Yogyakarta has experienced massive growth in hotel developments. This phenomenon was taking a role to help tourism sector in contributing to Yogyakarta's income growth up to 25,38%. Such a progress in economy, unfortunately, was not balanced by environmental condition. In order to run their operation, hotels in Yogyakarta required a huge amount of groundwater. Groundwater is chosen by majority of hotels in Yogyakarta because it cost them less than if they buy water from local water company (Ais, 2018). At the same time, groundwater has become the main water source for local people. As a result of this competition, local people experienced groundwater shortage, which was indicated by drop of water level of their wells to 35 centimeters each year (Tifa Foundation, 2017).

In the case of NYIA, MoU between Angkasa Pura and PDAM Tirta Binangun (local water company) has been signed since December 2018. In this agreement, Progo river was selected to supply water for the airport operation. Overall, in order to run the operation, NYIA requires 2.274.682 liters of water per day (Helmi, 2014). A study about water supply for NYIA believes that water debit from

Progo river is sufficient to cover water demand of the airport (Maulana, 2014). However, both Helmi (2014) and Maulana (2014) argue that groundwater becomes a potential water source that can help supplying water for airport operation. This means that there is huge possibility to utilize groundwater in the future for supplying the airport. Responding to this, NGO1 believed that the concept of aerotropolis, which will be implemented in NYIA leads to higher concern of water exploitation for areas around the airport. This refers to the fact that besides for the airport itself, bigger amount of water will be required to support other facilities that become parts of aerotropolis area, such as offices and other international-related facilities. Reflecting from what has happened in city of Yogyakarta, a similar circumstance can potentially happen in NYIA area and its surroundings because demand of water from the aerotropolis is undeniably bigger than before. Meanwhile people in Kulon Progo highly depends on groundwater to support their daily activities (Zebua, 2018).

Apart from potential water shortage, establishment of NYIA also brings up issue about shoreline change. The location of NYIA is widely considered to be a vulnerable landform with respect to natural disaster (VT1, NGO1, RS1, RS2, LP11). High waves and tsunami are the two biggest concerns of natural disaster vulnerability of NYIA development. The former concern is caused by its close distance from Indian ocean, while the latter is driven by the airport location, which resides in the middle of Australian and Euro-Asian tectonic plates. With the disaster-prone attribute, the airport area is not suggested to have infrastructure development since it can exacerbate the current exposure (Chrysanti et al., 2019). Moreover, Ford (2012) demonstrates that anthropogenic activities can largely induce shoreline change by cultivating urban expansion through reclamation. In this regard, the reclamation as an effort to modify the coast becomes necessary because it can accommodate more urban facilities to be built along the coastline. In this concern, expansion of aerotropolis facilities from NYIA establishment are likely to happen in the near future. Here, the reclamation is potentially applied along Kulon Progo coast considering that the airport is only 400 meters away from the ocean (Pratama, 2019). Meanwhile, in the last 16 years, area around the airport has already faced massive impacts of sedimentation and abrasion in the estuary of Bogowonto and Serang river (Chrysanti et al., 2019). With this evidence, the urbanization will exacerbate the current severe condition in this area. As such, RS2 put high concern regarding the combination of urbanization that leads to more people to come and existing exposure of natural disaster.

It is not the matter of building airport with natural disaster protection technology as Angkasa Pura always said. It is the matter of urbanization that will happen. Is Angkasa Pura ready to bear all the consequences? (RS2)

6 Discussion

This section will focus on analyzing driving forces behind decisions that influenced NYIA establishment. The first part explained how 2008 global crisis is related with the role of the state to implement neoliberalism. Furthermore, the second part explained political opportunism that is performed by President of Indonesia in accordance to the airport establishment, while the last part demonstrated relation between aerotropolis and sustainability challenges.

6.1 Crisis, neoliberalism, and the role of the state

Basri & Rahardja (2010) indicate that movement of government of Indonesia to boost infrastructure development is closely related with global economic crisis in 2008. In that year, the United States faced economic crisis which was initially caused by housing loans issue. This incident triggered domino effects that led to collapse of several financial institutions in this country. This unexpected phenomenon shocked financial institutions both inside and outside this country, particularly the ones which invested their money through this mechanism (Ministry of National Development Planning, 2009). However, this global economy downturn was differently impacted countries around the world.

Many countries in Asia, including ASEAN⁴ countries were hit by a very sharp fall in their gross domestic product (GDP) in 2009. The evidence was driven by high dependency of GDP in these countries on exports of goods and services. This collapse, surprisingly, was not experienced by Indonesia because the export of goods and services was not big contributor of GDP in this country (Rasiah, Cheong, & Doner, 2014). Compared with other countries in Asia, Indonesia's export only shared 29 percent of total GDP. On the contrary, dependency of other countries such as Singapore and Taiwan on exports were much higher than Indonesia with more than 70% (Basri & Rahardja, 2010). Such an advantage of Indonesia in overcoming 2008 global crisis was accidentally caused by lack of climate investment and poor quality of logistics in Indonesia that led to slow growth of export. Nevertheless, Indonesia cannot always rely on this good luck because there is a positive correlation between exports and economic growth, although at the same time this relation can be very risky. Hence, it is fundamentally important for Indonesia to maintain balance between domestic demand and exports in order to maximize economic growth (Basri & Rahardja, 2010). Considering that Indonesia is a massive archipelago country, logistics became an essential aspect for Indonesia to

⁴ Association of Southeast Asian Nations

reach all parts in this country, including remote areas. Basri & Rahardja (2009) argue that due to poor logistics that drives to unintegrated market, Indonesia was recognized as country with high cost of transaction, making this country less attractive for investment. Therefore, physical infrastructure should be prioritized by government of Indonesia to reach economic growth from both domestic demand and export sector (Basri & Rahardja, 2010)

Besides increasing connectivity in internal country that can boost national economic growth, infrastructure development of Indonesia would also contribute to embody vision of ASEAN connectivity. Pushpanathan (2010) argue that infrastructure development is considered as an important factor in stimulating economic recovery in ASEAN countries after the 2008 global crisis. Therefore, in 2010, Masterplan of ASEAN connectivity (MPAC) was initiated by ASEAN leaders. The formation of MPAC itself is the part of a roadmap for the ASEAN Economic Community (AEC) in 2015 (Almekinders et al., 2015). In principle, MPAC weighs more on promoting integrated intra-ASEAN trade and ultimate improvement of connectivity between ASEAN and global market (Pushpanathan, 2010; Gunawan, 2017).

In Indonesia, the MPAC was planned to be synergized with MP3EI, National Medium Term Development document, and Annual Government Work Plan. However, due to time constraint to change the existing document of National Medium Term Development and Annual Government Work Plan, the vision of MPAC was only integrated in MP3EI formulation (Gunawan, 2017). As a result, the economic corridors provided in MP3EI are connected with regional development in ASEAN countries. In MPAC, Indonesia has been proposed to be the part of two economic areas, which are Brunei Darussalam, Indonesia, Malaysia, and Philippines – East ASEAN (BIMP-EAGA) and Indonesia, Malaysia, Thailand – Growth Triangle (IMT-GT) (Zen & Regan, 2014). This means that MP3EI will not only promote national connectivity in Indonesia but also contribute to regional settings through ASEAN connectivity that serves as a bridge to international market (Gunawan, 2017). Figure 8 shows the position of Indonesia in MPAC framework.

