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# A Global Review of Public Private Partnerships Trends and Challenges for Social Infrastructure

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**Abstract.** In developing countries, the government which has limited budget for public infrastructure development should choose which infrastructure should be developed. Most countries decided to build more economic infrastructure than social infrastructure because former have direct economic impact for society. The involvement of private sector in public infrastructure financing has been accomplished for decades in the form of Public Private Partnership (PPP). However, the implementation is also more often for economic infrastructure, but some countries have started to implement PPP for social infrastructure (education, healthcare, care of the elderly, etc.) when they think to add human capital and improve quality of life. This study attempts to review a set of public private partnership implementation models relevant for social infrastructure development in some countries. Moreover, this study also more explores to the challenges and issues in different areas of social infrastructure. The outcome is to show a trend public-private partnership for social infrastructure in some successful projects from different countries. The challenges and issues about implementation public-private partnership for social infrastructure also be a part of the results from this study. Finally, the study has a valuable input for implementation of PPP on social infrastructure in Indonesia.

## 1 Introduction

Since 1980s, public private partnership (PPP) is gaining global popularity as a viable alternative to public funding for building and financing infrastructure projects (Mital, 2016) [1]. PPP is a means to effectively deliver projects in the public sector because it emerges against the backdrop of financial constraints and management capacity in the public sector to support largescale infrastructure projects (Ahmed, 2013) [2]. PPP not merely means a way to accomplish financial problems by bringing private capital, but it also aims to bring private sector efficiency and best practices in delivering infrastructure. Although, focus of the current debates is primarily on economic infrastructure, but investment on social infrastructure has received surprisingly little attention and it is predicted to continue growing (Inderst, 2015) [3].

Social infrastructure investment is important to the society, so actually it is also being a considerable factor in the economy. Inderst (2015) describes that PPP is about twice as important in social as in economic sector, even though the PPP on social infrastructure in Europe runs only 6-7% and is still concentrated in a few countries [3]. Meanwhile, Preqin (2017) states that social infrastructure emerges with accounted for a promising proportion (6%) of deals completed in 2016, and represent around one tenth of deals completed since 2009 [4].

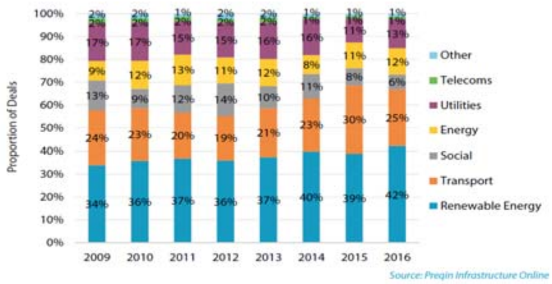


**Fig. 1.** Infrastructure Deals by Industry, 2009-2016.

Moreover, Inderst (2015) presents that Preqin (2014) also has reported approximately 6,000 infrastructure deals. Of these, around 13% of total deals equate to social infrastructure deals, with an estimated aggregate deal value of $150bn [3]. In terms of geographic scope, data from Preqin (2014) shows that Europe is the dominant region in terms of total deals completed, accounting for 78% of social infrastructure deals. North America accounts for 10% of deals, Asia 3%, and countries outside these three regions represent 9% of completed transactions Inderst (2015) [3]. The largest number of deals took place in the United Kingdom, representing 64% of all social infrastructure deals completed between 2008 and 2014. So, it indicates that

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social infrastructure spending tends to be more significant in a country's economic development.

Indeed, in general, PPP implementation in a country is different from other countries, depending on many factors such as social, economic, and political factors. For example, Germany has a challenge about institutional task force through arrange responsibilities and coordination amongst the parties, meanwhile Columbia which begin to apply PPP model to social infrastructure face an interesting problem about risk allocation because the uncertainty associated to each risk. In other side, so many countries face other important issues related to policy and government support for implementing the PPP in social infrastructure. However, the number of problems indicates that the implementation of PPP in social infrastructure is actually happening and becoming a growing topic.

The variety of problems and challenges faced by each country actually enriches the understanding of this partnership model. Moreover, if it is associated with social infrastructure, this partnership model has an interesting side where there is no contribution of income from users. Besides, the size and form of cooperation used by each model of partnership between public and private does not have one standard form. Therefore, this study focuses on a review of PPP trends undertaken by several countries that have applied this PPP model to social infrastructure and analysed the challenges faced as well as emerging issues. Furthermore, this study provides lessons learned for countries that want to implement the partnership in social infrastructure, such as Indonesia.

