PROMOTING RESILIENT INFRASTRUCTURE AND PPP

CASE RELEVANCE

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Abstract

Increasing threats from natural disasters and climate change effects demand a resilient infrastructure. While the damage from vulnerable infrastructure could cost enormous economic and human lives, providing resilient infrastructure serves otherwise. First, resilient infrastructures offer social benefits, ranging from saving human life against natural hazards and climate change to achieving a better and more equitable life quality. Second, resiliency can be utilized as a signal to attract more investment by putting the standards intact. The advantages of resilient infrastructure are often overlooked by a misconception of the cost surge. This misperception occurs because the estimation of the project's return does not include all benefits of resiliency and the lack of proper incentives to apply the resiliency principles. Combining with inadequate funds for infrastructure investment, the resiliency standards can be the solution rather than problems assuming the main stakeholders are aware of and have proper support for the implementation. On the other hand, private participation also suffers a lack of investment while expected to fill the funding gaps of public funds. We identify that strengthening institutions, harmonizing plans and understanding across the public agencies, and providing the right incentives are the most crucial factors in pushing PPP implementation, especially in developing economies. The proposals in this policy brief focus on these issues and call for active support from G20 member countries and international communities.

Challenges:

The 6th principle stipulated in G20 Principles for Quality Infrastructure Investment (QII) is "Strengthening Infrastructure Governance", which mainly discusses the key factor of infrastructure governance principles to ensure long-term cost-effectiveness, accountability, transparency, and integrity of infrastructure investments. The infrastructure governance function commonly faces some challenges in the PPP's planning phase, especially for developing and emerging countries.

One of those challenges is the unsynchronized infrastructure planning across the government agencies, as in Indonesia, where the local government requests additional exit gates for an ongoing toll road PPP project. The request implies additional costs and changes to the existing PPP agreement that has been made between the GCA, from central government, and private parties. The lack of commitment and inconsistency between government agencies as stakeholders also occur in other inter-regional infrastructure sectors such as water supply systems, electricity transmission, and fiber optic networks. Germany's Berlin Brandenburg Airport is another example of failed coordination in an advanced economy which experienced delay and massive cost overrun. The project owner itself was a consortium of local and federal governments. In correlation with the 6th QII principle, this challenge becomes a problem gap that is not fully discussed in the QII principle.

Apart from synchronization challenges, the challenges also come from knowledge and resource gaps, especially between national and local governments (LGs). PPP scheme consists of a complex process and requires a certain level of skills, while LGs may have inadequate training and lack experience. Increasing complexities in PPP projects can weaken local governments' motivation to adopt this scheme, compared with the simplicity of traditional procurements.

Infrastructure investment faces budget constraints, increasing expectations for the role of private participation. However, the contribution of PPP finance is still low. Typically, PPP contributes less than 1% of gross domestic product, while public finance greatly varies from 2% to 10% of a country's gross domestic product (Zen, 2018). The use of PPPs offers an efficiency gain. Not only governments can save on resources by financing a huge upfront investment or providing public services without raising taxes, but they also leverage gain from the private sector's knowledge and experience in project management. Yet, private participation in infrastructure development is still lacking in many countries. For example, out of the USD 425 billions of infrastructure development projects in Indonesia, private participation only accounts for 21 per cent, while many private entities are in fact state-owned enterprises (SOEs) (APEC Policy Support Unit, 2019).

While economies keep building new infrastructure projects, the challenges also come from nature. Various natural disasters have hit and destroyed infrastructure and human habitats, demanding more resilient and adaptive infrastructure. With the increasing effects of climate change, we need resilient infrastructure that can absorb disturbance and retain its primary function and structural capacity. Without this, the expensive facilities will become suboptimal and cannot protect the humans as the users. The challenges of building resilient infrastructure come from a misperception that adding resiliency means additional costs, reducing the project's net returns. This, in turn, will make the project less attractive to the financiers. This misperception occurs because the estimation of the project's return does not include all benefits of resiliency and the lack of proper incentives to apply the resiliency principles. Nevertheless, in terms of resiliency, current infrastructures are still underfunded, with an investment deficit estimated to reach USD3.7 trillion annually for developing countries only (Runde, 2019). This becomes a big challenge in infrastructure financing amid underfunded total infrastructure investments.

