Accelerating the Process for DKI Jakarta Wastewater Management Development in NCICD:

Towards Strategies of Public-Private Partnership

Delft University of Technology
MSc Construction Management & Engineering
Master Thesis | Neo Y.C. Lin
TU Delft | Witteveen+Bos | Royal HaskoningDHV | Rebel Group

National Capital Integrated Coastal Development

NCICD

KEMENTERIAN KOORDINATOR BIDANG PEREKONOMIAN
REPUBLIK INDONESIA

Kementerian PPN/ Bappenas

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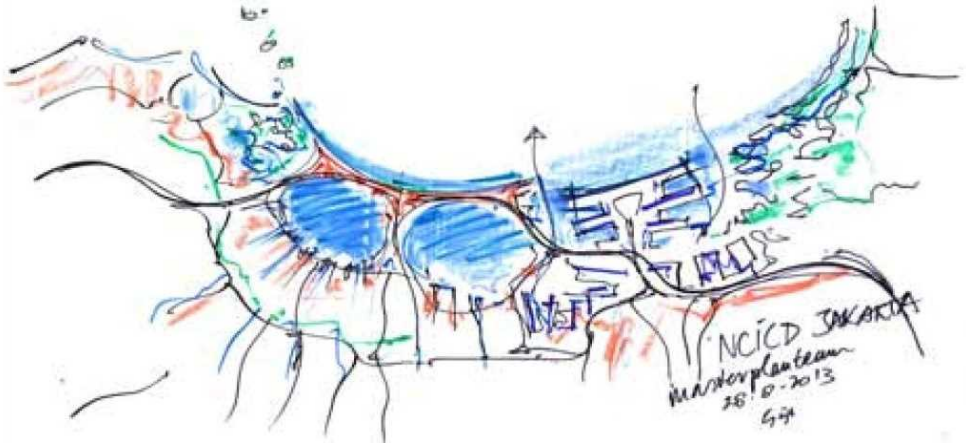

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PREFACE

This thesis report, 'Accelerating the Process for DKI Jakarta Wastewater Management Development in NCICD: Towards Strategies of Public-Private Partnership', represents the conclusion of my overseas graduate internship at PT Witteveen + Bos Indonesia and the conclusion of my Masters-level education in MSc Construction Management & Engineering (CME) at the faculty of Civil Engineering & Geosciences at the Delft University of Technology.

Before beginning this thesis, it was my goal to select an area of focus that would impact and would forever change the way the related discipline(s) is put into practice in the "real world". I combined this higher aim with my interest in Public-Private Partnerships (PPPs), Process Management, and my curiosity about infrastructure projects, and the behind-the-scenes decision making processes and the interaction between people, ultimately leading to a project's success or failure. The expected results would provide what I believe, and hope you will agree, a comprehensive and reliable strategies, using the first wastewater treatment plant (WWTP) in Jakarta as example – towards strategies of PPP connecting with policy analysis and process design for better governance and finally, recommendations on the steps that can be taken to avoid project delay or failure. Accelerating the process of infrastructure management especially in water supply and sanitation (WSS) is crucial. The research focuses on addressing the sanitation problems in DKI Jakarta interfacing with NCICD program. Without WWTP and sewerage systems, the NCICD program won't succeed.

The last eight months in Jakarta have been both eye-opening and rewarding, and has forever shaped my view of emerging market in developing countries. The experience, however, would not have been the same without help. Throughout the project, I have been guided, encouraged and supported by a number of key people that I would now like to take the time to thank. I want them to see their names here and know how much I have appreciated and benefited from their having taken this journey these last eight months with me.

Firstly, I would like to thank Martin de Jong, the chairman of my graduation committee at TU Delft who had been there since the beginning when this project was nothing more than incoherent and vague ideas. I thank him for helping me to work through those ideas to drill

down to the final thesis topic and the laying of a strong foundation for the project. In addition, I would like to thank Leon Hombergen from Rijkswaterstaat and TU Delft for his useful contributions during meetings, but also for his input that helped me to structure and format the written thesis report. Since I was doing my internship in Singapore, Martin and Leon have been my supervisors, and their assistance and patience make me believe that they are the best supervisors I can get for forming the graduation committee. I would also like to thank Li Sun for her candid and fair criticisms during final presentation. Her constructive feedback pushed and helped me to keep raising the bar for myself to produce a quality thesis.

Special thanks to Arno Kops and Victor John Coenen, my Witteveen + Bos Supervisors, who each have different functions at Witteveen + Bos but who both have a vested interest in this project and its potential impact on the way Witteveen + Bos approaches their projects. I thank them for supporting me in Jakarta and Singapore with their great leadership. I am also grateful for them bringing me on board and providing me accesses to the resources that I needed.

I also have to give special thanks to Ad Sannen, the team leader of NCICD program from Royal HaskoningDHV. Ad became involved at the beginning the research and provided lots of insights and supports getting me involve in several high level meetings. Many thanks are also owed to Hafil Widianto, Christiaan Elings, Louis Braam, and Dodi Miharjana putting me in contact with essential personnel and providing their enthusiastic input, my analysis is much richer and well-rounded. A very warm thank you to the staff of Witteveen + Bos and Coordinating Ministry of Economic Affairs Indonesia (CMEA), the top management and other employees and co-workers in offices, who all showed enthusiasm and interest in my research topic. I would also like to thank all respondents from government sectors, Asian Development Bank (ADB), and the other stakeholders who participated in this research.

Finally, my deepest gratitude goes to those whose influence may not be so evident but who nevertheless provided the educational and emotional foundation without which this thesis would have never been possible: my parents and girlfriend.

My formal education may be over, but the learning is just beginning. As the late Albert Einstein said, “Intellectual growth should commence at birth and cease only at death”. I look forward to all that I will learn, and I take with me the solid foundation that the last two years, and more specifically the last seven months, have provided. I expect nothing less than one extraordinary journey.

SUMMARY

Although the use of Public-Private Partnerships (PPPs) in Indonesia has been extensively investigated and much criticized by investors and private companies who want to enter the emerging market, PPPs is still considered as one of strategic funding options. Since the water privatization has failed in DKI Jakarta and many unsuccessful PPP projects in Indonesia, the development of PPP scheme is sluggish. It appears that infrastructure development is the important driver of economic growth for Indonesia and water challenges in Jakarta are approaching such as flooding, water supply and sanitation. However, relatively little research attention so far seems to have been devotes to a consideration of the use of process management approach to accelerate decision making and to improve governance in Indonesia towards PPP strategies. Thus, this study aims to explore the issues of PPP in the chosen case, particularly in terms of its governance and decision making process by using process management approach. The research methods involved the Policy Delphi including survey questionnaires and qualitative interviews and observation due to the fact that the present author had worked in the Coordinating Ministry Economic Affairs Indonesia (CMEA) and attended several high-level meetings. The data analyzes were problem analysis, risk management, stakeholder analysis, and process design. The major findings suggested that some important PPP issues are associated with the stakeholder relationships in the processes including contracting, negotiation, and decision making, and process management approach might be the solution to fine-tune the existing Indonesia's context. However, some conditions are better be created and developed as soon as possible to form a good foundation for accelerating DKI Jakarta Wastewater Management Development. The results of the study may help to improve PPP governance and decision making process in Indonesia.

Research design & methodology

In this study, research design and methodology are all fit for the problem statement. However, there is a problem that the present author didn't expect at the beginning which is the data collection process due to the closedness of public sectors in Jakarta. It was hard to contact the high-level government officials for interviews. In addition, due to the operation of the Policy Delphi, even though the present author already cut at least 3 rounds interview into 2 rounds, it was less likely to interview same people twice because some respondents

are very busy. Besides, not all respondents have enough knowledge and experiences of PPP to answer the questions, that is, it implies that poor human resource capacity is a serious problem among public sectors making the PPP scheme so difficult to be implemented. The present author can only identify and choose more experienced respondents for second round interview. Thus, the data collection process is not comprehensive. Fortunately, data is still valuable and reliable because of those highly experienced respondents. The list of respondents is provided in Appendix F.

Key findings & discussions

Problem analysis provides the preliminary background checking for this case through Policy Delphi interviews. Nine respondents in the first round contributed their perspectives and comments on the feasibility of PPP scheme and what issues have to be addressed for the first wastewater treatment plant (WWTP) in Jakarta. Like many literature reviews, inconsistency of regulations is predominant concerns for many respondents. However, it is not only the regulation issues but also different perceptions and interests between parties or actors. For example, the conflicts between central and regional governments that the regional government doesn't want to take any responsibility implementing the PPP pilot project. Instead, the regional government wishes to test it in other provinces in case they fail again. In addition, the understanding of PPP is still lacking and regional government agencies don't have any skill and experience to carry out the PPP undertaking. It is clear that capacity building and commitment between parties are the two vital issues in this case and have to be addressed as soon as possible.

The findings of risk management are not in contradiction with those of the empirical studies discussed above. With regard to macro and meso levels, the findings confirm those of problem analysis that inconsistency of regulations and weak contracting capability to deal with variations are two important aspects and the strategies are provided to mitigate these issues. In addition, the findings on micro level contribute to the field's understanding of various 'forces' acting on the process. One such force is the impact of inadequate PPP experiences. The present author assumed that these are the most devastating forces which could slow down the PPP development in Indonesia. Managing a PPP relationship is the important foundation of good governance. First, it is important for the Government Contracting Agency (GCA) to understand and appreciate these differences between a PPP project and a conventional project, as these differences necessitate a different approach to managing a PPP provider, as compared to managing a conventional contractor. Second, these results lend some credence to the research objective that process management approach may help deal with and create certain conditions. More specifically, procurement management can be understood as the process that enables parties or actors to meet their

contractual obligations and interests in order to deliver the objectives required from the contract. This continues throughout the life of a contract and involves managing proactively to anticipate future needs as well as reacting to situations that arise. The unique nature of a PPP project necessitates a different, new approach and attitude towards managing the PPP process to mitigate the risks and probability of failure. Mutual trust and understanding, openness, and excellent communications are as important to the success of a PPP arrangement as the fulfillment of the formal contract terms and conditions, and it is therefore in the interests of all parties to make the process work.

Stakeholder analysis reveals the actors' interests, perceptions, and goals in this case and the structure of networks concerning variety, closedness, and interdependence. Different from problem analysis and risk management, the present author places much more emphasis on exploring the issues from each stakeholder's perspectives in the network. A major finding is that that Indonesia does indeed still have a culture in which respect for the formal hierarchy is deeply rooted, which makes the network-liked character of the organization less visible, particularly for outsiders. The essence of stakeholder analysis is the identification of potential threats and opportunities in this case. The results indicate that (1) learning process and innovation; (2) commitments of closed parties; and (3) substantive enrichment are three potential opportunities for Indonesia to succeed in infrastructure development.

Indonesia has its rules of the game by following the pyramidal structure for decision making. However, this process tends to end up with grey compromises or postponements of decision making. The present author examined the design principles of a good process and formulated strategies to solve the sluggish decision making process. In addition, these strategies are in line with previous analysis in this chapter. To conclude, the process management approach can definitely work in this case and help address the issues of PPP. However, it needs some fine-tuning to accommodate Indonesia's context. Indonesia indeed has the potential to improve the process for acceleration. However, some conditions have to be created to reduce the risks especially in the micro level. It has to be stressed that at this moment poor governance and decision making have a negative effect on this case. Also, some government officials are still inclined to top-down project-based command and control approach. The present author would contend that button-up process-based approach should be embedded to improve governance and the quality of decision making.

Conclusions & recommendations

In general, four recommendations are formulated laying a good foundation and creating certain conditions to succeed in this case.

First, Infrastructure Law is imperative. Such a law must be delivered as a single umbrella law to prevent future cross-ministerial disputes. In addition, it should provide sufficient legal basis to protect the public servants who implement projects on a fast track basis without the fear of prosecution at a later date for bypassing certain procedures or steps in the interest of expediency. Moreover, it should enable to overriding of any conflicting central, regional, and local laws and regulations when implementing the selected priority projects. Thus, enacting Infrastructure Law to address the infrastructure crisis will solve current conflicts that often occur in project preparation and it will ensure the implementation of innovative financing schemes, which would accelerate the infrastructure delivery.

Second, central government should take the lead, that is, central government such as Ministry of Finance (MOF) needs to introduce innovative funding schemes like PBAS (Performance Based Annuity Scheme) or APS (Availability Payment Scheme) and, more importantly, provide capacity building to regional governments. After all, Government of DKI Jakarta is the Government Contracting Agency (GCA) having less capacity in this case to deal with tricky PPP providers, and thus, MOF could provide necessary supports to Government of DKI Jakarta. In addition, central government could provide training and guidance for regional governments through 'learning by doing'.

Third, a hero for WSS sector is needed. A powerful and independent leader with strong ties with central government to lead the development of water supply and sanitation (WSS) is desirable. Many cases have shown that a leader or a special authority could be the most important factor to succeed. After all, this case is the first wastewater treatment plan (WWTP) in Jakarta, but there will be another 13 WWTPs to be built. In addition, except WWTP, housing connections and pipelines create great complexities and interfaces that have to be considered as a whole. Learning process is quite important that once he succeeds in Jakarta he might help transfer knowledge to other provinces. From process management perspective, a third party including a qualified and powerful leader and team members with the needed skills mix might be the ideal situation for this case.

Fourth, integrated infrastructure planning is desirable. The infrastructure planning should be a long-term operation. Coordinated and integrated infrastructure planning and management and concentrating different infrastructures can avoid inefficient investments such as unnecessary parallel development of infrastructure and secure the most efficient use of existing infrastructure. More importantly, it stimulates innovative approaches—more collaboration between regional sectoral initiatives and results in decreased expropriation costs and less land occupied.

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GLOSSARY OF TERMS & ABBREVIATIONS

ADB	Asian Development Bank
AP	Availability Payment
APBD	Annual regional budget allocated for infrastructure in Indonesia
APBN	Annual central budget allocated for infrastructure in Indonesia
BAPPEDAS	Regional Planning Agency in the DKI Jakarta Provincial Government
BAPPENAS	Ministry of National Development Planning Agency in Indonesia
BKPM	The Indonesian Investment Coordination Board
BPK	The Audit Board of The Republic Indonesia
BPN	National Land Agency in Indonesia
CAPAM	Commonwealth Association for Public Administration and Management
Cipta Karya	Directorate General of Human Settlements under MPW Indonesia
CMEA	Coordinating Ministry of Economic Affairs in Indonesia
COCO	Contractor-Owned, Contractor-Operated
DBFO	Design-Build-Finance-Operate
DBO	Design-Build-Operate
DBOO	Design-Build-Own-Operate
DPRD	DKI Jakarta City Council
BLT	Build-Lease-Transfer
BOO	Build-Own-Operate

BOOT	Build-Own-Operate-Transfer
BOT	Build-Operate-Transfer
DKI Jakarta	Daerah Khusus Ibukota Jakarta (Special Capital Region of Jakarta)
GCA	Government Contracting Agency
GOCO	Government-Owned, Contractor-Operated
GOI	Government of Indonesia
IIGF	Indonesian Investment Guarantee Fund
JICA	Japan International Cooperation Agency
KKPPI	Policy Committee for the Acceleration of Infrastructure Provision
KPK	Indonesia's Corruption Eradication Commission
KPPIP	Committee for Acceleration of Priority Infrastructure Delivery
MOF	Ministry of Finance in Indonesia or Singapore
MPW	Ministry of Public Works
NCICD	National Capital Integrated Coastal Development
OBC	Outline Business Case
ODA	Official Development Assistance
P3CU	PPP Central Unit, housed in BAPPENAS
PDF	Project Development Facilities
PD PAL Jaya	Jakarta city-owned wastewater management enterprise
PD PAM Jaya	Jakarta city-owned drinking water supply enterprise
PMBOK® Guide	A Guide to the Project Management Body of Knowledge
PMU	Program Management Unit
PPP	Public-Private Partnership

IIF	PT Indonesia Infrastructure Finance
SMI	PT Sarana Multi Infrastruktur Persero
PUB	Public Utilities Board in Singapore
PSP	Private Sector Participation
WWTP	Waste Water Treatment Plant
WSS	Water Supply and Sanitation
RMU	Risk Management Unit
ROE	Regional-Owned Enterprise (BUMD) in Indonesia
RPJMN	National Medium Term Development Plan in Indonesia
SOE	State-Owned Enterprise (BUMN) in Indonesia
SPV	Special Purpose Vehicle
VFM	Value for Money
VGF	Viability Gap Funding

PART I - INTRODUCTION

1 General Introduction

This chapter provides a general introduction to the subject and the problem, and elaborates on the context in which the research takes place. Lastly, a reading guide for the complete report is provided.

1.1 Introduction to the Subject

It is commonly said that the problem of water supply and sanitation (WSS) is not one of economics but of politics; not one of physical shortage but of governance. 'The generic problem of WSS is one of matching demand with supply, of ensuring that there is water of a suitable quality at the right location and the right time, and at a price that people are willing to pay (Hanemann, 2005, p. 26). As Hanemann (2005) contends, the difficulty in providing water supply and sanitation to the poor is partly institutional. During the past five to six decades, developing country governments have explored various ways by which they can provide water and sanitation to the poor households (Gunatilake & Carangal-San Jose, 2008). Safe water is one of the most important felt needs in public health in developing countries in the twenty first century. Poor sanitation and sewerage systems are something that not only affects the health of the people of the country, but also affects the economic and social development of the nation. In DKI Jakarta, by the end of 2014 only 4% of households have been covered by the service of off-site sewerage system (JICA, 2012). Wastewater Management Plan in DKI Jakarta is something that not only huge scale but also extremely complex, but also has the sense of urgency giving rise to a major impact on the environment. It considers Wastewater Treatment Plant (WWTP), pipelines for deep tunnel sewerage systems, and house connections in one package as a pre-condition and one of the most important components interfacing with National Capital Integrated Coastal Development (NCICD).

1.1.1 Sanitation Sector in Indonesia

With a population of about 245 million people, Indonesia is the world's fourth most populous country. Almost half of the population lives in urban areas; with an urban growth rate averaging 3.3 percent per year in 2011, the proportion of urban dwellers and their need for wastewater management services are growing rapidly. Historically, wastewater

management in Indonesia has been viewed as a household or private sector responsibility; as a consequence, public investment in sanitation infrastructure or services was negligible. Consequently, the coverage of wastewater in urban centers in Indonesia is still very low. Despite increasing interest in sanitation, public investment in the sector has remained extremely low. Moreover, the economic impacts of poor sanitation in Indonesia are significant (World Bank, 2013).

Following Indonesia's return to democracy in the late 1990s and subsequent decentralization, the responsibility for investment in municipal infrastructure and provision of services was transferred to local governments. Beginning in 2000, the central government, with donor support, embarked on a series of initiatives to analyze and reform water supply and sanitation sector policies aligning these with decentralization mechanisms. The national Medium Term Development Plan (RPJMN) outlines key constraints to be addressed during the planning period. These are: inadequate regulatory instruments, low awareness of the importance and value of good wastewater management, limited local capacity to manage wastewater, lack of strategies and master plans, and limited funding (World Bank, 2013).

While there are national-level initiatives in place, they are not yet underpinned by sufficient national or local legislation to allow them to be effectively enforced. No formal, comprehensive national policy on sanitation has been promulgated in Indonesia, although a de facto policy is defined in the RPJMN (prepared by the Government every five years) and in PerMenPU 16/2008 issued in 2008 by the Ministry of Public Works (MPW). The only national law pertaining to wastewater policy is Law Number 7/2004 on Water Resources. Article 21 states that the protection and conservation of water resources should be achieved through management of sanitation facilities and infrastructure. The MPW regulation states that any local government that has not issued local regulations on wastewater management must do so, and local regulations, whether existing or new, must be consistent with the ministerial regulation. The regulation proposes joint responsibility between MPW and local governments for financing sanitation infrastructure development. However, in practice, these regulations have limited effect since they are not promulgated as laws and they are not binding on local governments. Inadequate legislation has resulted in a low level of treatment for wastewater and septage, although access to improved sanitation facilities is high (World Bank, 2013).

1.1.2 Public-Private Partnership in Indonesia

The Indonesian government has shown strong commitment to involving the private sector in infrastructure development. In 2005, Indonesia introduced the legal concept of PPPs to boost procurement through a competitive tender process. Other regulations were also

introduced to encourage private investments in sectors including telecommunications, oil and gas, railways, ports, electricity, and water and sanitation. More recently, the Land Acquisition Law was amended to ease the land clearing process. In addition, fiscal support has been made available throughout the PPP process. The government's Project Development Facility (PDF), for example, is a revolving fund for feasibility studies during project preparation. Despite the efforts, however, few PPPs in Indonesia have been able to finalize contract terms. According to BAPPENAS, Indonesia's Ministry of National Development Planning, only 24 PPPs have made it to construction or operation, with no new PPPs reaching financial close—signed contracts between the government, winning bidder and financing parties—since 2009 (Lin, 2014). It is clear that up to the moment Indonesia's PPP framework has not shown satisfying results yet due to regulatory discrepancies within the country's institutions and other bottlenecks. It will be important to establish a good track record that shows ability to realize and manage these projects in order to build trust in the private sector.

The failure of DKI Jakarta water privatization

Since 1998, the water supply in DKI Jakarta has been privatized by two private operators with 25 years concession agreement. However, water privatization in DKI Jakarta has been encountering some problems such as increasing water tariffs; lack of accountability; leaving the poor with no access to clean water; pursuing profit-oriented goals that do not encourage costly development of the piped network; leading to job reductions for efficiency that puts at risk the quality of service. Recently, the Government of DKI Jakarta has launched the action terminating the contract and taking over the services from private operators. These problems could be the lessons learned for Indonesian sanitation sector. As we noted above, the PPP framework in Indonesia is still developing and several sectors have been reformed with the hope that this could be the solution for Indonesia's infrastructure needs.

1.1.3 Case Study: The First Wastewater Treatment Plant in DKI Jakarta

DKI Jakarta has continuously been growing economically by centering on the national administration, commercial, trading, and industries. However, the urban environment has worsened particularly the water and sanitary environment, due to the lack of sewerage system to treat the increased amount of wastewater. At present, the Government of Indonesia (GOI) and the Government of DKI Jakarta are aware of the necessity deteriorated urban environment improvement. However, the development of the sewerage system could not proceed as planned and the coverage remains as low as 4%, mainly due to the requirement of huge funds for construction, operation and maintenance. Thus, construction completion of 14 zones of sewerage system and 14 Wastewater Treatment Plant (WWTP)

should be accelerated in order to reach 75% of service coverage in 2022. The government plans to use the PPP scheme in the sewerage development in order to create synergy between the private sector's technical skills and funding capacity and the Indonesian government's legal and administrative power. The project will use the Waduk Pluit site, with total area of 4 ha. The project serves zone 1 in Central Jakarta and is expected to cover a wide area of 4,901 ha and serves a population of 1.24 million with potential capacity 198,000 m^3 per day. The location and feature of the first WWTP in DKI Jakarta is shown in Figure 1.1.

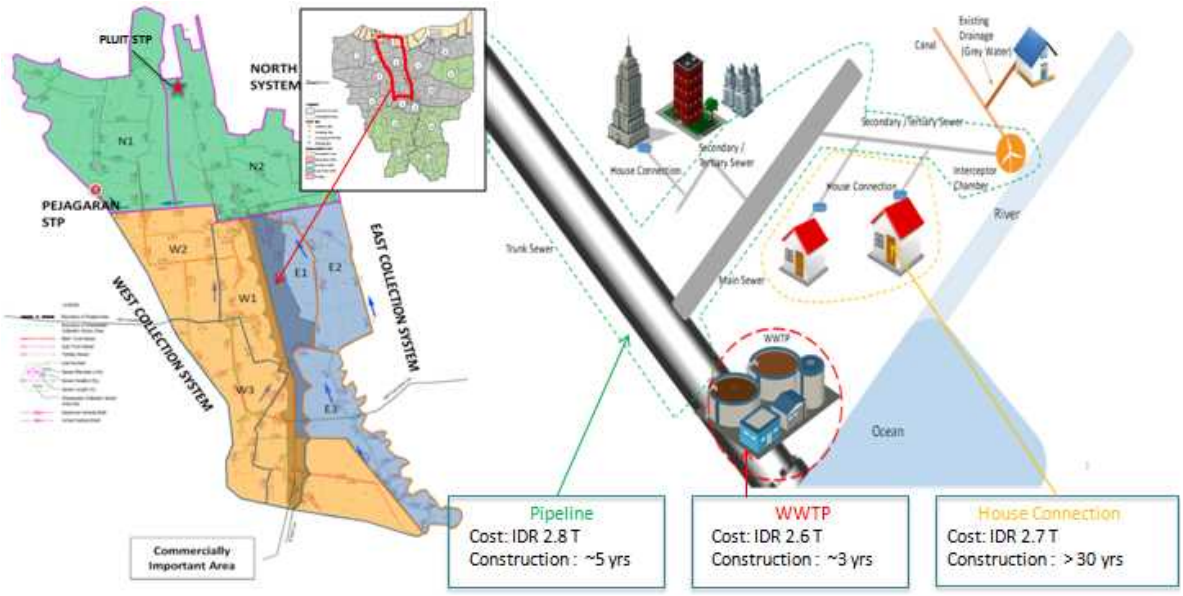


Figure 1.1 Project location and feature in DKI Jakarta

1.2 Research Context

This master thesis written by Neo Y.C. Lin is the last part of the master study Construction Management & Engineering (CME) at the Delft University of Technology. During the research Neo was mainly positioned at the Witteveen+Bos Indonesia Office collaborating with Royal HaskoningDHV and Rebel Group in the program of NCICD. Witteveen+Bos is an internationally operating Dutch consulting and engineering design firm offering clients value-added consultancy and high quality engineering solutions for these main areas of expertise: water; delta technology; sustainable development; mining; oil and gas; transport, mobility and logistics.

The Jakarta Coastal Defense Strategy was scaled up to NCICD, and the consulting services are co-financed from the Netherlands Government (Partners for Water). Witteveen+Bos is the lead of Master Plan team collaborating with Royal HaskoningDHV as the Program Management Unit (PMU) in formulating measures for creating a flood resilient Northern

Jakarta, and enabling economic revitalization and urban development of the entire region. The collaboration team seeks to integrate Infrastructure Planning & Investment Programming (including PPP strategies), Organizational & Institutional Development, Knowledge Management and Communication & Consultation, which is critical for NCICD success and should be established to prepare and implement an ambitious program until 2030.

Box 1.1 National Capital Integrated Coastal Development (NCICD)

National Capital Integrated Coastal Development (NCICD), a megaproject in Jakarta, has been implemented for the long term protection of Greater Jakarta against flooding from the sea due to the ongoing subsidence in Jakarta's coastal zone, and the sea defences are currently inadequate, which immediate risk is that due to subsidence the sea level will become higher than the defence: they will overtop during high tides in the coming years. It not only provides a safe environment for the people of Jakarta to survive, live, and thrive, but also creates an enduring and sustainable foundation to build the future of the city and rise to the challenge of the water from the sea and the rivers. On top of flooding issues, urban challenges such as traffic mobility, poor water quality, and living environment are also essential (NCICD, 2014).

Wastewater management development is the pre-condition and one of the most important components in NCICD. The efforts to clean-up the urban drainage water by construction of sewerage systems and WWTP must be accelerated significantly. However, this is not an easy task in the densely populated city and politically sensitive environment. As already noted above, this research focuses on accelerating the first wastewater treatment plant (WWTP) interfacing with NCICD towards the PPP strategies and stakeholder alignment in Jakarta, Indonesia.

1.3 Terminology and Reading Guide

Before going any further, I would like to define some of the key terms I will be using in this master thesis. Firstly, I will use the term 'network'. This is always a multi-actor network. Alternative names for it are the 'multi-organizational network' or the 'multi-party network', and terms 'actors', 'organizations' or 'parties' – which together form the network – as synonyms. In such a network, an actor, organization or party may want to influence the others. I will call this the initiator or the initiating actor, although it should be pointed out immediately that several initiators in a network may take action at the same time. Secondly, the attempts made by the actor will be called 'interventions'. An intervention may involve anything: a rule, an announcement, money, a decision, information, a threat, a prohibition, etc. The importance of specifying these definitions, I hope, will quickly become apparent.

The master thesis is divided into four main parts. An overview of the contents of each part is structured as follows:

PART I – Introduction

Part I consists of two chapters. The first chapter gives a general introduction to the research topic including the water challenges in DKI Jakarta, elaborates on the research context, and provides a reading guide.

The second chapter provides a detailed research design in which the problem statement, research objective, research questions, and methodology are described. The research framework and research approach are included in the methodology.

PART II - Theory

Part II, the theory, is divided into two chapters that each focuses on a major theory regarding accelerating the process of wastewater infrastructure development towards strategies of PPP. The first chapter provides background information about PPPs what are the differences between PPPs and traditional procurement, followed by the discussion of different modalities and what risks could emerge in PPP projects and how to manage these risks.

The second chapter in part II describes the major management approach, process management approach, which is central in the research. A clear classification of process management approach and traditional project management approach is made. Next, the concept of stakeholder analysis is described aiming at identify actors' interests and dependencies. Finally, the core elements and design principles for a process design are outlined, followed by the discussions on issues in the process of decision making.

PART III – Case Study

The first chapter in part III provides the introduction of the Indonesia's PPP context and the failure of water privatization in DKI Jakarta including the lesson learned, laying a foundation for the study. Next, the chosen case and substance of case analysis including the protocol of Policy Delphi interview are discussed, employing qualitative case study approaches to gain an in-depth and holistic understanding of the context for WWTP in DKI Jakarta.

The second chapter in part III presents the results and discussions of research approaches including problem analysis, risk management, stakeholder analysis, and process design. The essence of this research can be explored in this chapter. However, it is highly recommended to read through the previous chapters especially Chapter 5 including Appendix B and C to understand the Indonesia's PPP context.

PART IV – Conclusions

Chapter 7, the last chapter, gives a final conclusion including the lessons learned on the case study and recommendations and thereby offers a concrete answer to the research questions on how the Government of DKI Jakarta can formulate PPP strategies for the first wastewater water treatment plant (WWTP). Lastly, the research limitation and suggestions for future research are outlined.

2 RESEARCH DESIGN

In this chapter the research design is described. The problem as introduced in the previous chapter is described in greater detail. The problem statement specifies the situations and problems between different knowledge gaps, followed by the research objective. Next, the corresponding main research questions and sub research questions are presented. After which research methodology is presented, with full details of framework, of approaches, and of the instruments and materials used including the introduction of Policy Delphi method.

2.1 Problem Statement

The PPP is not a new concept even though it is perceived as such due to its recent popularity. On the one hand, societies expect to see the government more as a governor and regulator rather than the direct provider of public services due to the poor efficiency; on the other hand, in some countries governments don't have enough money to support infrastructure development. Simply stated, it requires infrastructure of better quality, more efficient provision of public services, as well as better use of public money. Considering all these, a PPP is seen as a procurement mode that may satisfy these changing needs. However, it is not a 'miracle' solution to the problems of the conventional procurement, which is complex and dynamic with high transaction costs (Ng & Loosemore, 2006) and, as a result, only certain types of projects qualify for the use of PPP. Also, a number of local, regional and national authorities are usually involved in PPP projects, which all have different tasks, policies and preferences so that decision making process is often highly chaotic: there are many parties, many procedures, and many issues (de Bruijn, ten Heuvelhof, & in 't Veld, 2010). Especially, the network for water governance in developing countries is always dynamic. Due to the sense of urgency for wastewater infrastructure development, managing the relationship in the network becomes critical to the success of PPP projects. People need to be respected, consulted, and heard—especially in times of uncertainty and change. Managing stakeholders (i.e. consulting, involving, respecting, and communicating with affected people) is critical to the success of all projects, particularly high profile, large, complex projects, as PPPs often are. More specifically, PPP projects often fail because of poor stakeholder management.

In complex PPP projects a number of stakeholder are usually be involved and each stakeholder would interact with each other, which all have different tasks, interests, perceptions, or even policies (Koppenjan, 2005). The stakeholders comprises not only internal organizations between private and public sectors but also the communities such as NGOs and thus, how to create a processes for stakeholder involvement and manage the relationship between these stakeholders become critical to the success of the PPP project due to the long tenure of the PPP contract. EL-Gohary et al. (2006) have pointed out that various problems have been encountered on PPP initiatives around the world that have eventually led to project failure. Stakeholder opposition has been reported as the main reason for failure in several instances. Instead, the early involvement of all stakeholders in the PPP process helps develop an enabling environment because stakeholders may provide valuable information on the points of concern, the performance expectations, and potential risks. Avoiding consultation invites the risk of later opposition, which slows or derails the process (ADB, 2008, p. 67). On top of that, the core aspects of order and control in traditional project management have been criticized. de Bruijn et al. (2010) suggest a different management approach called process approach that emphasizes gaining commitment and acceptance for a decision or change within a project. They also argue that hierarchical steering tools are invalid in these projects since managers are situated as interdependent actors in an inter-organizational and multi-disciplinary network.

Not surprisingly, uncertainty plays an important role in the stakeholder network and cannot be accurately measured and predicted. Ng & Loosemore (2006) argue that too often risks for PPP are under estimated and allocated to parties without the knowledge, resources and capabilities to manage them effectively. Akintoye et al.'s book (2003) on managing PPP risks and opportunities indicates that even on the largest PPP projects, risk management practices are highly variable, intuitive, subjective and unsophisticated. Besides, PPP needs to be based on firm policy foundations, a long-term political commitment, and a sound and predictable legal and regulatory environment (ADB, 2012). Sophisticated private sector partners understand this and will consider these situations when deciding on whether to participate in a PPP project. Put differently, despite the higher need for infrastructure development in low income developing countries, the level of private sector participation in infrastructure investment is significantly low (Akintoye & Beck, 2009, p. 138). Sader (2000) and Thomsen (2005) also identified that conflicting aims of development policy objectives, weak legal environment/regulatory frameworks, and lack of political commitment where governments renege on contractually agreed terms are some of the main obstacles with PPP in the water sector in developing countries. Given the PPP is not solely brought about by focusing on risk management and failure factors lacking of interaction or insufficient embedding in the broader decision making context (Koppenjan, 2005). Normally, problems

are unstructured by nature where no unequivocal or authoritative solution is available (de Bruijn, ten Heuvelhof, & in 't Veld, 2010). Instead of the project management approach, the process management approach should be taken into consideration. Through the comparative analysis by Koppenjan (2005), it shows that both public and private sectors have great difficulty in finding the right shape for the PPP process by which they try to build their partnerships, not to mention the issues of political stability and civic awareness which could be the blockage slowing down the process of infrastructure development.

