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Favorable Conditions for Infrastructure Public-Private Partnerships in Afghanistan: Identification and Assessment

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Abstract

Infrastructure is a key driver of development, especially in post-conflict countries like Afghanistan, where basic services remain limited and public budgets are insufficient. In these situations, Public–Private Partnerships (PPPs) offer an alternative way to deliver infrastructure projects by mobilizing private finance and expertise. This study identifies the conditions that support successful infrastructure PPPs in Afghanistan and assesses how well these conditions are currently in place. First, a detailed review of international literature was conducted to identify 20 conditions commonly associated with successful infrastructure PPPs worldwide. Based on these findings, a structured questionnaire survey was distributed to professionals involved in PPP-related activities in Afghanistan, who were asked to rate both the importance of each condition in the Afghan context and its current status in the country. The responses were analyzed using the Relative Importance Index (RII) method. The results show that all 20 conditions are considered important, with political stability, security, and effective governance ranked as the most important conditions. At the same time, respondents view Afghanistan's political and economic environment as largely unfavorable and its legal framework as moderately supportive. They also report difficulties in securing finance and attracting private investors. In contrast, strong demand for infrastructure, a high level of interest and engagement from public institutions, good administrative and technical capacity within public bodies, and the continued role of international aid are seen as positive elements. Overall, the study highlights both the strengths and weaknesses of the current environment for infrastructure PPPs in Afghanistan and provides insights for policymakers, public authorities, and private partners, as well as for PPP practice in other developing and conflict-affected countries.

Keywords: Afghanistan, Developing Countries, Favorable Conditions, Infrastructure Projects, Public–Private Partnerships (PPPs).

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1. Introduction

Infrastructure is the foundation of a country's development and stability [1]. Roads, electricity, water supply, and other essential services are crucial to everyday life, and this is even more true in post-conflict countries such as Afghanistan, where many facilities have been damaged and poorly maintained for decades. At the same time, the Afghan government has very limited financial and administrative capacity to plan and carry out large-scale infrastructure projects that are extremely needed [2], [3]. Following recent political changes, many international organizations (the World Bank, the United Nations, and the European Union) are no longer interested in investing in large infrastructure projects in Afghanistan [2]. So, Public–Private Partnerships (PPPs) seem to be a practical way of facilitating both domestic and foreign private investment [4]. This study assesses how PPPs can be used to support infrastructure development in Afghanistan. It has two main objectives: First, to identify the key conditions that are essential for successful infrastructure PPPs. Second, to assess the current status of these conditions in Afghanistan. To achieve these objectives, we first reviewed the existing literature and made a list of conditions considered essential or favorable for the successful implementation of infrastructure PPPs. Then, twenty conditions were selected from this list for closer examination (survey) in the Afghan context (Section 3). These conditions were then evaluated through a questionnaire survey by the professionals involved in PPP-related activities (Section 4). The post-analysis evaluates which conditions respondents consider most/least important (Section 5.1) and how they see the current situation of these conditions in Afghanistan (Section 5.2). The results are planned to help Afghan ministries and private investors to better understand the real environment in which infrastructure PPPs can be implemented. This understanding may support more realistic and wiser decisions when planning and executing future PPP projects.

2. Public-Private Partnerships

Public–Private Partnerships (PPPs) are usually long-term agreements or contracts between a public body (government) and a private body (domestic/foreign private sector) for infrastructure development and other services, in which responsibilities, risks, and benefits are shared based on the commitments of both parties [5], [6]. Unlike governmental projects. In PPPs, tasks and activities are partially assigned to a single or multiple private partners. PPPs are not just financing tools but structured and well-organized partnerships based on principles such as value for money (achieving the best overall outcome not only choosing the cheapest options), transparency (decisions, selection criteria, and performance results should be accessible to all stakeholders), competition (fair and open bidding process), and accountability (Clear responsibilities/obligations for public/private partners) [7]. These principles help ensure fair and equal treatment (no favoritism), reduce corruption, and meet public demands. In developing countries, PPP projects usually focus on infrastructure like transport, energy, water, and social services (housing, healthcare, education, justice /welfare facilities), which may be capital-intensive and hardly supported by limited public budgets [8], [9]. PPPs help governments by combining public monitoring with private finance/expertise to

provide an alternative to deliver such projects. However, their success depends on each country's legal, institutional, political, and economic conditions [5].