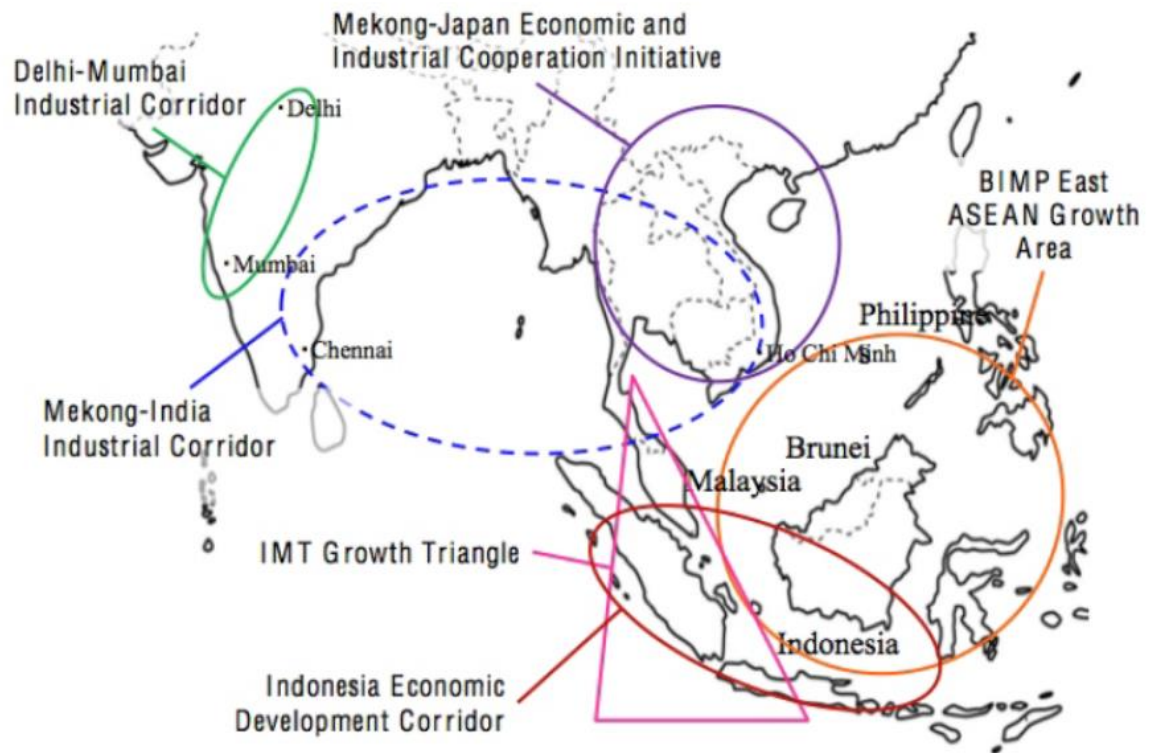


Figure 8. Position of Indonesia in BIMP-EAGA and IMT-GT as the part of ASEAN connectivity. Source: Rachman & Yanuardi (2014)

Besides integrated economic network, funding and coordination become key factors to embody MPAC (Zen & Regan, 2014). Over the past years, developing countries always relied on government fund for improving infrastructure. However, many economic pressures caused this type of funding became unstable, leading to less investment for infrastructure. Accordingly, developing countries requires other alternatives to fund their infrastructure development (Rillo & Ali, 2017). This situation leads ASEAN countries to enhance private sector role by implementing public private partnership (PPP) scheme (Zen & Regan, 2014). Figure 9 describes the order illustration of global to local occurrences behind the encouragement of infrastructure development in ASEAN countries.

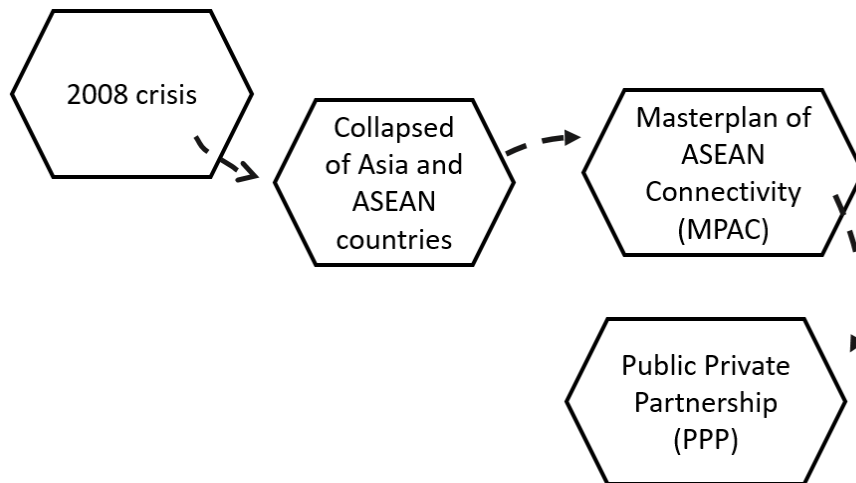


Figure 9. The order illustration of global to local occurrences, showing that 2008 global crisis leads to the use of PPP to fund infrastructure development in ASEAN countries. Source: Own illustration

In Indonesia, the most current PPP regulatory supports have been issued by Government Regulations 67/2005 and 13/2010 on PPP. Within these regulations, government of Indonesia tried to link implementation of PPP with international practice (Pradono & Pratami, 2012). This evidence can be seen in MP3EI implementation, which is largely linked with connectivity framework of MPAC. As was outlined in Coordinating Ministry of Economic Affairs (2011), the six economic corridors in MP3EI require IDR 4000 trillion for total investment. From this amount of money, the government of Indonesia could only afford 10 percent of it, while the rest will be in the hands of combination between state owned enterprises and private sector through PPP mechanism. In more specific case, PPP procedure also takes part in shaping the NYIA establishment. As one of proposed project in MP3EI, NYIA is funded by public private partnership (PPP) scheme (Suharjono, 2017). In this context, approximately 49% cost of total IDR 9 trillion, which is required for NYIA establishment is derived from GVK Group from India (Jefriando, 2016; Committee of Accelerating Priority Infrastructure Provision, 2016b).

6.2 The political opportunism

Many reports in media state that establishment of NYIA will potentially become the fastest airport development in the world (Zebua, 2019; Sucahyo, 2019). Although it took quite long time in land clearing process due to the tension with local people, the overall construction process that began in October 2018 has to be ready for operation in April 2019 (Zebua, 2019). It is interesting to discover that the rapid establishment of NYIA cannot be separated by role of Joko Widodo as current

president of Indonesia. President Widodo seems to have high concern in this national strategic project by generating Law Number 98 of 2017, which specifically aims to accelerate construction and operation of NYIA megaproject. From there, the instruction to finish NYIA in April 2019 is affirmed. However, what is happening in April 2019?