Water privatization in DKI Jakarta has encountered many difficulties. Privatization was believed, especially by international institutions such as the World Bank, as a promising solution for water problems. Lee and Floris (2003) suggest that private sector participation (PSP) is necessary to fulfill the need of large investments for water infrastructure. The World Bank is confident that privatization is the solution for water problems (Kessides, 2004). The private sector was considered to have better managerial capacity, stronger financial capacity, and better experiences and technological capacity to solve the problems of supplying adequate water to Jakarta. It has become evident in Jakarta, however, that these assumptions have not been realized, and problems exist since privatization was introduced one decade ago. The trauma of water privatization in DKI Jakarta could have significant impacts on wastewater management development.

To reduce and spread the burden to the budget and leverage the economic impact of DKI Jakarta Wastewater Management Development, the pre-condition of NCICD, private investments, mobilized through PPP schemes, are considered as key funding sources. The main concern is that the Indonesian PPP framework has not proved its ability to deliver yet. Also, in Indonesia there is no currently existing unit/agency which has the capacity and experience to manage and deliver such complex project development, which brings up the question how a very large multi-sector project can be dealt with in a highly uncertain and politically sensitive environment. Hence, the DKI Jakarta Wastewater Management Development has been encountering with several obstacles.

While considerable attention has been paid in the past to research issues related to project management approach, a literature on issues of process management approach has emerged only very slowly and in a more scattered way. The present author did not find any publications that reported how to adopt process management approach in an urgent and complex planning phase of wastewater infrastructure development in developing countries. There was also a noticeable absence of research projects on accelerating the PPP scheme by using process management approach. In this research, the present author only focuses on acceleration of the formation of PPP for wastewater infrastructure development in DKI

Jakarta towards PPP strategies, which has great sense of urgency and lots of issues have emerged. Whether the formation of PPP does or does not occur cannot simply be equated with success or failure. After all, it is conceivable that a formation process may stagnate because the risks are too great and the possibilities for covering them are too few. Conversely, a smooth formation process may be due to the fact that the parties involved have given insufficient consideration to the risks involved and have not covered them adequately (Koppenjan, 2005). The Government of DKI Jakarta is seeking the solution for safe water, however, the last push is still lacking. Also, even the master plan for DKI Jakarta Wastewater Management Development have been studied since 1990s and revised in 2012, it still has no clear picture and clarified the problems which have to be addressed in the first place.

This research is restricted to the formation of PPP due to the fact that the first WWTP in DKI Jakarta could be a PPP pilot project. Where the study talks of success or failure, therefore, this relates primarily to whether the formation of PPP does or does not take place. The formation comprises the project content (was the project defined or strategies made in such a way as to succeed?), the actors (have actors been involved in the pre-study and/or planning phase?) and the context of the process (what regulatory framework or institutional framework has been made?). The practicality of the proposed methodology is demonstrated through a case study. This is done with the hope that it may provide an alternative solution to the traditional project management approach for accelerating the process in terms of the PPP scheme to really deal with complex and unstructured issues in the network. Additionally, this research may serve as a reference for relevant actions in the policy making and reform process for the PPP implementation leading to better strategic planning of water governance for WWTP in DKI Jakarta.

2.2 Research Objective

In the studies discussed above, the purpose of the research reported here is to accelerate the process of DKI Jakarta Wastewater Management Development by assessing PPP policies and examining whether the process management approach is adequate in this case for decision maker or policy maker to make better plans, take better decisions, and shape better policies in a complex and dynamic environment. The specific aims in this research are (a) to explore the feasibility of the PPP in the current Indonesia's context and reflect on the failure of water privatization in Jakarta to gain issues overview and, (b) to identify potential bottlenecks and uncertainties which could result in cost growth or project failure, (c) to examine under what conditions good governance in PPPs can be adequately formulated in this case for debottleneck, and (d) to develop strategies for an efficient and effective

program to accelerate PPP processes for the first wastewater treatment plant (WWTP) in DKI Jakarta.

2.3 Research Questions

To ensure PPPs in Jakarta best meet the constantly changing socio-economic needs and the needs of public and private sectors, assessment must be carried out to ascertain PPP strategies fit for the process acceleration purpose. It is therefore the intent of the present study to examine whether the process of DKI Jakarta Wastewater Management Development can be successfully accelerated and promoted in the market. To be able to reach the research objective in an effective and structured way a main research question is formulated. When this question is answered the research objective is obtained. In addition, to be able to answer this main research question, several sub research questions are also formulated. These sub research questions contribute to the answering of the main research question and a few also provide the information to achieve the research objective. To that end, the main research question to be answered is:

> ***Under what conditions can PPPs work for DKI Jakarta Wastewater Management Development in NCICD? More specifically, what should be done to create these conditions?***

To structure the research and help answer the main research question, this study is guided by the following sub research questions:

1. What kinds of water challenges does DKI Jakarta face?
2. What aspects should be taken into account and analyzed to generate key lessons for these water challenges?
3. Why are PPPs attractive and what are the differences between PPPs and traditional procurement? What are the elements of good governance in PPPs?
4. What is the process management approach and what are elements for the process design?
5. What are the lessons learned from the failure of water privatization in DKI Jakarta?
6. What are the issues and risks associated with the PPP formation for WWTP in DKI Jakarta?
7. What strategies can be formulated for the process in this case?
8. What lessons can be drawn from the case study? Can process management approach play a role in this case?

2.4 Methodology

The methodology is divided into two sections and used to answer the research questions mentioned in the previous section. The first section demonstrates the research framework and the second section describes the research approach.

2.4.1 Research Framework

This study will employ **Qualitative Exploratory Research** to gain an in-depth and holistic understanding of wastewater infrastructure development in DKI Jakarta. Exploratory Research has a flexible research design and usually supported by qualitative data. In keeping with a tradition in qualitative research, the present author aimed for thick descriptions of the individual case, while also attempting to identify some general trends and significant patterns. Notice that the present author had also worked in the Coordinating Ministry of Economic Affairs Indonesia (CMEA) and attended in several meetings including high-level meetings and Ministerial meetings. This participatory feature strengthened and validated the beliefs and findings in this research. In order to achieve the research objective and answer the research questions, the research framework was developed as a schematic representation of the research objective showing the appropriate steps in the road map that need to be taken and how the one step implies the other in order to achieve research objective mentioned above to reach substantial research results. In short, the research framework represents the internal logic of this research shown in Figure 2.1.

Figure 2.1 Overview of the Research Framework

The research framework consists of four main parts. During the Graduation Thesis Preparation phase, preliminary literature reviews had been done so that the research scope, the research objective, and the research questions are well-defined at the first stage. The second stage emphasizes the primary literature reviews on PPPs, process approach, and Policy Delphi, resulting in a sound theoretical framework. In this stage, scientific articles,

books, technical reports and conference papers were reviewed that were relevant to the topic of this research, which is so called secondary data analysis. The key words 'Public Private Partnership', 'process management/approach', and 'Policy Delphi' were used and extended to collect (mostly scientific) insights for the creation of the theoretical framework about how process approach can facilitate and accelerate the process of wastewater infrastructure development for the PPP formation in DKI Jakarta. These theories are the cornerstones for setting up a good research.

A successful PPP formation needs sound governance. However, in some developing countries, the PPP formation has been encountering many obstacles such as political climate on decision making and conflicts of interests between stakeholders. In addition, considering any change to the service delivered over the 15-30 year life of the PPP arrangement, a comprehensive strategic planning should also be considered at the beginning making sure its sustainability. According to the research context, problem statement, research objective, and research questions mentioned above, PPPs was chosen to address some important questions and to set forth explicitly some components for looking at the effects of risks and stakeholders' interests. Also, the PPP context in DKI Jakarta, for example, the failure of water privatization, is provided attempting to address these areas of concern by shedding light on the nature of the problems.

Theory on process management approach involves relevant stakeholders in a process of enabling stakeholders to identify, negotiate and achieve their objectives, such as social, environmental or economic, through active participation in the process. In particular, in the stage of PPP formation, stakeholders affected by the problems giving rise to conflicts of interests will most likely result in later implementation failure. Thus, process management approach was included in the theoretical framework.

Theory on Policy Delphi is adopted to collect data and refine the results. In Jakarta, the PPP became a hot potato after the failure of water privatization. Therefore, it is necessary to understand and assess the feasibility of PPP scheme from expert judgment by using the Policy Delphi.

The third stage is to conduct proposed approaches in case study upon theoretical frameworks mentioned in the section 2.4.2. Through the proposed approaches, the reliability and validity for research results can be ensured and finally, the conclusions and recommendations for operations are summarized at the final stage. By following this research framework, the road map guides the research, determining what things should be measured, and what relationships between components should be look for to achieve the research objective.

2.4.2 Research Approach

As mentioned in the previous section, three theories were chosen to support this research. Empirical strategies including the case study and qualitative survey were conducted to assess the theoretical findings in a real-world context and evaluate to what extent the framework could be used to derive practical insights from the case study. The case study, aiming to assess the theoretical framework, was focused on the program of DKI Jakarta Wastewater Management Development dealing with the issue of whether the PPP scheme can work or not. Qualitative survey was used to collect data for the case study, complemented with insights from the researcher's observations during interviews and site visits to make the data more reliable and accurate. The research approach is sketched in Figure 2.2 to support the research framework.

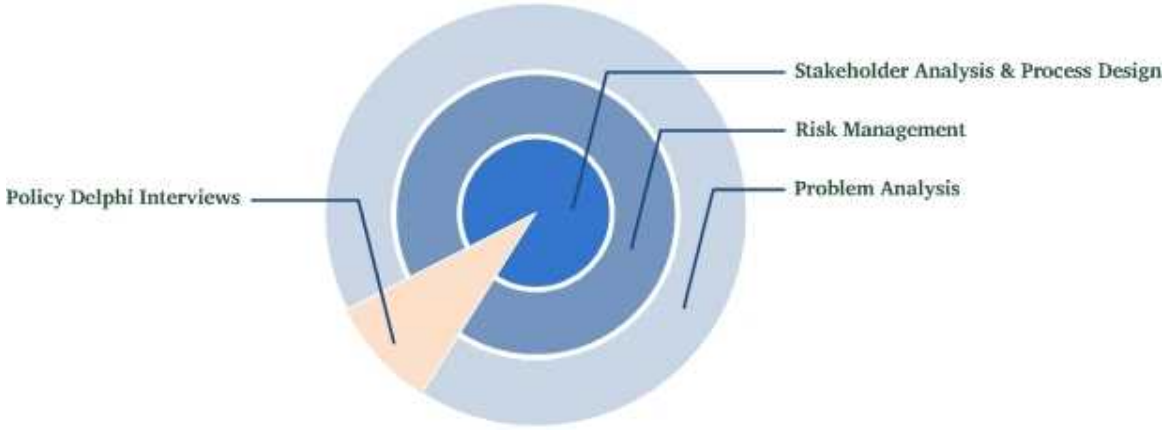


Figure 2.2 Overview of the Research Approach

The methods adopted in this research are problem analysis, risk management, stakeholder analysis & process design, and the Policy Delphi. These are done with the help that these methods are used to facilitate utilization of data through step-by-step analysis. In particular, it refers to the application and combination of several methods in the study in order to examine and refine the results.

Problem Analysis

The outer layer of the research approach, problem analysis, was chosen for identifying the problems in PPP arrangement and designing effective governance for DKI Jakarta Wastewater Management Development program. In this case, existing PPP institutional frameworks and the lessons learned on the failure of DKI Jakarta water privatization are explored in the first place. In addition, by studying existing institutional frameworks including relevant actors, interactions among them and their functions, and existing laws and policies, it might be considered as a problem formulation in complex environments in

which the number of actors who are involved, the conflicts of values and the unlimited number of potential policy alternatives. Moreover, socioeconomic situation and performance assessment are also included to diagnose and identify institutional implications arising from them influencing the PPP arrangement in terms of regulatory and institutional framework, risk sharing, and accountability mechanisms. In addition, through the combination of the Policy Delphi, problem analysis will be more close to reality. Although the desk research and literature reviews can help understand the issues, the issues can still be diverse because of different interpretations. Thus, the Policy Delphi plays an important role in problems analysis ensuring the quality of information and synergizing insights from respondents. This part is mainly related to Chapter 3, the theory on Public-Private Partnerships.

Risk Management

Closely related to PPPs, risk management forms the second inner layer of the proposed approach. Risk is central to the economics of PPPs on identifying risks and deciding to what extent these will be transferred to the private sector. This alone, if properly implemented decides the success or failure of a project. How risks were identified and allocated for the case study will be assessed, and a set of recommendations will be given on how successful risk management was implemented and how it could have been further improved in this specific case.

Risk management is essential in any PPP project because a PPP is a risk sharing relationship between the public and private sectors to deliver a specified public service. As mentioned in the first chapter, there are only few successful PPP projects in Indonesia and most of them eventually are transferred to other schemes such as central/regional budget allocated for infrastructure (APBN/APBD) or assigning to state-owned enterprises (SOEs). To achieve a PPP arrangement, risk management is a crucial first step. By using the Policy Delphi, the risks in PPP can be prioritized and understood why these could affect a PPP project.

Stakeholder Analysis & Process Design

At the core of the research approach, stakeholder analysis & process design is taken place to deal with ‘wicked’ problems which is seen to be relevant to the theory on process management. It has been argued, by de Bruijn et al. (2008) and Enserink et al. (2010), that when facing an unstructured problem, discussion on the values is required and policy makers need to engage in a process with stakeholders to jointly find the necessary decision making space. de Bruijn et al. (2008) stated that decision making in networks is capricious and unstructured. Successful stakeholder management starts with the early identification of stakeholders and the deliberate implementation of tailored strategies for each group.

Analysis should be done early in the project cycle—after project identification, but well before the formal transaction development process begins. Stakeholders affected by the problem are then found and analyzed by characteristics and views. The increasing demand on public functioning and the interconnected world make stakeholder analysis necessary. Failing to analyze stakeholders will most likely result in implementation failure (Bryson, 2004). The stakeholder analysis not only provides inputs for the process design but also for determining the strategies put in use of decision making to make trade-offs for dilemmas. The process design is the heart of the process where norms and standards are set that the process should consider. According to de Bruijn et al. (2010) every process should at least consider four core elements in terms of speed, openness, core values and substance. These core elements are applied to the chosen case and elaborated with how to create sense of urgency and rules of the game. By examining the process design principles, strategies can be made to formulate necessary conditions.

The Policy Delphi

The traditional Delphi Method, developed by Dalkey and Helmer (1963), has been widely used to obtain a consistent flow of answers through the results of questionnaires (Hwang & Lin, 1987). Delphi is an expert opinion survey method with three features: anonymous response, iteration and controlled feedback and finally statistical group response.

The Policy Delphi was first introduced in 1969 and reported on in 1970. Turoff (1975) pointed out that Delphi as it originally was introduced and practiced tended to deal with technical topics and seek a consensus among homogeneous groups of experts. The Policy Delphi, on the other hand, seeks to generate the strongest possible opposing views on the potential resolutions of a major policy issue. He also stressed that Policy Delphi is a tool for the analysis of policy issues and not a mechanism for making a decision. Dunn (1981) noted the Policy Delphi is a systematic, intuitive forecasting procedure used to obtain, exchange, and develop informed opinion on a particular topic. Intuitive forecasting procedures are best suited for complex problems for which policy alternatives are not well defined and for which theories or empirical data are not available to make a forecast. The goals of the Policy Delphi are to describe a variety of alternatives to a policy issue (Strauss & Zeigler, 1975) and to provide a constructive forum in which consensus may occur.

The Policy Delphi was chosen for survey research when it concerns collecting opinions and for refining the analysis process shown in Figure 2.2, that is, data convergence of relevant facts and procedures. Although there are different types of Delphi method, in general it boils down to using different rounds. In the first round the researcher mostly presents questions or statements to different experts with the request to each individual to react on

them for instance by email. These reactions will then be turned into a document anonymously by the researcher. This in turn will be presented to the experts with the question to react on them. On this basis of the first collective document another new summarizing document will be written which should be the greatest denominator and therefore an incentive for the new policy.

Rayens and Hahn (2000) have summarized the Policy Delphi is a multistage process involving the initial measurement of opinions (first round), followed by data analysis, design of a new questionnaire based on group response to the previous questions (second round) (McKenna, 1994). Statistical group feedback—information about the beliefs of other respondents during the first round interview—is used in the second round interview to facilitate consensus on policy beliefs. Panels of experts or key stakeholders are respondents in developing the content of the questionnaire and in responding to issue items. This process allows respondents to reconsider their opinions in light of the views of other stakeholders and can be repeated until consensus is reached or saturation of opinion occurs. The number of stages may range between two and five (Critcher & Gladstone, 1998).

Although most applications of the Policy Delphi method rely on written questionnaires, some use in-person individual or group interviews, phone or e-mail interviews, or computer conferencing procedures (Dunn, 1981). In-person interviews greatly increase participation (McKenna, 1989) and investment in the project. The use of face-to-face interviewing is especially appropriate with respondents who are in leadership positions because their time may be very limited.

The respondents in the Policy Delphi process should be selected to represent a wide range of opinions (Dunn, 1981). Depending on the policy issue area, the number and type of respondents will vary. A typical Policy Delphi sample size may range from 10 to 30 respondents (Dunn, 1981). As the complexity of the policy issue increases, the sample size needs to be larger to include the entire range of respondents both for and against the area of policy issue. The type of respondents selected includes both formal and informal stakeholders who have vested interest in the policy issue. These respondents have varying degrees of influence, hold a variety of positions, and are affiliated with different groups (Rayens & Hahn, 2000).

As was pointed out in the previous section, a Policy Delphi usually includes several question response rounds. The content of each round is derived from the results obtained in the preceding round. Generally, the greater the number of rounds, the more likely it is that an issue can be fully explored. To obtain some comparability between the rounds, it is necessary to structure a set of response categories that will be common to all rounds

(Schneider, 1972). Depending on the policy area and the level of expertise of the researcher conducting the Policy Delphi study, the specific items are developed by the respondents or the researcher or a combination of both (Dunn, 1981). If the researcher is not aware of the full range of policy issues, the first round interview may be more open ended, in which the respondents identify and rank the relevant policy issues. On the other hand, if the researcher is familiar with the policy area under consideration, the first round interview items may be entirely specified by the researcher. However, the respondents always have the opportunity to add or delete policy issue areas during the first round interview process (Rayens & Hahn, 2000). First round Policy Delphi questions typically include four categories of items: forecast, issue, goal, and options (Dunn, 1981). Forecast items provide the respondent with a statistic or estimate of a future event. Respondents are asked to judge the reliability of the information presented. For issue items, respondents rank issues in terms of their importance relative to others. Goal items elicit opinions about the desirability of certain policy goals. For options items, respondents identify the likelihood that specific options might be feasible policy goals. Because Policy Delphi questions are designed to elicit conflict and disagreement as well as to clarify opinions, the response categories do not typically permit neutral answers. The response choices are often rated on the 4-point-liked type scale. The response choices for forecast items range from certainly reliable to unreliable. For issue items, response categories range from very important to unimportant. The response choices for goal items range from very desirable to very undesirable. For option items, the range is from definitely feasible to definitely unfeasible (Rayens & Hahn, 2000).

2.5 Conclusion

Due to the sanitation issues in Jakarta, a wastewater treatment plant (WWTP) is planned to be built. However, it has encountered some obstacles regarding the PPP arrangement and conflicts between different parties. To draw upon this case, Public-Private Partnerships (PPPs) and process management approach are adopted as the two main theories applied in this study. With the research objective and research questions in mind, the research results may help identify key issues for PPPs in this case which is the first WWTP in Jakarta, and also help fill the gap left by inefficient and ineffective development of PPPs over the past 10 years. To ensure the quality and validity of research results, the Policy Delphi interview techniques would play a vital role in this research due to the fact that **Qualitative Exploratory Research** is employed to collect data and information from volunteer respondents across different sectors including government sectors and banks. Through respondents' perspectives and insights, research results can be refined to be more objective and reliable.

PART II - THEORY

3 PPP BASICS: WHAT AND WHY

This chapter provides an overview of Public-Private Partnerships from its definition, the range of PPP contract types and why the PPP is valuable for both public and private sectors. Next, the structure and modalities of PPP are introduced, followed by the discussion on project funding options and how to manage PPP risks.

3.1 What is a PPP: Defining 'Public-Private Partnership'

The literature is full of discussions surrounding the definitions of 'Public-Private Partnership,' and scholars have debated its nature for a decade. However, the definitions are extensive and multifaceted due to different nations and organizations in accordance with their own perceptions and interests. As commented by Khanom (2009), there is no precise and commonly accepted definition of PPPs. According to the dictionary definition in Webster, a partner is one of two or more people, businesses, etc., that work together or do business together. The same dictionary defines 'partnership' as a legal relation existing between two or more persons contractually associated as joint principals in a business. According to Duhaime's Legal Dictionary 'partnership' is an organization in which two or more persons carry on a business together. Thus it is not difficult to conclude that a public-private partnership is a contractual arrangement in which a public sector entity and a private sector entity come together to do a business. The World Bank PPPs Reference Guide (2014) provided a broad definition of PPP, as a 'long-term contract between a private party and a government entity, for providing a public asset or service, in which the private party bears significant risk and management responsibility, and remuneration is linked to performance.' PPPs can be described in terms of three broad parameters:

A PPP is a contractual arrangement with mechanisms for variations

PPP projects tend to be long-term, typically ranging from 15 to 30 years or more (MOF, 2012). The length of the contract will typically cover the whole economic life of the asset, which will be designed, constructed, operated and maintained. The public sector entity will make sure the asset fit for Value for Money (VFM) purpose such that the whole lifecycle cost of the project is minimized and the value of services is maximized. The private sector organization will also ensure the asset is well maintained for its entire economic life.

In the long-term PPP deal, the public sector entity and the private sector organization should be aware of that there will be a need for changes to the service delivered over the 15-30 year life of the contract. To remain flexibility of the PPP arrangement, some aspects of the service requirements or service delivery methods must be adjustable based on certain threshold.

A PPP has some shared and allocated responsibilities and risks

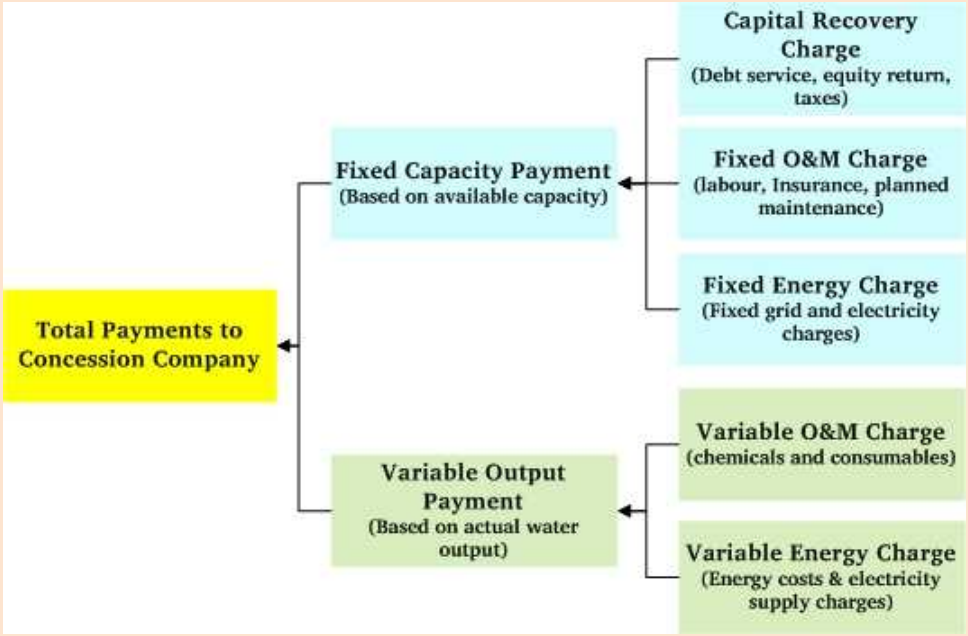
Key to ensuring VFM benefits in PPP projects is an optimal sharing of responsibilities and risks between public and private sectors, which is quite different from traditional procurement method in which the private sector organization normally bears all the risks and all responsibilities. In the PPP deal, it is worth nothing that responsibilities are shared in accordance with the roles in the partnership and risks are allocated based on the capability of parties who can control and manage certain risks better. In brief, the allocation of responsibilities and risks in PPP projects vary depending on the nature and objectives of the project.

A PPP has performance/output based payment mechanisms

The PPP arrangement includes a performance based payment mechanism, where the public sector only pays when services are delivered (e.g. the private sector is not paid during the construction phase) and recurrent payments varies depending on whether the services provided meet specified performance standards. The private provider can be encouraged to improve performance beyond the specified standards through incentives or benefit sharing arrangements. On the other hand, there could be deductions/penalties to the payments if the PPP provider fails to perform satisfactorily. However, it is important to note that a mechanism that veers too much towards penalty will not encourage partnership over the PPP contract life and hence should only be used on critical performance standards. The private sector party can be paid by collecting fees from service users, by the government, or by a combination of the two.

Under ‘user pays’ PPPs, such as toll roads, the private sector party provides a service to users, and generates revenue by charging users for that service. Meanwhile, tariffs or tolls can be supplemented by subsidies paid by government, which could be performance-based or output-based. While in ‘government pays’ PPPs the government is the sole source of revenue for the private sector party. Government payments can depend on the asset or service being available at a contractually-defined quality. It can also be output-based payments—for example, the Design-Build-Own-Operate (DBOO) model for desalination and NEWater plants in Singapore described in Box 3.1.

Box 3.1 Singapore NEWater DBOO payment mechanism



According to CAPAM Biennial Conference Session 2B, Sanmuganathan (2008), Deputy Director at Public Utilities Board Singapore (PUB), presented 'Two-part tariff' based on fixed availability payment and variable output payment in all DBOO projects including desalination and NEWater plants. The private sector operator doesn't provide the service directly to users but PUB purchases potable water under a long-term (20-year) water purchase agreement. The fixed capacity payment covers project costs, partially removing market risks from the Concession Company, and the variable output payment provides returns on costs associated with the production volumes.

3.1.1 Types of PPP Delivery Models

There are many PPP models, including joint-ventures, concessions to make better uses of government assets. A central characteristic of a PPP contract is that it 'bundles' together multiple project phases or functions. Nonetheless, the functions for which the private sector party is responsible vary, and can depend on the type of asset and service involved. Typical functions can include the following:

a) **Design (D)**: The private sector partner designs the facility according to the output specifications set by the public sector authority.

b) **Build (B)**: The private sector partner constructs the facility.

c) **Finance (F)**: The private sector partner raises the money through e.g. bank loans, bonds and equity to finance the upfront cost to design and build the facility.

d) **Operate (O)**: The private sector partner can provide ancillary and/or core operations services. Ancillary refers to the private sector party maintains the facility and provides non-core functions, such as cleaning, security, transport, etc. core operation service stands for the private sector partner delivers the core public service that the facility was built for (e.g. operating a desalination plant to provide potable water).

e) **Maintain (M)**: The private sector partner is responsible for maintaining the asset to a specified standard over the life of the contract.

f) **Ownership (O)**: In **Contractor-Owned, Contractor-Operated (COCO)**, the owner can affect the productivity of the asset through enhancement, maintenance or upgrading during its economic life, especially when the risk of obsolescence of the asset is high; and the main 'productive' capacity of the asset is through its operations, i.e. the facility plays an integral role in providing the service for the users. For example, COCO is suitable for PPP water treatment plants where the private sector partner has to operate the asset to supply water to the users/Government in providing the service for the users. While **Government-Owned, Contractor-Operated (GOCO)** is suitable for critical and unique facilities that should remain under Government's ownership and control, e.g. national defense infrastructures. The contractor maintains all the properties but the land title to the properties remains with the public agency. As Delmon (2010) describes, ownership rights mainly affect how handover of assets is managed at the end of the contract, and in practice, most projects do not benefit from asset ownership.

The most integrated contract for building projects is the DBFO contract. Normally, the 'maintenance' of the asset is included in the contract as well (DBFMO), which is labeled under PPPs. According to the extent of Private Sector Participation (PSP), the PPP spectrum of options is shown in Figure 3.1.

Figure 3.1 The PPP spectrum of options (Escobedo, 2013)

It is also worth noting that Hobma (2009) argued PPPs can be simply divided into two types: concessions and alliances. The first type of PPPs is the concession, which the public sector entity owns the assets, but it contracts with the private sector organization for operations, maintenance and investment. This form, which has 25 to 30 years as typical duration, has potential for high efficiency in operations and investment, but requires considerable commitment and regulatory capacity. A concession is a specific term in civil law countries, in which projects that are more closely described as Build-Operate-Transfer (BOT) projects are called concessions. In general, most of the models such as Design-Build-Operate (DBO), Build-Own-Operate (BOO), and Design-Build-Finance-Operate (DBFO) can also be defined as concessions (Hobma, 2009). Utilities purchase agreements, step-in agreements and third-party agreements are important in concessions.

Main characteristic of alliances or so called joint ventures is a partnership (arrangement with profit sharing between partners) created for specific purpose—no separate legal entity created and each of the partners with full legal responsibility for the project; or a contractual consortium arrangement in which the parties contract to work together on a specific project. There is here, however, no concept of a sharing of a pool of profits as there is with a partnership. Each party is remunerated for specific services provided to the consortium and no separate legal entity is created. The main differences between concessions and alliances are shown in Table 3.1.

Table 3.1 Characteristics of concessions and alliances (Hobma, 2009)

	Concessions	Alliances
Division of risks	Risks are for the private party	Risks are shared by public and private parties
Type of relationship	Public client buys a service	Joint client ship
Type of contracts	Output oriented contracts	Process oriented contracts
Forms of contracts	Design-Build-Finance-Maintain (Operate) contracts	Partnership agreements / Setting up a legal entity: Private Limited Liability Company/Limited Liability Company or Limited Partnership/Partnership under a common firm

3.1.2 Why Public-Private Partnerships

The needs of public sector entities as well as private sector parties to enter into PPPs can differ from project to project and jurisdiction to jurisdiction. This is another reason for the absence of a common definition of PPP. Gunawansa (2010), for instance, argued that the need of a cash strapped developing country to enter into a PPP to develop a project to provide clean water or electricity to the citizens will be different from the need a developed country may have in considering a PPP to develop an airport or a highway. More specifically, most developed countries focus on the cooperative venture and compatibility between the parties and the appropriate allocation and sharing of responsibilities, risks, and profits. This gives the indication that PPPs are looked at as partnering arrangements between parties with equal bargaining power. Further, PPPs in developed countries are also seen as a way to bring in specialist private sector expertise to stimulate an exchange of ideas and bring more international players into the domestic market (KPMG, 2007). While developing countries focus on the fact that the government gives a concession to the private sector parties to develop a project and provide services in return for payment of user charges. This gives the indication that the public sector engagement in the partnership is limited to the granting of the concession due to financial constraints and lack of modern technology (Gunawansa, 2010).

In this sense, there is no universal norm for the most appropriate approach to PPP. Delmon (2010) proposed a classification model that has withstood the test of time providing policymakers a mechanism to compare solutions easily and clearly without the confusion associated with political, nationalistic or cultural labels. The classification model focuses on the most important issues in PPP projects: existing business risks, construction obligations, the need to arrange private financing, to whom the services are delivered and source of the project revenue stream. He also noted that this model could facilitate the task of practitioners when seeking to identify relevant lessons learned from other projects, sectors, countries, legal systems and cultures to fit the needs of a given country, sector or project. The classification model is shown in Table 3.2.

Table 3.2 The Classification Model of PPP (Delmon, 2010)

Business	Construction Obligations	Private Funding	Service Delivery	Source of Revenues
New	Build	Finance	Bulk	Fee
Existing	Refurbish		User	Tariffs

Key differences between PPPs and traditional procurement

As mentioned above, PPP projects differ from traditional projects in a number of ways:

Table 3.3 Differences between PPPs and traditional procurement

Traditional Procurement	Public-Private Partnerships
Short procurement process	Long procurement process
Each phase of a project may be contracted out to a different party	All phases of a project are awarded to a single party
Risks are allocated to the private sector	Distribution of risks between public and private sectors
Financing normally done by the public sector	Financing can be done by government, the private sector or a combination of the two
Input-based specifications	Output-based specifications
Generally no performance standards	Payment and incentives can be offered based on performance

In sum, traditional procurement focuses on procurement of assets not services. Also, the finance depends on the budget available. Moreover, traditional procurement assumes risks that are better handled by private sector. While properly structured, the PPP scheme can incentivize whole-life cost approach and result in optimal risk allocation. In addition, it offers certainty of budget and realizes government equity.

Benefits for the public sector entity

The PPP arrangement enables the public sector entity to get better VFM in the delivery of public services. More specifically, a PPP allows Government to tap on to the private sector's expertise, innovation and competitive advantages in the delivery of public goods and services (MOF, 2012), which not only raises cost efficiency through lifecycle optimization but also taps on the private sectors' networks to maximize asset utilization and commercial potential. For example, the Singapore Sports Hub project where private sector party connections and expertise can be leveraged on to bring in world class sporting programs, in order to enhance asset utilization. In addition, the risks may be allocated according to each party's expertise in managing and mitigating the risks in the service delivery process. Typical risks that are allocated to the private sector party include design, construction and

financing risks. On the other hand, the public sector entity may take on political and regulatory risks, while other risks such as demand/revenue risks will be assigned to whichever party is best able to bear it. By transferring the financial risks to the private sector party, there will also be greater certainty over Government's future cash flows.

Benefits for the private sector party

A PPP offers opportunities for the private sector party to do business with the government and thus enlarge the business market. The private sector party will be engaged to deliver a full suite of services (e.g. design, construction, operations and maintenance) which were traditionally performed in-house by public sector entities or performed by multiple private companies (MOF, 2012). Also, a PPP also allows the private sector party to have more room to innovate and offer efficient solutions for public services. Moreover, the involvement of private sector players in PPP projects may also give companies valuable expertise and experience to spur their development in the PPP arena and position them to win overseas contracts.

3.1.3 Principles of Good Governance in PPPs

The United Nations Economic Commission for Europe (UNECE) Guidebook on Promoting Good Governance in PPPs (2008, pp. 13-14) describes 'good governance' as encompassing the following six core principles:

- **Efficiency**—the extent to which limited human and financial resources are applied without waste, delay or corruption or without prejudicing future generations
- **Accountability**—the extent to which political actors are responsible to society for what they say and do
- **Transparency**—clarity and openness in decision making
- **Decency**—development and implementation of rules without harming people
- **Fairness**—equal application of rules to all members of society
- **Participation**—involvement of all stakeholders

From the above definition, certain prerequisite conditions that underlie good governance include an efficient and accountable public management system to deliver public services, well defined legal framework and government transparency, that is, predictable legal framework with rules known in advance and a reliable and independent judiciary and law enforcement mechanisms are critical. Participation and fairness can enhance policy analysis, promote public debate and reduce the risk of corruption. More importantly, good governance looks after the poor in developing countries.