## 2 Analytical Framework

This research strategy is divided into three parts. First, this study begins with a literature review on concept and characteristics of PPP and social infrastructure. Understanding about those concepts brings out the basis to know way to implement PPP in social infrastructure beyond the diverse conditions in each country. The notion of PPP in social infrastructure that explained by PPP theory and the function of social infrastructure are the detailed elaboration in this part.

The second part is exploration about international experiences by comparing PPP in different sectors and countries. The investigation highlights some significant factors concerning the critical factors, problems, and challenges. The review of the PPP system some countries from different continents. The detail in this part aims to see how the application of PPP on social infrastructure. This section explains the international best practices in using the PPP to build social infrastructure that adjusted with the different characteristics of each country. A deeper analysis of the PPP implementation allows getting lesson learned of delivered PPP projects. The findings of the analysis are associated with theoretical explanations.

Finally, the analysis concludes the important factors that should be consider implementing the PPP and the challenges that the private and public must face. This conclusion can be developed in the form of a model of cooperation that can be done by the public and private sector, and their positive influences in delivering social infrastructure in Indonesia.

## 3 Concept and Characteristics of PPP and Social Infrastructure

### 3.1 Public Private Partnership

Public Private Partnerships (PPP) can be depicted as a long-term contractual agreement and relationship between the public authorities and private sector companies. PPP is a delivery method that aim at financing, designing, implementing and operating public sector facilities and services (Beck, 2010) [5]. In other word, PPP which defined as private-sector investment in public infrastructure have the following key characteristics (Yescombe,2007) [6]:

• The authors, in the form: initials of the first names followed by last name (only the first letter capitalized with full stops after the initials),
• a long-term contract (a ‘PPP Contract’) between a public-sector party and a private-sector party;
• for the design, construction, financing, and operation of public infrastructure (the ‘Facility’) by the private-sector party;
• with payments over the life of the PPP Contract to the private-sector party for the use of the Facility, made either by the public-sector party or by the public as users of the Facility; and
• with the Facility remaining in public-sector ownership, or reverting to public-sector ownership at the end of the PPP Contract.

This partnership model provides benefits for both parties. For the public sector, PPP improve value to the public against conventional projects in terms of reducing risk, cost effectiveness, higher level of service, efficiently and quicker completion. In addition, PPP reduces public capital investment because PPP joins public and private capital in the hand of the private partner but under monitoring of the public partner.

Meanwhile, the private sector also has great benefit in PPP model. They have the possibility to implement better solutions, new technology and improvements during the building process. PPP also gives the private sector access to secure, long-term investment opportunities, so they can generate business with the relative certainty and security of a government contract. Besides, private sector get advantage from PPP by achieving efficiencies based on their managerial, technical, financial and innovation capabilities.

PPP actually does not have a standard defined form. PPP includes a range of structures and concepts which involves the allocation of risks and responsibilities

between the public and private sectors so that many variants of the model of cooperation. Based on the nature of the service and risk transfer inherent in the PPP Contract., there are two categories, namely (Yescombe,2007) [6]:
• User payment, traditional payment systems under the concession model, characterized by a direct relationship between private partners and end users. The private sector provides services to the public and obtained concession rights can charge service fees to users of the service.
• Availability based payment, or Private Finance Initiative (PFI) model, the private partner to provide and manage the infrastructure for public authorities. In this model, the remuneration for the private partner does not take the form of fees paid by users of the service, but the periodic payments by the public side based on the level of service provided.

These two categories are commonly associated with two types of infrastructure: economic and social infrastructure. Economic infrastructure uses user payments as income for private sector. Meanwhile, social infrastructure, where there is no user payment, uses an availability-based payment model with a support from the public sector. However, few infrastructure projects using PPP models also refer to this understanding.

The PPP model can be much more diverse and tends to require closer management, e.g. Through central government PPP Units, PPP laws or standardized forms of PPP Contract, as discussed below. Some projects provide an important lesson in the success of other projects in the term of the implementation of PPP.

### 3.2 Social Infrastructure

Public infrastructure is one of the drivers of sustainable growth and act as an enhancer of a nation's competitiveness. Public infrastructure can be defined as facilities which are necessary for the functioning of the economy and society (Yescombe, 2007) [6]. These are thus not an end in themselves, but a means of supporting a nation’s economic and social activity, and include facilities which are ancillary to these functions, such as public-sector offices or accommodation.