3. Favorable conditions for infrastructure Public-Private Partnerships

Some conditions can strongly affect whether infrastructure PPP projects succeed or fail. These conditions help to create an environment that can attract private partners, reduce risks, and support the long-term stability of PPPs. Based on the detailed literature review, 20 key favorable conditions are identified that are frequently associated with successful infrastructure PPPs across countries. All 20 conditions were then re-evaluated in this study to assess their importance and their seeming impacts in the Afghan context.

Table 1. 20 Favorable conditions for infrastructure PPPs.

NO	**Favorable Conditions for Infrastructure PPPs**	**References**
1	Political stability	[4], [10], [11], [12], [13]
2	Legal framework	[4], [14], [15]
3	Economic stability	[16], [17], [18]
4	Effective governance	[4], [11], [19], [20]
5	Capacity of public bodies	[6],[7],[11],[14],[15]
6	Well-defined allocation of risks	[15], [21], [23], [24]
7	Adequate financial resources	[4], [11], [19]
8	Technical expertise	[8], [9]
9	Infrastructure demand	[25], [26], [27]
10	Transparent bidding processes	[14], [27], [28], [29]
11	Effective monitoring	[9], [12], [24]
12	Risk mitigation (guarantees, insurance)	[16], [29], [30]
13	Financial markets	[14], [15], [31]
14	Dispute resolution mechanisms	[9], [10]
15	Security conditions	[15], [19], [26]
16	Environmental/social safeguards	[11], [25]
17	Dedicated PPP units	[4], [8], [18]
18	Effective communication between stakeholders	[20], [28]
19	Reliable data and information sharing	[12], [13], [17]
20	Commitment and willingness from all parties	[4], [12]

4. Research Methodology

This study is based on a structured questionnaire survey to collect primary data. A total of 100 questionnaire sets were distributed to individuals with experience in PPPs and infrastructure in Afghanistan, and 78 completed questionnaires were returned. Participants were from different sectors (government institutions, infrastructure services, private industries, non-governmental organizations (NGOs), and academia) to capture a wide range of perspectives.

The research used a two-part questionnaire, and the collected data were analyzed in two phases. **In the first part**, respondents rated the importance of each of the 20 favorable conditions for the successful infrastructure PPPs in Afghanistan. A five-point Likert scale was used, with 1 representing “Least important” and 5 representing “Extremely important.” Using Likert-scale items helps standardize responses and can improve the

reliability of survey results, as demonstrated by Garland [30], and is widely used in project/construction management and PPP-related studies. The ratings from this part were analyzed using the Relative Importance Index (RII) method to rank the conditions according to their real importance for PPPs success. This method is commonly used in project management to compare the relative importance of different factors. Holt [31] reviewed several RII formulations and concluded that they all lead to the same results. In this study, the RII was calculated using the following equation:

$$RII = \frac{\sum_{i=1}^{5} w_i \cdot x_i}{A \times N} \quad \text{……...…….. (4.1)}$$

where: Wi = the weight of each factor by respondents, ranging from 1 to 5; X = the frequency of a response; A = the highest weight (in this case, 5); N = the total number of respondents.

Table 2. Five importance levels, derived from RII values

RII values	Importance level	Code
0.8 ≤ RII ≤ 1	High	H
0.6 ≤ RII ≤ 0.8	High – Medium	H–M
0.4 ≤ RII ≤ 0.6	Medium	M
0.2 ≤ RII ≤ 0.4	Medium – Low	M–L
0 ≤ RII ≤ 0.2	Low	L

In the **second part**, respondents were then asked how they see the current status of each of these 20 conditions and how they assess them in Afghanistan. To sum up, the first part focused on the importance of each condition, and the second examined how favorable or unfavorable these conditions are nowadays in Afghanistan. The link between the results of the second part and the importance rankings obtained in the first part enabled identification of gaps between what is considered essential for successful PPPs and what is actually observed in real situations, thereby highlighting both key challenges and potential opportunities for infrastructure PPPs in Afghanistan.

