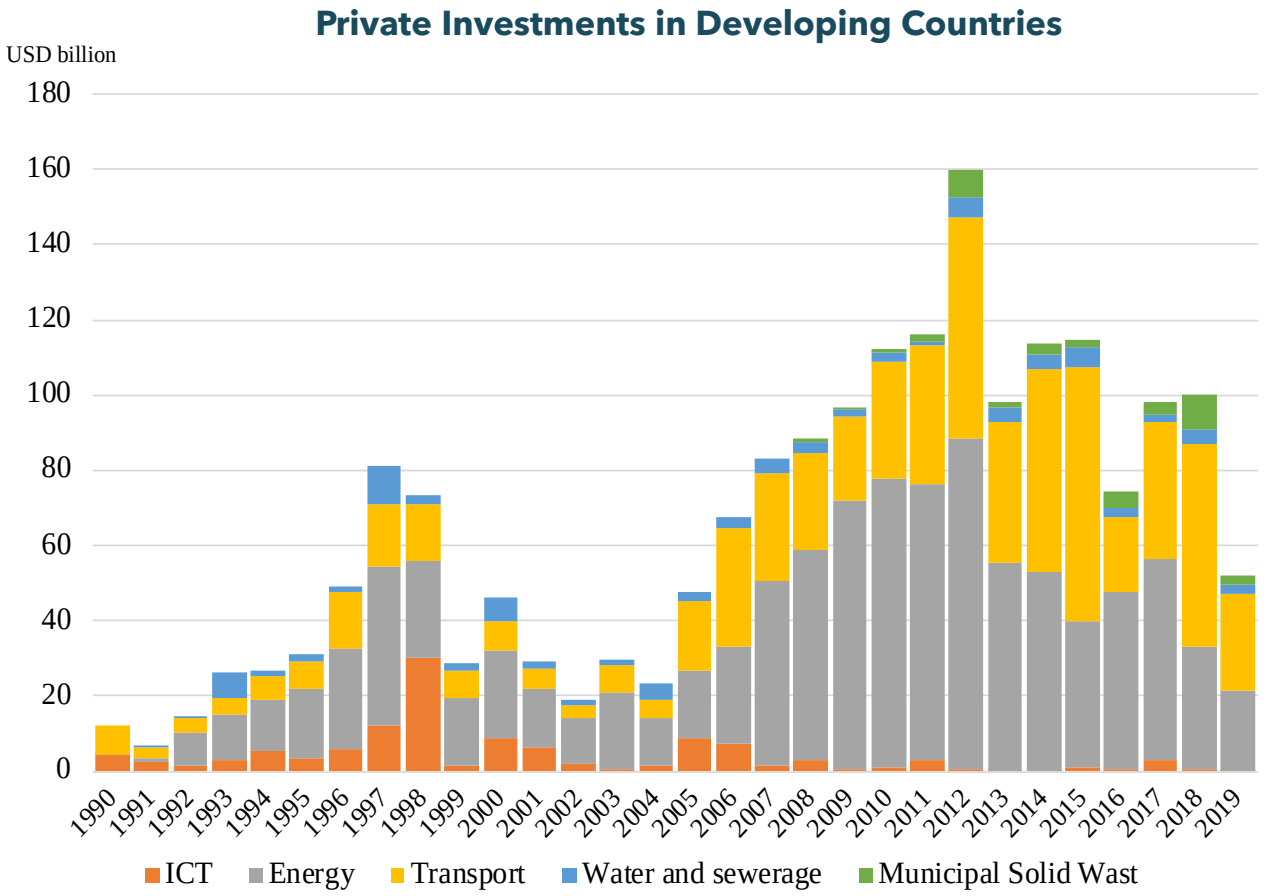
Government Initiatives to Unlock Private Participation in Infrastructure: Lessons from Indonesia's PPP in the Water Sector

Febrio Kacaribu[a], Yohanna M.L. Gultom[a], Nauli A. Desdiani[b], Syahda Sabrina[b]

[a)] Faculty of Economics and Business, University of Indonesia
[b)] Institute for Economic and Social Research, Faculty of Economics and Business, University of Indonesia, Jakarta, Indonesia

Private Investment in Water Infrastructures is Relatively Low Compared to the Other Types of Infrastructures in Developing Countries

