PPP Structuring Report for Doma Hydro Power Project

Client:
Federal Ministry Of Power
Federal Secretariat Complex
Abuja. Nigeria.

PREPARED BY:

Magnartis Finance & Investment Ltd

(Member of The Nigerian Stock Exchange)
16, Boyle Street, Onikan, Lagos
Email: bjo@magnartis.com

Strategic Consulting Group

New Shimla, Shimla 171009,
Himachal Pradesh, India

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1. General

1.1 Client

The Federal Government of Nigeria (FGN) has appointed Magnartis Finance & Investment Ltd (Magnartis) as **Transaction Advisor**, to assess the feasibility of the proposed Small Hydro Power Project at the Doma Dam with the purpose of formulating a PPP arrangement to invite private investors to develop and operate the hydro power plant at the Doma Dam.

1.2 Scope of Assignment

The detailed scope of the assignment encompasses the following:

i. Due diligence of the Doma dam and Review of the feasibility studies and Design reports prepared for the proposed Doma Hydro Power Project

ii. Commercial & Financial modeling to evaluate the potential of the hydro power project and the prospects of longer term financial viability.

iii. **PPP Structuring**

iv. Outline Business Case writing

This document deals with the third part of the above stated assignment, i.e. to evaluate various arrangements and structures for a Public Private Partnership and assess the potential responsibilities and benefits that accrue to each of the parties involved.

The study has been divided into three parts:

Part a. Assess various types of potential PPP Structures

Part b. Outline the various parties involved and the potential agreements between them

Part c. Evaluate the responsibilities and benefits with regards to each party involved

All three parts have been described in detail in this report.

Table of Contents

2. Abbreviations

Sr. no.	Terms	Description
1	BOT agreement	"Build-Operate-Transfer" concession arrangement in which, the project company builds (construct) the infrastructure facility, operates it to recover the construction costs and achieve a return on their investment (including repayment of loans) and transfer the facility to the government at the end of the concession period.
2	BOT/BOOT/BOO/BOSS	Build, Operate and Transfer/Build, Own, Operate and Transfer/Build, Operate, Own/Build, Operate, Sell and Start again
3	COD	Commissioning Operation Date
4	Concession agreement	The agreement between the government and the project company conferring on the project company a right to provide infrastructure services in exchange for the project company constructing and/or operating the facility.
5	Construct	The design, construction, integration, installation, testing and commissioning of the facility, to include the rehabilitation and renovation of the facility, and "**construction**" and "**constructing**" have corresponding meanings.
6	Contractor	The company responsible for the construction of the facility, usually as a subcontractor of the project company under an EPC agreement.
7	Customer	The users of the infrastructure services.
8	DBO/DBFO/DBFT	Design, Build, Operate/Design, Build, Finance and Operate/ Design, Build, Finance and Transfer
9	Debt	The monies secured under finance agreements from lenders.
10	Debt finance	To finance through lenders or third parties other than sponsors advancing monies, usually under a loan agreement.
11	DFI	Development Finance Institution

Sr. no.	Terms	Description
12	Due diligence	The exercise in the examination and evaluation of risks affecting a transaction.
13	EBRD	European Bank for Reconstruction and Development.
14	ECA	An export credit agency.
15	Engineer	The engineer appointed for the project.
16	EPC	Engineering, Procurement and Construction
17	EPC Agreement	The Engineering, Procurement and Construction agreement between the contractor and the project company to construct the facility.
18	Equity	The securities representing ownership interest in a company, for example shares.
19	Equity finance	To finance through the sponsors investing in shares, options or other securities that represents an equity interest.
20	Escrow agent	A corporation (normally a financial institution) appointed by the project company and the lenders to hold funds accrued to the project company for the benefit of the project company and the lenders to be disbursed in accordance with the conditions of the loan agreements.
21	ESIA	Environmental & Social Impact Assessment
22	ESMP	Environmental & Social Management Plan
23	Facility	(a) In relation to a loan agreement, the amount made available by the lender to the project company under the loan agreement, and (b) otherwise, any infrastructure asset procured or developed under the project.
24	FC	Financial Closure
25	FIDIC	Federation Interriationale des Ingenieurs-Conseils or the International Federation of Consulting Engineers.

Sr. no.	Terms	Description
26	Fiduciary obligations	Obligations imposed by the law on one person to another as a consequence of the first person holding a position of trust and power in relation to the second person, for example a legal adviser owes fiduciary obligations to his or her clients.
27	HEP/ HPP	Hydro Electric Project/ Hydro Power Project
28	IBRD	International Bank for Reconstruction and Development.
29	ICB	International Competitive Bidding
30	IDA	The International Development Association.
31	IFC	The International Finance Corporation.
32	Infrastructure	The basic facilities, services, installations and capital equipment needed for the functioning of a community or society. Generally, without limitation, infrastructure refers to transportation and communications systems; air and sea ports; utilities such as water, sanitation and power; and public institutions including schools, post offices, hospitals and prisons.
33	Infrastructure services	The basic facilities or services forming part of Infrastructure.
34	Insurer	The insurance company providing insurance for the project or the facility.
35	Intercreditor agreement	The agreement between the lenders in relation to rights, priorities and enforcement of security under the loan agreement(s).
36	IPP	Independent Power Producer
37	Lender	The person or company, usually banks, responsible for providing the debt finance to the project.
38	Loan Agreement	An agreement between the lender and the project company to provide debt finance.

Sr. no.	Terms	Description
39	MIGA	The Multilateral Investment Guarantee Agency.
40	MoU	Memorandum of Understanding
41	NBET	Nigerian Bulk Electricity Trading PLC
42	O&M agreement	An operation and maintenance agreement between the project company and the operator in relation to the operation of the project.
43	Off-take agreement	An agreement between the project company and the customer for the project company to supply and the customer to purchase infrastructure services produced under the project.
44	Operation	The operation and maintenance of the infrastructure, and “operation” and “operating” have corresponding meanings.
45	Operator or O&M Operator	A company responsible for the operation of the project.
46	Option	A security in the project company conferring a right to hold an equity interest in the future.
47	Options agreement	An agreement under which sponsors have a contractual right to purchase equity (generally shares but at times other equity interests) in the future or if certain events occur.
48	Performance guarantee	A guarantee of the performance of the project company’s obligations, usually this is a guarantee by a project company for the completion of the construction.
49	PPA	Power Purchase Agreement
50	PPP	Private-Public Partnership
51	Private Participant	Private (non- government) parties that bid for the project in a PPP
52	Project	A scheme to construct and operate the facility for the purpose of providing infrastructure.

Sr. no.	Terms	Description
53	Project company	Means: (a) a company owned by a consortium of private individuals or corporations that has been granted a concession by the government to conduct the project, and (b) In the context of a loan agreement, means the borrower under the loan agreement.
54	Public Participant	Either a state owned enterprise, an administrative entity, a division of the government, a municipality, a local government or a similar organization, whether incorporated or not, that represents the interests of the public sector in the project.
55	Public Participant consultant(s)	An adviser to the Public Participant in relation to the project, usually legal, financial and technical advisers.
56	Private Participant	Private (non- government) parties that bid for the project in a PPP
57	Quasi-equity	Securities in a project company that is not quite an equity interest, and not quite a debt, but somewhere in between, for example, bonds and options.
58	Retainer	An agreement between the government and the consultants in relation to the appointment of the consultants.
59	Securities	Shares, bonds or other equitable interests in the project company.
60	Security documents	Documents provided to lenders to confer rights or assets that crystallizes if there is a default under the loan agreements.
61	Security holder	A holder of quasi-equity securities.
62	Shareholder	A Shareholder has the same meaning as a “Sponsor”.
63	Shareholders’ agreement	An agreement between the sponsors in relation to the rights, obligations, management and control of the project company.
64	Shareholders’ loan agreement	An agreement between the project company and a sponsor for the sponsor to provide a loan to the project company on a subordinated basis.
65	Sponsor	A holder of equity securities (or a shareholder) in the project company.

Sr. no.	Terms	Description
66	Subordinated debt	A borrowing by the project company from its sponsors under a shareholders' loan agreement.
67	Subordinated loan	A finance provided by the sponsors to the project company under a shareholders' loan agreement.
68	Supplier	A company supplying raw materials or equipment needed to produce the infrastructure.
69	Supply agreement	An agreement between the supplier and either the project company, the contractor or the operator to supply raw materials or equipment needed to produce the infrastructure.
70	T&C	Terms and Conditions
71	Tariff	The price charged for providing the infrastructure services.

3. Introduction

A Public Private Partnership (PPP) is an arrangement between the public and private sectors with an agreement on the shared objectives for delivery of a public infrastructure and/or services by the private participant that generally would have been provided by the Government or the public sector enterprises. Such an arrangement is consistent with a broad range of possible partnership structures, and can be in the form of a collaboration or joint venture between the public and private sectors for the specific purpose of financing, developing, constructing and operating an infrastructure project.

In a typical PPP arrangement, Private Participants / contractors provide long term services rather than simply acting as upfront asset builders. It is usually the responsibility of the Private Participant to design, build, operate, maintain and finance assets in order to deliver the required services. As a result, governments globally have increasingly been relying on the private sector for the development and financing of infrastructure projects in PPP mode. The ease of mobilization of resources and enhanced efficiency (and lower costs) by the private sector has stimulated the market for infrastructure projects to be built and managed in the PPP mode.

Public Private Partnerships result in the central and the local government agencies becoming primarily regulators. This enables them to focus their limited resources on planning of various public services, performance monitoring and contract enforcement rather than on the management and delivery of the services.

It may at times be of concern that the goals and objectives of the promoters of the privately financed infrastructure projects may not be in line with that of the government or the public at large in certain respects. The host government should ensure that it structures the private participation in infrastructure projects in a manner so as to protect the public interest while obtaining the benefits of private investment. A Public-private-partnership helps in achieving the above mentioned goal. To be effective in negotiations concerning the PPP, the government officials must have the requisite authority to make all material and relevant decisions and should have the required experience & expertise while dealing with their private sector counterparts. Suitably qualified consultants and advisors should be brought on board, who can bring additional analytics, knowledge, skilled manpower resources and international experience.

A PPP agreement entails a series of interdependent and cross-linked agreements between the public and private participants. Each of these agreements defines the respective rights and responsibilities of the public and private participants with reference to the corresponding legal and policy framework.

While preparing a PPP agreement structure, a platform is created with the intention to facilitate and ensure the implementation of PPPs. The platform is designed to provide a balanced approach to reconciling and harmonizing the interests of the public and private sectors.

The PPP approach has many an advantage when compared to traditional contracts. For example:

- Better allocation of Public / Government resources
- Innovative solutions to design issues
- Shorter implementation periods of projects
- Better maintenance of infrastructure assets post construction
- Better value for money
- Greater efficiency and enhanced operational performance
- Better risk allocation
- Reduction in variance between estimated and actual construction cost.

In case of the mini hydro power projects in Nigeria, the above advantages would hold true for the proposed PPP arrangement. Private sector would bring in the aforementioned strengths, which if regulated and governed properly, would lead to efficiencies, timely implementation and cost savings.

4. International Trends

According to the World Bank data for 2011, a total of US$ 7,184 Million was committed to Energy projects via the PPP route of investment. With 57 projects, East Asia and the Pacific regions had the maximum amount of investment, totaling close to US$ 6,133 million. Data for the African continent suggests that Nine Energy projects, with an Investment commitment of US$ 794 million, achieved financial or contractual closure in 2011. The following table provides more details regarding the PPP Energy transactions in Africa in 2011.

Table: 1 PPP Energy projects achieving financial or contractual in Africa in 2011

Country	Project name	Project status	Segment	Type of PPI	Subtype of PPI	Investment commitment US$ Millions	Capacity (MW)	Sponsors (% ownership/ Country of origin)
Botswana	KSE Orapa and Mmashoro IPP	Operational	Electricity generation	Greenfield project	Build, Lease, and Transfer	104.00	90	Kalahari Energy (50% / Botswana), TUTEN (50% / Turkey)

Country	Project name	Project status	Segment	Type of PPI	Subtype of PPI	Investment commitment US$ Millions	Capacity (MW)	Sponsors (% ownership/ Country of origin)
Kenya	Aggreko Western Kenya Temporary Power Station	Operational	Electricity generation	Greenfield project	Rental	4.70	60	Aggreko Plc. (100% / United Kingdom)
Kenya	Thika Thermal Power Project	Construction	Electricity generation	Greenfield project	Build, own, and operate	150.00	87	Others (100%)
Rwanda	Kivu Watt	Construction	Electricity generation	Greenfield project	Build, own, and operate	142.00	100	Contour Global (100% / United States)
Sierra Leone	Addax Biomass Plant	Construction	Electricity generation	Greenfield project	Build, own, and operate	30.00	15	Addax & Oryx Group (100% / United Kingdom)
Tanzania	Aggreko Ubungo and Tegeta Temporary Power Station	Operational	Electricity generation	Greenfield project	Rental	-	100	Aggreko Plc (100% / United Kingdom)
Tanzania	Symbion Dodoma Power Plant	Operational	Electricity generation	Greenfield project	Rental	4.70	60	Symbion Power LLC (100% / United States)
Tanzania	Symbion Rental Ubungo Power Plant	Operational	Electricity generation	Greenfield project	Rehabilitate, operate, and transfer	129.40	120	Symbion Power LLC (100% / United States)
Zambia	TATA Itezhi-Tezhi HPP	Construction	Electricity generation	Greenfield project	Build, operate, and transfer	230.00	120	Tata Enterprises (50% / India), Zambia Electric Supply Corporation (ZESCO) (50% / Zambia)

Data for the year 2011 suggests that, globally, the “Build, Own and Operate” type of PPP was the most popular one for energy projects which achieved financial or contractual closure. It attracted US$ 3,098 million worth of investment for 19 projects with a cumulative installed capacity of 2,622 MW. However, the most popular type of PPP till date, on the basis of cumulative capacity achieving financial or contractual closure, is the “Build, Operate and Transfer” or BOT mechanism, attracting over US$ 2,999 million of investment for a cumulative capacity of 3,527 MW.

Of all the Energy projects being developed under the PPP route and achieving financial or contractual closure in 2011, 49 projects were with installed capacity under 50 MW, thus qualifying for small / medium sized energy projects. Among these, the "Build, Operate and Transfer" or BOT mechanism of PPP was the most widespread; attracting over US$ 1,800 million of investment. 34 projects with a cumulative capacity of 1,053 MW were covered under this.

The charts on the following page provide a snapshot of the PPP landscape for energy projects across the globe.

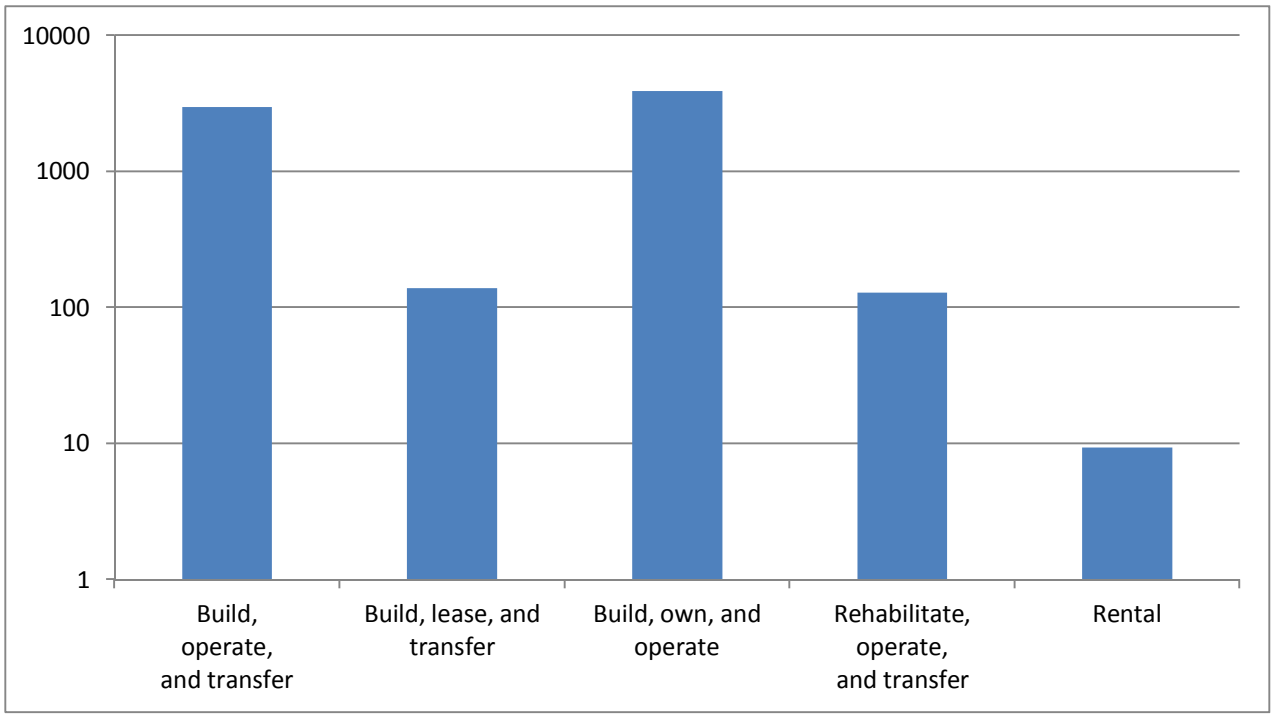

Chart: 1. Type of PPP : Global Investment commitment in Energy projects with financial or contractual closure in 2011 in US$ million[1] (Y axis in Logarithmic scale)

[1] Source: http://ppi.worldbank.org/ Retrieved to on 26 August 2013

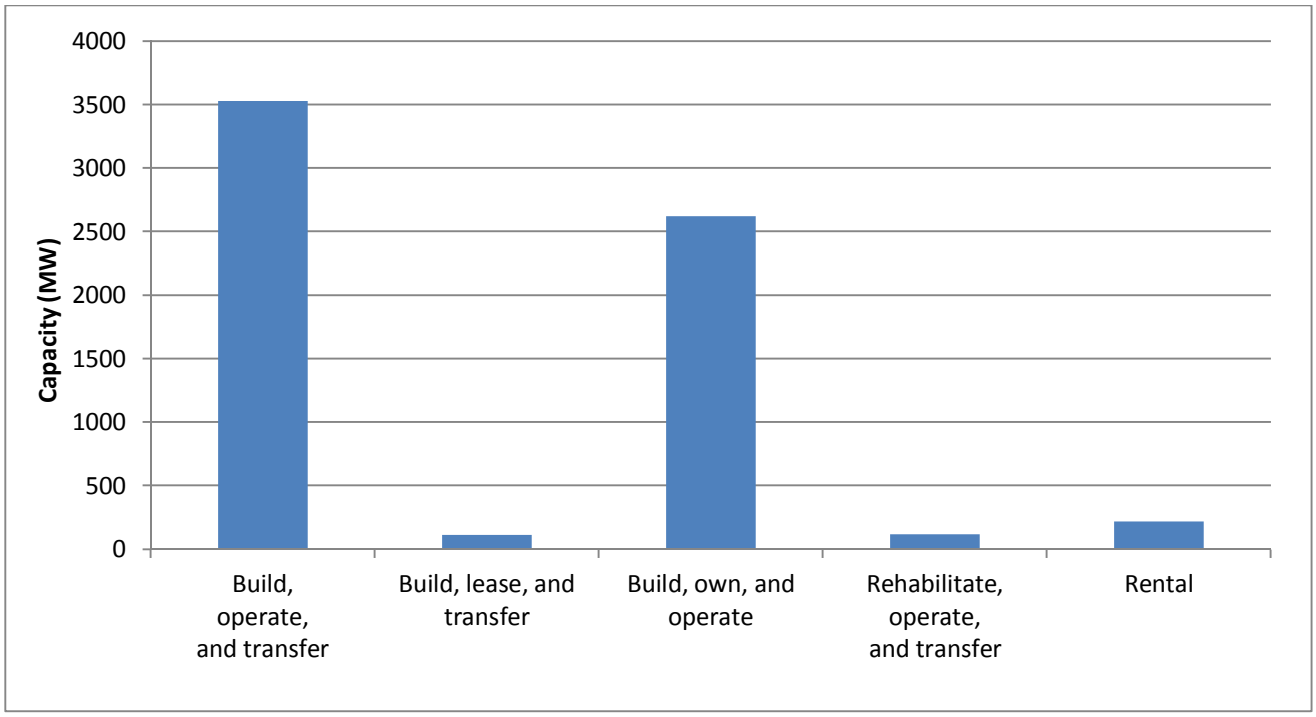

Chart: 2. Type of PPP: Global capacity of Energy projects with financial or contractual closure in 2011 in MW[2]

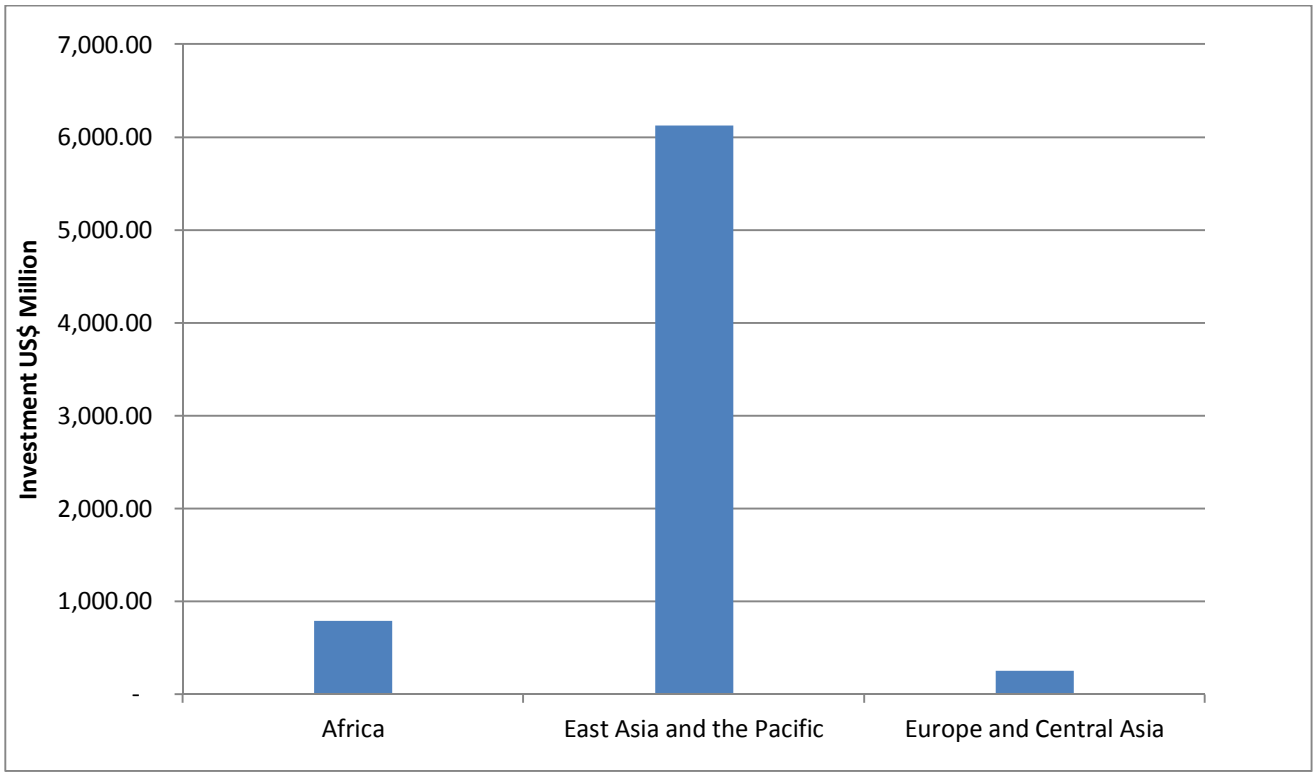

Chart: 3. Investment commitment (US$ millions) in PPP Energy projects with financial or contractual closure in 2011: Region wise [3]

[2] Source: http://ppi.worldbank.org/ Retrieved on 26 August 2013

5. Hydropower PPP Models: Three Case Studies

Hydro Power projects are typically characterized by their capital intensive nature, long gestation periods, predictable/ dependable power generation and depreciating cost of power generation. These characteristics have led to governments joining hands with private participants, with varying degrees of involvement, to develop hydro power projects globally.

PPP structures for three hydro power projects developed in Brazil, Turkey and Lao PDR respectively are discussed in this section and also summarized in a table later on.

Brazil: In accordance with the Expansion Plan for electricity generation for 1997 to 2006, Electrobras, a major Brazilian electricity utility company, proposed the construction of the 450 MW Cana Brava run-of-river hydropower plant.

The project was one of the first projects in Brazil with private participation after the new institutional and regulatory frameworks were established in the mid nineties. It was also one of the first IPPs to be financed under a project finance mechanism in Brazil.

Turkey: Birecik is a part of a $32 billion South Eastern Anatolia Project (known as GAP after its Turkish name, Guneydogu Anadolu Projesi). The project established in 2011, is a 672 MW run-of-river hydroelectric power plant (six facilities of 112 MW each), that can generate an average of 2.5 TWh annually.[4]

GAP has largely been financed by the Government of Turkey, with a US$ 3.79 billion investment from foreign sources. GAP consists of a planned network of 22 dams, 19 power plants and ancillary irrigation and industrial projects. These projects intend to use the waters of the Tigris and Euphrates Rivers to transform the Southeast of Turkey into a regional "breadbasket".

The project was built using the Build-Operate-Transfer (BOT) PPP model. The project was completed on time and under budget and proves to be a role model in terms of the efficiency of having private companies being in charge of activities such as:

a. Planning,
b. Financing,
c. Construction and
d. Operation of hydro power plants.

Laos: The 1,070 MW Nan Theun 2 (NT2) project is the largest hydroelectric project so far in Laos. It exports power to Thailand and supplies electricity to the local area grid as well. In 2005, NT2 was the largest foreign investment in Laos and the world's largest private sector cross-

[3] Source: http://ppi.worldbank.org/ Retrieved on 26 August 2013
[4] Source: http://en.wikipedia.org/wiki/Birecik_Dam Retrieved on 26 August 2013

border power project financing. It was the largest private sector hydroelectric project financing, and one of the largest internationally-financed IPP projects in Southeast Asia. The dam also marked a return by the World Bank to funding large-scale infrastructure, after a decade-long investment hiatus[5].

The table below provides a summary of the success criteria, as applied to the above mentioned case studies and the key take-away for the proposed Nigerian PPP:

[5] Source: http://en.wikipedia.org/wiki/Nam_Theun_2_Dam Retrieved on 26 August 2013

Table: 2 Hydro power PPP International Case studies

Success factor[6]	Brazil: Cana Brava HEP 450 MW	Turkey: Birecik HEP 672 MW	Lao PDR: NT2 HEP 1070 MW	Key Takes for Nigeria
Power Purchase Agreement	Not applicable as there was No Government backed PPA – PPA signed with private entity	The public utility took on the majority of the risks which might have been necessary to get the necessary private funding for the project.	Lao only kept 5% of the power of this project, but gained export revenue due to the agreement with Thailand, a steadily growing economy with increasing demand for electricity	In projects where the MYTO II Tariffs are not sufficient, support and incentives in the form of: • Higher tariffs • Capital Subsidies • Option to sell power directly to high demand consumers like industries etc.
Implementation timelines	Concession award to COD: 4 Years Smooth Governance	Long and complex until Financial Closure Hassle free construction.	Long due to environmental and social impacts and external factors such as the Asian crisis which disturbed the MOU with EGAT.	Single window system for all government clearances for faster development.
Effect on country/region's power sector and Economy.	Cana Brava was a prioritized project.	Part of a large scale project: the GAP. This is a highly prioritized project by the Turkish government.	Power mainly for export. The project will mainly contribute to the country's export revenues.	Given the severe crisis looming in the Nigerian Power Sector, this project should be implemented in the most efficient and effective manner.
Effectiveness & efficiency of O&M	The project is delivering the expected amount of	The project is delivering the expected amount of	The project is delivering the expected amount of	PPPs entail the O&M to be managed by the Private

[6] Source: http://www.econ.no/stream_file.asp?iEntityId=3905 Retrieved on 26 August 2013

Success factor[6]	Brazil: Cana Brava HEP 450 MW	Turkey: Birecik HEP 672 MW	Lao PDR: NT2 HEP 1070 MW	Key Takes for Nigeria
	power to the Brazilian network. No major O&M problems have ensued.	power to the Local network. No major technical O&M problems have ensued. However problems related to environmental and social impacts have been there since the beginning.	power. No major O&M problems have ensued.	participant and so rarely face mismanagement or malfunctioning of the O&M Schedule.
Efficiency & prudence of the procurement process.	Smooth International Competitive Bidding process ensures lower procurement price, optimum solution & transparency	Complex due to interpretation of concession terminology by Danistay (Turkish Council of State)	Direct negotiations	The bid process should be clean, simple and transparent to attract private capital.
Environmental & social impacts	Inadequate resettlement compensation	Inadequate resettlement compensation / processes.	Inadequate ESIA leading to initial delays. The concession agreement now regulates all social issues in detail. External independent audit teams review the work.	The concession agreement should mention the resettlement and Rehabilitation standards. An external monitoring / audit committee should be hired.
International / cross-border relations impact.	N.A.	Riparian countries did not approve of the project. So the World Bank did not support the project. Project could lead to a potential conflict in the area.	The project fulfilled their policy regarding international waters.	None of the projects share international borders. So no such issue is anticipated.
Overall	Sustainable	The transparency and good	Heavy involvement of	Involvement of multilateral

Success factor[6]	Brazil: Cana Brava HEP 450 MW	Turkey: Birecik HEP 672 MW	Lao PDR: NT2 HEP 1070 MW	Key Takes for Nigeria
sustainability of the PPP and PPA.		governance could be questioned due to the lack of international observers, such as Multilaterals.	multilateral agencies such as ADB, WB & NGOs indicate Good transparency and governance.	agencies such as AfDB and World Bank will help in increasing transparency and attracting Private capital.