World Economic Forum (2012) defines three types of infrastructure, i.e. economic, social, and soft infrastructure [7]. The economic and social infrastructure can be categorized as hard infrastructure which refers to the large physical networks necessary for the functioning of a modern industrial nation. The definition of social infrastructure is the assets to support the provision of public services (World Economic Forum, 2012) [7]. Examples include social housing, healthcare facilities, educational institutions and green infrastructure (green multifunctional space in urban areas, such as parks, gardens and green corridors, which increases social livelihoods and encourage biodiversity). Meanwhile, Economic infrastructure defines as projects that generate economic growth and enable society to function which include transport facilities (air, sea and land), utilities (water, gas and electricity), flood defences, waste management and telecommunications networks.

New Zealand Social Infrastructure Fund (NZSIF) in 2009 has similar definition which mentions that social infrastructure is a subset of the infrastructure sector and typically includes assets that accommodate social services [8]. It is defined more clearly using example that social infrastructure assets include schools, universities, hospitals, prisons and community housing which show in the following table for detailed further.

**Table 1.** List of Social Infrastructure Assets Examples.

| No | Sector | Examples |
|---|---|---|
| 1 | Health | • Medical facilities<br>• Ancillary infrastructure (e.g. offices, carparks, training facilities) |
| 2 | Education | • Schools (primary and secondary)<br>• Tertiary facilities<br>• Residential student accommodation |
| 3 | Housing | • State or Council housing<br>• Defence force housing |
| 4 | Civic and Utilities | • Community & sports facilities<br>• Local government facilities<br>• Water and wastewater treatment |
| 5 | Transport | • Bus stations<br>• Park and rides<br>• Availability-based roading (excluding demand-risk toll roads) |
| 6 | Corrections and Justice | • Prisons<br>• Court houses |

Source: NZSIF, 2009 [8]

According to Blanc-Brude (2012), one of its main characteristics is that social infrastructure projects provide public infrastructure assets and services in exchange for revenue streams paid directly by the public sector [9]. This is contrary to economic infrastructure, such as toll roads, which collect revenue from end users. That means that social infrastructure is not generating revenue from users but is paid by the public sector in the long term.

Some other characteristics that occur in some social infrastructure projects using PPP are that most projects in the field of health, education and other social logistics are relatively small in terms of project size. In addition, in terms of risk, PPP contracts for social infrastructure are often considered relatively "low risk" by investors because their projected returns are considered relatively stable and more certain. Although there is always an element of political risk, due to regulatory changes and unusual renegotiations in this area, or "social risk" and "reputation risk" if the project is opposed by some community groups.

# 4 International Experiences for PPP in Social Infrastructure

## 4.1 PPP in Canada

One of the problems faced by Canada is the need for housing that is safe, adequate and affordable for all Canadians. Ministry of Finance of Canada found their affordable housing a large influence on the whole aspects - from raising healthy children to pursue education, jobs and opportunities - that will enhance Canada's economic well in the end. Investment is necessary to meet those needs. By making new investments in social infrastructure - in such things as affordable housing and early learning and childcare, it will encourage inclusive growth for Canadians and elevate more Canadians - including children and the elderly - due to poverty.

These investments fall into the three investment priorities of the Government of Canada that are expected to lay the groundwork for future growth. The investment is planned for public transportation, green infrastructure and social infrastructure for 10 years starting 2016. As stage 1 of the infrastructure plan, the Government proposes to provide \$ 11.9 billion over five years allocated for [10]:

• improve and improve the public transit system in Canada, for \$ 3.4 billion over three years;
• investments in water, sewage and green infrastructure projects across Canada, for \$ 5.0 billion over five years; and
• social infrastructure, including affordable housing, early learning and childcare, cultural and recreational infrastructure, and safe public health care facilities; For \$ 3.4 billion over five years.

In addition, from the new funding, \$ 1.2 billion will be invested specifically for indigenous peoples in the northern region. In more detail, the Budget to support social infrastructure in budget detail as follows [10]:

• \$ 270.2 million over five years to expand and improve health facilities in the First Nations community;

• \$ 732.0 million over two years to meet the housing needs of the reserves and in the Inuit and northern communities;

• \$ 129.4 million over two years for the improvement and renovation of original early childhood care and care facilities and to support the establishment of an Early Learning and Childcare Framework;

• \$ 76.9 million over two years to support the development of a combined cultural and recreational community; and

• \$ 10.4 million over three years for renovation and construction of a new shelter for victims of family violence in the First Nations community.