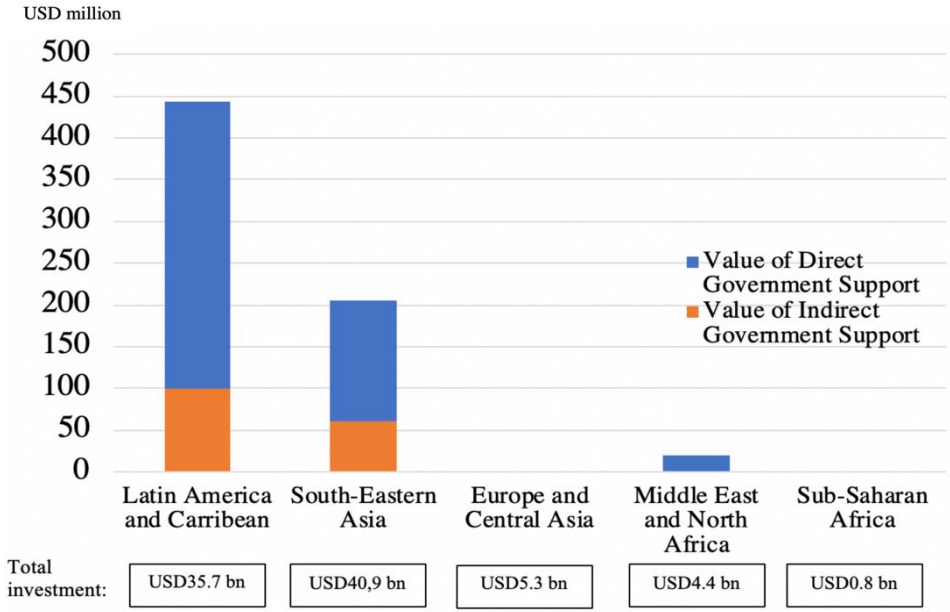
- The increasing trend of private investment during 2004-2012 was mainly contributed by the energy and transportation infrastructures, while only slight increase is recorded in water sector infrastructure.
- Investment in water infrastructure only represents 5% of the overall investment in infrastructure.
- Since the 1990s, the ratio of cancelled or under distress projects to the total projects in water sector is the highest among the other types of infrastructures; showing a high risk of uncertainty in water sector infrastructure.



Source: Authors' calculation based on World Bank Private Participation in Infrastructure (PPI) database

The High Government Support is Associated with Political Motives

Government Support in Water Infrastructures of Developing Countries by Regions (1990-2019)



Source: Authors' calculation based on World Bank Private Participation in Infrastructure (PPI) database

Government Support in Water Infrastructures of Developing Asian Countries (1990-2019)

Country	Total Investment (USD mn)	Government Support (USD mn)
China	17,225	5
Malaysia	10,144	-
Philippines	8,816	-
Indonesia	1,729	122
India	1,258	78
Thailand	831	-
Vietnam	560	-
Bangladesh	327	-
Papua New Guinea	71	-
Nepal	-	-

Source: Authors' calculation based on World Bank Private Participation in Infrastructure (PPI) database

- From the total USD668 million government support in water infrastructure during the period 1990-2019, USD443 million has taken place in Latin America and Caribbean; the other USD205 million goes to Asia.
- Indonesia is quite progressive on PPP in the clean water sector compared to its peers in terms of the government support and facilities.
- The shift of public authorities to apply the government supports in developing Asia is mainly associated with political motives.

Given the previous background, this study aims at answering the question of

How to unlock private participation in clean water infrastructure, especially in the face of low-return on investment nature of the sector?

Taking the case of Indonesia's water sector PPP projects.

- Overview of Water Infrastructure Investment: Comparison Between Developing Asia and the Others.
- Quantitative Analysis of Government Initiatives on PPI.
- Case Study Analysis: What can be Learned from Indonesia's PPP in Water Sector.

Lesson Learnt from Indonesia's PPP in Water Sector

Government Supports and Initiatives in 5 Asian Countries

Indicator	Malaysia	Philippines	Vietnam	China	Indonesia
Government Support	• Facilitation Funds • Tax Incentives	• VGF • Direct Government Equity • Project Development and Monitoring Fund • PPP Strategic Support Fund	• VGF • PDF • Government Guarantee • Tax Incentives	• VGF • Land Acquisition Financing • Minimal Demand Guarantee • Tax Subsidies	• VGF • PDF • Land Acquisition Financing • Infrastructure Guarantee • Tax Incentives
Government Support in Land Acquisition	-	PPP Strategic Support Fund	-	Land Acquisition Financing (Not Obligated)	Land Acquisition Agency (LMAN) to funding for land acquisition and settle land procurement issues