6. Types of Public Private Partnerships (PPP)

The following types of PPP arrangements are considered desirable for the main investment program for a hydro power project:

6.1 Service Contracts

Service Contracts are awarded to private participants by the public utility firms under which the private participant is assigned to undertake certain tasks such as billing, operation and maintenance of the infrastructure facility. Service Contracts help minimize operational costs and improve collection performance. Service contracts are typically seen in utility bill collection for electricity distribution companies and generally for operational projects.

6.2 Management contract

In a management contract, the ownership of the project facility is with the public participant, while the private participant is responsible for operations and maintenance. The control of the tariff revenue is the onus of the public participant and a public participant / contractor is responsible for collection and billing. While the public participant benefits due to a certain degree of performance incentives (included in the contract), the larger part of the commercial risk rests with the public utility. Thus, the PPP is only introduced in the operational stage of the project, while the design, finance and construction responsibility rests solely with the Public Participant. This type of PPP may be suitable for developed economies with mature markets, financial strength & technical knowhow to build and finance projects.

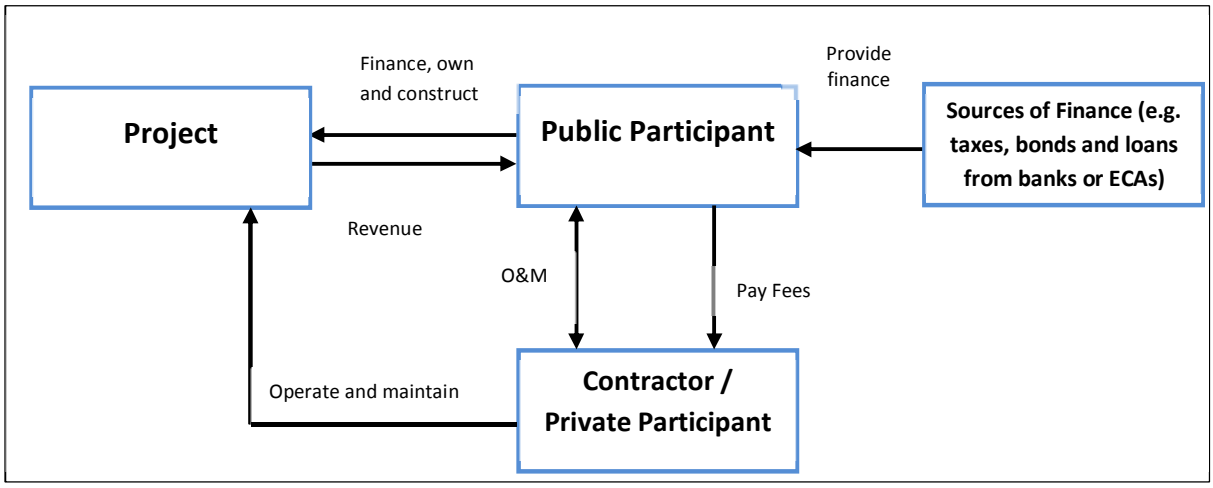

Image 1: Management Contract

6.3 Design, Build and Operate (DBO)

A Design, Build and Operate (DBO) contract, in a single contract combines the works of designing & constructing the asset, and providing the service associated with the infrastructure. The funds for the project are provided by the Public Participant and therefore the ownership of the asset rests with the Public Participant. Nevertheless, the responsibility for the construction & operation of the facility for a defined period of time rests with the private sector participant.

The responsibility for the operation and management of the asset returns to the Public Participant at the end of the PPP contract period. A further service contract may be procured at the end of the first contracted operations period. This type of PPP is suitable for countries where the Public Participant is confident of raising the finances in a cheaper and better manner than the Private Participant. This PPP type may also be required in geographies where the Private Participant is not willing to raise finances and invest money due to factors or risks beyond their control.

6.4 Design, Build, Finance & Operate (DBFO)

As the name suggests a DBFO contractual relationship between a Public Participant and a private participant / contractor, puts the responsibilities of the design, construction, operation and financing of a public infrastructure facility on the latter. The private participants / contractors recover their investment out of the payments from the public sector over the operational period. The ownership of the underlying asset stays with the Public Sector.

6.5 Affermage & Lease contracts

In an affermage or lease contract arrangement, private sector contractors are given a concession to operate the infrastructure network / facility. The ownership and capital investment responsibility rests with the public participant or utility. The private contractor, while being the operator of the facility, is also responsible for the maintenance of the leased asset. Revenue sharing between the public participant and the contractor is a common form of remuneration in such contracts.

In a lease type PPP arrangement, the rental payment to the authority tends to be fixed irrespective of the level of tariff collection that is achieved and so the operator takes a risk on bill collection and on receipts covering its operating costs.

In the case of affermage, the operator is assured of its fee (assuming the receipts are sufficient to cover it) and it is the authority that takes the risk on the rest of the receipts collected from customers covering its investment commitments.

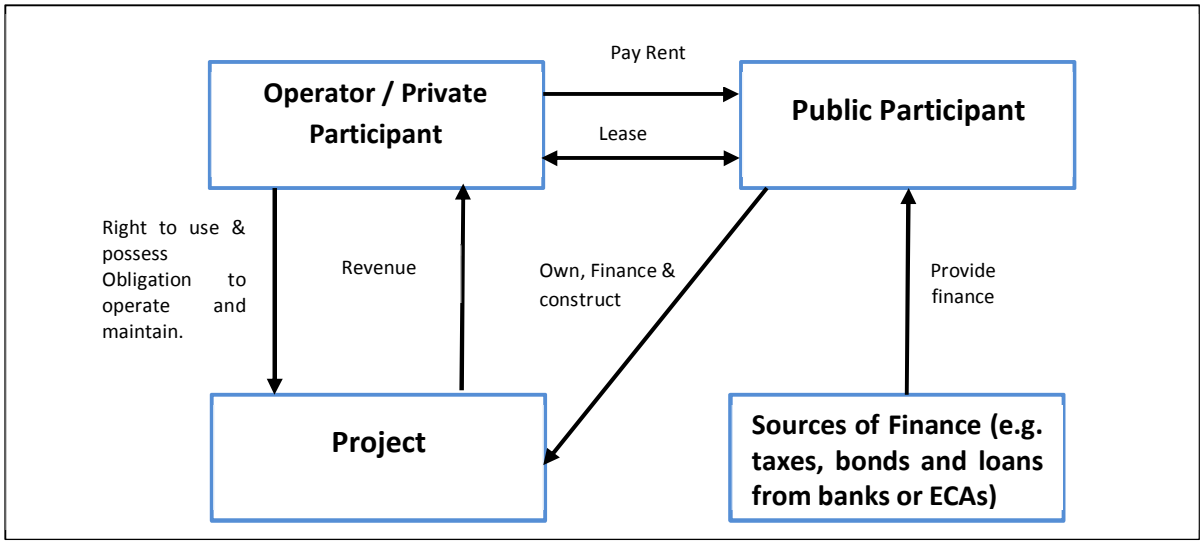

Image 2: Lease Contract

6.6 Concession[7] & Rehabilitate-Operate-Transfer (ROT)

In a concession, the ownership of the facility remains with the state / Public participant. However, the complete responsibility for construction, operation and maintenance is given to the private participant. This is regulated through a Concession agreement. The agreement typically has a tenor of 20- 30 years and it is the onus of the operator to collect the revenues in order to recover the capital investment and operations costs.

A typical concession structure would involve the private sector undertaking to finance, construct and maintain the infrastructure in return for the right to receive a stream of revenue from operating the infrastructure. The "private sector" is represented by the project company, which is usually a consortium of private firms with expertise in designing, constructing and operating the project. The project company will obtain financing from various sources, and those providing the finance may provide it in the form of debt, equity or both.

The construction of an infrastructure project typically involves a large financial commitment. This financial commitment may be so large that neither the government nor the private firms would or could undertake the project without project finance. Project finance ("off-balance sheet" financing) based on precise and highly structured assumptions and allocation of risks, enables the private firms with expertise in infrastructure development to obtain financing for construction of the infrastructure asset with limited or no recourse to the balance sheet of the participating private firms.

[7] Source: http://bit.ly/14Wym5Y , http://www.treasury.nsw.gov.au/?a=3140, Retrieved on 21 August 2013

As project financing rests heavily on the income stream of the project, it requires comprehensive and fully developed project agreements. A detailed and thorough due diligence of the project is conducted by the lenders to ensure the security and reliability of the revenue stream. As security, the lenders will want recourse to the assets of the project company. In addition to the right to the physical infrastructure asset, the lenders may seek additional security in the form of the assignment of the project agreements and step-in rights in case of default.

At the end of the concession period, the concessionaire returns the infrastructure facility to the state unless the concession is renewed.

This format is found useful in case of rehabilitation projects if the utility wishes to attract private capital. In that case, it is referred to as a Rehabilitate-Operate-Transfer (ROT) contract.

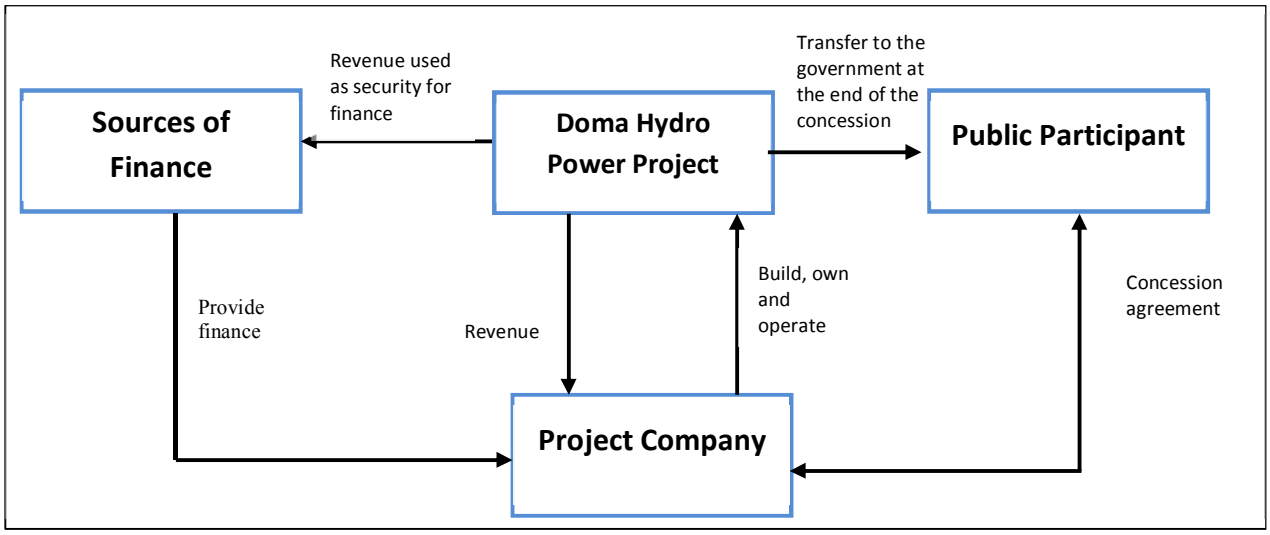

Image 3: Concession agreement

6.7 Operational Contracts (O&M)

These contracts are of five to 20 years duration and entail the operation, maintenance and possibly capital replacement of existing plants during the period of the contract. The ownership of the assets rests with the public participant and the assets are generally provided to the Private Participant in an operational state. The private participant is expected to operate the project within the generally accepted principles and guidelines for operation of the project. The O&M contract may entail certain guarantees with respect to service levels, availability, and efficiency from the private sector participant.

6.8 Build-Own-Operate-Transfer (BOOT)[8]

A BOOT contracts are awarded by the public participants who enter into long term off-take agreements with the private participant(s) for a specified number of years. The private participants are expected to build and operate the plant, and transfer the assets back to the government/ Public participant at the end of the concession / contract period.

BOOT projects are typically financed through limited or non-recourse project finance, under which the lenders, in case of default, only have recourse to the assets and revenue streams of the project and not to the balance sheet of the original sponsor.

6.9 Divestitures

In Divestitures, full ownership of the infrastructure asset is transferred to the private company that takes the full responsibility for the project including financing, design and construction / rehabilitation, operations and maintenance. All the risks such as the market, commercial and operational risks are transferred to the private company and so are the benefits. The Public Participant's role may be limited to providing different forms of guarantees and energy sales contracts, if required.

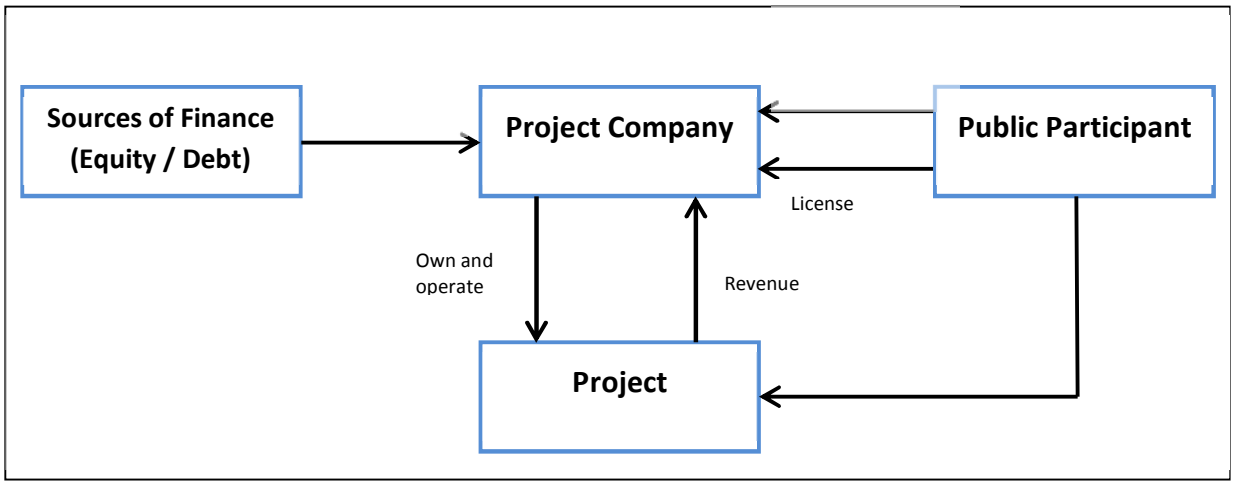

Image 4: Divestiture

Divestiture is preferable if the Government wants to raise capital in the short term for supporting its finances. Divestiture is also suitable in markets with open competition, where chances of creating a monopolistic situation are low. Divestiture should be avoided in under-developed markets, as the private sector may start charging exorbitant prices for the provision of services.

Various PPP arrangements are summarized and compared in the table that follows.

[8] Source: http://www.unescap.org/ttdw/common/TPT/PPP/text/ppp_guidebook.pdf Retrieved on 12th September, 2013

Table: 3 Key features of PPP models

Type	Asset ownership	O&M responsibility	Capital investment	Commercial Risk	Typical duration (years)	Primary application	Main type of facility
Service contract	Public	Public and private	Public	Public	1-2	Operations	Any
Management contract	Public	Private	Public	Public	3-5	Operations	Any
Affermage & Lease	Public	Private	Public	Shared	8-15	Operations	Network
Design-Build-Operate (DBO)	Public	Private	Public	Shared	1-10	New construction	Generation and transmission
Design-Build-Operate-Finance (DBOF)	Public	Private	Private	Private	1-10	New construction	Generation and transmission
Concession & Rehabilitate-Operate-Transfer (ROT)	Public	Private	Private	Private	20-30	Operations and new construction	Network, (ROT for generation)
Build-Operate-Transfer (BOT)	Private	Private	Private	Private	5-20	New construction	Generation and transmission
Build-Own-Operate-Transfer (BOOT)	Private	Private	Private	Private	20-40	New construction	Generation and transmission
Divestiture	Private	Private	Private	Private	Indefinite	All	Any

Private Public Partnerships in utility/ energy projects do not necessarily involve public ownership. Usually a long-term PPA with a private power producer forms the basis for a PPP between the private and the public participant.

The general shortage of public funds in most developing countries makes it preferable for power projects to be wholly financed by the private sector so as to maximize the benefits to society at large.

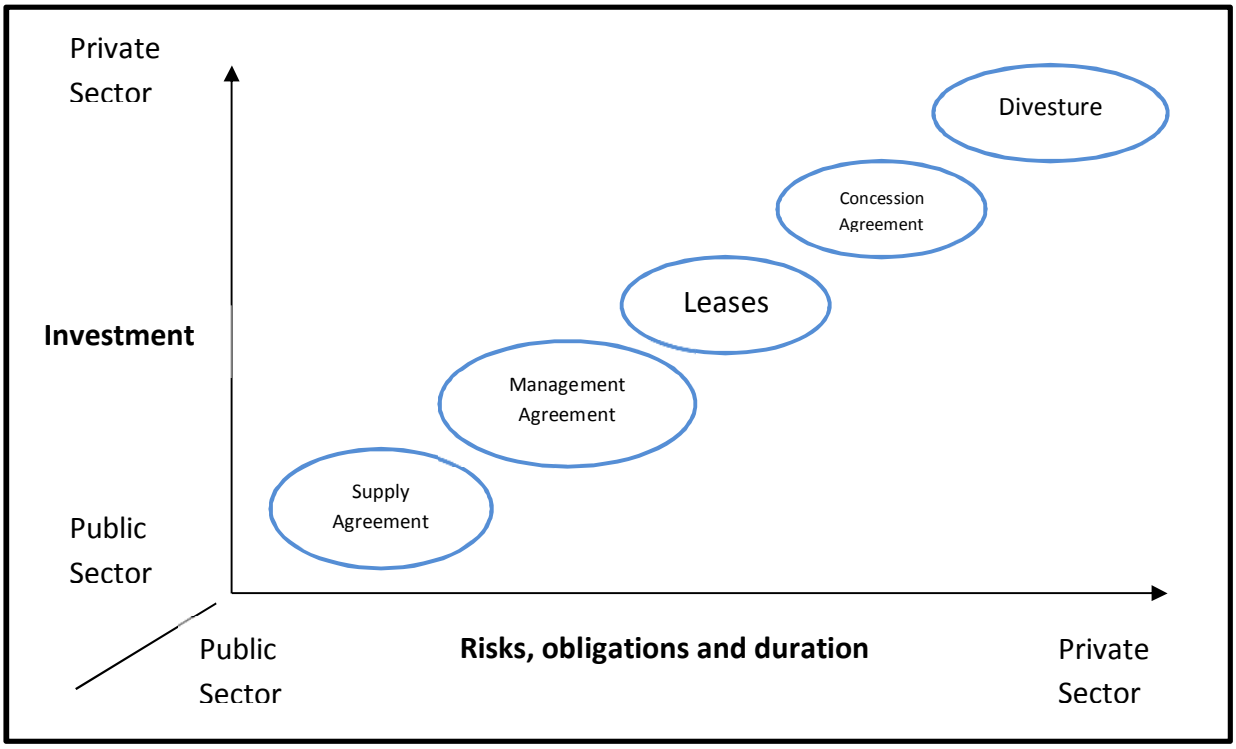

Image 5: Diagrammatic representation of PPP Options

The rationale behind executing any PPP would be to synergize the strengths of the public and private participants. The individual strengths can be summarized as follows:

A. Private participant

i. Raise capital for the projects
ii. Optimize construction and operational costs
iii. Source world class technological solutions
iv. Implement project in given time and cost
v. Achieve operational efficiencies

B. Public sector participant

i. Mitigation of investment risks confronting investors

ii. Incorporation of external impacts into investment and operational decision making
iii. The incorporation of the fact that hydropower plants will have a life-span which is much longer than the private sector's planning horizon.

7. Participants in the PPP

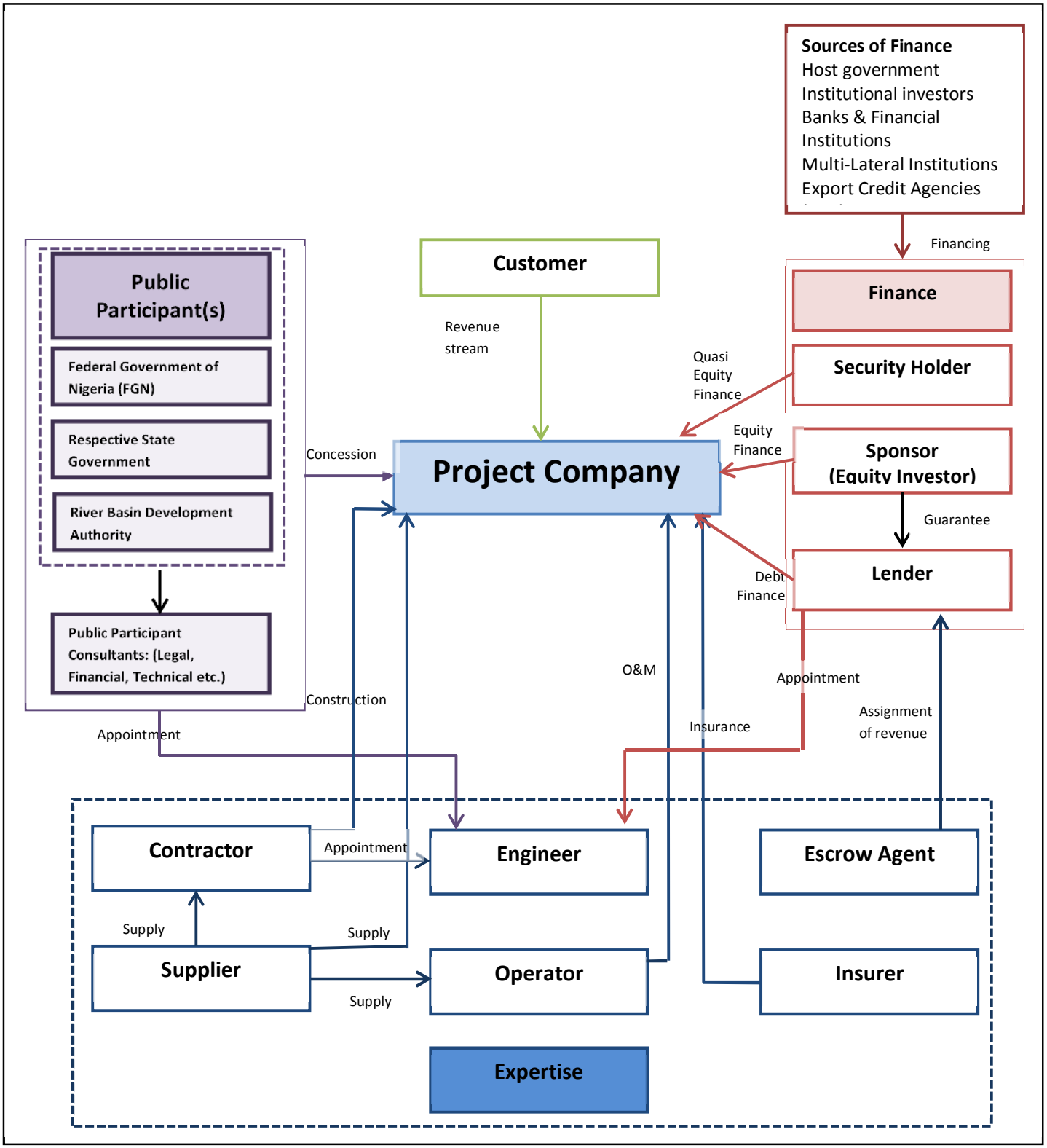

Image 6: PPP Participants: basic Structure

The Key participants in a PPP can be segregated into Public Participants and the Private participants. However a number of other parties such as finance providers (Banks, FIs, Multi-laterals, etc.), advisors, contractors, engineers and other experts are involved in the project to make the commissioning of the project possible. This section discusses in detail the various participants in a PPP.

7.1 Public Participants

Although it is assumed that there is a single entity that acts on behalf of the 'Public Participant', the Public Participants in any PPP project may consist of different Government departments/ ministries, at times with competing interests. The term 'Public Participant' encompasses all government bodies such as federal/ state governments, government owned enterprises, municipalities (local government), departments/ministries of the government or an administrative entity, among others. The Public Participants should make structural, institutional and cultural changes to enable them act in a synchronized manner and provide guidelines/ directions that are not contradictory.

Public Participants are usually involved in the allotment of the project license / concession, issuance of permits and clearances or authorizations required for the construction and operation of the project. They decide on the project's scope, finalize and oversee the design, performance and maintenance of the project and ensure that it is aligned with the objectives of the public at large. The public participant decides on the bidding & evaluation process and thus the actual selection of the private participant/ project sponsors.[9] The Public Participants may be involved in the project in other ways such as a provider of financial or credit support, as a payment guarantor, as an equity investor, a supplier of raw materials, as a power purchaser among a host of other regulatory roles.

The host government, which may be an integral part of the public participant, may grant tax concessions and/or provide foreign exchange availability assurances to the project company. The host government may also act as public regulator of the project and govern issues concerning the interface of the project company and the public to ensure that public interest is served.

In addition, the public participants may be expected to provide direction and support to the project company, in the form of legislative, regulatory, administrative and (in some cases) financial support.

[9]Source: UNIDO, *Guidelines for Infrastructure Development through Build-Operate-Transfer (BOT) Projects*, 1996, 3-4. http://bit.ly/1esMjn5

The role of Public Participants in a PPP will vary depending on the type of project and the type of PPP. Public Participants may or may not be involved in the active management of the project company. Public ownership in a project and its representation on the governing board will also vary depending upon the type of PPP. In a few cases, the Public Participants only interest in the project may be to take over ownership interest in the infrastructure at the end of the concession (for example in case of a BOT, BOOT type of PPP). In some cases, the Public Participants / government/ public utility may act as the principal off-taker of the generated service, in this case, electricity. The bankability and financial viability of the project will significantly depend on the financial status of the public sector participant supporting the project.

7.2 Public Participant Consultant[10]

Public Participants may have limited understanding and expertise in many aspects of a Public Private Partnership (PPP) transaction. These requisite skills and expertise can be obtained by engaging experts from outside the Public Participants. The selection of appropriate and reputable Public Participant Consultants can be critical to the success of the project. A few Issues of concern to be kept in mind while choosing the consultant are their qualifications, reputation, pricing, adequacy for the project and experience in the country and region. Consultants are usually retained to advice in the following broad areas:

7.2.1 Technical:

Technical expertise is required for the entire duration of a PPP transaction. At the start, technical expertise is needed to define the project, to put together documentation such as RFQ (Request for Qualification), RFP (Requests for Proposal), and concession documentation. Technical expertise is also needed to examine, evaluate and compare technical proposals and to assess the bids. Once the concession is awarded, technical expertise is required for assessment of facility design, overseeing construction, maintaining construction specifications and minimum standards & operation and transfer of the facility as per contract.

7.2.2 Financial:

Financial advisers are needed for structuring the project and for assisting in providing access to various forms and sources of financing the project. Financial advisers are also hired for their knowledge about foreign exchange, capital markets, financial viability of the feasibility studies and matters that lenders of the project will need to look at as part of their security package. Another important part of the transaction that the financial

[10] Source: *A guide for hiring and managing advisors for private participation in infrastructure* dated July 2001

advisors oversee is the financial return to the private participant and the pricing of services. It is important to keep the financial return commensurate with the risk assumed by the private participant and to ensure that pricing is fair to the consumers.

7.2.3 Legal:

Lawyers and legal consultants are needed to outline, review and finalize the structure of the project. They also draft, review and negotiate the necessary documentation for the projects.

Depending on the PPP structure, other consultants with expertise in human resources, environmental studies/ science and public relations issues may also be consulted at various stages of a PPP project.

7.3 Project Company

A Project Company in the form of a Special Purpose Vehicle (SPV) may be incorporated to own the infrastructure asset in a PPP. An unincorporated consortium in which the project assets are directly held by the sponsors according to their participating interests might be a less favored alternative form of project ownership.

The merits and demerits of an isolated local corporate vehicle as opposed to an unincorporated consortium are discussed below. The issues here are also relevant for the government as a policy maker, because they are the basic considerations of an international investor when investing in a country.

The key advantages for the sponsors of a locally incorporated SPV are:

7.3.1 Bankruptcy remoteness for the project:

In case of direct ownership of the project by the sponsors, if one of the sponsors become insolvent, then the assets of the whole project are likely to have a charge of a claim by the insolvent sponsor's liquidator. An SPV corporate structure isolates the hydro project assets from this risk. The shares in the project company may also be subject to liens for the benefit of the other sponsors in the event of bankruptcy.