As one of the strategies used in running the program, most of the \$ 2.3 billion worth of investments is allocated to provinces and regions, which can identify communities where the greatest demand for affordable housing is. Then, to ensure that investment reflects the needs of the Canadian community, the Canadian Government also continuously consulted with stakeholders to determine where future social infrastructure investments should be undertaken.

In addition to these funds, the Government of Canada also supports community infrastructure priorities by providing approximately \$ 3 billion annually in special funding for municipal infrastructure projects such as maintaining national parks and urban infrastructure. Partnerships with private parties must be a priority so that the Government diverts responsibility for PPP Canada Inc. to the Minister of Infrastructure and Society, so that the Government institutions are aligned to support the infrastructure innovation as well as possible. Cooperation with provincial, territorial and municipal partners can speed up spending and investment programs through PPP for existing infrastructure.

## 4.2 PPP in Chile

According to Third Global Infrastructure Investment Index (2016), Chile is the most attractive investment infrastructure market in Latin America [11]. Indeed, Chile's experience in infrastructure development is similar to that of many other developing countries around the world. It began in 1990 when the Chilean government faced worsening infrastructure and decided to seek other sources of financing. The government triggered a PPP concession program that was originally used to rebuild damaged infrastructure.

In fact, there are three phases of the PPP concessions that started from 1991 to 1994 where Chile expanded its highway network. Then, from 1995 to 2002, the Government focused on the construction of urban highways and airports. And finally, from 2003 to 2010, Chile concentrated on building social infrastructure such as hospitals, prisons, and public buildings.

Much of Chile's success in the PPP project is due to a regulatory framework that is directly linked to two things: concessions and 'investors and investments'. The government created a strong concession law that must touch many key areas to encourage investor confidence and encourage investment. The law should handle all phases of the PPP project, starting from the proposal until the completion of the asset is completed by the end of the concession agreement (Hill, 2011) [12]. The concession law aims to create "an environment that supports PPP and serves as a possible marketing Tool for investors." For more than twenty years, even though the system has changed, there are three key elements that are key to the implementation of the partnership.

First, Chile establishes a concession process in order to remain clear, transparent and fair so that the private sector can know the criteria in the evaluation of the offer. Offer details and open contracts for public access; as well as a fair process, without bilateral or reverse transaction negotiations.

Second, Chile's regulatory framework remains stable and predictable to ensure private sector investment because of the low risk of government expropriation and compensation for any unilateral changes clearly stated in the contract. Stability allows accurate pricing and project valuation. In the event of a dispute, foreign investors are convinced that they get their way through an arbitration or court, just like a national investor. In addition, policies in the investment and trade tax are also able to prevent foreign capital investment leaving the country.

Finally, the Chilean government and the public believe that the terms of the agreement will be respected because the contract with the private sector clearly determines the level of service and expectation throughout the concession (Hill, 2011) [12]. Chile's law allows termination of contracts for serious offenses by private partners and encourages compliance at every stage of the deal.

## 4.3 PPP in UK

United Kingdom (UK) is a prominent country in terms of private capital investment in infrastructure over the last few decades. The country has developed public-private partnerships in PPP models since the 1990s, they are developing a form of PFI for social infrastructure. In the UK, HM Treasury (2013) describes that there are more than 600 PPPs are in the form of a $ 100 billion Private Finance Initiative (PFI) arrangement for hospitals, schools, prisons, bridges, roads and military equipment (Roehrich et al, 2014) [8]. Inderst (2017) argues that infrastructure needs in the UK in the future are quite high, both economic and social infrastructure [14]. The need for economic infrastructure is expected to increase to 3-3.5% of GDP or £ 55-65 billion per year, while social infrastructure becomes 1-1.5% of GDP or £ 20-25 billion per year.

UK is also known as one of the countries that have expertise in developing PPP for social infrastructure. However, in fact, the UK still has many problems in the development of the PPP model. Roehrich et al (2014) states that PFIs in the UK are too expensive, too opaque, too slow and too inflexible [8]. This has caused the private sector to have a more pronounced advantage while the transfer of risk and future liabilities to the public sector is unclear. Later, it encouraged the reform of the PFI model. PFIs with new models (often called PF2) try to make changes in public equity shares, faster procurement times, easier renegotiation and greater transparency.