The impacts of NYIA establishment in both short and long term periods should have come under government consideration since the planning process guarantees that this project will achieve its vision to bring compounding economic growth for Yogyakarta and Indonesia through aerotropolis development. In practice, the rapid construction of NYIA tends to reflect that this airport should be finished as soon as possible. Meanwhile, in every five years, Indonesia holds general elections for president, vice president, and legislative members. President Widodo, who has served as the leader of this country for the past period, will nominate himself again in the general election, which will be held in April 2019. After what he has done for NYIA, it becomes clearer that this project has stolen his attention as was theorized in Ascher & Krupp (2010). Taking over the project that was always delayed in the previous leadership and creating a sudden breakthrough through Law Number 98 of 2017 are the tangible efforts by President Widodo to raise up the popularity of NYIA in public. In the end, his strategy to highlight NYIA establishment turns out to be working. The tension with local people and potential environmental impact that will happen as the airport area becomes more urbanized in the future seemed evaporating as the day of airport inauguration is approaching. The airport is even considered as the sweet last gift that is presented by President Widodo and his vice president, Jusuf Kalla at the end of their position as the leaders of this country (Sucahyo, 2019), with a special note that this might not be the end for President Widodo. The latter refers to the newest update about 2019 general election quick count, showing that Joko Widodo gets around 55% voters that can lead him to continue becoming president of Indonesia (Halim, 2019). Possibly, among the huge number of his voters, there are people who admire his performance towards NYIA establishment.

6.3 Aerotropolis and sustainability challenges

The consequences of aerotropolis from NYIA development becomes debates in sustainability science since they are closely linked with what Kates et al (2001) highlight about multi-scalar connection. In this case, the connection between urban political ecology and larger scale of political economy as the fundamental character of nature-society relation is reflected by the tendency of national government of Indonesia to create economic growth-based regulations. Unfortunately, in more local scale, water shortage and shoreline changes issues will likely to happen if the development of aerotropolis keeps continuing. These detrimental impacts are accompanied by the suffer of the local people who are

marginalized from their own land without any option. Such complexity of socio-ecological relations in sustainability science might provoke different dilemma and conflict of interest in societies (Jerneck et al., 2011). On one hand, the practice of neoliberalism that is implemented by government of Indonesia through the involvement in larger connectivity network and the implementation of PPP mechanism seem reasonable because this country is lacking of export activities that can help boosting economic growth. Also, at the same time, Indonesia does not have sufficient funding to invest in infrastructure development that becomes a key factor in promoting economic growth.

Looking at the order, NYIA is established to promote Yogyakarta as center of economy in the Java corridor. In MP3EI, this corridor is responsible to become center of industries and services. From this order, it can be seen that NYIA development is supposed to promote industries and services as what has been mandated for Java corridor. Responding to this, Yogyakarta has been recognized as textile, furniture, and leather exporter. These three commodities are mainly distributed to the United States and Europe (Hanoto, 2018). Pointing out to the local to global relations, the aerotropolis will likely help to foster export activity of Yogyakarta's key commodities so they can be traded in global market. In line with this, service sector that is represented by tourism activity has contributed to Special Region of Yogyakarta income for along this time (Hanoto, 2018). Again, aerotropolis is likely to invite more people to come as well as more investors to invest in hotels or restaurant to support this sector.

For some people that can follow urbanization rhythm by having enough money to start investing the land that is becoming more expensive over time, the decision of government of Indonesia can potentially bring economic benefit to them. Even, they can obtain higher economic return in the future considering that aerotropolis will be a gateway for global market. On the other hand, a lot of displaced people are still waiting for the promised decent job from Angkasa Pura. Additionally, many other people are still struggling to rebuild their life from zero with more difficulties to maintain their identity as farmers and many other else will potentially be displaced due to aerotropolis expansion.

The unequal return from the case of urbanization, which is driven by aerotropolis of NYIA development demonstrates that there is trade-off between economy, environment, and social as the three pillars of sustainability. Here, the effort to improve larger scale of economy on one hand results in severe local impacts on social and environment on the other hand. Referring from this case, the existence of sustainable development goals (SDG) is fundamental to ensure the balance between economy, environment, and social improvement. This case demonstrates the importance of SDG 11 about sustainable cities and communities. In SDG 11, national and regional development planning is supported to embody positive relation between economic, social, and environment within urban

practice. It also promotes inclusivity for people to participate in urban planning (United Nations, 2019a). Besides that, SDG 10 about reducing inequality is a fundamental direction for the case of aerotropolis of NYIA because it guarantees proportionate chance for people to reach equality by enhancing justice through relevant policies and regulations (United Nations, 2019b).

7 Conclusion

The intertwining of political, economic, social, and environmental relations that emerge from 2008 global crisis to socio-environmental impacts of aerotropolis development greatly captures what Blaikie & Brookfield (1987) outlined about local occurrence to global economy connection. Here, the global crisis phenomenon influenced ASEAN countries to promote infrastructure development as a stimulus to recover from this collapse. As such, MPAC was generated in order to collect more economic benefit by making ASEAN countries more integrated. With formation of MP3EI and its expansion to be aerotropolis, Indonesia is eventually connected to bigger market in ASEAN and the rest of the world. Furthermore, practice of neoliberalism as was illustrated by Banerjee-Guha (2009) can be clearly seen through the leadership of government of Indonesia. In order to drive economic growth, government of Indonesia enables foreign investors to invest in NYIA establishment through PPP mechanism. As a leader of Indonesia, President Widodo also shows another neoliberalism practice by his maneuver to adapt NYIA establishment in the national development planning. This action is closely related with what Blaikie & Brookfield (1987) illustrated about the role of the state in enhancing neoliberalism. With high legitimation from the president and local authorities in Special Region of Yogyakarta province and Kulon Progo regency, NYIA development causes suffer of marginalization that is experienced by local people. The president also seems to have political reason as was highlighted by Ascher & Krupp (2010) since he urged to finish the airport in the same moment as presidential election.

The explanation above reflects sustainability science issue because there are local to global relations, which implies that in the end, aerotropolis is developed to serve the global economy. Because of this practice, Special Region of Yogyakarta province might obtain higher income in the future. On the other hand, local people who do not have money to buy the land in this area will continue to suffer from displacement. Such a finding becomes a very ironic indication because the airport is initially built to help economic growth in Indonesia to be evenly distributed. Even in local scale, the airport has already created inequality. If this continues to happen, Special Region of Yogyakarta will still become the province in Indonesia with the highest economic gap. Even though its regional income shows an improvement in economic growth, some people will remain poor because they are left without any choice.

7.1 Further research

Considering that this research was performed in the middle of NYIA establishment and looking at how this project will be developed as aerotropolis, further research about future impacts of this

project to its surroundings can be performed. The research about future impacts is also fundamental because in these following times, Indonesia will have new authorities. Although quick count result shows that President Widodo will likely to lead this country again, Indonesia will have a new form of cabinet. On that time, the new cabinet performance will demonstrate whether this country will still emphasize infrastructure development or not.

In broader focus, further critical research about trends of infrastructure development in Indonesia are therefore required to illustrate the trade-off between impacts on local scale to larger scale of economic motive behind it. This research is beneficial to gain a more comprehensive and nuanced understanding of contemporary urban changes that is rooted from infrastructure development.