7.3.2 Bankruptcy remoteness for the sponsors:

An SPV or a local corporate structure isolates the risks of the hydro power project from the sponsors. As an SPV the entities will have limited liability. In the event of the project failing, the maximum liability of the sponsors will be restricted to the maximum extent that they have agreed to commit to the project.

7.3.3 Management:

An SPV allows the project to be administered by a board of directors rather than a committee of a joint venture. As directors have fiduciary obligations to act in the best interest of the company for which they are directors, the directors of a project company are more likely to act in the interest of the project company than the committee, which may act in the interests of the individual sponsors.

7.3.4 Vesting of project assets

An SPV facilitates the vesting of the project assets. It is an organized structure in which one company holds the entire project assets, thus not leaving any ambiguity of ownership or responsibility, in contrast to a project owned by an unincorporated association or Joint Venture.

7.3.5 Benefits of Special Purpose Vehicle incorporation

Incorporation of an SPV provides the following benefits to the implementation of the Project:

7.3.5.1 **Security:** Lenders are more comfortable in financing projects under a corporate structure. In fact, lenders may require an SPV to be formed before extending project finance to the project.

7.3.5.2 **Introduction of new sponsors.** A corporate structure allows for new sponsors / equity investors to be introduced through transfer of shares or issuance of new shares. Incorporation of new investors in an unincorporated joint venture consortium would require amendments to be made to the ownership documents of each of the project assets, and possibly for the registration of changes in the ownership. In a PPP transaction, however, the introduction of new owners may be subject to the right of approval from the government.

7.3.5.3 **Divestment of existing sponsors.** As a corollary to the above point it is also easier for a sponsor or a shareholder to exit the project in case of an SPV rather than while holding of individual assets. In a PPP transaction, however, any change in SPV ownership may be subject to approval from the government.

7.3.5.4 **Jurisdiction.** A local corporate entity being an 'artificial judicial person' will ensure that the sponsors are not directly subject to the risk of jurisdiction of the local courts although the local project company would need to be in compliance with the local regulatory regime.

7.3.5.5 **Non-inclusion of negative covenants.** Project finance in infrastructure projects imposes many strict undertakings and covenants in order to protect the value of

the lenders' security. A corporate entity enables the project company instead of the sponsors to be subject to these undertakings.

7.3.5.6 **Reporting requirements.** A corporate structure may isolate the project liabilities from the sponsors' accounts, subject to the local legal and accounting policies.

The principal disadvantages to the sponsors of a locally incorporated special purpose vehicle are:

- **Tax:** The tax position may be less advantageous, although many countries offer tax incentives for investments in infrastructure projects.
- **Political risk:** Incorporating the company will result in the project company being exposed to the local laws and hence subject it to greater political risks.

7.4 Finance

This section describes the financial structure of a typical PPP project and identifies the participants that provide finance to the project. The participants are classified on the basis of the interest they hold in the project company.

While a sponsor holds equity interests in the project company, a lender provides debt finance to the project company. A bondholder holds security in the company that is neither purely equity nor debt. Generally, equity is distinguished from debt in the following major ways:

7.4.1 Control

Equity shareholders are regarded as owners and managers of a company. A majority of the equity shareholders have a control of the project company. The shareholders influence the direction of the project company indirectly through the right to appoint and remove the board of directors, and directly by the exercise of voting rights in a shareholders' meeting.

Lenders in an infrastructure project, in contrast to equity share holders, limit their influence to those issues as expressly provided in the loan agreements. These include limits the project company's ability to pay dividends, take another loan, etc.

The residual rights and responsibilities in relation to management and control of the project company remain with the shareholders.

7.4.2 Profits:

While lenders are entitled to a specific return governed mainly by the rate of interest, shareholders' potential gain if the company increases in value or declares a profit is not subject to a maximum cap. However, company laws of many jurisdictions prevent the companies from declaring and paying profits beyond certain limits.

7.4.3 Priority on winding up:

Lenders to a company will be ranked first in terms of priority in the event of liquidation. If there is insufficient money to pay all its creditors, the shareholders will not receive a return of their capital investment. Even during normal operation, the lenders payment is covered first through payments on account of interest and principal.

7.5 Sponsor

A sponsor subscribes for shares or equity in the project company, and may provide other forms of finance by way of a subordinated debt or debentures. Project sponsor may be a single entity or a consortium of interested parties. They may include contractors, operators or suppliers of the project. The power purchaser may also be a sponsor in a project where the obligation is based on a take-or-pay agreement.

Besides interested parties a sponsor may also be an investor who is looking for a return on their equity investment. A sponsor's interest in the project company can take several forms depending on the structure of the project and the PPP arrangement.

The usual interests of an equity holder in the project company and the relevant agreements in a PPP that form the basis of those interests are as follows:

7.5.1 Shares:

The local company laws of the host country will outline the rights and obligations of the sponsors as shareholders. These rights and obligations may be modified or supplemented in the formal organizational document of the company (e.g. the Constitution, Memorandum of Articles, articles of association, by-laws) or in different contractual documents such as the equity subscription agreement, shareholders' agreement, JV agreement.

7.5.2 Subordinated debt:

The sponsors may also invest in the project company in the form of mezzanine finance such as subordinated debt under a subordinated loan agreement. Such a loan is usually

advanced by the existing shareholders in the proportion of their shareholding in the project company.

7.5.3 Options:

The sponsors in a project company may advance a debt to the company with an option to convert to shares at a pre-decided point of time at an agreed valuation (convertible debentures). Certain triggers to the conversion may also be agreed upon before advancing the loan. For example, the option holder may agree to convert only if the Debt Service Coverage Ratio (DSCR) or EBITDA is above a certain level.

7.5.4 Lender

Debt finance (usually project finance) is advanced to the project by a lender or a group of lenders. The loan is provided at a specified rate of interest with pre-agreed term of repayment. The rate of interest is usually calculated as a spread or margin over an agreed reference rate (e.g. LIBOR or the base lending rate fixed by the country's central bank). The spread or margin is proportional to the perceived project risk and the risk premium the lender expects from the borrower.

The lender would have remedies and options in place with regards to the project company and the guarantors of the loan, which would be exercised in case the project company fails to repay the loan. The creditworthiness of the project and of the guarantors may be of prime interest to the lender.

A thorough due diligence of the project company, the infrastructure asset and the potential revenue streams is usually conducted by the lender to ensure that the project company can comfortably repay the capital and interest. The asset is tested for its potential cash flows generation and its adequacy to repay the loan along with the interest. All contracts concerning the project will be examined by the lender, e.g. the shareholders agreements, the concession agreement, power purchase agreement, the EPC contract & the E&M contract among others. An escrow agent may be appointed to hold on to the revenues of the project and distribute them in the order of payments as approved in the financing documents.

7.5.5 Security holder

To raise finance for the project the project company may issue 'quasi- equity' securities which would be purchased by the security holders. Such securities (bonds) usually provide a return at a specified interest rate. A trust deed will be formulated by a trustee on behalf of the security holders to agree on the terms and conditions of the securities.

Usually 'quasi- equity' securities are lower in the pecking order during the distribution of liquidation proceeds in comparison to the senior debt, but are ranked above the equity share holders. These securities may also have convertible options allowing the securities to be converted to shares in a company at a particular price. Sources of security finance are institutional investors, banks and multilateral institutions.

7.6 Expertise

7.6.1 EPC Contractor

An EPC contractor may be appointed by the project company for the construction including the design and engineering of the project. Usually the qualification requirements of the Public Participants for eligible contractors and design/ engineering firms are outlined in the concession agreement. The contractor's obligations to design and construct are governed by the EPC agreement between the contractor and the Project Company. The EPC contract contains back-to-back obligations of the contractor, matching those of the Project Company outlined in the concession agreement. The EPC contract addresses issues concerning the engineering (and design), procurement and construction of the project.

Conflict of interest issues may need to be addressed if the contractor also is a shareholder in the project company.

7.6.2 Engineer

Independent Engineering consultants may be required by many participants to protect their interest in the project. Generally, the lenders, the project company & the public participant may employ separate engineering firms for providing advice on technical aspects of the project. The engineering firm may be called the Owners' engineer (if appointed by the project company or the owner) or Lenders' engineer (if appointed by the lenders). The role of the engineer would vary depending upon their client (party appointing them), the risks the party has to assume and on the terms of the engineer's appointment.

The contractor of the project may appoint an engineer to oversee and supervise the designs and technical aspects of the project. The same may also be done by an internal team of the contractor if a qualified and experienced team is available in-house.

An engineer will be appointed by the project company for analyzing the scope of works, for preparing / reviewing the technical portions of the EPC contract, for reviewing the designs and works of the contractor under the EPC agreement.

The government will engage an engineer to review and advice on the project company's compliance under the concession agreement. The engineering consultant will also advise with regards to the condition of the project facility for the transfer back to the government (for a BOOT/ BOT type PPP).

The lenders engage an engineer to monitor construction, ensure technical standards are met and also for issuance of progress reports for disbursements of the loan or for release of funds against bills put up by the contractor / Project Company. Engineers may also be retained by the lenders during the operational stage of the project to ensure compliance and proper maintenance of facilities.

7.6.3 Operator

Post commissioning of the hydro power project, the project company may engage an operator to run and maintain the project. Usually, the operator is the Project Company (or its subsidiary). At times, the contractor or their subsidiary may take up the O&M job. In case the operator is not the Project Company, an O&M agreement or a technical services agreement (TSA) governs the scope and relationship between the operator and the project company. The O&M or TSA will contain back-to-back matching obligations, availability, efficiency and service guarantees that match the obligations of the project company towards the public participant.

The operator will manage operations and maintenance of the project. Usually the remuneration of the operator is a service fee along with performance (Generation) based incentives or penalties.

7.6.4 Insurer

The lenders to the project almost always require that the project company take out suitable and adequate insurance cover for the project. The insurance premium costs in an infrastructure project are often substantial and need to be factored into the cost of the project.

Insurance for political risks and commercial risks may be available from ECAs and other multi-lateral institutions such as MIGA. Often the terms of the power purchase agreement also make it mandatory to obtain a broad portfolio of insurance policies and coverage.

Besides mandatory clauses, project sponsors may seek additional insurance coverage, such as political risk insurance (PRI), to protect their investment.

7.6.5 Escrow Agent

The lenders to the project usually appoint an escrow agent which is normally a financial institution. The escrow agent, for a fee, holds and disburses the proceeds of the project company in accordance with the terms of the loan agreements in a pre-determined process. Generally, the order of payments is such that the operational expenses of the project (including the Maintenance Reserve Account or MRA) are taken care of first. The payments to lenders (including interest, principal & payments to the Debt service reserve account or DSRA) are next, followed by payments to bond holders or debentures. The payments to preferential shares come next and the payments to common shareholders are the last. Any amounts left behind may go for accelerated repayment of senior debt or to the general reserve.

7.6.6 Supplier

The suppler is responsible for the procurement of raw materials or equipment and making them available to the contractor or the operator of the project. It ensures the delivery of necessary fuel, spares, raw material, utility services or trained human resources to the project during construction and operation. It is important to choose suppliers of repute and proven capabilities so that the supply-chain of requirements during the construction or operation phase is not halted or delayed. This helps in preventing delays and cost over runs during construction & protects efficiency and revenues during operation.

7.7 Customer

The customers are users of the electricity generated by the proposed hydroelectric power project. Though the final consumers / customers might be the public at large or industry, the Power Purchase Agreement (PPA) is signed with the primary customer which is usually a Public Utility such as a Distribution Company (DISCO) or the Market Operator such as NBET in Nigeria.

For the proposed Doma hydroelectric power project, the PPA will be in accordance with the MYTO II guidelines of the Nigerian Electricity Regulatory Commission (NERC). The PPA may be signed with the Abuja DISCO or NBET.

7.8 Sources of Finance

A number of participants may act as providers or sources of finance to the project. Finance may be by way of equity, debt or quasi-equity/ mezzanine finance instruments that are a mixture of both debt and equity. Some of the sources of this finance are set out in this section.

7.8.1 Host government

The Public Participant may provide financial support to a project, where the project qualifies for a social cost-benefit analysis but the revenue benefits are difficult to capture for the private sector. Thus, Government finance may help a project on the verge of financial viability to attain complete financial viability.

The government's financial contribution to the project may take many different forms:

a. Direct equity investment.

Direct equity investment puts the government in a better position to control and monitor the project (as an equity share holder in the project). On the other hand, the project may become more susceptible to unwarranted political interference, usually a discouragement to the private sector.

However, with public participant as a shareholder, the project may be able to get fast-tracked clearances from government departments. Possibility of involvement of public participants may be outlined clearly in the concession agreement to remove ambiguities.

b. Direct loan:

A direct loan may be provided by the government to the project company. E.g. in case of the Sydney Harbor Tunnel project, the government provided an interest free loan of AU$ 223 million over a 30 year period.[11] No commercial bank or financial institution may be able to match the terms (including interest rates & repayment tenor) of the public sector loan. Such direct loans may become necessary if the project has a long gestation period and revenue build up is slow over time.

c. Stand-by loan:

A stand-by loan may be provided by the government contingent on some trigger events. E.g. if cost overruns are attributable to the public participant, the public participant may agree to fund the additional costs through a standby credit facility.

[11]Source: Ralph Harris (Auditor General's report), *Private Participation in the Provision of Public Infrastructure: The Roads and Traffic Industry*, 17 October 1994.

d. Guarantee:

Financial guarantees in various forms may be provided by the government to the lenders or sponsors of the project as a 'condition precedent' to the provision of finance. One form of a guarantee by the government is to enter into contracts with the electricity producer promising to purchase electricity on a "take or pay" basis.

e. Subsidies:

In regulated tariff regimes the public participant may offer subsidies to the project company to cover the spread between the actual receivable and full commercial price. Subsidies may also be given to incentivize smaller projects which may not be financially attractive to private participants.

7.8.2 Institutional investor:

Institutional investors include fund managers / financial institutions that have pooled funds to be managed and invested on behalf of their investors.

7.8.3 Banks:

Banks provide the debt capital usually in the form of project finance. Commercial banks tend to lend on a syndicated basis for large project finance transactions. Banks structure loans to meet the specific needs of the borrowers and the projects expected cash flow pattern.

7.8.4 Multi-lateral Institutions:

Various multi-lateral institutions and donor agencies provide project finance for infrastructure projects in the form of debt or equity. Criteria for investment and terms of financing vary from one donor agency to another depending upon the investment agenda of each agency.

Some of the renowned multilateral institutions include:

- AfDB (African Development Bank Group)
- ADB (Asian Development Bank in Asia)
- IFC (World Bank Group, operates worldwide)
- EBRD (mainly for Eastern Europe)
- EIB (mainly for Europe infrastructure projects)

7.8.5 Export Credit Agencies or ECAs

ECAs are state-owned organizations with the primary objective of promoting the host country's exports and are an important source of long term debt finance. The terms and conditions for the loan offered by ECAs are generally subsidized and are less demanding in comparison to those offered by commercial banks.

The primary drawback with ECA lending is that they mostly require a sovereign guarantee and contain riders that various contracts be given to contractors/ manufacturers originating from the ECA host country. Due to this, ECA finance is generally used for funding equipment purchase (turbines, generators & related electrical components) rather than for civil works. ECAs may also offer political risk insurance, commercial risk insurance and interest rate support.

The following table provides details of some ECAs and their parent countries:

Country	**ECA**
United Kingdom	Export Credits Guarantee Department (ECGD)
United States	Export-Import Bank of the United States (USEXIM)
Netherlands	Nederlandsche Credietverzekering Maatschappij (NCM)
Italy	Istituto per i Servizi Assicurativi per il Commercio Estero (SACE)
France	Compagnie Francaise D'assurance Pour Le Commerce Exterieur (COFACE)
Germany	Hermes Kreditversicherungs-AG
Japan	Japan Bank for International Cooperation (JBIC)/MITI
Belgium	OND
Switzerland	ORG
Austria	O&KB

7.8.6 Private firm:

PPP projects are at times financed by private firms, the most common being the contractor for the infrastructure project. The contractors of the projects commit a certain amount of resources, including finance in accordance with the terms of the concession agreements.

Lenders often demand guarantees from private firms contracted for various works related to the concession agreement, before providing project finance.

8. Project Implementation Arrangements[12]

A number of steps are involved in the project implementation process from conception of a project to allotment of a PPP concession to the selected bidder. Each step requires careful planning and a dedicated team of experienced professionals for flawless implementation. The various stages envisaged in executing a PPP are summarized in the flow chart below:

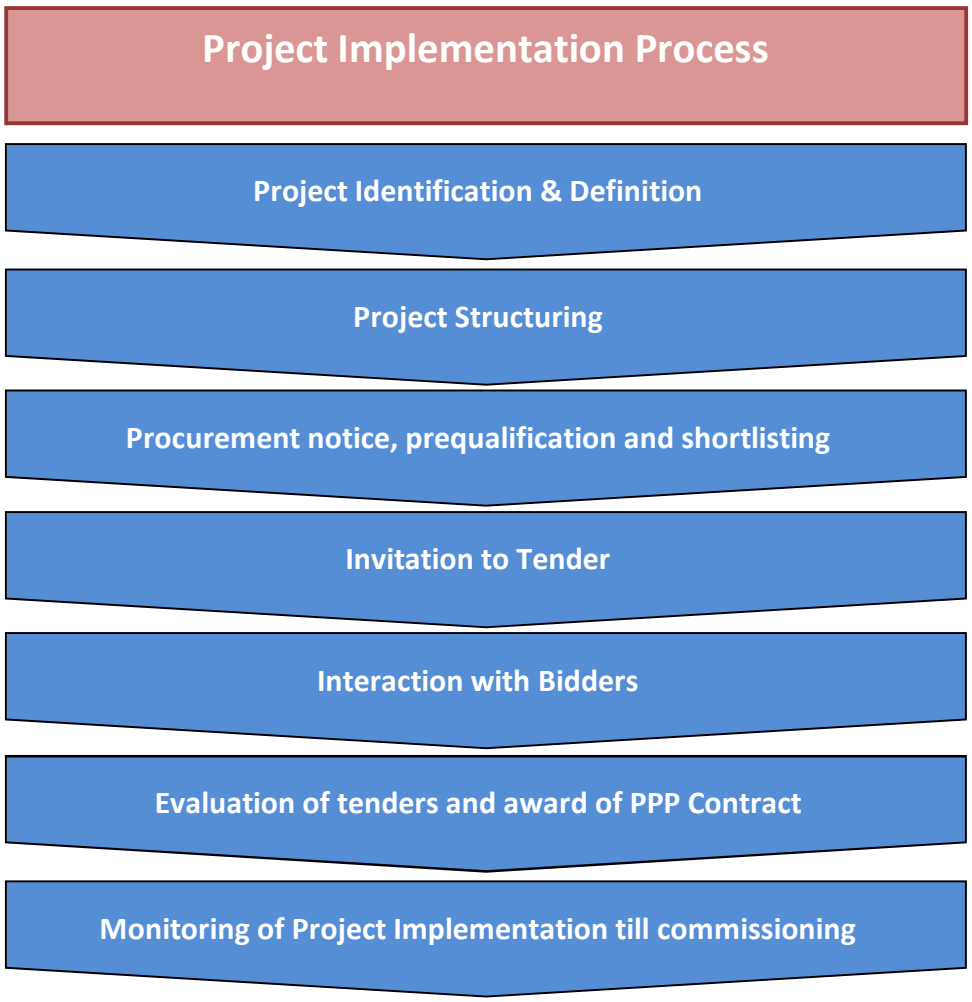

Image 7: Stages in Project Implementation for PPP of a Small Hydro power project

[12] Source: http://www.eib.org/epec/g2g/iii-procurement/31/index.htm Retrieved on 15 September 2013

8.1. Develop the project for the bid[13]

After identifying any project for a PPP, the Public Participants need to define all aspects of the Project before it can be advertised to potential investors. The following steps give a comprehensive outline of the project definition process:

I. Assess the requirement and assemble the requisite project management team and external advisers.
II. Define the extent of Public participation & Identify the various parties comprising the Public Participant
III. Outline individual roles and responsibilities of public participants
IV. Establish communication protocol among the public participants.
V. Establish the Public Participant's requirements from the hydro power project and outline the contractual documents governing the same
VI. Develop confidence among potential private participants on the terms envisaged
VII. Internally assess and determine type of public sector support that will be provided to the private participant pre and post – commissioning e.g. support for land acquisition, regulatory clearances such as Environmental clearance.
VIII. Outline and draft a comprehensive and credible PPP / concession contract
IX. Identify potential areas of dispute and establish the basis for dispute management
X. Develop the project information for bidders and establish a data room
XI. Identify and list all the relevant statutory processes and clearances required
XII. Develop a strategy for raising awareness of the project among potential investors e.g. a road show, pre-bid meeting, call for expression of interest (EOI)
XIII. Prepare for the procurement phase (strategy, budgets, timetable, and people)
XIV. Complete the value-for-money assessments
XV. Establish the basis on which a project's success will be evaluated

[13] Source: http://bit.ly/a9IowR Retrieved on 17 September 2013

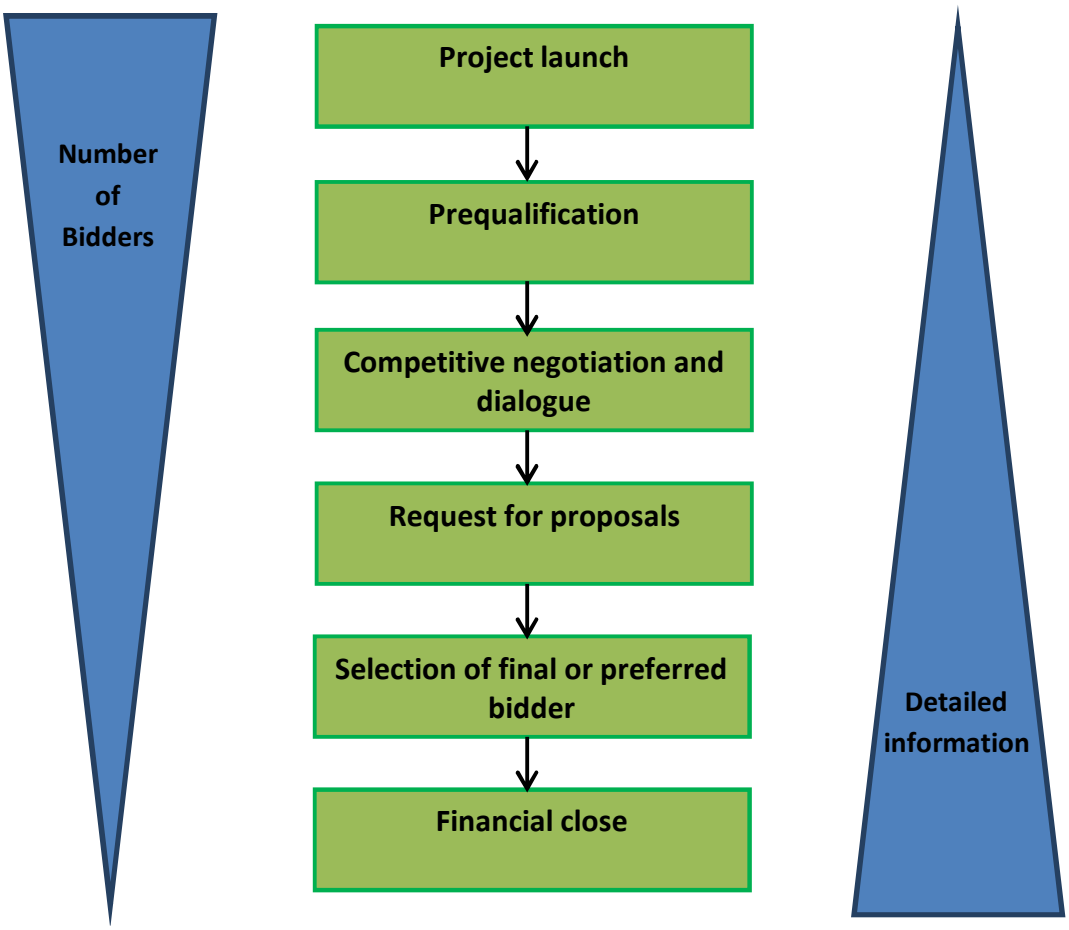

Image 8: Flow of Information & number of Bidders

8.2. Communication with bidders

Communication with bidders is a continuous process and needs to be strategized, planned and implemented at various stages of the project. The common points of communication are:

- Market soundings during project development
- Market briefing held to inform the potential participants at the time of the release of the EOI.
- Communication during the RfQ and RfP phase that comprise of written Question and answer procedures
- Communication during the bid phase that involves an interactive tender process;
- Debriefing of unsuccessful parties once contract execution or financial close is achieved.
- Release of bid security of unsuccessful bidders once negotiations with preferred bidder are concluded successfully

PPP projects may require a greater window of opportunity for bidders to seek clarification and advice in comparison to other projects.

It should be ensured that:

- Confidentiality of information shared by all bidders is maintained.
- No bidder receives an unfair advantage as a result of elaboration given in response to a question (responses to clarifications are therefore to be shared equally with all bidders irrespective of who asked for the clarification)
- Relevant transparency measures are sufficiently followed in letter and spirit

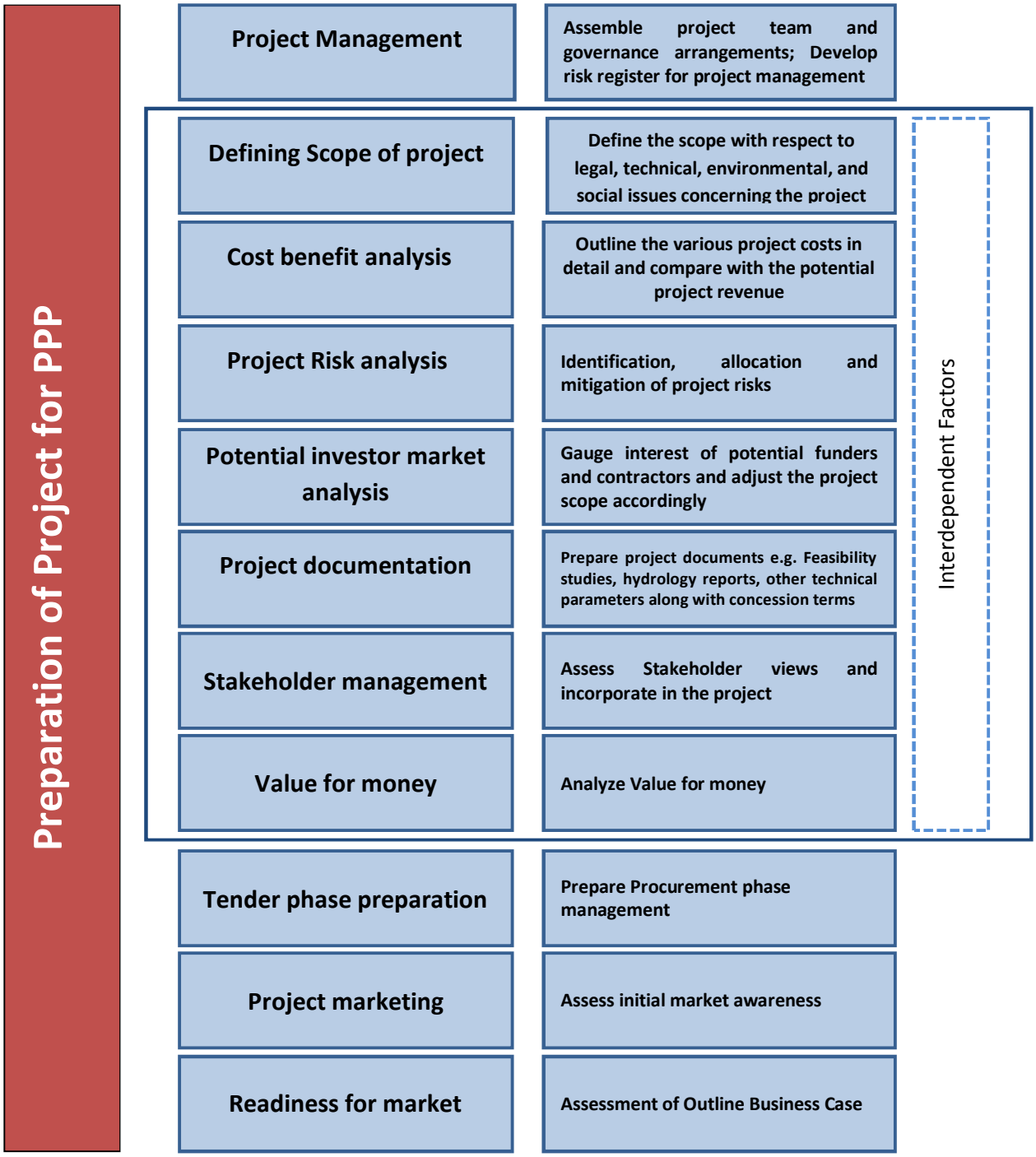

Image 9: Preparation of a Project for a PPP[14]

[14]Source: http://bit.ly/1erjpCM Retrieved on 18 September 2013

8.3. Procurement notice (expression of interest)

The formal procurement process starts with a publication of the public procurement notice. This marks the start of the formal procurement process. It is a good practice to publish the procurement notice in one or more of the local and international periodicals, as well as on reputed websites. Also known as an Expression of Interest (EOI), this is a multi-staged process used to shortlist potential suppliers/contractors/ private participants for the requisite works. The shortlisted parties later submit a detailed bid in the tendering stage. The purpose of the procurement phase is to develop and conduct a process that accomplishes the following:

- Selects a bid
- Maximizes the benefits of competitive tension between bidders
- Delivers the best bid from the most competent bidder
- Minimizes time and cost
- Stands up to scrutiny from citizens and both the public and private sectors.