Table 3 presents demographic/background information of the 78 respondents. Around 46% of participants were working in the public sector, 28% in the private sector, 15% in NGOs, and 10% in academic institutions. In terms of educational background, 47% held a bachelor's degree, 40% have a master's degree, and 13% have a Ph.D. Regarding work experience, 41% of respondents had three to five years of professional experience, 27% had six to ten years, and 9% had more than ten years. Overall, these characteristics indicate that the survey captured informed opinions from a diverse group of practitioners who are actively involved in PPPs and infrastructure-related activities in Afghanistan.

Table 3. Demographic distribution of the respondents

Demographic distribution of the respondents			
Parameter	**Category**	**No. Respondents**	**Percentage (%)**
Sector	Government/Public Sector	36	46
	Private Sector	22	28
	Non-Governmental Organization (NGO)	12	15
	Academic/Research Institution	8	10
Education Level	Bachelor's Degree	37	47
	Master's Degree	31	40
	Ph.D.	10	13
Experience	0-2 years	18	23
	3-5 years	32	41
	6-10 years	21	27
	11-20 years	7	9

5. Results and Discussions

5.1. Identifying Key Favorable Conditions for Infrastructure Public-Private Partnerships Success.

This subsection presents and discusses 20 favorable conditions identified as essential for the successful infrastructure PPPs. And if these conditions are not in place, it is almost impossible that infrastructure PPPs can be effectively used in Afghanistan. **Tab. 4** presents the descriptive statistics for the twenty favorable conditions (mean ± SD), along with the Relative Importance Index (RII), importance level, and final ranking. The results show that political stability is the most essential condition, with an RII of 0.915 and a mean score of 4.57. which shows that respondents see a stable political environment as extremely important for the success of infrastructure PPPs in Afghanistan. This finding is consistent with Sultani [12], who recognized political stability as the second most critical factor for PPP success after political and governmental support, and as PPPs usually involve long-term contracts that require whole-life-cycle costing. In the absence of sufficient and actual information on the country's political situation in the coming years or decades (in case of long-term projects), this becomes more challenging for investors to be motivated [20]. And that is why so many other studies [1], [10], [11], [13] also emphasize the importance of political stability for PPPs' success.

The security situation is ranked as the second most important condition in the Afghan context, with a mean score of 4.07 and an RII of 0.815, confirming its high level of significance. The claim is backed by the study of Karimi [20], which reports that war/insurrection (security, crime, theft, and disorder) is ranked as the most important constraint, which has a big impact on the execution of PPP projects. Similar claims were made by [32], [33]. The study of the World Bank group (2012), on the ease of doing business in Afghanistan in comparison with other economies across the world, ranked Afghanistan last (183rd) in protecting investors [20]. Effective governance is the third most important condition, with a mean = 4.0 and RII = 0.8, again showing a high importance. Niazi & painting [4] ranked effective governance as fourth by stating that

good governance and strong public institutions should be meant to ensure value for money and other key principles of PPPs. A strong legal framework is ranked as the fourth essential condition (mean 3.82, RII 0.76). Niazi [4] also considered the legal framework a critical factor for successful PPPs in Afghanistan. He highlights that a good legal and regulatory framework should be available to ensure transparency in the entire bidding process. Even though the World Bank (2012) ranked Afghanistan's regulatory framework relatively good for starting a business (30th) and paying taxes (63rd), but recent political changes may have changed this situation. The remaining 16 conditions have mean scores ranging from 3.82 to 3.32 and RII values between 0.765 and 0.665. According to the RII classification (Tab.2), they are all ranked from high to medium importance for the successful infrastructure PPPs. Comparative studies in other contexts have also identified conditions such as clear PPP policies, capable public institutions, fair risk allocation, and reliable regulatory environments as essential elements for PPPs' success [4], [12], [18], [20], [22], [23], [30], [31].

