Public Private Partnership Cell
Planning & Development Department
Government of the Punjab

# Risk Management Guidelines

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**Public Private Partnership Cell**
**Planning and Development Department**
**Government of the Punjab**

**www.ppp.punjab.gov.pk**

## CURRENCY EQUIVALENTS

(as of 31 August 2010)

| | | |
|---|---|---|
| Currency Unit | – | Pakistan rupee (PKR) |
| PKR1.00 | = | US$0.01171 |
| US$1.00 | = | PKR85.40 |

## DEFINITIONS

| | |
|---|---|
| Government Agency | Department, attached department, body corporate, autonomous body of the Government, local government or any organization or corporation owned or controlled by the Government |
| Government guarantee | Contractual commitment by the Government to make a payment to the private party, incur an expense or forego a revenue if a certain event occurs |
| PPP Steering Committee | High-level committee established by the Government and chaired by the Minister for Planning and Development to promote, coordinate, approve and facilitate PPP projects. |
| Government | Government of Punjab |
| Infrastructure | Both traditional infrastructure (transport networks, water supply, energy generation, etc.) and social infrastructure (education and health facilities, etc.) |
| Public-private partnership (PPP) | Partnership between the public sector represented by a Government Agency and a private party for the provision of an infrastructure facility and/or service with a clear allocation of risks between the two parties. The PPP modalities range from service contracts to management contracts to leases to concessions to build-operate-transfer contracts and their variants. |
| PPP agreement | Contractual arrangement between a Government Agency and a private party for financing, design, construction, operation and maintenance of a PPP project |
| PPP project | Project implemented on a PPP basis in any of the eligible infrastructure sectors |
| PPP Cell | Entity established in the Planning and Development Department to assist Government Agencies in preparing and executing high-quality PPP projects, and act as a PPP catalyst and advocate, knowledge manager, and policy and project advisor to the PPP Steering Committee |
| Private party | Company, entity, firm, association, body of individuals, or a sole proprietor other than a Government Agency |
| Project company | Special purpose company established by the private party for implementation and operation of a PPP project |
| Project Inception Guidelines | Methodology for Government Agencies on how to identify, screen and register potential PPP projects, draft terms of reference and request for proposals for their preparation and transaction execution, and select consultants |

| | |
|---|---|
| Project Preparation Guidelines | Methodology for Government Agencies on how to prepare a feasibility study for a PPP project and seek approval by the PPP Steering Committee |
| Project risk | Possibility of an outcome or return, which is different than expected (usually below expectations) |
| Risk Management Unit | Entity established in the Finance Department to review requests for direct and/or contingent government support for PPP projects and ensure fiscal sustainability of such support |
| Risk Management Guidelines | Methodology for the Risk Management Unit and Government Agencies on how to identify, assess, allocate and mitigate project risks |
| Transaction Execution Guidelines | Methodology for Government Agencies on how to select the private party for undertaking a PPP project and seek approval by the PPP Steering Committee |
| Viability gap funding | Funds provided by the Government in the form of a capital or operational subsidy to the private party to make financially viable a project that is constrained by affordability considerations in charging cost recovery tariffs |

## ABBREVIATIONS

| | | |
|---|---|---|
| ADB | – | Asian Development Bank |
| CEND | – | confiscation, expropriation, nationalization, or deprivation |
| DSCR | – | debt service coverage ratio |
| EIRR | – | economic internal rate of return |
| FD | – | Finance Department |
| FIRR | – | financial internal rate of return |
| GF | – | Guarantee Fund |
| IFI | – | international financial institution |
| IPFF | – | Infrastructure Project Financing Facility |
| IPP | – | independent power producer |
| MIGA | – | Multilateral Investment Guarantee Authority |
| OECD | – | Organization for Economic Cooperation and Development |
| PDF | – | Project Development Facility |
| PPP | – | public-private partnership |
| PV | – | present value |
| RDA | – | Rawalpindi Development Authority |
| ROE | – | return on equity |
| UNCITRAL | – | United Nations Commission on International Trade Law |
| VGF | – | viability gap funding |

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# I. INTRODUCTION

1. The Government of Punjab (the Government) is committed to sustainable economic growth and inclusive social development. Global experience has shown that there is a close relationship between these objectives and infrastructure development. The correlation works in both ways – investments in infrastructure are a major driver for economic growth, and economic growth requires well functioning infrastructure facilities and services. If infrastructure investments are not kept at a sufficient level, economic growth becomes constrained by power shortages, traffic congestion, high transport costs, and other infrastructure bottlenecks. As to the impact on social development, it is the low-income groups who are most affected by a lack of access to and poor quality of infrastructure services.

2. The Government has therefore decided to significantly increase infrastructure investments and has made provisions in the provincial budget to this effect. The Government is also the beneficiary of financial assistance for infrastructure projects from multilateral and bilateral development partners. In addition to projects funded by its budget and development loans, the Government is committed to engaging the private sector in the provision of infrastructure. The preferred mode is public-private partnerships (PPPs) where the private and public sectors enter into mutually beneficial contractual agreements for the provision of public infrastructure services.

3. To provide an enabling framework for private sector participation in infrastructure development, the Government has adopted a PPP law,[1] issued a PPP policy,[2] and prepared detailed guidelines for the main phases in the life cycle of PPP projects.[3] The Guidelines presented herein are related to risk management, which needs to be undertaken throughout the project life cycle.

4. As the line departments and local governments in Punjab lack experience with PPPs, there is a need for support and capacity building, as well as for a relatively simple methodology and procedures they could follow. To provide the necessary support, the Government has established a PPP Cell in the Planning and Development Department, which has been staffed by technical, financial, and legal experts. All line departments and local governments, which want to implement PPP projects in their sector and/or geographical area of responsibility, can seek support from the PPP Cell in project identification, screening, preparation and transaction execution.

5. An important part of the enabling PPP framework is risk management consisting of identifying, assessing, costing, mitigating and monitoring all direct and contingent liabilities that arise for the Government from its financial support for PPP projects and guarantees against risks related to policies and performance of the Government and its agencies. In view of the links to its existing budgeting, fiscal accounting and debt management systems, the Finance Department (FD) must play a key role in this endeavor. A Risk Management Unit (RMU) has therefore been created in FD and assigned the responsibility for reviewing and monitoring all

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[1] *Punjab Public-Private Partnership for Infrastructure Act 2009,* which was passed by the Provincial Assembly on 12 July 2010.

[2] *Policy for Public-Private Partnerships in Infrastructur*e, approved by the Provincial Cabinet of Punjab on 19 August 2009, through Notification SO (CAB-II)1-6/2009, Services and General Administration Department (Cabinet Wing), Government of the Punjab.

[3] *Project Inception Guidelines for Public-Private Partnerships in Infrastructure*; *Project Preparation Guidelines for Public-Private Partnerships in Infrastructure*; and *Transaction Execution Guidelines for Public-Private Partnerships in Infrastructure*; all approved by PPP Steering Committee on 12-04-2011.

PPP projects to ensure that relevant risks are appropriately allocated between the public and private sectors, and that the Government's overall exposure is well managed. The dual objective of risk management through the RMU is to support infrastructure development through PPPs while maintaining the fiscal sustainability of Punjab's budget.

6. The Guidelines aim to provide fair and balanced risk sharing arrangements for private sector participation in infrastructure by setting forth selected principles and best practices to assist the RMU and other concerned government institutions in supervising the preparation, implementation and operation of PPP projects.

7. Emphasis throughout the Guidelines is placed on describing the logic used by commercial lenders when examining the adequacy of the proposed risk allocation/sharing for any particular project. Although it may be counter-intuitive in a government paper of this kind to consider the lenders' viewpoint, one should remember that the ultimate judge of the level of risk is the lender as it provides the bulk of financing needed to implement a project. The Guidelines, therefore, present the latter's perspective while not losing sight of the imperative to minimize the direct and contingent liabilities that ultimately would have to be absorbed by the Government or its agencies.

8. The Guidelines categorize project risks and suggest their allocation by describing the following:

(i) The types of risks to be borne by the Government (in particular, the political risks such as changes in policy, delay of agreed tariff adjustments, and expropriation);

(ii) Those to be borne by the private party (in particular, the commercial risks such as construction cost overruns and delays, and failure to perform according to specifications); and

(iii) Those to be assigned on a case-by-case basis such as force majeure, inability of Government Agencies to pay for infrastructure services (the so-called credit risk), and market risk.

9. The Guidelines apply to all types of infrastructure projects that a Government Agency in the public sector may plan for development and implementation, and that are potentially viable under the PPP mode. Projects, which the private sector can do on its own without any need for government support and involvement, or those which can be privatized, are not covered by these Guidelines. The Guidelines do not apply retroactively to PPP projects already implemented or under development.

10. After this introduction, an overview of the life cycle of PPP projects and the role of the RMU therein is provided in Section II. The risk management concept and the key related terms are outlined in Section III. In Section IV, the influence of project structure on risks and risk sharing is analyzed by contrasting the distinctions between single and multiple user projects, and outlining the best practice approach to arrive at fair and balanced allocation of the various risk categories. Section V describes in some detail instruments available to the Government that may be used for the purpose of mitigating or re-allocating risks that private parties, or their lenders, are unwilling to assume. Section VI sets the principles for using these instruments when providing direct and contingent support to PPP projects. Methodologies for measuring the costs associated with the provision of government support are outlined in Section VII. Section VIII discusses risk management practices used for power and toll road projects at the federal level, as well as for a recent major toll road project in Rawalpindi. Finally, Section IX lists the

main steps in the risk management process and describes the formal review and approval procedures to be followed for government support.

11. The following reference materials have proved to be helpful when preparing these Guidelines:

(i) *Public-Private Partnership Handbook*, Asian Development Bank (ADB), Manila, 2008;

(ii) *Legislative Guide on Privately Financed Infrastructure Projects*, United Nations Commission on International Trade Law (UNCITRAL), New York, 2001;

(iii) *Public Private Comparator*, PPP Knowledge Center, The Hague, 2002;

(iv) *Advice on Fiscal Management of Infrastructure PPPs in Pakistan*, Draft Final Report, Castalia , Washington DC, 2007;

(v) *Public-Private Partnership Structuring for the Rawalpindi Road Ring II*, Draft Final Report, Ronny Venegas Carbonnel, 2010;

(vi) *Private Financing for Toll Roads*, Gregory Fishbein and Suman Babbar, RMC Discussion Paper Series 117, World Bank, Washington DC, 1996; and

(vii) *The Long and Winding Path to Private Financing and Regulation of Toll Roads*, Antonio Estache, Manuel Romero and John Strong, Policy Research Working Paper 2387, World Bank, Washington DC, 2000.

## II. PROJECT LIFE CYCLE

### A. Main Phases

12. The following four main phases can be distinguished in the overall life cycle of PPP projects:

(i) Project inception (identification and screening);

(ii) Project preparation (feasibility study);

(iii) Transaction execution (selection of the private party); and

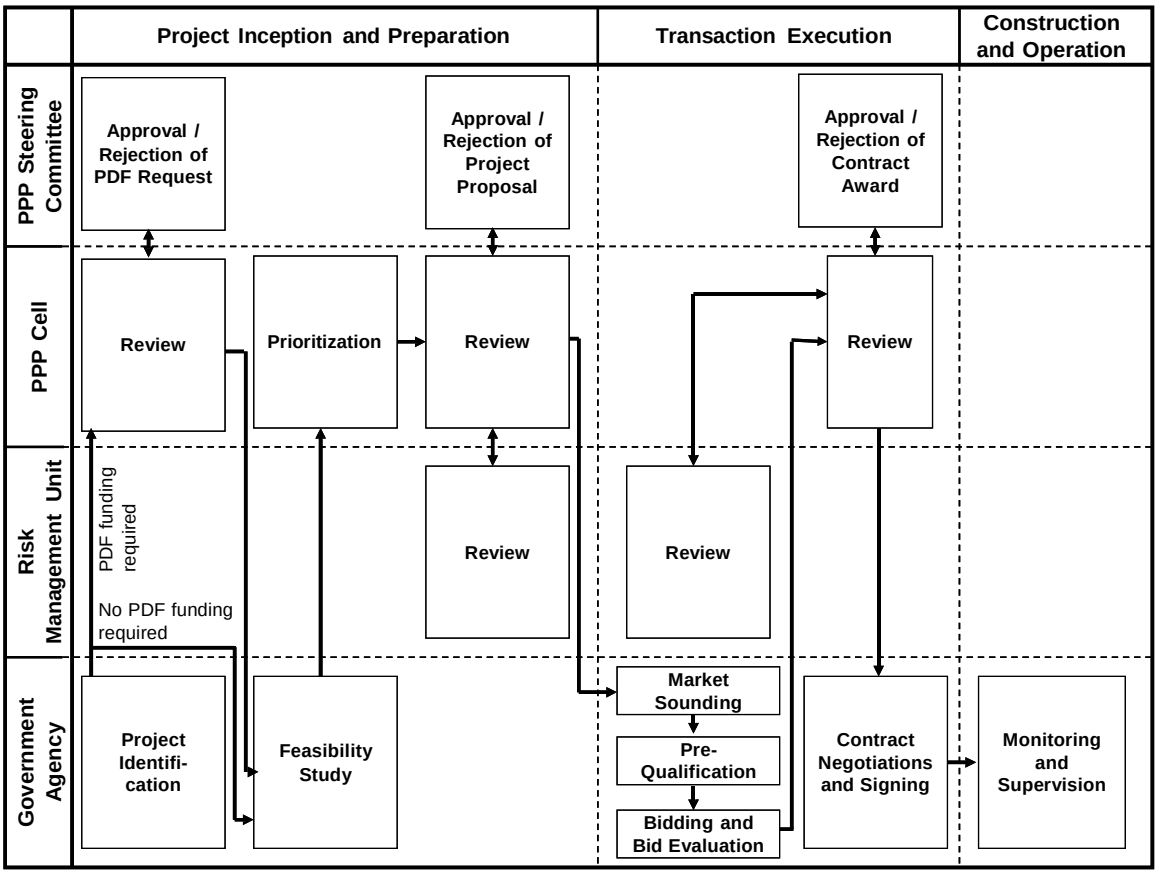
(iv) Construction, operation and transfer (development, delivery and exit).

A flow chart of the main activities during these phases is shown in Figure 1. The principal steps are listed in Appendix 1.

13. During the inception phase, the Government Agency will identify and conceptualize a potential PPP project from its master plan and other planning documents. This phase will include an initial needs and options analysis to determine the best solution for developing the given infrastructure facility and/or providing the necessary infrastructure service, as well as a preliminary viability analysis. To help prepare the PPP project and select the private party, the Government Agency will recruit consultants. Prior to doing so, it will decide whether to fund their

cost from its own budget or the Project Development Facility (PDF).[4] In the latter case, the Government Agency will submit a request for PDF funding through the PPP Cell to the PPP Steering Committee. The project inception phase will end with the recruitment of the consultants who will provide support to the Government Agency during the next two phases.

**Figure 1: Flow Chart of Project-Related Activities**




PDF = Project Development Facility; PPP = public-private partnership.

14. In the second phase, the Government Agency will manage preparation of the PPP project by the consultants. The preparation will consist of a feasibility study, including an initial environmental examination, environmental impact assessment (if required), risk assessment, assessment of the need for Government support, stakeholder consultations, project structuring including determination of the most suitable PPP modality,[5] and drafting of tender documents including the PPP agreement. An important part of the feasibility study will be financial modeling to determine project "bankability" and affordability.

[4] As the costs of consultants are significant and cannot always be funded by the annual budgetary allocations, the Government has established the PDF as a part of the overall enabling PPP framework. The PDF, which will be administered by the PPP Cell, will ultimately be a revolving fund, with the project preparation and transaction execution costs reclaimed from winning bidders. For further details, see the *Guidelines for the Project Development Facility for Public-Private Partnerships in Infrastructure,* approved by the Provincial Cabinet of Punjab on 19 August 2009, through Notification SO (CAB-II)1-6/2009, Services and General Administration Department (Cabinet Wing), Government of the Punjab.

[5] These activities are sometimes referred to as technical, legal, environmental and financial due diligence.

15. Provided the outcome of the feasibility study is positive and the project proposal is approved by the PPP Steering Committee for implementation, the third phase – the transaction execution – will start. The consultants will assist the Government Agency in undertaking market sounding aimed at packaging the project in a way that attracts interest of private investors. The market sounding will be followed by a two-stage tendering process consisting of pre-qualification and bidding. Based on a technical and financial evaluation of the bids received, the preferred bidder will be determined and invited to contract negotiations. Before signing the PPP agreement with the Government Agency, the private party may establish, without changing its shareholding, a special purpose company for implementation and operation of the project, which assumes all the rights and obligations of the private party. [6] Thereafter, the project company will endeavor to arrange the necessary financing and thereby achieve financial closure. This will mark the end of the transaction execution phase and the beginning of project construction.

16. During the last phase that covers construction, operation and transfer (if applicable), the Government Agency will be responsible for monitoring and evaluating the PPP project to ensure its conformity with the plans, specifications, performance standards and tariffs in the PPP agreement. The Government Agency will submit annual reports on the PPP project to the PPP Cell and RMU. At the end of the period covered by the PPP agreement and if so provided therein, the PPP project will be transferred by the private party to the Government Agency.