The country has a friendly investment environment and open with clear property rights, the judicial system that works, and political frameworks that are relatively stable; so, it is seen as one of the most attractive investment targets. Their political system and a stable macroeconomic stability has a major influence on investment. Policies on investment is also supported by the presence of a solid institutional and legal. On the other hand, the amount of investment into forming a capital market that continues to grow rapidly with a strong investor base of diverse backgrounds.

Policy investment in infrastructure is also seen as relatively stable and strong. The balanced attention between economic and social infrastructure makes this country stronger both in economic growth and in building people. Infrastructure policy is complemented by a robust and comprehensive infrastructure plan so that the development of social infrastructure with PPP model also fits the needs and development plan. The development of social infrastructure using PPP with availability-based payment is also one of the strengths of this country so that the level of investment trust is also increasing.

However, the current UK condition in which the political system is a little dynamic with the Brexit decision raises a little concern about the future of investment, market access openness and changes in policy professionals who have been centered in this country.

## 4.4 PPP in South Korea

South Korea began developing private infrastructure investment in early 1994 with launched “The Private Capital Inducement Act” (PPIAF, 2009) [15]. At that time, PPP in the country aimed at creating infrastructure facilities by the private sector to reduce public spending and to take advantage of private sector efficiency. The first legal framework that specifically promoted PPIs was the "Private Capital Laws Legislation" which was officially launched in 1994. In 1999 when there was an economic crisis in Asia, the PPP Law was changed to promote the PPP market in order to further encourage the private sector to Developing projects with a clearer distribution of risk. And in 2005, the PPP Law was changed by introducing Build-Transfer-Lease (BTL) schemes for social infrastructure.

Based on data from Public & Private Infrastructure Investment Management Center (PIMAC) in 2012, there are 400 social infrastructure projects from a total of 600 projects in South Korea (Hyeon, 2012) [16]. That represents two-thirds of the total infrastructure projects with a value of 21.7 billion USD. Value is indeed only a quarter of the value of infrastructure projects because of the characteristics of social infrastructure that is relatively less costly than the economic infrastructure. This indicates the number of social infrastructure development in South Korea using PPP model.

**Table 2.** Signed PPP Projects in Korea (as of December 2011).

| | | TOTAL (# of projects) Project Cost | | Under Operati on | Under Constru ction | Under Prepara tion |
|---|---|---|---|---|---|---|
| | | (USD) | (%) | | | |
| TOTAL | | (600) 79.6 bn | (100%) 100% | (417) 46.1 bn | (143) 22.1 bn | (40) 11.3 bn |
| Compete nt Authorit y | Central Govern ment | (151) 46.6 bn | (25.2%) 58.4% | (79) 26.2 bn | (52) 10.9 bn | (20) 9.6 bn |
| | Local Govern ment | (449) 33 bn | (75.2%) 41.6% | (338) 19.8 bn | (91) 11.2 bn | (20) 1.8 bn |
| Project Type | BTO | (200) 57.9 bn | (33.3%) 72.9% | (144) 34.9 bn | (34) 12.7 bn | (22) 10.2 bn |
| | BTL | (400) 21.7 bn | (66.6%) 27.3% | (273) 11.1 bn | (109) 9.4 bn | (18) 1.1 bn |

Source: Hyeon, 2012 [16]

In general, it can be seen that this country has enacted comprehensive laws to be regarded as a political commitment to encourage PPIs. South Korea has clear rules and criteria established at each stage of the PPI process and specific procedures have been developed to evaluate proposals submitted for PPP projects. In addition, to complete this framework, the Government has also established an effective organization to promote and coordinate PPIs.

One of the highlights of PPP development in this country is the development of a regulatory framework where initial arrangements may not be ideal until a more transparent and effective PPP framework is established. By establishing clear responsibilities between different authorities and by incorporating various forms of government support supported by a special law in 1999 to speed up the PPI. In addition, monitoring of PPP programs is also important and flexibility to adapt according to the program.