An EOI should usually comprise of the following[15]:

- Name and full address of the Organization:
- Management Structure:
- Contact Person with designation:
- Contact details (telephone numbers, fax number, email):
- Current operational areas of work of the investor group:
- Audited financial statements / Turnover for the most recent three years:
- Approval/registration with any Govt. or international agency:
- Details of expertise available in the design, construction and operation and maintenance of hydro power projects
- Regular manpower available on roll for proposed work along with their age, qualification and experience
- Description of similar projects executed till date in different geographical areas
- Any other credentials in the field of hydropower
- Acceptance of terms and conditions

8.4. Pre-Qualification and Request for qualification (RfQ)

The primary purpose of a prequalification is to include bidders that appear to be capable of conducting the PPP project in the requisite manner. The description of the project mentioned in the notice to the private participants should be broad and generic so that, it need not be altered subsequently, as that may lead to the procurement process being required to start all

[15] Source: http://bis.org.in/cert/FORMAT-EOI.pdf Retrieved on 18 September 2013

over again. At the same time, the description should not be so broad as to confound the bidders regarding the specific scope of the project.

Usually, interested parties that respond to the initial notice are intimated with a statement of information about the project along with a questionnaire. The responses form the basis of a qualification criterion that demonstrates the parties' ability to implement the project.

The prequalification questionnaire should address the following:

- A description of the dam facility and an outline and overview of the proposed hydro power project;
- The upfront fee (refundable and non-refundable) to be submitted (e.g. tender document charges, processing fee, security deposits);
- The intended allocation of major risks and envisaged responsibilities of each party;
- A summarized list of the studies and data (such as feasibility studies, hydrology reports & data, structural report & drawings for the dam, historical readings from various monitoring devices on the dam) that will be made available to bidders concerning the project;
- the intended procurement process;
- A description of the minimum qualification criteria for financial threshold (net worth and turnover) and technical competence/ qualification in terms of hydro power projects executed;
- The tie-up / Joint ventures / consortium allowed (if any) (e.g. parent or subsidiary companies' qualifications);
- The historical business activities of the consortium and legal information about their constituents;
- The qualifications of personnel involved in the project;
- The criteria and mechanisms that will be used to evaluate the prequalification statement
- A time table covering various events of the bid.

Usually the public participant's legal advisers draft both the PPP procurement notice and the prequalification questionnaire (also called the RfQ).

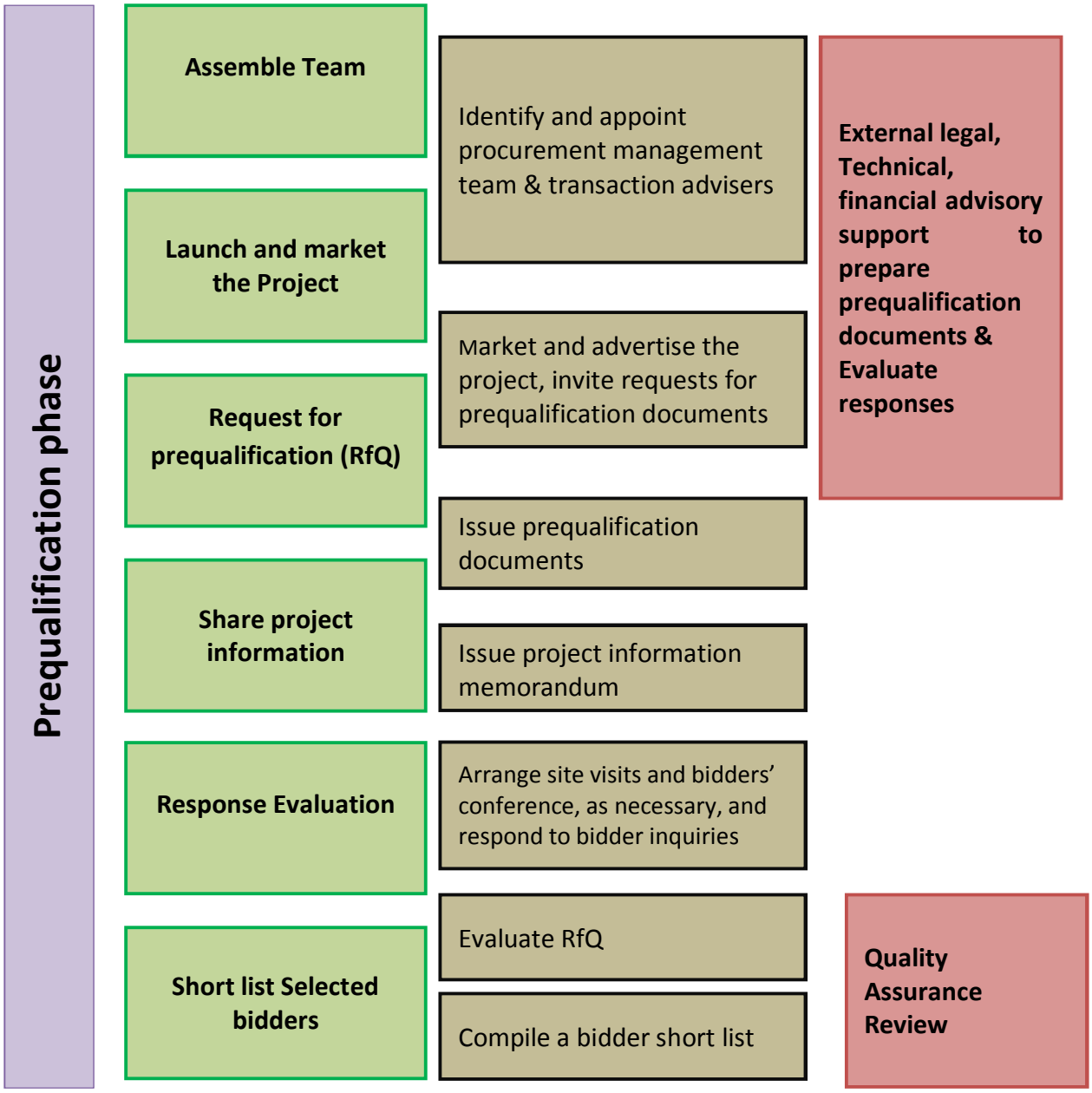

Image 10: Outline of the Prequalification Phase[16]

8.5. Shortlisting

The objective of shortlisting is to reduce the number of bidders. While the actual reduced number of bidders varies from project to project, the usual number of bidders left after the shortlisting is generally between three and five. Evaluating bids is a time-consuming exercise for the public participants and its consultants. The aim of the bidding process is to maximize competition and not the number of bidders.

[16] Source: http://bit.ly/1erjpCM Retrieved on 19 September 2013

The short listing procedure will focus on the technical capability, business capability and financial net worth of the potential bidders. These capacities must be, in principle, demonstrated jointly, rather than individually, by the members of a consortium.

The various stages of the prequalification and shortlisting process can be summarized as below:

Stage I: Determine which consortia have passed the thresholds in all the relevant aspects

Stage II: Rank and assign scores to the parties clearing stage I on the basis of a systematic and predetermined process.

Stage III: On the basis of ranks obtained in stage II narrow down the list to arrive at a shortlist.

A well-substantiated prequalification report should be prepared to provide a good audit trail. Unsuccessful bidders should be debriefed.

8.6. Invitation to tender/bid or Request for Proposal (RfP)[17]

8.6.1 The Request for Proposal

The tender documents are usually prepared during the last stages of the project preparation phase. However, finalization of various documents often takes place during the prequalification period.

It should be ensured that the various consultants (finance, technical, legal) provide their individual inputs in detail and then re-examine the final documents as a whole to ensure that the various components of the tender documents are in sync with each other. It should be ensured that the bids should be comparable and there is no ambiguity or room for debate on any of the inputs by any bidder.

The tender documentation should address the following issues:

- A detailed information memorandum about the project should be provided;
- A summary of the obligations of each party and the risk allocation;
- Detailed output specifications
- The minimum required technical design, technical features and the international or local design specifications / codes to be adhered to
- The level of commitment required from the lenders and equity investors
- The full draft PPP contract
- The Instructions to Bidders (ITB) concerning all the information they must submit and the detailed procedures for submission including formats, number of copies, deadlines;
- The evaluation criteria; and

[17] Source: http://www.eib.org/epec/g2g/iii-procurement/31/312/index.htm Retrieved on 19 September 2013

- The requirements for bid bonds or security (amount, form).

The information shared in the tender document shall be detailed to assist the bidder and to minimize the bidding costs for the private candidates, however it shall not:

- Prevent bidders from offering cost-efficient alternatives based on their expertise and capacity for innovation,
- Transfer unnecessary risks to the public entity.

8.6.2 Data Room

Following release of the RFP to the shortlisted bidders, a key aspect involves the communication protocols, and in particular, sharing of the data. For this a Data room is proposed to be created. The process can be made more efficient by providing the shortlisted bidders all relevant information that may aid in the preparation of the response to the RFP.

Such information may include:

- Any analysis of legislative and regulatory impacts;
- Feasibility studies & other technical data;
- Land use considerations;
- Geological information;
- Demand estimates etc.

Information in the data room should be made available with appropriate disclaimers. This data room may be a physical room or an electronic equivalent (e.g. online repository with access control and printing permissions/ restrictions. The information could be shared with the bidders as part of the RFP documentation as well.

8.6.3 Interaction with the bidders

The RfP stage involves a submission of bids from prequalified bidders within a notified timetable. The submission of documents may be preceded by a round of the prequalified bidders seeking clarifications about the bid requirements. Written clarifications should be provided to all bidders. Clarification meetings may also be held with representatives of all bidders being invited to attend. Written communication should be issued detailing minutes of such meetings and the resultant clarifications.

The terms and conditions for the interactive process outlining the procedures, protocols and rules should be pre-determined in the set of conditions, rights and obligations to which bidders

agree to. The objective of developing this iterative process is to improve the quality of the proposals by:

- Promoting and encouraging innovative solutions from different bidders;
- Clarifying any technical, financial and commercial issues; and
- Providing timely, direct and specific feedback to all bidders on key aspects of their bids.

The end objective of sharing adequate data and the interaction process for providing clarifications is to improve the quality of bid submissions from the shortlisted bidders and ultimately deliver better outcomes for the public.

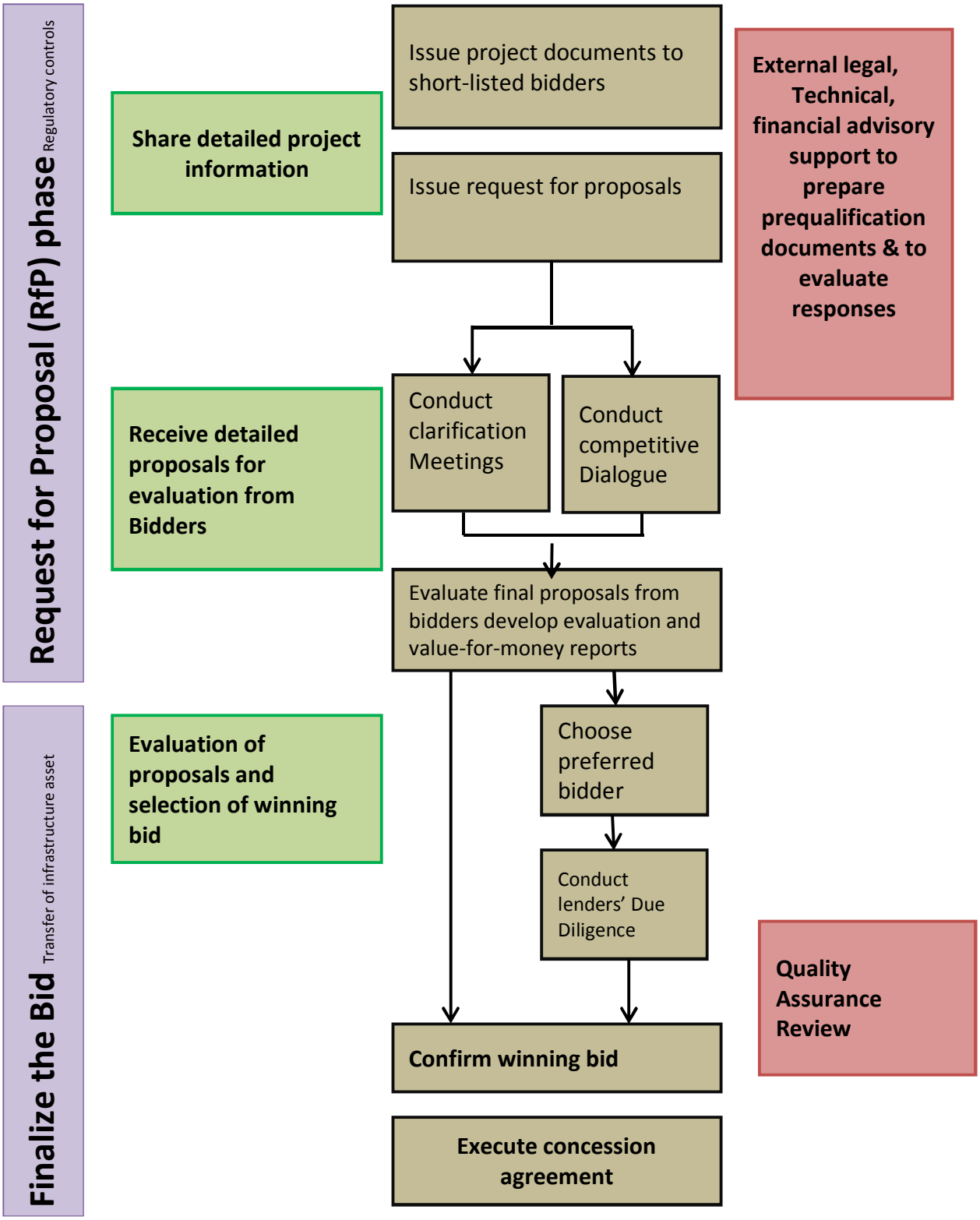

Image 11: Outline of the Request-for-Proposals and Financial Close Phases[18]

[18] Source: http://bit.ly/1erjpCM Retrieved on 19 September 2013

8.7. Documents to be submitted by bidders[19]

The documents to be submitted by the bidder can be divided into four parts, namely: the Technical bid proposal, the Financial Proposal, the Legal Proposal and the draft contracts.

8.7.1. Technical bid proposal

The finalizing of contractors, sub-contractors and suppliers prior to the bid is an additional and unnecessary burden on bidders and should not be compulsory. These can be identified once the concession has been awarded. The technical bid should comprise of the following:

- Relevant technical experience (individual or consortium) in designing and constructing dams, irrigation schemes and hydro power projects
- Environmental protection plan
- Operating program and costs
- Maintenance program and costs

8.7.2. Financial proposal

The commercial / financial proposal should address the following issues:

- The financial net worth of the bidder
- The turnover of the bidder or the parent company(s) of the proposed project company
- The free cash flows of the bidder or the parent company(s) of the proposed project company.
- Residual value/debt amortization profile.

8.7.3. Legal proposal

The bidder should submit the following along with the bid:

- Acceptance of terms of the contract,
- Draft shareholders' agreement/ consortium agreement/ joint venture agreement
- Letter of conveyance signed by the authorized representatives of the company or consortium submitting the bid.
- Term sheets of other main contracts could also be requested (power purchase agreement, construction contract (EPC), operation & maintenance contract, minimum insurance requirements).

[19] Source: http://bit.ly/1a66K31 Retrieved on 19 September 2013

8.7.4. Draft Contract

The bidders should be expected to submit a draft copy of the contract along with the bid. This will affirm their compliance with the terms of the contract and limit post selection negotiation to a reasonable minimum. Draft contracts could be provided as formats along with the Tender Documents and bidders may be required to provide their mark-up of the contracts. E.g. Draft PPA could be provided along with the Bid to be marked up and submitted by the bidders with the response. Bidders may be encouraged to accept most of the terms and submit a non-marked up or least marked up bid. Markups of different bidders then can be compared to see who has submitted the most responsive (least marked up) bid.

8.8. Bid Evaluation and Negotiations:

8.8.1. Bid Evaluation

After the tenders (responses to RfP) are submitted, the bids are scrutinized and evaluated to select the preferred bidder. Bids should be evaluated in line with the evaluation criteria detailed in the RFP and in accordance with the details of the evaluation plan. An evaluation plan should be developed and approved by the Project Steering Committee before the release of the RFP responses.

Once the RfP responses are received, the decision is made on the appropriate structure of the evaluation team. Different teams are established to assess the service delivery, design solution and commercial elements of proposals. A matrix is usually created to rank the various bidders in the order of the inputs in the bid and arrive at the 'L1', 'L2' and 'L3'.

It is imperative that any bidding consortium must come across as a well-integrated entity rather than just a collection of individuals together solely for fulfilling the bidding purposes requirements.

8.8.2. Low Bid response

The method to proceed in case there is only a single applicant for the bid should be pre decided and outlined. If the bidder interest is low because of lack of information in the tender documents, it should be analyzed if these can realistically be remedied. The best solution might be to repeat the tender procedure after addressing the deficiencies.

8.8.3. Negotiations[20]

[20] Source: http://bit.ly/18BzaVj Retrieved on 19 September 2013

If the circumstances allow, instead of taking a "best and final offer" (BAFO) from the bidders, it may be beneficial to undertake negotiations simultaneously with two or more bidders before the evaluation process and selecting a preferred bidder.

If the 'Bid Evaluation Panel' concludes that the bidders need to develop their proposals to standards that justify their appointment as preferred bidders, pre-selection negotiations should be conducted. A higher level of interaction may be required to resolves issues as the assessment (e.g. design, commercial or otherwise) will require interactive discussions. Such pre-selection negotiations should be undertaken within a tightly defined timeframe to maintain the competitive spirit of the process and to minimize bid costs.

The pre-selection negotiations, if conducted, should address all areas of deficiency in the bidder's proposals e.g. design, construction, services, financial, contractual among other things. The bid evaluation panel may choose to negotiate different risk allocations and contractual terms with each bidder, provided that the process is conducted in a fair and equitable manner, under the eyes of an independent watchdog or regulator.

8.9. Evaluation reports

The evaluation process and methodology used for assessing the submitted bids or proposals should be included in the form of an evaluation report. The format for the same should be specified in the evaluation plan and should be agreed by the steering committee before proposals are received. If the evaluation committee is assisted by a range of specialized sub-committees, separate evaluation reports should normally be compiled by each sub-committee.

Each of the reports should be combined into a combined evaluation panel report for the Project Steering Committee. The report should rank the bids from in a decreasing order of preference based on clearly identified & pre-decided parameters such as cost, value for money, technical efficiency or qualification of the proposal. The report should specifically address the evaluation criteria mentioned in the EOI/RFP. It should make an objective and analytical analysis of the bids, based on the identified evaluation criteria (e.g. service delivery) and make an unambiguous recommendation of the preferred party to the Government.

The report should discuss the rankings within each area of evaluation and the basis for the procurement team's agreement on the preferred bidder. The evaluation process and report should also include a confirmation from an independent process watchdog or regulator that the evaluation process was undertaken in accordance with the evaluation plan and has been conducted in a fair & transparent manner.

8.10. Award

The Steering Committee should ensure that a single preferred bidder is nominated within the stipulated timeframe. If it is not possible to identify a single preferred bidder after the evaluation phase, the Project Steering Committee should evaluate if a value for money solution can be achieved. Only then the Project Steering Committee may agree to an alternative approach to identify a bidder as preferred through:

- Shortlisting two bidders and undertaking a best and final offer ("BAFO") negotiation; or
- Shortlisting two bidders to undertake a structured negotiation process where a greater level of interaction is involved to address the outstanding issues.

It should be ensured that a minimum 'standstill period' (say 15 days) is maintained between the PPP contract award decision and the actual conclusion of the contract. This will allow the rejected bidders to have time to conduct their assessment and decide if they want to challenge the award. The Public participant should structure a mechanism to address all grievances of any aggrieved bidder. Otherwise, they may take steps to hinder/delay the execution of the project or in worst case have the PPP contract rendered ineffective.

8.11. Bidding timelines:

Indicative timelines for all stages of the bid have to be planned well in advance and communicated to the bidders at the start of the bid process. The man-hours required in the analysis of the proposals received should be correctly estimated and appropriate allocation of manpower should be done. While it should be ensured that there is enough time to complete the assessment procedure, the time lag between two events should not be so long as to dampen the interest of the bidders or give them time to indulge in unfair practices.

The following table gives an indicative time schedule for the various events in the bid:

	Day -->	0	30	60	75	90	120	180	210
RfQ	Request for Qualification (RfQ)								
	Submission and opening of Response to EOI / RfQ								
	Evaluation of RfQ for Short-listing potential bidders								
RfP	Invitation to tender/bid (ITB) or Request for Proposal								

	Day -->	0	30	60	75	90	120	180	210
	Pre-bid meeting / Interaction with the bidders								
	Submission of Response to RfP								
	Evaluation of responses to RfP								
	Award of PPP contract								
	Standstill Period								
	Execution of the contract								

9. Regulatory and legal setup

The PPP arrangement will be based on a number of contractual agreements between the concerned parties such as Public participant, Private participant, financing institutions, EPC contractors, & Operators among others. The following chart contains an overview of the contractual structure of a typical PPP project. Each of the boxes represents participating entities & the arrows represent transactional relationships among these entities.

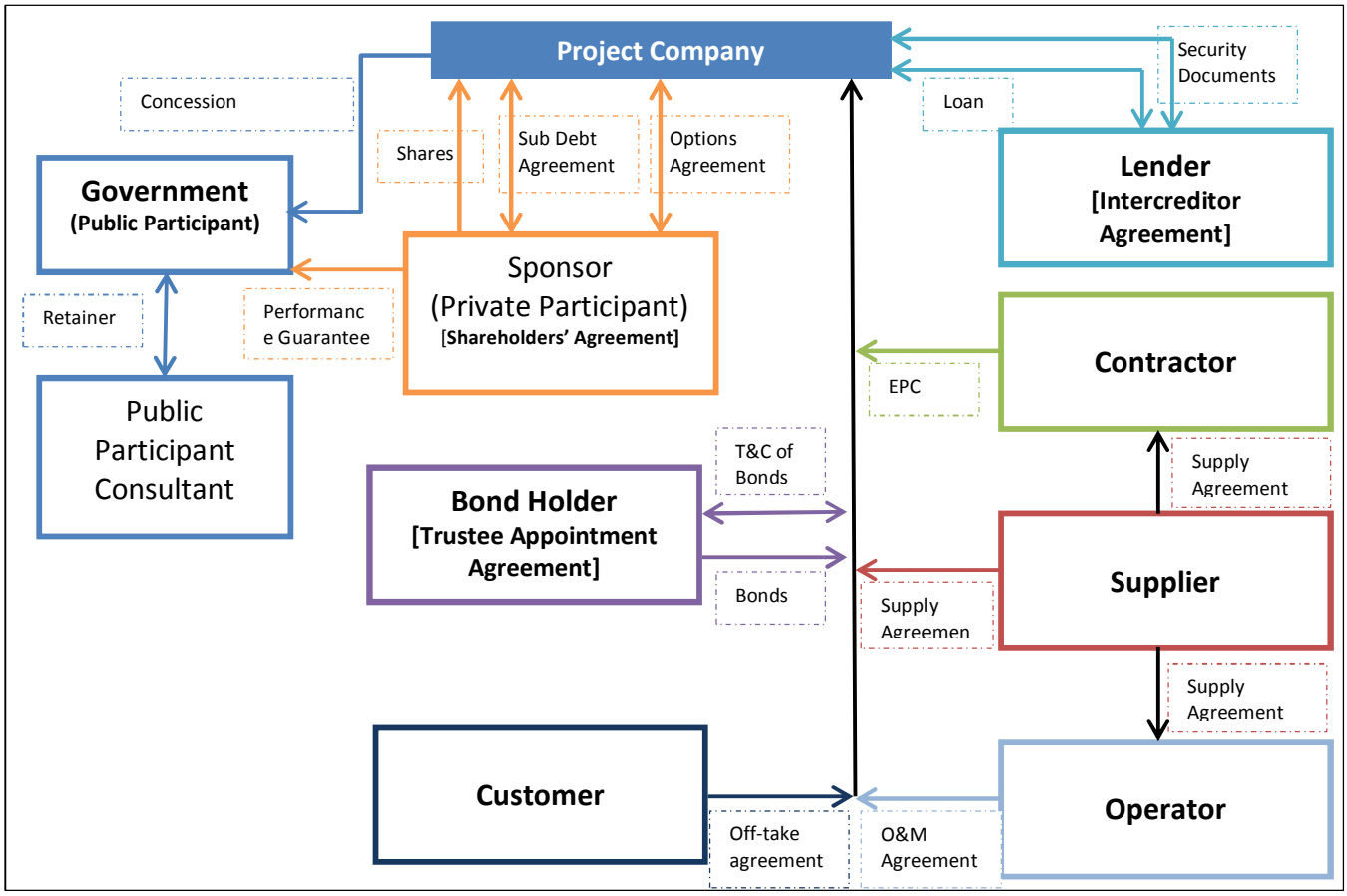

Image 12: Overview of project agreements

The various agreements have been categorized as follows:

I. Agreements Between the Government and their consultants: **Retainer**
II. Agreement Between the Government and the Project Company for granting the right to operate the power project: **Concession Agreement**
III. Agreement Between the Sponsors and the Project Company to provide equity finance to the project: **Equity Finance/ Share Subscription Agreement/ Share Holders Agreement**
IV. Agreements Between the Lenders and the Project Company to provide debt finance to the project: **Financing documents/ Facilities agreement**

V. Agreements Between the Bond-Holder and the Project Company provide quasi-equity finance to the project through issuing securities such as bonds: **Quasi-equity Finance**

VI. Agreements to design, construct, operate and maintain the Hydro power Project: **Design, Construct, Operate and Maintain / EPC contract/ O&M contract**

VII. The agreements with customers of the power project (Power Purchase Agreement): **Off-take agreements/ PPA**

Each of the above mentioned agreements are described in detail in the following sections. A subsection titled "**Points to be noted by the Public Participant**" describes the critical factors to be addressed by the Government/ Public Participant to ensure that the primary objectives and concerns of the government/ public participant with respect to the PPP project are addressed adequately.

Another subsection titled "**Key pointers for the Private Participant**" includes issues of critical importance for the Private Participant. These critical issues are often heavily negotiated. It is important to consider all project agreements as a whole because all agreements are interdependent & need to be drafted in a holistic manner.

9.1 Retainer

This section deals with the agreement between the government and its consultants[21]. The Public Participant usually needs to retain consultants to conduct a PPP project. The consultants design the PPP structure, help in drafting the PPP contractual documents and conduct the PPP award process from start to finish. Typically, a number of consultants from different domains such as technical, legal, financial may be involved.

9.1.1 Points to be noted by the Public Participant

The Public participant's main objectives for their contractual agreement with consultants are:

a. **Quality.** The Public Participants must hire consultants of repute, who have the experience & qualifications of having delivered similar projects in the past. A number of qualifying factors need to be addressed in the retainer that could contribute to better quality advice.

b. **Terms of Reference or ToR.** A retainer agreement should contain clearly defined "Terms of Reference" (TOR) which outline the scope of work and the process of delivery of the work by the consultants. The TOR should also contain the timelines for delivery of various milestones for the work.

[21] Source: http://rru.worldbank.org/Documents/Toolkits/hiringadvisors_fulltoolkit.pdf , http://www.unescap.org/ttdw/ppp/trainingmaterials/PPPs_Legal_Perspective.pdf, Retrieved on 26 August 2013

c. **Incentives.** To align the mutual interest of the consultants with that of the client, mechanisms or incentives such as "Success Fee" based compensation should be devised.
d. **Assessment**. A mechanism for continually / periodically assessing the consultants' performance should be incorporated in the retainer agreement. Steps for resolving all disputes arising on the basis of the review and assessment should be outlined. The Public participant should refrain from terminating the contracts in haste as it may lead to delays, litigation, additional costs and loss of trust in the private sector.
e. **Cost.** The public participant should look for value for money instead of absolute cost. Although the fees charged by the Consultants add to the overall costs, a properly designed and well-conducted PPP process will result in much larger gains for the Public Participant. The public participant should steer clear of the following:
    - Conflicting instructions
    - Lack of commitment and
    - Lack of leadership support

    These factors can cause delays and ultimately add to the cost of the PPP project. The public participant should retain experienced and reputable consultants at market prices instead of going for the least cost option.

f. **Trust.** The consultant and the public participant should share a relationship of trust. Generally in most common law jurisdictions, fiduciary obligations extend even beyond the express terms of the contract. However, a retainer must clearly impose contractual obligations of confidentiality and provide for ways to resolve conflict of interest situations.