Overall, the results show that respondents see the combination of political (political stability and security), institutional (effective governance and a strong legal framework), and market-related factors (strong infrastructure) as the most essential conditions in Afghanistan, and these findings highlight the central role of a stable and predictable environment for the successful infrastructure PPPs in the country.

5.2. Assessing the Existing Environment for These Conditions in Afghanistan.

The second subsection of the discussion assesses how the favorable conditions for successful infrastructure PPPs identified in the last part are currently perceived in Afghanistan. Based on the second part of the questionnaire, 78 respondents rated how they see the current socio-political, economic, legal, and institutional environment on five-point scales (e.g., from "highly unstable" to "highly stable" or from "very unfavorable" to "very favorable"), as shown in **Tab. 5**. we examine whether the present environment in Afghanistan is supportive or constraining for each essential conditions that is important for infrastructure.

Regarding the overall socio-political/economic context, 71% of respondents consider Afghanistan's socio-political and economic conditions to be unstable and not favorable for infrastructure PPP projects. This is consistent with the long history of conflict/civil war and political instability highlighted by [34], [35], which created big security challenges and complex political dynamics. Such an environment disturbs decision-making, hardens project approval processes, and can even delay effective stakeholder collaboration in some cases. Opinions about the current security situation are more mixed: 51% of respondents believe a relatively better security condition in recent years may have a very positive impact on infrastructure PPPs, while 38% think it will not have a greater impact, if other factors are not reformed. However, the literature indicates that persistent insecurity and political uncertainty continue to create major challenges, and focus should be placed on making risk mitigation and conflict-sensitive planning for PPPs in Afghanistan. As concluded by Sial [3], the big problem pushing back the whole economy of Afghanistan is political instability and security challenges. About the legal framework, respondents were asked to rate how favorable the current legal environment is for

infrastructure PPPs. Only 34% see the legal framework as favorable, while the remaining 66% see it as less favorable. On the economic and financial side, 69% of respondents think that access to financing options for PPPs is low and very hard, and 29% rate it as moderate. Furthermore, 76% believe that changes in economic conditions, such as inflation and exchange rates, have negative impacts on PPPs, while 25% see these impacts as uncertain (hard to predict) and variable over time. These findings reflect wider economic challenges and financial constraints reported by the World Bank [32], which highlights the need for new innovative financial models and stronger support from international financial institutions.

In other hand, several demand/capacity related conditions are rated more positively. Demand for infrastructure PPPs seems very strong: 76% of respondents rate it as very high, and the remaining 24% as high. The capacity of Afghan public bodies (ministries, public institutions, and monitoring offices) that manage infrastructure PPPs is also seen relatively favorably, 56% of respondents rate the capacity as high, and 36% as moderate. Similarly, the availability of technical expertise for PPPs is rated as high by 64% of respondents and as moderate by 24%. These results propose that, despite broader structural constraints, Afghanistan still has a reasonably strong institutional and technical base for preparing and managing PPPs. In terms of international cooperation, 83% of respondents believe it has a very positive impact on infrastructure PPPs, and the remaining 17% rate its impact as positive, confirming the beneficial role of external support. Opinions about private sector participation and the business environment are more reserved. When asked about the interest of the private sector in infrastructure PPPs, 63% of respondents rate it as low, 18% as very low, and only 19% as moderate. Competition in bidding processes is also considered limited: 59% of respondents describe the bidding process for PPPs as slightly competitive, and 34% as moderately competitive. Concerning ease of doing business, 59% of respondents report that doing business in Afghanistan is difficult, while 34% see it as moderate. When asked whether current conditions are more favorable for domestic or foreign investors in PPPs, 54% of respondents believe the environment is more favorable for domestic investors, and 40% consider it equally favorable for both, indicating that foreign investors may face additional risks or barriers.