3.2 Structures and Actors in Public-Private Partnerships

A PPP project involves collaboration between various types of private sector parties and the public sector entity. The PPP deal should be structured to be mutually beneficial to all the parties involved, with each party taking on the responsibilities which it is best able to manage. The roles of the public sector entity and the various private sector parties (including construction companies, operations companies, financial institutions and PPP consultants/advisors) in a typical PPP project under the Design-Build-Finance-Operate model are shown in Figure 3.2.

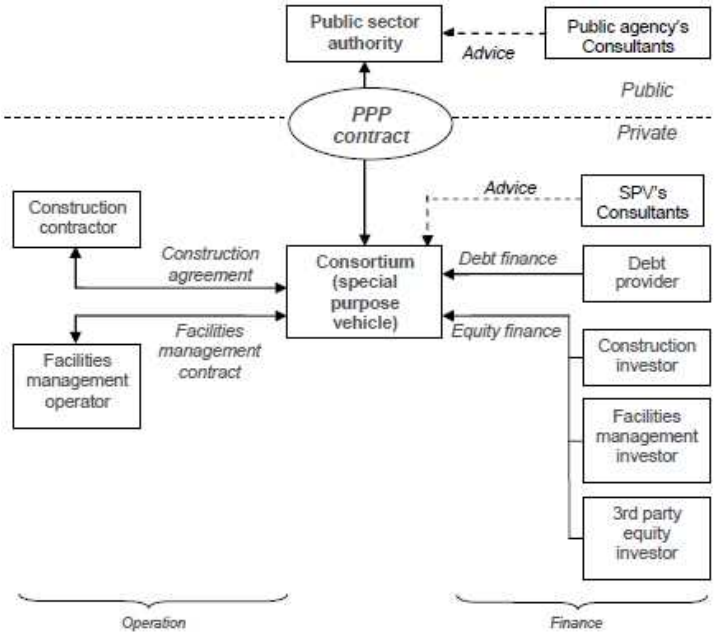


Figure 3.2 Typical PPP (for DBFO model) project structure (MOF, 2012)

The public sector authority

As the purchaser of services, the public sector authority or entity will specify the outcomes/outputs that it requires and avoid specifying the means of the delivering the services. The public sector entity will also pay the PPP provider when the services are delivered according to the contract performance standards. The public entity's primary contractual relationship is with the consortium. This may be complemented by a direct agreement between contracting authority and debt providers; although often this relationship is limited to the provisions in favor of the debt providers included in the PPP agreement, such as step-in rights or senior debt repayment guarantees.

Special Purpose Vehicle

The private sector party to most PPP contracts is a specific project company formed for that purpose—often called the consortium or Special Purpose Vehicle (SPV). The SPV raises

finance through a combination of equity—provided by the SPV's shareholders—and debt provided by banks, or through bonds or other financial instruments (World Bank, 2014). When the SPV starts to deliver the services, it will use the service payment streams it receives from the procuring agency or any third party revenue generated to repay its debt and equity providers, as well as its suppliers and subcontractors.

EPC contractors and facilities maintenance operators

The SPV procures the design and construction phase to the Construction Contractor. This design and build entity of construction contractors can be referred to as the 'EPC' in which the 'EPC' is an abbreviation for Engineer, Procure and Construct. A similar case is presented in the procurement of the maintenance and operation phase to a Maintenance Operator.

Equity investors and debt providers

Typical equity investors own the consortium (i.e. the SPV). An equity investor only benefits from its investment in a DBFO project after it is completed and successfully in operation as the public agency concerned only starts paying when the asset becomes available. In addition, the value of the project to the equity investor is determined by the expected performance of the project over its whole life. Hence, the equity investor will ensure that the SPV performs up to the specified standards so that there are positive returns on investment for the company. Debt providers to PPP projects in developing countries may include commercial banks, multilateral and bilateral development banks and finance institutions, and institutional investors such as pension funds (World Bank, 2014).

Consultants

The public sector entity and the private sector bidder may also separately decide to engage consultants (such as technical, legal and financial consultants) to help them structure a PPP tender, and to work out a viable PPP proposal respectively. Consultants or advisors who have experience in developing PPP contracts can help to highlight the best practices to adopt or the pitfalls to avoid when preparing for a PPP deal to secure the substance of the PPP arrangement (MOF, 2012).

3.2.1 Project Funding Options

Based on the requirements of the public sector and the characteristics of the asset or service to be developed, a variety of project delivery modalities can be employed. The main two variables that influence the selection of a certain delivery modality are risk allocation and the degree of private sector participation (PSP). When concerning WWTP in DKI Jakarta, there are three basic project funding options for infrastructure projects and for PPP projects

in particular which can be discussed in this research resulting in different choices of modality. These project funding options also reflect on the degree of PSP.

Public financing

The Government may choose to fund some or all of the capital investment in a project and look to the private sector to bring in expertise and efficiency. This is generally the case in a so-called Design-Build-Operate project where the operator is paid a lump sum for completed stages of construction and will then receive an operating fee to cover operation and maintenance of the project. Another example would be where the Government chooses to source out the civil works for the project through traditional procurement and then brings in a private operator to operate and maintain the facilities or provide the service. Even where Governments prefer that financing is raised by the private sector, increasingly Governments are recognizing that there are some aspects of the project or some risks in a project that may be easier or more sensible for the Government to take. For WWTP in DKI Jakarta, public financing refers to the funding by a central and/or regional government via APBN/APBD, Asset Liquidation, ODA Loans, Regional Direct Loans, Country Bonds, or Municipal Bonds. The structure of public financing is shown in Figure 3.3.

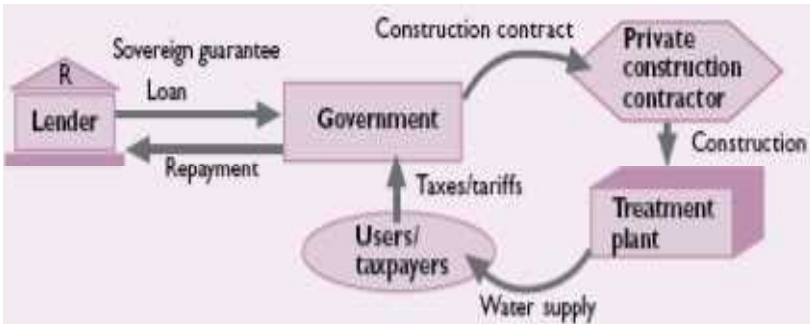


Figure 3.3 The structure of public financing (Miharjana, 2012)

Corporate or on-balance sheet financing

The private operator may accept to finance some of the capital investment for the project and decide to fund the project through corporate financing shown in Figure 3.4—which would involve getting finance for the project based on the balance sheet of the private operator rather than the project itself. This is typically the mechanism used in lower value projects where the cost of the financing is not significant enough to warrant a project financing mechanism or where the operator is so large that it chooses to fund the project from its own balance sheet. The benefit of corporate finance is that the cost of funding will be the cost of funding of the private operator itself and so it is typically lower than the cost of funding of project finance. It is also less complicated than project finance. However, there is an opportunity cost attached to corporate financing because the company will only

be able to raise a limited level of finance against its equity (debt to equity ratio) and the more it invests in one project the less it will be available to fund or invest in other projects.

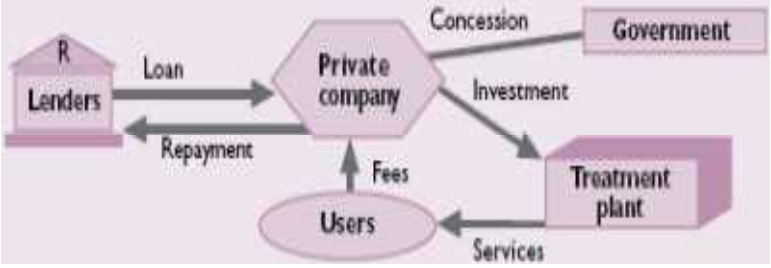


Figure 3.4 The structure of corporate financing (Miharjana, 2012)

Project financing

Practically, project financing is one of the private funding operations made up of a number of contracts (concession, financing, contracting, supply, guarantee, building and maintenance). For the public administration, it is aimed at integrating public resources (financial, professional and managerial) in order to better or innovate the offer for a public service for the community. For private companies, it is used to obtain a just compensation of the resources invested in the initiative. The project company or SPV is the holder of the fundamental rights and obligations of the project for the achievement of a project finance initiative, as it allows the project cash flow to be separated from the assets and the other activities of the subjects involved and it also allows the sponsors not to list the loan among the debts of the SPV as the so called 'ring fence' is used. The structure of project financing is shown in Figure 3.5.

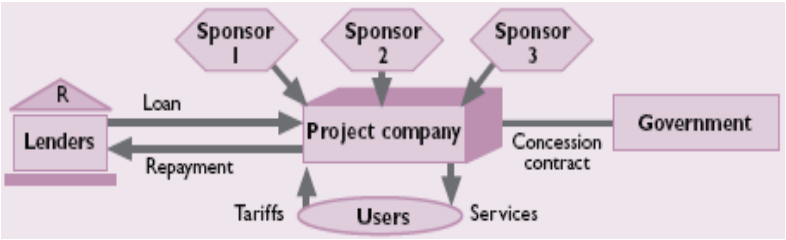


Figure 3.5 The structure of project financing (Miharjana, 2012)

The SPV will be dependent on revenue streams from the contractual arrangements and/or from tariffs from end users which will only commence once construction has been completed and the project is in operation. It is therefore a risky enterprise and before they agree to provide financing to the project the lenders will want to carry out an extensive due diligence on the potential viability of the project and a detailed review of whether the project risk allocation protects the SPV or consortium sufficiently. This is known commonly as verifying the project's 'bankability'.

3.2.2 Choices of Modality

As mentioned above, the comparison between different project delivery modalities is elaborated in Table 3.4 to provide an overview.

Table 3.4 Comparison of project delivery modalities

	Ownership	Design	Build	O&M	Financial Responsibility
Design-Bid-Build	Public	Private by Fee Contract		Public	Public
Private Contract Fee Services	Public	Private by Fee Contract		Public or Private by Fee Contract	Public
Design-Build	Public	Private by Fee Contract		Public	Public
Long Term Lease	Public	Public or Private by Fee Contract		Private	Capital Public Lease Private
Design-Build-Finance-Operate	Public	Private by Fee Contract			Public, Public/Private, or Private
Concession BOT	Public	Private by Contract			
Build-Own-Operate	Private	Private by Ownership			
Divestiture	Private	Public or Private		Private	

It is obvious that modalities that yield higher social benefits also tend to demand a higher level of government commitment, and a better prepared institutional framework. If the principal reason of PSP is the large potential for gains in efficiency in the public sector, it may be expected that projects with higher level of PSP deliver more efficiency gains. However, the consequent risk of failure grows correspondingly. Appendix A provides a snapshot of PSP in WSS infrastructure projects elaborated from *PPI database* (World Bank, 2015) showing that concession and Greenfield projects are the most common modalities in

developing countries although the total investment in concession are still the highest with 62% of 78,813 million US dollar. In a concession a public entity owns the assets, but it contracts with the private sector (concessionaire) for operations, maintenance and investment. This form, which has 25 to 30 years as typical duration, has potential for high efficiency in operations and investment, but requires considerable commitment and regulatory capacity. Greenfield projects refer to new projects usually built and operated by the private sector, which takes on the commercial risk. Political and exchange rate risk can sometimes be shared with the public sector. Such projects can take many forms, but the most common is Build-Operate-Transfer (BOT). Others forms of Greenfield projects include Build-Own-Operate-Transfer (BOOT), Design-Build-Operate (DBO), Design-Build-Finance-Operate (DBFO) and Build-Lease-Transfer (BLT) (Pessoa, 2008). This approach to describing PPPs for new assets captures legal ownership and control of the project assets. Under a BOT project, the private company owns the project assets until they are transferred at the end of the contract. BOOT is often used interchangeably with BOT, as Yescombe (2007) describes.

3.3 Risk Management in Public-Private Partnerships

Risks in the PPP scheme is not as straight forward as just classifying certain projects complex or not complex. It is imperative to understand the various sources of risk and how they impact the project. Not surprisingly, there are lots of risks involved in the PPP project contributing considerably to project complexity and leading to cost growth or project failure. In particular, PPP projects in developing countries always encompass risks suffering from a lack of good governance and regulatory frameworks resulting in high transaction costs in tendering, complex negotiation processes, differing or conflicting interests among actors, and the complex web of contracts and financial structuring needed to bind them together. Besides, mismanagement, corruption and incompetence are frequent causes of inefficient PPP experiences. From a PPP project perspective, the realization of different risks over the lifecycle of the project can create different scenarios where project benefits and costs can differ greatly from the projected base conditions. Identification, assessment and management of the risks associated with the project that can threaten the project capability to provide sufficient revenues to service the debt obligations and earn return on equity investments have been of paramount importance in procuring infrastructure projects through PPP route (Alfen et al., 2009).

3.3.1 Defining Uncertainty, Project Risk and Project Complexity

Among many themes related to the PPP governance, risk management is undoubtedly one of the core topics. Risk, as per Webster's dictionary, is defined as the possibility of loss, injury, disadvantage, or destruction. Guidelines of the European Commission (EC) (2003)

define risk as 'any factor, event or influence that threatens the successful completion of a project in terms of time, cost or quality.' Describing something as a 'risk' is a convenient way of describing an unknown state that may occur in the future (Weaver, 2008). If something has occurred it is a fact or an issue. If something will occur (e.g. the setting of the sun) there is no uncertainty and therefore no 'risk'. The definition of 'risk' used by the authors of A Guide to the Project Management Body of Knowledge (PMBOK® Guide) is consistent with most modern risk management standards. PMBOK® Guide (2004, p. 275) describes risk as 'an uncertain event or condition that, if it occurs, has a positive or negative effect on one or more project objectives such as scope, schedule, cost, or quality.' Also, it is common that project complexity is often considered as being caused by uncertainties. Perminova et al. (2008) defined uncertainty as 'a context for risks as events having a negative impact on the project's outcomes, or opportunities as events that have beneficial impact on project performance.' The key element of these definitions is that the effect of the uncertainty, if it occurs, may be positive or negative on the objectives of the planned endeavor. Risks are, by definition only those uncertainties that will impact the project as important contributors to project complexity (Turner & Cochrane, 1993; Williams, 2002).

Bosch-Rekveldt (2011, p. 38) has concluded and summarized the views on the concepts of uncertainty, risk and complexity in the context of projects such as the following: (a) Uncertainty refers to a situation that may, or may not occur and is a fact of life in modern project management. (b) Risk has its origins in the uncertainty that matters for the project delivery. A risk description includes a cause for the risk, the event itself and the consequences, with certain occurrence probability and impact. (c) Complexity is caused by, amongst others but not limited to, uncertainties and risks.

3.3.2 Risk Identification and Assessment

PPP risks vary depending on the country where the project is implemented, the nature of the project, and the assets and services involved. The first step toward structuring the PPP is to put together a comprehensive list of all the risks associated with the project—that is, factors that could cause unpredictable variation in the project's value. Risk identification and risk assessment are often completed in a single step, a process that can be called risk assessment (Miharjana, 2012).

There are many different types of risk that PPPs may face. Grimsey and Lewis (2002) have identified nine types of risk associated with PPP projects, namely technical risk, construction risk, operating risk, revenue risk, financial risk, *force majeure* risk, regulatory/political risk, environmental risk, and project default. **Technical risk** relates to engineering and design failures. **Construction risk** can arise when faulty construction

techniques and cost escalation and delays of construction. **Operating risk** reflects the chance that the purchased services are not delivered as agreed in terms of specification, costs or timing resulting in higher operating costs and maintenance costs. **Revenue risk** arises when the SPV is unable to meet its contractual obligations or performance standards and the government is unable to enforce them or recover compensation leading to revenue deficiency. **Financial risk** can arise from prices and costs increases, financiers withdrawing, interest rates increasing or from poorly designed financial structures. ***Force majeure* risk** relates to the war and other calamities and acts of God. **Regulatory/political risk** reflects legal changes and political interference. **Environment risk** can arise from adverse environmental impacts and hazards. Finally, **project default risk** arises when a party is unable to perform its contractual obligations on time or to defined standards or combination of any of the above.

Similarly, the EC guidelines identify eleven types of risk as follows: revenue risk, construction risk, foreign exchange risk, regulatory (contractual) risk, political risk, environmental risk, latent defect risk, public acceptance risk, sustainability risk, hidden protectionism, and risk involved in the choice of private the sector partner (European Commission, 2003). Mouraviev (2012) mentioned there are few additional kinds of risk such as foreign exchange risk, latent defect risk, public acceptance risk, sustainability risk, hidden protectionism, and risk involved in the choice of the private sector partner. **Foreign exchange risk** involves the changing value of a domestic (national currency) compared to major world currencies. **Latent defect risk** refers to potential technical flaws in the way how an asset was constructed, which is consistent with technical risk proposed by Grimsey and Lewis (2002). **Public acceptance risk** comes from the degree of population's willingness to use PPP services. As some services involve user fees, public acceptance often means the citizens' readiness to pay these fees. **Sustainability risk** stems from a question whether a project can continue for the full length of its term as citizens preferences may change, or the service may become outdated. **Hidden protectionism** is the risk of creating a private monopoly, protected by the government from competition. **Risk involved in the choice of the private sector partner** exists because of the private sector party's lack of experience or lack of commitment to a PPP project. The risk may result in increased project costs and multiple disputes between actors.

In order to evaluate the critical risks and factors in Singapore PPP projects, Hwang et al. (2013) have summarized 42 risk factors in each literature and adopted the classification approach proposed by Li et al. (2005). These 42 risk factors were categorized into the three-meta-level classification approach with reference to Li et al. (2005) by considering the relationship between risk factors and projects. Macro level risks have their origins beyond

the system boundaries of projects; meso level risks occur within the system boundaries of the project; and micro level risk factors are associated with the stakeholder relationships in the procurement process. In Hwang et al. (2013) study, '**lack of support from government**', '**availability of finance**', '**construction time delay**', '**inadequate experience in PPP**', and '**unstable government**' were the top five highest criticalities.

To focus effort when allocating risks, it is helpful to consider the importance of the different risks. Some risks will be much more significant than others: in terms of the likelihood of the risk occurring, the severity of its impact, or both. Risk can be assessed either quantitatively, or qualitatively. In this research we only adopted qualitative assessment for screening and prioritizing risks and for developing appropriate risk allocation and mitigation strategies.

3.3.3 Risk Allocation and Mitigation

Appropriate allocation of project risk between the government and private parties—and effective management of those risks in practice—is critical to achieving the potential benefits from successful PPP projects to secure the 'bankability'. Many elements of the PPP project structure—such as the allocation of responsibilities and the payment mechanism—stem from the risk allocation. As mentioned in section 3.2.1 project finance has been the most prevalent mode of financing for infrastructure projects developed through PPP route such as BOT, BOO and BOOT. The term project finance refers to cases where the loan for the capital costs of the project is repaid through the cash flows generated with the operation of the project. The lenders advancing debt financing to the project on project finance basis have either no or limited recourse to the project sponsors' assets and/or cash flows. Lenders are more concerned with the project capacity to generate sufficient revenues to service the debt obligations. On the other hand, investors focus on whether the project can provide an adequate return on their investments. The notion of risk allocation in PPP projects is that risks should be borne by the party best able to assess, and manage them or the party with access to hedging options or lowest costs of bearing the risks, that is, one of the major considerations that play an important role in designing the risk allocation framework of the project is the concept of 'Value for Money' (VFM).

Risk mitigation refers to the practice that can reduce either the likelihood of occurrence of risk or the impact of the consequence in case the risk occurs. One of the most commonly used risk mitigation practice is to transfer the risks to another party who is in a better position to manage and control the risk at a lower premium. For example, in PPP projects, network of contractual relationships is used to achieve this. The SPV or consortium transfers the risks related with the construction and design of the facility to the EPC contractor, the operation and maintenance of the facility to the O&M contractor. The risks will be further

reduced if the SPV selects parties which are experienced and qualified. Alfen et al. (2009) mentioned that Insurance is another risk mitigation strategy used in PPP projects. With insurance, in addition to transfer of the risk, the implication of the consequence of the risk is also capped at the risk premium. Project sponsors can select from a wide range of insurance instruments to mitigate various risks such as owner's liability, some of the force majeure events, business interruption, and legislative and government policy risks such as convertibility of currency and, to a limited extent, change of law. Other risk mitigation practice is to employ hedging instruments to mitigate the macroeconomic risks such as interest rate risk, inflation risk, and foreign exchange risk. The hedging instruments available in the capital market include forwards, futures, cash swaps, and options.

Risk Allocation Matrix

The risk allocation matrix is employed as a tool throughout the research to ensure the proper distribution of risk and create a bankable environment. The final value of risk must be seen to represent VFM for the PPP supplier to deliver the services, rather than the public sector. In addition, the risk allocation matrix should include the risk mitigation strategies to ensure its comprehensive and integrated function. It is not surprising that infrastructure projects that were developed under a PPP scheme involve a variety of stakeholders, i.e. government agencies, private companies, financial institutions, insurance companies, users, community, etc. Each of these stakeholders has different objectives which therefore influence their perceptions on the risks related to these kinds of projects. In other words, different stakeholders may have different definitions of risks and these risks may also give different meanings for each stakeholder. Some risk can be considered to have positive impact for a stakeholder while it can also give a negative impact for the other stakeholder in the same time. Moreover, some risks can even have different meaning to the same stakeholder at different times or in different circumstances. As a consequence, each stakeholder might wish to implement different kinds of strategy to manage these risks that may occur in the project. Therefore, it is very important that all project stakeholders acknowledged and understand the differences of each other's objectives so that they may have a common and identical understanding of these risks through the risk allocation matrix. If the project stakeholders do not have the mutual understanding of these PPP project risks, mismanagement of risk will most probably occur in the PPP project.

In conclude, as mentioned in the section 2.4.2 Research Approach, risk management plays an important role in the research combining with the Policy Delphi interviewing technique. An appropriate PPP allocation and mitigation strategies were developed in the later case study laying a foundation for the process design.

3.4 Conclusion

Wastewater treatment plant (WWTP) can be described as multibillion-dollar mega-infrastructure projects and usually commissioned by government sector bodies and delivered by private sector entities; and characterized as uncertain, complex, politically-sensitive and involving a large number of stakeholders (Clegg, Pitsis, Rura-Polley, & Marosszeky, 2002). Contractually, mega-infrastructure projects are often defined in terms of Public-Private Partnerships (PPPs) (van Marrewijk, Clegg, Pitsis, & Veenswijk, 2008), especially South-East Asia presents one of the most dynamic markets for infrastructure construction in the world, with vast need for infrastructure investment to meet demand for economic development especially the PPP is a suitable procurement model concerning long-term alliances formed between the public and private sectors for mega-infrastructure projects development. The PPP enables government to gain access to private sector funds, resources, and expertise in the provision and delivery of public services and avoid shouldering the massive financial burden needed to drive such enormous infrastructural projects (Akintoye & Beck, 2009, p. 3). However, the consortium or the PPP provider would encounter various obstacles due to political stability, regulations, construction practice, and culture issues, etc. which could result in significant cost growth simply due to these constraints—these affect project outcome and profitability (Chua, Wang, & Tan, 2003). In short, a PPP project is not just a pure construction project and may vary from project to project and jurisdiction to jurisdiction. In addition, PPP projects must be structured to benefit both the public sector entity and the private sector party. More specifically, the PPP deal must deliver Value for Money (VFM) to the public sector entity and also present commercially attractive business opportunities for the private sector party. Also, with appropriate risk identification and allocation, the deal should be structured to avoid the potential problems that might arise such as demand risk and foreign exchange risk. More importantly, the mechanisms for variations in the PPP arrangement is needed to deal with any change to the service delivered over the 15-30 year life of the contract.

PPP contracting is a challenge for both parties between public and private sector. Each country has faced different situations in terms of regulations, political issues, and governance, making PPPs so complex and unique for policy maker or decision maker to carry out. Notice that a PPP is not limited as DBFO contract. It can as simple as management contract or lease contract depending on project needs. In addition, the principles of good PPP governance are critical for successful PPP projects. In this chapter, we have discussed some important components to build up a PPP project and laid a good foundation for this research.

4 THEORETICAL BACKGROUND PROCESS APPROACH

The concept for process management approach is described in this chapter comparing with traditional project management approach. Next, the concept of stakeholder analysis is described aiming at identify actors' interests and dependencies. Finally, the core elements and design principles for a process design are outlined, followed by the discussions on issues in the process of decision making.

4.1 Why Project Management Could Fail in Complex Systems

Traditional project management approach as described in this thesis is how to manage an unique and clearly delineated project with clear goals and requirements, such as controlling budget, time schedules, labor, organization, information flows, quality. The main principle in the traditional project management is 'Predict and Control'. Steering and decision making in the traditional project management approach is mostly done though hierarchy. This approach to large infrastructure projects has been criticized for being too limiting and myopic. After all, hundreds of actors have already been dramatically increasing since master plan phase or during the planning phase of infrastructure development. The actors that together form the network show differences. These differences may be an organization's size, its means of power, its range of products, its environment, etc. which lead to complex problems, also known as wicked, unstructured or untamed problems (Enserink, et al., 2010). This implies there is no solution which is morally right or wrong, nor is there a clear solution in the sense of a definitive answer, especially when there is large uncertainty.

In addition, actors or organizations in a network are dependent on each other. These dependencies can be expressed in several resources: funds, authority, land, information, political friends, etc. (de Bruijn & ten Heuvelhof, 2008). Besides, the network dynamic happens constantly in which some actors may amend, frustrate, or even obstruct the change during all phases of the project when intervention. Substantive arguments fail to convince others in the network. This is due to the dissension on the norms, and lack of knowledge and consensus on the facts. The problem is also bound by resources that changed over time. To effectively tackle such problems, collaboration is necessary instead of using authoritative or competitive strategies. However, de Bruijn et al. (2010) implied that in process

management command and control (authoritative strategy) can be used if done effectively to stimulate collaborative behavior in the process. Also, neither one of the management approaches completely drives a project, but the combination of the two approaches is the key (Hertogh & Westerveld, 2010). Nevertheless, in this research we focus on the project development phase of WWTP by using the PPP scheme where decision making starts with formulating a problem and establishing goals at the very beginning. Then information is collected and a decision is taken whether adopting the PPP scheme. When a decision making process has to take place in a network, this always means that several actors are involved in the decision making. The positioning of project management and process management in the project life cycle is sketched in Figure 4.1.

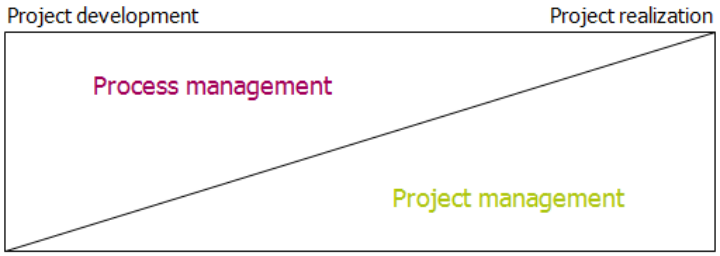


Figure 4.1 The positioning of process and project management

Tradition project management exhibits several weaknesses when dealing with network dynamic which can be seen in different management skills below:

Table 4.1 Management skills between project and process manager

Project Manager	Process Manager
Controlling	Initiating
Following regulations and contracting	Making actors enthusiastic
Risk management	Room for maneuver
Making trade-offs and decisions	Understanding strategic behavior
Conflict resolution	Searching common ground/integrative negotiation
External communication	Selective activation
Pushing	Timing

The key underpinnings of the PMBOK (2004) and general project management theory derive from the principles of 'scientific management'. These principles are very effective in optimizing and controlling simple manual tasks such as loading iron into rail cars and laying bricks. Managers can see and measure the work, quality is an 'obvious' factor and production rates can be established. Similarly, scheduling and cost estimating are relatively straightforward. However, even for this type of simple project some project management ideas are overly optimistic. Project 'control systems' (schedules, cost plans, etc.) don't control anything and to a large extent, neither do project managers. People control their actions and the environment dictates many 'uncontrollable' variables (Weaver, 2007).

4.1.1 Process Management vs. Project Management

As we noted above, process management approach is based on a network situation. It aims at organization, communication, and argumentation to produce a compromise among the involved stakeholders in such network context. It is a structured process with clear rules and a fair process involving collective decision making which is acceptable for most stakeholders. While project management approach such as having strict problem definitions, clear goals, and tight time schedules have limited meaning in complex problems. The actors or parties will simply not accept the initiator's framing of problem and proposed solution; and so the right process is only supported if there is interaction, which is called a process management approach. The differences between process management and project management approaches are shown in Table 4.2.

Table 4.2 Project vs. process management

	Project Management	Process Management
Goals	Known	Unknown
Actors and stakeholders	Known	Partly known
Occurs in which phase?	After initiative	All phases (including idea)
Philosophy	Command & control	Goal-seeking
Decision making	Operational	Strategic
Context	'Frozen' context	Interwoven & erratic

4.1.2 Network vs. Hierarchy

de Bruijn and ten Heuvelhof (2008) argued that in a network the attention shifts from a project approach to the process of interaction between the interdependent players in a network In their book, the characteristics of hierarchies and networks are formulated below:

Table 4.3 Characteristics of a hierarchy and of a network

Hierarchy	Network
Uniformity	Variety
Unilateral dependencies	Mutual dependencies
Openness/receptiveness to hierarchical signals	Closedness to hierarchical signals
Stability	Dynamic

A network is composed of many actors that are involved in the decision making process. They have different interests and are interdependent. None can realize their own goal (interdependence), without involving the rest and there are many differences (variety) between them that may hamper cooperation and concerted decision making. Some cases, some actors have no interest in collaborating (closedness), thus will can hamper the process even more. Also, the number of actors and their positions may change constantly in the course of the decision making progress; some join and some leave behaving strategically (dynamic) (de Bruijn & ten Heuvelhof, 2008, p. 23).

It is clear that 'human factors' play an important role in the network. Traditional project management approach couldn't provide sufficient techniques dealing with complex systems with risks and uncertainties in the early planning phase due to many unstructured issues. Process management approach, however, focuses on dealing with network dynamic concerning the process of negotiation and decision making to shape win-win situations, which always involve a positive profit and loss account for each actor.

4.2 Stakeholder Analysis

A stakeholder analysis is made to gain insight in the interests and concerns of the individual stakeholders as well as finding their positions on problems, their possession of resources and how they affect decision-making. This stakeholder analysis follows the methods of (Bryson, 2004). According to Bryson a stakeholder is 'Any person, group or organization

that can place a claim on the organization's attention, resources, or output, or is affected by that output'. This definition has been used to identify the relevant stakeholders in the process through brainstorming and evaluating the possible actors against Bryson's definition. The clarity of the list of actors can benefit from dividing it into categories. This can be done in various ways. A first classification can be based on the role and position in a governance system: government authorities on various levels; companies (utilities and enterprises, both private and semi-public); non-governmental organizations (NGOs); local interest groups (e.g. local community organizations); non-organized interests or individuals. Another complementary classification of actors can be made by looking at their interests in the problem or their position in a production chain (Enserink, et al., 2010).

In the context of developing countries, in order to implement a project successfully, an array of stakeholders and their interests need to be taken into account. Enserink et al. (2010) argued that stakeholder analysis can help to support various policy analysis activities. Understanding which stakeholders are directly involved in a process, their power and interest and the fact that those will vary over time is the key to assure that the implementation of a project will work. It can be used as a tool to empower and give voice to the poor, listening to their needs and linking it with the personal interests of the private sector.

4.2.1 Drafting Problem Formulations of Stakeholders

The first step of this stakeholder analysis is to identify all the different stakeholders and their interest, perceptions and goals of the process. it is useful for making the rest of the stakeholder analysis and only done once and not separately for all processes because the interests, perceptions and goals are specific to the actor and can be represented in one table for all processes.

Interests are the issues that matter most to an actor, and usually interests have a clear direction. Interests are not directly linked to a concrete problem situation, as opposed to objectives, and are relatively stable. An identification of the interests of an actor helps to estimate to what extent certain objectives or solutions will be acceptable for the actor involved. Interests can be found out by asking questions such as: Why is the problem situation of importance to an actor? How are actors affected by the problem and why do they care? In addition, most actors have their own, unique perceptions of a problem situation and these perceptions can differ significantly. When dealing with complex policy problems, it is neither easy nor useful to determine 'who is right'. Thus, instead of looking for who is right, it is useful to map out the similarities and differences between problem perceptions in the actor analysis. After all, even if 'wrong' problem perceptions arise, they

exist, they are a part of the problem situation and they will influence the behavior of the actors who hold them. Therefore, all perceptions should be mapped in the stakeholder analysis, staying as close as possible to the way the actor sees the system—whether analysts believe they are right or wrong. Moreover, goals indicate what actors wish to achieve in a certain situation, which changes they would like to realize (or what they would like to maintain). All actors that are involved in a problem have their own more or less clearly formulated goals. They use these goals as a measure to judge the existing situation. A stakeholder usually has multiple objectives. Clearly, in the problem analysis we are first and foremost interested in the objectives that are directly related to the problem situation. These goals can be found by asking the questions: What does the actor want to achieve when it comes to the problem situation? When does the actor want to achieve this? Which specific costs and benefits are associated with the problem situation or the proposed solutions for a certain actor? The details applied in this case are described in Appendix J.

4.2.2 Classification of Stakeholder Dependencies

Second, the information for dependencies of stakeholder can also be visualized in 'stakeholder maps' or 'power/interest grid'. In some cases, such maps may have certain advantages over tables, especially when they provide a quick illustration of important patterns in the multi-actor system shown in Figure 4.2.