9.1.2 Key takes for the Retainer agreement:

The first agreement entered into by the government in relation to a PPP project is a retainer. It is the agreement between the Public Participant and their consultants governing the terms & conditions under which the Public Participant's consultants will deliver their services.

Steps in executing a retainer document:

Step I: The document in the form of a letter is drafted by the Public Participant Consultants containing the agreed upon terms and conditions and shared with the Public Participant in duplicate.

Step II: The Public Participant reviews the draft agreement and suggests modifications where necessary. The two parties negotiate and agree to the final draft of the agreement.

Step III: The Public Participant & the Consultants execute the agreement in at least two counterparts, and keep a copy of the executed agreement.

9.1.3 Major Concerns

A retainer should address the following concerns:

a. Fees:

The consultants' fees may be of the following types:

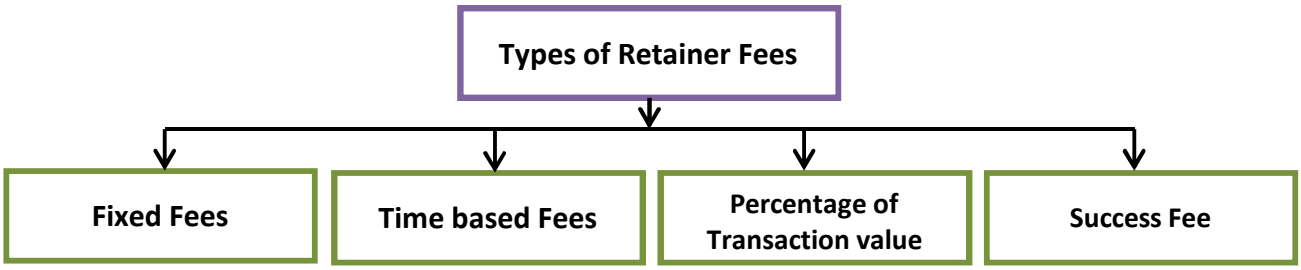

Image 13: Types of Retainer Fees

- **Fixed fee.** As the name suggests, a fixed fee is a lump sum amount. Although it has clarity in definition of the amount payable, it suffers from the following limitations:
    - *Time factor*: It may be difficult to estimate the time required for the transaction in advance. Also, the transaction may be prolonged because of certain external or internal issues and thus, the time input of the consultants may be unpredictable at the start.
    - *Resource Allocation*: As the job progresses, the resources needed by the consultant to complete the project may change.

Usually a fixed fee component is in addition to other variable costs, for example, cost-plus-fixed-fee basis.

- **Time based:** Time based fees are the most common type of retainer fees. It entails the payment of a "recurring fixed amount" or an "out of pocket expenses" + "profit element" on an agreed time schedule; on the basis of hours, days or months.
  Time based fees may have a collar i.e. a minimum amount payable (if the allocated work is completed earlier) or a cap (if the allocated work takes more than the expected time). Many a times the time based fee payable is "staggered", varying over the time frame. This is a midway approach between imposing a cap (usually not accepted by the consultants) and paying retainer fees without a time limit (usually not accepted by the Public participants).
  Right at the beginning of the negotiations for the Retainer agreement, a "ballpark" or an "estimate" for the cost of works should be calculated based on the scope of work and

nature of the project. The estimate should be agreed upon by both the parties. This exercise gives the government an understanding of the consultants' fees and helps in negotiating a reduction of the actual fees. The parties may be able to change their practices for greater efficiency in the future.

- **Percentage of Transaction value.** This type of fees are payable as percentage of the total transaction value. While this is common in financial advisory in mergers and acquisitions, initial public offerings transactions and bonds issues, it is unusual in a typical PPP project.
- **Success fee.** This is an incentive based fee. It aligns the interest of the Public participant's consultant with its own, towards the successful completion of the project. The "success fees" payable on the "completion" of the project is incorporated into the contract by clearly defining success and completion. This type of fee arrangement is common with legal and financial consultants "completion" means a financial close of a transaction (in contrast to the completion of the infrastructure asset).

In any case, the fee structure and the amount of fees can be negotiated based on a competitive process, wherein proposals from multiple qualified consulting organizations are called and compared. Negotiations can then be conducted on the basis of the proposals to arrive at the preferred consultant along with their fee structures.

b. Scope of work:

The Retainer agreement should clearly outline the scope of work. The Public participant should ensure that the scope of work is consistent with the government's understanding of the consultant's role in the project and the public participant's expectations from the PPP process.

c. Confidentiality:

Strict confidentiality should be maintained by the consultants with regards to all the data, documents and information shared by the Pubic Participants. The following should be ensured:

- That confidential information is appropriately defined.
- That the consultant does not use the confidential information for any purpose other than to advise the government.
- That the obligation extends to all sub-contractors, employees and agents of the consultants. And,
- That the government be notified if there is any breach of confidence.

d. Conflict of interest:

The Public Participant Consultants should not have clients whose interest's conflict with those of the Public participant. The market for PPP project consultants is highly specialized and only a

handful of suitably experienced and qualified consultants may be available. Thus, there often arises a probability of conflicting interest which may be detrimental to the fair conduct of the PPP process. It should be mentioned in the contract that the government should be informed of any conflict of interest as soon as the consultant becomes aware of the same.

e. Professional liability:

In the event of any negligence in advice or impartment of wrong advice on the part of the consultants, the consultants are liable to compensate the public participants. The consultants may attempt to limit the extent of their potential liability. The public Participant should review the scope and the exceptions (or "carve outs") to the consultant's liability.

The rationality of the exemptions from liabilities should be reasoned. A generic disclaimer of liabilities for any advice or conduct of the consultant should not be acceptable, e.g., a consultant should be liable for any fraudulent act of it, its employees or its agents. Also, a specific exclusion of liability against, for example, losses in profits that failed to be realized, usually referred to as "expectation losses", is arguably acceptable.

f. Termination:

The Public participant should ensure that it is able to terminate the services of the consultant if it is dissatisfied with the consultant's services. Ideally, the government should be able to terminate the consultant's services at its discretion.

Either party could be allowed to terminate the retainer with notice to the other party (though there may be a period of notice). However the level of termination rights may not be the same for both the parties. E.g. in case of a success fee, the public participant should not be able to terminate the retainer immediately prior to the completion of the project to avoid paying the success fee.

g. Procedures:

The Public participant and the consultant should outline a process by which the Public participant and its consultants would conduct the project and the procedures by which the Public participant would review and asses the progress of the consultant's work.

9.2 The Concession agreement:

The concession arrangement between the public and the private participants is the most important & central agreement / document of the Public Private Partnership arrangement. In PPP projects, a concession agreement supports the whole structure of the PPP transaction. The key purposes of concession agreement are:

- To define the working relationship between the public and the private sectors.
- To identify and allocate vital responsibilities & risks in the project.
- To act as the central core of the security documentation for lenders.

It is a guideline agreement between a project company and the relevant Public Participant authority whereby the project company undertakes to construct and operate the particular infrastructure or service. It also deals with the performance guarantee to the government provided by the private participant. This is in effect a guarantee by a sponsor (usually from the private sector) of the performance by the project company.

'Concession agreement' for all further discussions in the present context will refer to contractual arrangements that give the private participant a right to operate the concerned Hydro power project. Depending on what PPP structure is adopted, such agreement may also be called a BOT agreement, BOOT agreement, a lease or a license.

On the basis of a bid, the government grants the project company the right to use and receive the economic benefits arising from provision of the infrastructure services. The ownership of the Hydro power project may be transferred to the government on completion of a certain specified term, also known as the concession period.

9.2.1 Nature of the concession agreement:

It is generally assumed that the Public Participant in the PPP has entered into a concession agreement in its commercial capacity, and contractual rights and obligations under the concession agreement apply to the Public Participant no differently than to other contracting persons.

Under the event of this assumption not being true, the parties will need to consider the extent to which this changes the commercial rights of the project company. The project company, its sponsors and its lenders, may have concerns about irrevocability, certainty and enforceability of their rights that need to be addressed. An enabling legislation may need to be enacted to overcome these concerns.[22]

The concession agreement cannot be considered in isolation from the regulatory and legislative environment of the project area.

9.2.2 Main objectives of the Public Participant in the concession agreement

The main objectives of the Public Participants in a concession agreement are as follows:

[22] Source: United Nations Commission on International Trade Law (UNCITRAL), Model Legislative Provisions on Privately Financed Infrastructure Projects, 2004.

9.2.2.1 Successful construction of the Hydro power project:

Under the PPP arrangement, the design, financing and construction of the Hydro power project may be undertaken by the private participant. One of the main objectives of the concession agreement is to ensure correct and optimum design as well as construction of the hydro power project, achieving the objective set out by the Public Participant in a timely manner. The Private participant alone should be responsible for any fault in the design and construction of the Hydro power project (except in the limited circumstances that the defect or delays were caused by the Public Participant).

9.2.2.2 Quality of construction of the hydro power project

The concession agreement should outline the basic standards and guidelines of quality that should followed and achieved in the construction of the hydro power project. The responsibilities of the private participant should be clearly defined as well.

9.2.2.3 Electricity generation:

The Public Participant should articulate its needs and expectations of the private participant in clear and quantifiable terms with regards to the expected generation. The project company should provide the minimum or expected generation throughout the period of the concession. Properly defining the responsibilities of the private sector is the key to successful implementation of the project.

9.2.2.4 Revenue and electricity sharing with various related entities (e.g. Hydroelectric Power Producing Areas Development Commission):

The concession agreement should clearly mention the services or the revenue / electricity sharing that the project company will have to provide to the local area; for example:

- Revenue shared With Hydroelectric Power Producing Areas Development Commission
- Free power to be given for electrification of the local area.
- Revenue sharing with the State/ Federal Government.
- Revenue sharing for development of social amenities such as school, bus shelter, parks, medical facilities, town hall, or any other public infrastructure in the local area.

9.2.2.5 Regulatory compliance:

Relevant safety and environmental protection standards to be followed by the project company should be outlined in the concession agreement. Even if statutory safety monitoring departments or laws are in place, the same should be outlined in the concession agreement.[23]

9.2.2.6 Return on investment and Tariff:

The primary rational for any investment by a private participant in a venture is to earn a return on their investment. Thus it is of prime importance that adequate returns to the private participant are ensured in the concession agreement. The primary area of focus would be tariff determination and should address the following:

I. From a **lenders** perspective, there should be sufficient revenues to cover the project's debt service with a safety margin.
II. The equity investors should be assured that they will recover their investment within a reasonable time frame and earn a reasonable return on their investment.
III. Provisions for sharing of windfall gains to ensure reasonable profit to accrue to the Public participant if the project is more successful than anticipated.

The third point mentioned above is debatable, nonetheless it should be explored.

In the present case, MYTO II tariff regime will be applicable for the revenues of the hydro power project. A reference of the same should be included in the concession agreement.

9.2.2.7 Adequate maintenance:

Provisions for proper repair and maintenance should be included to ensure:

- That the project company generates electricity with minimized down time and
- That the Hydro power project is in a good condition when it is transferred to the government at the end of the concession period.

It is prudent for the Public Participant to require that the sponsors guarantee certain (if not all) obligations under the concession agreement.

9.2.3 Key pointers for the Private Participant

The issues discussed below are aspects to be provided for in the concession agreement. The underlying concern of all of these issues is risk allocation, which is discussed separately.

[23] Source: Christopher Clement-Davies, *Public/Private Partnerships in Emerging Markets: Structuring the Concession Agreement*, 4

9.2.3.1 Concession period

The concession period is usually the time period for which the private sector is granted the right to operate the infrastructure facility commercially and profit from it. Usually the concession period is specified in terms of duration of time. However, an alternative method is to calculate the concession period on the basis of a fixed return on investment to the project company (that is, concession period is defined as the period of time necessary for the private sector to achieve a specified financial return). On expiry of the concession, it is appropriate to terminate rights and obligations rather than terminate the concession agreement entirely.

Appropriate duration of a concession period would depend on:

- **The cost of constructing the facility**

  The concession period is directly proportional to the cost of constructing the facility. The concession period should be long enough for the private participant to repay the loans and make the required return on its investments.

- **The cost of the process for selecting the private sector.**

  There is a direct correlation between the length of the process and the expense of selecting a private participant and the tenure of the concession agreement. It may not be cost effective to put the concession up for tender frequently.

9.2.3.2 Construction of the facility.

The primary obligation of the project company under the concession agreement is likely to be the construction of the small hydro power project at the Doma Dam. According to convention, it is common to confer on the private participant the obligation to design and construct the small hydro power project.

Following issues relating to the design and construction of the small hydro power project need to be dealt with in the concession agreement:

a. Time and price.

The cost of design and construction are usually not specified in the concession agreement, as the project company relies on futuristic revenues from the operation of the facility to recover its construction costs. The time limit for completion of construction of the hydro power project should be specified in the agreement.

On failure to complete the design and construction of the facility within a specified time, the project company should be required to pay liquidated damages. At the same time

certain rewards / bonus may be provided to incentivize the project company to complete the construction of the facility within a specified time.

b. Government input.

The private participant would have to get the approval of the Public Participant on the designs and other construction parameters of the facility. The concession agreement will provide an opportunity for the government to review the design, suggest changes where required and supervise the construction of the hydro power project facility. There should, however, be no express obligation for the government to approve or provide input, because this may lead to contributory fault by the government if something is wrong in the design or construction of the infrastructure.

c. Completion.

The completion of the construction of the hydro power project is the key milestone in the project. Mechanisms for the public participant to test whether completion of the power project facility has occurred, e.g. demonstrate assured electricity generation, etc. needs to be built into the agreement.

d. Consequences of delayed completion.

Penalties to be levied if the target dates for completion of the project are not met should be explicitly mentioned in the contract. Adequate measures to determine the reason for the delay, i.e. failure to complete is caused by the government, the project company (or its sponsors), or something that is outside the control of either the government or the project company should also be determined.

e. Consequences of early completion.

The project company may be given an incentive for early completion, as that will also mean an early commencement & availability of hydro power project. The reward for early completion, however, may already be inbuilt if the period for termination of the concession period is a fixed date. That is, the project company would benefit from longer revenue generation period where the infrastructure asset is operational.

9.2.3.3 Standards

The minimum standards that the project company should comply with should be stated in the concession agreement. The mechanisms to monitor compliance of these standards and the consequences in the event of a failure in compliance should be in place.

The concession agreement should specify, the minimum applicable standards, the Public Participant's monitoring rights and the consequences of noncompliance with these standards for each of these stages:

- The design and construction phase: technical specifications for design and construction of the facility;
- On commissioning of the hydro power project: standard procedures for operation and maintenance of the power project; and
- On transfer of the hydro power project to the government: the condition of that power project, including any warranties in relation to the components of the facility.

9.2.3.4 Tariff:

The tariff structure is the most important issue in developing a hydro power project. It governs the economic viability of the project. The tariff for the proposed Doma Hydroelectric power project will be in compliance with the MYTO II tariff order of the Nigerian Electricity Regulatory Commission (NERC).[24]

9.2.3.5 Termination:

The concession agreement in its termination provisions should specify:

- The events when the project company or the public participant can exercise the right to terminate the concession agreement, e.g. on insolvency or liquidation events of the other party, and for material breach;

- The mechanisms outlining the process of termination. Usually it is a required to provide a notice of termination, except for termination on insolvency or cases where breaches of the agreements are not capable of being remedied, this may give lenders time and opportunities to exercise any step-in rights;

- The compensation payments to the project company on termination. The public participant may have to compensate the project company for the investments already made in infrastructure facility;

- Other rights and obligations of the parties after termination, such as surviving confidentially obligations should ratified;

[24] Source: http://www.nercng.org/index.php/myto-2 Retrieved on 29 August 2013

- The lenders' step-in rights should be reconciled with the termination provision. Termination of the concession would not be in the interest of the lenders until they have been paid out.

9.2.3.6 Force majeure:

Related to the issue of termination is the issue of force majeure. In general force majeure relates to the ability of a party to excuse itself from performance of the party's contractual obligations where performance has become difficult or impossible due to abnormal or unforeseeable circumstances or events that are not the fault of either party, and which the party pleading force majeure could not avoid despite the exercise of due care.

The example of events that constitute force majeure includes

- Acts of God,
- War including civil war,
- Revolution, coup or regime change
- Riot,
- Civil disturbance,
- Cyclone,
- Flood,
- Earthquake, Tsunami
- Volcanic eruption,
- Tidal wave
- Nuclear accident etc.

9.2.3.7 Stabilization

The long-term nature of the concession agreement results in a risk that events would occur that significantly change the nature of the agreement, or the assumptions that underlie the Public Participants' or the project company's risks, rights and obligations under the agreement. To address the same, the concession agreement should contain a "stabilization" provision to deal with what happens if "exceptional events" occur. The exceptional events may be

- Changes in law or taxation,
- Modifications to licenses or permits,
- Economic disruption or
- Loss of basic investment protection rights (however they are defined).

9.2.3.8 Dispute resolution:

The parties in the PPP should agree upon a court or an arbitral body, in whom the parties have confidence and which can resolve any conflict or disputes in relation to the agreement fairly. The parties also need to ensure that the final determination of the court or arbitral body concerned is enforceable against the other party. The parties should be able to enforce any decision in the jurisdiction in which the hydro power project is located.

9.2.3.9 Choice of law:

All disputes and arbitrations will be resolved based on the choice of law stated in the concession agreement. It should be explicitly mentioned in the agreement that all disputes will be subject to the Nigerian law unless otherwise agreed upon.

9.2.3.10 Performance Guarantee to Government:

In the PPP concession agreement, the sponsors guarantee to the Public Participant (and also probably to the lenders) the performance obligations that are expected of the project company. The actual performance guaranteed is usually limited to the obligation under the concession agreement to complete the construction of the Hydro power project on time and in budget.

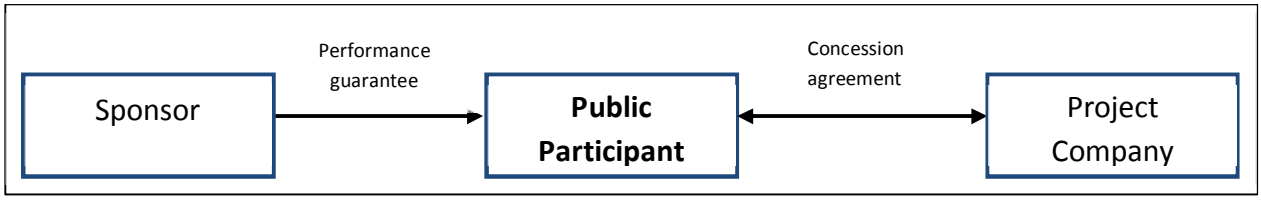

Image 14: Performance Guarantee

Key pointers for the performance guarantee:

- **Trigger event:**

  The event / breach of certain obligations that will trigger a breach of the performance guarantee should be clearly defined.

- **Consequences of default:**

  An event that triggers the performance guarantee usually triggers a default of another financial agreement with lenders. Hence, the interrelationship between the project company's (and the sponsors') obligations to the Public Participants with the project company's (and the sponsors') obligations to the lenders should be addressed jointly.

- **Expiry**

  The time frame of a performance guarantee should be outlined. It could be a specified number of months / years or it could be linked to the completion of construction of the hydro power project.

9.2.3.11 Indemnity:

The performance guarantee should act as an indemnity to pay for loss if completion is not achieved regardless of fault. Exceptions should be made for *force majeure* events.

9.3 Equity Finance

This segment deals with the agreements pertaining to the sponsors, or the equity holders of the project company.

The agreements discussed here are:

- The shareholders' agreement (or SHA; includes constitutional documents of the project company stating the rights and interests in shares, for example, the constitution or articles of association of the project company)
- The shareholders' loan agreement; and
- The options agreement.

Following a description of these agreements, the key issues from the Public Participant's perspective are considered.

Points to be noted by the Public Participant

The involvement of the Public Participant in the equity share holders' agreement will be depend upon the Public participants' direct interest in the project company. They might invest in the project company for an equity share at par investment. Or depending on the PPP parameters, the Public participant may be allotted a certain amount of free equity.

This subsection will deal with issues for the Public Participant in relation to the shareholders' agreement, shareholders' loan agreement and the options agreement on account of two cases:

Case I: if the government does not have an equity interest in the project company; and

Case II: Additional issues if the Public Participant does have equity interest in the project company:

9.3.1 Issues whether or not the Public Participant is an equity investor:

In case the Public Participant has no direct interest in the project company, the issues that directly impact the Public Participant are limited. It should be ensured that the shareholders' agreement is consistent with the terms of the concession agreement that the Public Participant has entered into with the company. Barring this the Public participant should not intervene in the internal management of the project company.

Some of the issues that the Public Participant may consider are:

a. Change of control:

The ownership of the project company or its control should not be allowed to freely change hands after the concession agreement has been signed. The Public Participant would have selected the private consortium on the basis of the reputation and experience of the sponsors. Hence a change of control in the project company should not occur without the government's permission. Provisions dealing with change of control should be provided for in the concession agreement.

The Public participant should also watch up for options agreement and shareholders' loan agreements that are convertible into shares. It should be ensured that the exercise of these options do not constitute a change of control that is unacceptable.

b. Capacity.

The Public Participant should verify if the company laws in Nigeria and the constitutional documents of the project company permit the project company to enter into the concession agreement and to perform its obligations under the concession agreement.

c. Authority:

It should be ensured that the person entering into agreements on behalf of the project company should be authorized to do so by the law and the constitutional documents of the project company so as to ensure the validity of the executed documents.

d. Information:

The Public Participant should outline the disclosure norms of the audited financial reports of the project company and that it is informed if specified significant events occur in relation to the project company. This will ensure transparency and accountability of the project company with special relevance of the hydro power project that public participant provides.

e. Control:

If the Public Participant is not a shareholder, it will have negligible influence on the internal management of the project company. Under usual circumstances, the project company should be entitled to conduct its business without unwarranted interference from the public participant. Nevertheless, the public participant government should insist on having some control of the internal management of the project company, if:

- The public participant / the government has provided financial guarantees to lenders or made other financial commitments in relation to the project.
- The construction of the facility has national and security significance.

In such circumstances the public participant may request for a right to nominate a director to the board of the project company. Alternatively, it may request a right of veto for any changes in the board of directors or senior management of the project company.

f. Priority of Payments:

With reference to the shareholders' loan agreement, the Public Participant should ensure that any payment due to the Public Participant by the project company, e.g. compensation for default of the project company under the concession agreement, is higher in the Pecking order of payments over the subordinated debt.

g. Solvency:

It is of prime importance to the public Participant that the project company is solvent. The project company may technically be regarded as "insolvent" if subordinated debt payable on demand of the sponsor is greater than the current assets of the project company. If needed the optimum level of subordinate debt in the project company's capital should be mentioned in the concession agreement.

9.3.2 Additional issues if the government is an equity investor

The Public Participants may invest equity capital in the project company with a view to exercise some control on the company or get a representation on the board of directors or management of the project company. This method of gaining access or participation in the control of the project company can be used if other forms of control through the concession agreement, and regulations are insufficient. In particular, it is important that the Public Participants consider the following issues:

a. Control at the board of directors (management) level.

The Public Participant as a shareholder may have the right to appoint a director or directors to the board of the project company. The key purpose of this will be a protection to disallow the board to pass certain resolutions without the consent of the director at the board.

If the Public Participants hold a substantial stake in the project company, it is reasonable to request that the minority protection issues to be decided with the affirmative vote of a director nominated by the Public Participants. The Public Participants, however, should consider the duties of the director nominated by them and ensure that they act in the benefit of the company at large while ensuring that the law of the land and the principles outlined in the concession agreement are adhered to.

b. Control at the shareholders' level.

As a minority shareholder, the Public Participants should be entitled to certain minority protection. This will insure that the project company would not take certain actions unless it has the support of the public participant/ government. The public participant, as minority shareholder, should insist on the right to veto any new issue of shares because this would have an impact of diluting the value of the existing shareholders' shares.

c. Dilution.

If the Public Participant has an equity interest in the project company, exercise of options would effectively dilute this interest. This possible scenario should be reflected in the investment price of the Public Participant equity.

d. Access to information.

If the Public Participants are shareholders, they will have access to certain information. Even if they are not equity investors, the Public Participants should have access to periodic financial & operational reports, as well as audited accounts/ annual financial results of the project company.

e. Restrictions on share transfer.

The concession agreement and the financing agreements should govern the share transfer process. Consistency should be maintained in provisions such as drag along, tag along, transfers on default and transfers in cases of disputes across documents. The Public Participant may also prohibit the project company from transferring shares during the construction period of the project. Besides the statutory restrictions on share transfer imposed by the public participant

the shares in Project Company are usually transferable subject to a right of first refusal by the other shareholders of the company.

f. Drag along / Tag along rights.

- **Drag along rights.**
  A drag along right is the right of one shareholder to compel the other shareholders to sell their shares to a third party along with the first shareholder. This ensures that the shareholder with the drag along right is able to realize the investment by enabling the shareholder with the drag along rights to deliver to a potential buyer the whole of the project company. The details of these rights should be mentioned in detail in the shareholders' agreement.
- **Tag along rights.**
  This right enables one shareholder to compel the other shareholder(s) not to sell its shares to a third party unless the second shareholders purchases, or compels the third party to purchase also, the shares of the first shareholders. This ensures that the shareholder with the tag along rights is entitled to the benefits of any realization of its investment in the project company.

The concession agreement may mention its restriction or views on the Tag along and Drag along rights of the shareholders in the project company.

g. Dispute resolution:

The disputes among shareholders in a company can be generally classified into two types:

I. A dispute relating to the interpretation or the performance of a project agreement.
II. A dispute of commercial or strategic nature about the direction of the project company.

The first dispute can be resolved by going for arbitration under an arbitral body or through courts.

The second is called a "dead lock" and can be resolved in a number of ways, e.g.

- By escalation the dispute to senior members of the shareholders,
- Forced sale to another shareholder
- Forced sale to a third party or liquidation of the project company.

The major issue with dealing with a deadlock through forced transfer mechanisms is that such mechanisms tend to favor the party that is financially stronger.

From the Pubic Participant's point of view, there may be legal or pragmatic restrictions on the Pubic Participant acquiring further shares in the project company. It is generally agreed that Silence is sometimes a way to deal with deadlocks, under the assumption that the parties will discuss and come to a mutual compromise as it is not in any shareholders' interest to leave the project company at a deadlock.

9.4 Shareholders' Agreement

The shareholders' agreement governs the relationship between the different sponsors of the project company. This is of importance for the Pubic Participant if it subscribes for equity in the project company. It is also relevant for the Pubic Participant, if shares in the project company are assignable to it by means of free equity in the bid or in the event of default or at the end of the concession period.

A general agreement as to the individual contribution to the project and the rights and interests of the various stakeholders in the project should be arrived at and ratified. The agreed responsibilities and involvement of the sponsors is usually compiled in a preliminary memorandum of understanding (MOU) or a term sheet. This MOU or term sheet should be submitted along with the bid.

A brief on the shareholders' agreement:

The following should be looked out for in a shareholders agreement:

9.4.1. Share capital and shareholders' contribution.

The project company's capital structure should be described in the shareholders' agreement. A specific provision for the subscription of equity (and mechanics to deal with the closing) should be present in the shareholders' agreement. The agreement may specify any further equity or capital commitment (in terms of the amount and form) from the shareholders, or specifically provide that there is no further equity or capital commitment.

9.4.2. Board of directors:

With regards to the Board of Directors, the shareholders' agreement should deal with the following issues:

a. Appointment and removal.

Each shareholder is entitled to nominate a specified number of directors to the board of directors the project company. The shareholders may also agree to appoint an agreed

number of "independent" directors who are not nominated by either one of the shareholders.

b. Chairperson:

The shareholders agreement should define the procedure for appointment of the chairperson, their tenure, whether the chairperson post will be rotated, who shall chair the meeting if the chairperson is not present, and whether the chairperson will have the casting vote.

c. Executive and non-executive directors:

Depending upon the responsibilities assigned to the directors and their involvement in the day-to-day management of the project company, the director appointed may be executive directors (actively involved in the day-to-day management of the project company) or non-executive directors. The shareholders agreement should have the procedure for appointment and categorization and their compensation.

d. Meetings.

Under this the mechanism and the number of times a year the directors' meetings are scheduled to be held are mentioned. The procedure for calling a meeting, the required notice of a meeting, whether electronic meetings are allowed, the rules and requisites for the same and whether a resolution signed by all the directors is an acceptable alternative to a meeting.

e. Quorum:

This deals with the number of directors that must attend a directors' meeting in order for a resolution to be validly passed. It may provide that a certain type of director (for example a director nominated by a particular shareholder) need to attend for a meeting to be duly convened. The shareholders' agreement should also provide for what happens if a quorum is not met, and quorums for subsequent adjourned meetings.

f. Duties:

This deals with the directors' duties and provisions to deal with conflicts of interests. These should be synchronized with the company / corporate law of Nigeria.