Opinions about governance, collaboration, and investor protection are somewhat disappointing. Regarding collaboration among stakeholders in PPPs, 54% of respondents judge it to be moderate, and 34% rate it as low, suggesting more improvement. Regarding investor protection against financial risks, 60% of respondents state that investors are not protected at all, while 34% think they are only somewhat protected. Finally, corruption and bureaucracy are also perceived as significant concerns. About 33% of respondents rate corruption in infrastructure and PPP projects as high, while 27% consider it to be moderate. However, some respondents believe that corruption has decreased significantly following recent political changes. These insights may affect investor confidence and help explain the low interest of private actors in PPPs.

Overall, the assessment of the current environment for PPPs shows a mixed picture. Strong infrastructure demand, a willing/interested public-sector, and technical capacity are important strengths. But on the other hand, political and economic instability, a

weakly favorable legal framework, limited access to finance, low private-sector interest, modest competition in bidding, and uncertain investor protection are seen as major constraints.

Table 4. Mean score and ranking of Favorable Conditions

Favorable Conditions	**Mean**	**Standard Deviation**	**RII**	**Importance Level**	**Rank**
Political Stability	4.57	0.606	0.915	H	1
Security Situation	4.07	1.083	0.815	H	2
Effective Governance	4.00	0.930	0.800	H	3
Legal framework	3.82	0.809	0.765	H – M	4
Capacity of public bodies	3.81	1.123	0.762	H – M	5
Infrastructure demand	3.81	1.083	0.762	H – M	5
Transparent bidding processes	3.79	0.986	0.759	H – M	7
Economic stability	3.78	1.005	0.756	H – M	8
Technical expertise	3.78	1.170	0.756	H – M	8
Adequate financial resources	3.71	1.052	0.741	H – M	10
Effective monitoring	3.65	1.130	0.729	H – M	11
Reliable data and information sharing	3.59	0.996	0.718	H – M	12
Commitment and willingness from all parties	3.57	1.012	0.715	H – M	13
Risk mitigation instruments (guarantees, insurance)	3.56	1.125	0.712	H – M	14
Environmental/social safeguards	3.54	1.125	0.709	H – M	15
Well-defined allocation of risk	3.53	1.014	0.706	H – M	16
Financial markets	3.34	1.180	0.668	H – M	17
Dedicated PPP unit	3.34	1.031	0.668	H – M	17
Effective communication between stakeholders	3.34	1.060	0.668	H – M	17
Dispute resolution mechanisms	3.32	1.112	0.665	H – M	20

Table 5. Assessing the favorable conditions for the success of infrastructure PPPs in Afghanistan