## B. Role of the RMU

17. As shown in Appendix 1, risk management is an integral part of all but first phase of the PPP project life cycle. Some PPP projects will require direct funding from the Government to close the viability gap, while others will only need contingent support in the form of guarantees. A third category may need both types of support. Given the likely magnitude of such direct and contingent liabilities, the newly established RMU in FD, which has traditionally been performing the role of fiscal guardian for public sector projects, has the following main responsibilities for all PPP projects:

(i) Develop the Risk Management Guidelines for approval by the PPP Steering Committee;

[6] Large-scale infrastructure projects are usually carried out by new corporate entities specially established for that purpose by the project promoters. Such a new entity, often called a project company, becomes the vehicle for raising funds for the project. Because the project company lacks an established credit or an established balance sheet on which the lenders can rely, the preferred financing modality for the development of new infrastructure is called project finance. In a project finance transaction, lenders rely on the performance of the project for payment rather than the credit of the project company's shareholders. To that end, the project's assets and revenue, and the rights and obligations relating to the project, are independently estimated and strictly separated from the assets of the project company's shareholders. Loans are made available by the lenders if they can be satisfied that the project's cash flow and earnings will be sufficient for the repayment of loans taken out by the project company. This arrangement is also referred to as limited recourse financing, which indicates that lenders have limited recourse to the project company's shareholders for payment if the project fails to generate adequate returns. A primary benefit of project finance structures is that they allow the project company's shareholders to leverage their resources and expertise with outside capital in order to undertake projects that they otherwise would not be able to finance on the strength of their own balance sheet. In addition, project finance allows the project company's shareholders to share project risks with lenders and maintain the project debt off their balance sheet. Governments also seek to limit the recourse of investors to their credit, except to the extent that they provide direct and contingent financial support through such means as investment grants and minimum revenue guarantees.

(ii) Examine whether requests for government support and the proposed risk sharing arrangements are consistent with the Risk Management Guidelines and fiscally sustainable;

(iii) Ensure the inclusion of approved government support in the Government's Annual Development Program;

(iv) Monitor the Government's direct and contingent liabilities related to PPP projects;

(v) Monitor the financial performance of PPP projects during their operation; and

(vi) Perform any other functions as may be assigned to it by the PPP Steering Committee.

## III. RISK MANAGEMENT CONCEPT

18. The term **project risk** refers to events and circumstances that cause an uncertainty of the costs and benefits involved. As a result, there is the possibility of a project outcome or return that is below expectations. Project risks form an integral part of every project. Under public procurement, the Government bears all or most of the risks. A major advantage of the PPP mode is that as many project risks as appropriate are shifted to the private sector, which then receives the rewards for its investment and risk taking. Each party's risk exposure varies according to its role and financial commitment in the project, as well as its ability to manage the exposure.

19. Risks can be looked at from the perspective of the different parties concerned: (i) the private party, (ii) the lenders, (iii) the Government, and (iv) the users of the services provided by the PPP project. Risks can also be grouped into categories according to their type: (i) commercial risks, which are related to the sector or business activity being contemplated (e.g., power generation or solid waste management); (ii) risks specific to a country, which include political, economic, and financial risks; and (iii) risks of a general nature such as force majeure. Risks can also be differentiated according to when they arise in the project cycle: (i) development phase risks, (ii) construction phase risks, and (iii) operation phase risks. PPP risks are both generic and project specific.

20. The feasibility study prepared by the Government for each PPP project will identify and propose allocation of the different types of risks. It is important that key stakeholders, including consumers, are informed and consulted about the proposed risk allocation during the feasibility study preparation. Thereafter, the risk allocation matrix will be made part of bidding documents. Based on their companies' strengths, bidders for PPP projects will make their own assessment of risks and their ability to mitigate and overcome these, and will incorporate the results of this assessment in their financial bids. The final risk allocation, as agreed upon during contract negotiations with the winning bidder, will be described in the PPP agreement. As per Section 27 of the PPP law, the PPP agreement is a public document.

21. The risk management process should start with **risk identification and assessment**. The type of the project and the choice of the PPP modality will determine what risks are applicable. A PPP project involving a service or operation and maintenance contract may have little or no market risk. In other PPP projects such as toll road concessions, such risk is very significant. The risk identification should be followed by **risk allocation,** i.e., determining which party should bear the consequences of the occurrence of each event identified as a project risk. For example, if the private party is obliged to deliver the infrastructure project to the Government

Agency with certain equipment in functioning condition, the private party will bear the risk that the equipment may fail to function at the agreed performance levels. The occurrence of that project risk, in turn, may have a series of consequences for the private party, including its liability for failure to perform a contractual obligation under the PPP agreement and/or the additional cost incurred (for example, cost of repair of faulty equipment or of securing replacement equipment).

22. The basic principle for risk allocation should be that risks are to be borne by the party best able to control them (i.e., manage and mitigate them at the lowest cost). In practice, allocating risks in accordance with this principle requires detailed analyses and evaluation in the feasibility study, as well as preparation of PPP agreements that define and allocate the relevant risks in detail, expecting that the nature of certain risks may vary as the structure of the sector and prevailing institutional arrangements evolve. This principle implies that the optimum risk allocation is not the same as the maximum risk transfer to the private sector. Typical examples are construction and operation risks, which are usually borne by the private sector, and policy and expropriation risks, which are clearly within the control of the Government and therefore borne by the public sector. Proper risk allocation will generate incentives to and penalties for the private sector to provide cost-effective and high-quality infrastructure and service delivery. Section IV discusses in more detail risk identification and allocation.

23. The party bearing a given risk should take preventive measures with a view to limiting the likelihood of the risk, as well as specific measures to protect itself, in whole or in part, against the consequences of the risk. Such measures are referred to as **risk mitigation**. In the example discussed in para. 20, the private party's project company will carefully review the reliability of the equipment suppliers and the technology proposed. It may as a result require its equipment suppliers to provide independent guarantees regarding the performance of their equipment. The supplier may also be liable to pay penalties or liquidated damages to the project company for the consequences of failure of its equipment. In some cases, a more or less complex chain of contractual arrangements may be embarked on for the purpose of mitigating the consequences of a project risk. For instance, the project company may combine the guarantees provided by the equipment supplier with commercial insurance covering some consequences of the interruption of its business as a result of equipment failure. Section V discusses in more detail various risk mitigation instruments used by governments or offered by lenders.

24. To ensure that the desired high level of private investments in PPP projects materializes, fair risk sharing between the public and private sector and adequate risk mitigation are essential. A sound investment climate is the best risk mitigation mechanism. This calls for continuous and sustained policy reforms that lead to a stable macroeconomic environment, well-functioning judicial system, independent and technically sound regulation, full cost recovery (or a well-targeted subsidy where the full cost recovery would make such services unaffordable), and open access in the infrastructure sectors.

25. During the transition period before these ideal conditions are achieved and confidence is built up, investors will ask for **guarantees** from the Government to help mitigate risks that are not under their control. The term guarantee refers to eventual compensation of the project company in case of actions that the Government is responsible for (e.g., expropriation of the project) or unfulfilled obligations that Government Agencies have committed themselves to in PPP agreements (e.g., non-payment for the service delivered by the project company). Providing guarantees creates a **contingent liability** for the Government, defined as an

obligation to make a payment in the future if a certain event occurs.[7] To avoid putting its budget at risk, the Government has to make the necessary provisions therein to cover its exposure from such contingent liabilities. In other words, the guarantees create fiscal risk.

26. In addition to contingent support through guarantees, some PPP projects may need **direct government support**, such as investment grants, provision of land, operating subsidies, or tax relief. This is the case of technically and economically viable projects that are financially marginal or non-viable and hence need the so-called viability gap funding (VGF). To be eligible for such funding, the lack of financial viability must be attributable to tariffs that are set by the Government below full cost recovery levels to make the given infrastructure services affordable to the population.

27. Risk management needs to take into account some hard lessons learnt during the Asian financial crisis in 1997-1998, particularly in the power sector. The principal lesson is that the previous practice of extensive guarantees should not be repeated. What is necessary is to identify the various types of risks associated with the given project and to allocate them to the party that can best control them. There is no universal solution applicable to all situations, and the range of possible solutions is wide, depending on the specific circumstances of each case. While the proposed risk allocation should be clearly laid out for each project in the PPP agreement, the overall risk allocation principles should not be cast in stone. Instead, there should be a gradual transfer of risks from the public sector to private investors as the conditions improve, until the stage is reached when market instruments rather than government guarantees can be used for risk mitigation.

28. Bidding documents for each PPP project should indicate the proposed allocation of risks. This will allow the project company to take appropriate and least-cost risk mitigation measures on its part in order to sustain the project. For the risks allocated to the public sector, the Government should issue, as appropriate, guarantees to backstop its obligations or those of its agencies that enter into PPP agreements with private parties. The fiscal impact of these contingent liabilities triggered by a particular discrete event that may not occur should be quantified and monitored by the RMU. While it is relatively easy to quantify and incorporate in the budget the cost associated with direct government support for a PPP project, which is an obligation that will arise in any event (e.g., a contribution to the investment cost), the RMU will have to develop capacity for quantifying the costs of government guarantees. Section VI discusses the key principles for providing direct and contingent government support, while Section VII outlines methodologies for estimating the cost of such support.

## IV. RISK ALLOCATION

### A. Main Project Categories

29. For the purpose of these Guidelines, infrastructure is classified into two main categories: (i) single user projects, and (ii) multiple user projects.[8] This distinction is important as it enables

[7] The International Accounting Standards Board defines a contingent liability as a possible obligation that arises from past events and whose existence will be confirmed only by the occurrence or non-occurrence of one or more uncertain future events not wholly within the control of the entity.

[8] The categorization is not entirely correct. There are projects exhibiting characteristics that fall somewhere in between these two categories, e.g., a bulk water supply project that services the requirements of a handful of utilities; or a captive power plant that delivers generated power to more than one customer. Nonetheless, the selected classification system is useful as it encompasses the vast majority of projects.

to arrive at the similarities and differences between these categories when allocating risks, and leads to the following principle:

| | |
|---|---|
| **Principle 1 (Project Categorization)** | **Infrastructure projects should be grouped into two main categories for the purpose of assessing similarities and differences in their risk profile and probable risk allocation.** |

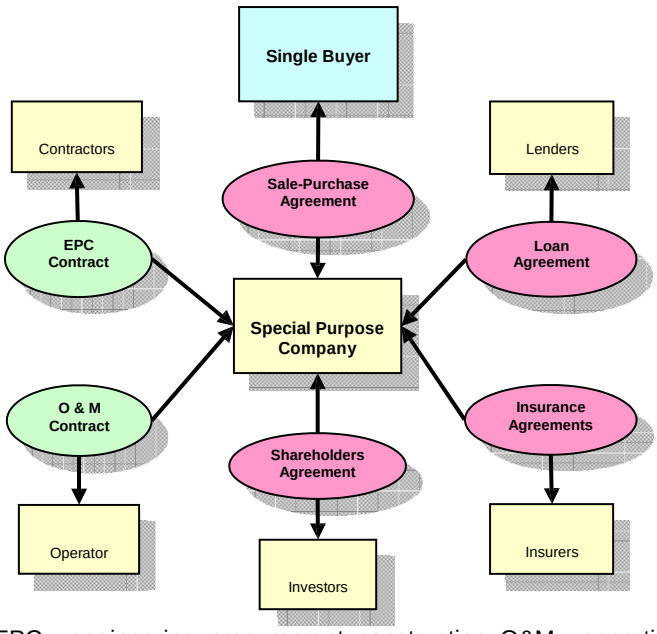
30. **Single user projects** are those that provide infrastructure services, based on the PPP agreement, mostly to one customer on an exclusive basis (Figure 2). Examples include:

(i) A power generation plant built and operated by and independent power producer (IPP) to convert a specific fossil fuel or renewable resource into bulk electricity for transmission through the grid to a power utility under a firm power purchase agreement;

(ii) A water treatment company operating under a water purchase agreement that provides a service consisting of the extraction of raw water from a source, treating and purifying it before transporting the commodity to a water utility; and

(iii) A privately-owned gas pipeline whose sole business function is to transport third-party gas for delivery to one customer, e.g., a power generation plant.

**Figure 2: Single User Project**




The Government Agency is the bulk buyer. It selects the private party through tendering and enters with the project company into a sale-purchase agreement for a service on designated terms.

Usually a take-or-pay contract is used, which guarantees a minimum level of revenue sufficient to pay back debt and generate reasonable profit.

Lenders require a loan-life debt service coverage ratio of 1.2-1.3, depending upon prevailing market conditions.

EPC = engineering, procurement, construction; O&M = operation and maintenance.

31. Structurally, these projects are characterized by a sale-purchase agreement entered into between the project company and, usually, a single buyer referred to as a 'take-or-pay' contract in the power and water industries and a 'throughput' agreement, in the oil and gas industry. For simplicity, the term 'take-or-pay' is used in these Guidelines as the differences between the two instruments are largely technical, not fundamental.

32. The financial viability of a single user project rests in large part on the quality of its underlying take-or-pay arrangement. The presence of such agreement removes, for the project company, the element of market risk from the transaction.[9] This is because the take-or-pay provision, by definition, identifies the minimum level of service units to be sold along with the price of each unit. Together, the product of these two variables determines the minimum cash flow to be generated by the project over a defined period. By defining the minimum cash flow generated each month, the agreement creates revenue predictability. This predictability, more than any other feature, differentiates single user projects from multiple user ones. The contrast between the two generic categories becomes more obvious as one examines the definition of multiple user projects.

33. **Multiple user projects** are those that provide service to a targeted population consisting of many users, based on a PPP agreement between the Government Agency and project company that provides a concession to the latter (Figure 3). Examples include:

(i) Terminal buildings and associated infrastructure (air, port, ferry, bus and container terminals);

(ii) Distribution utilities (electricity, water, gas);

(iii) Roadways (toll roads, bridges);

(iv) Surface transport infrastructure (light and heavy passenger railway); and

(v) Solid waste management.

34. The standards used by international lenders in determining whether to lend for single user projects are quite different from criteria employed for the multiple user ones. Lenders, for example, may apply a higher standard for the loan life debt service coverage ratio (DSCR)[10] in the latter case. If, as a result of the financial projections, the projected cash flow does not achieve the accepted standard, there will be requests for risk sharing between the private party and the Government. Moreover, and as discussed in Section V, the instruments used to mitigate risk in the two categories of infrastructure projects partly differ.

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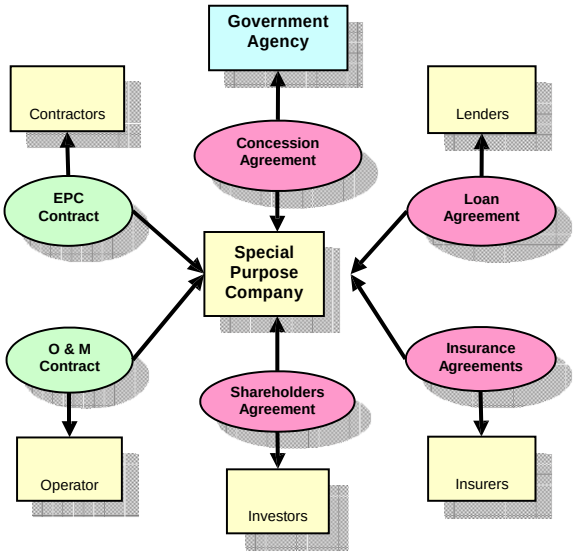
[9] Long-term take-or-pay power purchase agreements have been modeled after similar contracts developed in the United States. These enabled third party generators during the 1980s under the US PURPA program to mobilize the financing needed to build and operate a generating plant under contract to a utility. The critical feature in these contracts is the virtual guarantee of predictable revenue, subject to acceptable performance of the IPP. The cash flow under the contract is sufficient enough to pay off lenders whether or not the generating plant is dispatched. If the operator does not perform satisfactorily, another provision enables the lenders to step in and designate a third party to operate the project. These two provisions widely adopted in Asia and elsewhere require the public utility to (i) buy and pay for the contracted amount of electricity each month; or (ii) otherwise pay for the available, but idle, capacity that had been made available to it. While this provision may sound counter-intuitive to some, the logic is relatively straightforward. The utility is in the optimum position to assess demand for electricity in the retail market. On the basis of its own forecasts for electricity demand, it has concluded that more generation capacity is needed and, motivated by these findings, has contracted a private party to bring that capacity on line. The alternative would be to incur sunk costs to build the project and, at the same time, assume associated market risk. Hence, in return for getting someone else to mobilize the resources, the utility should be willing to assume the risk of its own market forecasts.

[10] Defined as the net present value of the sum of cash balances available to service debt at each repayment date over the loan term divided by the senior debt outstanding at the time the DSCR is calculated. Lenders will stipulate that the agreed DSCR must be met on all repayment dates from date of commissioning to the conclusion of the PPP agreement (or the final repayment of the loan, whichever occurs first). Failure to comply with the stipulation is usually defined as an event of default.

**Figure 3: Multiple User Project**




The Government Agency selects the private party through tendering and issues a concession to the project company to provide services to the public on designated terms.

If the project is deemed to be financially sustainable on its own and if the level of exchange rate risk incurred is not excessive, there is no minimum guarantee of revenue.

However, lenders may require a loan-life debt service coverage ratio of 1.4-1.5 as a precondition for finance.

EPC = engineering, procurement, construction; O&M = operation and maintenance.

## B. Main Risk Categories

35. There are many descriptions in the project finance literature of the risks that infrastructure facilities are exposed to during construction and operation. These Guidelines are based on the following five risk categories distinguished in UNCITRAL's legislative guide and reproduced in Appendix 2:[11]

(i) Project disruption caused by events outside the control of the parties,

(ii) Project disruption caused by adverse acts of the government or its agencies,

(iii) Construction and operation risks,

(iv) Financial risks, and

(v) Commercial risks.

36. The PPP Knowledge Center in the Netherlands is using a more detailed risk categorization. For the sake of illustration, their checklist is reproduced in Appendix 3.