To date, South Korea has become an attractive country for private investment in the infrastructure sector. The country is one of the pioneers in PPP that contribute to meeting the increasing demand for infrastructure in the Asia Pacific Region. The efficient development of private sector which is closely related to the construction industry is an important point that South Korea should develop. And much more important is that Korea should start to adopt a more efficient allocation process for its PPI project especially regarding the effective capacity of its institutions that govern the bidding process.

### 4.5 PPP in Australia

Australia is one of the most advanced countries in adopting Public Private Partnerships (PPP) to deliver social infrastructure projects. The use of PPP in Australia has grown rapidly since its inception in the 1980s and is now used to provide services in various economic sectors (roads, railways, airports etc.) and social infrastructure (schools, hospitals and prisons etc.). Jetro (2010, p.9) states that the Australian market now has a reputation for a clear and transparent procurement process used to realize infrastructure projects in many sectors [17].

The Australia Infrastructure Partnership (2015) says that more than 55% of investors seek social infrastructure projects in the country. PPP on social infrastructure in Australia focuses on addressing the growing demand for services in the areas of: health; education; Social housing; correction; and justice [18]. In general, Australia has developed this model of PPP and has well-developed institutional and regulatory tools and is supported by highly developed research. The widespread use of PPP throughout Australia is currently being facilitated by the policies and guidelines of the National PPP developed by Infrastructure Australia on behalf of the Federal Government, and supported at the State and Territory level by the Infrastructure Department with their own PPP policies and guidelines and special PPP units for Overseeing the delivery of state-owned infrastructure projects.

Key elements of implementing PPP for social infrastructure in Australia Due to the following (Jetro, 2010, p.9) [17]:

• Legislative framework that allows private sector ownership, management and operation of public infrastructure in various infrastructure assets;

• Clear and transparent procurement process for large-scale infrastructure projects;

• A Federal Minister for Infrastructure dedicated to a set of centralized project and policy guidelines overseen by Australia's Infrastructure;

• KPS support networks and well supported Ministries of Infrastructure throughout the State and Territories with well-understood procurement policy methodologies and guidelines.

Meanwhile, Ernst and Young Australia (2008) also noted that PPP developments in Australia concentrate on three major concepts, namely value for money, collaborative and comprehensive planning, and strong relationships [19]. First, the PPP conveys value for money to the public sector with a focus on end-users and government perspectives. The value of money is one of the key factors for governments pursuing the PPP model to realize social infrastructure. It requires time and cost efficiency, great assurance of income, innovation, and the effort to release public sector resources to deliver its core services. Furthermore, they also apply high standards to this partnership to provide attention to core services. The core services carried out using PPP transfer the responsibility to the private sector in terms of delivery services, maintenance and infrastructure support.

Secondly, the success of the PPP project requires collaborative and comprehensive planning which means that it requires time and effort investing in the beginning in the framework of the partnership process. With good planning, it can determine more clearly the needs of the country and the purpose of the project. Ultimately, it will affect the formulation of appropriate specifications for a project to increase added value in efficient project operations and deliverables and ultimately will make a development project successful. In addition, the existence of a mature planning will have an impact on the opening of space for private parties to innovate.

Finally, PPP projects also require effective partnerships built between government and the private sector in a strong and balanced contract. The relationship between the public and private sectors really does not have to sacrifice commercial value or end user time. However, government agencies do need to adapt to different working environments, especially in terms of balancing the demands of becoming an effective commercial partner for the private sector. The demand for change is that the public sector focuses on developing policies and procedures that strengthen the transfer of risk to private operators, so that the spirit of partnership can continue to be established.

# 5 Global Challenges and Lesson Learned

## 5.1 PPP Global Challenges in Social Infrastructure

The implementation of PPP on social infrastructure that has been done by many countries makes the development more interesting because of the dynamic conditions in terms of politics and investment. The main challenge for the global PPP market can be summarized in the following discussion.

Arrangements on sectoral and regional opportunities. The role of public institutions is key to the implementation of PPP. Indeed, investment opportunities by private parties are abundant but the interest in social infrastructure must be generated by the Government. The existence of market arrangements on a sectoral basis will make it easier for private parties to identify risks. In addition, regional market arrangements will also provide a significant impact on investment opportunities because the expected social impacts of a region can also be measured more clearly. On the other hand, the arrangements between national and local governments are also highlighted in this market share of investment. The local level is expected to play an important role in the channelling of long-term investment funds for social infrastructure.