NO	Favorable Conditions	Mean	1	2	3	4	5	RI
1	**Afghanistan's socio-political and economic conditions** (5=Highly Stable, 4=Stable, 3=Moderate, 2=Unstable, 1= High Unstable)	2.26	1%	71%	28%	0%	0%	45%
2	**Impacts the current Security Situation of Afghanistan** (5=Very Positive, 4=Positive, 3=Had No Impact, 2=Negative, 1= Very Negative)	3.53	1%	4%	38%	51%	4%	71%
3	**Legal Framework in Afghanistan** (5=Extremely, 4=Significantly, 3=Moderately, 2=Slightly, 1= Not at all)	2.34	0%	66%	34%	0%	0%	47%
4	**Demand for infrastructure PPP projects in Afghanistan** (5=Very High, 4=High, 3=Moderate, 2=Low, 1= Very Low)	4.76	0%	0%	0%	24%	76%	95%
5	**Capacity of Afghan public bodies to manage infrastructure PPP projects** (5=Very High, 4=High, 3=Moderate, 2=Low, 1= Very Low)	3.44	1%	10%	37%	46%	6%	69%
6	**Accessibility of financing options for infrastructure PPP projects in Afghanistan** (5=Very Rich, 4=Rich, 3=Moderate, 2=Limited, 1= Very Limited)	2.32	0%	69%	29%	1%	0%	46%
7	**Interest of the private sector in infrastructure PPP projects in Afghanistan** (5=Very High, 4=High, 3=Moderate, 2=Low, 1= Very Low)	2.01	18%	63%	19%	0%	0%	40%
8	**Competition in the bidding process for PPP projects in Afghanistan** (5=Extremely, 4=Significantly, 3=Moderately, 2=Slightly, 1= Not at all)	2.40	3%	59%	34%	4%	0%	48%
9	**Availability of technical expertise in Afghanistan for infrastructure PPP projects** (5=Very High, 4=High, 3=Moderate, 2=Low, 1= Very Low)	3.50	1%	10%	34%	46%	9%	70%
10	**Collaboration among the infrastructure PPP Project's stakeholders in Afghanistan** (5=Very High, 4=High, 3=Moderate, 2=Low, 1= Very Low)	2.69	3%	34%	54%	9%	0%	54%
11	**Protection of private sector investors in Afghanistan** (5=Very Well, 4=Well 3=Moderately, 2=Somewhat, 1= Not Well)	1.46	60%	34%	6%	0%	0%	29%
12	**Impacts of changes in economic conditions on PPP projects** (5=Very Positive, 4=Positive, 3=Uncertain, 2=Negative, 1= Very Negative)	2.40	4%	56%	35%	4%	0%	48%
13	**Impacts of international cooperation on infrastructure PPP projects in Afghanistan** (5=Very Positive, 4=Positive, 3=Had No Impact, 2=Negative, 1= Very Negative)	4.63	0%	0%	0%	37%	63%	93%
14	**Suitable investors for PPP projects in the current situation of Afghanistan** (3=Equally Favorable, 2=Foreign Investors, 1= Domestic Investors)	1.85	54%	6%	40%	0%	0%	37%
15	**Corruption and bureaucracy in Afghanistan** (5=Low Corrupt, 4=Slightly Corrupt, 3=Uncertain, 2=Moderately Corrupt, 1= Highly Corrupt)	1.44	65%	26%	9%	0%	0%	29%
16	**Ease of doing business in Afghanistan** (5=Very Easy, 4=Easy, 3=Moderate, 2=Difficult, 1= Very Difficult)	2.72	0%	49%	34%	15%	3%	54%

6. Conclusion

This study evaluates the essential conditions that can support infrastructure Public Private Partnerships (PPPs) in Afghanistan. It had two main objectives: First, to identify which favorable conditions matter most for PPPs' success. Second, to assess how well these conditions are currently met in Afghanistan. To achieve these objectives, the research combined a review of existing literature with a structured questionnaire survey of professionals involved in PPPs, construction, and overall infrastructure projects.

For the first objective**,** the literature review identified 20 favorable conditions often linked to successful infrastructure PPPs in different countries. Then these conditions were rated by respondents based on their importance. The results show that all 20 conditions are considered relevant, but some seem to be more important than others. Political stability, a good security situation, and effective governance were ranked as the most essential conditions. And then followed by a strong legal framework, the capacity of public bodies, and high demand for infrastructure, which practitioners see as crucial for PPPs' success in Afghanistan.

For the second objective**,** the same conditions were used to evaluate how supportive the current situation in Afghanistan is for infrastructure PPPs. Responses from participants indicate that the socio-political environment is generally observed as unstable, the legal

framework as slightly favorable, and recent political changes have made access to finance more difficult. Private-sector interest in PPPs seems low, bidding processes are not competitive, and private investors do not feel well protected against financial risks. But at the same time, they report strong demand for infrastructure and high levels of interest and engagement from the government. Respondents see a more favorable environment for domestic investors than for foreign ones, and they believe in the good capacity of Afghan public institutions and local experts to manage and implement PPPs.

Overall, the findings show that Afghanistan has important strengths for developing infrastructure PPPs, especially in terms of demand, institutional capacity, and local expertise, but it is locked by serious weaknesses in the political, legal, and financial environment. Improving political stability, reforming the legal framework, easing access to finance, and increasing investor protection appear essential for making the conditions more favorable. These insights can help policymakers, development partners, and private investors make more realistic and wiser decisions about the planning and execution of infrastructure PPPs in Afghanistan.

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