## C. Best Practice for Risk Allocation

37. Out of the above risk categories, the first four apply to both single and multiple user projects, while the last one – commercial risks – has different ramifications for each project category. Table 1 summarizes those risk categories, including their constituent risks, which are common to both project categories, while Tables 2 and 3 focus on commercial risks. In all three tables, the risk categories are presented in the left hand column while the best practice for risk allocation is described in the right hand column. The best practice is based on the following principle for structuring bankable projects:

[11] The United Nations Industrial Development Organization (UNIDO) proposed a similar risk identification structure in its *Guidelines for Infrastructure Development through BOT*, Vienna 1996.

| | |
|---|---|
| **Principle 2 (Risk Allocation)** | **Specific risks should normally be allocated to the party that is best able to manage controllable risks; or best able to insure uncontrollable but insurable risks; or best able to bear the financial consequences of uncontrollable and uninsurable risks.** |

**Table 1: Risk Categories Common to All Infrastructure Projects**

| Risk Category | Risk Allocation |
|---|---|
| **(i) Project Disruption Caused by Events Outside the Control of the Parties (Force Majeure)**<br><br>Risks in this category involve the possibility that **uninsurable events** may disrupt the operation of the project, e.g.:<br><br>• Of a physical nature – **floods, storms** or **earthquakes** that may be uninsurable at the selected site; and/or<br>• Of a political nature outside the control of the Government - **war**, a third-country **blockade** that impacts on the province**, localized riots** or **terrorist attacks**, radiation fallout from a neighboring country, etc.<br><br>Such unforeseen or extraordinary events may cause a temporary interruption of the project implementation or operation, resulting in construction delay, loss of revenue and other damage. Severe events may cause physical damage to the project or even destruction beyond repair. | This is often a contentious and gray area. Best practice is for the Government to share up to 50% of the costs caused by such uninsurable and uncontrollable natural and political events if it is clear that that (a) the risk is truly uninsurable or only insurable at price that is unreasonable; and (b) lenders require the cover as a precondition for extending their loans.<br><br>The PPP agreement should stipulate that the Government and project company will share the obligation to:<br><br>(a) Rehabilitate the project, if damaged; and<br>(b) Provide for consequential loss of income for the period the project is out of commission; or<br>(c) The Government will pay 50% of the loss experienced by the project upon termination, based on an agreed formula acceptable to the RMU.<br><br>Exceptions to this general policy should only be made after consultation and agreement with the RMU. When identifying and negotiating these risks, it is important for the Government to have professional advice from insurance experts. The lenders may adopt the view that the Government should cover their residual exposure to the project company since it is best able to bear the financial consequences of the risk. |
| **(ii) Project Disruption Caused by Adverse Acts of the Government or Its Agencies (Political Risks)**<br><br>Risks in this category can be segregated into three broad categories:<br><br>• **Traditional political risks,** such as confiscation, expropriation, nationalization or deprivation (CEND) of project rights, benefits, or assets. The risks could also include imposition of new taxes that | Generally, the Government would be expected to assume 100% of the financial consequences of this risk category. For each type of political risks identified in the left column, the Government would be expected to provide compensation for:<br><br>(a) Loss of income due to:<br><br>• New and higher taxes, or new regulatory standards, that call for unanticipated capital expenditure and/or the loss of cash flow; and |

| | |
|---|---|
| jeopardize the project company's prospects for debt repayment, investment recovery and profit;<br><br>• **Regulatory risks,** for example, introduction of more stringent standards for service delivery or opening of a sector to competition; and<br><br>• **Quasi-commercial risks,** for example, breaches by the Government Agency or project interruptions due to changes in the Government Agency's priorities and plans. | • Loss of revenue, particularly the introduction of competition, if due to breach of contract;<br><br>and/or<br><br>(b) Termination payments in the event of a CEND event or other breach followed by a cure period in which no agreement is reached as to how best to go forward. |
| **(iii) Construction and Operation Risks**<br><br>**Risks during construction:**<br>• The project cannot be completed at all or cannot be delivered according to the agreed schedule (**completion risk**);<br>• Construction cost exceeds the original estimates (**cost overrun risk**); or<br>• The project fails to meet performance criteria at completion (**performance risk**).<br><br>**Risks during operation:**<br>• The completed project cannot be effectively operated or maintained to produce the expected capacity, output or efficiency (**performance risk**); or<br>• The operating costs exceed the original estimates (**cost overrun risk**).<br><br>It should be noted that construction and operation risks do not affect only the project company. The Government Agency and the users may be severely affected by an interruption in the provision of needed services. Moreover, the Government, as the representative of public interest, will be generally concerned about safety risks or environmental damage caused by improper construction or operation of the project. | Construction and operating risks are largely the responsibility of the project company, the financial consequences of which are backed up by a performance bond.<br><br>However, there are situations where the Government or its agencies may create construction and operating risks. A fair and balanced PPP agreement would allocate these risks to the public sector party that causes the problem.<br><br>Examples of such adverse actions during construction include:<br>• Inadequate site selection or technical specifications provided by the Government Agency during the bidding process;<br>• Delays in obtaining approvals and permits;<br>• Changes in construction schedule due to inadequate planning, interruptions caused by inspecting agencies, or delays in delivering the land on which the project is to be built.<br><br>Examples of such adverse actions during operation include:<br>• General legislative or regulatory measures, such as more stringent safety or labor standards, that result in higher construction or operating costs;<br>• Shortfalls in production caused by the non-delivery or, more significantly, non-availability of necessary inputs such as power, gas or water from public enterprises. |
| **(iv) Financial Risks**<br><br>• **Exchange rate risk** (also called cross-currency risk) is brought about by the fact that prices and user fees charged to local users will most likely be paid in local currency, while some loans and operational expenses may be denominated in foreign currency. Hence, a formal devaluation, or | The project company should be expected to bear the normal exchange rate risk and variable interest rate risk, when borrowing in foreign currency. This risk is more likely to be accepted by the project company if the tariff path in terms of periodic adjustments is guaranteed by the Government Agency. |

| | |
|---|---|
| gradual depreciation, of the local currency could significantly reduce the value of the local currency cash flow relative to the project company's obligations. As there is no long-term US dollar - Pakistan rupee swap market where the exchange rate risk can be mitigated, there is no conventional way of hedging such risk over an extended financing period.<br>• **Foreign exchange controls** imposed at the national level or **reduced foreign exchange reserves** may limit the availability in the local market of foreign currency needed by the project company to service its debt or pay dividends;<br>• **Interest rates** may rise, forcing the project to bear higher financing costs. This risk may be significant in infrastructure projects given the usually large sums borrowed and extended duration of the loans. | However, PPP agreements should provide some protection for both single and multiple user projects in case of abnormal fluctuations of these two variables. One approach is to permit special tariff adjustments after the depreciation of the Pakistan rupee (relative to the lending currency) reaches a certain threshold. The ensuing automatic adjustment, however, should be designed to increase local currency revenues to offset only 50-75% of foreign currency debt service (as measured in local currency terms). This creates an incentive on the part of the project company to rely as much as possible on local currency financing. RMU approval should be needed for any exceptions to this general policy. For more details, see para. 59.<br><br>Exchange rate risk aside, the Government should be willing to provide the project company with guaranteed availability, convertibility and transferability of foreign exchange for the purpose of servicing debt or paying dividends or other such operational matters. |

38. From the lenders' perspective, the guarantees exist to provide comfort, specifically the predictability that there will be enough cash flow, including some residual margin, to repay debt. However, it has to be borne in mind that any guarantee issued by the Government to neutralize exchange rate risk is likely to be drawn upon at some points during project life as currency movements, by the very nature, are volatile, unpredictable and occasionally dramatic. Caution therefore needs to be exercised by the RMU when deciding about this type of guarantee.

39. Table 2 summarizes the fifth risk category – commercial risks – applicable to single user projects and the proposed risk allocation arrangements.

**Table 2: Commercial Risks Common to Single User Projects**

| Risk Type | Risk Allocation |
|---|---|
| • **Market Risk** - the demand for the project company's service and/or the price at which it is sold may not ensure cash flow predictable enough to service debt and meet other obligations. While the take-or-pay contract introduces predictability to cash flow and, hence, eliminates this type of risk, it also gives rise to credit risk.<br>• **Credit Risk –** Government Agency using the service provided by the project may be unable to afford to perform its obligations under the terms of the PPP agreement, particularly the obligation to pay on a timely basis. | Single user projects do not generally have market risk, assuming that the parties include an adequately structured take-or-pay provision in the PPP agreement.<br><br>The Government should guarantee the credit risk of its agencies for single user projects when the buyer operates significantly on a non-commercial basis (i.e., when tariffs do not generate enough revenue to achieve full cost recovery), and/or when budgetary allocations from the Government in the form of operating subsidies are deemed insufficient to cover obligations under the terms of the PPP agreement. |

40. As shown in Table 3, commercial risks of multiple user projects are quite different from those in Table 2.

**Table 3: Commercial Risks Common to Multiple User Projects**

| Risk Type | Risk Sharing |
|---|---|
| • **Market Risk -** refers to the possibility that the project will not generate a predictable enough revenue stream to be financially sustainable either because of changes in market prices or the demand for the goods or services it generates. Depending on the type of the multiple user project, market risk can have many sub-components. Among the most important that may impact adversely on the project are current demand for the service, affordability of tariffs, elasticity of demand, competition that exists or will exist, quality and convenience of service, economic growth, inflation, tariff setting mechanism, and flexibility that Government Agencies have regarding tariff setting.<br>• **Credit Risk** - Multiple user projects usually have no credit risk as a default by all users at the same time is virtually impossible. | Usually market risk for multiple user projects is the responsibility of the project company. However, there are exceptions to this general rule.<br><br>Projects that are considered to be economically viable but financially not sustainable may benefit from an investment subsidy or a revenue deficiency guarantee provided by the Government (see Section V). |

41. Tables 2 and 3 imply that the emphasis should be on PPP projects that are financially viable and need support only for the purpose of buttressing, or backstopping, the predictability and reliability of a project's cash flow.

42. This introduces the following principle for structuring bankable PPP projects:

| | |
|---|---|
| **Principle 3 (Use of PPP Mode)** | **The PPP mode should preferably be used for financially viable projects that can provide the required services at affordable tariffs and do not require any investment grants, operating subsidies, or other periodic calls on the government budget.** |

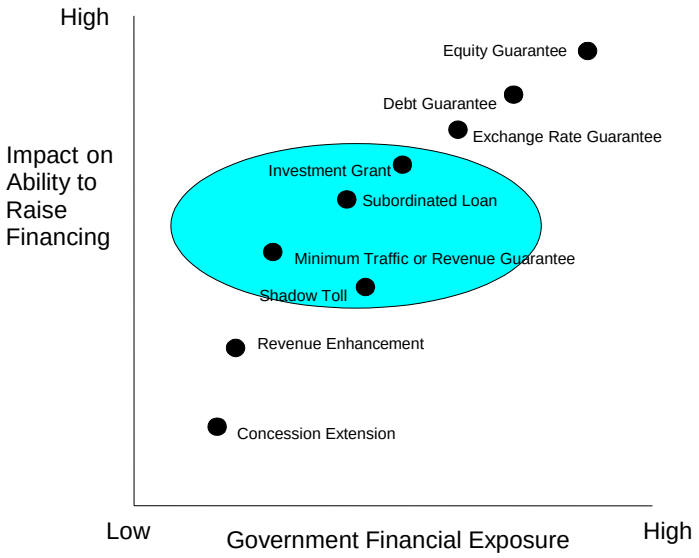
43. This principle implies that the risk management process starts at the planning stages when specific projects are identified for implementation. It also means that the better projects in the pipeline of each line department and municipality should be reserved for the PPP mode – provided, of course, that they meet the standard economic rate of return (EIRR) criteria. To the extent that adherence to this principle can be maintained, the Government's risk management process will be less onerous and much better controlled. This approach will contribute toward an improved receptivity in the markets to the government offerings. It will also reduce the time lapse between the commencement of the tendering process and the implementation of the project. An exception to this financial viability requirement is discussed in Section VI and is covered by principles 11 and 12.

## V. RISK MITIGATION

### A. Main Instruments of Government Support

44. The availability of government support, direct and/or contingent, is among the most important elements in the financial structuring of PPP projects. Governments have various instruments at their disposal for the purpose of reducing the risks and improving the bankability of PPP projects. Figure 4 shows the range of options available to toll road projects. It compares the importance of each instrument for raising financing and its impact on government exposure. Although the focus is on toll roads, the general conclusions are broadly applicable to all multiple user projects possessing significant market risk and requiring government support. Figure 4 indicates that equity guarantees, debt guarantees, exchange rate guarantees and investment grants rank the highest in importance for raising financing, but lead to a heavy government exposure. By contrast, concession extensions and revenue enhancements rank the lowest in both aspects.

**Figure 4: Options for Government Support**




Source: G. Fishbein and S. Babbar, *Private Financing of Toll Roads*, RMC Discussion Paper Series 117, World Bank, 1996.

45. Some of the instruments, such as investment grants, subordinated loans and shadow tolls, involve direct financial support, while others, such as equity guarantees, debt guarantees, exchange rate guarantees and minimum revenue guarantees (hereinafter called revenue deficiency guarantees), create contingent liabilities. Some instruments do not involve any direct or contingent monetary outlay by the government. Typical examples are a concession extension or a revenue enhancement (hereinafter referred to as ancillary revenue).

46. Support instruments can be further split up into investment subsidies and operating subsidies. Investment subsidies (host country capital that shares in project implementation costs) include equity, subordinated debt, grants and other in-kind contributions, which contribute

to the construction and commissioning costs of a PPP project; while operating subsidies (host country capital that shares in project operating costs) include shadow tolls and other outlays, which are intended to improve operating results over project life.

47. The following sections explore the various forms and implications of direct and contingent support that are available through governments; international financial institutions (IFIs), such as the World Bank, ADB and Multilateral Investment Guarantee Authority (MIGA); and bilateral export credit agencies.

## B. Risk Mitigation Instruments Available Through Governments

### 1. Loans and Equity Contributions[12]

48. **Public loans.** Laws in many countries authorize the government to cofinance with commercial banks the debt portion of a project company's financing plan. Subordinated loans from the government enhance the bankability of the PPP project by supplementing senior loans from commercial banks without competing with such loans for repayment. They fill a gap in the financing structure between senior debt and equity. From the government's perspective, they also have the attractive feature that they can be repaid with a return if the project is successful. Subordinated loans improve financial viability by increasing the DSCR on senior debt and by reducing the need for private equity, which requires a higher return. However, because subordinated debt does eventually require repayment, it does not improve financial viability to the same degree as a similarly sized investment grant. Subordinated loans may be available to all project companies for the financing of capital expenditures or they may be limited to providing temporary assistance to the project company in the event that certain project risks materialize. The total amount of any such loan is generally limited to a fixed sum or to a percentage of the total project cost.

49. **Equity participation.** Another form of government support consists of direct or indirect equity participation in the project company. Equity participation helps achieve a more favorable ratio between equity and debt by supplementing the equity provided by the private party, in particular where other sources of equity capital, such as investment funds, cannot be tapped by the project company. Equity investment by the government may also be useful to satisfy legal requirements of the host country concerning the local "content" of the project company when it is not possible to secure the required level of local participation on acceptable terms. For example, local investors may lack the interest or financial resources to invest in a large infrastructure project; they may also be averse to or lack experience in dealing with specific project risks. However, government equity participation in infrastructure PPP projects has more disadvantages than advantages. It may be understood as an implied guarantee, with the private party and its lenders expecting the government to back the project fully or eventually even take it over at its own cost if the project company fails. Clear risk allocation, which is essential for PPP projects, is not possible. The dual role of the government as the regulator and a part owner is likely to lead to conflicts of interest. The principal advantage of PPP projects – shifting the responsibility for financing to private investors – is not fully exploited if some equity has to be contributed by the government.

[12] The Government intends to establish, in the medium term and with the assistance of its multilateral and bilateral development partners, the Infrastructure Project Financing Facility (IPFF). The IPFF would be a non-banking financial institution that makes equity contributions in the local currency to PPP projects or providse residual 15-20 year funding at commercial rates through fixed-rate rupee-based loans if the financing needs of the private party cannot be fully met by the market.

50. **Design-build-lease arrangements.** These arrangements have a structure different from the typical PPP modalities and are used in some countries where capital is not a constraint. The government designs and builds the project at its own expense. Upon commissioning, the project is tendered and concession is given to the private party willing to make the highest lease payments to the government in return for the rights to operate and maintain the project. This structure is used for projects that have high levels of market risk, but it does not meet one of the main objectives of PPPs in Punjab, namely, attracting private investments to infrastructure development.

### 2. Subsidies

51. **Investment grants.** This is the simplest instrument for improving the financial internal rate of return (FIRR) of an economically viable PPP project and thereby providing a critical boost upfront. Investment grants are justified if the project's revenue is constrained by tariffs set by the government below full cost-recovery levels to make the infrastructure service affordable, particularly for low-income groups of the population.

52. **Output-based subsidies.** Such subsidies provide the project company responsible for fulfilling a certain public service obligation with a defined cash amount in return for a targeted service output. Essentially, public service obligation is a government-directed provision of infrastructure services to disadvantaged groups such as the poor or geographically isolated. This situation occurs when for social reasons, the government explicitly requires the provision of loss-incurring services to these groups that the project company would not choose to do on a commercial basis. This type of subsidy is not to be confused with investment and operating subsidies.