9.4.3. Shareholders agreement components:

A shareholders' agreement would deal with:

a. Meetings.

The mechanism of the general meeting, the number of times a year a meeting is held, required notice for a meeting and the procedure for calling a meeting should be described in the shareholders' agreement.

b. Quorum:

In order for a shareholders' resolution to be validly passed, the minimum number of shareholders (in absolute numbers or in percentage of shareholding terms) that must attend a shareholders' meeting is called a Quorum.

The shareholders' agreement should define the quorum and provide that a certain class of shareholder need to attend a meeting for it to be duly convened. The shareholders' agreement may also provide what happens if a quorum is not met, and quorums for subsequent meetings.

c. Reserved matters:

Certain matters of importance need a special majority a shareholders' meeting or a board of directors meeting in order to be approved. Such reserved matters should be specifically mentioned in the shareholders' agreement.

d. Protective covenants.

The shareholders should not be able to engage in, or hold interests, that compete with or conflict with the interest or the business of the project company. This will apply for as long as the shareholder hold shares in the company but may apply for a specified period of time after the shareholder ceases to hold any shares. The period that is indefinite or unreasonably long, however, may not be enforceable because the courts could view it as an unreasonable restraint of trade.

e. Transfers:

As there will a general restriction on the transfer of shares (at least for a period until the completion of the construction of the facility or for longer). Transfer provisions usually provide for:

- **Permitted transfers.**

  For example,

  - Transfers to subsidiaries,

- Transfers subject to rights of first refusal by the other shareholders.

It is important to ensure that this exception is drafted carefully as it could be used as a vehicle to circumvent transfer restrictions.

- **Compulsory transfers.**

The shareholders' agreement should state the events that trigger the compulsory transfer of shares. This is usually the change of control of the shareholder or default or insolvency of a shareholder. The events that trigger the transaction should be outlined in the shareholders' agreement.

For example,

- In the case of default or deadlock resolutions as required under the shareholders' agreement,
- In the case of a drag along rights (Please refer 9.3.2 point f.)

f. Deadlock:

Repeated failure to meet a quorum or a repeated failure to pass a resolution at the board or shareholders' meeting level causes a deadlock. The usual options for resolving a deadlock are:

- The chairperson's casting vote;
- An outsider's swing vote;
- Escalation to the chairperson or chief executive of the shareholders; and
- Reference to an expert or arbitration.

The choice of methods agreed upon to resolve deadlock(s) in the project company should be mentioned in the shareholders' agreement.

g. Exit mechanisms:

The shareholders' agreement can provide for the permissible exit mechanism options for the shareholders, for example; a transfer of shares, put/call option, public offering, liquidation and sealed bids.

9.5 Shareholders' Loan Agreement

Investors in the project company may invest by way of providing subordinated loans rather than investing in the project as equity. The advantages of investing as subordinated loans instead of equity are:

a. **Priority:**

If the subordinated loan are secured (subject to the senior debts' priority), it would enable the capital contribution to be ranked ahead of unsecured creditors.

b. Tax:

Payment of interest by the project company is tax deductible whereas payment of dividends is not.

c. Flexibility:

Subordinated loans are often more flexible that share capital. It is easier to repay the capital than the share capital. In most jurisdictions, it is also easier to pay interest than it is to declare dividends.

Key issues:

The public participant should ensure that the shareholders' agreement should address the following with regards to the shareholders' loan agreement:

- **a.** Disallow payment of subordinate debt (other than interest until a default or after the minimum debt service cover ratio is met)
- **b.** Prevent acceleration and enforcement of junior debt and security
- **c.** Allow bank to advance prior ranking new money
- **d.** Disallow any covenants, as they would hamper a restructuring
- **e.** Subordinate the debt as well as the security (If the senior security fails or is inadequate)
- **f.** Permit the lenders to change their loan agreements or security documents
- **g.** Compel junior creditors to co-operate in a private sale, and
- **h.** Prevent junior creditors from instituting insolvency proceedings.

9.6 Options Agreement

The availability of options enables the sponsors to structure the project company in ways that would achieve the objectives of the various parties associated with the project company.

Key issues concerning the options agreement

An options agreement is an agreement between the project company and the options holder that provides:

- **a.** The agreement should specify the number of options provided
- **b.** Consideration payable for the options
- **c.** The exercise price of the option
- **d.** The exercise period of the option, i.e. a predetermined date, or contingent to certain events occurring
- **e.** Lapse of options

f. The mechanism to exercise the option - the form of notice, to whom the notice should be addressed, when the notice is deemed to have been received, etc.
g. The methodology of closing
h. Covenants prior to the exercise of the option
i. Assignment of the option

9.7 Debt Finance

The following documents in relation to providing debt finance are discussed below:

1. The loan agreement between the project company and the lenders
2. The security documents that provide security for the loan agreement, and
3. The intercreditor agreement amongst the lenders

Points of importance for the public participant:

It is the responsibility of the private participant to obtain finance for the construction of the project and to make available working capital requirements for the smooth operation of the project. The process for obtaining finance is likely to be of lower concern to the government.

The lender and donors to the project, however, are likely to be very interested in the terms of the project company's concession agreement with the Public Participant. Almost invariably, lenders would require a step-in right in relation to the hydro power project facility. This is something that needs to be discussed between the Public Participant and the lender, despite the fact that the two parties rarely deal directly with each other but negotiate through the project company. A direct agreement between the lenders and the Public Participant / Government, may thus also be a part of the lending documents.

Unless the Public Participant is a party to an intercreditor agreement, it need not be concerned with the terms of the intercreditor agreement. The Public Participant should resist becoming a party to such an intercreditor agreement because the Public Participant's interests in the project company tend to be different from that of the lenders to the project. If the same is required, then it should ensure that any undertakings do not unjustifiably limit the ability of the Public Participant's to exercise its rights.

9.7.1 Loan Agreement

The loan agreement between the lenders and the project company generally governs a major part of the financing for the project company.

Key issues to be addressed in the loan agreement:

The following issues need to be considered for a loan agreement.

a. Facility:

This means information about the terms of the loan facility, including:

- **Commitment or Facility amount** i.e. the amount of the loan.
- **Availability:** The drawdown period of the loan and related conditions. The project company would usually provide a draw down notice with documents as required by the lenders to show that the conditions for draw down have been met.
- **Interest rate:** This is usually expressed as a formula for a quoted risk free interest rate (e.g. LIBOR plus a fixed or variable margin).
- **Repayment: The repay**m**e**nt dates and the last day for repayment.

b. Application of funds:

The mechanism of disbursement of the loan by the project company should be stated in the agreement.

c. Conditions precedent:

There are two types of conditions precedent to consider.

I. First, conditions to the effectiveness of the loan agreement.
II. Second, conditions to drawdown.

Most loan agreements provide for the borrower (the Project Company) to draw down by providing notice to the Lender, together with confirmation and documentary evidence that the Project Company has completed its conditions of draw down.

d. Representations and warranties:

Representations and warranties are statements about the status of the project company made by the project company. These are usually made at the date of the agreement and repeated on each date of the draw down notice.

e. Covenants:

Covenants are undertakings by the project company to do (positive covenants) or not do (negative covenants) certain specified things. The negative covenants are usually extensive as it is the lenders who draft the documents.

f. Security Documents:

The security documents need to be in the required order before the draw down and is mostly a condition precedent for the validity of the loan agreement.

g. Information rights:

The lenders would normally insist on being provided with certain information. The lenders would have to be notified with the developments in the construction and the adherence or deviation from the finalized construction schedule.

The lenders may request:

- operating results and plans such as audited financial reports and annual budget for the project,
- Notification of delays or cost overruns in the construction process,
- Monitoring rights in relation to completion tests and regulatory and environmental compliance, and
- Notification in case of any breach of the covenants.

h. Insurance:

The lenders normally require the project company to take adequate insurance cover and to name or assign the lenders under the policies as nominees.

i. Default:

Types of default and consequences of in the event of a default should be understood in advance by the public participant. A distinction should be made between a serious default that would affect all outstanding principal and interest to be payable, and a minor breach of a covenant.

9.7.2 Security Documents:

The assets or rights given by the project company to its lenders to ensure repayment of principal and interest of the loan can be collectively called security documents.

A characteristic of a PPP project is that physical assets in a PPP projects generally require substantial investments to build and are extremely valuable to the project company and the Public participant, but they may have little or no value to third parties. So lenders need to look to a range other assets as to cover their exposure.

There is a distinction between security in favor of the lenders, which is the security to be provided by the project company as the borrower for the loan, and security for the performance of, e.g., a party's obligation under the concession agreement or the EPC.

The local laws will determine for a large part what interests in the project are capable of being used as security. The ability of the lenders to enforce its security will be highly significant to the lender's decision to finance a particular PPP project. From the perspective of the lender, the important issues to consider with security are:

a. Priority:

The pecking order of payments, from the liquidation proceedings, in the event of the liquidation of the project company should be considered.

b. Perfection of security:

Steps that need to be taken to ensure that the security interest the lender holds is capable of being enforced in the event of default. This should be in consonance with the Nigerian legal system.

A 'security package' for a typical project finance deal includes:

I. Bank accounts:

This may include an assignment of bank account, creation of a new (usually offshore) account for revenue, arrangement to put revenues in escrow. The loan agreement may require that the project company sets aside some of its revenues to a debt service reserve account (DSRA) until the account balance reaches a certain point.

II. Pledges in the shares or equity of the project company:

This can be defined as the ability to take control of the project company in the event of certain specified defaults under the credit agreement. A "change of control" clause is present in the concession agreement and the other project agreements to which the project company is a party to. This is a right for the specified party to terminate the agreement if there is a change of control as outlined in the particular agreement.

III. Pledges in other assets:

The various other assets of the project company that may be capable of being pledged are ancillary equipment, vehicles, land and buildings etc.

IV. Mortgage or lien:

The project company may have real estate assets that are capable of being pledged.

V. Contract assignments:

Project agreements such as the construction contracts, off-take agreements, the concession agreement and the O&M agreements may be assigned to the lenders.

VI. Insurance:

The financing agreements will require that the project company take adequate insurance cover. The lender will also require that they be named as a "Loss Payee" or "Additional Insured" under the relevant insurance policy.

VII. Sponsors guarantee or undertaking:

The government may give a financial guarantee or a performance undertaking to the project.

VIII. Public Participant / Government guarantee or undertaking:

The Public Participant may give a financial guarantee or a performance undertaking to the project. A guarantee by the Public Participant will attract investors to the project. At the same time it exposes the public participant to large liability whereas the benefits of that risk would go to the private sector.[25]

9.7.3 Intercreditor Agreement[26]

An intercreditor agreement is an agreement amongst the lenders of a project company on priority of repayment, priority on liquidation and interests in security.

The terms may include:

a. Appointment of a single trustee to hold debt and security for the benefit of all creditors
b. Common terms that apply to all creditors
c. Pro rata drawdowns
d. Disbursement of payments pro rata or in agreed pecking order out of proceeds account
e. Management and monitoring by a single agent
f. Limitation of creditor powers to vary their credit agreements
g. Voting powers for waivers and consents

[25] Source: http://bit.ly/1332bp0 Retrieved on 2 September 2013
[26] Source: http://www.unescap.org/ttdw/ppp/otherpublications.html#energy Retrieved on 2 September 2013

h. Voting powers for default acceleration and security enforcement
i. Notification of defaults known to agents of groups of creditors
j. No action without specified creditor approvals, and
k. Sharing of recoveries pro rata or in prescribed hierarchy

9.8 Quasi-Equity Finance

Issuance of securities through the capital markets is an alternative to traditional debt finance obtained from the banks.

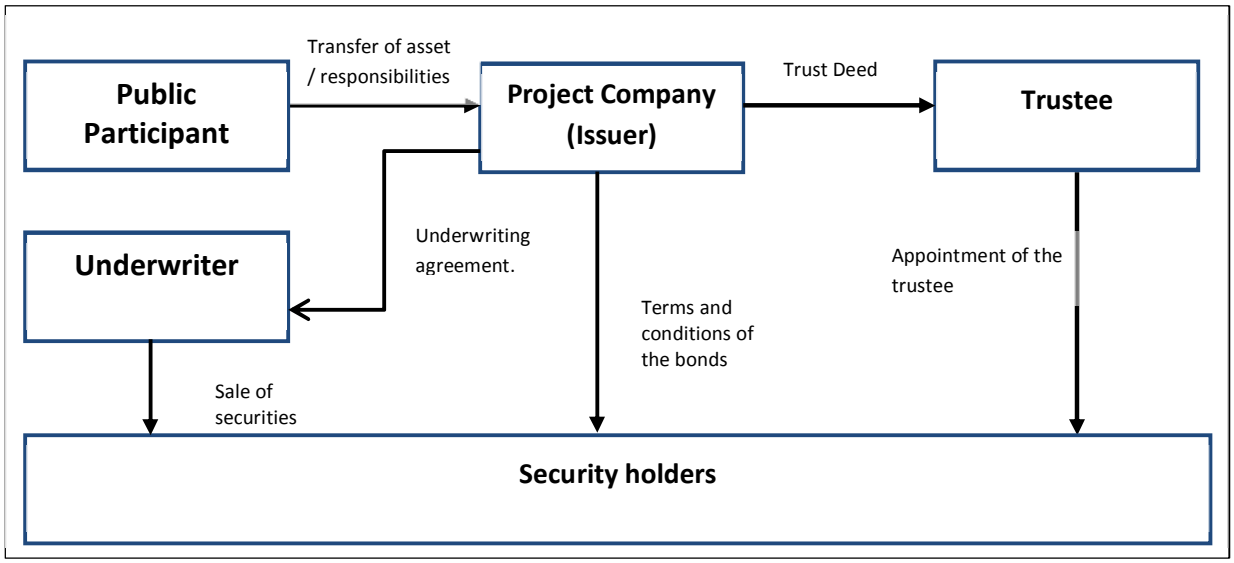

Image 15: Diagrammatic representation of the Securities Issue

Points to be noted by the Public Participant

The negotiations for the issue of bonds are a very different process from negotiations for a concession contract or even to negotiations for divesture. The terms and conditions of the bonds are not very negotiable, and the availability of funding from the capital markets is usually provided on a take it or leave it basis.

Some important issues from the point of view of the government as an issuer are:

9.8.1 Issuer:

The principal question is - 'Who is the issuer?' The Public Participant itself maybe an issuer and in that case; it would be liable for the repayment of the interest and principal amount for the bonds.

Alternatively, the Public Participant may transfer for the facility or infrastructure to a special purpose vehicle (SPV), which then proceeds to issue bonds. Or, the government may be obliged to guarantee the performance of the special purpose vehicle.

9.8.2 Liability

The issuer and often the directors of the issuer are responsible for certain statements made in relation to the issuer. The liability applies to offering documents and may extend to communications e.g. research reports, press releases, or other correspondence made by the issuer during the course of the offering.

The issuer can limit its liability by:

- Not deviating from the facts.
- Not sharing additional information.
- Not making futuristic projections or statements of intention.

9.8.3 Providing no indemnities:

No indemnity should be provided to the financial advisers or the underwriter by the issuer.

9.8.4 Lock-up:

After the subscription of an issue, the financial advisers are prohibited on the issue of new securities and a restriction on transfer of securities by existing shareholders is in order. Although this being a usual practice, the time frame for the prohibition should be limited. Usually lock-up period is around 6 to 9 months, and it should not exceed one year.

9.8.5 Covenants and events of default:

These are covenants and undertakings by the issuer and are usually less extensive than under loan agreements. Consistent between with the issuer's plans and business operations should be carefully reviewed.

9.9 Design, construct, Operate and Maintain[27]

The design, construction, operation and maintenance of the project facility entail agreements between the project company and its various sub-contractors, consultants and service providers.

[27] Source: http://www.unescap.org/ttdw/ppp/otherpublications.html#energy Retrieved on 2 September 2013

These agreements include the EPC agreement, Supply agreements, O&M agreement and Insurance policies.

Key issues pertaining to the same are described below:

The Public Participant is usually not a party to any of the contracts between the project company and its various sub-contractors. As the project company has assumed the responsibility for the construction and operation of the facility, the Public Participant need not concern itself with the dealings between the project companies and its various sub-contractors. Nevertheless, it needs to ensure that the obligations imposed on the project company under the concession agreement are being met.

The Public Participant needs to assume a monitoring role in relation to the project while abstaining from unnecessary and unwarranted interference. The Public Participant should request copies of the various contracts, such as the EPC agreement, the O&M agreement, any supply agreement and insurance policies inclusive of any notices and amendments.

The cause of concerns with reference to the above mentioned documents for the Public Participant are:

- **a.** In the case of BOTs, or BOOTs the infrastructure to be constructed will transfer to the government at the end of the concession period,
- **b.** The public will pay for the project through tariffs and thus good value needs to be ensured.
- **c.** The contractor often has an equity interest in the project company, so the Public Participant needs to ensure that the EPC agreement is provided on an arm's length basis
- **d.** The Public Participant may be guaranteeing, directly or indirectly the performance or construction of the infrastructure facility to the project company's lenders
- **e.** The contractor, the operator or the supplier may be a sponsor to the project and the terms of providing services to the project company may not be at arms' length.

The Public Participant should ensure that the EPC agreement, the O&M agreement and any supply agreement and insurance policies:

a. are at arm's length commercial terms
b. comply with Nigerian laws and regulations
c. are consistent with and reflect the terms of the concession agreement
d. require the operator to maintain the facility to an acceptable standard
e. ensure that the infrastructure facility is in an operational condition on the transfer of the facility to the government at the end of the concession period and that the assets transferred include the necessary licenses.

9.10 EPC Agreement

An EPC (engineering, procurement and construction) agreement usually caters to the largest capital expenditure of the project company. It is an agreement between the project company and the EPC contractor to design, construct and deliver to the project company the infrastructure of the project. Usually BOT project are delivered on a turnkey basis.

The EPC agreement imposes on the contractor, obligations the project company has in relation to the design and construction of the project under the concession contract. Lenders need to be assured that the facility provided is sufficient to complete the construction of power project within the fixed monetary limit (facility). As most EPC agreements are provided on a fixed price and fixed time basis, it gives the Lenders the required comfort.

EPC agreements normally contain back-to-back obligations matching those of the Project Company under its concession agreement with the Public Participant. The project company in effect is sub-contracting its obligations to design and construct the facility to the contractor although the design and construction risks are not fully transferred. The Project Company is fully liable to the Public participant for any claim against the project company under the concession agreement, if the design and construction of the facility are not properly executed.

The key issues to consider in an EPC agreement:

9.10.1 Project design and responsibility:

The responsibilities for the project design usually lies with the contractor. It should be mentioned in the concession agreement that any fault in the project design remains the responsibility of the project company. The Public Participant, through the concession agreement, should have a right to review and approve the project design.

9.10.2 Scope of work:

Usually a contractor is engaged to construct the infrastructure on a turn-key basis, although the responsibility of completing the same in the designated time and budget is the concern of the project company.

9.10.3 Contract price, payment & completion schedule

This would need to be consistent with the financing agreements.

9.10.4 Key dates

The EPC agreement would set out key milestones in the project design and construction. They usually include dates for design completion, mechanical completion and final acceptance.

9.10.5 Performance tests

The government should be involved in the acceptance tests to ensure that the project performs in accordance with the standards mentioned in the concession agreement.

9.10.6 Guarantees, warranties and indemnities

The EPC would provide certain indemnities, warranties and guarantees in relation to the facility. These indemnities, warranties and guarantees are usually limited in time, and by the time of transfer of the facility to the government these indemnities, warranties and guarantees. Nevertheless the benefits of any indemnities, warranties and guarantees applying once the facility is transferred to the government should also be assigned to the Public Participant.

9.10.7 Limitation on liability

This in affect deals with the allocation of risks between the contractor and the project company.

9.10.8 Liquidated damages

If the contractor fails to complete the project in time, it is likely to be liable to pay liquidated damages (LD) to the project company for this failure. The liquidated damages are a pre-determined estimate of costs as a result of delay in completion, rather than a penalty.

9.10.9 Change orders

This will need to reflect the right of the government to change orders under the concession agreement.

9.10.10 Defaults and remedies

What events constitute default, and what are the consequences of default.

9.10.11 Force majeure

This deals with circumstances in which the contractor would be excused from performing its obligations under the EPC agreement. They should be in consonance with the concession agreement.

9.10.12 Termination

The events that lead to termination, and the consequences of termination needs to be dealt with.

9.10.13 The FIDIC "rainbow":

The "Red Book", "Yellow Book", "Orange Book" and "Silver Book" are widely used jargons to refer to standard forms of EPC agreements developed by the FIDIC (Federation Interriationale des Ingenieurs-Conseils or the International Federation of Consulting Engineers). The contractors engaged in construction work commonly use these FIDIC standard forms documents. Following is a brief description of the same:

a. **Silver Book:** This is a recent standard form EPC agreement which has been developed specifically for BOT projects.
b. **Red Book:** The most commonly used FIDIC standard form which can be adapted to civil engineering works.
c. **Yellow Book:** This is more suitable for supply of mechanical and electrical work,
d. **Orange Book:** This is for design-build and turnkey contracts.

9.11 Supply Agreement

These are agreements between the project company and other suppliers of the project. An existence of a long-term supply contract at a fixed cost from a reliable supplier may substantially reduce the risk profile of the project.

9.12 O&M Agreement

An O&M agreement (Services Agreement) is an agreement between the project company and the operator of the hydro power plant once the project facility is completed. The operator of the infrastructure facility may also be one of the sponsors of the project company.

The O&M agreement will define parameters for operating efficiency and maintenance. It usually includes penalties for failure to meet base case efficiency levels and bonuses for exceeding them.

The terms of the O&M agreement should reflect the project company's obligations under the concession agreement. They should be consistent with the EPC agreement and any supply agreement to be entered into by the project company.

The main concerns for the operation or a facility are:

- the supply of inputs, e.g. utilities and other materials;

- the demand for the infrastructure services; and
- the delivery of infrastructure services.

Key Terms

An O&M agreement should address the following issues:

9.12.1 Scope of the operator's services:

This usually mirrors the operation and maintenance provisions in the concession agreement.

9.12.2 Term:

The term of this agreement should be no longer than that of the concession agreement.

9.12.3 Warranties & Performance Guarantees:

This usually mirrors the operation and maintenance provisions in the concession agreement.

9.12.4 Payment:

The calculation, timing, method and currency of payment to the operator need to be specified.

9.12.5 Access to books and records:

The project company should have access to the books and records of operator pertaining to the power project, particularly if the calculation of revenues or fees, and amounts to be remitted to the project company depends on cash flow within the control of the operator.

9.12.6 Indemnification

This relates to the allocation of risks between the project company and the operator.

9.12.7 Defaults and remedies:

The consequences of a default and the remedies to the aggrieved party in case of default should be identified clearly.

9.12.8 Force majeure:

This deals with circumstances in which the contractor would be excused from performing its obligations under the O&M agreement. They should reflect the concession agreement.

9.12.9 Termination

The events that lead to termination, and the consequences of termination needs to be dealt with.

9.13 Insurance

Insurance is an instrument through which the private and public parties transfer or shift some of the unacceptable risks of the project to insurance companies. There are many types of insurance coverage, including casualty, third-party liability and business interruption insurance. Insurance coverage is often limited in scope and contains wide ranging conditions & exceptions. A cost and benefit analysis of obtaining certain insurance covers should be considered, given that the premium for PPP related insurance policies are considerable. The lenders usually insist that insurance policies are obtained, but the other parties may more sensibly or cheaply cover the risks covered by the insurance policies. Some insurance cover would be mandatory and is desirable to cap the risks involved.

9.14 Power Purchase Agreement[28]

A Power Purchase Agreement (PPA) ensures a steady and pre-determined payment stream for the hydro power project. The PPA is signed between the purchaser (often a state-owned electricity utility) and a privately owned power producer or the project company. This agreement is the central commercial agreement for the project, setting forth the critical revenue provisions and performance obligations. If the purchaser is obligated to pay for the capacity and electricity, regardless of actual withdrawal of electricity, this may also be regarded as a "take-or-pay" arrangement.

Depending on the off-takers' credit worthiness, the presence of a long-term PPA would significantly increase the bankability of a project because it represents a contractual entitlement to a revenue stream.

The key elements addressed in a PPA are as follows:

a. Sale of capacity and energy - the power producer agrees to make available to the Purchaser the contracted capacity of energy and deliver the energy in accordance with the PPA
b. Charges for Available Capacity and Electrical Output
c. Permission for Third party sales/ Exclusivity provisions
d. Force majeure or purchaser breach of contract
e. Testing regime

[28] Source: http://bit.ly/11Tms1r Referred on 21 August 2013

f. Termination
g. Provision for change of law, taxation and its implications

9.15 Implementation Agreement (IA)[29]

Implementation agreements outline the contractual obligations and undertakings between the Government and the supplier or project company. The government may not usually be a direct party to the power purchase agreement. Installing a power plant often requires assistance from the government in various capacities such as:

a. Obtaining required consents & licenses
b. Undertaking to ensure that the utility performs its obligations (sometimes in the form of a guarantee) where there is a concern on the part of the supplier that the utility might not or may not have the financial standing to fulfill its obligations.
c. Undertakings from the government on export and import duties and taxation of the supplier.

The implementation agreement usually includes undertakings by the supplier to the government regarding Compliance with environmental laws.

9.16 Connection to Grid / Power Pooling Arrangements[30]

Interconnection, Grid Connection or Power Pooling Agreement is mandatory in Public private partnerships concerning power projects. These contracts outline the responsibilities and fees for connecting the power generated by an independent power producer (IPP) to the owner of grid system, generally a public entity.

9.17 Land Lease Agreements[31]

These agreements have come into play when the power projects are to be constructed on land not owned by the project owning company. The land owners, private or the government, lease or sell the land to the operating company or concessionaire for the period of the concession contract. In an independent power project, the Land Lease Agreement could be a stand-alone agreement, or its main provisions can also be included in the Power Purchase Agreement or Implementation Agreement (in case of government owned land).

[29] Source: http://bit.ly/16MfbCC Retrieved on 21 August 2013
[30] Source: http://bit.ly/16wsWCz Retrieved on 21 August 2013
[31] Source: http://bit.ly/19xxQk7 Retrieved on 21 August 2013

9.18 Government support agreement

Often, the host government will be required to provide financial or other support to a project. The terms and conditions will be set forth in some type of government support agreement, such as a payment guaranty or an implementation agreement.

9.19 Other Agreements

Other ancillary agreements are also customarily entered into, such as a land lease agreement (or land purchase agreement), sponsor support agreements, security agreements, an escrow agreement and warranties and warranty bonds. The particular facts and circumstances of each transaction may additionally require further ancillary agreements between the relevant parties.

10. Analysis of suggested bidding parameters for hydro power projects

Bidding and allotment of hydro power projects is a detailed & complicated transaction and substantial work is required in the preparatory stage of the project (Pre-Bid). One of the critical decisions to be made by the authorities is the selection of an appropriate bidding parameter (the parameter based on which project is to be allotted). Across the world, the following generally accepted bidding parameters are used for allotment of hydro power projects:

- Highest Free power
- Highest Free equity
- Highest Upfront premium
- Lowest concession period
- Highest lease or rent payment for facility (lease payment may be fixed or variable)
- Lowest tariff for electricity (if tariff is not fixed by regulator or if discount to tariff is used as a measure for evaluating bids)
- Lowest cost of project (if the project ownership is to be with public participant & the investment is being financed by the public participant)
- Lowest Project Subsidy
- Or a combination of two or more parameters (by keeping only one variable parameter and fixing the value of all others).

Selection of an appropriate bidding parameter depends on, among other things, project features such as cost, ease of execution, financial status of public participant, stage of project (operational or under development). Other factors affecting the bidding parameter selection are local conditions, financial position or strength of host country, investment sentiment, maturity of financial markets and private sector interest levels.

The following sections describe in detail the impact of selection of different bidding parameters on the financial indicators of the project.

10.1. Free power

As the name suggests, 'Free Power' refers to a certain percentage or a fixed quantum of electricity provided free of cost to the public participant from the total electricity generated by the project. It may be calculated as a percentage of the "Energy available at the interconnection point", net of losses and adjustments for plant availability, auxiliary consumption, and transmission & other losses.

10.1.1. Mechanism of bids based on free power

The public participant may set a base or a minimum value for the free power bid and the bidders are required to provide an additional free power number over and above the base value. Since the debt and interest expenses would be higher in the initial years, the concession period may be divided into two or three periods or tranches and the base value of free power may be set to increase from one period to the next. The first tranche covers the loan or project finance amortization period. The base value for the first tranche should be kept at a lower level to enable the financial viability of the project in the early years. The base free power may increase progressively (or in steps) over the remaining life of the project.

10.1.2. Key benefits for the Public participant

A bid based on free power ensures a steady flow of free electricity to the public participants throughout the concession period. This helps in lowering the electricity procurement price for the government and may also help in fulfilling social obligations of the government, especially in the project vicinity.