8 References

- Ais. (2018, January 15). Ratusan hotel di Jogja pilih sedot air tanah ketimbang pakai air PDAM. [Hundreds of hotels in Jogja choose to suck ground water rather than using PDAM water]. *Tribun Jogja*. Retrieved from <http://jogja.tribunnews.com/2018/01/15/ratusan-hotel-di-jogja-pilih-sedot-air-tanah-ketimbang-pakai-air-pdam>
- Akbar, W., & Muzayyin, A. H. (2018, July 25). Warga Kulon Progo tantang bulldoser lawan penggusuran. [Kulon Progo residents challenge bulldozer against displacement]. *CNN Indonesia*. Retrieved from <https://www.cnnindonesia.com/nasional/20180725170948-20-316949/warga-kulon-progo-tantang-bulldoser-lawan-penggusuran>
- Almekinders, G., Fukuda, S., Mourmouras, A., Zhou, J., & Zhou, Y. S. (2015). ASEAN financial integration. Retrieved from <https://www.imf.org/external/pubs/ft/wp/2015/wp1534.pdf>
- Angkasa Pura I. (2017). *Analisis dampak lingkungan hidup (ANDAL) pembangunan bandar udara New Yogyakarta International Airport*. [Environmental impact analysis (ANDAL) for the construction of the New Yogyakarta International Airport]. (Unpublished company report). Jakarta: PT Angkasa Pura I (Persero).
- Ascher, W., & Krupp, C. (2010). Rethinking physical infrastructure development. In W. Ascher & C. Krupp (Eds.), *Physical infrastructure development: Balancing the growth, equity, and environmental imperatives* (pp. 1-33). New York, NY: Palgrave Macmillan.
- Banerjee-Guha, P. (2009). Neoliberalising the 'urban': New geographies of power and injustice in Indian Cities, *44*(22), 95–107.
- Basri, M. C., & Rahardja, S. (2009). Indonesia navigating beyond recovery: growth strategy for an archipelago country [PowerPoint slides]. Retrieved from <https://www.oecd.org/economy/growth/43823462.pdf>
- Basri, M. C., & Rahardja, S. (2010). The Indonesian economy amidst the global crisis: Good policy and good luck. *Asean Economic Bulletin*, *27*(1), 77–97. <https://doi.org/10.1355/ae27-1e>
- Batubara, B., Kooy, M., & Zwarteveen, M. (2018). Uneven urbanisation: Connecting flows of water to flows of labour and capital through Jakarta's flood infrastructure. *Antipode*, *50*(5), 1186–1205. <https://doi.org/10.1111/anti.12401>
- Beilfuss, R., & Triet, T. (2014). Climate change and hydropower in the Mekong River Basin: a synthesis of research. Retrieved from <https://www.giz.de/en/downloads/giz2014-en-study-climate-change-hydropower-mekong.pdf>
- Bell, M. G. (2015). Historical political ecology of water : Access to municipal drinking water in Colonial Lima , Peru, *0124*(May), 504–526. <https://doi.org/10.1080/00330124.2015.1062700>
- Blaikie, P., & Brookfield, H. (1987). *Land degradation and society*. New York: Routledge Taylor & Francis Group.
- Blake, D. J. H., & Barney, K. (2018). Structural injustice, slow violence? The political ecology of a “best practice” hydropower dam in Lao PDR. *Journal of Contemporary Asia*, *48*(5), 808–834. <https://doi.org/10.1080/00472336.2018.1482560>
- BPS Statistics of Kulon Progo Regency. (2018). Temon subdistrict in figures. Retrieved from

<https://kulonprogokab.bps.go.id/publication/2018/09/26/0d6872af05e7a8723a027837/kecamatan-temon-dalam-angka-2018.html>

- BPS Statistic of Indonesia. (2019). Gini ratio provinsi 2002-2018. [Provincial gini ratio 2002-2018]. Retrieved from <https://bps.go.id/linkTableDinamis/view/id/1116>
- Brenner, N., & Theodore, N. (2002). Cities and the geographies of "actually existing neoliberalism. In N. Benner & N. Theodore (Eds.), *Spaces of neoliberalism: Urban restructuring in North America and Western Europe* (pp. 2-32). Oxford: Blackwell Publishing.
- Bryman, A. (2012). *Social research methods (fourth edition)*. Oxford: Oxford University Press.
- Cabinet Secretariat of the Republic of Indonesia. (2019). Pembangunan sesuai target, bandara 'New' Yogyakarta akan beroperasi mulai April. [Reaching construction target, the 'New' Yogyakarta airport will start operating in April]. Retrieved from <https://setkab.go.id/pembangunan-sesuai-target-bandara-new-yogyakarta-akan-beroperasi-mulai-april/>
- Chrysanti, A., Adityawan, M. B., Yakti, B. P., & Nugroho, J. (2019). Prediction of shoreline change using a numerical model: Case of the Kulon Progo Coast , Central Java, *04023*, 1–8.
- Committee for Accelerating Priority Infrastructure Development (2016a). Proyek strategis nasional. [National strategic project]. Retrieved from <https://kppip.go.id/proyek-strategis-nasional/>
- Committee for Accelerating Priority Infrastructure Development (2016b). Pembangunan baru bandara internasional di propinsi D.I. Yogyakarta. [Construction of a new international airport in the Special Region of Yogyakarta province]. Retrieved from <https://kppip.go.id/proyek-strategis-nasional/f-proyek-pembangunan-bandar-udara-baru/pembangunan-baru-bandara-internasional-propinsi-d-i-yogyakarta/>
- Coordinating Ministry for Economic Affairs. (2011). Masterplan for acceleration and expansion of Indonesia economic development 2011-2025. Retrieved from https://www.aseanbriefing.com/userfiles/resources-pdfs/Indonesia/FDI/ASEAN_Indonesia_Master%20Plan%20Acceleration%20and%20Expansion%20of%20Indonesia%20Economic%20Development%202011-2025.pdf
- Cyrek, D., & Weltrowska-jęch, J. (2013). Aerotropolis - The city of the future. *The concept of aerotropolis*, (283).
- DPMPT (Dinas Penanaman Modal dan Pelayanan Terpadu) Kulon Progo. (2019). Tujuh hotel berbintang dibangun di sekitar NYIA. [Seven star hotels are built around NYIA]. Retrieved from <http://dpmppt.kulonprogokab.go.id/article-322-tujuh-hotel-berbintang-dibangun-di-sekitarnya.html>
- Fauzi, I., Putriani, O. (2017). Kajian transportasi umum pra dan pasca pengoperasian New Yogyakarta International Airport (NYIA). [Pre-and post-operation public transportation studies of New Yogyakarta International Airport (NYIA)], 26–27.
- Fernholz, R.M. (2010). Infrastructure and inclusive development through "free, prior, and informed consent" of indigenous peoples. In W. Ascher & C. Krupp (Eds.), *Physical infrastructure development: Balancing the growth, equity, and environmental imperatives* (pp. 225-258). New York, NY: Palgrave Macmillan.
- Flyvbjerg, B. (2006). Five misunderstandings about case-study research, (4), 1–35. <https://doi.org/10.1177/1077800405284363>