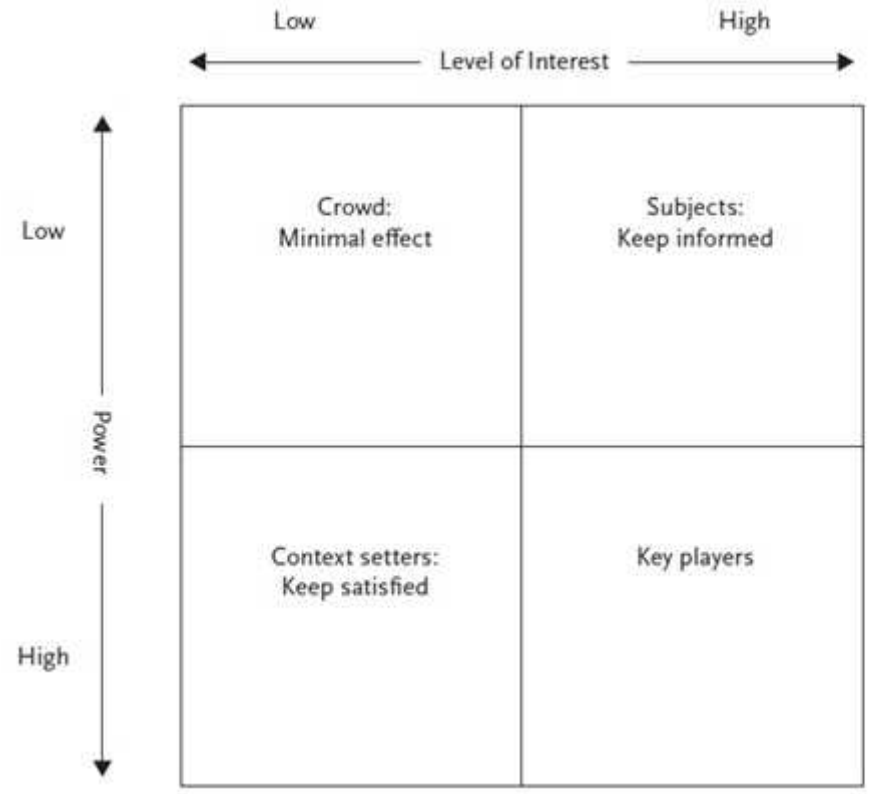


Figure 4.2 Mapping actor dependencies: power/interest grid (Bryson, 2004)

The stakeholders power/interest grid provides insight into which roles the actors will/can have in the process. By roles it is understood that they can be “the crowd, context setters, subjects or key players”. This information will affect the degree of involvement in the process and is also used in some of the policy analysis tools. This power can be anything from blocking power or production power to legal or lobbying power. In the power/interest grid the power will be presented along one axis and the different types of power will not be differentiated. Also at this point it is time to highlight how the placement of the different actors power and interest on the two dimensional maps is done. The main goal of the power/interest grid is to determine which stakeholders, based on their power and interest should be taken into account in order to create a functional process. It can also provide information on how to align stakeholders interests of more powerful stakeholders but also it is a mean to integrate those who lack power in the decision making process. Based on power/interest grid it is possible to see which kind of approach strategy for the different actors is handy to seek the goal.

4.3 Process Management and Process Design

As mentioned in section 4.1, the term ‘process management’ is briefly introduced. To sum up, dynamics will be noticeable particularly when decision making has to take place in a network. After all, the various parties hold different views about how a problem and a solution should be defined. Therefore, process design may help reduce substantive uncertainty, enrich problem definitions and solutions, offer a certain amount of transparency, and de-politicize decision making.

4.3.1 Core Elements of a Process Design

The process design guides the decision making: creating collective rationality through integration of different perspectives and preferences (de Bruijn, ten Heuvelhof, & in 't Veld, 2010). There are four requirements, namely openness, protection of core values, progress and substance for a good process or to come to good process agreements. These elements combined make the design: there is always a trade-off and balance between all four key elements. Summarized, the four key elements are described below:

Openness

Openness concerns the transparency in the game, an open attitude is advised and no unilateral decisions by the initiator should be undertaken. Other stakeholders are included in the decision making process and agreements on procedures of developing the content so that they can highlight their issues. A process without openness will be regarded as a concealed kind of project management and command and control.

Protection of core values

Every party has their own principal interest that should be protected, so that they can commit to process instead of their result. Exit rules are advised as well to prevent parties feeling from getting into a trap. Moreover, commitments can be postponed to later moment in process. A process that does not protect parties' core values will be perceived as very unappealing and unsafe, in which parties will keep delaying the process or they will not even join the process due to mistrust.

Progress

The first two core elements offer insufficient guarantee that a decision making process will be good and thus, sufficient momentum and speed are needed and should be addressed as one of the four principles in design. With an open decision making and protection of each other's values, there might still be chance that it will come to no decision making. Speed is essential and can be stimulated by not only stimulating early participation and also creating opportunities for benefits, quick wins, and incentives for cooperative behavior. If there are no arrangements to provide the process with progress and momentum, the process will become sluggish and may lose its authority.

Substance

Substance sets out the quality standard in progress. Decisions which are decided fast and in an open progress with the protection of core values in mind might still be poor decisions if the substance is relatively meager. Some experts or consultants can be invited for developing solutions or facilitating decision making for each party before the final choice is made to safeguard the substance. These content experts and stakeholders should be distinguished, while not separating them in the process design: to get clear neutrality. If there are no procedures to create substance and quality, a process may produce poor results that are vulnerable to outside criticism.

4.3.2 Design Principles for a Process

According to the core elements of a process design, each element has some design principle. An important condition for the success of a process design is that it should be appealing to each of the parties or actors involved, that is, they should be convinced that the design offers them a fair change of influencing the decision making and that it will not harm their core values (de Bruijn, ten Heuvelhof, & in 't Veld, 2010). Process design may help to achieve the goals of a partnership via guiding the parties through discussion and negotiation. On top, it may also allow flexibility to respond to unforeseen events, without losing track of the original objectives. Table 4.4 presents the process design principles.

Table 4.4 The four core elements in the process design with principles (de Bruijn, ten Heuvelhof, & in 't Veld, 2010)

Core Elements of a Process Design	Design Principles
Openness	1. All relevant parties are involved in the decision making process 2. Substantive choices are transformed into process-type agreements 3. Both process and process management are transparent
Protection of core values	4. The core values of parties are protected 5. Parties commit to the process rather than to the result 6. Parties may postpone their commitments 7. The process has exit rules
Progress (Speed)	8. Stimulate 'early participation' 9. The process carries a prospect of gain 10. There are quick wins 11. The process is heavily staffed 12. Conflicts are addressed in the periphery of the process 13. Tolerance towards ambiguity 14. Command and control are used to maintain momentum
Substance	15. Role of experts in facilitation 16. The roles of experts and stakeholders are both bundled and unbundled 17. The process proceeds from substantive variety to selection

Leading to open decision making

The openness emphasizes on the need for transparency in the process progress. (1) Increased actor involvement can lead to an enrichment of solution that is also being enhanced by regarding the diverse roles of actors and wider solution space. (2) At times not everyone agrees on the substantive decision making choice, thus it is useful to transform that into a process agreement in which the process will lead to a substantial decision. (3) The transparency improves the quality in decision-making and it enhances trust and willingness of actors to cooperate in process.

Protecting parties' safety and core values

(4) By ensuring the protection of their **core interests**, parties can easily join and participate in the process. To get a good process, (5) the parties should be committed to the progress

instead the results. This can be done, by offering them room; room to distance themselves from the final results, thus the parties are committed to the process agreements in which they openly express their view to construct a common frame of reference. To require the latter, (6) postponement possibilities in commitments is needed to give the room, so that decision-making can be done with reduced costs and pressure, and the learning process and trust are stimulated. (7) Lastly, exit rules ensure that opportunism is prevented and it also lowers the threshold to join.

Maintaining the momentum

Speed implies the arrangements and strategic behavior to maintain the steady progress in process. The parties should be (8) stimulated to participate early in process and they ought to be (11) heavily staffed so that they are authorized to make decisions. The process is kept in pace due to (9) the prospect of gain and when parties back off (10) quick wins can be offered to keep them in the game. At times, (14) command and control can also be used to act corporately; incentive to collaborate and gain more, if not the power taker will use its own discretion and make a unilateral decision if no consensus is reached. The possible conflicts are transferred to (12) the periphery of the process and ambiguity should be cautiously used to its advantage that (13) ambiguity can be used to keep the progress flowing by keeping the stakeholders in process to reach consensus.

Guaranteeing the substance of the process

To ensure the substance, (15) the role of experts should be adjusted to facilitate process. (16) The roles of the experts, however, should be unbundled with the stakeholders, but it is necessary to bundle the activities. However, bundling has the risk that the experts may become bias; unbundling is therefore desirable, but that involves the risk that the experts hold no authoritative role in decision making. This issue impacts the relationship between the experts and stakeholders in the process in the following way. The roles of experts and stakeholders should be unbundled, but it is necessary to bundle the activities of the two parties. Starting from the unbundled roles, they should interact intensively in order to avoid misfits. Bundling activities from unbundled roles has two functions; it improves the quality of decision making and also the knowledge contributed by experts. To get improved knowledge contribution, it is important to (i) separate the roles of experts and stakeholders, but ensure (ii) bundling of their activities and this goes (iii) parallel between the research process and decision making process. (17) The transition from substantive variety of options to a selection will enriches the quality of decision making. Due to wide variety, there is substantial learning. There is cognitive learning; producing and learning new facts, views, values, and so on. Plus, there is social learning; new relationships and interactions. Both

these learning will contribute to new insight and more variety and if there is a selection chosen from this, this will be more accepted. The selection is ripe when the cognitive and social learning are stabilized.

4.3.3 Issues in the Process of Decision Making

The design principles outlined in the previous section maybe helpful when making process agreements, but of course the main question remains how such agreements are made. In this chapter, some issues are discussed in order to make a process design.

Negotiation and change

In the network, problems can be formulated by one or more parties, but they are never really solved. This is because, parties see no sufficient reason to place issue on their agenda or they back off in progress due to foresight that their interests will be harmed by the available solution. As a result, they will act strategically and try to obstruct future decision making. One can say that the decision making is capricious and unpredictable. It is substantive capricious due to continuously shifting of the content of a problem and of a solution. It is process capriciousness, since it there is no clear starting point and end point and it happens in rounds and arenas and succeeds each other irregularly in an interactive, iterative and dynamic matter shown in Figure 4.3. A round ends with a 'crucial decision', i.e. a decision or outcome that is taken for granted and as a point for departure for new rounds of negotiations and that influences the rest of the process. Also, to further complicate the decision making process, sometimes several boxing arenas exist simultaneously, where parties push and shove about problems and solutions in different places at the same time (Enserink, et al., 2010, p. 41).

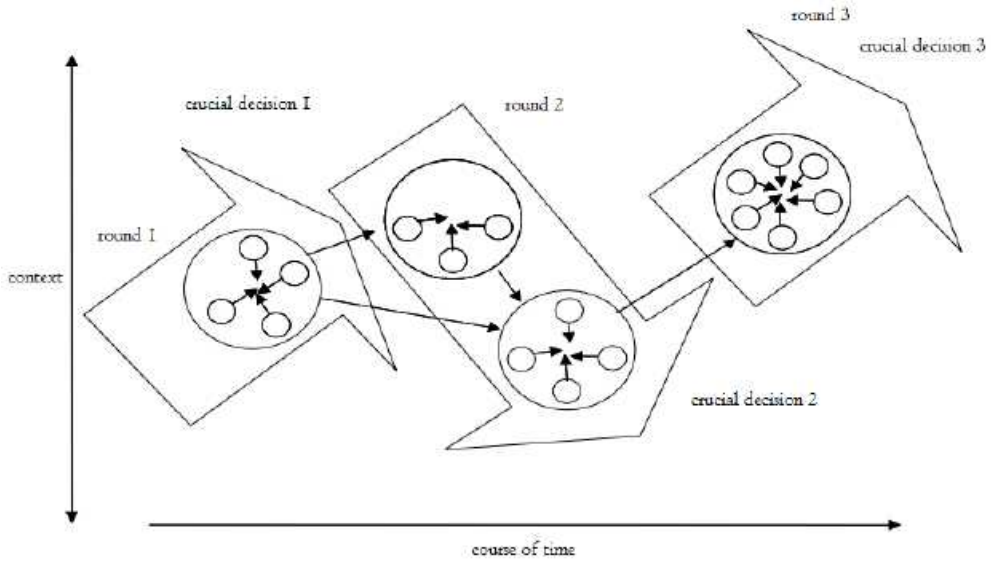


Figure 4.3 Decision making in erratic and iterative round model

Strategic behaviors in decision making

The strategies used by the stakeholders—called strategic behavior, which is when a stakeholder prioritizes their own interest over the networks and acts 'selfishly'. The actors should be aware of this and could also use these strategies themselves if necessary. However, great care should be taken due to the paradox on which the effective functioning of network works—strategic behavior can enhance the performance of a network but also damage the very trust on which it is founded. It will actually be especially important to ensure that stakeholder's interests are being preserved when using network strategies because it might be even more difficult for a losing stakeholder to continue in the process under strategic pressure. In a network concept, the decisions made by the initiating actors acquire support of other actors. The course in which this happens depends on the behaviors of these actors and these are hardly ever well-structured or well-ordered. This is because these actors firstly serve their own individual interest and not the collective interest of making a decision. More specifically, parties or actors behave strategically because they act in their own interest making a network flexible and livable (de Bruijn & ten Heuvelhof, 2008, p. 84).

The need of a sense of urgency

Process management approach can only succeed if there is a sense of urgency among the main stakeholders (Kotter, 1995). Without this double sense of urgency, parties will not easily be prepared to negotiate about process agreements. When parties only have a substantive sense of urgency, and try to solve an issue, one of two things may happen. For example, the issues can be much interwoven in terms of the contracting of PPP project, but if the necessity and urgency of project is lacking, then it might become a very difficult deadlock in which the negotiations will have to take place with more stakeholders than desired, especially with the more complex issues.

Putting conflicting issues in dilemmas

Stating found conflicting issues as dilemmas would help to remove the clashes out of issues as there would not be necessary to make substantive choices for conflicting issues. As dilemmas, the conflict becomes the trade-off and the actor´s views are put into perspective. On the one hand, parties see their viewpoints are taken into consideration; on the other hand, it also creates room for maneuver waiting for the window of opportunity. In other words, the redundancy of dilemmas can be seen as multiple sourcing given that an actor manages a large number of issues stands more chance of a window opening with regard to one or a few issues. And if the issues that have an open policy window are coupled to other issues, these other issues might use the policy window as well (de Bruijn & ten Heuvelhof, 2008, p. 64).

4.4 Conclusion

There is no definitive formulation of a wicked problem (Rittel & Webber, 1973). The kinds of problems that planners deal with—societal problems—are inherently different from the problems that scientists and perhaps some classes of engineers deal with. Planning problems are inherently wicked. Process management approach is useful in complex systems that are characterized by a network of dependencies and hereby having no unambiguous substantive solution to it. These complex systems will arise when the infrastructure planning is characterized by more political, societal and financial intertwinement with other spatial development issues in region. For this there is no simple and one defined solution, due to the dissension on the norms, and lack of knowledge and consensus on the facts. To effectively tackle such problems, collaboration is necessary instead of using authoritative or competitive strategies. A hierarchical and substantive approach in such a network context will have little chance of succeeding, due to variety and interdependency of actors. Also due to their closedness and dynamic nature, they will most likely obstruct, delay, or change a project which is approached in a hierarchical manner. As opposed to this, a process approach considers the mutual dependencies and hereby the solution that is in consultation and negotiation with other parties. However, this does not mean that command and control is not needed, but it is limited.

In Indonesia, it is worth noting that the decision making process is hierarchical and normally only effective in high-level meetings. The decision or command will be passed down to lower level for implementation. However, a network context plays an important role in the process.

The process design is the heart of the process where norms and standards are set that the process should consider. As mentioned by de Bruijn et al. (2010), every process should at least consider openness, core values, speed, and substance. These core elements are applied to this problem and elaborated with how to create sense of urgency. By using the stakeholder analysis each actor's interests and core values are listed laying a good foundation for process design. An iterative process of strategies and coupling of issues will result in a way in which decisions can be made. Strategies for a good process design should consider at least context, actor, and content in the same time. The context can refer to regulatory framework or institutional framework from country to country or from situation to situation which could be changed. Actors are the relevant stakeholders been involved in the process and may support the content including final results or deliverables.

A good process management to some degree can also be seen as good governance. To achieve better governance, participation is a key element of any partnership. In implies the

active engagement of partners and actors in sharing ideas, committing time and resources, making decisions and taking action to bring about a desired development objective. Effective participation occurs when actors have an adequate and equal opportunity to place questions on the agenda and to express their preferences about the final outcome during decision making.

To conclude, process management approach would be suitable for planning problems. Ideally it aims at a win-win situation, where the involved parties feel that they gain net value out of the issue. They cooperate in a so called round model that reflects a network concept; it endures the relationships between actors. It is an interactive policy game in which actors try to influence, create, or block the process. Compared to conventional hierarchical methods, process management approach in a network context has the three advantages; potentially higher quality solutions, more support from stakeholders, and increased legitimacy (de Bruijn & ten Heuvelhof, 2008).

PART III - CASE STUDY

5 Analysis Set Up

This chapter provides the introduction of current Indonesia's PPP institutional context and the chosen case study, the first WWTP in DKI Jakarta. In this chapter the case study analysis will be set up starting from case description, followed by the protocol for Policy Delphi interviews in order to perform a structured, well defined research.

5.1 Current PPP Context in Indonesia

Indonesia aims to be amongst the top 10 global economies by 2025, but this ambition depends upon infrastructure investment. Indonesia's infrastructure needs are both significant and urgent. The Government of Indonesia (GOI) supports infrastructure delivery through PPPs, but to date none have actually been completed. While progress has been made in establishing the framework for PPPs, opportunities for improvement remain.

Background

Indonesia's infrastructure development is still relatively low. Inadequate infrastructure services mean lower quality of life. Hence, infrastructure investment is necessary to sustain growth and improve competitiveness. Infrastructure development is essential to improve Indonesia's export performance, support economic growth, and reduce the poverty. In addition, the United Nations reported that infrastructure investment is urgently required in Indonesia mainly because of the rapid urbanization. Agglomeration economics offer the opportunity to boost productivity growth. However, not all regions in Indonesia perform well. Thus, to unlock the benefits, sufficient infrastructure investment is critical.

The National Medium Term Development Plan 2015-2019 (RPJMN 2015-2019) states that infrastructure development in Indonesia is aimed at strengthening national connectivity to achieve equitable development, to accelerate the provision of basic infrastructure (housing, clean water, sanitation, and electricity), to guarantee water, food, and energy security, to support the national defense, and to develop urban mass transportation systems, which were all conducted in an integrated manner and by leveraging the role of PPP. Government of Indonesia (GOI) intends to make the PPP scheme as an approach in sectoral and cross-sectoral infrastructure development and continues to seek the best efforts to increase the participation of enterprises and societies in development and the financing of infrastructure

sector. GOI has set several main targets related to improving effectiveness and efficiency in the financing of infrastructure, namely (i) PPP implementation as infrastructure development approach, (ii) the availability of financial support in fulfilling infrastructure targets through the provision of alternative infrastructure financing well beyond government funding through the PPP scheme and other creative financing, (iii) infrastructure management efficiency and improved quality of infrastructure services provided by the government or by enterprises, and (iv) the acceleration of decision making process and human resources capacity building. Notice that the Indonesia's regulatory and institutional frameworks are described in Appendix B and Appendix C respectively.

5.1.1 Indonesia's PPP Gridlock

Several articles have pinpointed that PPPs remain in gridlock in Indonesia despite the efforts made by Government of Indonesia (GOI). Based from the literature review, among them are the following:

Poor governance: issues of coordination

There is a large communication gap between central and local governments even between ministries leading to poor coordination in PPP project implementation. The PPP Central Unit (P3CU) in BAPPENAS is tasked with assisting GCAs with developing their PPP project proposals. However, the P3CU has limited resources to do this which makes its job difficult. Evidence also indicates that the procurement rules P3CU is subject to effectively bars it from hiring good advisors which impacts on project preparation. In this effort the P3CU is supposed to be assisted financially by the Project Development Facilities (PDF). However, the PDF falls short of its initial intended role, with some of its functions relating to the funding of the development stage of projects by the GCAs being fulfilled by PT SMI. There also seems to be a lack of coordination between P3CU and the MOF, leaving the P3CU and BAPPENSA to update the PPP Book, while the MOF operates independent of what P3CU does (Stragegic Asia, 2012). In addition, sometime central and local governments would have different perspectives leading to a long decision making process.

Inconsistency of policy

Consistency in policy and transparent procurement processes would help attract both funding and expertise to Indonesia. The coordination amongst the key stakeholders in developing and managing the PPP initiatives will be a key to attain the investors' confidence. Building-up the momentum and leveraging international best practice will also help the country in gaining trusts from the investors. Clearly, the country has tremendous unfulfilled promise and the next few years provide it an important opportunity to fulfill this

potential (PwC, 2015). With more than 45 laws and regulations governing PPPs in Indonesia, many provisions in the PPP regulatory framework conflict or overlap across different levels of government, and across different agencies. This creates confusion among the investor community and contracting agencies, further deterring them from participating in PPPs. Furthermore, Indonesia's cumbersome PPP permit process entails obtaining more than 40 permits and licenses from an array of government agencies, with a PPP entity required to apply for a business license, secure approvals for the project's technical specifications, obtain operating permits, and secure approval for construction. While this is not uncommon in developing countries, Indonesia's decentralized government indeed adds further complexity, with regional permitting agencies issuing conflicting approvals. (Lin, 2014).

Poor capacity building for project preparation

A key issue facing the infrastructure sector in Indonesia is inadequate framework, policy and resource capacity for the delivery of large scale infrastructure projects, especially at the regional level, that is, many GCAs lack the right set of skills. As Lin (2014) mentioned in the Mckinsey report 'Can public private partnerships solve Indonesia's infrastructure needs?' she argued that PPPs are a complex undertaking, requiring specialized skills in structuring transactions, financial analysis and modeling, commercial legal expertise and more. GCAs in Indonesia often lack the project finance skills to develop pre-feasibility studies, to allocate risks, to structure the PPP, and to interact and negotiate with private investors. It is often found that local government sectors lack the authority to play a more significant role in the operational procedure of PPP projects. This issue has great impact on most of the PPP project in Indonesia.

Land acquisition problems

To date, land acquisition is deemed to be one of main problems in the overall PPP transaction process. Land acquisition in Indonesia is part of the government support but is also included in investment costs. Furthermore, the land release process in Indonesia for PPP projects can take much longer than stated in the investment agreement (Stragegic Asia, 2012), which has crippled several infrastructure projects with the private sector required to cover up to 30 till 40 percent of the total investment costs. New enabling laws have been put into place, for example, the new Land Acquisition bill in 2012 which speeds up the process with time limits established to contest and sell land, independent appraisals for property valuation and responsibilities designation for every stage of the process. However, the law does not apply retroactively, meaning only new projects that have not yet started their land acquisition processes, will benefit (Lin, 2014).

5.1.2 Water Privatization in DKI Jakarta 'Not Working'

It is commonly said that the problem of water supply and sanitation (WSS) is not one of economics but of politics; not one of physical shortage but of governance. 'The generic problem of WSS is one of matching demand with supply, of ensuring that there is water of a suitable quality at the right location and the right time, and at a price that people are willing to pay (Hanemann, 2005, p. 26). Also, WSS is the key service for human life, which often fails poor people, in access, quantity and quality (van Dijk, 2006; Prasad, 2006). As Hanemann (2005) contends, the difficulty in providing water supply and sanitation to the poor is partly institutional. During the past five to six decades, developing country governments have explored various ways by which they can provide water and sanitation to the poor households (Gunatilake & Carangal-San Jose, 2008). In general, water can be a tradable private good and also a public good; but once the water resource is used, there is a likelihood that excludability will occur. In addition, water has the feature of natural monopoly which limits the competition. Moreover, water also has strong health and environmental externality. For this reason, most of the countries still operate and manage water resource by government agencies.

The first WWTP in DKI Jakarta should be successful that GOI and the local government contracting agency both concern about the project and consider it as a pilot project, which has no room for any failure. Prasad (2006, p. 686) argued that it would be premature to speculate that the private sector participation (PSP) debate is dead according to the recent privatization failures, which is gradually becoming recognized that the private sector cannot deliver to the poor. Instead, the privatization debate is very much alive and now turns around PPPs and community or locally based solutions. Thus, it is worth exploring the problems in Jakarta water privatization and reflecting on the PPP scheme for WWTP, because a decade of Jakarta water privatization could provide a unique setting to investigate the consequences of water privatization, and thus it could become a lesson to learn for the current policy trends towards the PPP scheme for sanitation. Before going any further, it is necessary to mention some differences between privatization and the PPP scheme although some researchers see the PPP is a form of privatization. Nugroho (2011) believed the PPP is a form of privatization due to the fact that privatization takes one of two principal forms. The first is simply the sale or transfer of state-owned enterprises (SOEs) to private sector units. The second is contracting out a service originally provided by a government institution to a private company. However, Yescombe (2007, p. 16) has argued that there are important differences between privatization and PPPs, some of which make it difficult for a PPP to achieve the same results as a privatization. In this research, the present author contends that privatization can be simply divided into full privatization and partial

privatization. Full privatization refers to governments completely sell off water system to private companies, who provides services directly to consumers (Delmon, 2010), whereas partial privatization refers to Joint Venture, Concessions or Public-Private Partnerships that private sectors take over the service deliveries, managing the system, collecting the revenues and keeping the surplus as a profit.

Background

Indonesia has adopted the idea of the 'basic right to water' since its independence. The Indonesia's 1945 Constitution Article 33 states: 'The land, the waters, and the natural resources within shall be under the powers of the State and shall be used to the greatest benefit of the people.' The statement 'under the powers of the State' does not mean all activities should be managed only by the government. Natural resources may, to a certain extent, be managed by the private sector, communities, or corporations, and supervised by the government. This includes land and water with economic value and social functions. The utilization must be carried out in a sustainable manner and for the prosperity of the Indonesian people (Nugroho et al., 2009).

Jakarta has had a modern water supply system since the Dutch colonial times in the 1940s. After the Indonesian independence in 1945, the service is managed by PD PAM Jaya, a Jakarta city-owned drinking water supply enterprise. The company is Jakarta's means of developing a pipe water supply system with extensive coverage area for the metropolis. The idea is that the use of groundwater will be reduced significantly for two reasons: to protect Jakarta from land subsidence, and to guarantee water quality service for the public. This can be achieved because groundwater is not used as primary water.

In 1996, the company experienced serious problems in service improvement due to financial and management issues. At the same time, the World Bank introduced the idea of privatization of public service as the PPP. These factors resulted in Jakarta's water service being privatized when PAM Jaya and two private water operators signed a cooperation agreement effective from February 1, 1998 with private investors: Thames of UK and Suez of France. The agreements went to powerful and well connected local families – the Sigit Group headed by Sigit Harjojundanto (one of the sons of former President Suharto) and the Salim Group headed by Anthony Salim, (a Suharto crony) in Indonesia. Since then, the water service has been divided into two parts; PT PAM Lyonnaise Jaya (Palyja) manages the western part of the city and PT Aetra Air Jakarta (Aetra) manages the eastern part. The boundary between the eastern and western part is the Ciliwung River. The agreement is a concession that will be in place for 25 years. The relation of stakeholders in Jakarta water privatization is shown in Figure 5.1.

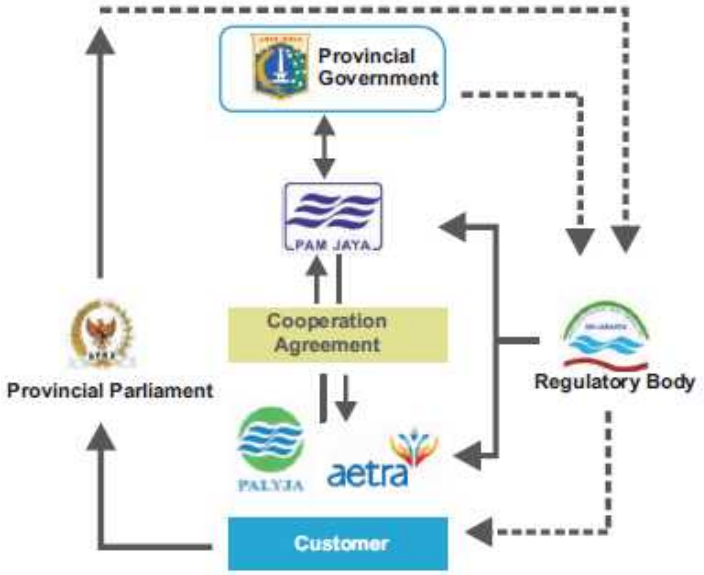


Figure 5.1 Stakeholder mapping in Jakarta water privatization (Zamzami, 2012)

Issues of water privatization

International experience demonstrated that privatization of water services generally ends up in failure. Some of the reasons are that it increases water tariffs; lacks accountability; leaves the poor with no access to clean water; pursues profit-oriented goals that do not encourage costly development of the piped network; leads to job reductions for efficiency that puts at risk the quality of service. Despite all the failures, once water is privatized it becomes very difficult to terminate contracts (Prasad, 2006; Gunatilake & Carangal-San Jose, 2008; Nugroho, 2010). This is exactly what happened in Jakarta.

Firstly, **the residents who have access to piped water have been affected by privatization through significant water tariff skyrocket, especially affecting poor and lower middle class residents**. Since the privatization, water tariffs have increased on ten occasions. At the beginning of the concession, the average water tariff in Jakarta was IDR 1.700/m^3; currently, it is IDR 7,020/m^3, which is much higher than in other big cities in Indonesia and the highest in Southeast Asia. Meanwhile, along with the high water tariff, the quality of water service is also questionable. Customers often find their taps are dry or that the water is dirty and polluted (Zamzami, 2012). Consequently, they need to source other alternatives for safer drinking water like buying bottled water, buying from UV water treatment kiosks, or having bore water in their backyard.

Secondly, due to privatization the government owes private operators a huge debt. **Jakarta can never provide water service for the poor, since every connection to poor people creates a new shortfall**; the reason is that the water tariffs for the poor are far below the

water charge causing the state's loss (Nugroho, 2011). Jakarta has since confirmed that PAM Jaya's losses will be assumed by the state. According to its President Director, if the cooperation agreement is continued until the end of its term, PAM Jaya could accumulate financial losses as high as IDR 18.2 trillion (USD 2.04 billion). These losses indicate that the privatization is designed to ensure the private operators' profits, while high costs have to be borne by the state, PAM Jaya, and residents.

Thirdly, **one of the characteristics of water privatization in Jakarta is the general lack of transparency and accountability** (Kurniasih, 2008; Nugroho, 2011; Zamzami, 2012). Private operators are difficult to monitor and their performance could not be measured by the public because the lack of business accountability to the public. The excessive power of the private operators to make strategic and investment decisions cuts the traditional channel of democratic accountability. There is a lack of transparency in the way water is managed and a lack of public access to information, which is prone to corruption (Kurniasih, 2008). For example, even the most important document, namely the cooperation agreement between PAM Jaya and the private operators, was never disclosed to the public until 2013 when the Government of DKI Jakarta began to consider terminating the contract with the private operators.

Last but not least, **poor water governance and unsound contracting management contributed considerably to the failure of water privatization**. The contents of agreement were inadequate; for example, low penalties for the private sector's failure, unclear investment targets, and unclear dispute resolution processes. Furthermore, the final decisions about important aspects of the contracts such as the amount and priorities of investment are in the private companies' hands; Consequently, the private companies have reduced the capital expenditure, has invested only half of the plan, and have drawn down half of the loan facilities set in 1998 subsequently leading to the underachievement of the target (Kurniasih, 2008). Meanwhile, the established monitoring institution, the Jakarta Water Regulatory Body, has limited power to function effectively. The regulatory Body plays important roles in water privatization: to bridge public authorities and private operators, to monitor the implementation of the agreement, and to mediate disputes between contracting parties. However, this Regulatory Body was established in 2001, only after other actors had established their roles and positions in Jakarta's water management. Despite its important regulatory functions, the Regulatory Body also hasn't equipped with enough resources, has had limited authority and its role has been constrained by the contracts. In addition, it could only provide suggestions and mediation but not make decisions and has no legal power to force the private sector to accept its advice. More importantly, the regulatory functions of Regulatory Body are hindered by the contracts

which set unclear mechanisms for regular independent audit and exclude the clause on the company's financial accountability; consequently, in implementing its function Regulatory Body relied solely on the private operator's reports (Kurniasih, 2008)

Lessons learned from the failure of water privatization

Privatization does not mean public sectors have a right to 'stay away' from the business. The theoretical assumption of PPP is because government unable to provide better services to the people, because of lack of professionalism including red tape bureaucracy and financial difficulties as to budget limitation, and therefore, the accountability may and shall be transferred to the private sector because it was assumed that the private sector will manage water more effectively (Kurniasih, 2008; Nugroho, 2010). The value of privatization does not merely concern a good society, but also concerns the way the government distances itself from its obligation as the primary actor in providing clean water for the public. In terms of the financial model, government is still accountable for the primary investment, such as water treatment plant, raw water, and primary pipe, as water infrastructure investment shall be a long term investment loan in order to keep the water tariff publicly affordable. Nugroho (2010) argued that in this way it makes the water price lower and government have more room to control. The present author would suggest that the Government of DKI Jakarta should realize that only being the primary actor leading the business and promoting a specific subsidy mechanism when the public affordability is too low.

Good governance and effective regulatory framework are the keys for successful privatization. In the Jakarta case, based on policy decision two private operators were directly chosen by the former President Suharto's government without any tendering process. However, inexperience of PPP and bad governance let a big hole toward policy free rider's intervention. As water has become a human right, the government, as well as public administration, has to reconsider the idea of privatizing the services closely (and directly) related to the government (Nugroho, 2011). Good governance is the key toward successful PPP, as government and public still in control toward privatized services. Nugroho (2010) has argued that Jakarta need not terminate the PPP, as there is no guarantee that government agency more capable to handle the services, as its prior experience. What the Government of DKI Jakarta needs is good governance and effective regulatory mechanism.

Public should be also involved in privatization. Privatization in Jakarta leads to the exclusion of the public from decision making and the lack of transparency. After all, water privatization impacts are related to the relative vulnerability of the residents to environmental problems. The public involvement in water services is diminished meaning

that public is excluded from decision making processes. The process not only excluded the public and eliminated public criticism, but also benefited the companies and the actors within the state from under the table deals. In this regard, privatization is incompatible with democratic principles. In addition, society needs to play a more active role showing its concerns with respect to the link between Water Supply and Sanitation (WSS) and the environment; this may be conducive to developing a heightened awareness among communities of the negative impacts and costs of poor WSS, which would trigger feedback of communities on the performance of the local government organizations (World Bank, 2013).

Contracting is very important requiring strong negotiation skills and experts involved to ensure the substance. In this case it is clear that the government didn't carefully assess the contract especially in privatization. Even worse, private sectors have strong lobbying power that the government can only follow private sectors in accordance with the contract. Put differently, the government hadn't considered the contract variations at the first beginning to avoid conflicts and changes afterward. It turned out that there is no room for renegotiation and the cost for takeover is very high. The government should involve experts in the process to ensure the substance and proper risk sharing mechanism.