53. **Operating subsidies.** Such subsidies arise when the government makes a contribution to a project's operating costs without expecting any repayment. Unlike investment subsidies that usually take the form of upfront grants, operating subsidies are year-on-year support designed to create revenue for a particular project, augment its revenue, or ensure a revenue stream. Operating subsidies can take the following forms:

(i) **Shadow tolls** are paid by the government to supplement a reduced revenue stream that arises from low tariffs, thus taking away one component of risk (i.e., tariff affordability). Based on actual traffic, the government contributes a specific payment per vehicle to the project company and thereby augments revenue collected from the road users. In effect, shadow tolls are an ongoing revenue stream from the government in lieu of an upfront grant or loan. Because they are paid over time, they may be less of a burden on the public budget. The drawback of shadow tolls is that they may not provide the project company with much protection from market risk because shadow toll payments are highest when traffic volumes are large. As a result, government payments may be inadequate to protect the project company when traffic is low and may be unnecessarily high when traffic volumes are high. In addition, the payment of shadow tolls over time creates a credit risk for the project company. These problems can be addressed in a number of ways, e.g. by having a declining payment schedule as volumes increase or a maximum traffic level beyond which shadow tolls are not paid.

(ii) **Revenue deficiency guarantees** are a relatively common form of support for PPP projects such as toll roads. They help ensure that the project has a minimum level of revenue since the government compensates the project

company if revenue falls below a minimum threshold. Typically, the threshold is set 10-30% below the expected level. This trigger reduces government exposure while providing sufficient revenue to cover debt service and a negotiated profit element. Revenue deficiency guarantees help retain financial incentives for the project company, unless conditions deteriorate well below what was forecast. If the government shares downside risk with the project company through such guarantees, it should also consider seeking to share profit on the upside. One way to do this is with a revenue-sharing arrangement where the government receives a portion of revenues above a maximum threshold. The drawback of revenue deficiency guarantees is that the level of subsidies required each year over project life is not predictable.

(iii) **Annuities** constitute yet another method of tendering out projects that have high levels of market risk. The government declares it is willing to award a concession to build and operate a road to the bidder asking for the lowest annuity payments, measured in present value (PV) terms.

54. The objective of these operating subsidies is to enable the project company to secure financing. They usually take the form of direct payments to the project company, either fixed lump-sum payments or variable payments calculated specifically to supplement the project company's revenue up to a certain defined level. In the latter case, it needs to be ensured that adequate mechanisms for verifying the accuracy of subsidy payments made to the project company are in place and that there are appropriate audit and financial disclosure provisions in the PPP agreement.

### 3. Guarantees

55. **Equity guarantees.** Under an equity guarantee, the project company is provided with an option to be bought out by the government at a price that guarantees a minimum return on equity. Although the liability is contingent and there is no public cost as long as the project generates the minimum return on equity, the government essentially assumes project risk, and private sector performance incentives are severely reduced. Governments do not normally provide equity guarantees to private developers. These, however, are available through the IFIs.

56. **Loan guarantees.** This instrument is sometimes used by governments to protect lenders against default by the project company. It guarantees that the government will pay any shortfall related to principal and interest payments. Although loan guarantees do not entail an immediate disbursement of public funds and therefore may appear more attractive to the government than direct loans, they create a substantial contingent liability and the government exposure may be significant, especially in the event of total failure by the project company. It is true that loan guarantees may decrease the cost or increase the amount of debt available to the project, but they also reduce private sector incentives. For these reasons and similar to equity guarantees, this instrument is generally not recommended. If, however, a loan guarantee is to be issued for a specific project, it is advisable to consider concrete provisions to limit the government exposure. For example, a maximum ceiling can be imposed on the loan guarantee, either as a fixed sum or, if more flexibility is needed, a certain percentage of the total investment. Another measure to circumscribe the contingent liabilities of the government may be to define the circumstances under which such guarantee may be extended, taking into account the types of project risk that the government may be ready to share.

57. **Guarantees of performance by government agency.** Performance guarantees may be used where the agency is separate, or autonomous, from the government. Such guarantees cover the breach of the agency's obligations under the PPP agreement and are issued in the name of the government or a public financial institution. They may also take the form of a guarantee issued by an IFI, backed by a counter-guarantee from the government. Performance guarantees are viewed by the lenders as useful instruments to protect the project company from the consequences of default by the government agency or other public authority assuming specific obligations under the PPP agreement. The most common situations in which such guarantees are used include the following:

(i) **Off-take guarantees.** As a matter of policy, the government may decide in a given single user project to guarantee payment by its agency for goods and services supplied to the agency by the project company. For example, such guarantees are used in connection with payment obligations under take-or-pay agreements where the main or sole customer of the project company is a state-owned entity.

(ii) **Supply guarantees.** Supply guarantees may also be provided to protect the project company from the consequences of default by public sector entities providing goods and supplies required for the operation of the project – fuel, electricity or water, for example – or to secure payment of indemnities (i.e., liquidated damages arising from non-performance), for which the government agency may become liable under the supply agreement.

(iii) **General guarantees.** These are guarantees intended to protect the project company against any form of default by the government agency, rather than default on specifically designated obligations. Although general performance guarantees are not issued frequently, there are cases in which the project company and the lenders may regard them as a condition necessary for executing the project. This may be the case, for example, where the obligations undertaken by the government agency are not commensurate with its creditworthiness.

58. Generally, it is important not to overestimate the adequacy of these guarantees alone to protect the project company against the consequences of default by the government agency. Different types of contractual remedies, or combinations thereof, may be used to deal with various events of default, for example, liquidated damages in the event of default and price increases or concession extensions in the event of delays in project implementation caused by acts of the government agency. Furthermore, in order to limit government exposure and to reduce the risk of calls on the guarantee, it is advisable to consider measures encouraging the government agency to live up to its obligations under the PPP agreement and/or to make efforts to control the causes of default.

59. **Guarantees against adverse acts of the government.** Unlike performance guarantees, which protect the project company against the consequences of default by the government agency and suppliers, this type of guarantees relates to acts of other authorities of the host country that are detrimental to the rights of the project company or otherwise substantially affect the implementation of the PPP agreement. Such guarantees are often referred to as political risk guarantees. For example, a guarantee may be issued to assure the project company and its shareholders that they will not be expropriated without adequate compensation. Such a guarantee would typically extend both to confiscation of property owned

by the project company in the host country and to the nationalization of the project company itself, that is, confiscation of shares of the project company's capital. Another example is a guarantee that covers the regulatory risk of not adjusting tariffs in line with the formula contained in the PPP agreement.

60. **Currency guarantees.** There are two forms of this instrument. The first includes exchange rate guarantees under which the government agrees to compensate the project company for increases in its financing and operating costs due to local currency depreciation. Because currency fluctuations constitute a significant project risk when foreign capital is involved, government guarantees can have a substantial impact on a project's ability to raise financing. However, the 1997-1998 Asian financial crisis has demonstrated how such exchange rate guarantees can expose governments to unsustainable risk and create the undesirable incentive for the private sector to utilize foreign capital since the exchange rate risk premium on foreign capital is eliminated by the government guarantee. It is therefore essential to limit such guarantees to a level absolutely necessary to raise financing for the project. The other form includes foreign exchange guarantees, which fulfill three useful functions: to guarantee the convertibility of the local earnings into foreign currency, to guarantee the availability of the required foreign currency, and to guarantee the transferability abroad of the converted sums. Foreign exchange guarantees are common in PPP projects involving a substantial amount of debt denominated in currencies other than the local currency.

### 4. Other Instruments

61. **Tax and customs benefits.** Another method used by governments to support PPP projects is to grant some form of tax and customs exemption, reduction or benefit. This is not a risk mitigation instrument, per se, but rather an instrument designed to lower investment and/or operating costs by eliminating taxes that would otherwise apply to the project company. Domestic legislation in many countries provides special tax regimes to encourage foreign investment and in some cases, it may be useful to extend such a taxation regime to foreign companies participating in PPP projects.[13] National law may sometimes facilitate the importation of equipment for the use of the project company by means of exemption from customs duties. Such exemption typically applies to the payment of import duties on equipment, machinery, accessories, raw materials and materials imported into the country for purposes of conducting studies, and designing, constructing and operating infrastructure projects. In the event that the project company wishes to transfer or sell the imported equipment on the domestic market, government approval usually needs to be obtained and the relevant import duties, turnover tax or other taxes need to be paid in accordance with the laws of the country. The law may also authorize the granting of an exemption from customs duty or to guarantee that the level of duty will not be raised to the detriment of the project.

62. **Protection from competition.** An additional form of support consists of assurances that no competing infrastructure project will be developed for a certain period or that no agency of

[13] Typical tax exemptions or benefits include (i) exemption from income or profit tax for a period of time or from property tax on the project; (ii) exemption from withholding tax on interest due on loans and other financial obligations assumed by the project company; (iii) exemption from stamp duties or similar charges of all transactions related to a PPP project; (iv) preferential tax treatment for domestic investors, allowing them to benefit from the same favorable tax treatment as generally given to foreign investments, and (v) a more favorable income tax rate, combined with a decreasing level of exemption during the initial years of the project. Such exemptions and benefits are sometimes extended also to the contractors engaged by the project company, in particular foreign contractors.

the government will compete with the project company, directly or through another concessionaire. Assurances of this sort serve as a guarantee that the exclusivity rights that may be granted to the project company will not be nullified during the life of the project. Protection from competition may be regarded by the project company and the lenders as an essential condition for participating in the development of infrastructure in the host country. Provisions of this type may be intended to foster the confidence of the private party and its lenders that the basic assumptions under which the project was awarded will be respected.

63. However, such provisions may be inconsistent with the host country's international obligations under agreements on regional economic integration and trade liberalization. Furthermore, they may limit the ability of the government to deal with an increase in the demand for the service concerned as the public interest may require or to ensure the availability of the services to various categories of users. It is therefore important to consider carefully the interests of the various parties involved. For instance, the required price level to allow profitable exploitation of a toll road may exceed the paying capacity of low-income segments of the public. Thus, the government may have an interest in maintaining open to the public a toll-free road as an alternative to a new toll road. At the same time, however, if the government decides to improve or upgrade the alternative road, the traffic flow may be diverted from the toll road built by the project company, thus affecting its flow of income. Similarly, the government may wish to introduce free competition for the provision of long-distance telephone services in order to expand the availability and reduce the cost of telecommunication services. The consequence of such a measure, however, may be a significant erosion of the income anticipated by the project company.

64. Generally, it is useful for the government, where appropriate, to give assurances that the project company's exclusive rights will not be unduly affected by subsequent changes in government policies without appropriate compensation. However, it may not be advisable to adopt statutory provisions that rule out the possibility of subsequent changes in government policy for the sector concerned, including a decision to promote competition or to build parallel infrastructure. The possible consequences of such future changes for the project company should be dealt with by the parties in contractual provisions in the PPP agreement describing changes in circumstances. It is particularly advisable to provide the government agency with the necessary power to negotiate with the project company the compensation that may be due for loss or damage that may result from a competing infrastructure project subsequently launched by the government agency or from any equivalent measure of the government that adversely affects the project company's exclusive rights.

65. **Concession extensions.** Sometimes governments offer to extend the concession term if revenue falls below a minimum amount. Such extensions do not impose any cash cost on the government, but they do not provide any short-term protection to the project company from revenue shortfalls either. Although a concession extension can improve the financial performance of a marginal project, its impact on the FIRR is small, because of the strong effect of discounting in later years.[14]

[14] For example, a project with an initial capital cost of PKR500 million and a constant annual revenue of PKR75 million during its concession period of 20 years has an FIRR of 13.9%. If the concession period is extended to 30 years, the FIRR rises to 14.8%. However, if the concession period is extended by an additional 10 years, the FIRR rises only to 14.9%. Even if the concession period is made perpetual, the FIRR does not exceed 15.0%. This means that if the FIRR benchmark under the prevailing market conditions is 18% in this particular case, extending the concession period will not resolve the problem.

66. **Ancillary revenue sources.** One additional form of support to the execution of PPP projects may be to allow the project company to diversify its investment through additional concessions for the provision of ancillary services or the exploitation of other activities. In some cases, alternative sources of revenue may also be used as a subsidy to the project company for the purpose of pursuing a policy of low or controlled prices for the main service. Provided that the ancillary activities are sufficiently profitable, they may enhance the financial feasibility of a project (see the toll road example in Section VIII.B). However, the relative importance of ancillary revenue sources should not be overemphasized. Under some legal systems, certain types of ancillary source of revenue may be regarded as a concession separate from the main concession and it is therefore advisable to review possible limitations to the project company's freedom to enter into contracts for the operation of ancillary facilities.

### 5. Incorporation in PPP Agreements

67. The guarantees and direct support offered by sovereign governments to mitigate the risks in Tables 1 to 3 are usually formalized in relatively standard provisions in the PPP agreements. When the government agency's ability to perform under these agreements is called into question, the government is asked by the lenders to guarantee its performance.

68. As risks related to the project company are not guaranteed by the government, the lenders scrutinize the project company very carefully. If they are not satisfied with its performance undertakings as set forth in the PPP agreement, they ask for a separate assurance from the government that the lenders or their designee have step-in rights, i.e., the rights *inter alia* to enforce remedies against the project company for inadequate performance, to step into the project and to take over its operation (usually through a designee) until the payment is recovered or the project is stabilized.

## C. Risk Mitigation Instruments Available Through IFIs

69. Besides guarantees given directly by the government, there may be guarantees issued by IFIs. Such guarantees usually protect the project company against certain political risks, but under some circumstances they may also cover breach of the PPP agreement, for instance, where the project company defaults on its loans as a result of the breach of an obligation by the government agency.

70. In addition to lending to governments and public authorities, the World Bank and ADB have developed programs to extend loans to the private sector. Sometimes they can also provide guarantees to commercial lenders for public and private sector projects. In some cases, guarantees provided by these institutions require a counter-guarantee from the government. They are designed to mitigate the risks of default on sovereign contractual obligations or long-maturity loans that private lenders are not prepared to bear and are not equipped to evaluate. For instance, guarantees provided by the World Bank may typically cover specified risks (the partial risk guarantee) or all credit risks during a specified part of the financing term (the partial credit guarantee), as summarized below:[15]

(i) **Partial risk guarantees.** A partial risk guarantee covers specified risks arising from non-performance of sovereign contractual obligations or certain force

[15] ADB provides guarantees under terms similar to those of the World Bank. Exceptions to the general policy are described on the ADB website.

majeure events. Such guarantees ensure payment in the case of debt service default resulting from the non-performance of contractual obligations undertaken by governments or their agencies. They may cover various types of non-performance, such as failure to maintain the agreed regulatory framework, including price formulas; failure to deliver inputs, such as fuel supplied to an IPP; failure to pay for outputs, such as power purchased by a public utility from an IPP or bulk water purchased by a local public distribution company; failure to compensate for project delays or interruptions caused by government actions or political events; procedural delays of any kind including issuance of licenses to operate; and adverse changes in exchange control laws or regulations.

(ii) **Partial credit guarantees.** Partial credit guarantees are provided to private sector borrowers with a government counter-guarantee. They are designed to cover the portion of financing that falls due beyond the normal tenure of loans provided by commercial lenders. These guarantees are generally used for PPP projects that need long-term funds to be financially viable. A partial credit guarantee typically extends maturities of loans and covers all events of non-payment for a designated part of the debt service.

71. MIGA offers long-term political risk insurance coverage to new investments originating in any member country and destined for any developing member country other than the country from which the investment originates. New investment contributions associated with the expansion, modernization or financial restructuring of existing projects are also eligible, as are acquisitions that involve the privatization of state enterprises. Eligible forms of foreign investment include equity, shareholder loans and loan guarantees issued by equity holders, provided the loans and loan guarantees have terms of at least 3 years. Loans to unrelated borrowers can also be insured, as long as a shareholder investment in the project is concurrently insured. Other eligible forms of investment are technical assistance, management contracts and franchising and licensing agreements, provided they have terms of at least 3 years and the remuneration of the investor is tied to the operating results of the project. MIGA insures against the following risks:

(i) **Transfer restrictions.** The purpose of guarantees of foreign currency transfer extended by MIGA is similar to that of sovereign foreign exchange guarantees that may be provided by the government. This guarantee protects against losses arising from an investor's inability to convert local currency (capital, interest, principal, profits, royalties and other remittances) into foreign exchange for transfer outside the host country. The coverage insures against excessive delays in acquiring foreign exchange caused by action or failure to act by government, by adverse changes in exchange control laws or regulations and by deterioration in conditions governing the conversion and transfer of local currency. Currency devaluation is not covered. On receipt of the blocked local currency from an investor, MIGA pays compensation in the currency of its contract of guarantee.

(ii) **Expropriation.** This guarantee protects against loss of the insured investment as a result of acts by the government that may reduce or eliminate ownership of, control over or rights to the insured investment. In addition to outright nationalization and confiscation, "creeping" expropriation – a series of acts that, over time, results in an expropriation – is also covered. Coverage is provided on a limited basis for partial expropriation (for example, confiscation of funds or tangible assets). Actions taken by the government which are non-discriminatory (i.e., apply to all firms) and are taken through the exercise of legitimate regulatory

authority are not covered. For total expropriation of equity investments, MIGA pays the net book value of the insured investment. For expropriation of funds, MIGA pays the insured portion of the blocked funds. For loans and loan guarantees, MIGA insures the outstanding principal and any accrued and unpaid interest. Compensation is paid upon assignment of the investor's interest in the expropriated investment (for example, equity shares or interest in a loan agreement) to MIGA.

(iii) **Breach of contract.** This guarantee protects against losses arising from the government's breach or repudiation of a contract with the investor. In the event of an alleged breach or repudiation, the investor must be able to invoke a dispute resolution mechanism (for example, arbitration) under the underlying contract and obtain an award for damages. If, after a specified period of time, the investor has not received payment or if the dispute resolution mechanism fails to function because of actions taken by the government, MIGA will pay compensation.