- Ford, M. (2012). Shoreline changes on an urban atoll in the Central Pacific Ocean: Majuro Atoll , Marshall Islands, (2001), 11–23. <https://doi.org/10.2112/JCOASTRES-D-11-00008.1>
- Gunawan, G. H. (2017). *A new dynamism of regionalism towards ASEAN connectivity and its linkage with national and local development projects: A case study of Indonesia* (Doctoral dissertation). Retrieved from <https://core.ac.uk/download/pdf/158326967.pdf>
- Halim, D. (2019, April 17). Hasil “quick count” sementara 10 lembaga untuk pilpres 2019. [Results of a temporary "quick count" of 10 institutions for the 2019 presidential election]. *Kompas*. Retrieved from <https://nasional.kompas.com/read/2019/04/17/20064041/hasil-quick-count- sementara-10-lembaga-untuk-pilpres-2019?page=all>
- Hanoto, B. (2018). *Perkembangan perekonomian DIY. [Economic development in Special region of Yogyakarta]* [PowerPoint slides]. Retrieved from <http://bappeda.jogjaprovo.go.id/download/download/481>
- Harvey, D. (1996). *Justice, nature, & the geography of difference*. Oxford: Blackwell Publishers Ltd.
- Harvey, D. (2006). Neo-liberalism as creative destruction, *88*(2), 145–158. <https://doi.org/10.1177/0002716206296780>
- Helmi. (2014). *Kajian alternatif sistem jaringan transmisi air bersih untuk kebutuhan bandar udara baru provinsi D.I Yogyakarta. [Alternative study of the clean water transmission network system for the needs of the new airport of the province of Special Region of Yogyakarta]* (Master's thesis). Retrieved from http://etd.repository.ugm.ac.id/index.php?mod=penelitian_detail&sub=PenelitianDetail&act=view&typ=html&buku_id=68810
- Hernawan, A.K. (2018, November 1). Sambut bandara, Purworejo ingin hapus imej kota pensiunan. [Welcoming the airport, Purworejo wants to remove the image of a retired city]. *Gatra*. Retrieved from <https://www.gatra.com/detail/news/361671-Sambut-Bandara-Purworejo-Ingin-Hapus-lmej-Kota-Pensiunan>
- Heynen, N., Kaika, M., & Swyngedouw, E. (2006). Urban political ecology: Politicizing the production of urban natures. In N. Heynen, M. Kaika, & E. Swyngedouw (Eds.), *In the nature of cities: Urban political ecology and the politics of urban metabolism* (pp. 1-19). London: Routledge Taylor & Francis Group.
- Heynen, N., & Robbins, P. (2005). The neoliberalization of nature: Governance, privatization, enclosure and valuation. *Capitalism Nature Socialism*, *16*(1), 5–8. <https://doi.org/10.1080/1045575052000335339>
- Indonesia Investment. (n.d.) Masterplan for acceleration and expansion of Indonesia's economic development. Retrieved from <https://www.indonesia-investments.com/projects/government-development-plans/masterplan-for-acceleration-and-expansion-of-indonesias-economic-development-mp3ei/item306>
- Indonesia. (2017). Peraturan Presiden Republik Indonesia Nomor 98 Tahun 2017 tentang percepatan pembangunan dan pengoperasioan bandar udara baru di Kabupaten Kulonprogo Provinsi Daerah Istimewa Yogyakarta [Presidential Regulation of the Republic of Indonesia Number 98 of 2017 concerning the acceleration of the construction and operation of new airports in Kulonprogo Regency, Special Region of Yogyakarta]. Retrieved from <https://setkab.go.id/wp-content/uploads/2017/10/Perpres-98-Tahun-2017.pdf>

- Islar, M., & Boda, C. (2014). Political ecology of inter-basin water transfers in Turkish water governance. *Ecology and Society*, 19(4). <https://doi.org/10.5751/ES-06885-190415>
- Jefriando, M. (2016, December 22). Investor India akan garap bandara Kulon Progo di Yogyakarta. [Indian investor will work on the Kulon Progo airport in Yogyakarta]. *Detik Finance*. Retrieved from <https://finance.detik.com/berita-ekonomi-bisnis/d-3378597/investor-india-akan-garap-bandara-kulon-progo-di-yogyakarta>
- Jerneck, A., Olsson, L., Ness, B., Anderberg, S., Baier, M., Clark, E., ... Persson, J. (2011). Structuring sustainability science. *Sustainability Science*, 6(1), 69–82. <https://doi.org/10.1007/s11625-010-0117-x>
- Kaika, M., & Swyngedouw, E. (2000). Fetishizing the modern city: The phantasmagoria of urban technological networks. *International Journal of Urban and Regional Research*, 24(1), 120–138. <https://doi.org/10.1111/1468-2427.00239>
- Kasarda, J. D., & Appold, S. J. (2014). The economics of international airline transport, iii. <https://doi.org/10.1108/S2212-160920140000004015>
- Kates, R. W., Clark, W. C., Corell, R., Hall, J. M., Carlo, C., Lowe, I., ... Svedin, U. (2001). Sustainability science. *Science*, 292(5517), 641–642.
- Keil, R. (2003). Urban political ecology. *Urban Geography*, 24(8), 723–738. <https://doi.org/10.2747/0272-3638.24.8.723>
- Kencana, M. R. (2018, August 20). Tol Yogyakarta-Solo bakal tersambung akses ke Bandara Kulon Progo. [The Yogyakarta-Solo toll road will be connected to Kulon Progo Airport]. *Liputan 6*. Retrieved from <https://www.liputan6.com/bisnis/read/3623570/tol-yogyakarta-solo-bakal-tersambung-akses-ke-bandara-kulon-progo>
- Kepal SPI. (2017, November 28). Mengapa bohong Jogja butuh bandara baru? #JogjaDaruratAgraria. [Why do they lie if Jogja needs a new airport? #JogjaDaruratAgraria] [Video file]. Retrieved from <https://www.youtube.com/watch?v=LmTsC8I113Q&t=513s>
- Manifesty, M. U. (2014). Rapid growth of hotels in Yogyakarta and its relation to the city ' s water supply, 6(1), 43–51. <https://doi.org/10.24922/eot.v6i1.41878>
- Maulana, G. H. (2014). *Kajian penyediaan air bersih untuk bandara Kulon Progo. [Study of clean water supply for Kulon Progo airport]* (Master's thesis). Retrieved from http://etd.repository.ugm.ac.id/index.php?act=view&buku_id=68239&mod=penelitian_detail&sub=PenelitianDetail&typ=html
- Ministry of Industry. (2006). Koridor Jawa pacu industri nasional. [Java corridor spurs the national industry]. Retrieved from <http://www.kemenerin.go.id/artikel/2813/Koridor-Jawa-pacu-industri-nasional>
- Ministry of National Development Planning. (2009). Penguatan ekonomi daerah: Langkah menghadapi krisis keuangan global. [Strengthening the regional economy: Steps to face the global financial crisis]. Retrieved from <https://www.bappenas.go.id/id/berita-dan-siaran-pers/features/buku-pegangan-2009-penyelenggaraan-pemerintahan-dan-pembangunan-daerah/>
- Ministry of National Development Planning. (2014). Rencana pembangunan jangka menengah nasional 2015-2019. [National medium term development 2015-2019]. Retrieved from

<https://www.bappenas.go.id/id/data-dan-informasi-utama/dokumen-perencanaan-dan-pelaksanaan/dokumen-rencana-pembangunan-nasional/rpjp-2005-2025/rpjm-2015-2019/>