Proposals:

Our proposals are based on the challenges mentioned in the previous section:

1. **Enhancing the sustainability of PPP projects by synchronizing the infrastructure planning of the inter-governmental entities**

An infrastructure project may be under the ownership of central government, local governments, or both levels of government. In many cases, even though the Government Contracting Agency (GCA) of a project is a central body, the project's location can be located in the land under LG's authority, which means requiring coordination between central and local agencies. Lacking coordination can result in potential disturbances during the project execution. To mitigate misunderstanding of the whole process, including the project scope and binding contract, all stakeholders should be actively involved from the beginning or since the planning stage.

Many PPP initiatives have never reached the procurement stage or commercially closed. For example, in Indonesia, as of 2018, out of the 57 PPP projects listed in the pipeline, only two projects have reached the operational stage. Haqq and Gultom (2021), based on a case of a 15 years-procurement delay of a waste to energy project in Indonesia, highlight high transaction costs, both political and economic, have caused the lengthy delay of the project. Those high transaction costs are related to 1) the lack of government's knowledge about PPP that leads to the delay in conducting the contract and misalignment of regulations, 2) the problem of coordination among various stakeholders due to a complex governance structure that involves central and local governments and leadership changes; 3) inadequate government supports and guarantees that limit private participation in the face of high financial, economic, and political risks of the project; and 4) the lack of public trust leading to public opposition due to the lack of transparency and alleged conspiracy during the bidding processes.

In many cross-regional projects or central government projects, a project committee consists of only the central government's representatives. To improve the coordination and synchronization across the public sector stakeholders, the project committee can have representatives from relevant LGs, or there is a mechanism to request LGs' active participation. Public consultation, knowledge exchange, and partnerships are examples of various instruments to enhance local participation. These efforts aim to close the knowledge gaps and harmonize the development objectives among the stakeholders.

2. Strengthening the PPP-related institutions: capacity building

Among major factors supporting PPP implementation, the following features are critical: coherent policy, public sector capacity to manage PPP appropriately, public sector willingness to have mutual relation with private partners, and leadership (Zen, 2018). Related to enhancing LGs' participation and contributions, some challenges also come from the different understandings of PPP among government agencies. In emerging economies, where PPP is relatively a new concept, typically, there are differences among stakeholders in understanding, knowledge, adaptability levels, and capacity towards PPP. PPP contracts are complex. A person without adequate training in PPP-related knowledge may have a different understanding of the project and hence, influence the ability to participate and gain from the project. Even though capacity building is a well-known practice provided to public officials, the capacity enhancement may be still below the expectation. This could be caused by an unsystematic and incomprehensive learning system, as well as the rigid institutional operation. Many public officers attend the same courses provided by different institutes, incoherent or unnecessary courses resulting in ineffective knowledge improvement. On the other hand, some public officers cannot apply the knowledge they gained from the training because the institutions and regulations cannot accommodate the changes.

To reduce inefficiency, some training can be facilitated by the national PPP agency or nationally certified trainers, supported by internationally well-known institutions. Having in-house training backed by international development partners also improves cost-efficiency. Aiming to have certified local trainers by enrolling them into trainer's certification is also a way to save costs and accumulate the knowledge faster.

3. Strengthening the PPP-related institutions: providing the right incentives

If the PPP-related agencies have sufficient knowledge and resources to implement PPP projects, will it be enough to have successful PPP projects? Unfortunately, the answer is no. The said requirements are necessary but not sufficient. The country still needs to put a supportive legal system in place, an appropriate authority assigned to each agency, a sufficient fiscal resource, and the right incentives to push the stakeholders to materialize the PPP projects. The right incentives are crucial because, in general, people respond to incentives. If there is not enough incentive to work on PPP projects, there might be delayed or cancelled. For private participants, the incentives are clear, namely net profits. However, the benefits for public stakeholders may become unclear because of the perceived preference of individual officers. A good PPP project generates net positive economic returns which benefit the public welfare but do not necessarily serve the public officials working on it. As mentioned previously, the PPP scheme is complex and demanding, thus creating disincentives for those who are not intrinsically driven by public output.