(iv) **War and civil disturbance.** This guarantee protects against loss from damage to, or the destruction or disappearance of, tangible assets caused by politically motivated acts of war or civil disturbance in the host country, including revolution, insurrection, coup d'état, sabotage and terrorism. For equity investments, MIGA will pay the investor's share of the least of the book value of the assets, their replacement cost or the cost of repair of damaged assets. For loans and loan guarantees, MIGA will pay the insured portion of the principal and interest payments in default as a direct result of damage to the assets of the project caused by war and civil disturbance. War and civil disturbance coverage also extends to events that, for a period of 1 year, result in an interruption of project operations essential to overall financial viability. This type of business interruption is effective when the investment is considered a total loss; at that point, MIGA will pay the book value of the total insured equity investment.

## D. Support Provided by Export Credit and Investment Promotion Agencies

72. Insurance against certain political, financial and commercial risks, as well as direct lending, may be obtained from export credit and investment promotion agencies. Such agencies have been established in a number of countries to assist in the export of goods or services originating from those countries and act on behalf of their governments. Most of the countries are members of the International Union of Credit and Investment Insurers (Berne Union), whose main objectives include promoting international cooperation and fostering a favorable investment climate; developing and maintaining sound principles of export credit insurance; and establishing and sustaining discipline in the terms of credit for international trade.

73. While the support available differs from country to country, export credit and investment promotion agencies typically offer two lines of coverage:

(i) **Export credit insurance.** In the context of PPP project financing, the essential purpose of export credit insurance is to guarantee payment to the supplier whenever a foreign buyer of exported goods or services is extended credit by the supplier. Export credit insurance may take the form of supplier credit or buyer credit insurance arrangements. Under the supplier credit arrangements, the exporter and the importer agree on commercial terms that call for deferred payment evidenced by negotiable instruments (for example, bills of exchange or promissory notes) issued by the buyer. Subject to proof of creditworthiness, the

exporter obtains insurance from an export credit agency in its home country. Under the buyer credit modality, the buyer's payment obligation is financed by the exporter's bank, which in turn obtains insurance coverage from an export credit agency. Export credits are generally classified as short-term (repayment terms of usually under 2 years), medium-term (usually 2-5 years) and long-term (over 5 years). Official support by export credit agencies may take the form of pure cover, by which is meant insurance or guarantees given to exporters or lending institutions without financing support. Official support may also be given in the form of financing support, which is defined as including direct credits to the overseas buyer, refinancing and all forms of interest rate support.

(ii) **Investment insurance.** Export credit agencies may offer insurance coverage either directly to a borrower or to the exporter for certain political and commercial risks. Typical political and commercial risks include war, insurrection or revolution; expropriation, nationalization or requisition of assets; non-conversion of currency; and lack of availability of foreign exchange. Investment insurance provided by export credit agencies typically protects the investors in a project company established abroad against the insured risks, but not the project company itself. In other words, the equity investors are covered by the insurance but not the creditors of the project company or its suppliers. Investment insurance cover tends to be extended to a wide range of political risks. Export credit agencies prepared to cover such risks typically require sufficient information on the legal system of the host country.

74. The conditions under which export credit and investment promotion agencies of member countries of the Organization for Economic Cooperation and Development (OECD) offer support to both supplier and buyer credit transactions have to be in conformity with the OECD Arrangement on Guidelines for Officially Supported Export Credits (also referred to as the OECD Consensus). The main purpose of the arrangement is to provide a suitable institutional framework to prevent unfair competition by means of official support for export credits. In order to avoid market-distorting subsidies, the OECD Consensus regulates the conditions of terms of insurances, guarantees or direct lending supported by governments.

## VI. GOVERNMENT SUPPORT FOR PPP PROJECTS

### A. Choice of Instruments

75. As discussed in Section V, government support to PPP projects aims primarily at facilitating their financing and can be provided through a range of instruments. In general, the most advantageous types of support for the project company are those which provide early funding streams (when revenues are nonexistent during the construction period) and which give guarantees for unexpected problems (e.g., major currency fluctuations). The least significant are those that themselves are unpredictable (e.g., additional rights for development of ancillary activities). Broad guarantees that reduce lenders' scrutiny and due diligence should be avoided. International experience shows that the availability of broad guarantees tends to induce lenders to provide funds based on this backstopping by the government and the private party's strength, rather than underlying project risks and revenues.

76. Along the spectrum of possibilities for government support, four types significantly increase a project's ability to raise financing without creating a high level of government

exposure and distorting the project company's incentive to perform. Investment grants, subordinated loans, and revenue deficiency guarantees all balance government financial exposure with their impact on a project's ability to raise financing. Shadow tolls can also be appropriate in some cases, although they generally involve equal or greater government financial exposure and have less of an impact on a project's ability to raise financing than the other three types.

77. It may be worth recapitulating the advantages and disadvantages of these four types of government support vis-à-vis the two main reasons for providing government support to PPP projects. The first reason is to reduce capital requirements or improve revenues to the extent necessary for a project to be capable of covering debt service and to earn a reasonable return based on the expected cash flows of the project. The second reason is to protect lenders from the risk that actual cash flows will fall below expected cash flows and be inadequate to cover debt service. Subordinated loans are the preferred means of addressing the first reason for government support, provided they are adequate to achieve the objective of financial viability. Subordinated loans improve financial viability by increasing the DSCR on senior debt and reducing the need for private equity, which requires a higher return than debt instruments. Another benefit of subordinated debt is that it provides for repayment of the contribution to the government with a return. However, because subordinated debt requires repayment of interest and principal, it has less of an impact on financial viability than investment grants. Grants are the most direct and efficient means of supporting projects that require a substantial boost to become viable. Revenue deficiency guarantees are a poor mechanism for supporting financially non-viable projects because they do not address the core issue - that expected cash flows are too low to cover debt service. If a revenue deficiency guarantee is set below expected cash flows, the project remains non-viable, while setting such guarantee above expected cash flows would expose the government to considerable financial risk. However, revenue deficiency guarantees are the best means of addressing revenue risk for financially viable projects because they provide a defined floor on revenues that is generally set at a level sufficient to cover senior debt service payments. In addition, revenue deficiency guarantees have the benefit of requiring a government contribution only if revenues fall below a specified level. Investment grants and subordinated loans can mitigate revenue risk by improving the DSCR. However, these instruments may not provide adequate protection when demand is low, and they involve government support even when demand is high and government support is unnecessary. These mechanisms can also be used in combination when both reasons for government support are present - a project is not financially viable on its own and revenue risk is substantial. In such cases, an investment grant plus a revenue deficiency guarantee may be sufficient to attract private capital.

78. Regarding the other types of government support, revenue enhancements provided by non-competition agreements and ancillary development can play a useful role under certain circumstances. Equity and debt guarantees and concession extensions should be generally avoided because the former require the government to assume a high level of financial risk, whereas the latter have a rather limited value in improving the financial viability and thereby facilitating financing. Exchange rate guarantees are important but should be handled cautiously as they can become unsustainable in case of major currency devaluation.

79. Overall, the decision whether and how to provide government support to a PPP project requires careful consideration due to the complexities involved ranging from why give support, what level of support might be needed, which types of support should be favored and how to minimize both support and uncertainty in its provision. There is no simple matrix that would answer these questions. What is necessary is to carefully analyze the specific features and

circumstances of each project and to assess the market situation. Determining if a PPP project requires government support and how such support should be structured requires a detailed analysis of project costs, revenues and risks, as well as an understanding of what debt and equity investors need. Before tendering a PPP project, the PPP Cell and RMU should therefore be fully familiar with the project's critical elements, including demand and revenue potential, preliminary design and costs, environmental issues, permit requirements, and the views of potential investors.

80. The value of support also depends on the credibility and credit risk of the Government. Investors may be inclined to discount the value of various support instruments that have not been honored in the past or that would have to be maintained over a long period in the future. The RMU has to ensure adequate management of government contingent liabilities in order to maintain fiscal credibility and thereby reduce macroeconomic risks that directly affect PPP projects through demand growth and financing costs. On the other hand, it is necessary to avoid providing support well above expected levels when the private party is well connected politically, has better advisors, or threatens to withdraw in the last minute. To prevent this, the PPP Cell and RMU should be well prepared for the transaction execution phase.

## B. Main Principles and Categories of Support

81. The RMU should be guided by the following principles when reviewing and endorsing/rejecting requests from Government Agencies for government support for PPP projects:

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| **Principle 4 (Legality)** | **The proposed government support should comply with the PPP law.** |
| **Principle 5 (Prioritization)** | **The proposed government support should have greater net benefits for Punjab than alternative uses of public money.** |
| **Principle 6 (Planning)** | **PPP projects seeking government support should be an integral part of the long-term development plan for the given infrastructure sector.** |
| **Principle 7 (Feasibility Study)** | **Government support should be given only to PPP projects whose technical and economic viability has been confirmed by a feasibility study, which has also demonstrated the need for such support to secure financing.** |
| **Principle 8 (Economic Viability)** | **The identification, quantification and valuation of costs and benefits should be done from the viewpoint of Punjab as a whole and on an incremental basis (i.e., with and without the project). The project should have an EIRR of at least 12%.** |

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| **Principle 9 (Transparency)** | **Provision of government support should be made in a transparent manner by deciding in principle about its form and level prior to tendering.** |

82. As explained in Section III, the various types of government support can be subdivided into two main categories – direct support or contingent support. Direct support is provided through instruments such as equity contributions, debt infusion, investment grants, output-based subsidies, operating subsidies, and tax and customs benefits. The most common form of contingent support is a guarantee, but there are other instruments such as insurance schemes. The difference between direct support and contingent support is very important. Direct government support implies that a pre-determined monetary amount, previously identified and approved in principle during the project preparation stage and confirmed through bidding during the transaction execution stage, is to be transferred from the budget of the Government to the project company to subsidize the cost of implementing the project, or its operation, in order to improve its FIRR. By contrast, contingent government support is not pre-determinable generally. It is related to project risks that do not represent a direct obligation by the Government, only a potential one. Moreover, such support does not impact directly on project cash flow or on the FIRR. In fact, there is no certainty that money will ever flow from the Government to the project company on account of any of the contingent risks. Quite the contrary, a reasonable presumption exists that the exposure underpinning government commitments in this regard is manageable and that there may not be any calls on the budget.

83. Direct government support is usually reserved for multiple user projects, for the express purpose of improving their FIRR. As explained in Table 3, such projects are exposed to market risk, i.e., the possibility that their revenues will not be high enough to make the projects financially sustainable, either because tariffs are set below full cost-recovery levels to make the given service affordable, or because the demand for the service is too low during the initial period. By contrast, single user projects have no exposure to market risk as long as they are based on a take-or-pay contract backed up by a government guarantee (Table 2). This fundamental difference can be illustrated by a toll road project and an IPP project. The former depends on market-based revenues from thousands of users who usually also have access to alternative toll-free roads. If, for example, the Government Agency sets the toll rates at low levels (see the specific example in Section VIII.B), the private sector will not be attracted unless it receives direct government support that ensures an adequate FIRR. By contrast, the IPP project has only one buyer – a public power utility – that distributes the electricity to end users. The tariff rate in the take-or-pay contract between the two parties should allow full cost recovery for the IPP. If the Government wishes to keep end tariffs affordable for low-income groups of the population, it should provide the subsidy to the power utility rather than the IPP. These considerations lead to the following approach, which also defines under what conditions exceptions to Principle 3 in para. 41 are possible:

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| **Principle 10 (Use of direct and contingent support)** | **Contingent support through government guarantees can be provided both to single and multiple user projects. Direct financial support should be considered only for economically viable multiple user projects, which are exposed to market risk and are not financially viable without such support.** |

84. The distinction between direct and contingent support is thus linked to the concept of financial viability, defined as the project's capability to fully recover the weighted average cost of its capital on a sustainable basis. A financially viable project may require contingent support in the form of government guarantees, but does not need direct budgetary support. The anticipated revenues of such project are based on an affordable tariff path and reasonably prudent demand forecast with a cash flow that is sufficient to pay off the operation and maintenance expenses and debt service at scheduled payment dates while generating a satisfactory FIRR in the range of 15-20%, under prevailing market conditions. Projects with little market risk may require returns at the lower end of that range, while those with significant market risk need a return at the higher end.

85. If a multiple user project is not financially viable but has a robust EIRR, it is possible to improve its FIRR by providing direct government support, in line with the following principle:

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| **Principle 11 (Amount of Direct Support)** | **Direct government support should not exceed a level sufficient to ensure an acceptable FIRR, based on prevailing market conditions and consistent with the market risk borne by the project company.** |

86. This principle helps identify the maximum level of direct government support that can be provided to a project that meets the EIRR threshold. For such projects, it is often desirable to negotiate a claw-back provision in those cases where support could lead over time to an FIRR that is higher than originally anticipated. As an example, under such a claw-back provision, the Government might be entitled to capture up to 100% of the FIRR above a negotiated threshold or, more usually, an increased share of excess FIRR over defined benchmarks on an agreed sliding scale.

87. Direct government support for PPP projects that have a strong economic justification but fall short of financial viability because of affordability constraints affecting tariffs is referred to in Pakistan as VGF. According to the Government's *Policy for Public-Private Partnerships in Infrastructure*, VGF should be an explicit subsidy that is performance driven (based on the project company achieving measurable outputs) and targeted towards socio-economically disadvantaged users or groups of users. The need for and the form of VGF should be established in the feasibility study, and announced in the bidding documents. Its exact amount should be determined through competitive bidding to ensure the lowest cost for the Government. In view of the Government's resource constraints, only the highest priority projects should receive the VGF subsidy.

88. In the medium term, the Government will issue detailed guidelines setting the eligibility criteria and limits for VGF; describing in detail the procedures for applying for, approving, disbursing and monitoring the subsidy; and presenting the institutional arrangements, which may ultimately include a dedicated VGF company.

## C. Minimizing Direct Government Support

89. Principle 11 calls for minimizing the level of government direct support that may be provided to a PPP project. The objective of this section is to arrive at a methodology for achieving that objective and determining when that limit has been reached. The multiple user

projects suitable for the PPP mode will fall into one of the following groups according to the level of market risk they are perceived to possess:

(i) **Financially Viable (Standalone)** – projects with manageable market risk and an adequate FIRR, i.e., no direct government support is required. Their credit profile might require guarantees from the Government for some of the risk categories in Table 1, but not for market risk. The EIRR, as required, is at least 12% ;

(ii) **Financially Viable (With Government Support)** – projects with high market risk and a low to marginal FIRR. Direct government support is needed to bring the FIRR above the benchmark that reflects prevailing market conditions. The EIRR, of course, must be at least 12%.

90. The first group is bankable on its own merits and would exhibit the following characteristics:

(i) The project company provides a value added and convenient service to a customer base ranging from a handful of companies (e.g., a container port) to a large cross-section of consumers (e.g., a toll road) at a fair and affordable tariff;

(ii) Demand for the service and forecast revenue – given advantages of location, convenience and service quality – is perceived to be predictable as well as reasonably inelastic under foreseeable conditions; and

(iii) Financial projections indicate a relatively robust year-around revenue stream that covers operating expenses, generates an FIRR in the acceptable range and yields a loan life DSCR in the range of 1.4-1.5, or better.

91. The second group should be considered for direct government support in the form of investment and/or operating subsidies:

(i) Market risk can be mitigated by (a) shadow tolls to supplement actual tolls charged by the project company to the road users; (b) a guarantee of traffic throughput at a designated toll rate; (c) a revenue deficiency guarantee; (d) a design-build-lease arrangement where the lease payments payable to the Government Agency by the project company are determined through bidding; or (e) an annuity structure, i.e., a stream of payments made by the Government Agency to the project company based in part on the service capacity delivered, or maintained. In all cases, the forecast revenues of the project company using one or more of these instruments should be set at a level sufficient to cover operation and maintenance, meet the scheduled debt service requirements (including debt service in foreign currency) and achieve a reasonable FIRR.

(ii) The above are examples of the mitigation of market risk through the use of operating subsidies. Market risk can also be reduced but not entirely eliminated through a government investment subsidy in the form of equity, subordinated debt, or grant;

(iii) In this group, the Government would have the flexibility to set whatever tariffs (if any) it felt were reasonable, effectively removing the market risk from the project company. Having no, or little, market risk, the project company will be able to achieve financial closure provided it has the other contingent support identified in Table 1.

92. When a potential PPP project is first identified by a Government Agency, it will not always be clear into which group it falls. For some projects, it may be immediately evident that no support is required and that they are financially viable on a standalone basis. Other projects, will be clearly not viable financially even with substantial government support. Such projects are unsuitable for the PPP mode and should be implemented under normal public sector procurement. For many projects, however, neither situation will apply, and it will be possible to determine the need for direct support only after the feasibility study has been completed.

93. However, before approving direct government support for projects in the second group, the following principle should be followed:

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| **Principle 12 (Project Restructuring)** | **Any direct government support should be approved only after thoroughly examining in the feasibility study the possibility of project restructuring to improve the FIRR.** |

94. Project restructuring can take several paths, including the re-examination of the proposed tariff, bundling or unbundling, and reducing or deferring the investment:

(i) **Tariffs** should be set at a level needed for full cost recovery. Any transition period during which the tariffs are kept below such level due to social and political constraints should be kept as short as possible.

(ii) **Bundling** refers to the practice of enhancing the financial viability of the proposed project by including additional, more profitable, business elements, for example:

(a) Transport terminal concessions frequently include the rights to associated commercial development within the terminal;

(b) Urban transit projects are often enhanced with property development rights; and

(c) Low traffic ports and airports may be bundled with higher traffic ports and airports to benefit from a certain decree of cross-subsidization.