5.2 Case Description

The deterioration of water quality of surface water and groundwater is due simply to the fact that more than 90% of the domestic wastewater is currently being discharged into rivers and sea or underground through septic tank. Securing water supply sources in the rivers inside DKI Jakarta and stopping land settlement caused by excessive extraction of groundwater are very crucial for the whole NCICD program. Figure 5.2 not only shows the land settlement problem as red area but also the water discharge in relations to the outer seawall which will be constructed by 2022 and thus, Waduk (inner sea) will be produced. In order to avoid that the Waduk becomes a "Black Lagoon", construction of wastewater facilities shall be accelerated that wastewater management ratio to be achieved by 2022 shall be 75% as planed from Japan International Corporation Agency (JICA, 2015).

Wastewater management development is the pre-condition and one of the most important components in NCICD. The efforts to clean-up the urban drainage water by construction of sewerage systems and WWTP must be accelerated significantly. However, this is not an easy task in the densely populated city and politically sensitive environment. As already noted above, this research focuses on accelerating the first wastewater treatment plant (WWTP) interfacing with NCICD towards the PPP strategies.

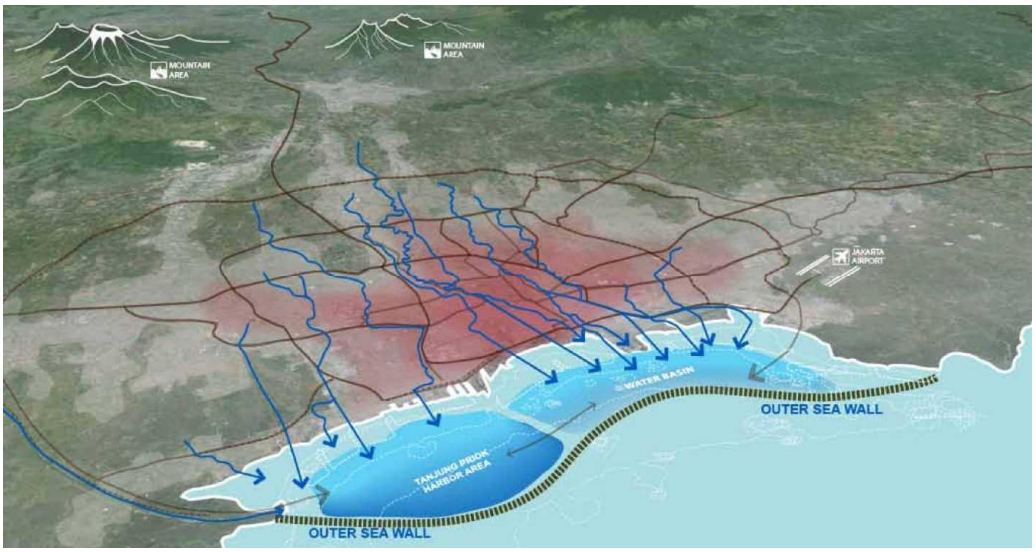


Figure 5.2 Water challenges in DKI Jakarta

5.2.1 Project Team

The project team consists of central government agencies (KPPIP under Coordinating Ministry of Economic Affairs and Cipta Karya under Ministry of Public Works) and regional government agencies (PD Pal Jaya under Government of DKI Jakarta) forming a three-level structure to implement the project. As shown in Figure 5.3, KPPIP acts as an inter-ministerial role to conduct decision making processes and coordinate for implementation. The Government Contracting Agency (GCA) is the Government of DKI Jakarta and PD Pal Jaya is the Regional-owned Enterprise (ROE). The related stakeholders provide inputs to the decision making processes such as Ministry of National Development Planning Agency in Indonesia (BAPPENAS) and Ministry of Finance (MOF).

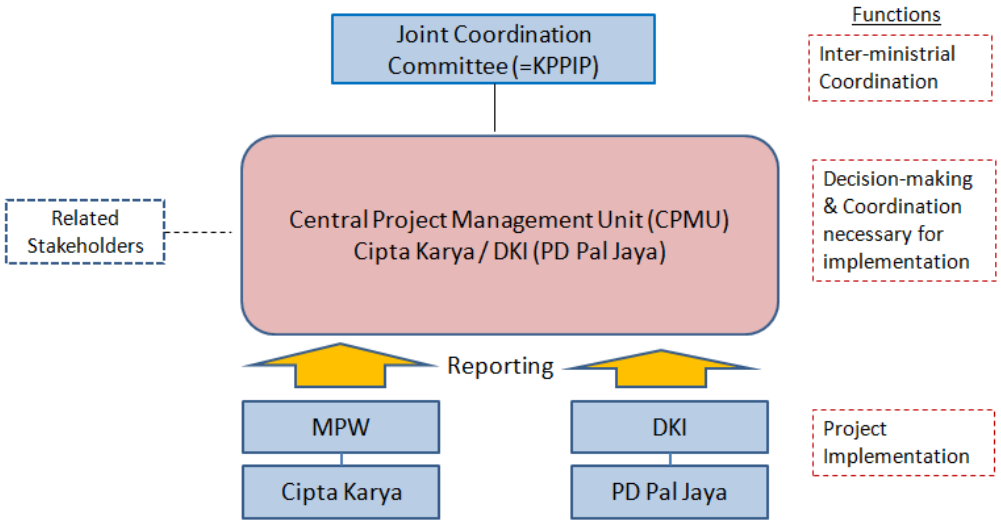


Figure 5.3 Proposed overall management structure for Jakarta Wastewater Management Development (JICA, 2015)

5.2.2 Project Arrangement

The proposed PPP arrangement is shown in Figure 5.4. It reveals that Availability Payment (AP) is required to take out demand risk and IIGF guarantee is required to reduce off-taker risk. DKI Jakarta is the Government Contracting Agency (GCA). Besides, MOF and MPW are two main central government agencies to provide funding or technical supports, while PD Pal Jaya, as a ROE, is responsible for collecting tariff from DKI residence and refunding to DKI Jakarta. Public and private financial institutions would provide necessary financial supports.

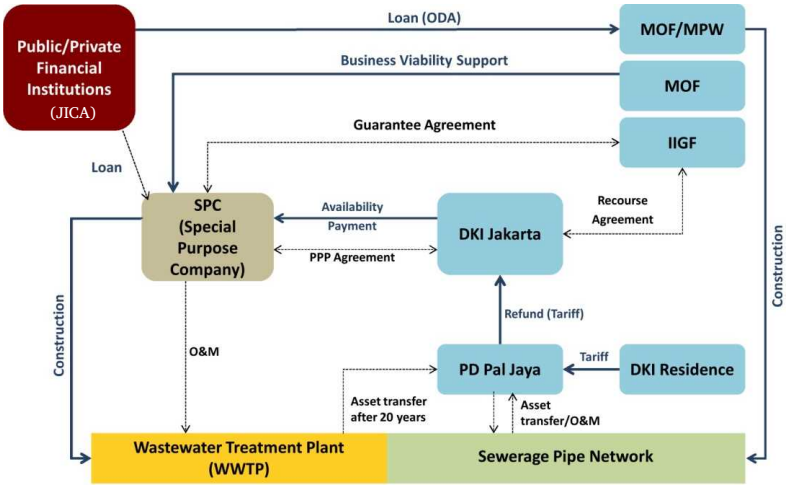


Figure 5.4 Proposed PPP scheme for WWTP in Jakarta (JICA, 2015)

It is worth noting that Japan International Corporation Agency (JICA) has drawn up the Master Plan for Wastewater Development Management. According to the Master Plan and Outline Business Case (OBC), WWTP will be assessed whether adopting PPP scheme or Official Development Assistance (ODA) loans[1] supporting developing countries by providing low-interest, long-term and concessional funds to finance their development efforts. On the one hand, however, this case is not 'sexy' for Government of Indonesia (GOI) and Government of DKI Jakarta at this moment compared to, for instance, the High Speed Rail project. On the other hand, the management style of Japanese is too straightforward and hierarchical which confronts passive resistance of Indonesian.

[1] Ownership is crucial for economic growth and poverty reduction in developing countries. ODA loans, which require repayment, promote efficient use of the borrowed funds and appropriate supervision of the project they finance, thereby underpinning developing countries' ownership in the development process. In addition, as ODA loans are financial assistance with repayment obligation, they place a relatively small fiscal burden on the lender and represent a sustainable instrument for official development assistance.

5.2.3 Main Stakeholders

As mentioned in section 5.2.1 and section 5.2.2, this list of stakeholders shows the main stakeholders with their responsibility providing an overview. This stakeholder overview lays the foundation for the following chapters.

Table 5.1 Overview stakeholders

Nr.	Main Stakeholders		Responsibility/Support Required
1.	DKI Jakarta (Local Government)	Governor	Decide the financial arrangement in DKI
2.		BAPPEDAS	Planning for all sewerage development in DKI
3.		PD Pal Jaya	Operate and maintain sewerage system in DKI
4.		Jakarta City Council (DPRD)	Approve local government budget and make decision of policy implementation
5.	Ministry of National Development Planning Agency in Indonesia (BAPPENAS)		(1) Develop and promote PPP project (2) Prepare national development plan in wastewater sector to evaluate wastewater project implementation
6.	Ministry of Public Works (MPW)	Directorate General of Human Settlements (Cipta Karya)	(1) Develop annual budget within human settlement sectors and prepare international cooperation (2) Provide technical supervision
7.	Coordinating Ministry of Economic Affairs (CMEA)	Committee for Acceleration of Priority Infrastructure Delivery (KPPIP)	Coordinate within related stakeholders regarding project implementation

Nr.	Main Stakeholders		Responsibility/Support Required
8.	Ministry of Finance (MOF)		Asses risks of project finance and manage foreign financial resource
9.	Ministry of Environment and Forestry		Manage water quality through controlling pollution and conduct Environment Impact Assessment
10.	Ministry of Home Affairs		Implement decentralization policies and laws and local autonomy and increase community empowerment and poverty reduction
11.	Ministry of Health		Set standards for protection and improvement of public health
12.	NGOs & Communities		(1) Provide expertise on environmental issues (2) Lobbying power/influencing public opinion
13.	DKI Residence		The user of services
14.	Financial Institutions	Japan International Corporation Agency (JICA)	(1)Develop Master Plan of Jakarta Wastewater Management (2)Provide Official Development Assistance (ODA) loan
15.		Banks	Provide Investments loans and insurances
16.	The Audit Board of The Republic Indonesia (BPK)		Examine the management and accountability of state finances
17.	The Indonesian Investment Coordination Board (BKPM)		Streamline investment permits for all sectors to ensure faster process and clear guidelines
18.	The Potential PPP Provider and Consultants		Design and build the facility to deliver public services

5.3 Protocol for Policy Delphi Interviews

To a (very) large extent the survey research relies on interviews. In order to get the most out of the interviews, interview protocols were established. The protocol aims to prepare the respondent to the interviewee, as it was send at least two days before the interview. In this research, the face-to-face interview method was chosen. The interviews were scheduled at individual respondent's convenience, and were held over a period of two months from early June to early September 2015. Interviews were limited to about one hour, in consideration of the respondent's busy schedules. Reponses were noted on questionnaires and later coded for analysis, documenting the respondent's thoughts and opinions about the PPP scheme, revealing their perceptions on current institutional setting as well as contributing their expert judgment. Due to the tight schedule, the present author only conducted two rounds interviews with nine respondents in the first round and three respondents were selected in the second round due to the fact that logistical issues prevented us from interviewing all the participants for the second round interview. More importantly, not all respondents have enough knowledge and experiences to answer the questionnaire and provide valuable insights and thus, the second round Policy Delphi interview the present author only chose the respondents with ample PPP knowledge and experiences. The declaration and definition of scales are documented in Appendix D and the descriptions of 4-point-liked type scale already mentioned in Section 2.4.2 are documented in Appendix E.

Respondents

This study primarily involved a survey, comprised of two questionnaires concerning beliefs, situations, and strategies. Moreover, in order to probe more deeply the causes among respondents' beliefs about the PPP in Indonesia for the first wastewater treatment plant, interviews were conducted across different sectors. The focus group described below consisted of respondents from three categories (experts, government sectors and banks). In the first round, the respondents (5 men, 4 women) were 3 experts, 5 public servants and 1 banker, who had agreed to express their opinions, thoughts and concerns regarding the study. In the second round only 3 respondents (3 men) were selected composed of 1 expert from the first round and the other two (a director and a senior government advisor) were recommended by a high level government official in Coordinating Ministry of Economic Affairs Indonesia (CMEA). The lists of respondents are documented in Appendix F.

Materials

In the first round, the questionnaire consisted of five sections, the first of which was intended to elicit demographic information on the respondents. Section two focused on

attitudes of government sector regarding the market condition. The third section asked respondents to rate and prioritize the risks of the PPP implementation in DKI Jakarta. The fourth section was design to assess opinions of specific problem areas in current PPP institutional setting. More open-ended questions were presented in the fifth section, where respondents were asked how they would go about solving these problems. The first round Policy Delphi questionnaire is documented in Appendix G.

During the analysis, the present author read through the interview transcripts, summarizing the respondent's views and grouping these summaries. On a second read, the present author identified salient excerpts that illustrated the respondent's insights about what is the substance of PPP for water supply and sanitation sector (WSS) in DKI Jakarta. For PPP risk management, the ordinal ranking was adopted to prioritize the risks.

In the second round, the questionnaire consisted of three sections, the first of which was intended to understand the perception of respondents on risk management strategies regarding the risk prioritization in the first round interview. Section two focused on the mapping of relevant stakeholders and plotting their dependencies. The third section asked respondents to think about issues and provide their comments and advices. This is done with the help that it would provide insights to check whether this case meets the principles of good governance and process design and what strategies can be formulated to address the issues. The second round Policy Delphi questionnaire is documented in Appendix F.

Differences between first and second round interview

The difference between the first and second round is that in the first round the present author places emphasis on the problem analysis and risk management. It is essential to understand the problems comprehensively from relevant stakeholders because different stakeholders would have different perceptions and interpretations on the same issue. Also, not everyone has strong PPP experiences but still the stakeholder, which is also worth to compare the data from different respondents with variant PPP experiences. While in the second round, the present author places value on the strategy of risk management, stakeholder management, and process design. Based on the first round Policy Delphi interview, the problems and risks had been summarized laying the foundation for second round Policy Delphi interview. Thus, the second round helps refine the strategy and process design to deal with the issues.

6 RESULTS AND DISCUSSIONS

In this chapter the empirical part of the research is described. To achieve the research objective and answer research questions empirical data was collected through two round interviews with respondents from different sectors. The transcripts of the interviews are confidential; therefore they are not presented in this report. Due to these confidentiality reasons, the sources of quotes and examples are not named.

6.1 Problem Analysis

The PPP scheme in Indonesia is a hot potato. Some government agencies still refuse to touch the 'monster'. In this case, some government agencies claim that the PPP scheme is exclusive informally although the decision whether using the PPP scheme hasn't been decided yet. Different actors have different interests in this case. The Government Contracting Agencies (GCAs) certainly don't want to carry out project by using the PPP scheme because GCAs don't have any capacity and adequate experiences to deal with and negotiate with private sectors, while the central government really looks forward to promoting the PPP scheme, which leads to conflicts between government agencies. Regarding the question on whether GCAs have the capacity to deal with PPPs, all respondents expressed their distrust even two respondents said GCAs have zero capacity. Fifty-six percent of all respondents agreed that it is risky for GCAs to implement PPPs, and almost half said that their capacity is unreliable. It seems, then, that the PPP implementation in Indonesia is strongly being doubted.

Table 6.1 Table of trust on government capacity for implementing PPPs

Category	No. of person	Percent of total
Certain	0	0
Reliable	0	0
Risky	5	56
Unreliable	4	44
	9	100

DKI Jakarta doesn't want to be the model of PPP anymore. DKI Jakarta is the capital of Indonesia; however, regional government doesn't want Jakarta to be the first province

conducting the PPP pilot project for WWTP. This fact reveals that GCAs is afraid of messing up something after the failure of water privatization in DKI Jakarta. Four respondents in government sectors admitted DKI Jakarta can no longer bear any failure for private participation. They might wish conducting the PPP pilot project in other provinces first and see whether it's effective or not, that is, they don't want to take risks. However, this attitude may delay and affect the learning curve of PPP.

Misunderstanding of PPP theory still exists among government agencies. As mentioned in the section 5.1.2, a serious issue in the failure of water privatization is the government agencies don't realize what the theory of PPP is and they blame the private operators for the failure. In Indonesia, some government agencies still believe that the definition of PPP is the private sector should be responsible for constructing facility by using their budget; however, it deviates from the essence of PPP, the services, which a simple O&M or modalities combination can also be the PPP scheme. Indonesia PPP focuses more on facility delivery not the service of operation and maintenance. In addition, PPP schemes are diverse, which there is no absolute solution. However, in Indonesia the PPP scheme is quite rigid without flexibility. The theory failure leads to several problems that the government cannot address these because of the misunderstanding of PPPs.

6.1.1 Regulation and Flexibility

There are too many regulations but not coordinated with each other. The PPP scheme would encounter the conflicts of different regulations between Presidential Regulation and the others leading to legal complexity, and most of the respondents believe that legal complexity has contributed considerably to project delay or failure shown in Table 6.2.

Table 6.2 Table of how legal complexity influence PPPs

Category	No. of person	Percent of total
Very Important	6	67
Important	3	33
Slightly Important	0	0
Unimportant	0	0
	9	100

Some respondents from government sectors also believe that making new rules or new bills such as land acquisition regulation is unnecessary. They advocate that people still can play with the rules or regulations that each authority has its closedness, that is, they wouldn't fully comply with the procedure and there is always the communication gap between government agencies. Lack of commitment among government agencies is the most serious problem because of different perceptions.

In addition, **most of the regulations are rigid which can be applied in a narrow scope and the contents are limited within the sector context**. Apparently, regulations constrain the development of infrastructure in Indonesia. Not only too many regulations but also regulations can hardly be applied due to the narrow scope. For example, the Government of DKI Jakarta has been suffering great losses for the failure of water privatization not only the financial deficits but also the regulation cannot protect government agencies in international arbitration negotiating with private operators.

Moreover, **local regulations are always be neglected**. Sadly, even decentralization has been implemented in Indonesia, the local government still lacks authorities to provide sophisticated regulatory framework or necessary financial support, that is, local government hasn't been empowered. At this moment, local government is not allowed to issue any bond and therefore, local government funding must come from local resources. Hence, even though there is an interested and attractive project at the local level, it has to have a lot of regulatory changes for local government to fully participate.

6.1.2 Planning and Decision Making

Central government doesn't have clear expectations. Expectations are important for the PPP development in Indonesia. Without expectations or specifications, there would be another failure for PPP projects in the future after the case of water privatization in Jakarta. Risk transferring or sharing is all based on understanding each other between GCA and the private sector, however, it seems that GCA doesn't have clear expectations on how the PPP arrangement make of. The private sector always takes advantages on this to ensure their maximum profits and suppress GCA. In a PPP project, the desired service outputs/outcomes must be clearly stated so that the private sector can have a clear understanding of government's policies and objectives. The private sector can then introduce innovative solutions to meet government's needs. Clearly stated service requirements also reduce the uncertainty faced by both the government agency and the PPP provider. An example is that there is still no regulation for the PPP payment structure such as Availability Payment (AP) according to required capacity levels (e.g. required volume of treated water) are made available at a minimum specified standard and ready to use, regardless of the extent to which it is actually used.

Bankability is important but somewhat delays the development. Bankability should not be put in the spotlight, that is, someone's bankability would not be the same as the other because everyone's bankability is different. For example, what the government sector sees for WWTP project in Jakarta? What the private sector really wants for WWPT project in Jakarta? Thus, the bankability of the project it depends on what is it that GCAs want and

what is the basic assumption that the private sector make in order to build WWTP project in this case. If central government considers WWPT bringing great social welfare to Jakarta that improves healthcare and reduces environment impact then it should be bankable. However, the local government considers WWTP more on financial distribution and still suffers from the recent trauma of water privatization then it would be not bankable.

Poor risk assessment leads to inadequate decision making. Admittedly, it is the reduction in project risk exposure which provides decision making authorities with the justification for undertaking risk assessment especially the Risk Management Unit (RMU) in Ministry of Finance (MOF). In order to obtain Viability Gap Funding (VGF), the GCA must submit an application to MOF. However, MOF is not familiar with all industries or sectors and therefore, lacking insight is one critical aspect leading to poor risk management and poor decision making that funds cannot be put on the right place. Consequently, sudden surprises and losses of confidence considerably affect many PPP projects in Indonesia.

6.1.3 Human Resource Capacity

The potential champion is in place but not ready yet. The Committee for Acceleration of Priority Infrastructure Delivery (KPPIP) under Coordinating Ministry of Economic Affairs (CMEA) has been established but several sectoral divisions are not in place yet. Meanwhile, the establishment of the PPP Unit in MOF is taking place. It seems that MOF PPP Unit would become the champion to conduct PPP projects. However, the distribution of authority and responsibility is still vague at this moment.

Government Contracting Agency (GCA) doesn't have any capacity and experience. The implementation body, the frontline of dealing with the private company, doesn't have any knowledge to conduct PPP projects. However, GCA refuses to hire experienced consultant or advisor to help because GCA considers these consultant and advisor their services are limited and too expensive. On top of that, it must be noted that the Audit Board of The Republic Indonesia (BPK) plays a role to audit any public expense hampering the capacity building of GCA.

The central government hasn't decentralized human resource to the local government. Apparently, most of the people with PPP experiences are placed in the central government agencies such as Ministry of Finance (MOF), Ministry of National Development Planning Agency in Indonesia (BAPPENAS), and CMEA, but the local government doesn't have competent people to conduct PPP projects. Ironically, the local government also claims that the supports from the central government are limited and the expertise is also not constructive.

6.1.4 Assessment for Principles of Good Governance

Based on the provided context, problem analysis, the review of principles for good governance in this case is described in Table 6.3. This review was undertaken to understand how worse the situation is in Indonesia, and to point out some theoretical as well as practical implications for this case.

Table 6.3 Review of principles for good governance in PPPs for this case

Principles	Reviews
Efficiency	Efficiency in Indonesia is still low. Low efficiency leads to decreased competitiveness and lower rates of economic growth and development. The decision making process is also inefficient, which harms the core value of Japan International Corporation Agency (JICA) in this case. The cases of Jakarta water privatization and Mass Rapid Transit are other examples for inefficiency. Moreover, lack of capacity seems to be another reason resulting in inefficiency.
Accountability	There is no Ministry which is accountable at this moment because of inadequate distribution of authority and responsibility. The role of Ministry of Finance (MOF) isn't well-operationalized and the role of Committee for Acceleration of Priority Infrastructure Delivery (KPPIP) hasn't been empowered yet. In addition, Government of DKI Jakarta cannot take any risk for another PPP failure. However, if something goes wrong, eventually the local government would be responsible to society for their actions. After all, Government Contracting Agency (GCA) is Government of DKI Jakarta.
Transparency	In Indonesia the problem is that there is less transparency and more potential conflicts of interests, that is, clarity and openness in the process of decision making are questionable although Government of Indonesia (GOI) has tried to make improvement. Clearly, Jakarta water privatization has failed due to a lack of transparency in the way water is managed and a lack of public access to information. In addition, as mentioned in risk management, political interference could also jeopardize the degree of transparency, which investors don't want to invest money in Indonesia.
Decency	Externally, Indonesian does indeed still have a culture in which respect for the formal hierarchy and decency is deeply rooted. Harmony and face very important, that is, saving face is the key to all communication. However, under the table, cooperative or moderate

Principles	Reviews
	behavior is rarely seen unless there is a significant incentive or benefit. This fact continues to exert negative influence on policy development and implementation.
Fairness	Equal application of rules to all members of society is difficult especially in water supply and sanitation sector. In this case not every party's core value can be protected, for example, the poor. Government of DKI Jakarta still lacks capacity to improve of essential public services especially for the socially disadvantaged. Another phenomenon in Indonesia that relationship is everything and loose application of rules. Many unspoken rules and non-verbal cues. 'Yes' may mean only that you have been heard; it may not be an indication of agreement. It leads to distrusts between the public sector and the private sector.
Participation	Involvement of stakeholders could be the praiseworthy thing. However, the decisions are still handed down from the top. Participation is only limited in voices listening and feedback gathering.

6.1.5 Summary

Problem analysis provides the preliminary background checking for this case through Policy Delphi interviews. Nine respondents in the first round contributed their perspectives and comments on the feasibility of PPP scheme and what issues have to be addressed for the first wastewater treatment plant (WWTP) in Jakarta. With the help of above-mentioned research set up regarding Indonesia's PPP gridlocks and lessons learned from the failure of water privatization, data collection from respondents shows the positive correlation between them. In analyzing the data, three main categories of issues emerged: (i) inconsistency of regulations and unbalance of central and local power, (ii) risk sharing and decision making, and (iii) human resource capacity. Each category is unique in terms of the problems it addressed and the source from which it came.

Like many literature reviews, inconsistency of regulations is predominant concerns for many respondents. However, it is not only the regulation issues but also different perceptions and interests between parties or actors. For example, the conflicts between central and regional governments that the regional government doesn't want to take any responsibility implementing the PPP pilot project. Instead, the regional government wishes to test it in other provinces in case they fail again. In addition, the understanding of PPP is still lacking and some regional government agencies don't have any skill and experience to carry out the PPP undertaking. It is clear that capacity building and commitment between

parties are the two vital issues in this case and have to be addressed as soon as possible. The finding on reviewing the principles for good governance in PPPs in this case appears to be generally compatible with the more detailed results obtained in the research set up and problem analysis. These findings lead us to believe that the PPP development in Indonesia has encountered many obstacles.

6.2 Risk Management

The risk management reflects the urgency situation and is well joined with the problem analysis. In the first round Policy Delphi interview, nine respondents were asked to prioritize risks based on three-level classification approach developed by Li et al. (2005), considering the relationship between risk factors and projects such as the following:

1) **Macro level risks have their origins beyond the system boundaries of projects;**
2) **Meso level risks occur within the system boundaries of the project; and**
3) **Micro level risks are associated with the stakeholder relationships in the procurement process.**

In this study the risk management places much more emphasis on the PPP formation stage and aims at reducing substantive uncertainties and incorporating dynamics. Appendix I presents the result of risk prioritization. In analyzing the data, the most noticeable of these are listed below:

6.2.1 Assessing and Prioritizing Risks

Macro level: hurdle of legal and regulatory reform

In macro level, the top seven risks are **lack of legal/regulatory framework**, **strong political interference**, **inconsistent legal/regulatory framework**, **lack of support from government**, **corruption and bribery**, **unstable government**, and **interest rate**. Respondents described their experiences as follows: strong political interference indeed plays an important role in Indonesia PPP projects that anything could be changed according to political climate. It is clear that when interests involved, intervention and decision making are ongoing processes where risks always emerge because of changes and uncertainties.

In addition, inconsistency of regulatory framework is quite crucial for infrastructure development. Two highly experienced respondents ranked it as No. 1 risk in this level in the sense that there are too many regulations but these regulations are not complementary with each other. Ambiguous regulatory framework also confuses the private sector and gets the

public sector into unfavorable circumstances especially in the dispute resolution or international arbitration. The failure of water privatization has demonstrated the negative impacts. Moreover, it has to be stressed that lack of government support is also an issue given the fact that three respondents including 1 expert (ex government official), 1 high level government official and 1 banker ranked it as No. 1 risk. Admittedly, there are many projects on the priority list and due to the different interests some project may be progressed slowly. Especially in Indonesia, projects of water supply and sanitation still have received lesser emphasis.

Last but not least, corruption and bribery, unstable government, and interest rate ranked at the same votes among macro level risks. The issue of political corruption in Indonesia continues to make daily headlines in the Indonesian media and generates much heated debate and fierce discussion. Corruption hinders the country from realizing its economic potential and causes significant injustice in Indonesia's society as some people are disproportionally benefiting from a corrupt society. Consequently, it also has great impacts on willingness of government implementation bodies to carry out the PPP because of Indonesia's Corruption Eradication Commission (KPK), a government agency established to fight corruption and the Audit Board of The Republic Indonesia (BPK). These government agencies such as KPK and BPK have high power to intervene the process and may jeopardize the project. Unstable government refers to the policy changes due to any party alternation or the change of leadership. For example, Joko Widodo, the present President of Indonesia, may implement institutional or organizational reform making a distinction from what former president had done and thus, the direction of policies may change. The interest rate is an important characteristic of return on investment. Typically, the private company would expect a substantial return on investment if the interest rate is high in order to cover the cost. Thus, it does cause the burden of government finance and the problem whether users could pay the high tariff especially for the poor.

Meso level: weak contracts and ineffective enforcement

Reflecting on the failed experience of water privatization, on the one hand, the regulatory framework had not been ready for transferring public service to private operators mentioned in macro level risk assessment; on the other hand, the governance was not sound enough to handle such complex undertaking. Also, the initial assumption of water privatization was wrong that government though they can ‘clean their hand’ toward water services without putting investment and responsibilities. Moreover, they downgraded the variations in the PPP arrangement and to date they have been suffering consequences. The result of meso level shows the top five risks related to this research context are **delay in approvals and permits, excessive contract variation, availability of finance, financial**

attraction of project to investors, and scope variation. The delay in approvals and permits is an issue in any PPP project in Indonesia although the Indonesian Investment Coordination Board (BKPM) launched the One Stop Service Center on January 26th 2015 in an effort to streamline investment permits for all sectors. This program gives BKPM the authority over 134 key permits usually issued by the 22 different ministries/agencies. The One Stop Service Center would put the permit issuance process into a single roof in BKPM thus ensuring faster process and clear guidelines. This integrated coordination would accelerate permits from an average of 260 days to only average 90 days. However, so far we haven't seen any successful case.

Availability of finance can be referred to guarantee funds from the government such as Viability Gap Funding (VGF), which is important increasing the financial feasibility of PPP projects to encourage the private sector's participation and to provide financial contribution to winning investors to finance some part of construction cost. However, the lengthy process of VGF approval is an issue and VGF is not preferable for some investors because it will reduce the project investment size. In addition, although IIGF guarantee would be required to secure service fee payment from the local government, the credibility of IIGF is still lack of track record and the guarantee approval process needs to be accelerated.

Private sectors are generally interested in sewerage sector investment, provided that the project scheme is similar to electricity PPP in Indonesia. In other words, availability payment is required to take out demand risk due to tariff revenue uncertainty reducing the financial attraction of project to investors. Due to demand risk, the private sector strongly prefers Availability Payment (AP) type PPP. They do not think end-user type PPP can work.

Last but not least, excessive contract variation and scope variation play vital roles in this case. It has to be stressed here that Indonesian don't pay attention on contract structuring putting themselves in troubles, that is, they don't care about the substance of contract. In addition, the contract usually lacks flexibility to deal with scope variation in a long term period which can be seen in the failure of water privatization that when something goes wrong government sectors or regulatory bodies have no advantage to enforce renegotiation and do some changes. Two highly experienced respondents have pointed out these two risks.

Micro level: faulted distribution and capacity

In Jakarta water privatization case, the main problem can be attributed to inadequate PPP experiences from institutional level down to operational level. Due to the policy decision pushing by the World Bank, the outcome has turned out to be the disaster after 12 years operation by two private companies assigned by former President Suharto. To date, it must

be noted that inadequate PPP experiences is still the central concern especially at the local government level in Jakarta not to mention the other provinces. Some important micro level risks include **inadequate experience in PPP, public acceptance risk, lack of commitment between parties, inadequate decision making, and inadequate distribution of authority and responsibilities**. Public awareness is getting popular nowadays in Indonesia that many NGOs and communities would fight for their rights and interests. After all, NIMBY effect (Not in My Back Yard) sometimes happens when power plant or wastewater treatment plant is built nearby living environment and the project could be suspended as the result of protest or complaint by the local neighborhood.

There are a number of points worth noting. Two experts and one high level government official have admitted lack of commitment between parties is crucial that water supply and sanitation sector (WSS) is not that attractive which parties don't want to pay more attentions. Instead, they would rather focus on transportation projects such as high speed rail, airport, and toll road that people can expect and feel something can be realized compared to WWTP. Besides, inadequate decision making can also have a powerful impact on delay or cancel of a PPP project especially happening in high level meeting. Inadequate distribution of authority and responsibilities has been questioned as well that many government agencies have been reforming and their responsibilities are not clear yet. More specifically, who should be the champion to support and coordinate is closely related to the process of decision making. In addition, the authority of each government agency may overlap or conflict with each other leading to inefficient and ineffective governance.

6.2.2 Strategies of Risk Allocation and Mitigation

All PPPs involve risks to stakeholders. For the partnership to be effective and sustainable, stakeholders must accept some risks. However, by careful planning and consultation, risks can be reduced to low levels that do not threaten the PPP and can be handled within the partnership arrangement. A central principle of risk allocation is that each risk should be allocated to whoever can manage it best. The risks were already prioritized based on the result of the ordinal ranking shown in Appendix I. The risk allocation matrix such as the following will be used not only as a tool throughout the PPP process to review bidders' proposals but also lays a good foundation for process management approach.

Macro level risks allocation and mitigation

On this level, most of risks can be transferred through some form of political insurance or mitigated through government guarantee. However, to really address the root cause, the government should place much more emphasis on transparency and accountability of

regulatory and institutional framework to ensure the foreign investors and private operators are willing to take part in Indonesia' infrastructure market.

Table 6.4 Macro level PPP risks allocation and mitigation strategy

Macro Risks	Risk Allocation Shared / Gov't / Private			Risk Mitigation
1. **Lack of legal/regulatory framework**		X		The private sector could mitigate through agreed compensatory changes to the PPP contract
2. **Strong political interference**	X			The private sector could mitigate such events through some form of political insurance
3. **Inconsistent legal/regulatory framework**		X		The private sector could mitigate through agreed compensatory changes to the PPP contract
4. **Lack of support from government**	X			The private sector could mitigate such events through some form of political insurance
5. **Corruption and bribery**	X			The private sector could mitigate such events through some form of political insurance
6. **Unstable government**		X		The private sector could mitigate such events through some form of political insurance
7. **Interest rate**	X			The private sector could finance the project with a fixed-rate loan or use a hedge on interest rates
8. **Nationalization/exproprietation (land acquisition)**		X		Government should make available the project land at the point of tender

Macro Risks	Risk Allocation Shared / Gov't / Private			Risk Mitigation
9. Poor financial market	X		X	Government could provide a minimum revenue guarantee; the private sector could arrange for a standby facility in the project financing. Government compensates because it is a breach of contract
10. Inflation	X			The private sector could use currency swaps

Meso level risks allocation and mitigation

Table 6.5 presents strategies for meso level risks allocation and mitigation. It can be seen that getting permits in time is very crucial that most of PPP projects would have to get several permits and licenses. The Indonesian Investment Coordination Board (BKPM) launched the One Stop Service Center to streamline investment permits for all sectors to ensure faster process and clear guidelines. However, it is still lack of track records to show it would work. In addition, the present author would argue that getting the contract right in the first instance is a very important aspect. Even in the PPP planning phase, the variations should be identified and evaluated carefully. Consequently, it could more likely to reduce the risks of contract variation and scope variation.