10.1.3. Key benefits for the Private participant

A free power based bid has a number of benefits for the private participant. These include:

- Reduction in the initial expense burden for the developer as compared to an upfront premium based bid
- Phased cash outflow to the public participant over the entire concession period
- Payment (in kind) to the Public participant through electricity generated; No fixed or upfront obligation on the Private Participant

10.1.4. Demerits of a free power based bid

The principal demerit of a free power based bid is that any income to the public participant is contingent on completion of the project. Secondly, as there is no upfront or fixed payment obligation on the private participant, the bid may have participation from non-serious or financially weak bidders. The bid qualification requirements should be such that only qualified and financially sound bidders are allowed to participate in the bid process.

10.1.5. Financial analysis of a free power based bid for Doma dam

Base case assumptions:

- **Minimum free power:** Nil
- **Base Free Equity:** 2.0%
- **Upfront Premium:** US $ 10,000
- **Capital Subsidy:** Nil
- **Concession Period:** 30 Years
- **Bidding Parameter tested:** Free power

In order to test the effect of variation of free power value on the financial results, we have kept the other four parameters constant and varied the free power value from 0% to 9%, with increments of 0.5% in each case. Thus, 19 cases with varying value of free power component were run in the financial model and the following results were obtained:

Table: 4 Financial Results after testing for variation in free power

Case number:	Bidding Parameter: Free Power	Min. DSCR Senior Debt	Avg. DSCR Senior Debt	IRR Private Participant	NPV Public Participant USD
Case No. 1	0.0%	1.06 x	1.53 x	13.16%	18,676.25
Case No. 2	0.5%	1.06 x	1.52 x	13.12%	38,764.90
Case No. 3	1.0%	1.05 x	1.51 x	12.96%	58,502.41
Case No. 4	1.5%	1.04 x	1.50 x	12.94%	78,615.58
Case No. 5	2.0%	1.04 x	1.49 x	12.76%	98,333.51
Case No. 6	2.5%	1.03 x	1.49 x	12.74%	118,450.95
Case No. 7	3.0%	1.03 x	1.48 x	12.56%	138,168.00
Case No. 8	3.5%	1.02 x	1.47 x	12.54%	158,282.11
Case No. 9	4.0%	1.02 x	1.46 x	12.38%	178,012.13
Case No. 10	4.5%	1.01 x	1.45 x	12.36%	198,131.78
Case No. 11	5.0%	1.00 x	1.44 x	12.33%	218,251.83
Case No. 12	5.5%	1.00 x	1.44 x	12.30%	238,372.01
Case No. 13	6.0%	0.99 x	1.43 x	12.28%	258,488.80

Case number:	Bidding Parameter: Free Power	Min. DSCR Senior Debt	Avg. DSCR Senior Debt	IRR Private Participant	NPV Public Participant USD
Case No. 14	6.5%	0.99 x	1.42 x	12.12%	278,266.59
Case No. 15	7.0%	0.98 x	1.41 x	12.10%	298,383.51
Case No. 16	7.5%	0.97 x	1.40 x	12.07%	318,500.42
Case No. 17	8.0%	0.97 x	1.39 x	11.92%	338,286.55
Case No. 18	8.5%	0.96 x	1.39 x	11.79%	358,084.89
Case No. 19	9.0%	0.96 x	1.38 x	11.76%	378,207.06

As expected, the internal rate of return (IRR) for the private participant decreases and the Net present value of the returns for the Public Participant increases with an increase in the free power component.

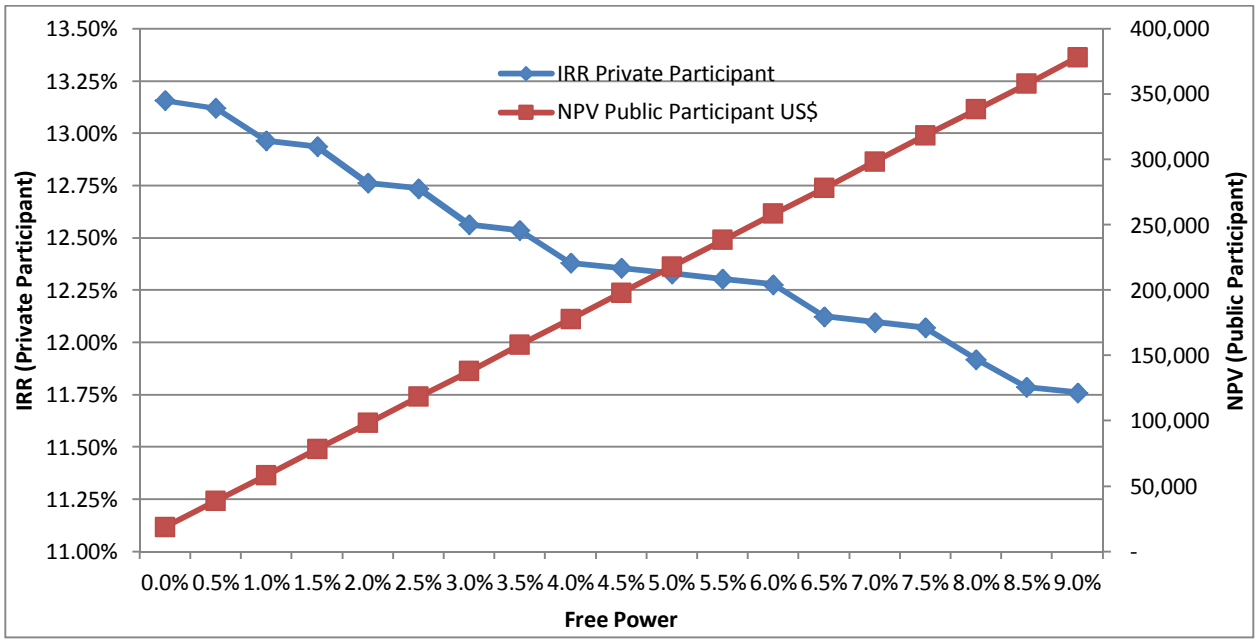

Chart: 4 Impact of variation of Free Power on IRR (Private Participant) and the Net present Value (Public Participant)

The Debt service coverage ratio also decreases with an increase in the free power component. It should be noted that the Minimum free power is below the target DSCR of 1.40x even in the base case. The average DSCR falls below the target DSCR once the free power crosses 8.0%.

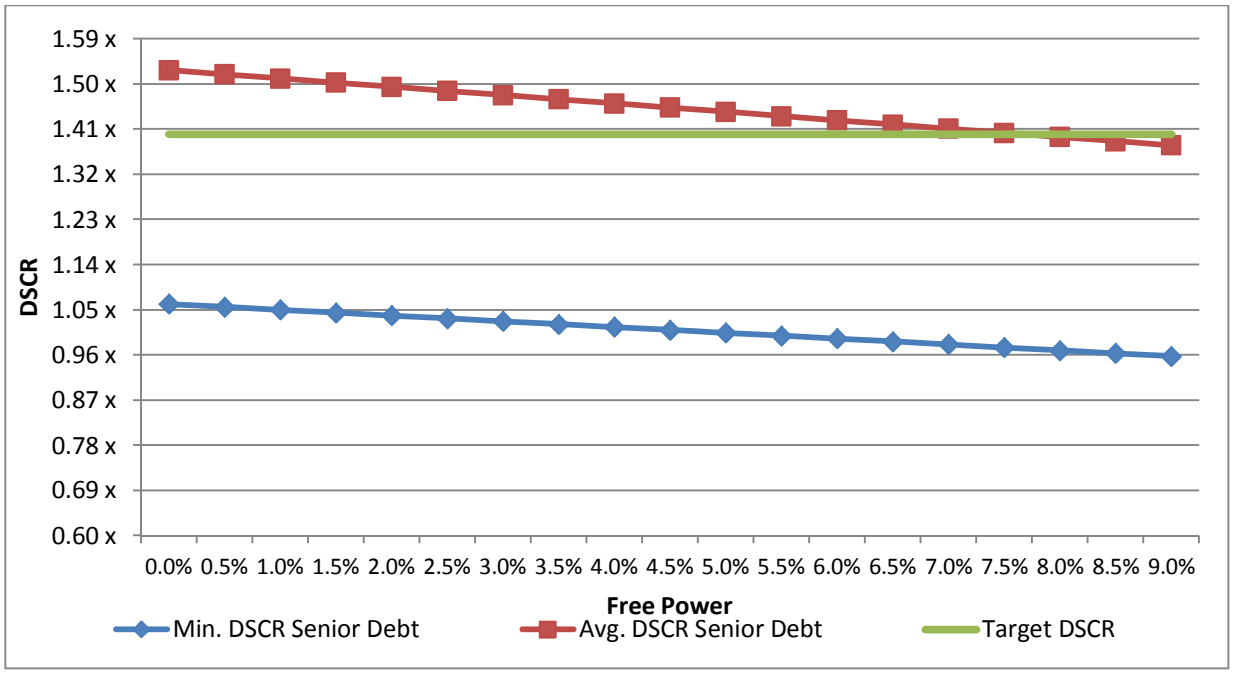

Chart: 5 Impact of variation of Free Power on the Debt Service Coverage Ratio (DSCR)

Conclusion: The results are not encouraging for the Private participant even in the base case, with an IRR of 13.15%. With an increment in free power by 9% the returns to the Private Participant fall to 11.76%. For the public participant the returns vary between US$ 15,988 to US$ 375,530. These are not acceptable levels of financial indicators for both the public and private participant.

Lenders will be wary of investing in a project where the minimum DSCR is always below the target DSCR.

Keeping in view the above mentioned observations, free power is not considered appropriate as the only variable bidding parameter.

10.2. Free equity as bidding parameter

Free equity is the equity ownership in the project company and thus in the hydro project, awarded to the Public participant without the public participant investing capital in the project. Thus, the private participant invests 100% of the required equity capital in the project, but receives an ownership interest in the project which is less than 100%. Public participants may set a base or minimum free equity value in 'Free Equity' based bids. Unlike the free power bid, the free equity value generally remains constant and does not increase with time.

The Public participant may retain an option to invest capital for further equity interest in the project (an 'at par' investment, called 'paid equity') after the commissioning of the project. This helps them gain control of the project & its operations during the concession period.

10.2.1. Key benefits for the Public participant:

A free equity based bid provides the public participants with a steady source of dividend income all through the concession period. It also gives the public participant greater access into the functioning of the project company through the board of directors. As a shareholder, the Public Participants get the right to access documents pertaining to the project company, which may otherwise be unavailable to it.

10.2.2. Key benefits for the Private participant:

Like 'Free Power', free equity also spreads the payment to the Public Participant over the life of the concession agreement. The other key benefits to the Private participant in a free equity based bid, is that greater help and involvement from the government can be expected in obtaining the various clearances from government authorities or departments.

10.2.3. Demerits of a free equity based bid:

All cash flows to the public participant are contingent to the commissioning of the project. Being shareholders, the public participants may be seen as interfering in the functioning of the project company. This might be a deterrent to the prospective private participants in the bid.

10.2.4. Financial analysis of a Free Equity based bid for Doma dam

Base case assumptions:

- **Minimum free power:** Nil
- **Base Free Equity:** Varying from case to case
- **Upfront Premium:** US $ 10,000
- **Capital Subsidy:** Nil
- **Concession Period:** 30 Years
- **Bidding Parameter tested:** Free Equity

In order to test the effect of variation of free equity value over the financial results, we have kept the other parameters constant and varied the free equity value from 0.5% to 9.5%, with increments of 0.5% in each case. Thus, 19 cases with varying value of free equity component were run in the financial model and the following results were obtained:

Table: 5 Financial Results after testing for variation in Free Equity

Case number:	Bidding Parameter: Free Equity	IRR Private Participant	NPV Public Participant US$
Case No. 1	0.50%	13.27%	6,682.38
Case No. 2	1.00%	13.23%	10,680.34
Case No. 3	1.50%	13.20%	14,678.29
Case No. 4	2.00%	13.16%	18,676.25
Case No. 5	2.50%	13.12%	22,674.20
Case No. 6	3.00%	13.08%	26,672.16
Case No. 7	3.50%	13.05%	30,670.11
Case No. 8	4.00%	13.01%	34,668.07
Case No. 9	4.50%	12.97%	38,666.02
Case No. 10	5.00%	12.93%	42,663.98
Case No. 11	5.50%	12.89%	46,661.93
Case No. 12	6.00%	12.86%	50,659.89
Case No. 13	6.50%	12.82%	54,657.84
Case No. 14	7.00%	12.78%	58,655.80
Case No. 15	7.50%	12.74%	62,653.75
Case No. 16	8.00%	12.70%	66,651.71
Case No. 17	8.50%	12.66%	70,649.66
Case No. 18	9.00%	12.62%	74,647.62
Case No. 19	9.50%	12.59%	78,645.57

Conclusion: It is observed that even at a level of 0.5% free equity, the IRR for the private participant is at 13.27% levels and the NPV for the Public Participant is around 6,682 USD.

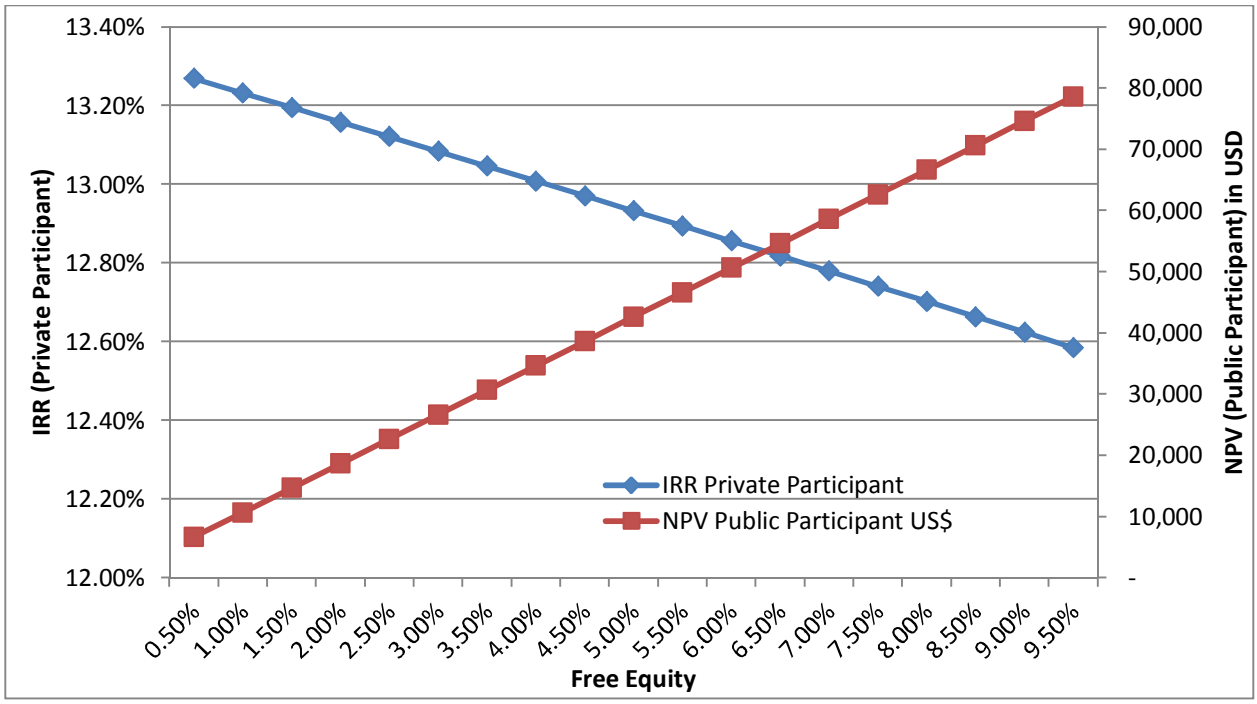

Chart: 6 Impact of variation on free equity on IRR (Private Participant) and the Net present Value (Public Participant)

Any change in free equity has no impact on the debt service coverage ratio or the levelized cost of generation. The returns to the Public Participants based on the free power obtained have been calculated using the MYTO II tariff. As the sale of power by the public participant / Government to the end consumer is expected to be above this rate, there exists a potential upside for the public participant, depending on the final price of sale of power.

Conclusion: The Returns to the Private participant are not lucrative enough and the minimum DSCR is below the Target DSCR of 1.40x in all the cases thus making the project unattractive to the lender as well.

10.3. Upfront premium as bidding parameter

As the name suggests, upfront premium is a payment made by the successful bidder to the government as soon as the project is awarded to the bidder. The Public participant may set a base or a minimum upfront premium value and the bidders may be required to bid above that. It is a common practice for the bidders' security / Earnest money deposited at the beginning of the bid to be adjusted against the net upfront premium payable. Upfront premium is generally bid on a per MW basis and calculated for the project based on its proposed installed capacity.

10.3.1. Key benefits for the Public participant:

An upfront premium based bid ensures that only serious bidders / developers bid for the project as there is a major upfront expense involved. A bid of this nature also promises the public participants' cashflows right in the beginning of the project contrary to the free power and free equity based bids. Also, the public participant's cash flow is not dependent on the execution and completion of the project.

10.3.2. Key benefits for the Private Participant:

An upfront premium based bid results in substantial cash outflows right in the beginning of the project lifecycle. This helps ward of competition and helps cash rich entities get an advantageous position in projects. Secondly, since there is no recurring long term benefit sharing, the private participant corners all potential benefits of efficient project execution and operation.

10.3.3. Demerits of an upfront premium based bid:

The principle demerit of an upfront premium based bid is that it may reduce competition as some bidders may be discouraged by the substantial upfront expense. Secondly, the public participant gives away all potential future benefits (windfall gains) from the operation of the project. This also leads to the interest of the public participant in the Project to dwindle as time progresses.

10.3.4. Financial analysis of a Upfront Premium based bid for Doma Hydro power project

Base case assumptions:

- **Minimum free power:** Nil
- **Base Free Equity:** 2.0%
- **Upfront Premium:** US $ 10,000
- **Capital Subsidy:** Nil
- **Concession Period:** 30 Years
- **Bidding Parameter tested:** Upfront Premium

In an upfront premium based bid all risks pertaining to the development, implementation, execution and development of the project are alienated from the public participant. Accounting for the base assumptions stated above and testing for a various levels of upfront premium the following noteworthy results were obtained:

Table: 6 Financial Results after testing for variation in Upfront Premium

Case number:	Upfront Premium USD / MW	Project Cost, Million USD	Levelized cost, US c/KWh	IRR Private Participant	NPV Public Participant US$
Case No. 1	10,000.00	3.82	13.08	13.15%	28,673.33
Case No. 2	15,000.00	3.82	13.09	13.14%	33,657.12
Case No. 3	20,000.00	3.83	13.09	13.01%	38,289.03
Case No. 4	25,000.00	3.83	13.11	12.98%	43,289.29
Case No. 5	30,000.00	3.84	13.13	12.95%	48,289.30
Case No. 6	35,000.00	3.85	13.15	12.92%	53,289.31
Case No. 7	40,000.00	3.85	13.16	12.89%	58,289.32
Case No. 8	45,000.00	3.86	13.18	12.86%	63,289.33
Case No. 9	50,000.00	3.86	13.20	12.83%	68,289.34
Case No. 10	55,000.00	3.87	13.22	12.80%	73,289.43

In the base case an upfront premium of US$ 10,000 is assumed and the value is increased by US$ 5,000 in each of the subsequent ten cases.

The increase in upfront premium increases the cost of the project, and its impact can be seen through:

- An increase in the levelized cost of generation
- A reduction in the Internal Rate of Return for the equity investor
- An increase in the Net Present Value of the public participant.

It is observed that the

- The levelized cost of generation varies between 13.08 US c/KWh to 13.22 US c/KWh.
- The Internal Rate of Return for the equity investor ranges between to 13.15% to 12.80%,
- The Net Present Value of all receivables by the public participant ranges between 28,673 USD to 73,289.

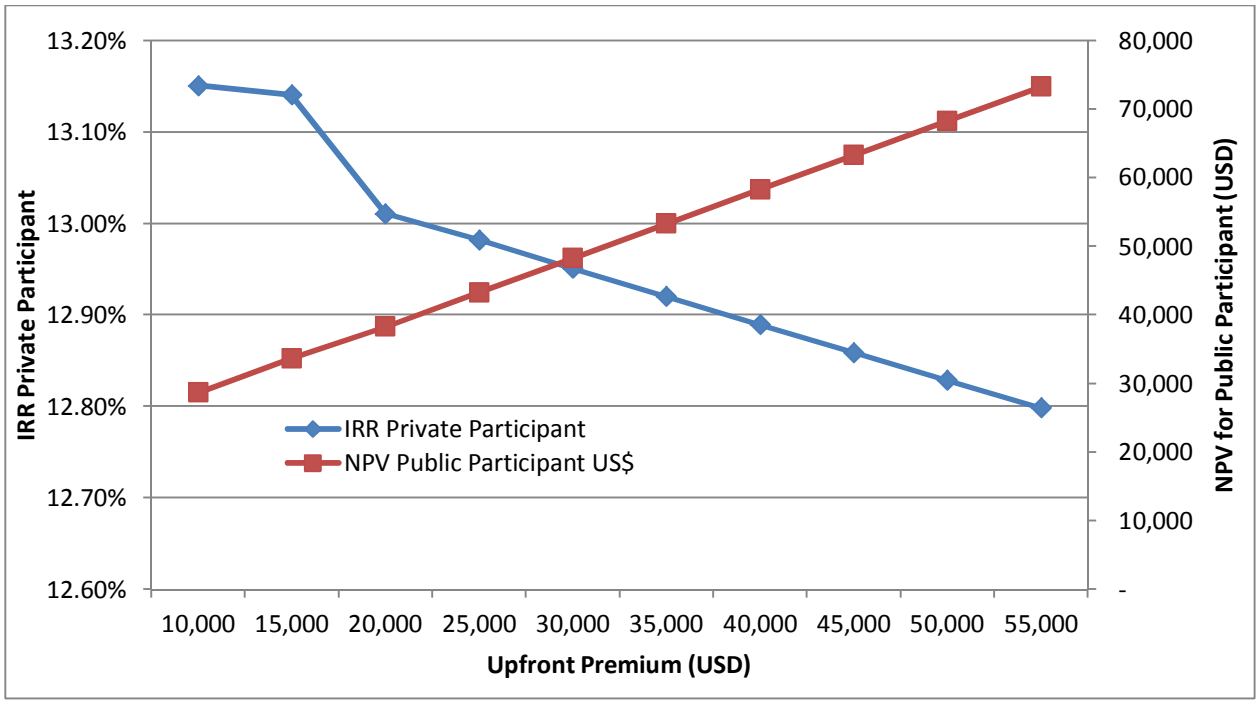

Chart: 7 Impact of variation in Upfront premium on the IRR (Private Participant) and the Net present Value (Public Participant)

The charts below show the effect of an increase in the upfront premium on the Levelized cost of generation and the total project cost.

Conclusion: The low revenue generation of the project in comparison to the high cost of the project renders the project non- lucrative for private participants. The project is not able to support a minimum DSCR above the Target DSCR of 1.40x. At the same time the expected returns to the private participant are not promising enough.

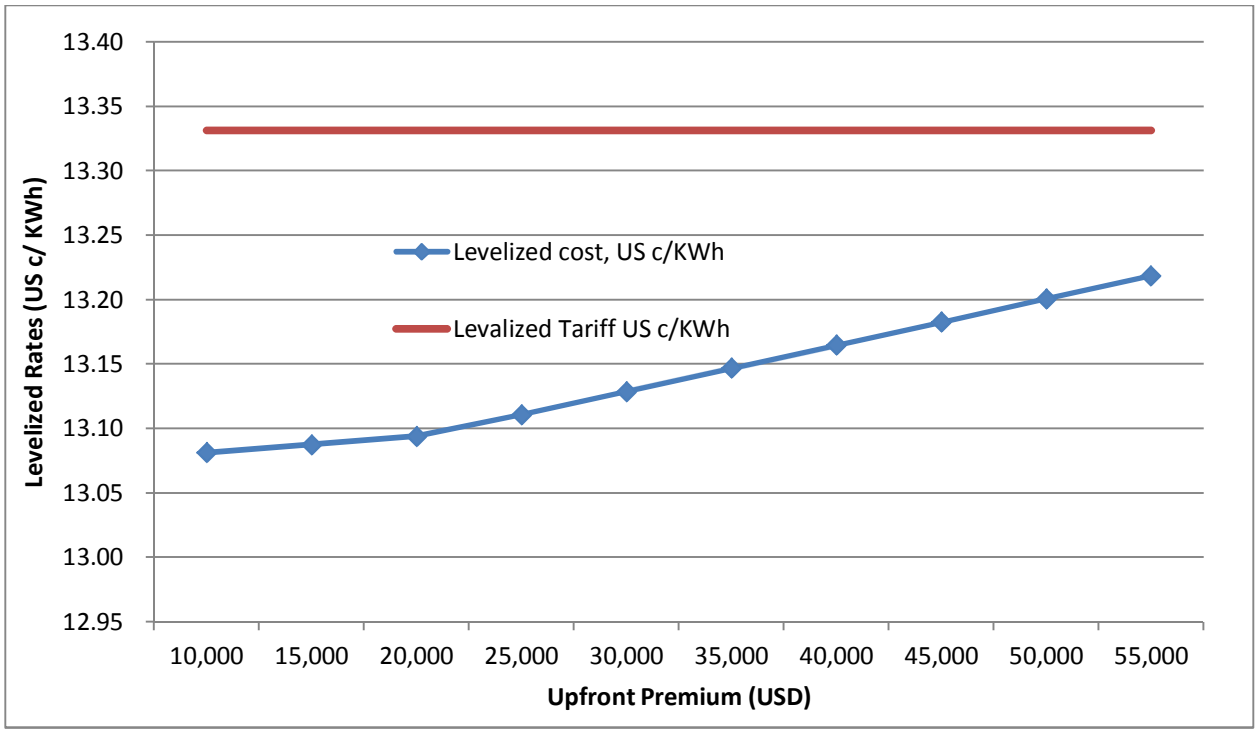

Chart: 8 **Impact on variation on upfront premium on the Levelized cost of generation US c/KWh and the Levelized tariff US c/KWh (adjusted for Revenue shared With Hydroelectric Power Producing Areas)**

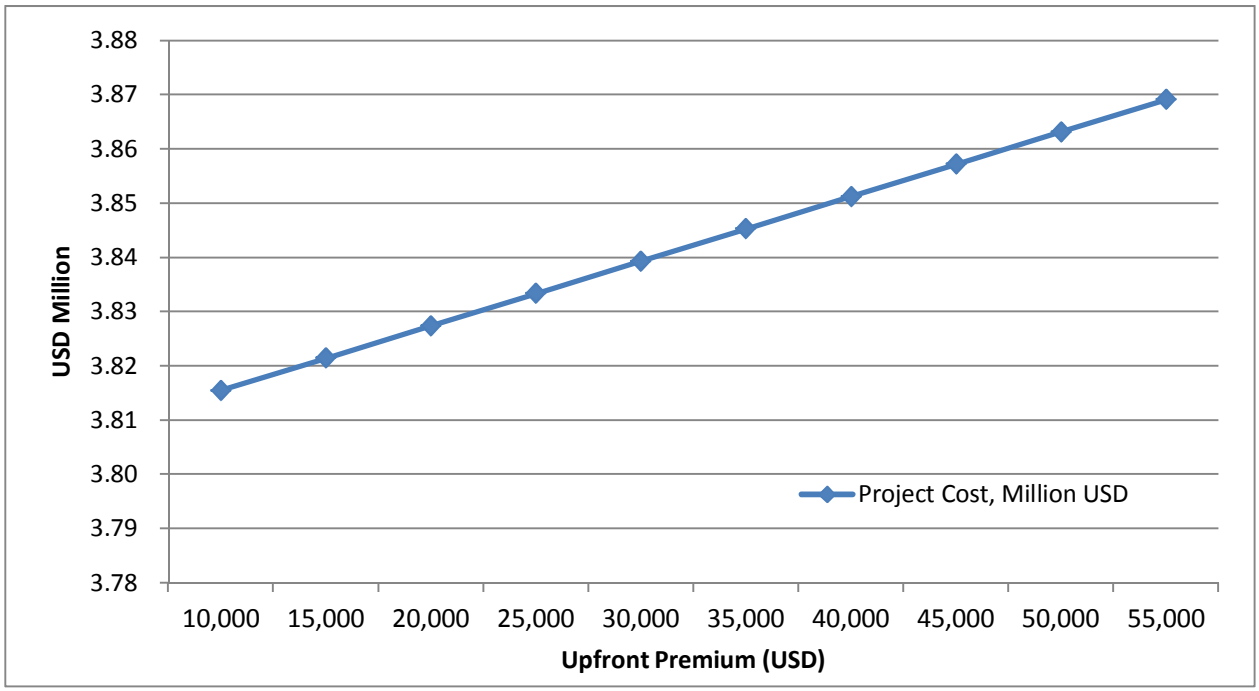

Chart: 9 **Impact on variation on upfront premium on the Total Project Cost (USD Million)**

10.4. Lowest concession period

A bid based on the length of the concession period entails bidders bidding below a threshold period set by the Public participant. The bidder proposing the lowest concession period is allotted the project.

The project ownership returns to the public participant at the end of the concession period. Hence earlier a project gets transferred to the Public Participant, lesser its depreciation and greater the Net Present Value of the asset for the public participant.