(iii) **Unbundling** is the reverse of bundling. Non-viable business elements are split off from the project to improve the viability of the remainder:

(a) Rather than requiring the private party selected for a port development to carry out dredging and breakwater construction as well as construction and operation of a container terminal, the private investment can be limited to just the container terminal, and dredging and breakwater construction are done under normal public sector procurement; and

(b) Similarly, airside construction for an airport concession (runways and navigation systems) can be financed by the government, and the private partner is responsible only for the landside component (terminal construction and operation).

(iv) **Reducing or deferring capital investment** can sometimes convert a project that is not viable financially into one that is by re-examining its specifications for possible savings or deferrals:

(a) A toll road can be built as a two-lane carriage way with the option retained to construct the third lane at some point in the future; and

(b) A container terminal designed for 12 gantry cranes can start with 6 and purchase the remainder when required by rising traffic levels.

95. Based on the above considerations and principles, the conduct of the feasibility study should include the following steps:

(i) Determine whether the project's EIRR is at least 12%;

(ii) Assess whether direct support is necessary for the project by calculating its FIRR and considering all practical restructuring options if the FIRR is below the benchmark; and

(iii) Determine the best direct support strategy by estimating the level required, determining the specific elements of the market risk that may be minimized so as to reduce that level, and specifying the instruments that should be employed.

## D. Minimizing Contingent Government Support

96. The Asian financial crisis in 1997-1998 has borne out the risks caused by an indiscriminate issuance of government guarantees, particularly in the power sector. The crisis showed how such guarantees could lead to fiscally unsustainable payments when local currencies sharply depreciated.[16] The RMU should therefore ensure that guarantees for PPP projects are limited to the level absolutely necessary to attract private capital. The following principle should be followed in managing the resultant fiscal risk:

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| **Principle 13 (Fiscal Management)** | **Appropriate measures should be taken to control the exposure, fiscal cost and fiscal risk created by contingent government support. The fiscal risk that is being assumed should not jeopardize fiscal sustainability.** |

97. The coverage of government guarantees should be limited to certain types of risks:

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|---|---|
| **Principle 14 (Coverage of Contingent Support)** | **Government guarantees should cover only project risks that the Government is able to directly influence, or risks which are either uncontrollable or macroeconomic, and for which insurance or risk-hedging products are not available on reasonable commercial terms.** |

[16] In the first half of the 1990s, capacity expansion by IPPs helped attract major private investments and thereby eliminate power shortages in South and Southeast Asia. However, the financial crisis highlighted the risks of the then prevailing long-term take-or-pay contracts indexed to exchange rates, namely, the so-called triple mismatch. The currency mismatch resulted from the use of foreign currency to implement projects generating revenues in local currency. In some countries that experienced sharp currency depreciations, it proved impossible to pass the exchange rate risk on to consumers and the governments had to bail out the power utilities and/or tariffs in the IPP contracts had to be re-negotiated. The maturity mismatch was attributable to the use of short-term loans for capital-intensive projects with long service lives. And, finally, the capacity mismatch resulted from a conversion of the previous power shortages into significant surpluses, partly because of capacity over-contracting and partly due to the slowdown in demand growth in the aftermath of the crisis.

98. The specific risks that can be covered by government guarantees will vary from sector to sector, and from project to project. Examples include, but are not limited to

(i) Force majeure risks, which are not insurable on reasonable commercial terms;

(ii) Political risks, such as any change of law, which directly affects the value of the project;

(iii) Regulatory risk, such as a change in the agreed tariff adjustment formula or its application;

(iv) Market risk, when demand for the given services falls short of projections; and

(v) Credit risk, when the Government Agency defaults on its payments to the private party.

## VII. MEASURING THE COST OF GOVERNMENT SUPPORT

### A. Direct Government Support

99. While the following discussion of how to measure the cost of direct government support is linked to the instruments described in Section V.B, certain assumptions have been made in selecting those expected to be most commonly used. For example, assuming that the Government will not guarantee loans extended by lenders to individual infrastructure projects, the loan guarantee instrument is not discussed. Similarly, there is no discussion on the provision by the Government of general operating subsidies to PPP projects extended for the purpose of improving their bankability. However, as output-based subsidies play an increasingly important role as a targeted form of operating subsidy, these are commented on.

100. Table 4 summarizes measurement techniques for selected instruments used to provide direct government support, identifying the paragraphs in which the latter are discussed in more detail. It is important to note that the measurement needs to be done in PV terms using a discount rate of 12%.

**Table 4: Techniques to Measure Cost of Direct Government Support**

| Instrument | Paragraph | Valuation | Formula |
|---|---|---|---|
| Government-provided subordinated debt | 47 | Yield realized on this debt compared to commercial yield | Interest plus principal repayments received by the Government from the project company minus commercial yield prevailing in the market |
| Government-provided equity | 48 | Yield realized on this equity compared to commercial yield | Dividends received by the Government from the project company minus commercial yield prevailing in the market |
| Design-build-lease arrangement | 49 | Construction costs net of recovery through lease payments | Construction costs minus lease payments over the concession period |

| | | | |
|---|---|---|---|
| Investment grant | 50 | Sum of government contributions to the construction cost | Forecast stream of government contributions during the construction period |
| Output-based subsidy | 51 | Actual subsidy discounted over concession period | Forecast stream of payments to the project company |
| Shadow toll / revenue deficiency guarantee | 52 (i) and (ii) | Actual subsidy discounted over concession period | Forecast stream of payments to the project company |
| Annuity | 52 (iii) | Annuity payments net of construction costs | Annuity payments minus actual construction costs |
| Tax break | 60 | Net loss of tax revenue | Foregone tax revenue over the concession period |

## B. Contingent Government Support

101. Similarly as for direct support, the value of a contingent liability should be calculated in PV terms, as follows:

| | |
|---|---|
| **Principle 15 (Valuation of Contingent Liabilities)** | **The value of a contingent liability associated with a government guarantee should be calculated as the PV of the expected cost of the guarantee.** |

102. In practice, the calculation is not simple. It is not an exact science and requires ascertaining the probability distribution of the event that would lead to that contingent liability becoming a payment by the Government. Major assumptions and approximations are needed, but it is still better to have a rough estimate than having none so that sufficient funds are set aside to cover the exposure from issuing guarantees. The following steps should be taken when calculating the value of a contingent liability:

(i) Develop a model of the guarantee;

(ii) Identify major risk factors that affect the likelihood of the guarantee being called (i.e., of the guaranteed event occurring);

(iii) Define the probability distribution function for each of the major risk factors; and

(iv) Run computer simulation to determine the probability distribution function for the value of the contingent liability.

103. For the first step, the key terms of the guarantee need to be understood. These should be defined in the PPP agreement and include the events that could trigger a call on the guarantee, the amount that would have to be paid if the guarantee is called, and the period during which the guarantee will be valid. For example, if the Government guarantees payments by its power utility to an IPP, the understanding on how the guarantee would work will allow a financial projection to be developed showing the expected cash available to the power utility for paying the IPP and the expected payment to the IPP. The expected cash available to the power utility is calculated as its revenues minus operation and maintenance expenses and debt service. The expected payment to the IPP is calculated from the capacity and energy rates and adjustment factors specified in the PPP agreement. The difference between the IPP payment and available cash in every year, if any, represents the guarantee payment to be made by the Government.

104. However, the financial projection prepared in the first step is based on many assumptions. It is therefore necessary to identify in the second step the major underlying risk factors that have a significant impact on the guarantee payments. In the given example, these may include the power utility's sales growth, average retail tariff and collection efficiency, and macroeconomic factors such as inflation, local currency devaluation and changes in fuel prices. Given the uncertainty affecting these variables, probability distribution functions that best fit historical data on these variables should be identified in the third step.[17]

105. In the fourth step, stochastic analysis should be carried out for the probability distribution functions assigned to the major risk factors. The method for doing this for infrastructure projects is a Monte Carlo simulation. The simulation uses a random number generator to take a representative sample of outcomes for each risk factor that reflects its probability distribution function, and computes the guarantee payment for each outcome. The final result of the simulation is a probability distribution function of all expected guarantee payments in PV terms during the period of the PPP agreement.[18] This function shows the mean and maximum value of the contingent liability, as well as the probability (e.g., 90%) that a certain value of the contingent liability will not exceeded.

106. The value that the RMU should recommend to cover the exposure from providing this guarantee will depend on the Government's risk tolerance and the number of PPP projects. At the initial stage, it would be prudent to use a value that is very unlikely to be exceeded. Once there are many PPP projects, the mean value could be used. As valuing contingent liabilities is a complex exercise, the RMU should seek expert advice during the first few years until the skills and experience required for this kind of work have been developed internally.

107. When issuing government guarantees for PPP projects, a financial provision should be made against the expected cost of each guarantee. During the initial period, this should be done by introducing a budget line for an amount equal to the expected losses under the guarantees. Thus far, Pakistan has been following the strategy of leaving acceptable risks open to definition on a proiect-by-proiect basis. The danger of this strategy is that there is no clear guideline for deciding when, as the PPP stock grows, the cost of increased fiscal risk becomes unsustainable. Section 3 of Fiscal Responsibility and Debt Limitation Act, 2005, which describes the principles of sound fiscal and debt management, should be used as a reference point to define limits of fiscal exposure.

108. In the medium term, the Government will decide whether a Guarantee Fund (GF) should be set up to cover all guarantees for PPP projects. The GF would be an entity separate from the Government's consolidated account and would be capitalized upfront. Most important, the GF would not issue guarantees that create an exposure or contingent liability higher than its capital, thus providing a cap on the total value of government guarantees. The GF would issue guarantees only for risks that the Government can influence, or which are uncontrollable and uninsurable. To be eligible to receive a guarantee, a PPP project would have to be economically and financially viable, and the private party would have to be competitively selected.

109. Apart from providing an effective cap on government guarantees, the GF would have several other advantages:

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[17] Such as normal distribution, beta distribution, maximum extreme distribution, lognormal distribution, etc. This can be done using the "Fit" function of the Excel add-in Crystal Ball.

[18] This simulation can also be done using Crystal Ball.

(i) It would require only a one-time legislative approval, rather than annual approval of the budget line;

(ii) It would enforce budget discipline by removing the possibility of reallocating the provision for guarantees established in the budget to other budget areas;

(iii) It would allow multi-year spending commitments;

(iv) It would enhance the transparency of guarantee provision by requiring separate accounting and reporting for government guarantees; and

(v) It would provide confidence to private investors that the government is serious about its guarantees, as demonstrated by the upfront capitalization of the GF.

## VIII. EXAMPLES OF RISK MANAGEMENT

### A. Current Practice at Federal Level

110. The current approach to risk allocation for IPP and toll road projects at the federal level is summarized in Table 5. The approach is generally in line with the international best practice described in Tables 1 to 3.

**Table 5: Risk Allocation at Federal Level**

| Risk Type | IPP Projects | Toll Roads |
|---|---|---|
| Demand | WAPDA/KESC pays a fixed capacity payment to the IPP regardless of the amount of electricity delivered. The energy payment is variable. | There is no minimum traffic guarantee. NHA compensates the project company if alternate route is built and traffic falls below certain level. |
| Regulatory | WAPDA/KESC compensates the IPP if tariffs are not adjusted per terms of the PPP agreement. | NHA compensates the project company if tolls are not adjusted per contract terms. |
| Change in law | WAPDA/KESC compensates the IPP if tariffs are not adjusted per terms of the PPP agreement. | NHA compensates the project company if change in law has an adverse financial effect. |
| Change in tax | If there is a favorable change in tax, the IPP makes a payment to WAPDA/KESC. | |
| Macroeconomic | WAPDA/KESC's payments to the IPP include adjustments for exchange rates, inflation, fuel cost and interest rates. | |
| Convertibility and transferability | | NHA compensates the project company if it is unable to convert and transfer funds. |
| Contract default leading to termination | | The PPP agreement specifies a buyout payment depending on who defaulted. |
| Force majeure | WAPDA/KESC and the IPP have specific rights and responsibilities in the case of specific force majeure events. | The PPP agreement specifies a buyout payment. |

| | | |
|---|---|---|
| Performance of the Government Agency | Government guarantees the payment obligations of WAPDA/KESC. | There is no government guarantee in the existing PPP agreements, but that may change for future projects. |

IPP = independent power producer; KESC = Karachi Electricity Supply Corporation; NHA = National Highway Authority; WAPDA = Water and Power Development Authority.

## B. Proposed Toll Road Project in Rawalpindi [19]

111. The purpose of this section is to show how the RMU should review the feasibility study of a project in order to assess its eligibility for direct and/or contingent support from the Government. In this particular case, the project is a toll road, but the basic approach is similar for all infrastructure sectors.

112. To divert pass-by traffic entering Rawalpindi and thereby lock the urban sprawl and reduce traffic congestion, the Rawalpindi Development Authority (RDA) has conceived Ring-Road II on the south-west side of the city. The project is to be implemented on a PPP basis as a 70 km long toll road with controlled access. It is to be complemented by commercial zone development to improve the financial viability and enhance the city's development.[20] The project's construction cost is estimated at about PKR59 billion, or about US$690 million.

113. Based on the expected savings in vehicle operation costs and value of travel time, as well as on direct employment generated by the commercial zones, the EIRRs for the toll road and commercial zones development are 18% and 20%, respectively. As this is well above the 12% benchmark used by RDA, both components of the project are clearly viable from the economic viewpoint.

114. Land acquisition and resettlement costs are to be borne by RDA that would be rewarded by revenues from the sale of individual plots in the commercial zones at PKR5.8 million/kanal. The resulting RDA's return on equity (ROE) is 244% and the FIRR of the commercial zone development is 59%, indicating that this project component is a highly attractive proposition for RDA.[21] The private operator is expected to finance both the toll road construction and commercial zone development and, in return, to keep all toll revenues. A very low toll rate is proposed in the feasibility study -- PKR0.35/personal car unit/km, which is 31% and 60%, respectively, below the actual Lahore-Islamabad and Lahore-Faisalabad motorway rates. The proposed rate translates into only PKR25, or 29 US cents, for the entire 70 km route. Not surprisingly, the ROE for the private party works out to only about 14%, which is well below the cut-off rate of 20% considered necessary in view of Pakistan's general country risk and the project's specific risk profile. An upfront subsidy of almost PKR9 billion (over US$100 million) would be required to increase the ROE to 20%. Excluding the commercial zone development from the private party's responsibilities improves the picture somewhat. The ROE is then about 17%, but it would still require an upfront subsidy of almost PKR3 billion (about US$35 million) to uplift it to 20%.

115. Given the financial attractiveness of the commercial zone development for RDA on the one hand and the financial viability gap for the private party on the other, the feasibility study

[19] This section is based on the final report on *Public-Private Partnership Structuring for the Rawalpindi Road Ring II*, prepared by Ronny Venegas Carbonnel in September 2010 as part of the feasibility study for the project.

[20] With a total width of 800 feet, the project is planned as a dual three-lane carriage way, service lane and shoulder (300 feet) and commercial zones on both sides of the road (500 feet).

[21] The ROE calculation reflects the financing plan for the given project in terms of debt and equity. By contrast, the FIRR calculation is based on all cash flows regardless of their financing source.

recommends that RDA share with the private party its revenues from the sale of commercial plots. In line with the PPP law, the feasibility study recommends using a single financial parameter in the bidding process. The revenue sharing ratio for the sale of commercial plots is proposed for this purpose.[22]

116. Overall, the feasibility study proposes a sound allocation of responsibilities and risks between RDA and the private party. A summary is in Table 6, while details of the risk allocation and their incorporation in the PPP agreement are described in Appendix 4. Punjab's legal framework and RDA's statutes allow any PPP modality in the road sector. In addition, RDA has the authority to raise project finance with commercial banks or issue bonds. A build-operate-transfer (BOT) scheme is therefore recommended, with RDA assuming the responsibility for land acquisition and resettlement accounting for 37% of the project cost, and the private party being responsible for road construction and commercial zone development accounting for the balance of 63%. The removal of land acquisition risk from the private party is supported by international experience. On the other hand, no traffic guarantees or availability payments (or shadow tolls) to the private party are recommended. All commercial risks during operation are to be transferred to the private party.

**Table 6: Allocation of Responsibilities and Main Risks for RDA's Toll Road Project**

| Item | RDA | Private Party |
|---|---|---|
| Design | Basic design (as part of the feasibility study) | Detailed design of the toll road and commercial zones |
| Construction | - | Both of the toll road and commercial zones |
| Capital cost financing | 37% (land acquisition and resettlement compensation) | 63% (road construction and commercial zone development) |
| Ownership | Toll road; land in the commercial zones sold to third parties | None; concession to use the toll road |
| O&M | Basic O&M of the commercial zones; O&M of individual plots assumed by future owners | O&M of the toll road |
| Demand risk | - | Traffic risks |
| Payment risk | - | Toll fee payment risks |
| Construction and O&M risks | - | Cost overruns, construction delays, etc. |
| Toll revenues | Shared if an ROE stipulated in the PPP agreement for the private party is exceeded | |
| Revenues from commercial plot sale | Shared in a proportion determined through bidding | |

O&M = operation and maintenance; RDA = Rawalpindi Development Authority; ROE = return on equity.

117. Given its size, the project is a real challenge. The feasibility study demonstrates the importance of detailed analyses to provide an adequate decision-making basis for whether or not to proceed with such projects in the PPP mode. Appendix 5 examines the compliance of the project with the risk management principles espoused in the previous sections of these Guidelines. The conclusion can be drawn that the proposed structuring including risk allocation and government support required to make the project bankable and to ensure strong

[22] For example, if bidder A proposes a revenue sharing ratio between RDA and the private party of 75:25, and bidder B that of 80:20, the concession is awarded to bidder B.

competition is consistent with these principles and that the project should be considered for government support. The only area that may need further analysis is the toll level as it determines the share of the private party in the revenues from the sale of commercial plots and thus directly affects RDA's revenues.