Table 6.5 Meso level PPP risks allocation and mitigation strategy

Meso Risks	Risk Allocation Shared / Gov't / Private			Risk Mitigation
1. Delay in approval and permits		X		Ensuring the necessary permits before the start of construction. Government provides a guarantee.
2. Excessive contract variation		X		Getting the PPP contract right with flexibility
3. Availability of finance			X	Government provides a guarantee on currency availability and ability to repatriate profits

Meso Risks	Risk Allocation Shared / Gov't / Private			Risk Mitigation
4. Financial attraction of project to investors	X			Government provides a guarantee on currency availability and ability to repatriate profits
5. Construction time delay	X		X	Apportioning elements of the risk to sub-contractors, ensuring the necessary permits before the start of construction. Appointment of experienced and reputable contractors
6. Scope variation	X			Getting the PPP contract right with flexibility
7. Construction cost overrun			X	The private sector could shift this risk to a third party through a fixed-priced, turnkey EPC contract
8. operation risks			X	The private sector could outsource operation and maintenance to a third party
9. Technical default			X	The private sector could mitigate this risk to a third party through a fixed-priced, turnkey EPC contract. Appointment of experienced and reputable consultants
10. Site safety and security			X	The private sector could transfer this risk to insurance company

Micro level risks allocation and mitigation

The risks allocation and mitigation on this level between the private sector and the public sector is more complex than that of a conventional procurement, that is, due to the long tenure of the PPP contract, managing the relationship between the private sector and the public sector becomes critical to the success of the PPP project.

Table 6.6 Micro level PPP risks allocation and mitigation strategy

Micro Risks	Risk Allocation Shared / Gov't / Private			Risk Mitigation
1. **Inadequate experience in PPP**	X			Getting the right people with the needed skills mix to manage the PPP contract
2. **Inadequate distribution of authority**	X			Capacity building
3. **Public acceptance risk**	X			Good relationship management in the process
4. **Inadequate distribution of responsibilities**	X			Capacity building
5. **Lack of commitment between parties**	X			Good relationship management in the process
6. **Inadequate decision making**	X			Good relationship management in the process
7. **Organizational and communication risk**	X			Good relationship management in the process
8. **Poor management and monitoring of the private sector' performance**		X		Getting the right people with the needed skills mix to monitor the private sector's performance
9. **Cross-cultural issues (different working method)**	X			Good relationship management with understanding different working cultures
10. **Hidden protectionism**	X			Appointment of experienced and reputable contractors or operators with transparency and fairness selection process

6.2.3 Summary

In the risk management section, the findings are not in contradiction with those of the empirical studies discussed above. With regard to macro and meso levels, the findings confirm those of problem analysis that inconsistency of regulations and weak contracting capability to deal with variations are two important aspects and the strategies are provided

to mitigate these issues. In addition, the findings on micro level contribute to the field's understanding of various 'forces' acting on the process. One such force is the impact of inadequate PPP experiences. The present author assumed that these are the most devastating forces which could slow down the PPP development in Indonesia.

Managing a PPP relationship is the important foundation of good governance. First, it is important for the Government Contracting Agency (GCA) to understand and appreciate these differences between a PPP project and a conventional project, as these differences necessitate a different approach to managing a PPP provider, as compared to managing a conventional contractor. Second, these results lend some credence to the research objective that process management approach may help deal with and create certain conditions. More specifically, procurement management can be understood as the process that enables parties or actors to meet their contractual obligations and interests in order to deliver the objectives required from the contract. This continues throughout the life of a contract and involves managing proactively to anticipate future needs as well as reacting to situations that arise.

The unique nature of a PPP project necessitates a different, new approach and attitude towards managing the PPP process to mitigate the risks and probability of failure. Mutual trust and understanding, openness, and excellent communications are as important to the success of a PPP arrangement as the fulfillment of the formal contract terms and conditions, and it is therefore in the interests of all parties to make the process work.

6.3 Stakeholder Analysis

Stakeholder analysis includes stakeholders mapping in the network and analyzing treats and opportunities. Appendix J provides an overview of main stakeholders' interests, perceptions, and goals in this case laying a good foundation for stakeholder analysis and process design. Next, the present author explored the treats and opportunities in the network pointing out how network variety, mutual dependence, and closedness could affect the network in this case. The stakeholder analysis can now be presented more thoroughly.

6.3.1 Stakeholder Mapping in the Network

The stakeholder mapping aims at revealing stakeholders' dependencies in the network. The interests, perceptions and goals table in Appendix J is only done once for both the rest of the stakeholder analysis and the decision making to come. It is used both for referencing and as a quick overview. Table 6.7 presents the stakeholder power/interest grid applied in this case showing which actors are players, context setters, subjects, and crowd surrounding the process. Based on power/interest grid it is possible to see which kind of approach

strategy for the different actors is handy to seek the goal, that is, from the power/interest grid the players are more likely to be empowered, the subjects to be collaborated with, the context setters to be consulted and the crowd to be informed.

Table 6.7 Stakeholders power/interest grid

Power \ Interest	Low	High
Low	**Crowd: Minimal Effect** 10. Ministry of Home Affairs 15. Banks 17. The Indonesian Investment Coordination Board (BKPM)	**Subjects: Keep Informed** 5. Ministry of National Development Planning Agency (BAPPENAS) 6. Ministry of Public Works (MPW) 7. Coordinating Ministry of Economic Affairs (CMEA) 18. The Potential PPP Provider and Consultants
High	**Context Setters: Keep Satisfied** 8. Ministry of Finance (MOF) 11. Ministry of Health 13. DKI Residence 16. The Audit Board of The Republic Indonesia (BPK)	**Key Players:** 1. Governor of DKI Jakarta 2. DKI Jakarta Regional Planning Agency (BAPPEDAS) 3. Jakarta city-owned wastewater management enterprise (PD Pal Jaya) 4. Jakarta City Council (DPRD) 9. Ministry of Environment and Forestry 12. NGOs & communities 14. Japan International Corporation Agency (JICA)

Due to the decentralization in the late 1990s, the local government has been empowered by transferring greater authority and responsibility to the local governments in planning, financing, implementing, and managing regional and/or local infrastructure services, including water supply and sanitation. The key players almost cover all local government agencies as Government Contracting Agencies (GCAs). Decentralization has given the regional governments a greater role in supervising regional government activities. Consider this with their assigned function of managing services that have an inter-jurisdictional nature, and the capability to contribute financing, the provinces will have more power in project preparation and implementation processes. The key actor is generally the head of Development Planning Board (BAPPEDA), acting in the governor's interest. However, as a result of the effects of incomplete decentralization and low capacity of water service provision, water supply and sanitation are in poor technical and financial condition.

Japan International Corporation Agency (JICA) also plays a role as one of the key players selling the Master Plan of DKI Jakarta Wastewater Management Development to

Government of DKI Jakarta. More importantly, JICA can provide the Official Development Assistance (ODA) loans to Government of Indonesia (GOI) with extremely low interest rates for supporting Indonesia's infrastructure development. However, JICA has encountered some obstacles approaching Government of DKI Jakarta that the hierarchical and project-based management style can hardly be applied to Indonesia. In addition, JICA wants to push ODA loans as the funding option due to the fact that the PPP implementation is complex and requires both institutional will and capacity.

Ministry of Environment and Forestry in this case has high power and high interests to influence the process given that WWTP may have great impacts on environment throughout the whole PPP life cycle. Particularly, this case has great interfaces with the NCICD program that the treated wastewater will be discharged to the inner sea if outer seawall is closed and thus, Ministry of Environment and Forestry has the strong blocking power based on the Environment Impact Assessment conducted by the potential PPP provider and consultants.

NGOs and communities are definitely important. Participatory decision making is a process which broadly characterizes the way the public can affect the decisions taken by government. Public participation is not a monolithic concept. There are general and specific methods through which the public can have a voice in the decision making process. These methods include comments, testimonials, lawsuits, publicity campaigns and protests, among others. Besides the fact that the public has the right to know, to express its opinion and to affect decisions, the government should realize that involving civil communities in the PPP building process will influence the sustainability and efficiency of the PPP itself.

Some central government agencies such as BAPPENAS, MPW, and CMEA are plotted in the subjects with high interests but low power. This is due to the fact that under the decentralization law, the central government no longer exercises administrative control over regional governments. BAPPENAS plays an important role in formulating policy and planning for water and sanitation infrastructure development, that is, development plans fall under the authority of BAPPENAS. The Ministry of Public Works (MPW) is not directly responsible for provision of services in urban areas in most circumstances, but oversees development of technical standards, contributes to policy development, and helps prepare and implement projects involving bilateral and multilateral development agencies. Coordinating Ministry of Economic Affairs (CMEA) is responsible for prioritizing projects and accelerating Indonesia's infrastructure development. These three central government agencies are essential for redundant relations providing an actor with a large number of channels by which he can receive information. In a network, such 'nice to know' information is necessary because it allows an actor to estimate his chances of successful

interventions. The potential PPP provider and consultants are considered as the subjects with production power. The potential PPP provider, consultants, and experts in a network usually tend to behave strategically. In short, strategic behavior means that an actor's behavior is not determined by his opinions, but is aimed at consolidating his power position in the network.

Contrary to subjects, context setters include MOF, Ministry of Health, The Audit Board of Indonesia (BPK), and DKI residence. Recently, the MOF regulation stipulating the establishment of PPP Unit has been ratified and empowered to conduct PPP projects as the single window like Singapore. It must be noted that MOF is the authority conducting risk management to approve government guarantees and VGF. Ministry of Health also plays an important role with high power to check any specification in this case. In addition, the audit board of Indonesia (BPK) would audit and provide their reports often include a section on good governance supervising Government Contracting Agency (GCA). Moreover, the DKI residence, the user, also has high power due to the fact that they will pay the tariff for wastewater treatment. One of the functions of these actors is to create redundancy in the network forcing other actors to adopt moderate and cooperative behavior especially the potential PPP provider and consultants.

Ministry of Home Affairs, banks, and the Indonesian Investment Coordination Board (BKPM) are considered as crowd with minimal effects. These actors usually have a diffuse power position meaning that it is unclear to an initiator what the power position of the other actors is, that this position may change or that it is unclear whether an actor will want to use his resources and relations.

6.3.2 Threats and Opportunities

Indonesia does indeed still have a culture in which respect for the formal hierarchy is deeply rooted, which makes the network-liked character of the organization less visible, particularly for outsiders. However, the network of actors surrounding this case may be extremely dynamic with mutual dependencies and are closed for interventions.

Threats for variety: limited reach of intervention with high costs

There is a limited reach of intervention. The more variety the smaller is the reach of an intervention by an actor, because variety means that each party in a network is sensitive to a different type of intervention. Payment mechanism for wastewater treatment, for example, has to take different user groups into account, that is, different social classes including the rich and the poor or different forms of building, which could lead to public acceptance risk. In addition, variety has contributed considerably to excessive contract variation and scope

variation, because a sewerage system also includes pipelines and housing connections. Thus, tailor-made approaches could be realized at a very high transaction cost, because it will generate a large number of interventions that it is difficult to monitor and control, which could be a problem in this case. Government Contracting Agency (GCA) should consider integrated contract and ask Japan International Corporation Agency (JICA) to conduct interface management between components in the sewerage system.

Opportunities for variety: learning process and innovation

If variety raises the chance that GCA's interventions will be successful with at least some of the parties in the network, some strategies can be developed to utilize this. Government of DKI Jakarta could get satisfied with the fact that only a number of actors react to intervention. For example, to deal with NGOs & communities who oppose the WWTP, some problems can be solved once some of the NGOs or communities change their behavior. In some case, particular parties in a network appear to exert great influence on other parties. The government can also use 'divide and rule' strategies to deal with public resistance. If the government gets the support from the leaders of NGOs and communities, they might use their position in the group to force followers to commit themselves to the new policy and to change their behavior supporting government. The second is that GCA will learn from the first intervention such as the failure of water privatization in Jakarta. More specifically, GCA could learn from the past experiences what types of parties the intervention is successful and what parties is not, and why it is not successful. These insights can be used to design a second intervention that will stand a better chance of success. In addition, variety makes an actor or party smart. This means that the private sector has more room to introduce innovation into the delivery of public sector services.

Threats for closedness: risk of ritualization

The closedness of parties in a network is a failure factor for the Japan International Corporation Agency (JICA) and the potential PPP provider that want to realize their goals and need the support of the other government agencies. However, the consequences of closedness of government agencies may manifest interventions in a number of ways: (1) they do not notice the intervention; (2) they notice the intervention, but ignore it; (3) they notice the intervention, cannot ignore it, but resist it; (4) they notice the intervention, cannot ignore it, apparently comply with it, but in reality manage to evade it or to reinterpret and transform it; and (5) they notice the intervention, cannot ignore it, comply with it, but avail themselves of every opportunity to evade it.

Some respondents in this study doubt that new land acquisition bills and such a 'Single Window' policy for approvals and permits conducted by the Indonesian Investment

Coordination Board (BKPM) have limited effects on facilitating the PPP process. It can be defined as the risk of ritualization that every organization and its rules of game. An intervening actor cannot really exert influence on the organization. Consequently, the private sector, the potential PPP provider, or consultants may get frustrated dealing with those 'red tape' and closedness of organization. Another example is the conflict of interest between central government agencies and the local government. As the PPP promoter, central government agencies push the PPP scheme to be the funding option of WWTP, but Government Contracting Agency (GCA), Government of DKI Jakarta, has attempted to adopt ODA loans. This issue also leads to a lengthy decision making process because the local government appears to adopt a closed attitude.

Opportunities for closedness: commitments of closed parties

As has been discussed, the local government has been empowered by transferring greater authority and responsibility to the local governments in planning, financing, implementing, and managing regional and/or local infrastructure services through the policy of decentralization in the late 1990s. It does provide closedness as an important condition for the local government to function properly. This makes closedness one of the main strengths of an organization, one which as intervening actor may utilize. It might be difficult to gain the support of a closed actor, but once this support has been gained, an intervening actor has a strong ally. If Government Contracting Agency (GCA) can, for instance, formulate a strategy that on the one hand takes its own interests into account and on the other hand fits the central government agencies' core values, the chance are that the GCA will gain supports from the strength of central government agencies, because the latter will use their human resources capacity and lobbying power to facilitate and push the PPP process.

Threats for interdependence: grey compromise

There are a number of threats worth noting. The first is hit-and-run strategy grabbing the chance in a network and bolting. For example, the potential PPP provider or consultants may propose capacity building to help GCAs in the project implementation. However, after consultants get what they want they run away. When several parties pursue a hit-and-run strategy, it may lead to utter confusion within a network, followed by revenge, making normal cooperation extremely difficult. Second, interdependence may be very opaque because the various kinds of interdependencies can manifest themselves at the same time. Such opaqueness may paralyze decision making in the sense that Actors need a lot of time to find out the positions of the other actors, and interdependencies change continuously. An intervening actor may have to consult so many actors that the result may be extremely slow and sluggish decision making which happens in this case. A third risk of interdependencies

is that, from a content perspective, they lead to poor decision making. Or, when many different interests have to be taken into account, there is a risk that the result will be a grey compromise, about which none of the parties is enthusiastic.

Opportunities for interdependence: substantive enrichment

Interdependencies also offer opportunities for an intervening actor. Decision making in a network may indeed result in grey compromises, but also in substantive enrichment of the decision making. More specifically, when different parties with different interests and types of expertise get round the table, the decision that they eventually take may be richer and more meaningful than a decision that would have been taken by only one actor. GCAs could consider what added values can be generated in this case such as Eco Park for education purpose and biomass energy production.

6.3.3 Summary

Stakeholder analysis reveals the actors' interests, perceptions, and goals in this case and the structure of networks concerning variety, closedness, and interdependence. Different from problem analysis and risk management, the present author places much more emphasis on exploring the issues from each stakeholder's perspectives in the network. A major finding is that that Indonesia does indeed still have a culture in which respect for the formal hierarchy is deeply rooted, which makes the network-liked character of the organization less visible, particularly for outsiders. The essence of stakeholder analysis is the identification of potential threats and opportunities in this case. The results indicate that (1) learning process and innovation; (2) commitments of closed parties; and (3) substantive enrichment are three potential opportunities for Indonesia to succeed in infrastructure development.

6.4 Process Design

The Government of Indonesia (GOI) has been reforming the PPP institutional and regulatory frameworks to build up better governance which is urgent for Indonesia's infrastructure development. However, it is clear that the PPP in Indonesia is not ready yet and still needs capacity building and policy implementation to ensure successful results. Some issues have been explored in the previous chapters laying a solid foundation for this research. In this section the present author intended to examine whether this case meets the criteria for a good process design. By examining the process design principles, strategies can be made to formulate necessary conditions for a successful PPP in this case. Figure 6.1 presents the playground model for process design composed of three layers, context, stakeholder, and content.

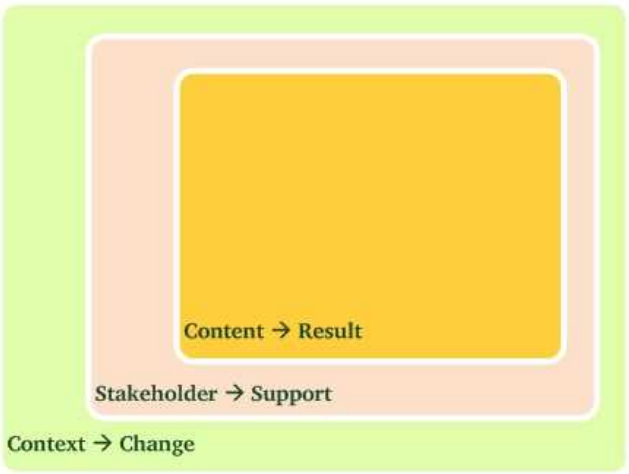


Figure 6.1 Playground model for process design

Context implies that, from micro perspective, the national regulatory and institutional setting, whereas from macro perspective, it can imply any variation, risk, and culture which can make changes in scope, scale, and perspective. In Chapter 5, Indonesia's PPP regulatory and institutional frameworks are provided to explore the obstacles for the PPP development in Indonesia as well as what causes the failure of DKI Jakarta water privatization. In addition, problems analysis and risk management also pointed out some valuable insights. The results show a striking effect of context on overall PPP performance in Indonesia. The layer of stakeholder has relations to management in the networks. Within the continuously changing context, how these stakeholders interact and negotiate with each other by using their power and protecting their core values at the same time. In addition, the layer of stakeholder is the playground where the decisions are made and where the process takes place. The results of stakeholder analysis revealed that different parties have different power and interest and some threats are emerged in this case. The present author would argue that we often see working papers from the World Bank, Asian Development Bank, or other institutions mentioning various recommendations based on statistical data and context exploration. These papers often fail to see the underlying mechanisms—actors, interests, and rules of game—may be overwhelmed by the apparent chaos and the project-based thinking. It can be reasoned that Jakarta water privatization has been also suffering because of poor process management. Content can only be achieved through the process which should be appealing to each of the parties or stakeholders involved, that is, they should be convinced that the process offers them a fair chance of influencing the decision making and that it will not harm their core values. Then, a process would end with results. Conceivably, the playground model provides a significant concept how this case is more likely to succeed. Based on the design principles for a good process design mentioned in Chapter 4, assessment and strategy were made to ensure the results in this case.

6.4.1 Openness: Assessment and Strategy

'Enlarge pie first, cut later' implies that the parties that are to be involved in the process are also involved in drawing up its agenda. Put differently, openness means that the parties joining a process should be offered a chance to influence future decision making. In Indonesia, the process tends to involve different parties based on governmental classes. For example, normally the process of decision making only organized in Echelon 1 meeting or Ministerial meeting as known as the highest level meeting involving Governor of Jakarta and other ministers to make substantive agreements. Contrary to Ministerial meeting and Echelon 1 meeting, Echelon 2 meeting and Echelon 3 meeting sometimes become mere formalities. Figure 6.2 presents a model introduced in this study to reflect on the process of decision making in Indonesia. Admittedly, Indonesia is a unique country with pyramidal power structure as well as network-like character at the same time. The present author designed this model to accommodate a good process design in this case. In section 4.3.2 the design principles of a good process design are described. The first design principle involving all relevant parties is secured. However, there are three points worth noting for the openness strategy.

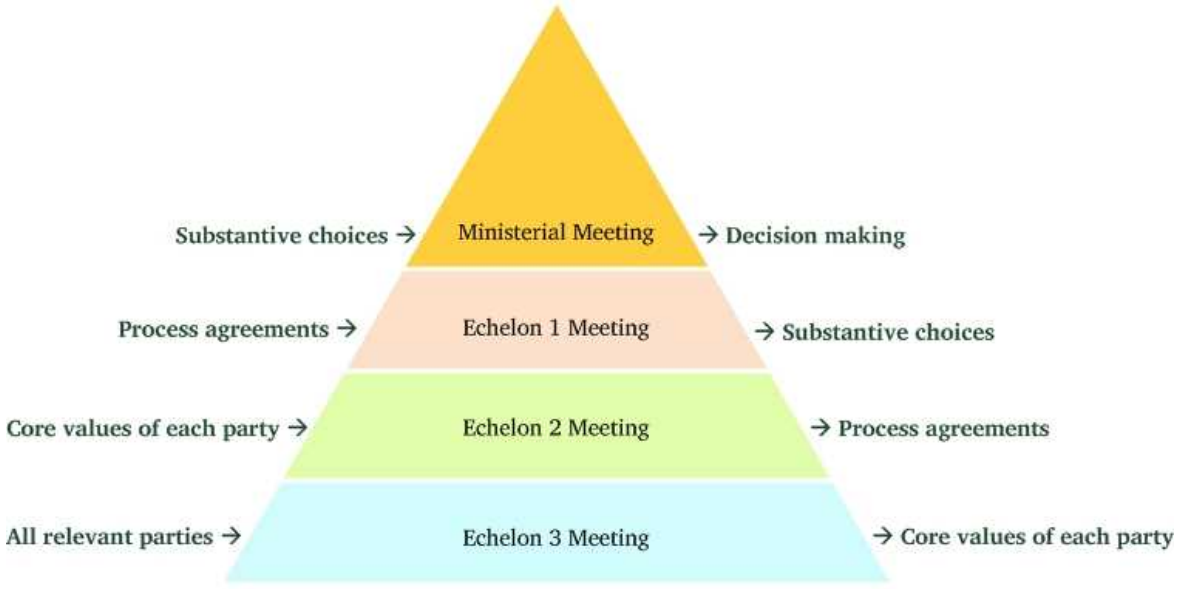


Figure 6.2 Indonesia's process pyramid for decision making

Naming and framing

In a process approach, the question is how a goal can be framed so as to create the maximum chance of support. It would be very important when framing the issues to 'carefully tailoring the frame for various audiences" as it may either stimulate the actors to participate in the process, or they are not. In this case, maybe in Echelon 3 meeting the strategy of 'multi-targeting' can be used to couple the same action to several aims that are

high on the agenda (e.g. environment and innovation). The chance of support will increase. Even if innovation loses its position on the agenda, there is still the issue of environment. By using naming and framing, the core value of each party could be identified in the first instance.

Stakeholder consultation should be highlighted

The failure of Jakarta water privatization already provided a valuable lesson learned. During the PPP project development stages, stakeholder consultation is an important part of the PPP development process, allowing the concerns of potential service users and others affected by the project to be taken into consideration when structuring and implementing PPPs. After all, PPPs are meant to provide value to the public. The public can directly participate in PPP project design, through consultation processes, and in monitoring service quality by providing channels for feedback. For example, the Government of DKI Jakarta could host public meetings or open houses to both inform and solicit input from residents and NGOs before Echelon 3 meeting to identify who could be the leaders representing, for example, environmental interest. Next, it's important to get these leaders of NGOs and communities on board in the meetings and the Government of DKI Jakarta could put in an advertisement in a local paper indicating that the outlines of consultation and providing information on where copies are available. This way not only improves the governance but also reduces the public acceptance risk.

Empowering KPPIP to enhance transparency of processes

Low transparency is one of the important factors contributing to poor governance. Transparency means that parties can check whether the process is fair and whether it offers them sufficient opportunities to promote their interests. Committee for Acceleration of Priority Infrastructure Delivery (KPPIP) should be empowered to ensure transparency of processes such as outline Business Case (OBC), funding scheme decision, land acquisition process, or monitoring and performance evaluation. Besides, KPPIP should provide necessary supports in meetings to clarify any unclear agenda. A transparent and fair process design makes entices parties to participate in the process.

6.4.2 Protection of Core Values: Assessment and Strategy

Processes that fail to sufficiently protect the core values of the parties involved tend to have little chance of success. Also, the fact that parties can be sure that the process will not harm particular core values may be a significant incentive for cooperative behavior. However, one of the common difficulties in realizing protection of core values in this case is the fact that the process sometimes is like a funnel trap in this case, allowing only one direction and

lacking a way back. After all, it is impossible to change their cultural characters which are hierarchy and ritualization. Three points are stressed in the discussion below based on design principles for protection of core values:

Building mutual trust and a safe environment

Insecurity and distrust in a network make it impossible to make substantive decisions. In this case the regional government agencies even don't trust central government agencies because regional government agencies think the helps from central government agencies are sometimes useless. In addition, the relationships between Japan International Corporation Agency (JICA), Government of DKI Jakarta, and Government of Indonesia are not well-maintained. Moreover, the external effects continue to exert influence on the process. For example, Government of Japan is angry with Government of Indonesia because Indonesia officially excludes Japan from bullet train project, which leads to unsafe environment for cooperation. Another example is that the Governor of DKI Jakarta, Ahok, blamed Japan for delayed transfer of JICA loans for MRT construction, which may have a negative effect on the decision of funding scheme in this case whether using the PPP or ODA loans.

As mentioned above, the incentive for cooperative behavior is relatively weak in this case. By establishing relevant process agreements in Echelon 2 meetings, it may help remove the funnel trap. In this sense, the process agreement could be formulated in such a way that parties could find incentives to commit themselves to these agreements, such as:

- Parties will commission research into the use and necessity of efficient and effective payment mechanism;
- Parties will commission research in to a potential strengthening of sustainable water of the region;
- Parties use these researches to determine their position regarding payment mechanism and sustainable strengthening of the region.

No commitment to the result but the process

Indonesian normally places much more emphasis on the result rather than on the process. However, this culture results in conflicts of interests and grey compromises under the hierarchical structure, which is common in Indonesia leading to slow development of infrastructure. An important aspect of the protection of parties' core values is that they are not asked to commit to any process result beforehand. Not committing to a result will create safety, space, and more importantly, innovation. It is of paramount importance that innovation and thinking outside the box are the accelerators to help Indonesia's

infrastructure development. For example, central government agencies look forward to using the PPP scheme, whereas regional government agencies value ODA loans highly. If they only commit to the result, they won't consider the possibility of how to use ODA loans to exert PPP essence to deliver public services.

Room for dynamic

Processes have unpredictable dynamic, which makes it impossible to predict the final result of the process. Actually, to some degree Indonesian has higher tolerance for ambiguity than Japanese. JICA's project perspective approaching this case seems to be a worse example leading to a kind of decision making in which the parties want to secure their positions as much as possible. As a result, lengthy negotiations may be needed to ensure that the decision does maximum justice to the parties' interests, meaning that decision making costs would be very high. To put it in another way, if each of the issues required a binding decision, negotiation processes would probably be very lengthy and laborious due to the uncertainty about the implications for the final decision making and thus, postponing commitments may avert such laborious decision making. In addition, postponing commitments is a vital stimulus for mutual trust and thus for a successful process, that is, it may gradually reduce uncertainties and strategic behavior. For instance, Government of DKI Jakarta may postpone their commitment to the potential PPP provider or consultants to observe and prevent 'hit-and-run' strategy. Moreover, room for dynamic stimulates learning process that new insights will become available, facts will turn out to be different from what is generally assumed, and even normative views can change. Thus, only at the end of the process will the parties be asked for their commitment to the final package of decisions.

6.4.3 Progress: Assessment and Strategy

The design principles 'openness' and 'protection of core values' inevitably prompt the question: what guarantees sufficient speed in the process? Sadly, the present author would argue that in this case incentive for progress is undoubtedly one of the most difficult tasks. First of all, Indonesia's infrastructure development has been suffering many controversial issues such as defective regulatory framework and poor capacity building. Second, poor governance has resulted in inefficient and ineffective development. Third, the sector of water supply and sanitation (WSS) has received lesser emphasis in Indonesia. Fourth, Government of DKI Jakarta is still living in the fear of the failure of water privatization. Based on the seven design principles for progress, the present author summarized some 'must do' points aiming at providing a good foundation to reduce sluggishness. As identified in the stakeholder analysis, risk of ritualization has to be reduced and it is vital to turn threats into opportunities as accelerators.

Ministry of Finance should play a role

Ministry of Finance (MOF) needs to adopt a stronger and more central role in coordinating the transaction and funding of economically important and strategic projects. The MOF PPP Unit supposes to place the fiscal agency in the center of the PPP program, a role which has been missing so far. After all, MOF will deal mainly with the Risk Management of PPP projects, policy support as well as managing the state-owned enterprises (SOEs) for guarantee provision and financing such as the Indonesia Infrastructure Guarantee Fund (IIGF). In the stakeholder analysis, MOF has high power but low interest, which can exert the power of command and control to effectively influence other parties' behavior, because they aim to avoid potential sanctions. Government of DKI Jakarta could also use MOF as 'shadow of hierarchy' to make the potential PPP provider cooperate.

Commitments of closed parties

As already noted in stakeholder analysis, commitments of closed parties would speed up the process, for example, National Land Agency (BPN) and Indonesian Investment Coordination Board (BKPM). These parties have diffuse power to exert influence on progress. After all, land acquisition and getting approvals and permits are of decisive importance. Intervening actor could also use this as the incentive for cooperative behavior through planning of activities due to the fact that, for example, JICA and the potential PPP provider what they care is whether there is any delay in projects. It might be difficult to gain the support of a closed party, but once this support has been gained, an intervening actor has a strong ally.

Creating sense of urgency

Another strategy of command and control is creating sense of urgency regarding the need for a process. Water challenges are getting worse in Jakarta. However, water supply and sanitation (WSS) has still received lesser emphasis compared to transportation sector. It is necessary to re-raise the subjects of public health and environment with the joint force of NCICD program.

Using the window of opportunity

Competing with Chinese, the National Development Planning Ministry Indonesia (BAPPENAS) has confirmed that Japanese state-owned and private companies will not be participating in Indonesia's first-ever high-speed rail project, but the two governments were still planning to cooperate in other infrastructure development projects. As the loser of the other project, JICA could use the window of opportunity to force Government of DKI Jakarta to compensate another round of process which is this case, Jakarta Wastewater Management Development.

DKI Jakarta Governor is the key

DKI Jakarta Governor, Ahok, has absolute power to push on with water agenda. If intervening actor could get his attention and support, it would save lots of decision making costs. Heavy representation also provides more opportunities to conclude win-win package deals. After all, heavy representatives have more room to negotiate, as they offer extra possibilities of coupling problems and solutions. However, this strategy should be used wisely and carefully.

6.4.4 Substance: Assessment and Strategy

Last but not the least is the fourth core element of the process approach which states that the process should provide quality of substance. A process lacks substance if decision making process drifts too far away from the main focus. Such a process is said to be hollow and therefore more likely to produce poor results or grey compromises which affect the process negatively. In Indonesia, the thing always happens is that in Echelon 1 meetings or Ministerial meetings the reports or submitted knowledge has insufficient quality resulting in grey compromises or postponement of decision making. To avoid this, one strategy is provided for improving quality of the substance and decision making.

Embedding experts in the process

It is important that the process itself does not drive out content. Including experts in the decision making can do this. They can use their substantive knowledge to facilitate the process. However, it is important to make sure that these experts do not act like stakeholders and to clearly define these roles. For example, Committee for Acceleration of Priority Infrastructure Delivery (KPPIP) should divide prioirty projects and hire experts or companies to adopt different sectors by using their knowledge not only to improve the quality of the analysis but also the communication about the analysis. The risk manamgement in this chapter also points out that organization and communication risk could be a problem that results are difficult to communicate and therefore fail to have the desired impact. The involvmenet of experts can reduce the miscommunication to some degree to make sure every stakeholder is on the same page.

In addition, involvement of experts can facilitate on interation. In essence, communication is still a unlateral activity: the point is that experts explain the results of the analyzes as well as possible. Interation, on the other hand, is bilateral: stakeholders are involved in the design of the analysis and in the flrmulation of its findings. Experts may propose to the stakeholders which data, system boundaries and methodology are to be used. The stakeholders may then seek clarification about this, or they may for instance propose using

dfferent data. This may lead to a discussion about the quality of these alternative data, experts may examine the sensitivity of the outcomes to these alternative data, or experts in a process of interaction. However, the agenda is always dynamic, particularly during the initial stage of a process. This entails a significant risk: experts do not follow the dynamics of the decision making, as a result of which they introduce their substantive insights at the wrong moment: too early, or—more often—too late. Alternatively, their insights pertain to problems that may have been relevant to the process yesterday, but that no longer have any relevance today. Thus, experts should follow the dynamics of a process to some extent. Consequently, decision making and analysis do not take place sequentially, but in parallel. This way, experts become a part of the decision making process.

Dynamic is everywhere in Indonesia's process pyramid for decision making. Figure 6.5 shows different level of meetings which are inefficient and ineffective to make usre the quality of decicion making because of misuse of expert consultation. First, notice that inadquate decision making is the no.6 risk in micro level risk prioirtization that some high level government officials still believe authoritative command or control is the only way to make things work. This implies, the expert might invovle, but in the last stage in the Echelon 1 Meeting or Ministerial Meeting. However, this could lead to poor decision making. Especially in this case, interfaces are complex and dynamic. Involvement of expert should be taken into account in the early stage and should follow the dynamics of a process.

6.4.5 Summary

First, openness refers to involving relevant stakeholders, which is also in accordance with transparency and participation in good PPP governance. In this case, stakeholder consultation is an important part of the PPP development process, allowing the concerns of potential service users and others affected by the project to be taken into consideration when structuring and implementing PPPs. After all, PPPs are meant to provide value to the public especially for water supply and sanitation (WSS). In addition, Committee for Acceleration of Priority Infrastructure Delivery (KPPIP) should be empowered to ensure transparency of processes.