- Morrissey, J., Iyer-Raniga, U., McLaughlin, P., & Mills, A. (2011). A strategic project appraisal framework for ecologically sustainable urban infrastructure. *Environmental Impact Assessment Review*, 33(1), 55–65. <https://doi.org/10.1016/j.eiar.2011.10.005>
- Muryanto, B. (2017, August 28). Airport construction continues despite lack of environmental permit. *The Jakarta Post*. Retrieved from <https://www.thejakartapost.com/news/2017/08/28/airport-construction-continues-despite-lack-of-environmental-permit.html>
- Muryanto, B. (2018, July 23). Last 86 families still fighting against Yogyakarta airport development to keep land. *The Jakarta Post*. Retrieved from <https://www.thejakartapost.com/news/2018/07/22/last-86-families-still-fighting-against-yogyakarta-airport-development-to-keep-land.html>
- Nugroho, W. S. (2019, January 20). Tak hanya fasilitas bandara, infrastruktur pendukung NYIA juga dikebut. [Not only airport facilities, NYIA supporting infrastructures are also accelerated]. *Tribun Jogja*. Retrieved from <http://jogja.tribunnews.com/2019/01/20/tak-hanya-fasilitas-bandara-infrastruktur-pendukung-nyia-juga-dikebut>
- Oh, Y. A. (2018). Power asymmetry and threat points: negotiating China's infrastructure development in Southeast Asia. *Review of International Political Economy*, 25(4), 530–552. <https://doi.org/10.1080/09692290.2018.1447981>
- Patton, M. Q. (1999). Enhancing the quality and credibility of qualitative analysis. Retrieved from <https://pdfs.semanticscholar.org/d85c/b284822ebcfea711c9e340c61c8df033cd1c.pdf>
- Pradono, W.B., & Pratami, D. K. (2012). Public private partnership in Indonesia: Is infrastructure development in Indonesia shifting towards a decreasing role for government. In G. M. Winch, M. Onishi, & S. Schimdt (Eds.), *Taking stock of PPP and PFI around the world* (pp. 55-66). Retrieved from <https://study.sagepub.com/sites/default/files/ACCA%20on%20PPPs%20around%20the%20world.pdf>
- Pratama, A. M. (2019, January 21). Dekat laut, pembangunan bandara NYIA telah perhitungkan ancaman tsunami. [Near the sea, the construction of the NYIA airport has calculated the threat of a tsunami]. *Kompas*. Retrieved from <https://ekonomi.kompas.com/read/2019/01/21/101227626/dekat-laut-pembangunan-bandara-nyia-telah-perhitungkan-ancaman-tsunami>
- Primadhyta, S. (2017, February 1). Yogyakarta punya ketimpangan ekonomi tertinggi di Indonesia. [Yogyakarta has the highest economic inequality in Indonesia]. *CNN Indonesia*. Retrieved from <https://www.cnnindonesia.com/ekonomi/20170201154328-92-190589/yogyakarta-punya-ketimpangan-ekonomi-tertinggi-di-indonesia>
- Purnomo, A. Hidayat, R. Kumoro, T. (2019, February 22). Menanti proyek 'segitiga emas' tol Solo-Jogja-Semarang. [Waiting for the 'golden triangle' project for Solo-Jogja-Semarang toll road]. *Jawa Pos*. Retrieved from <https://www.jawapos.com/jpg-today/22/02/2019/menanti-proyek-segitiga-emas-tol-solo-jogja-semarang/>
- Pushpanathan, S. (2010, June 7). ASEAN connectivity and the ASEAN economic community. Retrieved from https://asean.org/?static_post=asean-connectivity-and-the-asean-economic-community-

by-s-pushpanathan-deputy-secretary-general-of-asean-for-asean-economic-community-2

- Rachman, N. F., & Yanuardy, D. (2014). Masterplan percepatan dan perluasan krisis sosial-ekologis Indonesia. [Masterplan for the acceleration and expansion of Indonesia's social-ecological crisis]. Retrieved from http://pppm.stpn.ac.id/wp-content/uploads/2017/08/MP3EI_Masterplan-Percepatan-Kerusakan-Ekologi.pdf
- Ramdhani, G. (2018, January 27). Kapasitas terbatas, Bandara Adisutjipto makin padat dan sesak. [Capacity is limited, Adisutjipto Airport is getting more crowded]. *Liputan 6*. Retrieved from <https://www.liputan6.com/news/read/3240680/kapasitas-terbatas-bandara-adisutjipto-makin-padat-dan-sesak>
- Rasiah, R., Cheong, K. C., & Doner, R. (2014). Southeast Asia and the Asian and global financial crises. *Journal of Contemporary Asia*, 44(4), 572–580. <https://doi.org/10.1080/00472336.2014.933062>
- Rasyid, A. H. (2016). *Masterplan aerotropolis di Kabupaten Kulon Progo*. [Aerotropolis masterplan in Kulon Progo Regency] (Bachelor's thesis). Retrieved from http://etd.repository.ugm.ac.id/index.php?mod=penelitian_detail&sub=PenelitianDetail&act=view&typ=html&buku_id=96839&obyek_id=4
- Regional Secretary of Special Region of Yogyakarta Province. (2017). *New Yogyakarta International Airport (NYIA): "Mewujudkan DIY sebagai daerah tujuan wisata dan budaya kelas dunia*. [New Yogyakarta International Airport (NYIA): "Creating Special Region of Yogyakarta province as a tourist destination and world-class culture] [PowerPoint slides]. Retrieved from <http://bappeda.jogjaprov.go.id/download/download/379>
- Regional Secretary of Special Region of Yogyakarta Province. (2018). *Ketimpangan wilayah DIY*. [Inequality of Special Region of Yogyakarta] [PowerPoint slides]. Retrieved from <http://bappeda.jogjaprov.go.id/download/download/379>
- Rillo, F. D., & Ali, Z. (2017). Public financing of infrastructure in Asia: in search of new solutions. Retrieved from <https://www.adb.org/sites/default/files/publication/297481/adbi-pb2017-2.pdf>
- Robbins, P. (2012). *Political ecology: Second edition*. West Sussex: John Wiley & Sons Ltd.
- Sahaya, H. N., & Arto, A. (2012). Peran MP3EI berbasis "not business as usual" untuk meningkatkan daya saing dan penyerapan tenaga kerja. [The role of MP3EI is based on "not business as usual" to improve competitiveness and employment]. *Jejak*, 5(1), 46–59.
- Sassen, S. (1999). Globalisation and the formation of new claims. In R.A. Bearuregard & S. Body-Gendrot (Eds.), *The urban movement* (pp. 99-118). Thousand Oaks, CA: Sage.
- Schramm, W. (1971). Notes on case studies of instructional media projects. Retrieved from <https://files.eric.ed.gov/fulltext/ED092145.pdf>
- Song, Y. (2013). Infrastructure and Urban Development: Evidence from Chinese Cities An Overview of Infrastructure Development in China. *Infrastructure and Land Policies*, 21–60. Retrieved from https://www.lincolninst.edu/sites/default/files/pubfiles/infrastructure-urban-development-chinese-cities_0.pdf
- Special Region of Yogyakarta Development Planning Agency. (2018). *Arahan pengembangan kawasan pariwisata D.I. Yogyakarta*. [Direction for tourism area development in Special Region of Yogyakarta province] [PowerPoint slides]. Retrieved from http://bpiw.pu.go.id/uploads/itmp/Arahan_Pengembangan_Kawasan_Pariwisata_DIY.pdf