Tailored performance-related pay incentives have some successful evidence, such as in Brazilian tax collection (Kahn, Silva, and Ziliak, 2001) and NHS Plan in the UK (2000), but inconclusive or unsuccessful in other cases. Some literature suggests that team-based performance, known preference over the tasks, and combination with recognition and autonomy can provide the right incentives in public organizations (Marx and MacDonald, 2001; Burgess and Ratto, 2003). Performance pay can reduce the performance of intrinsically motivated officers, thus applying incentives to public institutions must be carefully designed with a thorough consideration of all determinant factors. National recognition and incentive funds awarded to the regional budget of the best-performed regions can become valuable incentives for LGs because the awards can be utilized legally for political benefits and a legacy from the officials and heads of LGs.

Based on the APEC study (2019) on the toll road and clean water PPP in Indonesia, five areas of improvement are needed to ensure increased private participation in infrastructure development. First is the need to improve efficiency in bureaucracy and regulation. The lack of PPP awareness in the government needs to be enhanced by promoting capacity building, particularly on the concept of Value for Money. The second is to accelerate further government support and facilities, for example, by implementing hybrid or blended financing. The third is to provide a more efficient land acquisition support and mechanism. Fourth is the need to strengthen the PPP contract to sustain itself in the face of unpredictable risks due to political and regulatory changes.

Policy Options for the proposal #1 to #3:

a. Knowledge exchange from G20 countries with more experienced cases in harmonizing and inclusive inter-governmental coordination. The supports can utilize the existing platforms and international institutions working on PPP capacity building.

b. Provision of technical and financial assistance to support PPP development preparations by G20 member countries for developing countries. Promoting the merit-based incentives mechanism contributes to local economic development and incorporates incentives for PPP institutions to finalize PPP projects.
c. Framework and standardization of PPP contracts developed by G20 member countries to ensure the completeness and quality of PPP contracts and governance.

4. Promoting resilient infrastructure for a better human life

Resilient infrastructure is an evitable requirement to mitigate and be adaptive to climate change effects. It can save many lives, reduce damages, and prolong the facilities' utilization. The urgency of resilient infrastructure has been iterated in recent G20 communique, and it needs to continuously promote the awareness and actions pioneered by G20 members.

Establishing and enforcing the standards of resilient and sustainable infrastructure requires the adequate authority of assigned agencies, sufficient resources, and good coordination across the levels of government. Hence, this adds the importance of coordination and capacity building in planning and implementing resilient infrastructure development.

Empowering the resilience aspect of the infrastructure would serve two purposes, at least. First, resilient infrastructures offer social benefits, ranging from saving human life against natural hazards and climate change to achieving a better and more equitable life quality across regions. Second, having a resilience aspect on the infrastructures serves as a signal to attract more investment by putting the standards intact, as we put in the proposal no.5. Therefore, improving the resiliency aspect of infrastructures are beneficial as it would reduce the impact of natural hazards and climate changes due to higher durability in the form of damaging assets which affects the financial and economic performance of the infrastructures (Evans et al., 2019). In addition, they potentially improve the reliability of service provision, increase asset life, and protect asset returns.

Policy Options:

a. G20 to continue and prioritize further the development of better-designed infrastructure resilience metrics that considers differences in country's characteristics.
b. Encourage continuous multi-stakeholder coordination and participation involving government, private sectors, community, and civil society to improve the resilience aspects of infrastructure that adapts to the change of dynamics in the population.
c. Strengthen the sharing and mobilization of resource to improve financial, technical, and institutional capacity towards middle- and low-income countries.

5. Resilience measures as a determinant of investment

To promote resilience awareness, we need more showcases and methods to estimate the impacts of technology, fiscal, and socioeconomics of resilient infrastructure on the economy. This is important to change the misconception of resilience, especially in cost-benefit estimation. When resilient measures can be identified in a project, the government can utilize the measures to promote the advantages of the project. This needs support from international partners and developed economies with more experience and resources to calculate the estimation and incorporate the measure policy into infrastructure financing standards. In terms of economic benefits, investing in the resilience of infrastructures in developing countries is estimated to bring a net benefit of USD4.2 trillion over the lifetime of new infrastructures or USD4 for each dollar invested (Evans et al., 2020).

Policy Options:

a. G20 to develop a comprehensive, holistic, framework of institutional capacity improvement beyond currently available training and standardization to ensure the institutional capacity support to be fully translated into establishment of resilient infrastructure.
b. G20 encourages institutional investors to adopt the resilience measures as standard assessments for financial mobilization.
c. G20 to coordinate with international development institutions to integrate infrastructure resilience aspects is integrated with existing standardization and requirement of infrastructure development.

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