The need for financial innovation and access to investment opportunities. In most countries, there is often a lack of consistency and regulatory stability resulting in an impact on access to the infrastructure market. Therefore, there is a need for a definite policy framework that allows the private sector to have a broad opportunity to invest in public infrastructure with measurable risks in accordance with government needs, including through innovation of private investment. The innovation in question is, for example, the opening of private opportunities as new investors to form or join a consortium to bid in a project. In addition, the development of information access to social infrastructure projects is also indispensable to attract the interest of private parties, especially for new entrants in order to conduct competitive bidding.

Maximizing the social impact of social infrastructures. The development of social infrastructure using PPP models should have a positive social impact on community development. Efforts to maximize social impacts need to be a big consideration in making investments both in the process of formulating needs, planning, offering, and institutionalizing. Furthermore, investment policy also needs to consider social impacts locally as well as in a social complexity, and its implications are microeconomic.

So, market segmentation in financial scaling could be a solution for making regional be a player in PPP project. Meanwhile, prioritizing particular sector which have low or middle risk for PPP pilot project are supposed to make regional have more opportunities to involve in this kind of partnership. In addition, opening access to municipal and regional masterplan data and asset management could be a way to attract the private sector to participate in PPP projects. The private sector with experience and technology can have ideas to create partnerships with governments if they know the projects they can follow. Finally, the development of social infrastructure should involve the community. They can contribute in planning by giving ideas or gathering community needs; and in its implementation through cooperation in the construction phase of PPP projects, such as partnerships between government and the public as a private sector.

## 5.2 Lessons learned from implementing PPP in social infrastructure for Indonesia

The need to open social infrastructure investments to the private sector through PPP can be due to external and internal factors. Their incoming foreign investment and initiative to make an investment, or the internal needs of a country that wants to build infrastructure but will take the role of the private sector. South Korea is a good example of how they are moving to take the initiative to realize the PPP in social infrastructure, while Canada provides a smooth process in achieving development in accordance with the needs of their communities.

All countries in this study who are experienced in the implementation of PPP models have a clear political will and legal framework. This indicates that the political will be a very important factor in the effort to build social infrastructure using PPP models. The support of the legal framework is also needed in order to provide clear rules to private parties. Australia and Chile proved that with strong legal protection they can guarantee investment in the country. Political will and regulation framework should be run with transparency and fairness.

Public sector need to provide long-term capital-related facilities that can attract investors. Comprehensive and comprehensive planning (masterplan) is needed so that the private sector can identify and measure risk. In addition, with good planning, both parties can estimate how the project life cycle of a project and establish the scope and size of the projects to be offered in the PPP.

Subsequently, Chile and UK have shown that a procurement process requirement and a clear and transparent strongly supports the success of the PPP project. That makes it easy for both parties to get the desired benefits through the PPP model. The government can get the private sector which is professional and has expertise, while the private sector is also able to compete with innovation. Although, on the other hand, Government also needs to ensure a clear and definite revenue stream for the private sector. In addition, Government also needs to establish a steady institutional and stakeholder engagement as undertaken by Canada and UK.

Indonesia has a strong potential in terms of PPP project implementation initiatives by the government. Private can play a role when the government opens opportunities related to the project and which sectors can use the PPP model. However, it is necessary to be covered by clear rules and procedures. The main strength of Indonesia is the presence of strong political will so that the rules must be structured to support the will. The steps taken by the Government of Indonesia (2017) to trim the tortuous investment process can also encourage the private sector to run this model. However, a transparent procurement process becomes the key to be able to run this partnership with private parties that really have added value.

## 6 Conclusion

An important message of social infrastructure is the clear need that development is able to provide benefits to the community. Public and private stakeholders have different needs and goals, but they must have the same goal to provide social infrastructure in order to resolve the problems of society by using partnerships.

The experience of countries like the United Kingdom, Canada, Chile, and Australia have been relatively stable in implementing PPP for social infrastructure provide a deeper understanding of how the process is done. The development of South Korea also provides another positive perspective in studying the application of PPP to social infrastructure. The other interesting point is how Chile, which are socially similar to Indonesia, has a solid strategy and a quality service in providing social infrastructure for residents.

Governments have a central role in policies and regulations to provide a transparent and fair 'investment field', as well as providing payments to private parties. In investing, the private sector actually requires stability, predictability and a framework that supports their investment in social infrastructure. Meanwhile, the private sector has a role to provide expertise in building social infrastructure efficiently and has added value in innovation.

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