## IX. RISK MANAGEMENT PROCESS

### A. Main Steps

118. The process of risk management should commence at the planning stage of the proposed project. There are six main steps in the process (for details, see the checklist in Appendix 6):

(i) **Familiarization with the project:**

(a) Define the project scope and objectives;

(b) Identify criteria for assessing the project; and

(c) Define the key elements and issues.

(ii) **Risk analysis:**

(a) Identify all risks that might impact on the project;

(b) Assess the potential likelihood and consequences of each risk;

(c) Screen risks to discard the minor ones having low impacts and low likelihood of occurrence; and

(d) Identify moderate and major risks that require particular attention.

(iii) **Risk response planning:**

(a) Identify the feasible responses to moderate and major risks, such as risk prevention, impact mitigation, risk transfer, or risk acceptance;

(b) Select the best response;

(c) Develop risk action schedules for major risks; and

(d) Develop management measures for moderate risks.

(iv) **Reporting:**

(a) For major projects, prepare a risk management plan; and

(b) For other projects, compile and collate risk action schedules and management measures.

(v) **Risk management implementation:**

(a) Implement the risk action schedules and management measures;

(b) Monitor the implementation; and

(c) Periodically review risks and evaluate the need for additional risk management measures.

119. The risk management process should be conducted by the concerned Government Agency, supported by the PPP Cell, RMU and, in the case of medium and large projects such as that discussed in Section VIII.B, consultants. Involvement of the latter is particularly desirable during steps ii to iv. The main output from the process should be the definition of risk action schedules and management measures, and assignment of responsibility for implementation. For each project, the risk management plan should summarize the risk analysis process and document in detail the action strategies for managing individual risks. Continuous monitoring and evaluation of implementation is essential.

## B. Review, Approval and Monitoring Procedures for Government Support

120. The procedures need to ensure that each request from a Government Agency for direct and/or contingent support of the given PPP project by the Government is carefully considered and analyzed with respect to its fiscal impact, without creating a bottleneck in the overall approval process. As shown in Appendix 1, the RMU plays a key role in this process during the project preparation and transaction execution phases. It is the RMU's responsibility that the principles for providing government support are fully followed. The main principles can be summarized as follows:

(i) Legality in terms of consistency with the PPP law and other relevant regulations;

(ii) Quality of the PPP project in terms of technical, economic and financial viability;

(iii) Fiscal prudence in terms of total exposure and annual budget; and

(iv) Transparency in terms of deciding and announcing the specific government support before bidding.

121. The main assessment of the proposed government support should occur at the project preparation stage, following the completion of the feasibility study, and before starting tendering to select the private party. Details of the approval process are given in Section XIII of the *Project Preparation Guidelines for Public-Private Partnerships in Infrastructure.* The Government Agency must submit a request for **preliminary approval** of government support to the RMU through the PPP Cell, together with all necessary documentation for approval of the project by the PPP Steering Committee. If the project requires any government support in the form of direct financial contribution to close the viability gap or guarantees for certain types of risk, the RMU should do the following:

(i) Examine whether the request for government support and the proposed risk allocation are consistent with these Guidelines;

(ii) Review the justification for government support provided in the project proposal;

(iii) Assess the related direct and contingent liabilities and analyze their fiscal impact;

(iv) Assess whether the proposed government support is fiscally sustainable;

(v) If it is determined that the proposed support exceeds the available fiscal space, recommend project restructuring to reduce the Government's exposure; and

(vi) Draft the corresponding section of the briefing paper for the PPP Steering Committee and send it to the PPP Cell.

122. Taking into account the recommendation of the PPP Cell and RMU, as contained in the briefing paper, the PPP Steering Committee should review the request for government support.

Its decision on approving the request in principle should be conveyed in writing by the PPP Cell to the Government Agency, which can then proceed with the tendering process. If modifications are suggested, the Government Agency should incorporate these and re-submit the revised request through the PPP Cell and RMU to the PPP Steering Committee.

123. Once the tendering process is complete, and prior to signing the PPP agreement, the Government Agency should submit a request for **final approval** of government support. Details of the approval process are given in Section VIII of the *Transaction Execution Guidelines for Public-Private Partnerships in Infrastructure.* If the winning bidder requests any government support in the form of financial contribution to close the viability gap or guarantees for certain types of risk, the PPP Cell should share the evaluation report with the Risk Management Unit, which should do the following:

(vii) Examine whether the request for government support and the proposed risk allocation are consistent with these Guidelines;

(viii) Assess the related direct and contingent liabilities and analyze their fiscal impact;

(ix) Assess whether the requested government support is fiscally sustainable; and

(x) Draft the corresponding section of the briefing paper for the PPP Steering Committee and send it to the PPP Cell.

124. The Government Agency should sign the PPP agreement with the winning bidder only after the recommendation of the PPP Cell and RMU, as contained in the briefing paper, has been approved by the PPP Steering Committee. The PPP agreement should specify in detail any direct and contingent support from the Government, together with the related risk allocation.

125. After these pre-implementation activities have been completed, the RMU should ensure the inclusion of the government support approved for the given PPP project in the Annual Development Programs and undertake **project monitoring and evaluation** during construction and operation. The RMU should monitor the Government's direct and contingent liabilities related to the project, and evaluate its financial performance. FD's principal mandate is to maintain fiscal sustainability of Punjab's budget by balancing all costs against the projected taxes and other sources of funds. Although direct and contingent liabilities resulting from the PPP project will be just one of the many cost items that FD has to take care of to ensure the budget is not put at risk, they should not be overlooked. There is sometimes a tendency to believe that the private sector bears the entire financial burden of PPP projects and that the Government acts only as an observer and regulator.

126. Monitoring the Government's exposure is important because both the direct and contingent liabilities change over time. For example, once the construction of a toll road is completed, there will be no more a direct contribution in the form of an investment grant, but there may be a contingent liability resulting from a revenue deficiency guarantee. Also, assumptions underlying the calculation of a contingent liability are likely change. A typical example is the foreign exchange rate used to estimate the cost of government guarantee for its power utility's take-or-pay obligations to an IPP. Using the methodology outlined in Section VII.B, the RMU should therefore regularly re-calculate the expected value of each liability and make an adequate financial provision for it. The RMU should also regularly evaluate the project performance and assess the financial health of the project company. For instance, there may be a revenue-sharing arrangement where the Government receives a portion of revenues above a maximum ROE. On the downside, the project company may become financially non-viable and

default on its obligations. To maintain the delivery of basic infrastructure services such as municipal water supply or solid waste management, the Government will have no choice but to step in. It is essential that events like that do not catch the Government unprepared.

127. The RMU should undertake all project monitoring and evaluation activities based on the benchmarks and conditions specified in the PPP agreement, and in close consultation with the concerned Government Agency. The activities will require the development of a strong capability in the RMU in the area of financial analysis.[23]

[23] ADB's *Handbook for Borrowers on Financial Management and Analysis of Projects* published in 2006 provides a detailed overview of the standard methodology for financial analysis. The handbook is available on http://www.adb.org/Documents/Handbooks/Borrowers_Fin_Gov_Mgt_Investment/borrowers_financial.pdf.

## MAIN STEPS DURING THE PROJECT LIFE CYCLE

| Phase | Steps | Responsibility | | | | |
|---|---|---|---|---|---|---|
| | | GA | PPPC | RMU | CF | PPPSC |
| 1. Project Inception | ¾ Decide to explore the PPP mode | 9 | | | | |
| | ¾ Identify a potential PPP project from master plan or through preliminary needs analysis | 9 | 9 [a)] | | | |
| | ¾ Screen the project using multiple criteria | 9 | 9 [a)] | | | |
| | ¾ Decide whether to pursue the project any further | 9 | 9 [a)] | | | |
| | ¾ Prepare a project concept paper | 9 | 9 [a)] | | | |
| | ¾ Register the project with the PPP Cell | 9 | | | | |
| | ¾ Appoint a project manager | 9 | | | | |
| | ¾ Draft terms of reference for the feasibility study and transaction execution | 9 | 9 [a)] | | | |
| | ¾ Prepare a budget estimate for the required consulting services | 9 | 9 [a)] | | | |
| | ¾ Apply for financing from the PDF (optional) [b)] | 9 | | | | 9 |
| | ¾ Prepare and issue a request for proposals for consulting services | 9 | 9 [a)] | | | |
| | ¾ Evaluate the technical and financial proposals | 9 | | | | |
| | ¾ Negotiate and sign a contract with the first-ranked consultants | 9 | | | | |
| 2. Project Preparation | ¾ Carry out the feasibility study | | | | 9 | |
| | ¾ Review its conclusions and recommendations | 9 | | | | |
| | ¾ Decide on whether to proceed with the project any further | 9 | | | | |
| | ¾ Prepare a report on the project proposal | 9 | | | 9 | |
| | ¾ Submit the project proposal through the PPP Cell to the PPP Steering Committee | 9 | | | | |
| | ¾ Review the project proposal and prepare a briefing paper for the PPP Steering Committee | | 9 | 9 [c)] | | |
| | ¾ Decide on whether to approve, reject or send back for reconsideration the project proposal | | | | | 9 |
| 3. Transaction Execution | ¾ Prepare an information memorandum for project marketing | | | | 9 | |
| | ¾ Undertake market sounding of potential investors and lenders | | | | 9 | |
| | ¾ Finalize project structure and tender documents | | | | 9 | |
| | ¾ Establish a data room for due diligence by investors | 9 | | | 9 | |
| | ¾ Issue a request for pre-qualification applications | 9 | | | | |
| | ¾ Evaluate pre-qualification applications | 9 | | | 9 | |
| | ¾ Issue a request for technical and financial proposals to pre-qualified bidders | 9 | | | | |
| | ¾ Evaluate bids received | 9 | | | 9 | |
| | ¾ Prepare a bid evaluation report including recommendation on contract award | 9 | | | 9 | |
| | ¾ Submit the bid evaluation report through the PPP Cell to the PPP Steering Committee | 9 | | | | |
| | ¾ Review the bid evaluation report and prepare a briefing paper for the PPP Steering Committee | | 9 | 9 [c)] | | |
| | ¾ Decide on whether to approve or send back for reconsideration the contract award recommendation | | | | | 9 |
| | ¾ Conduct negotiations with the preferred bidder | 9 | | | 9 | |
| | ¾ Sign the PPP agreement | 9 | | | | |
| | ¾ Fulfill conditions precedent to financial closure | 9 | | | 9 | |
| 4. Construction, Operation and Transfer | ¾ Monitor project implementation to ensure conformity with plans and specifications | 9 | | | | |
| | ¾ Monitor and evaluate project operation to ensure conformity with performance standards and tariffs | 9 | | | | |
| | ¾ Prepare annual reports on project performance to the PPP Cell | 9 | | | | |
| | ¾ Monitor and evaluate financial performance of the project | | | 9 | | |
| | ¾ Make arrangements for project transfer to the Government at the end of the term of the PPP agreement | 9 | | | | |

CF = consulting firm; GA = Government Agency; PDF = Project Development Facility; PPP = public-private partnership; PPPC = PPP Cell; PPPSC = PPP Steering Committee; RMU = Risk Management Unit.

[a)] If support by the PPP Cell in this activity is requested by the Government Agency.

[b)] See the *Guidelines for the Project Development Facility for Public-Private Partnerships in Infrastructure*.

[c)] If government support is required for the project.

## RISK CATEGORIES DISTINGUISHED BY UNCITRAL [1]

(i) **Project disruption caused by events outside the control of the parties.** The parties and the lenders face the risk that the project may be disrupted by (a) unforeseen or extraordinary events outside their control, of a physical nature such as natural disasters—floods, storms or earthquakes; or (b) the result of human action, such as riots, mass strikes, blockades by third-party governments or terrorist attacks. Such unforeseen or extraordinary events may cause a temporary interruption of the project implementation or its operation, resulting in construction delay, loss of revenue or other calamity. Severe events may cause physical damage to the project or even destruction beyond repair. Risks of a physical nature or the result of human action can be divided into two sub-categories: (a) insurable events; and (b) uninsurable events.

(ii) **Project disruption caused by adverse acts of the Government ("political risks").** The project company and the lenders face the risk that the project execution may be negatively affected by acts of the Government Agency, another agency of the Government or the host country's legislature. Such risks are often referred to as "political risks" and may be divided into three broad categories: (a) "traditional" political risks, for example, confiscation, expropriation, nationalization or deprivation (CEND risks) of the project company's assets or the imposition of new taxes that jeopardize the project company's prospects of debt repayment and investment recovery; (b) "regulatory" risks, for example, introduction of more stringent standards for service delivery, the opening of a sector to competition; or the imposition of tariffs which do not reflect full cost recovery; and (c) "quasi-commercial" risks, for example, breaches by the Government Agency or project interruptions due to changes in the Government Agency's priorities and plans. This category can be also sub-categorized into insurable risks and uninsurable risks.

(iii) **Construction and operation risks.** The main risks that the parties may face during the construction phase are those that (a) the project cannot be completed at all ("completion risk"); (b) cannot be delivered according to the agreed schedule ("construction delay risk"); that the construction cost exceeds the original estimates ("cost overrun risk"); or that the project fails to meet performance criteria at completion ("performance risk"). Similarly, during the operational phase the parties may face the risk that the completed project cannot be effectively operated or maintained to produce the expected capacity, output or efficiency ("performance risk"); or that the operating costs exceed the original estimates ("operation cost overrun risk"). It should be noted that construction and operation risks do not affect only the private sector. The Government Agency and the users in the host country may be severely affected by an interruption in the provision of needed services. The Government, as representative of the public interest, will be generally concerned about safety risks or environmental damage caused by improper operation of the project. Some of these risks may be brought about by the project company or its contractors or suppliers. For instance, construction cost overrun and delay in completion may be the result of inefficient construction practices, waste, insufficient budgeting or lack of coordination among contractors. Failure of the project to meet performance criteria may also be the result of defective design, inadequacy of the technology used or faulty equipment delivered by the project company's suppliers. During the operational phase, performance failures may be the consequence, for example, of faulty maintenance of the project or negligent operation of mechanical equipment. Operation cost overruns may also derive from inadequate

[1] From Section II of the *Legislative Guide on Privately Financed Infrastructure Projects* published by the United Nations Commission on International Trade Law (UNCITRAL) in 2001.

management. However, some of these risks may also result from specific actions taken by the Government Agency, by other public authorities or even the host country's legislature. Performance failures or cost overruns may be the consequence of the inadequacy of the technical specifications provided by the Government Agency during the selection of the concessionaire. Delays and cost overruns may also be brought about by actions of the Government Agency subsequent to the award of the project (delays in obtaining approvals and permits, additional costs caused by changes in requirements due to inadequate planning, interruptions caused by inspecting agencies or delays in delivering the land on which the project is to be built). General legislative or regulatory measures, such as more stringent safety or labor standards, may also result in higher construction or operating costs. Shortfalls in production may be caused by the non-delivery of the necessary supplies (for example, power or gas) on the part of public authorities.

(iv) **Commercial risks.** This category relates to the possibility that the project cannot generate the expected revenue because of changes in market prices or demand for the goods or services it generates. Both constituents of commercial risk may seriously impair the project company's capacity to service its debt and may compromise the financial viability of the project. Commercial risks vary greatly according to the sector and type of project. The risks may be regarded as minimal or moderate where the project company has a monopoly over the service concerned or when it supplies a single, or at best, a few clients through a standing off-take agreement. However, commercial risks may be considerable in projects that depend on market-based revenues, in particular where the existence of alternative facilities or supply sources makes it difficult to establish a reliable forecast of usage or demand. This may be a serious concern, for instance, in toll road projects, since toll roads face competition from toll-free roads. Depending on the ease with which drivers may have access to toll-free roads, the toll revenues may be difficult to forecast, especially in urban areas where there may be many alternative routes and roads may be built or improved continuously. Furthermore, traffic usage has been found to be even more difficult to forecast in the case of new toll roads, especially those which are not an addition to an existing toll project system, because there is no existing traffic to use as an actuarial basis.

(v) **Financial risks.** Financial market risks, those emerging from the financial markets, can be classified into three categories: (a) cross-currency risk; (b) risk of availability, convertibility or transferability of foreign exchange; and (c) the risk of interest rate variability. Cross-currency risk, also called exchange rate risk, relates to the possibility that changes in foreign exchange rates alter the exchange value of cash flows from the project. Prices and user fees charged to local users or customers will most likely be paid for in local currency, while the loan facilities, equipment or fuel costs needed to deliver the service may be denominated in foreign currency. This risk may be considerable, since exchange rates are particularly unstable in some developing countries whose economies are in transition. In addition to exchange rate fluctuations, the project company may face the risk that foreign exchange control or lowering of reserves may limit the availability or convertibility in the local market of the foreign currency needed by the project company to service its debt or repay the loans. Finally, if fixed-rate finance is unavailable, the project company faces the possibility that interest rates may rise and force the project to bear additional financing costs. This risk may be significant in infrastructure projects given the usually large sums borrowed and the long duration of projects, with some loans having long maturities. Loans are often extended at a fixed rate of interest to mitigate the interest rate risk. If this is not the case, the finance package may include hedging facilities against interest rate risks, for example, by way of interest rate swaps or interest rate caps.