Second, protecting core values of each stakeholder can be referred to fairness and decency in good PPP governance. Insecurity and distrust in a network make it impossible to make substantive decisions, and the process agreement could be formulated in such a way that parties could find incentives to commit themselves to these agreements providing fairness and decency environment to ensure trusts between parties. In addition, conflicts of interests and grey compromises under the hierarchical structure are common in Indonesia leading to slow development of infrastructure. An important aspect of the protection of parties' core

values is that they are not asked to commit to any process result beforehand. Not committing to a result will create safety, space, and more importantly, innovation. Moreover, room for dynamic stimulates learning process that new insights will become available, facts will turn out to be different from what is generally assumed, and even normative views can change. Thus, only at the end of the process will the parties be asked for their commitment to the final package of decisions.

Third, progress can be referred to efficiency encouraging cooperative behavior by earning commitments of closed parties. In addition, window of opportunity and sense of urgency are two important elements which could speed up the process. Besides, Ministry of Finance (MOF) needs to adopt a stronger and more central role in coordinating the transaction and funding of economically important and strategic projects.

Fourth, substance can be referred to accountability. There should be a role for knowledge and expertise in the process to help maintaining the quality of decision making. When a process drifts too far away from the substance, it is vulnerable and fails to meet it original objective: a process is designed to produce substantive problem definitions and problem solutions.

Indonesia has its rules of the game by following the pyramidal structure for decision making. However, this process tends to end up with grey compromises or postponements of decision making. The present author examined the design principles of a good process and formulated strategies to solve the sluggish decision making process. In addition, these strategies are in line with previous analysis in this chapter. To conclude, the process management approach can definitely work in this case and help address the issues of PPP. However, it needs some fine-tuning to accommodate Indonesia's context. Indonesia indeed has the potential to improve the process for acceleration. However, some conditions have to be created to reduce the risks especially in the micro level mentioned in section 6.2.

Figure 6.1 and Figure 6.2 are proposed as an ideal model fit in hierarchical decision making for process management approach in Indonesia. However, it needs time to think and reflect on how to implement it as a whole. It has to be stressed that at this moment poor governance and decision making have a negative effect on this case. Also, some government officials are still inclined to top-down project-based command and control approach. The present author would contend that button-up process-based approach should be embedded to improve governance and the quality of decision making.

PART IV - CONCLUSIONS

7 CONCLUSIONS AND RECOMMENDATIONS

The present study aims to provide answers to the main research question: ***Under what conditions can PPPs work for DKI Jakarta Wastewater Management Development in NCICD? More specifically, what should be done to create these conditions?*** Through the presented research framework and research approach, the only known case planned to adopt the PPP scheme was analyzed to generate key lessons. This research aimed at breaking down the most relevant subjects of the chosen case which is DKI Jakarta Wastewater Management Development, providing clear answers for the research questions, formulating a conclusive answer for this paper's main research question and all research questions are answered in the relevant chapters. The present chapter will describe what key lessons and recommendations can be drawn from the case analyzed earlier. These key lessons are drawn with the purpose of learning how can other water supply and sanitation projects be developed under PPPs based on the findings. Notice that this research is to help Indonesia identify the problems of PPPs and formulate strategies and conditions for debottleneck. The answer for research questions are briefly summarized below:

1. What kinds of water challenges does DKI Jakarta face?

With a population of about 245 million people, Indonesia is the world's fourth most populous country. Almost half of the population lives in urban areas; with an urban growth rate averaging 3.3 percent per year in 2011, the proportion of urban dwellers and their need for wastewater management services are growing rapidly. Historically, wastewater management in Indonesia has been viewed as a household or private sector responsibility; as a consequence, public investment in sanitation infrastructure or services was negligible. Consequently, the coverage of wastewater in urban centers in Indonesia is still very low. Despite increasing interest in sanitation, public investment in the sector has remained extremely low. Besides, the deterioration of water quality of surface water and groundwater is due simply to the fact that more than 90% of the domestic wastewater is currently being discharged into rivers and sea or underground through septic tank. Securing water supply sources in the rivers inside DKI Jakarta and stopping land settlement caused by excessive extraction of groundwater are very crucial for the whole NCICD program. Wastewater management development is the pre-condition and one of the most important components in NCICD. The efforts to clean-up the urban drainage water by construction of sewerage

systems and WWTP must be accelerated significantly. However, this is not an easy task in the densely populated city and politically sensitive environment. As already noted above, this research focuses on accelerating the first wastewater treatment plant (WWTP) interfacing with NCICD towards the PPP strategies.

2. What aspects should be taken into account and analyzed to generate key lessons for these water challenges?

In the studies discussed above, the purpose of the research reported here is to accelerate the process of DKI Jakarta Wastewater Management Development by assessing PPP policies and examining whether the process management approach is adequate in this case for decision maker or policy maker to make better plans, take better decisions, and shape better policies in a complex and dynamic environment. The specific aims in this research are (a) to explore the feasibility of the PPP in the current Indonesia's context and reflect on the failure of water privatization in Jakarta to gain issues overview and, (b) to identify potential bottlenecks and uncertainties which could result in cost growth or project failure, (c) to examine under what conditions good governance in PPPs can be adequately formulated in this case for debottleneck, and (d) to develop strategies for an efficient and effective program to accelerate PPP processes for the first wastewater treatment plant (WWTP) in DKI Jakarta.

3. Why are PPPs attractive and what are the differences between PPPs and traditional procurement? What are the elements of good governance in PPPs?

In sum, traditional procurement focuses on procurement of assets not services. Also, the finance depends on the budget available. Moreover, traditional procurement assumes risks that are better handled by private sector. While properly structured, the PPP scheme can incentivize whole-life cost approach and result in optimal risk allocation. The PPP arrangement enables the public sector entity to get better Value for Money (VFM) in the delivery of public services. More specifically, a PPP allows Government to tap on to the private sector's expertise, innovation and competitive advantages in the delivery of public goods and services, which not only raises cost efficiency through lifecycle optimization but also taps on the private sectors' networks to maximize asset utilization and commercial potential. The United Nations Economic Commission for Europe (UNECE) Guidebook on Promoting Good Governance in PPPs describes 'good governance' as encompassing the following six core principles:

- **Efficiency**—the extent to which limited human and financial resources are applied without waste, delay or corruption or without prejudicing future generations

- **Accountability**—the extent to which political actors are responsible to society for what they say and do
- **Transparency**—clarity and openness in decision making
- **Decency**—development and implementation of rules without harming people
- **Fairness**—equal application of rules to all members of society
- **Participation**—involvement of all stakeholders

From the above definition, certain prerequisite conditions that underlie good governance include an efficient and accountable public management system to deliver public services, well defined legal framework and government transparency, that is, predictable legal framework with rules known in advance and a reliable and independent judiciary and law enforcement mechanisms are critical. Participation and fairness can enhance policy analysis, promote public debate and reduce the risk of corruption. More importantly, good governance looks after the poor in developing countries.

4. What is the process management approach and what are elements for the process design?

Process management approach is based on a network situation. It aims at organization, communication, and argumentation to produce a compromise among the involved stakeholders in such network context. It is a structured process with clear rules and a fair process involving collective decision making which is acceptable for most stakeholders. While project management approach such as having strict problem definitions, clear goals, and tight time schedules have limited meaning in complex problems. The actors or parties will simply not accept the initiator's framing of problem and proposed solution; and so the right process is only supported if there is interaction, which is called a process management approach. Planning problems are inherently wicked. Process management approach is useful in complex systems that are characterized by a network of dependencies and hereby having no unambiguous substantive solution to it. These complex systems will arise when the infrastructure planning is characterized by more political, societal and financial intertwinement with other spatial development issues in region. For this there is no simple and one defined solution, due to the dissension on the norms, and lack of knowledge and consensus on the facts. To effectively tackle such problems, collaboration is necessary instead of using authoritative or competitive strategies. A hierarchical and substantive approach in such a network context will have little chance of succeeding, due to variety and interdependency of actors. Also due to their closedness and dynamic nature, they will most likely obstruct, delay, or change a project which is approached in a hierarchical manner. As opposed to this, a process approach considers the mutual dependencies and hereby the

solution that is in consultation and negotiation with other parties. There are four requirements, namely openness, protection of core values, progress and substance for a good process or to come to good process agreements.

5. What are the lessons learned from the failure of water privatization in DKI Jakarta?

First, privatization does not mean public sectors have a right to 'stay away' from the business. Second, good governance and effective regulatory framework are the keys for successful privatization. Third, public should be also involved in privatization. Forth, contracting is very important requiring strong negotiation skills and experts involved to ensure the substance.

6. What are the issues and risks associated with the PPP formation for WWTP in DKI Jakarta?

In macro level, the top seven risks are lack of legal/regulatory framework, strong political interference, inconsistent legal/regulatory framework, lack of support from government, corruption and bribery, unstable government, and interest rate. The result of meso level shows the top five risks related to this research context are delay in approvals and permits, excessive contract variation, availability of finance, financial attraction of project to investors, and scope variation. Some important micro level risks include inadequate experience in PPP, public acceptance risk, lack of commitment between parties, inadequate decision making, and inadequate distribution of authority and responsibilities.

7. What strategies can be formulated the process in this case?

First, openness refers to involving relevant stakeholders, which is also in accordance with transparency and participation in good PPP governance. In this case, stakeholder consultation is an important part of the PPP development process, allowing the concerns of potential service users and others affected by the project to be taken into consideration when structuring and implementing PPPs. After all, PPPs are meant to provide value to the public especially for water supply and sanitation (WSS). In addition, Committee for Acceleration of Priority Infrastructure Delivery (KPPIP) should be empowered to ensure transparency of processes.

Second, protecting core values of each stakeholder can be referred to fairness and decency in good PPP governance. Insecurity and distrust in a network make it impossible to make substantive decisions, and the process agreement could be formulated in such a way that parties could find incentives to commit themselves to these agreements providing fairness and decency environment to ensure trusts between parties. In addition, conflicts of interests and grey compromises under the hierarchical structure are common in Indonesia leading to

slow development of infrastructure. An important aspect of the protection of parties' core values is that they are not asked to commit to any process result beforehand. Not committing to a result will create safety, space, and more importantly, innovation. Moreover, room for dynamic stimulates learning process that new insights will become available, facts will turn out to be different from what is generally assumed, and even normative views can change. Thus, only at the end of the process will the parties be asked for their commitment to the final package of decisions.

Third, progress can be referred to efficiency encouraging cooperative behavior by earning commitments of closed parties. In addition, window of opportunity and sense of urgency are two important elements which could speed up the process. Besides, Ministry of Finance (MOF) needs to adopt a stronger and more central role in coordinating the transaction and funding of economically important and strategic projects.

Fourth, substance can be referred to accountability. There should be a role for knowledge and expertise in the process to help maintaining the quality of decision making. When a process drifts too far away from the substance, it is vulnerable and fails to meet it original objective: a process is designed to produce substantive problem definitions and problem solutions.

8. What lessons can be drawn from the case study? Can process management approach play a role in this case?

The lessons learned from the case study are documented in the following section providing comprehensive views of this case and also reflecting on process management approach.

7.1 Lessons Learned from the Case Study

To conclude, the present study is preliminary research on the use of process management approach to solve the wicked problems of water supply and sanitation (WSS) in Indonesia and its relevance to strategies of Public-Private Partnerships (PPPs) can also be seen. Several research questions were addressed in this study, and the principal findings suggested that (1) most respondents endorsed the belief that Indonesia's PPP framework has not shown satisfying results yet due to regulatory discrepancies within the country's institutions and other bottlenecks such as poor human resources capacity; (2) risk management showed certain thorny problems cannot be addressed through project-based approaches due to unstructured problems and dynamic in this case; (3) Strategies turning threats into opportunities in this case is imperative; and (4) Fine-tuning process management approach provided a good foundation for debottleneck of this case. Some key lessons are described as follows:

7.1.1 Key Lessons Regarding Public-Private Partnerships

By using the Policy Delphi interviewing technique, respondents provided lots of valuable insights and information to identify and analyze whether Indonesia already has the conditions for PPPs. Sadly, when one looks for the direct evidence for implementation of PPP, the result is disappointing. It seems that Indonesia has faced serious problems and has no sense of how infrastructure development is likely to yield good results due to the misunderstanding of delivering public services. In addition, Indonesia is a country that too big to fail. Because infrastructure development usually facilitates economic growth, it is expected that Indonesia's infrastructure development has to succeed. Unfortunately, Indonesia's track records in delivering infrastructure projects and public services do not inspire confidence that the gap will be filled as mentioned in problem analysis and risk management in this study. Inadequate distribution of authority and responsibility and poor coordination between different levels of government, long delays in permit issuance and major difficulties with land acquisition have led to major delays for even those projects where funding was available. And this has discouraged private investors from participating in PPPs.

First effectiveness than efficiency

To encourage private investors to invest in this case, the Jakarta Wastewater Management Development, the first thing is to ensure effectiveness rather than efficiency, that is, how to do it right should be the first priority for the government. More specifically, effective regulatory framework should be built up first since inconsistency of regulatory frameworks was identified as one of the most serious risks on macro level. It also appeared that ineffectiveness has affected institutional framework that the risks of inadequate distribution of authority and responsibility are ranked in top five risks on micro level. Thus, it has been suggested that effectiveness should be secured first to avoid another potential failure.

Just borrow, and build

ODA loans (Official Development Assistance loans) seem to be the trade-off in this case with attractive conditions (low interest, 10 years grace period, and 40 years payback period). In order to stimulate economic growth, it is possible using ODA loans to bypass the existing regulations innovating and developing new PPP modality. As mentioned in the problems analysis, current framework is too rigid and narrow that only finance by the private sector can be called PPPs. It can be reasoned that private investors are discouraged to enter into the market and it's time for innovation. The lesson learned here is that PPP is not limited as DBFO (Design, Build, Finance, and Operate) but also management contract or lease contract mentioned in the Chapter 3 literature review for PPPs. The possible way could be using

ODA loans to hire the EPC contractor to design and build and lease the facility to the PPP operator. To address infrastructure crisis, government agencies have to jump out the box.

Payment mechanism is of decisive importance

Learning from the failure of Jakarta water privatization, payement mechanisim for collecting wastewater tariff is the key to succeed in this case. The payment mechanism is at the heart of the PPP contract as it puts into financial effect the allocation of risk and responsibility between the public sector and the private sector. Appropriate consideration should be given to the payment mechanism at an early stage in the development of a PPP project. The payment parameters should be realistic and fair to support the long-term partnership. The public sector should also seek feedback from the private sector when developing the payment mechanism. More importantly, once the PPP is in place, user feedback can be an important aspect of PPP performance monitoring. Ultimately, the purpose of the PPP is to provide services to users—in this respect, user satisfaction, or whether services meet users' expectations, can be an important measure of PPP project performance alongside more technical or functional attributes.

7.1.2 Key Lessons Regarding the Process Management Approach

As suggested in the Chapter 2 Research Design, the present author believes that the traditional project-based approach can hardly be applied in such a complex and capricious environment. The input hypothesis has massive empirical support both at the theoretical and the applied levels. It seems that this fact has been confirmed from the results of the Policy Delphi interviews. Respondents in this research described and shared their experiences from different perspectives across different sectors providing the issues happening in the process. Through the evidences described in the problem analysis and risk management, the present author also found some interesting facts showing that the network-type characteristics have exerted influence on this case. Based on the results of stakeholder analysis, design principles for a good process were examined. Indeed, no empirical evidence is provided in support of the claim that process approach can be applied in Indonesia's context. However, the results show that process approach can work in this case with some fine-tuning. The biggest challenges are whether the sense of urgency can be created and whether ritualization can be minimized.

Risk of ritualization has to be minimized

As has been discussed, risk of ritualization could be associated to the macro level risk which is lack of government support, because some parties have special responsibility such as reviewing Environment Assessment Impact, approving permits or licences, or handling land

acquisition process. Even normal parties such as Government of DKI Jakarta also have their rules of game. Like some respondents mentioned, they are not optimistic about new rules that can shorten the processing time of land acquisition process or permits.

Utilizing window of opportunity

The present author would argue that window of opportunity is the most efficient mean to make use of since the process in this case is dynamic and capricious. It might also use the chance from another process. One party may join other processes with the same parties, for example, JICA meets Government of DKI Jakarta in the process of Jakarta Mass Rapid Transit project and Government of Indonesia in the process of High Speed Rail project. Thus, a loser in the process of High Speed Rail project can make strategic use of the fact that loser can also be compensated elsewhere on other issue.

Hierarchical top-down is not the solution

Indonesia is so unique that on the one hand hierarchy is an important characteristic of decision making; on the other hand, the structure of networks continues to exert influence on the process of decision making. The present author would argue that Indonesia is characteristic of hybrid and hierarchical networks. Given that each party is hierarchical but depends on each other like network, process approach might be fine-tuning a bit to accommodate the situation. In the Indonesia decisions are handed down from the top that boss models benefits of the decision. The strategies could use top-down, bottom-up, sector by sector, or even focus on targeted groups. In addition, involving the superior or senior advisor in the process for consultation and negotiation is also needed in Indonesia.

7.2 Recommendations

Four recommendations are provided for this case.

Recommentation 1: Infrastructure Law is imperative

The government and the parliament needs to lead with political courage and legislative leadership by passing an Infrastructure Law to enable comprehensive reforms for project implementation via simplified approval process, enabling long-term funding and multi year budget cycle that are beyond 5-years for the priority projects and to provide sufficient legal basis for public servants to fast track project implementation. Such a law must be delivered as a single umbrella law to prevent future cross-ministerial disputes. In addition, this regulatory reform must be supported by a strong champion institution such as the Coordinating Ministry of Economic Affairs (CMEA). Besides, it should provide sufficient legal basis to protect the public servants who implement projects on a fast track basis

without the fear of prosecution at a later date for bypassing certain procedures or steps in the interest of expediency. Moreover, it should enable to overriding of any conflicting central, regional, and local laws and regulations when implementing the selected priority projects. Thus, enacting Infrastructure Law to address the infrastructure crisis will solve current conflicts that often occur in project preparation and it will ensure the implementation of innovative financing schemes, which would accelerate the infrastructure delivery.

Recommentation 2: central government should take the lead

First, central government such as Ministry of Finance (MOF) needs to introduce innovative funding schemes like PBAS (Performance Based Annuity Scheme) or APS (Availability Payment Scheme) and, more importantly, provide capacity building to regional governments. After all, Government of DKI Jakarta is the Government Contracting Agency (GCA) having less capacity in this case to deal with tricky PPP providers, and thus, MOF could provide necessary supports to Government of DKI Jakarta. In addition, central government could provide training and guidance for regional governments through 'learning by doing'. Second, central government should introduce efficient asset management principles in all levels of government, and devise strong consequence management for infrastructure stakeholder performance, particularly for the regional governments' use of the decentralization fund by targeting infrastructure and other community services like health and education. Third, central government should introduce policies to support expansion of related local industries via schemes including encouraging joint ventures with foreign contractors and investors and increase community buy-in of projects via improved consultation and socialize of the key benefits of the projects. Fourth, central government could unleash the capacity of civil servants by removing impediments and engaging them with private sector expertise through a mixed public and private sector resourced program management offices.

Recommentation 3: a hero for WSS sector is needed

A powerful and independent leader with strong ties with central government to lead the development of water supply and sanitation (WSS) is desirable. Many cases have shown that a leader or a special authority could be the most important factor to succeed. After all, this case is the first wastewater treatment plan (WWTP) in Jakarta, but there will be another 13 WWTPs to be built. In addition, except WWTP, housing connections and pipelines create great complexities and interfaces that have to be considered as a whole. Learning process is quite important that once he succeeds in Jakarta he might help transfer knowledge to other provinces. From process management perspective, a third party including a qualified and

powerful leader and team members with the needed skills mix might be the ideal situation for this case.

Recommendation 4: integrated infrastructure planning is desirable

The infrastructure planning should be a long-term operation. The policy maker or decision maker should think how much change can we cope with instead of what if something changes according to scenario x. Adaptive planning concept should be introduced considering, for example, (1) spatial limits, (2) technical limits, (3) financial limits, (4) socially unacceptable issue, and (5) governmental unacceptable issue together for infrastructure planning. The poor quality of infrastructure in Indonesia is a limiting factor in health and wellbeing of the population, and it restricts the potential for economic development. It has to be stressed that high density in Jakarta makes infrastructure development difficult. Coordinated and integrated infrastructure planning and management and concentrating different infrastructures can avoid inefficient investments such as unnecessary parallel development of infrastructure and secure the most efficient use of existing infrastructure. More importantly, it stimulates innovative approaches—more collaboration between regional sectoral initiatives and results in decreased expropriation costs and less land occupied.

7.3 Limitations of the Study

There are some limitations of survey research. First, even though this body of research has the undeniable merit of offering valuable insights into the PPP development in Indonesia, there was little we could know about the sources of these respondent's beliefs and what caused them to employ such strategies. The only way to identify this problem is to see how much PPP experiences they have and compare their beliefs and strategies with the other experienced respondents who have 5-10 years experiences or above, which is documented in Appendix F. In this study, research design and methodology are all fit for the problem statement. However, there is a problem that the present author didn't expect at the beginning which is the data collection process due to the closedness of public sectors in Jakarta. It was hard to contact the high-level government officials for interviews. In addition, due to the operation of the Policy Delphi, even though the present author already cut at least 3 rounds interview into 2 rounds, it was less likely to interview same people twice because some respondents are very busy. Besides, not all respondents have enough knowledge and experiences of PPP to answer the questions, that is, it implies that poor human resource capacity is a serious problem among public sectors making the PPP scheme so difficult to be implemented. The present author can only identify and choose more experienced respondents for second round interview. Thus, the data collection process is not

comprehensive. Fortunately, data is still valuable and reliable because of those highly experienced respondents. Second, another problem that often arises in data gathering has to do with the fact that such studies are often based on a survey, that is, the data are gathered through questionnaires, interviews, observation, and so forth. The present author readily acknowledged that the research is exploratory and that there are problems with the statistical mode. Third, due to the sensitive issues, this study had indeed encountered some difficulties collecting data in government sectors. The present author cannot conduct more interviews in, for instance, Ministry of Finance (MOF), Ministry of National Development Planning Agency in Indonesia (BAPPENAS), and Japan International Corporation Agency (JICA).

7.4 Suggestions for Future Research

Future research is obviously required, but this is an exciting first step. First, future studies should be alerted to limitations of this study from selecting qualified respondents across sectors to ensure the reliability concern. For example, the preparation should start as early as possible and snowball sampling could be more suitable in this case that experienced respondent would recommend next experienced respondent through referral. Second, an important area for future research in the years to come will be in the refinement of approaches to the policy analysis of learning process of PPP development in Indonesia based on the findings of this study. Third, this study has tried to answer what conditions should be created for Indonesia's PPP development. Perhaps future research could examine the interaction between contracting strategies and innovation in different sectors such as utilities, transportation, and social infrastructure. Last but not least, further research might usefully extend the findings of process management approach to examine the impact of cultural differences to the governance in PPPs and to compare with the other developing countries.

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APPENDIXES

APPENDIX A: TYPE OF PSP BY SECTOR AND REGION

This page provides a snapshot of PSP in WSS infrastructure projects elaborated from *PPI database* (World Bank, 2015), between 1990 and 2014. There were over 885 projects with private participation in infrastructure in developing countries, with total public and private investment in these projects amounting to 78.813 million of US dollars. Projects include management or lease contracts, concessions, Greenfield projects, and divestitures.

Table A.1 Snapshot of PSP in WSS sector in developing countries

	Total (USD millions)	Management and Lease (%)	Concession (%)	Greenfield Project (%)	Divestiture (%)
Water Sector	78,813	1.8	62	24	12
	Total Projects	**Management and Lease**	**Concession**	**Greenfield Project**	**Divestiture**
Region:	885	141	360	354	30
East Asia and Pacific	488	42	161	271	14
Europe and Central Asia	46	27	9	6	4
Latin America and the Caribbean	282	32	182	56	12
Middle East and North Africa	26	11	1	14	0
South Asia	15	6	5	4	0
Sub-Saharan Africa	28	23	2	3	0

APPENDIX B: PPP REGULATORY FRAMEWORK IN INDONESIA

The Government of Indonesia (GOI) has taken a series of major steps to refine the PPP policy and regulatory frameworks in order to improve the attractiveness and competitiveness of the GOI's PPP program. These core legislative steps depicted in the Figure B.1 include: (BAPPENAS, 2015)

- Presidential Regulation 38/2015, issued by Government as replacement of Presidential Regulation 67/2005 and its amendments (Presidential Regulations 13/2010, 56/2011, and 66/2013), establishing the cross-sector regulatory framework for implementing PPPs in the provision of infrastructure. The successive amendments have established clearer and more detailed stipulations about unsolicited proposals, cooperation agreements and Government's support and guarantees to projects, among other points regarding the revision accommodates foreign companies/investors in procurement of PPP projects, and the need for fiscal support from MOF;
- Presidential Regulation 78/2010 on the provision of government guarantees for PPP infrastructure projects through Indonesian Investment Guarantee Fund (IIGF), a single-window mechanism. The MOF Regulation 260/2010 establishes the procedure for requesting and providing such guarantee, whereas MOF Regulation 223/2012 regulates the Viability Gap Fund (VGF);
- Law 2/2012 on more detailed regulation on implementation of land acquisition for development projects serving the public interest and it's implementing Presidential Regulations 71/2012 regulating procedures of land acquisition, funding for land acquisition land appraisal, amount and types of compensations, objections and dispute settlements. National Land Agency (BPN) is the central agency in implementation of land acquisition with better Land Appraisal Team Appointment. It is done with the help achieving neutral decision making regarding community rejection and less bureaucratic land right revocation process. The new President Regulation 30/2015 stipulates the role of private investors in contributing to land acquisition process;
- Government Regulation 27/2012 on environmental permits, which replaces the previous Government regulation on environmental impact assessment;

BAPPENAS Regulation 3/2012, which establishes the cross-sector operational guidelines for the implementation of PPP projects in infrastructure.

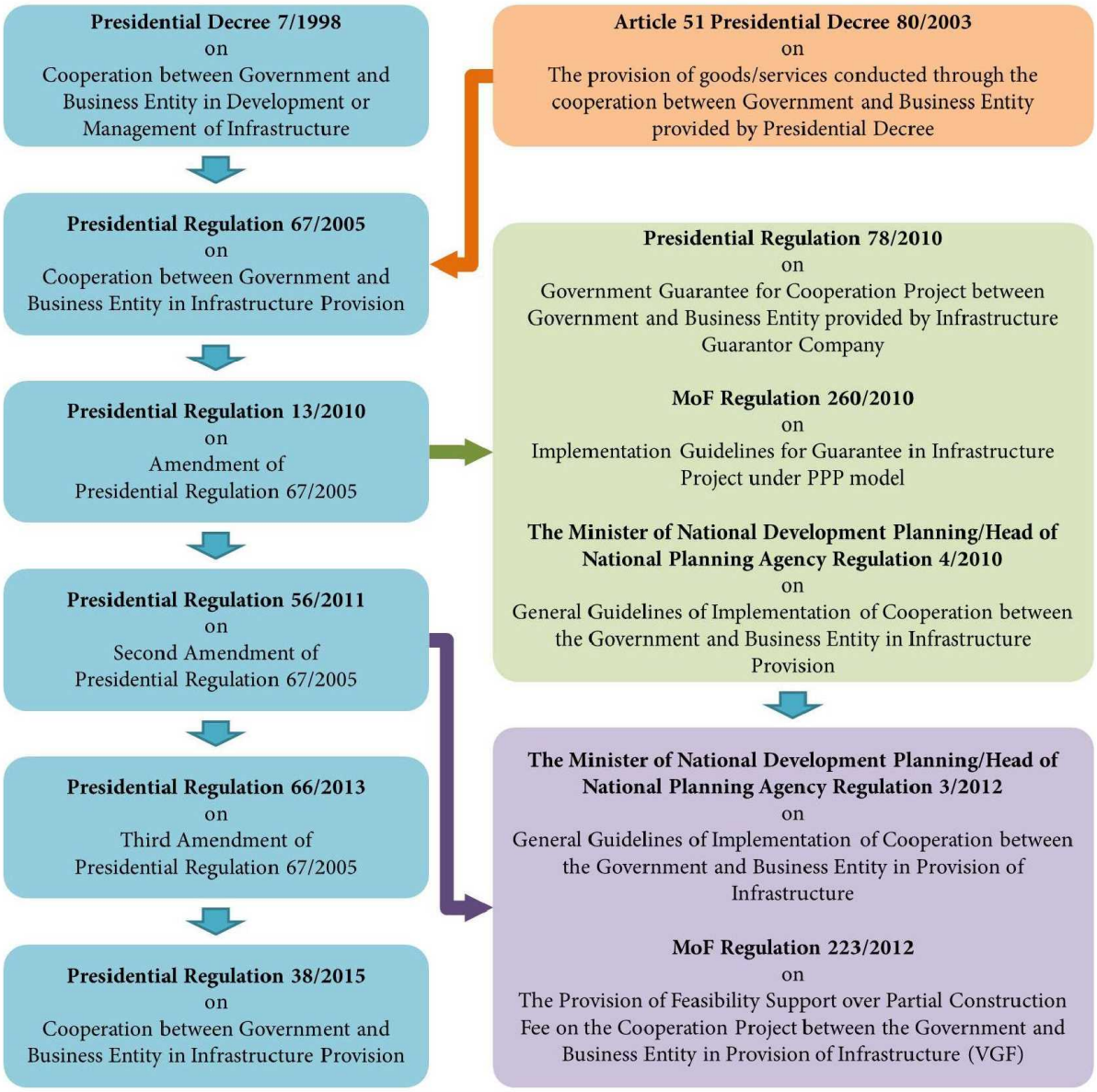


Figure B.1 The Evolving Cross-sector PPP Regulatory Frameworks in Indonesia
Source: Derived from the PPP blue book from BAPPENAS (2015)

APPENDIX C: PPP INSTITUTIONAL FRAMEWORK IN INDONESIA

The National Committee for the Acceleration of Infrastructure Provision (KKPPI) was established to coordinate the acceleration of infrastructure provision for national economic recovery. However, in implementation, KKPPI was not effective due to several limitations. GOI realizes the need to create an effective coordination framework with strong political leadership to reinforce its infrastructure program in general and that of PPPs in particular. **KPPIP (The Committee for Accelerated Infrastructure Delivery)** has been developing and designing to be the champion institution at the top, aiming to revitalize the function of KKPPI, by addressing their previous limitations, limited decision making authority, limited project involvement, and limited internal capacity. As the central government body, KPPIP will coordinate the delivery of the government's priority infrastructure projects, which consists of key government ministries related to infrastructure delivery, such as the Coordinating Ministry of Economic Affairs in Indonesia (CMEA), Ministry of Finance in Indonesia (MOF), Ministry of National Development Planning Agency in Indonesia (BAPPENAS) and National Land Agency in Indonesia (BPN). Current Indonesian PPP institutional framework is shown in Appendix C.1.

KPPIP will be positioned as the Project Management Office under CMEA for preferential projects. KPPIP has crucial role in preferential projects development and implementation, starting from project selection up to groundbreaking. KPPIP also has a central role in coordinating relevant stakeholders in preferential projects implementation through the action plan development facilitation, monitoring and debottlenecking as well as providing incentives and disincentives schemes to accelerate the project realization (BAPPENAS, 2015).

Public-Private Partnership Central Unit (P3CU) is an embedded central unit for PPP under the Directorate of PPP Development in the BAPPENAS. Its tasks include: formulating policies; assessing requests for contingent government support; assessing and recommending project proposals feasible for government support; assisting line ministries, local governments and GCAs in identifying, preparing, and implementing PPP projects; coordinating such support with MOF; and conducting PPP promotion, capacity building and

information dissemination. Currently P3CU has been developing and it is envisaged as an independent, centralized organization dedicated to PPPs with access to fiscal budget allocation decisions. P3CU will be placed under a high level political leadership and decision making institution that has the authority to: (i) coordinated across planning and fiscal agencies; (ii) decide on cross-ministerial conflict resolution; and (iii) drive legislative improvements. A **Project Development Facility (PDF)** was created to assist in providing needed funds for examining whether a project is indeed viable (feasibility study) before it is brought to tender. The PDF is funded by the Asian Development Bank (ADB) and managed by BAPPENAS. PDF management has encountered numerous problems, and has been relatively ineffective to date. There are currently discussions on requiring the winning bidder to replace the funds expended by making a payment to the PDF. In doing so, the PDF will become revolving and sustainable and now is implemented by PT Sarana Multi Infrastruktur Persero (SMI) (Saragih, 2015).