Indonesia is above average in terms of government support

Indonesia is the only country with agency for financing land acquisition

- In order to meet the high demand for clean water in Indonesia, relying on government budget alone is no longer possible, suggesting that the need of private sectors or multilateral agencies participation to fill in the infrastructure gap funding.
- The relatively low of FIRR, low tariff of water, and low willingness to pay from general public discourage private entities to invest in clean water sector.
- Considering its high economic and social impacts, since 2015 the government of Indonesia provides support to almost all Public-Private Partnership (PPP) in clean water projects.
- Viability Gap Fund (VGF), Project Development Facility (PDF), land acquisition, and government guarantee have helped make the projects feasible

Quantitative Analysis of Government Initiatives on PPI

The Determinants of Private Participation in Infrastructure

	All Sectors		Water Sector	
PPI	I	II	III	IV
Government Support	**0.4742*** **	**0.0809*** **	**0.6599*** **	**0.3928*** **
Multilateral Support	0.6177***	0.5856***	0.3562***	0.6743***
GDP		0.0835***		0.2109***
Debt		0.2661***		0.5485***
Inflation		0.1807***		-0.0679***
Const	3.9363***	1.3283***	2.3269***	-3.4938***
R-squared	0.0310	0.1116	0.0134	0.1066
N	8,851	8,833	1,150	1,150
F	171.5	354.8	8.45	79.6

Robust standard errors in parentheses
**** p < 0,01, ** p < 0,05, * p < 0,1*
Source: Authors calculation

- The government support -- both direct and indirect -- has a stronger effect on the level of private participation in infrastructure provision, specifically in water sector.
- The government support will significantly increase the level of private participation in all infrastructure sectors by 0.47% (Model I).
- Meanwhile, in water sector, the government support plays a bigger role in attracting PPI.
- The basic model for water sector (Model III) and the model with control variables (Model IV) show that the government support will significantly increase the level of PPI by 0.66% and 0.39%, respectively.

Case Study 1: Umbulan Drinking Water Supply System in East Java Province

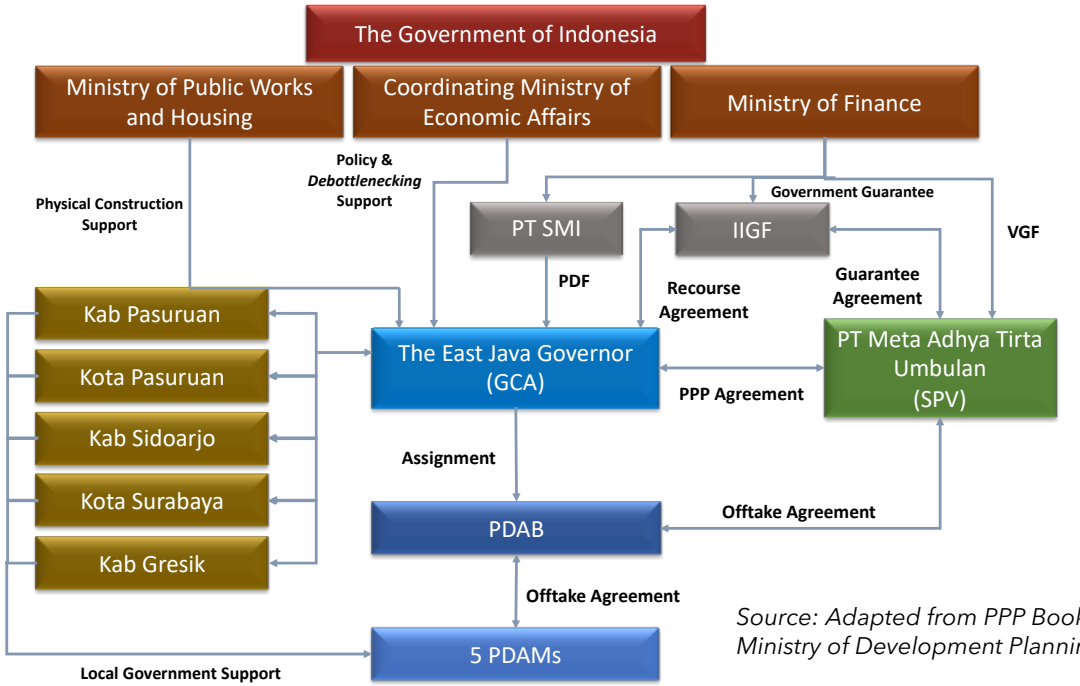
Obstacles:

- With investment required to around IDR2.05 trillion (USD147 million), the governor and the private consortium only able to finance 60% of the project value.
- Low FIRR (around 12.09%) but high social and economic impact.
- Multiple layers of different sub-national government were also contributing to further delay the implementation of this project.
- GCA's lack understanding of PPP knowledge.
- Overlapping and complexity of regulation when there is a dispute in the installation of a pipeline along the toll road.