## RISK CHECKLIST USED IN THE NETHERLANDS[1]

| Project Phase | Risk Category | Risk Description |
|---|---|---|
| Design | Design | • Unclear design specifications<br>• Potential for design modifications<br>• Integration problems between the design and the optimization of the operating phase<br>• Integration problems between the design and current legislation and time restrictions (for example regarding health and safety) |
| Construction | Construction/ building | • Inexperienced firm of civil engineers / poor performance in the past<br>• Exceeding construction costs<br>• Consequences of design modifications for the construction costs<br>• Unrealistic project planning and timing<br>• Complications in the construction program or construction plan<br>• Unfavorable ground and soil conditions or unfavorable location<br>• Accessibility of the location and security of the construction site<br>• Liability to third parties<br>• Actions taken by protest groups (physical or legal) which may result in delay of the construction<br>• Default on the part of subcontractors<br>• Changes in legislation which have consequences for the design or the construction<br>• Project management including procedure for temporary housing<br>• Testing the handover procedures<br>• Risk of supplies from third parties<br>• Force majeure and delays, temporary works, additional work and reparations |
| | Sponsors | • General and specific experience of sponsors<br>• Financial strength of sponsors<br>• Willingness of sponsors and the strategic relevance of the project<br>• Market position of the sponsors |
| | Technology | • Inability to meet the output specifications<br>• No commercially proven success on a similar scale<br>• Availability of alternative suppliers<br>• Technological ageing |
| Completion | Purchaser | • Financial strength of purchaser<br>• Legal status of contract partners / change within the procuring authority<br>• Change in statutory responsibilities of the public authority<br>• Lack of experience on the part of the commissioning authority for this type of project |
| | Market risk or spread risk | • Market demand / volume<br>• Fluctuations in market prices<br>• Existence and nature of competition<br>• Impact of regulation and legislation<br>• Macro-economic influences |

[1] From *Public Private Comparator*, PPP Knowledge Center, The Hague, 2002.

| Project Phase | Risk Category | Risk Description |
|---|---|---|
| Management and maintenance | Operational risks | • Unrealistic performance criteria<br>• Cost of operational contracts and contracts with service suppliers<br>• Availability of alternative operators and suppliers of services<br>• Specific changes to regulations and legislation<br>• Expertise of the people carrying out operational services including planning budgeting and staffing<br>• Poor operational procedures and performance monitoring |
| | Supply risks | • Risk of delay due to poor supply<br>• Availability of alternative suppliers<br>• Increase in purchasing costs |
| | Maintenance | • Importance of assets renewal during the concession period<br>• Adequacy of the repayment obligations in relation to maintenance costs<br>• Significant renovation costs<br>• Fluctuations in the timing of the costs during the project life cycle<br>• Conditions at hand over<br>• Trend of the life cycle costs (increasing or decreasing) |
| | Technology | • Technological obsolescence<br>• Change of operators<br>• Ability to meet changing requirements and conditions |
| Other risks or general risks | Rules and legislation | • Changes in taxation and fiscal conditions<br>• Changes in legal requirements (discriminatory and non-discriminatory)<br>• Changes in health and safety regulations<br>• Changes in environmental law<br>• Changes in employment law and regulations |
| | Political risks | • Political changes in policy affecting assumptions and conditions |
| | Territorial risks | • Transfer risks (across national borders)<br>• Political stability |
| | Financial risks | • Residual value risk<br>• Duration of the agreement / average life cycle<br>• Required reserves<br>• Inflation risks<br>• Refinancing risks |
| | Financial structure | • Vulnerability to currency fluctuations<br>• Capital structure<br>• Control of project costs<br>• Quality of collateral (including legal enforcement) |
| | Force majeure | • Force majeure<br>• Disasters<br>• Other unforeseen circumstances |

## DETAILED RISK ALLOCATION FOR RDA'S TOLL ROAD PROJECT [1]

| No. | Risk | Description | Allocation | Incorporation in PPP Transaction |
|---|---|---|---|---|
| 1. | Availability risk | The road is not available at the required output specifications and the minimum standards determined by RDA | Private party | The following provisions in the RfP and draft PPP agreement:<br>○ Output specifications and minimum standards<br>○ Definition of availability and non-availability<br>○ Method used by RDA to assess availability<br>○ Method of notification of private party by RDA for non-availability<br>○ Payment penalties for non-availability |
| 2. | Completion risk | Delay or failure to complete rehabilitation works leading to non-availability by stated time/s | Private party | ○ RfP requires private bidders to provide time planning for reaching availability levels<br>○ Provisions for availability risk apply if there is failure to reach availability at the stated timing<br>○ Provision in the draft PPP agreement that completion delays resulting directly from public causes (e.g. delays in granting of licenses or planning approvals) are exempt for completion risk provisions |
| 3. | Cost overrun risk | Cost overruns related to the rehabilitation works | Private party | Draft PPP agreement stipulates that RDA is not liable for any cost overruns, nor can the payment structure be renegotiated based on cost overruns |
| 4. | Design risk | Possibility that the project design may not result in output specifications and minimum standards being met | Private party | Specified in draft PPP agreement |
| 5. | Environmental risk | Possibility that environmental damage occurs on-site or adjoining the site during construction or operation | Private party | Specified in draft PPP agreement |
| 6. | Exchange rate risk | Possibility that changes in the currency exchange rates impact on inputs costs during construction | Private party | Specified in draft PPP agreement |
| 7. | Force majeure risk | Possibility of the occurrence of certain unexpected events that are beyond the control of the parties (whether natural or "man-made") and that affect construction or operation of the project | Private party for insurable risks<br>Shared for non-insurable risks | The following provisions in the RfP and draft PPP agreement:<br>○ Definition of insurable and non-insurable force majeure risks<br>○ Private party is responsible to obtain insurance for insurable risks<br>○ Sharing of non-insurable force majeure risks, with RDA providing compensation in such events through partial capital contributions and/or contract extension |

[1] From Annex 6 of the final report on *Public-Private Partnership Structuring for the Rawalpindi Road Ring II*, Ronny Venegas Carbonnel, September 2010.

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|---|---|---|---|---|
| 8. | Inflation risk | Possibility that the actual inflation rate will exceed the projected inflation rate during construction or operation | Public party | |
| 9. | Insolvency risk | Possibility of the insolvency of the private party | Private party | The following provisions in the RfP and draft PPP agreement:<br>○ Private bidders must demonstrate their track record, current financial situation and financial performance over the past three years<br>○ All payments under the contract are subject to the solvency of the private party<br>○ The private party must report quarterly to RDA on its financial standing, debt obligations and any litigation or disputes with creditors<br>○ RDA has the right to substitute the private party through re-bidding in the event of the insolvency or imminent insolvency of the private party |
| 10 | Insurance risk | Possibility that a risk defined as insurable during contracting is found to be uninsurable by the private party | Private party | |
| 11. | Interest rate risk | Possibility that interest rates affecting the funding or borrowing for the project change | Private party | Specified in the draft PPP agreement that RDA is not liable for any changes in interest rates |
| 12. | Latent defect risk | Possibility of loss or damage arising from latent defects in the facilities included in the project | Private party after thorough due diligence | The following provisions in the RfP and draft PPP agreement:<br>○ RDA will provide to private bidders all information in its possession regarding the facilities<br>○ Private bidders can undertake a full inspection and due diligence of the facilities<br>○ Any defects identified by the due diligence must be specified prior to contract signing<br>○ Any defects identified after the due diligence and contract signing are the responsibility of the private party |
| 13. | Maintenance risk | Possibility that the cost of maintenance may exceed what was projected or that maintenance is not carried out resulting in the project not being available | Private party | The following provisions in the RfP and draft PPP agreement:<br>○ RDA is not liable for any changes in the cost of maintaining the facility<br>○ Failure to maintain the project to meet output specifications and minimum standards is deemed as non-availability to which the non-availability penalties apply |
| 14. | Traffic volume risk | Possibility that the traffic volumes are higher or lower than projected | Private party | Included in the RfP and draft PPP agreement |

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|---|---|---|---|---|
| 15. | Operating risk | Possibility that the project does not operate to meet output specifications or minimum standards due to any factors (other than force majeure) impacting on the operating requirements, including operating expenditures, skills, labour disputes, employee competence, employee fraud, etc. | Private party | The draft PPP agreement will specify that the private party is responsible for operating the project. Any failure to operate the project will result in non-availability and the applicable non-availability penalties will apply |
| 16. | Planning risk | Possibility of non availability of the project due to failure to comply with land use, zoning, building standards or similar planning requirements | Public party to obtain approvals prior to contract signing<br>Private party to meet planning and building requirements | The following provisions in the RfP and draft PPP agreement:<br>○ The private bidders must specify any specific planning consents required during the bidding process<br>○ The MHF will ensure that all planning consents for the DRC are provided prior to signing of the contract<br>○ After signing, the private party is responsible for any failure to meet required building consents or to meet requirements specified in any planning approvals, which would be deemed as non-availability |
| 17. | Political risk | The possibility of unforeseeable discriminatory conduct by RDA or the Government, such as expropriation or nationalization actions, or termination of the PPP agreement without substantive reason | Public party | The draft PPP agreement will provide that the private party will be compensated in the event of expropriation or nationalization of the project, or termination of the PPP agreement without substantive reason |
| 18. | Policy risk | Possibility that changes in government policies may result in changes to the output specifications or minimum standards required for the project | Public party | The draft PPP agreement will provide that should RDA or other government policy change in a manner that results in changes to the output specifications or minimum standards required for availability, then RDA will compensate for this change |
| 19. | Regulatory or contract management risk | Possibility that RDA will not effectively regulate or assess compliance with the PPP agreement | Public party, unless its failure to regulate or manage the PPP agreement is a result of actions of the private party | |
| 20. | Residual value | Possibility that the [value or condition] | Private party | Depends on whether the draft PPP agreement provides for |

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|---|---|---|---|---|
| | risk [if asset ownership transfer] or asset condition risk [if lease or retained public ownership] | of the project are different at the end of the contract period than expected | | asset ownership transfer or lease or public ownership retention |
| 21. | Resource or input risk | Possibility of a failure to make the project available due to lack of resource or input supply or quality | Private party | Covered in the draft PPP agreement |
| 22. | Subcontractor risk | Possibility of failure to make the project available due to sub-contractor defaults during construction and/or operation | Private party | Covered in the draft PPP agreement |
| 23. | Tax rate change risk | The possibility that changes in applicable tax rates (income tax rate; value-added tax) or new taxes may decrease the anticipated return on equity | Public party if new tax categories or discriminatory taxes are introduced (e.g., corporate tax)<br>Private party for other tax | The following provisions in the RfP and draft PPP agreement:<br>○ The private party is liable to pay all prevailing taxes and a failure to pay such taxes will be considered non-availability<br>○ If a substantive new category of tax is introduced (e.g., corporate tax), then RDA will compensate such tax<br>○ If a discriminatory tax is introduced (a tax which can be shown to directly and unfairly affect the private party alone), then RDA will compensate such tax |
| 24. | Utilities risk | Possibility that the provision or quality of utilities (e.g., water, electricity) results in the project not meeting the output specifications or minimum standards | Private party for own provided and on-site utilities<br>Public party for off-site utilities provided by the Government | The following provisions in the RfP and draft PPP agreement:<br>○ The private party must specify during bidding how utilities will be provided to meet the output specifications and minimum standards<br>○ Failure to provide utilities to meet output specifications and minimum standards is considered non-availability<br>○ If the failure to provide utilities is the result of off-site utilities provided by the public sector, then RDA will not consider the lack of these utilities as non-availability |

RDA = Rawalpindi development Authority; RFP = Request for Proposals.

## COMPLIANCE OF RDA'S TOLL ROAD PROJECT WITH RISK MANAGEMENT PRINCIPLES

| No. | Subject | Principle | Compliance | Comment |
|---|---|---|---|---|
| 1 | Project categorization | Infrastructure projects should be grouped into two main categories for the purpose of assessing similarities and differences in their risk profile and probable risk allocation. | Yes | The project belongs to the multiple user category. |
| 2 | Risk allocation | Specific risks should normally be allocated to the party that is best able to manage controllable risks; or best able to insure uncontrollable but insurable risks; or best able to bear the financial consequences of uncontrollable and uninsurable risks. | Yes | The proposed risk allocation in Appendix 4 is generally in line with this principle. |
| 3 | Use of PPP mode | The PPP mode should preferably be used for financially viable projects that can provide the required services at affordable tariffs and do not require any investment grants, operating subsidies, or other periodic calls on the government budget. | | The project belongs to the exceptions allowed by Principle 10. |
| 4 | Legality | The proposed government support should comply with the PPP law. | Yes | The project is consistent with the relevant sections 9(4) and 18 of the Punjab Public-Private Partnership for Infrastructure Act 2009. |
| 5 | Prioritization | The proposed government support should have greater net benefits for Punjab than alternative uses of public money. | Yes | This will be ensured through the high EIRR of the project (estimated at 18% for the toll road and 20% for the associated commercial zone development). |
| 6 | Planning | PPP projects seeking government support should be an integral part of the long-term development plan for the given infrastructure sector. | Yes | The project is a key component of RDA's transport master plan. |
| 7 | Feasibility study | Government support should be given only to PPP projects whose technical and economic viability has been confirmed by a feasibility study, which has also demonstrated the need for such support to secure financing. | Yes | This has been done through the detailed feasibility study conducted by RDA. |
| 8 | Economic viability | The identification, quantification and valuation of costs and benefits should be done from the viewpoint of Punjab as a whole and on an incremental basis (i.e., with and without the project). The project should have an EIRR of at least 12%. | Yes | The cost-benefit analysis in the feasibility study has followed the prescribed methodology. The EIRR of the toll road is estimated at 18%, and that of the associated commercial zone development at 20%. |

| No. | Subject | Principle | Compliance | Comment |
|---|---|---|---|---|
| 9 | Transparency | Provision of government support should be made in a transparent manner by deciding in principle about its form and level prior to tendering. | Yes | The necessary government support has been determined through the feasibility study and will be specified in the bidding documents. |
| 10 | Use of direct and contingent support | Contingent support through government guarantees can be provided both to single and multiple user projects. Direct financial support should be considered only for economically viable multiple user projects, which are exposed to market risk and are not financially viable without such support. | Yes | The project is economically viable and belongs to the multiple user category. The project company will bear the market risk. Without the proposed revenue sharing for the sale of commercial plots, the ROE would be only 14%. |
| 11 | Amount of direct support | Direct government support should not exceed a level sufficient to ensure an acceptable FIRR, based on prevailing market conditions and consistent with the market risk borne by the project company. | Yes | The revenue sharing for the sale of commercial plots will be determined through bidding. |
| 12 | Project restructuring | Any direct government support should be approved only after thoroughly examining in the feasibility study the possibility of project restructuring to improve the FIRR. | Partly | RDA should examine the possibility to set the toll rates at a higher level as this would improve the FIRR and increase RDA's share of the revenues from the sale of commercial plots. |
| 13 | Fiscal management | Appropriate measures should be taken to control the exposure, fiscal cost and fiscal risk created by contingent government support. The fiscal risk should not jeopardize fiscal sustainability. | | Not yet applicable. Based on the feasibility study and its own analysis of contingent liabilities, the RMU will have to make appropriate recommendations. |
| 14 | Coverage of contingent support | Government guarantees should cover only project risks that the Government is able to directly influence, or risks which are either uncontrollable or macroeconomic, and for which insurance or risk-hedging products are not available on reasonable commercial terms. | Yes | The proposed risk allocation in Appendix 4 is in line with this principle. It aims at minimizing contingent liabilities without discouraging private sector participation and jeopardizing project bankability. |
| 15 | Valuation of contingent liabilities | The value of a contingent liability associated with a government guarantees should be calculated as the PV of the expected cost of the guarantee. | | Not yet applicable. Based on the feasibility study and its own analysis of contingent liabilities, the RMU will have to make the calculation. |

EIRR = economic internal rate of return; FIRR = financial internal rate of return; RDA = Rawalpindi Development Authority; ROE = return on equity; RMU = Risk Management Unit.

## CHECKLIST FOR THE RISK MANAGEMENT PROCESS

| Step | Action |
|---|---|
| I. Familiarization with the project | ¾ Specify objectives and criteria<br>ƒ Familiarize the team with the project, assemble documentation and define the key objectives<br>ƒ Assess the project in relation to the Government Agency's objectives and strategies<br>ƒ Determine assessment criteria for the project<br>¾ Define key elements to structure risk analysis |
| II. Risk analysis | ¾ Identify risks<br>ƒ Prepare a comprehensive schedule of risks for each element<br>ƒ Describe each risk and list the main assumptions<br>¾ Assess risk likelihoods and consequences<br>ƒ Assemble data on risk and their consequences<br>ƒ Assess risk probabilities<br>ƒ Assess risk impacts<br>¾ Identify significant risks<br>ƒ Rank risks to reflect impacts and likelihoods<br>ƒ Where applicable, estimate risk factors<br>ƒ Discard/accept minor risks<br>ƒ Identify moderate risks for management measures<br>¾ Identify major risks for detailed risk action planning |
| III. Risk response planning | ¾ Identify feasible responses<br>ƒ For each moderate and major risk, identify the feasible responses<br>9 Risk prevention<br>9 Impact mitigation<br>9 Risk transfer and insurance<br>9 Risk acceptance<br>ƒ Describe each feasible response and list main assumptions<br>¾ Select the best response<br>ƒ Evaluate the benefits and costs of each response<br>ƒ Select the preferred response<br>¾ Develop risk management measures and action schedules<br>ƒ Specify management measures for moderate risks<br>ƒ Develop action schedules for major risks<br>9 Actions required (what is to be done?)<br>9 Resources (what and who?)<br>9 Responsibilities (who?)<br>9 Timing (when?) |
| IV. Reporting | ¾ For major projects, produce the risk management plan<br>¾ For other projects, collate and summarize risk action schedules and measures |
| V. Risk management implementation | ¾ Implement measures and action strategies<br>¾ Monitor the implementation<br>ƒ Assign responsibilities<br>ƒ Determine timing<br>¾ Undertake periodic review and performance evaluation |

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