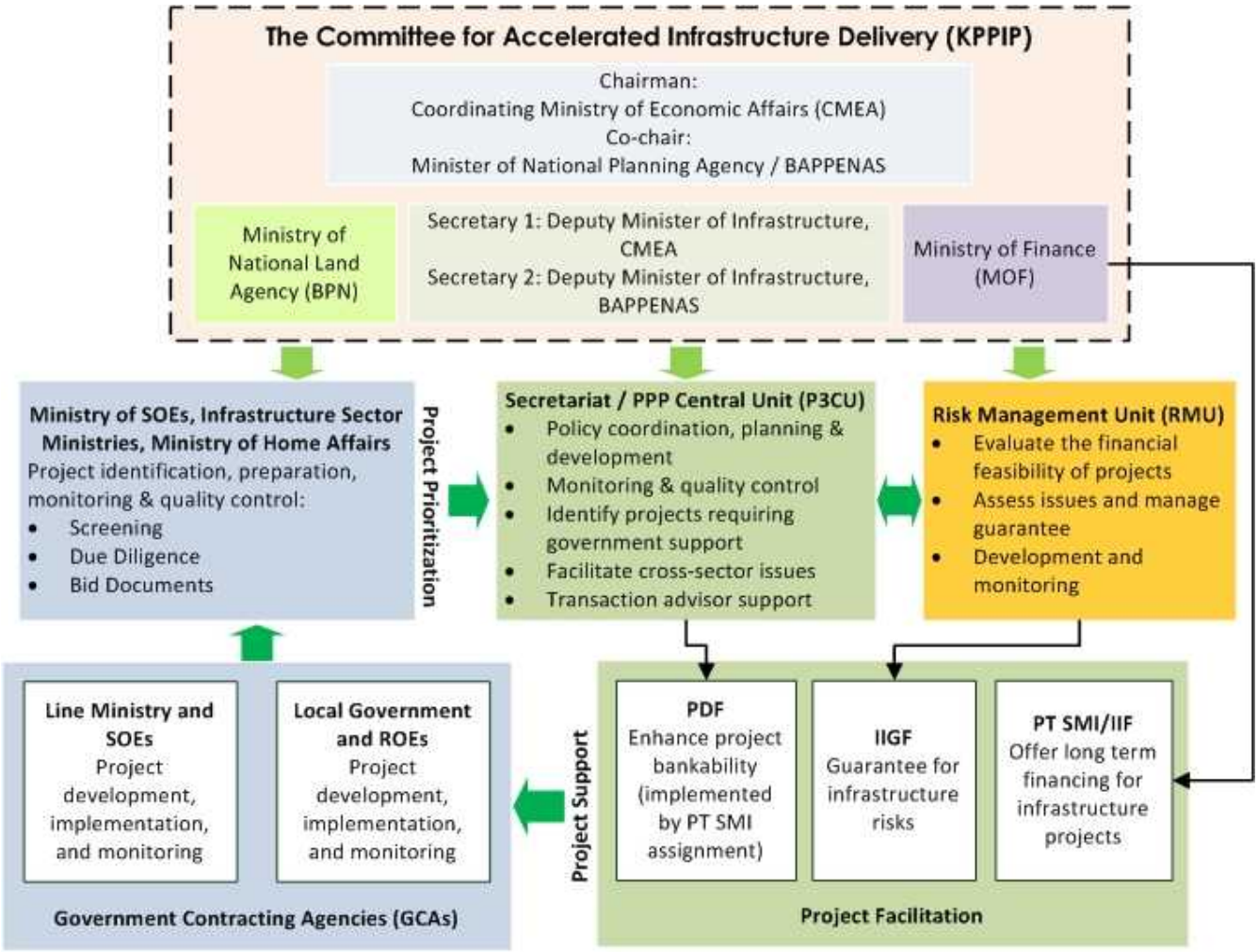


Figure C.1 Current Indoensian PPP institutional framework
Source: Derived and improved from Wibisono, Delmon, & Hahm (Unlocking the Public-Private Partnerships Deadlock in Indonesia, 2011)

MOF will deal mainly with the Risk Management of PPP projects, policy support as well as managing the state-owned enterprises (SOEs) for guarantee provision and financing. One of the newly created SOEs under MOF is the **Indonesia Infrastructure Guarantee Fund (IIGF or also known as PT PII Persero)** with 100% of its shares owned by GOI which has the following tasks: providing contingent support for GOI by guaranteeing any contractual risks such as political risks inherent in infrastructure investments; improving the quality of PPP transactions; pushing for a fixed and accountable approach for PPP implementation, with IIGF as the single processor and provider of infrastructure guarantees. The structure of guarantee arrangement is shown in Figure C.2.

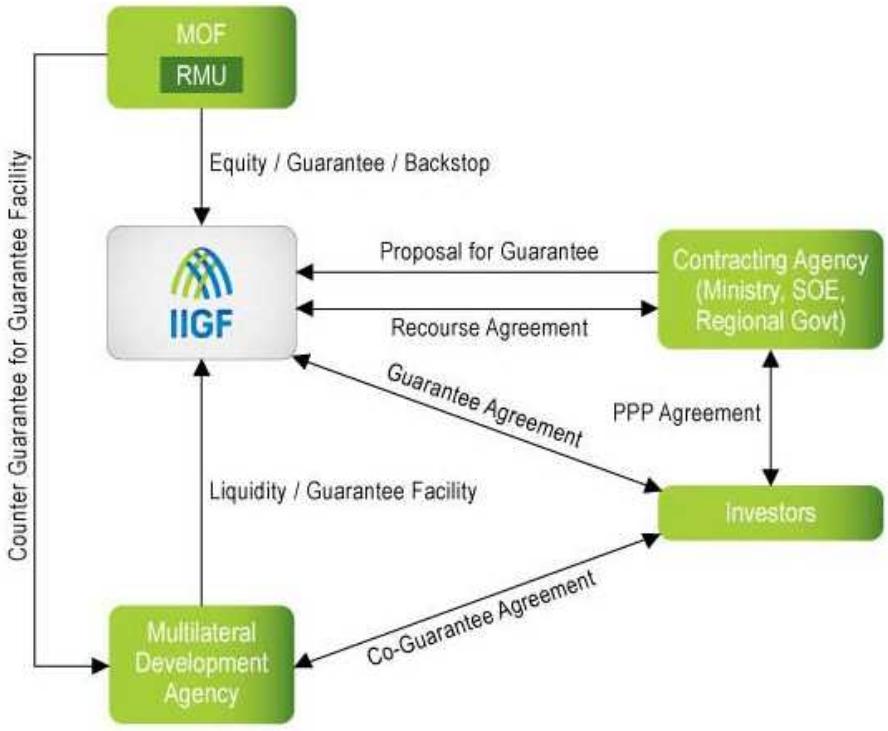


Figure C.2 Overall IIGF guarantee arrangement
Source: IIGF Business website (IIGF, 2011)

Created in December 2009, the IIGF uses a policy called the 'Single Window' for multiple guarantee provision processes. Through the IIGF, the government appraises infrastructure projects, structures guarantees and processes claims, which will attract the banks to finance the project and reduce the costs financing of infrastructure projects. By having this guarantee structure, it will enable GOI to manage its fiscal risks better by ring fencing the government obligations via guarantees. The aim is to uphold transparency and consistency in guarantee provision and claim processing in order to increase investor's confidence to participate in infrastructure projects in Indonesia. Together with IIGF, Risk Management Unit (RMU) in MOF also intends to follow a Single Window policy whereby the IIGF performs the full project evaluation and assessment for the MOF.

Another SOE is **PT Sarana Multi Infrastruktur Persero (SMI)** acting as facilitator and catalyst for infrastructure development in Indonesia, including the promotion of PPP scheme and funding activities in various infrastructure-related sectors in the form of debt, equity and mezzanine financing[2]. It is a non-bank financial institution wholly owned by MOF to provide long-term financing, guarantees, and fee-based services for infrastructure projects. Also, to enhance project bankability, PDF is now implemented by PT SMI assignment. Currently, SMI has one subsidiary name **PT Indonesian Infrastructure Fund (IIF),** a joint venture company between SMI and the World Bank, the Asian Development Bank, International Finance Corporation, Germany's DEG and Japan's Sumitomo Mitsui Banking Corporation. IIF plays a distinctive role in providing advisory services and supporting GOI in infrastructure policy making by providing transactional advisory services to public sector clients for the procurement of infrastructure services under the PPP scheme.

In principle GCAs are free **not** to comply with Presidential Regulations mentioned in the regulatory framework and they do have the authority to conclude their own contract. However, if the GCA requires a government guarantee or fiscal support for its project, it needs to submit the project to the MOF and comply with the Presidential Regulations. Since international banks increasingly expect a government guarantee, it is becoming increasingly difficult to engage in PPP contracts without either fiscal support or a government guarantee. Therefore, GCAs submit most new projects according to the Presidential Regulations and hence the scrutiny of RMU. If the RMU approves, it will be processed by the IIGF. The IIGF will guarantee the project and, if necessary, the Ministry of Finance will act as a co-guarantee. If the IIGF agrees to guarantee the project it will release a letter of intent and an acceptance statement regarding the scope, risk allocation and timeframe of the guarantee. The involvement of IIGF will span from project preparation until project realization, and at the implementation phase IIGF will continuously monitor the project. After the IIGF gives its assessment and guarantee, SMI and IIF can give long term financing through a loan, mezzanine or equity. For infrastructure specific financing, the government has prepared three financial facilities for PPP in Indonesia, which are grouped in three categories: Land Funds, Infrastructure Funds and Guarantee Funds. Land Funds consists of Land Revolving, Land Capping and Land Acquisition all of which are managed by the **National Land**

[2] A hybrid of debt and equity financing that is typically used to finance the expansion of existing companies. Mezzanine financing is basically debt capital that gives the lender the rights to convert to an ownership or equity interest in the company if the loan is not paid back in time and in full. It is generally subordinated to debt provided by senior lenders such as banks and venture capital companies.

Agency (BPN). Infrastructure Funds are prepared by SMI and IIF, whereas Guarantee Funds are managed by IIGF. In addition to the above mentioned funds, Viability Gap Funding (VGF) is also important increasing the financial feasibility of PPP projects to encourage the private sector's participation and to provide financial contribution to winning investors to finance some part of construction cost. MOF will decide whether to grant VGF after considering the annual central budget (state budget) allocated for infrastructure in Indonesia (APBN), fiscal sustainability and fiscal risk management. Currently, MOF has been structuring the operationalization of Availability Payment (AP) to ensure the availability of infrastructure service provided by the PPP Company or SPV.

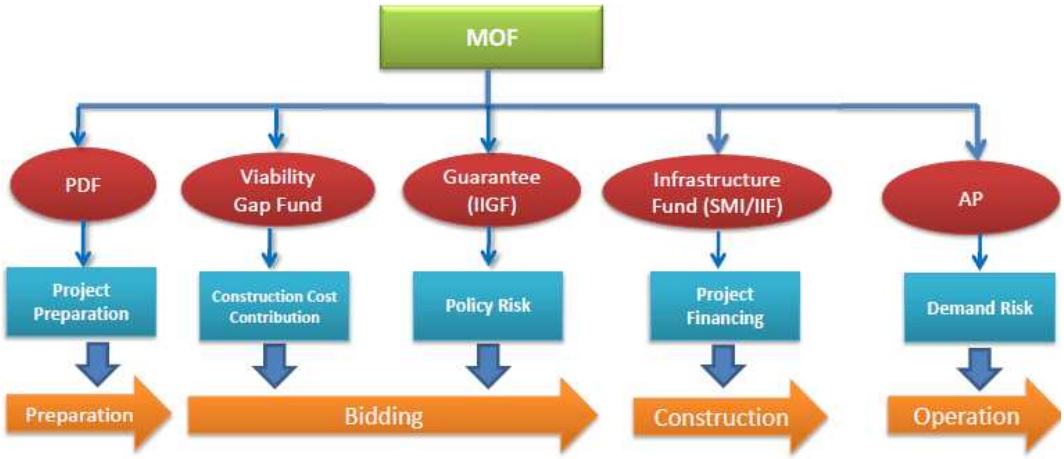


Figure C.3 Fiscal supports for PPP infrastructure project (Saragih, 2015)

APPENDIX D: THE DECLARATION OF POLICY DELPHI QUESTIONNAIRE

The purpose of this study is to explore the feasibility and limitations for PPPs in order to refine the PPPs policy practices for DKI Jakarta Wastewater Management Development. This study is being conducted through Delft University of Technology based in the Netherlands and will only be used for academic purpose. This questionnaire asks about your beliefs and understandings from different perspectives of what are the PPP experiences for public and private sectors to propose and implement PPP projects. Think of what kinds of problems happening during the PPP life, for example, the risks or uncertainties which could hinder PPP projects. Consider the interaction between actors and whether creating well-managed public-private relationships and finally, how to shape good PPP policies for wastewater treatment plant and accelerate the process in Jakarta. ***Your information response will be anonymous and will never be linked to you personally and be kept confidential.*** *Your participation is entirely voluntary. If there are items you do not feel comfortable answering, please skip them. Any further questions please feel free to contact: neolin0103@gmail.com. Thank you for your cooperation.*

APPENDIX E: THE POLICY DELPHI RATING SCALES

In the questionnaire, respondents are allowed to add any judgments, comments or options to the lists. Also, if possible, it's worthy to put personal positions on an item and underlying assumptions. To establish some means of evaluating the ideas expressed by the respondent group, rating scales must be established for such items as the relative importance, desirability, confidence, and feasibility of various policies and issues (Turoff, 1975).

Table E.1 Desirability (Effectiveness or Benefits)

Very Desirable	– Will have a positive effect and little or no negative effect – extremely beneficial – justifiable on its own merit
Desirable	– will have a positive effect and little or no negative effect – beneficial – justifiable as a by-product or in conjunction with other items
Undesirable	– will have a negative effect – harmful – may be justified only as a by-product of a very desirable item, not justified as a by-product of a desirable item
Very Undesirable	– will have a major negative effect – extremely harmful – not justifiable

Table E.2 Feasibility (Practicality)

Definitely Feasible	– no hindrance to implementation – no R&D required – no political roadblocks – acceptable to the public
Possibly Feasible	– some indication this is implementable – some R&D still required – further consideration or preparation to be given to political or public reaction
Possible Unfeasible	– some indication this is unworkable – significant unanswered questions
Definitely Unfeasible	– all indications are negative – unworkable – cannot be implemented

Table E.3 Importance (Priority or Relevance)

Very Important	– a most relevant point – first-order priority – has direct bearing on major issues – must be resolved, dealt with, or treated
Important	– is relevant to the issue – second-order priority – significant impact but not until other items are treated – does not have to be fully resolved
Slightly Important	– insignificantly relevant – third-order priority – has little importance – not a determining factor to major issue
Unimportant	– no priority – no relevance – no measurable effect – should be dropped as an item to consider

Table E.4 Confidence (In Validity of Argument or Premise)

Certain	– low risk of being wrong – decision based upon this will not be wrong because of this "fact" – most inferences drawn from this will be true
Reliable	– some risk of being wrong – willing to make a decision based on this but recognizing some chance of error – some incorrect inferences can be drawn
Risky	– substantial risk of being wrong – not willing to make a decision based on this alone – many incorrect inferences can be drawn
Unreliable	– great risk of being wrong – of no use as a decision basis

APPENDIX F: THE LIST OF RESPONDENTS IN POLICY DELPHI

Table F.1 The list of first round Policy Delphi respondents

Nr.	Expert	Name of Respondents	Gender	Age	Education Level	PPP Experiences
E1	NCICD PMU Team Leader		M	61~65	Graduate	5~10 years
E2	NCICD PMU Assistance Counterpart		M	61~65	Graduate	5~10 years
E3	NCICD PMU Support Consultant		M	46~50	Graduate	Above 10 years
	Government Sector	**Name of Respondents**	**Gender**	**Age**	**Education Level**	**PPP Experiences**
G1	National Support Agency for Water Supply System Development in Ministry of Public Works (BPPSPAM)		F	56~60	Graduate	Above 10 years
G2	Sub-directorate of Wastewater under Directorate General of Human Settlements in Ministry of Public Works (Cipta Karya)		F	31~35	Graduate	Less than 5 years
G3	Wastewater Management Enterprise City of Jakarta (PD Pal Jaya)		M	46~50	Graduate	Less than 1 year
G4	The Committee for Accelerated Infrastructure		M	51~55	Doctoral	5~10 years

	Delivery (KPPIP) in the Coordinating Ministry for Economic Affairs (CMEA)					
G5	City Infrastructure and Environmental Division in Regional Development Planning Board at DKI Jakarta (BAPPEDAS)		F	41~45	Graduate	None
	Bank	**Name of Respondents**	**Gender**	**Age**	**Education Level**	**PPP Experiences**
B1	Southeast Asia Department (SERD) in Asian Development Bank		F	51~55	Doctoral	Less than 5 years

Table F.2 The list of second round Policy Delphi respondents

Nr.	Expert	Name of Respondents	Gender	Age	Education Level	PPP Experiences
E3	NCICD PMU Support Consultant		M	46~50	Graduate	Above 10 years
	Government Sector	**Name of Respondents**	**Gender**	**Age**	**Education Level**	**PPP Experiences**
G6	The Committee for Accelerated Infrastructure Delivery (KPPIP) in the Coordinating Ministry for Economic Affairs (CMEA)		M	36~40	Graduate	5~10 years
	Bank	**Name of Respondents**	**Gender**	**Age**	**Education Level**	**PPP Experiences**
B2	Australian Aid		M	66~70	Graduate	Above 10 years

APPENDIX G: THE FIRST ROUND POLICY DELPHI

Respondents Information

Name:

Gender: ☐ Male ☐ Female

Age: ☐ 31~35 ☐ 36~40 ☐ 41~45 ☐ 46~50 ☐ 51~55 ☐ 56~60 ☐ 61~65 ☐ 66~70

Education Level: ☐ Undergraduate ☐ Graduate ☐ Doctoral

PPP Experiences: ☐ less than 1 year ☐ Less than 5 years ☐ 5~10 years ☐ above 10 years

Government Agency / Company: Department:

Email:

Phone:

Remarks for the first round interview:

Market Condition

- Is competition of market important for WWTP?

☐ Very Important ☐ Important ☐ Slightly Important ☐ Unimportant

- What's your position about following argument?

"The Government of DKI Jakarta can bear the supply risk in the long-term PPP life cycle."

Note: Supply risks can be referred to the private company or consortium cannot meet the specification or performance standards. Or probability of loss occurring from unavailability of the necessary raw material.

☐ Certain ☐ Reliable ☐ Risky ☐ Unreliable

Critical Factors

Li et al. (2005) proposed a three-level metaclassification approach by considering the relationship between risk factors and projects.

4) **Macro level risks have their origins beyond the system boundaries of projects;**
5) **Meso level risks occur within the system boundaries of the project; and**
6) **Micro level risks are associated with the stakeholder relationships in the procurement process.**

This classification approach is adopted in this study because it can provide a comprehensive overview of risk factors in PPP projects.

- What are the critical factors could lead to PPP projects failure in WWTP? Please prioritize these factors from 1~10 in each level. 1 is the most important.

Macro Level

Ĭ Lack of support from government Ĭ Unstable government Ĭ Inflation Ĭ Interest rate
Ĭ Strong political interference Ĭ Lack of legal/regulatory framework
Ĭ Corruption and bribery Ĭ Inconsistent legal/regulatory framework
Ĭ Poor financial market Ĭ Nationalization/expropriation (land acquisition)

Meso Level

Ĭ Availability of finance Ĭ Construction time delay Ĭ Site safety and security
Ĭ Construction cost overrun Ĭ Delay in approval and permits Ĭ Excessive contract variation
Ĭ Financial attraction of project to investors Ĭ operation risks Ĭ Technical default
Ĭ Scope variation

Micro Level

Ĭ Inadequate experience in PPP Ĭ Organizational and communication risk
Ĭ Inadequate distribution of responsibilities Ĭ Inadequate distribution of authority
Ĭ Lack of commitment between parties Ĭ Cross-cultural issues (different working method)
Ĭ Public acceptance risk Ĭ Hidden protectionism Ĭ Poor management and monitoring of the private sector' performance Ĭ Inadequate decision making

Note: Hidden protectionism is the risk of creating a private monopoly, protected by the government from competition

Institutional Setting

- What's your position about following argument?

"With more than 45 laws and regulations governing PPPs in Indonesia, many provisions in the PPP regulatory framework conflict or overlap across different levels of government, and across different agencies. Also, Indonesia's cumbersome PPP permit process entails obtaining more than 40 permits and licenses from an array of government agencies, with a PPP entity required to apply for a business license, secure approvals for the project's technical specifications obtain operating permits, and secures approval for construction.(Lin, 2014)"

Do you think are these issues important which could lead to the creep of the PPP project?

☐ Very important ☐ Important ☐ Slightly important ☐ Unimportant

- What's your position about following argument?

"Land acquisition is the major challenge for in any infrastructure project. The new Land Acquisition bill is needed to speed up the process with time limits established to contest and sell land, independent appraisals for property valuation and responsibilities designation for every stage of the process."

Do you think new Land Acquisition bill is desirable?

☐ Very desirable ☐ Desirable ☐ Undesirable ☐ Very undesirable

- Do you think the contracting agencies have enough project finance skills to develop pre-feasibility studies, to allocate risks, to structure the PPP, and to interact and negotiate with private investors?

☐ Certain ☐ Reliable ☐ Risky ☐ Unreliable

- In order to obtain Viability Gap Funding (VGF), the Government Contracting Agency (GCA) must submit an application to Ministry of Finance (MOF). In this process, do you think is the issue important which could lead to the creep of the PPP project?

☐ Very important ☐ Important ☐ Slightly important ☐ Unimportant

Strategic Development

- In your opinion, in Jakarta WWTP project, is Official Development Assistance (ODA) loans scheme provided by JICA feasible?

☐ Definitely feasible ☐ Possibly feasible ☐ possible unfeasible ☐ definitely unfeasible

- Are there any more important issues that you would like to raise about the chances for a successful implementation for the PPP-approach or the ODA- approach?
- In your opinion, for the WWTP project, how to provide sufficient flexibility and mechanisms for variations?
- What you think an effective and efficient PPP scheme for WWPT look like?

APPENDIX H: THE SECOND ROUND POLICY DELPHI

Respondents Information

Name:

Gender: ☐ Male ☐ Female

Age: ☐ 31~35 ☐ 36~40 ☐ 41~45 ☐ 46~50 ☐ 51~55 ☐ 56~60 ☐ 61~65 ☐ 66~70

Education Level: ☐ Undergraduate ☐ Graduate ☐ Doctoral

PPP Experiences: ☐ less than 1 year ☐ Less than 5 years ☐ 5~10 years ☐ above 10 years

Government Agency / Company: Department:

Email:

Phone:

Remarks for the second round interview:

Risk Management

- Do you think the Macro level risks prioritization is proper in this case and how risks could be allocated?

Table H.1 Macro level risks sharing strategy

Macro Risks	Prioritization	Risk Sharing
Lack of legal/regulatory framework	1	Shared / Gov't / Private
Strong political interference	2	Shared / Gov't / Private
Inconsistent legal/regulatory	3	Shared / Gov't / Private

Macro Risks	Prioritization	Risk Sharing
framework		
Lack of support from government	4	Shared / Gov't / Private
Corruption and bribery	5	Shared / Gov't / Private
Unstable government	6	Shared / Gov't / Private
Interest rate	7	Shared / Gov't / Private
Nationalization/expropriation (land acquisition)	8	Shared / Gov't / Private
Poor financial market	9	Shared / Gov't / Private
Inflation	10	Shared / Gov't / Private

- Do you think the Meso level risks prioritization is proper in this case and how risks could be allocated?

Table H.2 Meso level risks sharing strategy

Macro Risks	Prioritization	Risk Sharing
Delay in approval and permits	1	Shared / Gov't / Private
Excessive contract variation	2	Shared / Gov't / Private
Availability of finance	3	Shared / Gov't / Private
Financial attraction of project to investors	4	Shared / Gov't / Private
Construction time delay	5	Shared / Gov't / Private
Scope variation	6	Shared / Gov't / Private
Construction cost overrun	7	Shared / Gov't / Private

Macro Risks	Prioritization	Risk Sharing
operation risks	8	Shared / Gov't / Private
Technical default	9	Shared / Gov't / Private
Site safety and security	10	Shared / Gov't / Private

- Do you think the Micro level risks prioritization is proper in this case and how risks could be allocated?

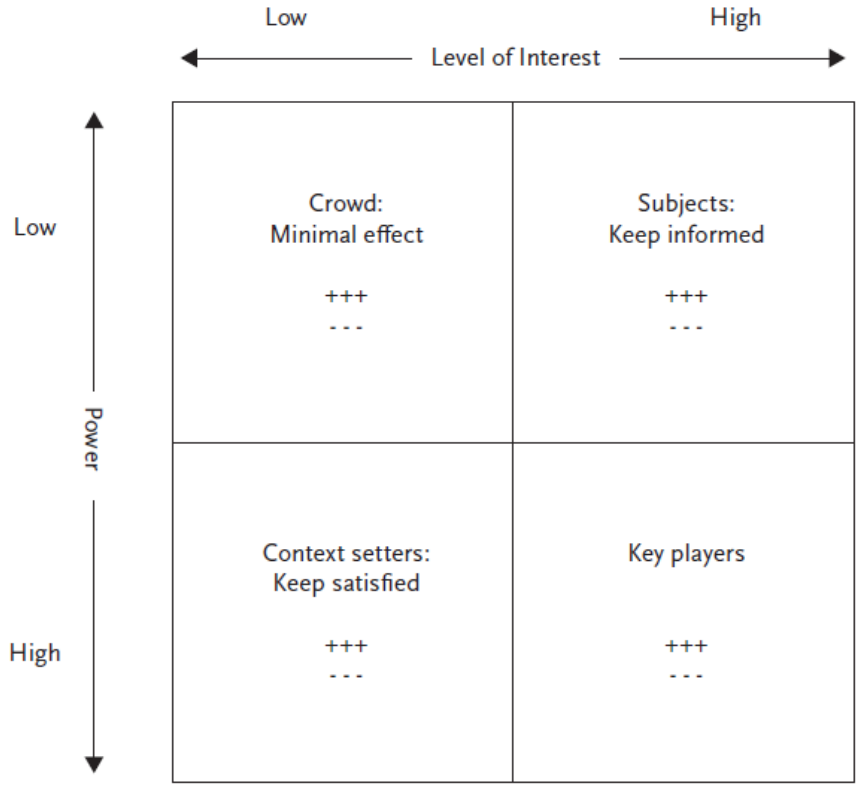
Table H.3 Micro level risks sharing strategy

Macro Risks	Prioritization	Risk Sharing
Inadequate experience in PPP	1	Shared / Gov't / Private
Inadequate distribution of authority	2	Shared / Gov't / Private
Public acceptance risk	3	Shared / Gov't / Private
Inadequate distribution of responsibilities	4	Shared / Gov't / Private
Lack of commitment between parties	5	Shared / Gov't / Private
Inadequate decision making	6	Shared / Gov't / Private
Organizational and communication risk	7	Shared / Gov't / Private
Poor management and monitoring of the private sector' performance	8	Shared / Gov't / Private
Cross-cultural issues (different working method)	9	Shared / Gov't / Private
Hidden protectionism	10	Shared / Gov't / Private

Stakeholder Management

- Are there any stakeholder might involve in the DKI Jakarta wastewater management development?
- Please plot stakeholders on the power/interest grid.

Table H.4 Stakeholder power/interest grid



Process Design

- How to deal with 'regulation and flexibility'?
- How to deal with 'risk sharing and bankability issues'?
- How to deal with 'human resource capacity'?

APPENDIX I: PPP RISKS PRIORITIZATION

Li et al. (2005) proposed a three-level metaclassification approach by considering the relationship between risk factors and projects. By using **the ordinal ranking**, the data collected from Policy Delphi interviews is prioritized below based on three levels: (1) **Macro level risks** have their origins beyond the system boundaries of projects; (2) **Meso level risks** occur within the system boundaries of the project; and (3) **Micro level risks** are associated with the stakeholder relationships in the procurement process.

I.1 Macro level PPP risks prioritization

Macro Level PPP Risks	E1	E2	E3	G1	G2	G3	G4	G5	B1	Sum
1. Lack of legal/regulatory framework	1	2	2	3	2	2	3	9	3	21
2. Strong political interference	3	4	3	6	3	1	2	6	4	32
3. Inconsistent legal/regulatory framework	2	3	1	4	10	8	1	4	2	32
4. Lack of support from government	8	1	5	1	9	7	5	8	1	45
5. Corruption and bribery	4	9	4	5	4	4	7	10	9	57
6. Unstable government	9	10	6	2	5	8	6	7	5	57
7. Interest rate	7	6	7	10	7	3	10	1	6	57
8. Nationalization/expropriation (land acquisition)	5	8	10	7	1	10	4	9	10	64
9. Poor financial market	6	7	8	8	8	6	8	5	8	64
10. Inflation	10	5	9	9	6	9	9	2	7	66

I.2 Meso level PPP risks prioritization

Meso Level PPP Risks	E1	E2	E3	G1	G2	G3	G4	G5	B1	Sum
1. Delay in approval and permits	2	3	3	3	3	5	1	3	2	25
2. Excessive contract variation	7	8	2	2	5	9	2	1	3	39
3. Availability of finance	1	2	8	1	2	1	10	6	9	40
4. Financial attraction of project to investors	3	1	9	5	1	6	9	5	1	40
5. Construction time delay	4	5	4	7	4	3	6	7	7	47
6. Scope variation	10	9	1	4	6	10	3	6	4	49
7. Construction cost overrun	5	4	5	8	7	4	7	9	6	55
8. operation risks	6	7	6	6	8	7	5	4	8	57
9. Technical default	9	6	7	9	9	2	4	8	5	59
10. Site safety and security	8	10	10	10	10	8	8	10	10	84

I.3 Micro level PPP risks prioritization

Micro Level PPP Risks	E1	E2	E3	G1	G2	G3	G4	G5	B1	Sum
1. Inadequate experience in PPP	6	1	8	3	1	5	2	1	1	27
2. Inadequate distribution of authority	2	5	4	8	6	1	3	3	2	34
3. Public acceptance risk	4	2	6	4	2	9	1	6	3	37
4. Inadequate distribution of responsibilities	3	6	3	9	7	2	4	4	4	42
5. Lack of commitment between parties	1	4	1	2	9	6	6	8	7	44

Micro Level PPP Risks	E1	E2	E3	G1	G2	G3	G4	G5	B1	Sum
6. Inadequate decision making	9	7	2	1	5	3	5	8	10	47
7. Organizational and communication risk	7	3	5	10	8	4	7	7	5	56
8. Poor management and monitoring of the private sector' performance	5	8	7	7	4	7	8	2	8	56
9. Cross-cultural issues (different working method)	10	9	9	6	3	10	10	9	6	72
10. Hidden protectionism	8	10	10	5	10	8	9	10	9	79

APPENDIX J: STAKEHOLDERS INTERESTS, PERCEPTIONS, AND GOALS

This table presents the stakeholders interests, perceptions, and goals in accordance with Chapter 4 the theory of Process Management Approach. In addition, it lays a good foundation for stakeholder mapping and process design in order to formulate strategies in this case. How we consider these three components (interest, perception, and goal) used in this study are detailed below:

- **Interest**: Why is the problem situation of importance to an actor? How are actors affected by the problem and why do they care?
- **Perception**: What does the actor really concern? What kind of risk could damage actor's interests? What is essential for achieving the actor's goals?
- **Goal**: What does the actor want to achieve when it comes to the problem situation? When does the actor want to achieve this? Which specific costs and benefits are associated with the problem situation or the proposed solutions for a certain actor?

Main stakeholders' interests, perceptions, and goals are summarized below:

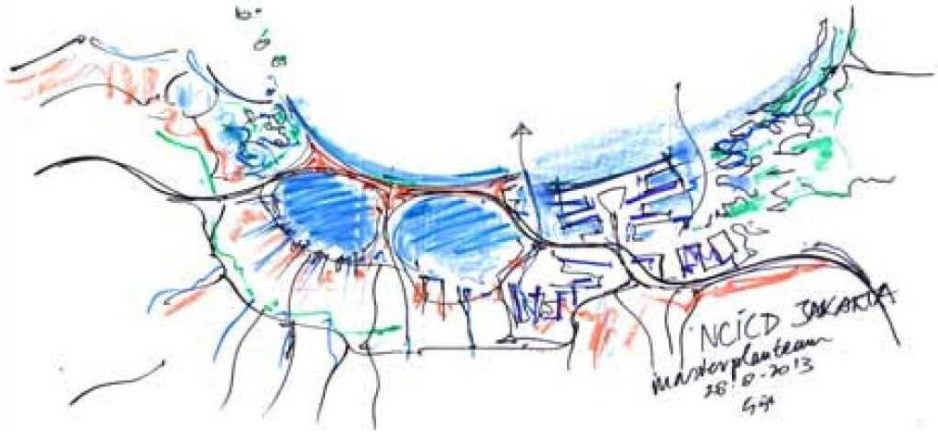
Table J.1 Stakeholders Interests, Perceptions, and Goals

Nr.	Main Stakeholders		Interests	Problem Perceptions	Goals
1.	DKI Jakarta (Local Government)	Governor	The first wastewater treatment plant in DKI Jakarta and the public health issue	The funding scheme should be determined and the investment ratio for the local Government	Improvement of public health and people's satisfaction
2.		BAPPEDAS	The first wastewater treatment plant with social benefits	Capability for carrying out the PPP undertaking and potential	Make sure the contract specifications are sophisticated

Nr.	Main Stakeholders		Interests	Problem Perceptions	Goals
				conflicts with the central government	
3.		PD Pal Jaya	The first wastewater treatment plant to deal with sanitation problems	Capability for carrying out the PPP undertaking	Make sure the quality of operation and maintenance for the wastewater treatment plant
4.		Jakarta City Council (DPRD)	The first wastewater treatment plant with social benefits	The decision making of investment ratio and Availability Payment	Make sure the Value for Money purpose
5.	Ministry of National Development Planning Agency in Indonesia (BAPPENAS)		The first wastewater treatment plant by using the PPP scheme	Lack of commitment between parties and poor human resources capacity	Make sure the policy and planning can be implemented under the PPP scheme
6.	Ministry of Public Works (MPW)	Directorate General of Human Settlements (Cipta Karya)	The first wastewater treatment plant to deal with sanitation problems	The competencies of the selected PPP provider	Make sure the technical specifications for contracting
7.	Coordinating Ministry of Economic Affairs (CMEA)	Committee for Acceleration of Priority Infrastructure Delivery (KPPIP)	The first wastewater treatment plant with social benefits	Lack of commitment between parties and poor human resources capacity	Minimize the gap between parties and try to coordinate each party to reach consensus
8.	Ministry of Finance (MOF)		The first wastewater treatment plant by using the PPP scheme	The lengthy process for getting government guarantee and miscommunication between parties	Provide the government guarantee and risk management

Nr.	Main Stakeholders		Interests	Problem Perceptions	Goals
9.	Ministry of Environment and Forestry		The first wastewater treatment plant to deal with sanitation problems	Environment Impact Assessment and environment risk	Make sure the environment won't be damaged
10.	Ministry of Home Affairs		The first wastewater treatment plant with social benefits	Whether the Institutional improvements in local governments and the policy can be implemented	Make sure the contract specifications are sophisticated
11.	Ministry of Health		The first wastewater treatment plant and the public health issue	The water quality for discharge relating to human health	Make sure the contract specifications are sophisticated
12.	NGOs & Communities		Environmental issues and social welfare	Destruction of valuable landscapes and concerning the poor	Make sure the water quality for discharge and protect basic human right
13.	DKI Residence		Clean environment and reasonable tariff with good quality of services	High tariff and low quality of services	Make sure that the project matches their desires
14.	Financial Institutions	Japan International Corporation Agency (JICA)	Infrastructure development and economic growth	Delays/failure of the project	Make the Master Plan of DKI Jakarta Wastewater Management Development happen to improve the covered ratio of sewerage system
15.		Banks	Infrastructure development and economic growth	Delays/failure of the project and repayment risk	Provide proper loans and insurances to achieve feasibility

Nr.	Main Stakeholders	Interests	Problem Perceptions	Goals
16.	The Audit Board of The Republic Indonesia (BPK)	Complex financial undertaking due to the PPP scheme	Organizational and communicational risk	Make sure the Value for Money purpose
17.	The Indonesian Investment Coordination Board (BKPM)	The first wastewater treatment plant	Organizational and communicational risk lead to delays of approvals and permits	Make sure the approvals and permits can be issued on time
18.	The Potential PPP Provider and Consultants	The first wastewater treatment plant	Inefficient and ineffective governance	Make profit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