- Sucahyo, N. (2019, January 21). Bandara baru Jogja: Kado akhir masa jabatan Jokowi-JK. [Jogja's new airport: Gift for the end of Jokowi-JK's leadership]. *VOA Indonesia*. Retrieved from <https://www.voaindonesia.com/a/bandara-baru-jogja-kado-akhir-masa-jabatan-jokowi-jk/4751669.html>
- Suharjono. (2017, August 26). Pembangunan bandara NYIA tidak gunakan APBN. [The construction of the NYIA airport does not use the state budget]. *Sindo News*. Retrieved from <https://ekbis.sindonews.com/read/1233937/34/pembangunan-bandara-nyia-tidak-gunakan-apbn-1503675801>
- Supriyanto. (2018, December 6). Mirit dan Ambal diusulkan jadi kawasan industri besar. [Mirit and Ambal are proposed to be large industrial estates]. *Suara Merdeka*. Retrieved from <https://www.suaramerdeka.com/news/baca/151052/mirit-dan-ambal-diusulkan-jadi-kawasan-industri-besar>
- Susanty, F. (2016, February 29). Airport operators gear up for foreign partnerships. *The Jakarta Post*. Retrieved from <https://www.thejakartapost.com/news/2016/02/29/airport-operators-gear-foreign-partnerships.html>
- Suyitno, H. (2019, January 23). NYIA diharapkan beri dampak perkembangan Purworejo. [NYIA is expected to have an impact on the development of Purworejo]. *Antara Jateng*. Retrieved from <https://jateng.antaranews.com/berita/210862/nyia-diharapkan-beri-dampak-perkembangan-purworejo>
- Swyngedouw, E. (2015). Urbanization and environmental futures: Politicizing urban political ecologies. In T. Perreault, G. Bridge, & J. McCarthy (Eds.), *Handbook of political ecology* (pp. 609-619). London and New York: Routledge.
- Swyngedouw, E., & Heynen, N. C. (2003). Urban political ecology, justice and the politics of scale: Special Issue, editors. *Antipode*, 35(5), 898–918.
- Tifa Foundation. (2017, March 22). Jogja darurat air. [Water emergency in Jogja] [Video file]. Retrieved from <https://www.youtube.com/watch?v=WyKUVydtvZc&t=704s>
- Tong, K., Fang, A., Boyer, D., Hu, Y., Cui, S., Shi, L., ... Ramaswami, A. (2016). Greenhouse gas emissions from key infrastructure sectors in larger and smaller Chinese cities: method development and benchmarking. *Carbon Management*, 7(1–2), 27–239. <https://doi.org/10.1080/17583004.2016.1165354>
- UNECE. (2016). Infrastructure and growth. Retrieved from https://www.unece.org/fileadmin/DAM/Brief_No_3__Infrastructure_and_Growth.pdf
- United Nations. (2019a). Sustainable development goal 11: Make cities and human settlements. Retrieved from <https://sustainabledevelopment.un.org/sdg11>
- United Nations. (2019b). Sustainable development goal 10: Reduce inequality within and among countries. Retrieved from <https://sustainabledevelopment.un.org/sdg10>
- Utama, A. (2017, December 8). Bandara Kulon Progo, Yogyakarta: antara sabda leluhur dan 'proyek strategis' Jokowi. [Kulon Progo Airport, Yogyakarta: between the words of the ancestors and Jokowi's 'strategic project']. *BBC Indonesia*. Retrieved from <https://www.bbc.com/indonesia/indonesia-42262077>
- Wang, Z., & Sun, S. (2016). Transportation infrastructure and rural development in China. *China*

Agricultural Economic Review, 8(3), 516–525. <https://doi.org/10.1108/CAER-09-2015-0115>

- Wardana, R. A., Firmansyah, R.A., & Laksana, I. (2017). Evaluasi rencana pengembangan aerotropolis terhadap bahaya tsunami. [Assessment of aerotropolis development plans for tsunami threat], 171–178.
- Widiyanto, D. (2017, August 26). Bandara NYIA, jadi pintu gerbang utama pariwisata RI. [NYIA Airport, becomes the main gateway for Republic of Indonesia's tourism]. *Kedaulatan Rakyat Jogja*. Retrieved from https://krjogja.com/web/news/read/42101/Bandara_NYIA_Jadi_Pintu_Gerbang_Utama_Pariwisata_RI
- Wismabrata, M.H. (2019, January 9). 5 fakta di balik pembangunan bandara NYIA, tercepat di dunia hingga nama tetap NYIA. [5 facts behind the construction of NYIA airport, the fastest in the world to the permanent name of NYIA]. *Kompas*. Retrieved from <https://regional.kompas.com/read/2019/01/09/16342051/5-fakta-di-balik-pembangunan-bandara-nyia-tercepat-di-dunia-hingga-nama?page=1>
- Yanuar, H. (2015, June 25). Alasan Yogyakarta harus miliki bandara baru. [The reason why Yogyakarta must have a new airport]. *Liputan 6*. Retrieved from <https://www.liputan6.com/news/read/2259493/alasan-yogyakarta-harus-miliki-bandara-baru>
- Yin, R. K. (2003). *Case study research design and methods (third edition)*. California: Sage Publications, Inc.
- Zebua, D. J. (2018, July 4). Kekeringan melanda Kulon Progo, sejumlah desa kesulitan air bersih. [Drought hit Kulon Progo, a number of villages had difficulty with clean water]. *Kompas*. Retrieved from <https://regional.kompas.com/read/2018/07/04/20054101/kekeringan-melanda-kulon-progo-sejumlah-desa-kesulitan-air-bersih?page=all>
- Zebua, D. J. (2019, January 8). Proyek NYIA bisa jadi pembangunan bandara tercepat di dunia. [The NYIA project could be the fastest airport development in the world]. *Kompas*. Retrieved from <https://regional.kompas.com/read/2019/01/08/21384101/proyek-nyia-bisa-jadi-pembangunan-bandara-tercepat-di-dunia>
- Zen, F., & Regan, M. (2014). Financing ASEAN connectivity. Retrieved from <https://asean.org/storage/2016/09/Financing-Infrastructure-for-ASEAN-Connectivity.pdf>

9 Appendices

Appendix I. Interviewee list and purpose

Individual interview

No.	Target / Source	Initial	Date	Purpose
1.	A volunteer in the field	VT1	29/1	To understand basic knowledge about the case and his involvement on the field
2.	A volunteer in the field	VT2	7/2	To understand basic knowledge about the case and his involvement on the field
3.	A representative of local environmental NGO	NGO1	8/2	To mainly understand the environmental implications from the project and involvement of this NGO in the field
4.	A representative from local farmers NGO	NGO2	14/2	To understand struggle of farmers on the site
5.	A researcher from Faculty of Social and Politics, Gadjah Mada University	RS1	20/2	To understand the conflicting interest from academic perspective
6.	A representative of state institution that has authority to oversee implementation of public services	GO1	21/2	To understand what component from the project that leads to dissatisfaction of local people and how the government gave reaction about it
7.	A volunteer in the field	VT3	21/2	To understand basic knowledge about the case and his involvement on the field
8.	A local person from Karangwuni village	LP1	23/2	To understand basic knowledge of the case and connect me to relevant local people
9.	A local person from Karangwuni village as well as a local activist	LP2	23/2	To understand what local people have experienced along NYIA establishment process, and value that they believe
10.	A geo-technology researcher from Indonesian Institute of Sciences	RS2	4/3	To understand impact of NYIA establishment to ecological changes
11.	A local people who were displaced person from Palihan Village	LP9	9/3	To understand his perception towards NYIA establishment