Government Supports:

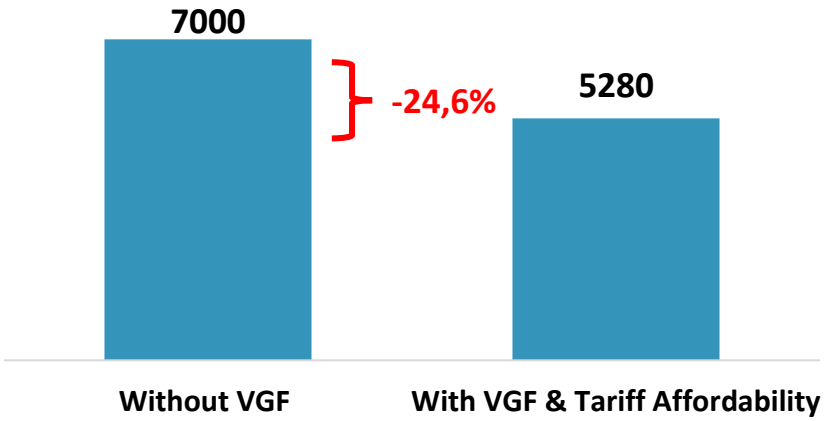
- Partial funding such as VGF which valued at IDR818 billion from the Ministry of Finance.
- Project Development Facility (PDF) to assist the governor of East Java in preparing and executing Umbulan project transaction.
- Government guarantee
- Other technical supports (construction of pipeline & water treatment) from Ministry of Public Works and Housing.
- Land acquisition fund and environmental impact analysis from the provincial government to debottleneck the project.

Umbulan Water Supply Project Structure



Source: Adapted from PPP Book 2018, Ministry of Development Planning

Umbulan Water Tariff, With and Without VGF (Weighted Average, Rp/m3)



Note: 1 USD = 14,000

Source: Purbo et al 2019, adapted from Government of East Java Province data, 2017

Case Study 2: West Semarang Drinking Water Supply System in Central Java Province

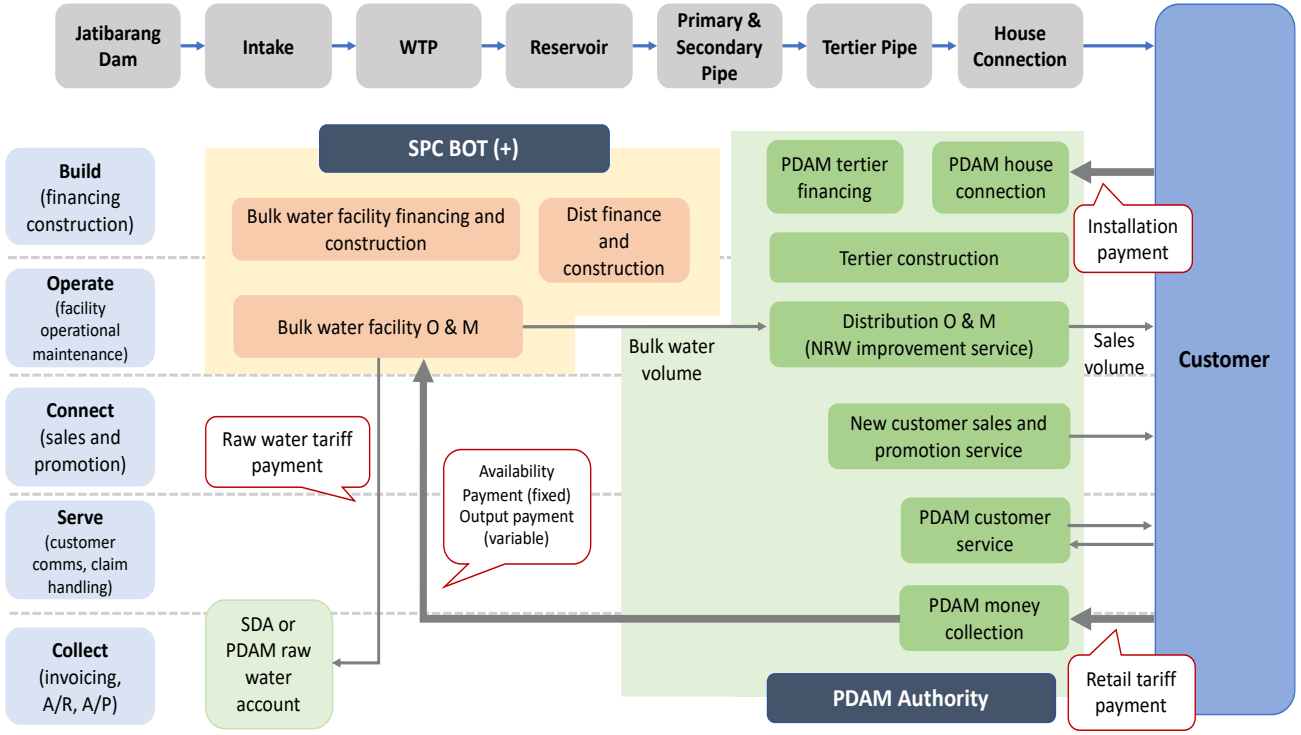
Obstacles:

- Lack of funding availability given the project costs around IDR1.17 trillion (USD34 million)
- Land acquisition issue
- Unclear benefit guarantee due to uncertain tariff setting hampers private interest to build the infrastructure

Government Supports:

- Minimum interference by local politicians, supported by the approval of the local government and parliament makes PPP run smoothly.
- The provincial government also helps to secure the land procurement process
- At the national level, GoI provides technical assistance through PDF for preparation and transaction advisory support.
- Government guarantee
- Availability payment scheme
- Other technical supports (construction of intake unit & main distribution network) from Ministry of Public Works and Housing.

West Semarang Water Supply Project Structure



Source: Adapted from PPP Book 2018, Ministry of Development Planning

Case Study 3: Bandar Lampung Drinking Water Supply System in Lampung Province

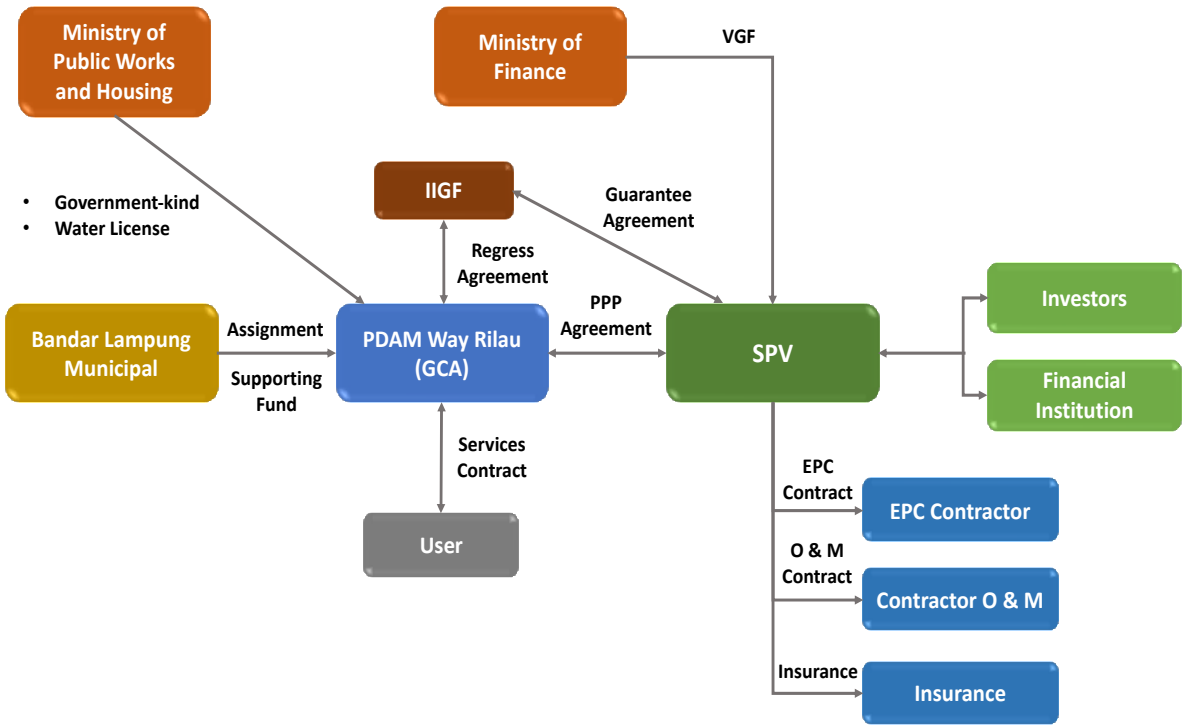
Obstacles:

- The total project costs around IDR1.1 trillion (USD 82.6 million) and has a relatively low financial feasibility, showed by 15,3% FIRR
- Inadequate local government fiscal capacity
- Lack of technical knowledge about PPP in the local government

Government Supports:

- VGF is provided from the government at IDR259 billion or USD 18.78 million to improve the financial soundness and maintain the tariff remain affordable to public.
- GoI provides the capacity building and Project Development Facility (PDF) for preparation and transaction advisory support.
- To mitigate the project risks, government guarantee is provided through Indonesia Infrastructure Guarantee Fund (IIGF).
- Political will and parliament support.

Bandar Lampung Water Supply Project Structure

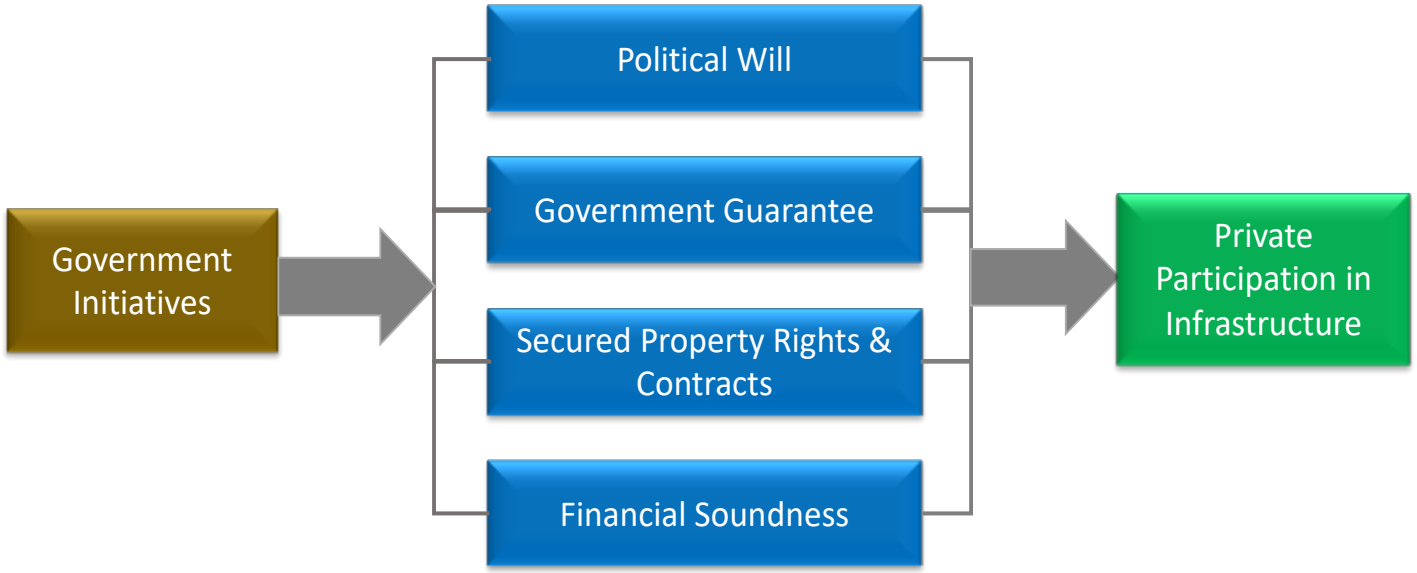


Source: Adapted from PPP Book 2018, Ministry of Development Planning

Conclusion and Policy Recommendations

- Indonesia is relatively more progressive on PPP in the clean water sector compared to its peers in the region in terms of government support and facilities.
- Institutional aspects, governance, and government support play vital roles in attracting private sector participation (PPI) in clean water infrastructure projects.
- Land acquisition provided by the government is important to tackle property rights problem.
- The government guarantee should be provided to mitigate uncertainty risk problems and increase private investors' trust by providing investment comfort through transparency guarantee provision.
- To increase financial soundness of the project and projects' FIRR, the government support in the form of partial contribution such as VGF becomes one of the breakthrough policies to accelerate the development of infrastructure.

Basic Necessary Conditions to Unlock PPI



Source: Authors' identification

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