12.	A local people who were displaced person from Palihan Village	LP10	9/3	To understand his perception towards NYIA establishment
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Group Interview

No.	Target / Source	Initial	Date	Purpose
1.	Four people from Glagah village	LP11, LP12, LP13, LP14	27/2	To understand their perception towards NYIA establishment and what they have experienced from the whole process of it

Appendix II. List of focus group participants

Table 2. List of focus group participants

No.	Participants	Initial	Date
1.	Local person as well as Palihan village officer	LP3	February 27 th , 2019
2.	Local person as well as hamlet officer	LP4	
3.	Local person of Palihan village	LP5	
4.	Local person of Palihan village	LP6	
5.	Local person of Palihan village	LP7	
6.	Local person of Palihan village	LP8	

Appendix III. List of questions

Questions for volunteers in the field:

1. Since when you are involved in this conflict? Why?
2. In what way you find it controversial?
3. What did most people there think about the establishment of the airport?
4. How were the local people treated along the process of airport establishment?

Questions for a representative of local environmental NGO:

1. Since when you and your organization are involved in this conflict? Why?
2. In what way your organization find it controversial?
3. What did most people there think about the establishment of the airport?
4. How were the local people treated along the process of airport establishment?

Questions for a representative of local farmer NGO:

1. Since when you and your organization are involved in this conflict? Why?
2. In what way your organization find it controversial?
3. How is the current condition of the farmers there?
4. How is the trend of agricultural yield after the project is executed?

Questions for a researcher from Faculty of Social and Politics, Gadjah Mada University:

1. Please tell me about your research in the airport area!
2. What do you know about the order of the airport project from the beginning?
3. Looking at current tension, what is the purpose to establish the new airport in Yogyakarta?
4. What is the plan of government of Yogyakarta reflecting from this case?
5. What do you think about the conflict over land that happened because of the airport development?

Questions for a representative of state institution that has authority to oversee implementation of public services:

1. What do you know about the order of the airport project from the beginning?
2. Looking at current tension, what is the purpose to establish the new airport in Yogyakarta?
3. What is the plan of government of Yogyakarta reflecting from this case?
4. What do you think about the conflict over land that happened because of the airport development?

Questions for local people from Karangwuni village:

1. What do you think about the airport establishment?
2. How was the process of the establishment since in the beginning?
3. How do you feel about the current tension?

Questions for a geo-technology researcher from Indonesian Institute of Sciences:

1. Please tell me about your research in the airport area!
2. What do you think about this project?
3. What ecological condition that changes because of the airport?
4. Who is the most vulnerable side because of the airport establishment?

Questions for the group interview:

1. What do you think about the airport establishment?
2. How was the process of the establishment since in the beginning?
3. How was the decision making process along the process to build the airport? Were you involved?
4. How do you feel about the current tension?

Questions for the focus group:

1. What do you think about the airport establishment?
2. How was the process of the establishment since in the beginn
3. How was the decision making process along the process to build the airport? Were you involved?
4. Were you satisfied with the compensation that you received? Why?
5. Are you happy with your current relocation houses? Why?
6. What do you expect from this project?

Appendix IV. Thematic analysis of interviews and focus group with local people

The social and environmental impacts of the development of NYIA

Impacts	Themes	Subthemes
Social impacts	Displacement	decision making process
		oppression and violence treatment
	Relocation	the logic for Indonesia
		paid relocation houses
		unready relocation house
		more organized neighborhood
		more urban neighborhood
	Poor compensation	appraisal process
		transparency of the payment
		detail of the payment
		consignment process
		bureaucracy process
	Lost livelihoods and identity	legitimation over the land
		farmers as identity
		compensation money
land dependency		
skill survey		
skill training		
Environmental impacts	Water shortage	job expectation
		urbanization process
	Tsunami	more development
		close distance to the ocean
		natural disaster prone area
		historical record

Appendix V. The airport construction



Appendix VI. Permission letter



Surat Permohonan Izin

Sebuah penelitian mengenai hubungan dampak sosial dan lingkungan skala lokal dari pembangunan New Yogyakarta International Airport (NYIA) dengan ekonomi politik skala global

Peneliti

Ellen Putri Edita, MSc, Student, Environmental Studies and Sustainability Science,
Lund University, Sweden
ellenedita13@gmail.com, +46 760758835, +68 1226666599

Tujuan studi dan latar belakang

Tujuan dilaksanakannya studi ini adalah untuk mengetahui dampak sosial dan lingkungan di lokasi pembangunan NYIA; mengetahui bagaimana partisipasi penduduk lokal dalam proses pengambilan keputusan pembangunan NYIA; praktik ketidakadilan yang mungkin terjadi; mengetahui kondisi terkini di lokasi pembangunan bandara; serta mengetahui program pemerintah terkait pembangunan NYIA.

Apa yang dilakukan selama penelitian?

Pada tahap pengambilan data, penelitian ini menggunakan beberapa metode, seperti wawancara dan *focus group discussion* (FGD) dengan pihak yang terlibat dan terdampak langsung dari proses pembangunan NYIA, seperti penduduk lokal, LSM, aktivis lingkungan, *researcher*, lembaga pemerintah, serta pengamatan langsung terhadap kondisi lingkungan di sekitar lokasi NYIA.

Narasumber akan ditanya perihal apa yang mereka rasakan terhadap pembangunan NYIA, proses yang mereka alami, kendala yang mereka hadapi, dan sebagainya.

Potensi manfaat yang diharapkan

Hasil dari penelitian ini diharapkan dapat menjadi rekomendasi bagi para pembuat kebijakan publik dalam hal menyempurnakan kebijakan terkait pembangunan, 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

PO Box 170, SE-222 70 Lund, Sweden, Address Biskopsgatan 5
Phone. +46 (0)46 222 04 70
E-post ellenedita13@gmail.com website <http://www.lucsus.lu.se>

menyatakan mengundurkan diri sebagai narasumber, segala data baik catatan penelitian yang berkaitan dengan keterangan yang telah diberikan dan rekaman suara 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 menghendaki 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 pada lembar permohonan izin ini. Bapak/Ibu juga dipersilahkan untuk menghubungi *thesis supervisor* saya, Maryam Nastar, pada alamat surat elektronik maryam.nastar@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 Ellen Putri Edita
- 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 Ellen Putri Edita untuk mengadakan wawancara, FGD, dan observasi langsung dalam proses pengambilan data terkait topik yang diambil

Nama partisipan:

Institusi/Jabatan:

Tanggal:

1. Saya setuju bila wawancara atau FGD ini direkam dengan perekam suara
Ya
Tidak
2. Saya menyadari bila informasi dan kutipan yang saya berikan dalam wawancara melibatkan diri saya, institusi, dan/atau organisasi di mana saya terlibat
Ya
Tidak

PO Box 170, SE-222 70 Lund, Sweden, Address Biskopsgatan 5

Phone. +46 (0)46 222 04 70

E-post ellenedita13@gmail.com website <http://www.lucsus.lu.se>