Hydro power projects in PPP mode are usually allotted over a span of 20 to 40 years in different parts of the world. Usually a period of 10 to 15 years post commissioning is necessary to repay the project debt. Revenues in hydro power projects are a direct function of the hydrology of the project. Project Hydrology usually has cyclical behavior with an average year preceded by a bad year and followed by a good year. A few years post the repayment of the project debt should be given to the private participant to benefit from the cyclical pattern of the project hydrology.

10.4.1. Key benefits for the Public participant

A concession period based bid will result in shortening the period after which the project will be returned to the Public participant. This will motivate the public participant to assist the private participant in developing the project in the plausible timeframe and quality. The public participant will also insist that the project is maintained at optimal functional capability.

10.4.2. Key benefit for the Private participant

The principal benefit to the private participant in a concession period based bid is that, there are no substantial cash outflows right at the beginning of the bid. Also, as there are no future commitments based on the revenue generated (other than the statutory payments such as the 30% Revenue shared with the Hydroelectric Power Producing Areas Development Commission), the entire returns are for the project company's benefit. Secondly, as there is no equity or power sharing, the possibility of a dispute with the public participant is also minimized.

10.4.3. Demerit of a concession based bid

The primary demerit of concession based bid is that, as the length of the concession period decreases, the interest level and quality of maintenance of the hydro power project by the private participant may reduce. This may affect the project facility quality with time. Also the private participant may be motivated to install lower quality machinery to cater only to the concession period.

10.4.4. Financial analysis of a lowest concession period based bid

Base case assumptions:

- **Minimum free power:** Nil
- **Base Free Equity:** 2.0%
- **Upfront Premium:** US $ 10,000
- **Capital Subsidy:** Nil
- **Concession Period:** Range of 10 to 46 Years
- **Bidding Parameter tested:** Concession Period

The concession period is the time frame in which the private participant will repay the project debt, recover its investment and make returns on its investment. As the tenor of project finance is usually 10 to 12 years post commissioning, it is advisable that the concession period extends beyond the repayment tenor. The effects of variation in concession period on financial parameters are as follows:

Table: 7 Financial Results after testing for variation in Concession Period

Case number:	Bidding Parameter: Concession Period	Levelized cost, US c/KWh	IRR Private Participant	NPV Public Participant US$
Case No. 1	10	14.33	2.12%	353,953.01
Case No. 2	12	13.58	7.08%	237,203.13
Case No. 3	14	13.30	9.20%	157,857.07
Case No. 4	16	13.18	10.49%	104,617.89
Case No. 5	18	13.08	11.32%	69,391.58
Case No. 6	20	13.02	11.88%	46,400.31
Case No. 7	22	12.98	12.27%	35,647.45
Case No. 8	24	12.98	12.56%	28,434.02
Case No. 9	26	12.98	12.79%	23,672.13
Case No. 10	28	13.02	12.99%	20,604.75
Case No. 11	30	13.07	13.16%	18,676.25
Case No. 12	32	12.89	13.28%	17,642.16
Case No. 13	34	12.74	13.30%	17,288.31
Case No. 14	36	12.62	13.30%	17,004.22
Case No. 15	38	12.51	13.30%	16,793.42
Case No. 16	40	12.43	13.30%	16,636.58
Case No. 17	42	12.35	13.30%	16,574.08
Case No. 18	44	12.29	13.30%	16,574.08
Case No. 19	46	12.24	13.30%	16,574.08

If one bids for a concession period of 10 years, the following results were observed:

- The levelized cost of generation increased to 14.33 US c/ KWh, 1.26 US c/ KWh above the levelized cost of generation in the base case (concession period 30 years)
- The Internal rate of return for the equity investor reduces to 2.12%, significantly below the base case results
- The Net Present Value of all receivables to the public participant increases to US$ 0.35 million.

In the Base case at a concession period of 30 years, the following were observed:

- The levelized cost of generation increased to 13.07 US c/ KWh
- The Internal rate of return to the equity investor is at 13.16%,
- The Net Present Value of all receivables to the public participant is at US$ 18,676.

As observed in the charts below, the IRR increases steadily from 2.12% (10 Years) to about 13% in 30 years, after which the increase in IRR is not substantial.

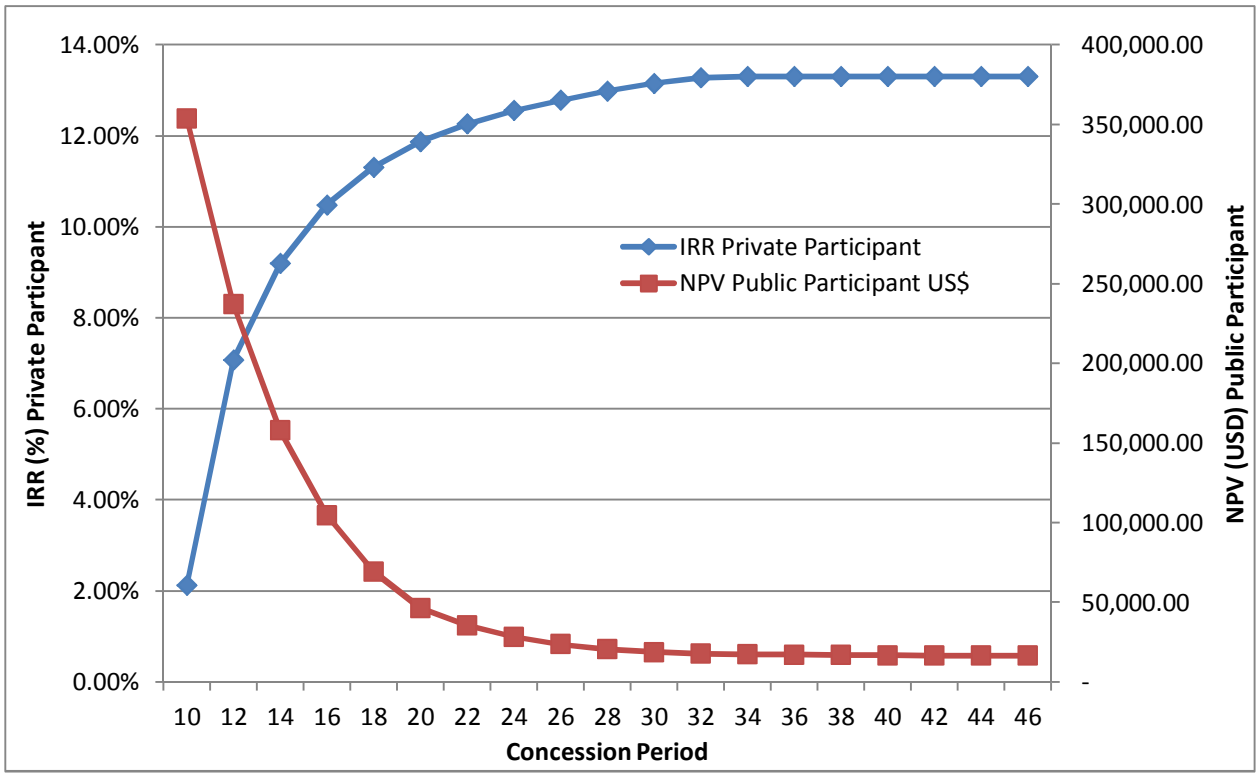

Chart: 10 Impact of variation of concession period on IRR (Private Participant) and the Net present Value (Public Participant)

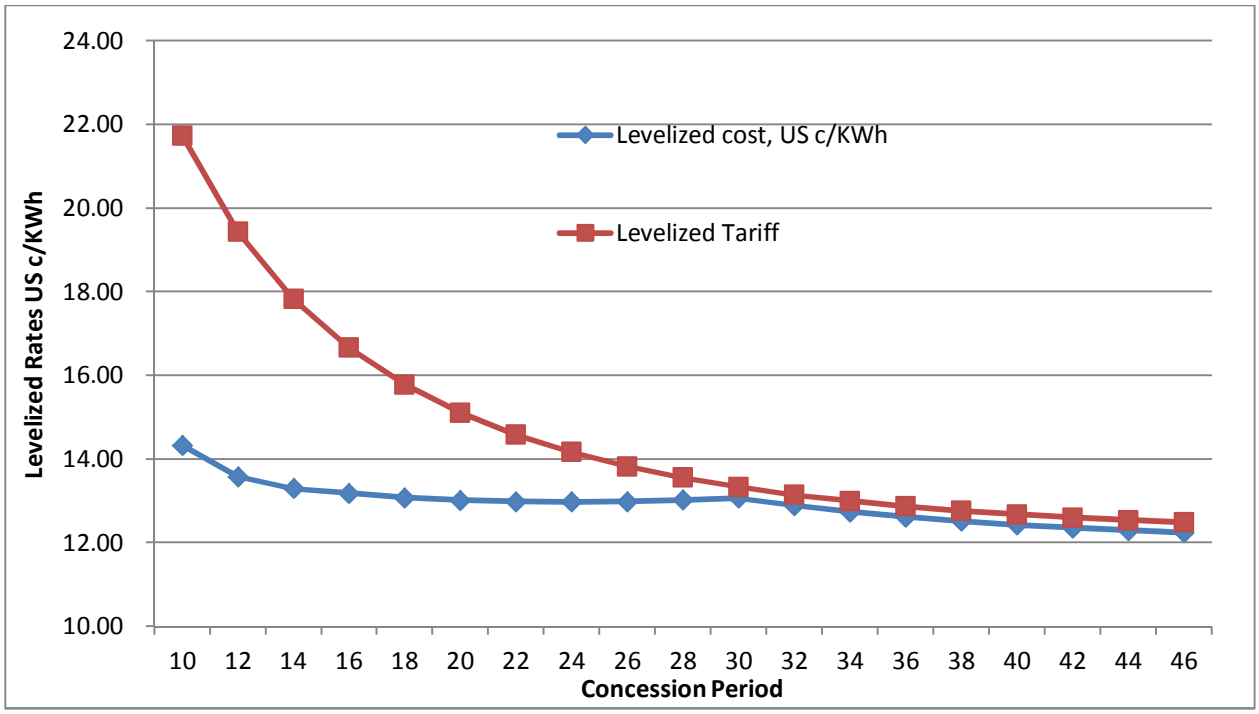

Chart: 11 Impact of variation of Concession period on the levelized cost and the Levelized tariff

Although over a range of concession periods (10 years to 46 years), the levelized cost of generation is always less than the levelized tariff after factoring the "Revenue shared With Hydroelectric Power Producing Areas" (30% of total revenues), also shown in chart 11, beyond a period of 30 years, the difference between the Levelized cost and the levelized tariff become negligible.

Conclusion: As observed in the base case and the other bidding parameters the project does not have the bandwidth to provide the lenders or the private participants' with adequate returns.

10.5. Highest lease or rent payment for facility

Fixed annual lease or rent payments are usually used as bidding parameters for operating projects. In case of operating projects, the project finance and construction risks are over. Based on historical operating performance (if available), the private participants can evaluate the financial results of the project and provide competitive proposals for lease or rent. The public participant also has a fair idea of their expected rental payment. Fixed rental payments should be avoided if the project is still under development. In such a case, variable rental payments (as a proportion of the income generated) may be a more appropriate bidding parameter. Private participants are more likely to be interested in committing payments in

proportion to the revenue generated. This also ensures a fair allocation of the revenue generation or hydrology variation risk of the project.

10.6. Lowest tariff for electricity

Electricity tariff as a bidding parameter is a common bidding parameter followed for medium and large hydro power projects (above 25 MW). The bid is usually structured as a discount to a specified tariff rate and the bidder with the lowest tariff is allotted the project. In case of the proposed Doma Hydro power project, the tariff for the project is scheduled to be governed by the MYTO II tariff mechanism outlined by the Nigerian Electricity Regulatory Commission (NERC). Although a bid based as a discount to the MYTO II tariff can be structured but that might put a question on the financial viability of the project.

Small hydro power project, globally are supported by the governments in the form of subsidies (India[32]), Feed in tariff (Kenya[33]), Technology support (China[34]) etc. Hence a tariff based bid is not recommended for the proposed Doma small hydro power project.

10.7. Lowest cost of project

In bids based on lowest cost of the project, the bidders bid for the minimum cost in which they will construct and commission the concerned project. The ownership of the project remains with the Public Participant, and the financing may also be arranged by the Public Participant. "Lowest cost of project" based bids are common in developing nations in government projects funded by grants and aid from the developed nations.

Conclusion: For the proposed Doma Hydro power project, the "Lowest cost of project" based bid is not feasible as the private participant is expected to invest the Equity finance and arrange for the Project finance. Also it will be imperative that the ownership of the project be transferred to the Project Company.

However as it is observed that the project does not have the potential to provide the investors with adequate returns, the proposed Doma Hydroelectric power project may be considered to be built on a BOT (Build – Operate – Transfer) basis with the Public Participant investing the capital keeping in view the acute shortage of electricity and the larger good of the public. In this case a bid based on *Lowest Cost of the Project* is the most favored option.

[32] Source: http://bit.ly/1fSrShq Retrieved on 29 September 2013

[33] Source: http://kerea.org/wp-content/uploads/2012/12/Feed-in-Tariff-Policy-2010.pdf Retrieved on 29 September 2013

[34] Source: http://bit.ly/1657RRc Retrieved on 29 September 2013

10.8. Capital Subsidy

Capital Subsidy is commonly provided to small hydro power project developers in many developing countries[35]. In small hydro power projects the total infrastructure development cost is appropriated over a small number of MWs. Thus increasing the per MW cost of the project. Smaller the project, greater is the tendency for the per MW cost to increase.

Subsidies are given to private developers to reduce the extra investment burden of the project due to the small size of the project. The subsidy can be released after the successful testing and commissioning of the project. Such subsidies are usually paid to the bank providing the project finance to reduce the payback burden of the equity investor.

10.8.1. Analysis of Subsidy for Doma Small Hydro power project:

The base assumptions in the financial analysis are as follows:

Base case assumptions:

- **Minimum free power:** Nil
- **Base Free Equity:** 2.0%
- **Upfront Premium:** US $ 10,000
- **Capital Subsidy:** Nil
- **Concession Period:** 30 Years
- **Bidding Parameter tested:** Capital Subsidy

The financial returns delivered by the project in the base case are:

- **IRR for Private Participant:** 13.16%
- **NPV Public Participant:** US$ 18,676
- **Min. DSCR Senior Debt:** 1.06x
- **Avg. DSCR Senior Debt:** 1.53x
- **Levelized cost:** 13.07 US c/KWh
- **Project Cost:** 3.8 Million USD

It can be inferred that the project does not have much room to accommodate variations in the various bidding parameters. Even in the base case the returns are not lucrative enough to invite bidders for the project.

A Capital subsidy will result in virtual reduction of the project cost and provide a boost to the project developers' returns.

[35] Source: Ministry of New & Renewable Energy Resources: India

The following table shows the effect of various levels of subsidies on the returns to the Private participant, the Debt Service coverage ratio, and the Net present value of all receivables to the Public Participant:

Table: 8 Financial Results after testing for variation in Subsidy

Case number:	Subsidy Million USD	Subsidy as a % of Total Project Cost	Levelized cost, US c/KWh	Min. DSCR Senior Debt	Avg. DSCR Senior Debt	IRR Private Participant	NPV Public Participant US$
Case No. 1	-	0%	13.07	1.06 x	1.53 x	13.16%	0.02
Case No. 2	0.10	3%	12.90	1.10 x	1.59 x	13.42%	(0.04)
Case No. 3	0.20	5%	12.74	1.15 x	1.65 x	13.87%	(0.11)
Case No. 4	0.30	8%	12.58	1.20 x	1.72 x	14.12%	(0.17)
Case No. 5	0.40	11%	12.41	1.25 x	1.80 x	14.62%	(0.23)
Case No. 6	0.50	13%	12.25	1.31 x	1.86 x	15.02%	(0.30)
Case No. 7	0.60	16%	12.09	1.37 x	1.92 x	15.69%	(0.36)
Case No. 8	0.70	18%	11.93	1.44 x	1.99 x	16.07%	(0.42)
Case No. 9	0.80	21%	11.76	1.52 x	2.07 x	16.55%	(0.49)
Case No. 10	0.90	24%	11.60	1.60 x	2.16 x	16.99%	(0.55)
Case No. 11	1.00	26%	11.44	1.70 x	2.26 x	17.45%	(0.61)
Case No. 12	1.10	29%	11.28	1.81 x	2.39 x	17.77%	(0.67)
Case No. 13	1.20	32%	11.12	1.93 x	2.53 x	17.88%	(0.74)
Case No. 14	1.30	34%	10.96	2.07 x	2.69 x	17.98%	(0.80)
Case No. 15	1.40	37%	10.80	2.24 x	2.88 x	18.09%	(0.87)
Case No. 16	1.50	39%	10.64	2.43 x	3.11 x	18.19%	(0.93)
Case No. 17	1.60	42%	10.49	2.66 x	3.38 x	18.29%	(0.99)
Case No. 18	1.70	45%	10.33	2.93 x	3.70 x	18.38%	(1.06)
Case No. 19	1.80	47%	10.16	3.27 x	4.11 x	18.50%	(1.12)

It is observed that along with the base case assumptions it takes a Capital subsidy of 700,000 USD (18% of the total Project cost) for the Minimum DSCR to meet the Target DSCR of 1.40x. A capital subsidy of 1.0 Million USD results in an IRR of 17.45% for the Private participant. However the NPV of all receivables to the Public participant is negative in all the cases, thus proving to be a financially taxing proposition for the public participant.

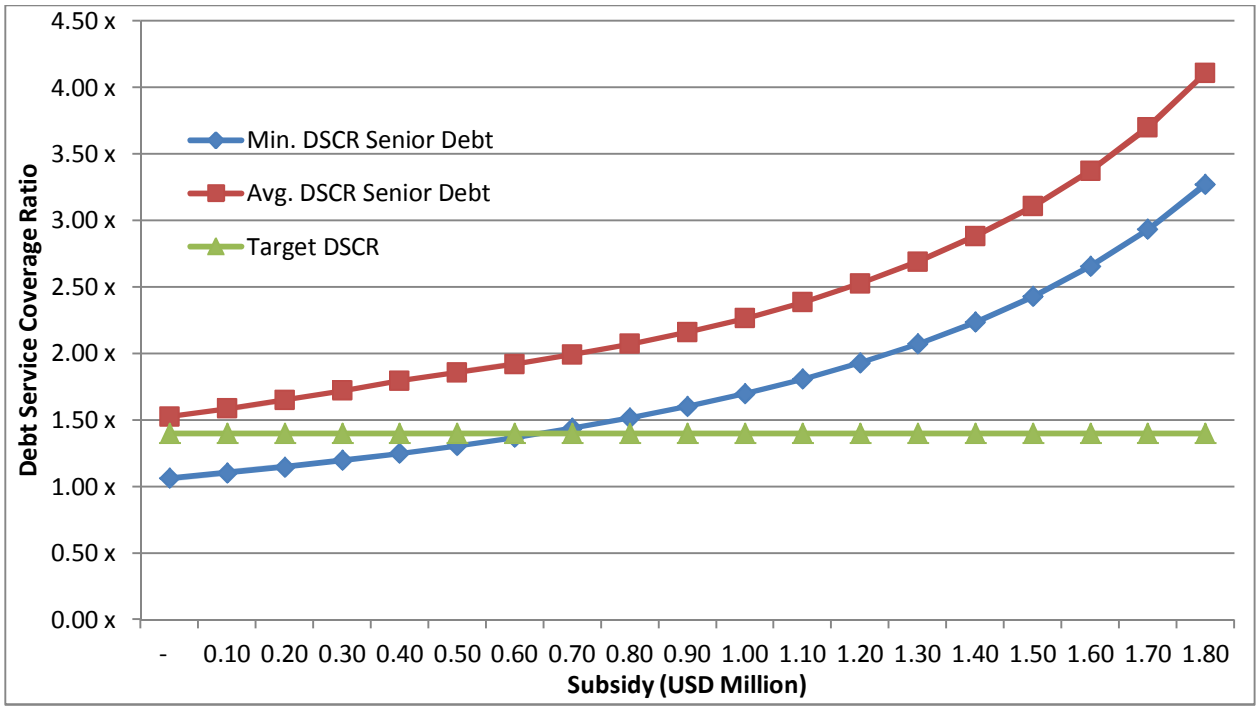

Chart: 12 **Impact of variation of Capital Subsidy on the Debt Service Coverage Ratio**

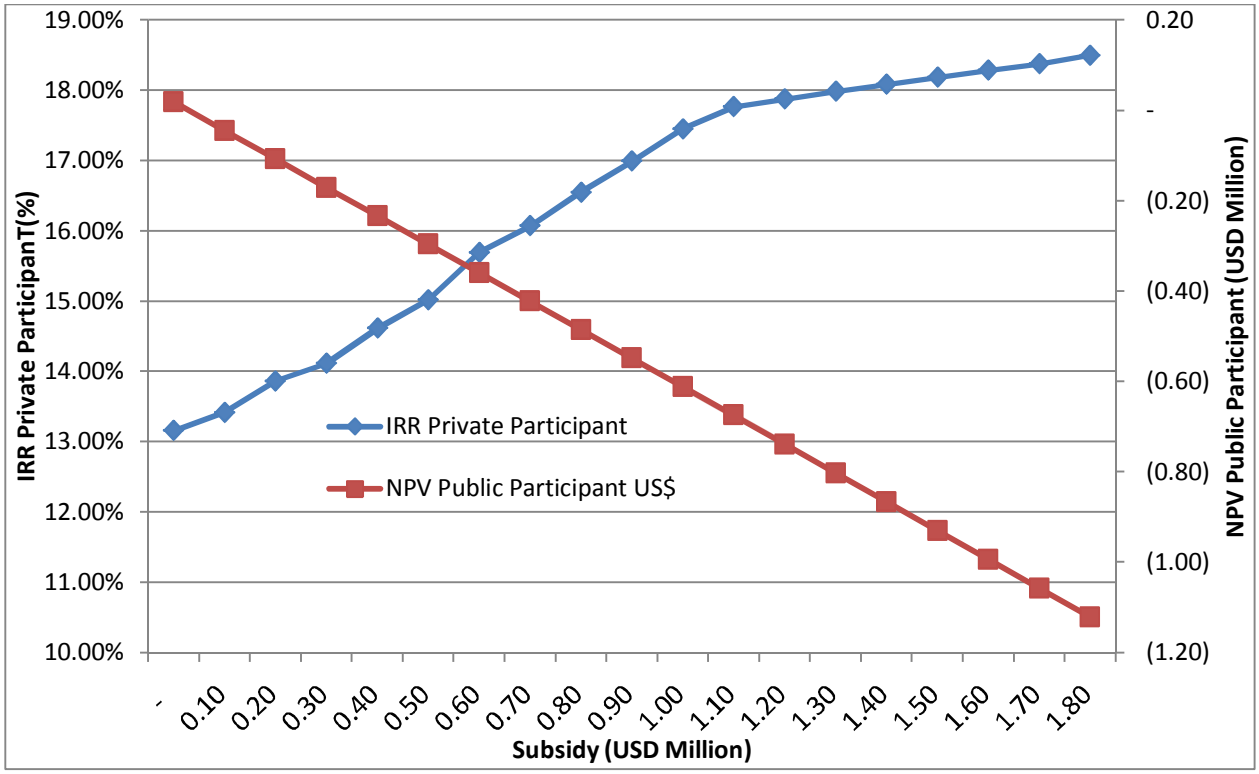

Chart: 13 **Impact of variation of Capital Subsidy on the IRR of the Private Participants and the NPV of all receivables for the Public Participant**

Conclusion: Although the Capital Subsidy will make the project viable, the public participant will have to provide almost 18% of the project cost as subsidy to make the project viable and almost 37% of project cost to provide a return of 18% to the Private participant.

In developing countries such as India the subsidy is provided for in a staggered fashion. For the first MW, the project receives a subsidy of about 20% of the project cost. For the subsequent MWs, the project receives about 5% of the total cost per MW as subsidy. Thus, for a project of about 5 MW, the subsidy works out to around 10% of the project cost.

The Doma being a 1 MW project, a subsidy of 20% may be justified on the basis of the practice followed in countries like India.

Alternatively a bid based of the lowest subsidy availed, as a discount to a specified amount can be used as a bidding parameter.

10.9. Combination of two or more parameters

PPP bids for hydro power project are usually structured around two or more parameters. Parameters should be chosen so as to cancel out their individual demerits. Only one parameter is variable (value to be bid by the Bidders) and all the other parameters are kept fixed at pre-determined levels.

However as observed in the various cases discussed above, the returns from the proposed Doma Hydroelectric power project are not sufficient to cater to the expected returns of the Private participant or the project lenders even with the base case assumptions.

Thus a combined case analysis taking into consideration a few fixed bidding parameters along with a variable parameter may not provide the desired outcome.

10.10. Analysis of the financial parameters and choice of bid type

The following are the key observations and the implication of the choice of bidding pattern:

10.10.1. Project Funding:

Observation: The entire finance (Equity and Debt) will be arranged by the Private participant

Inference: This observation rules out the following

- BOT
- DBO
- Management contract

Reasoning: In all the above mentioned bidding patterns the Government / public participant invests in the project

10.10.2. Project financial results

Observation: The financial results of the project are as follows in the base case:

- **IRR for Private Participant:** 13.16%
- **NPV Public Participant:** US$ 18,676
- **Min. DSCR Senior Debt:** 1.06x
- **Avg. DSCR Senior Debt:** 1.53x
- **Levelized cost:** 13.07 US c/KWh
- **Equity Payback Period:** 13 Years

On providing a subsidy of around US $ 1.00 Million (26% of the project cost), the financial results for the project are as follows:

- **IRR for Private Participant:** 17.45%
- **NPV Public Participant:** US$ (0.61) Million
- **Min. DSCR Senior Debt:** 1.7x
- **Avg. DSCR Senior Debt:** 2.26x
- **Levelized cost:** 11.44 US c/KWh
- **Equity Payback Period:** 9 Years

Inference: In order to develop the project on a PPP mode, the public participant may have to provide significant amount of subsidy for the project. Otherwise, they should develop the project on a BOT basis and invest the entire capital on their own.

Reasoning: The Project is expected to cost US $ 3.8 million. The revenues expected to be generated by the project will not be enough to provide the investors with comfortable returns.

10.10.3. Project Ownership

Observation: The project ownership is likely to be transferred to the Project Company over the concession period as it is expected to arrange for the equity and debt finance.

Inference: Under this observation a DBFO (Design, Build, Finance and Operate) is ruled out, as in a DBFO the project ownership lies with the Public Participant.

Reasoning: The equity investment in developing the Doma hydro power project is around 1.14 million USD and can be considered substantial. Also to raise the project finance, the bank will require a first charge on the assets of the Project Company. For the above two reasons it is imperative that the ownership the project be transferred to the Project Company.

10.10.4. Risk of hydrology and Generation related risks

Observation: Variation in Revenues can be expected due to variation in hydrology, plant availability, grid availability etc.

Inference: The concession period for the project should be in the range of 20 to 30 years.

Reasoning: Hydrology usually depicts a cyclical pattern. To harness the complete potential of the hydro power project the Private participant should be able to cover a few hydrological cycles.

Conclusion: Keeping in view the above mentioned observations, inferences and reasoning, the following two cases can be considered:

Case I: The Public participant invests the total capital to develop the project:

Under this case the PPP can have two stages:

Stage I: The project can be allotted on a BOT basis and the "Lowest Construction Cost" can be considered as bidding parameter.

Stage II: Post commissioning the public participant can enter into a PPP based on a Management Contract or an Operations and Management contract.

Case II: The Public participant subsidizes the project:

Under this there can be two types of bids:

Type I: The bid will be structured with fixed bidding parameters such as free power, free equity or upfront premium and the bidding parameter will be "Lowest Subsidy"

Type II: The Subsidy provided is fixed and the bidders will bid on one of the variable parameters such as free power, free equity or upfront premium.

10.11. Hydro power assets transferred to the Project Company

Under a BOOT type of PPP agreement, the Private Participant will be expected to design, finance, build, own and operate the power plant. For construction of the power plant, financing in the form of equity and debt capital will be raised by the project company. A typical project finance structure will require the assets being created to be pledged to the debt providers. The Lenders will require a first charge on the assets being created including the machinery, land, buildings and other civil works of the project company.

A distinction may have to be made between the already existing assets and the newly created assets financed through the project finance structure. The already existing assets such as the dam and existing appurtenant structures are owned by the Government. Ownership of these

existing structures is unlikely to be transferred to the project company. The government may lease these assets to the project company for a fixed (or variable/ escalating) annual lease payment. The lease agreement would define the rights and obligations of the project company with respect to the assets owned by the Government (e.g. maintenance of the dam, procedures for operating, etc.).

For the sake of clarity, it is important to define the assets that will be owned by the Project Company and therefore would be pledged to the lenders. Simply put, the Project Company will own all assets that are created using the finances it has raised through debt and equity. This will include all new structures such as powerhouse, machinery, switchyard, transmission line among others. The project company would also like to own the land on which the new structures of the power plant would be built. Since the lenders are financing the power plant, they would require a first charge on all assets created through the money lent by them.

Also, to establish the Project Company's rights to construct and operate the power plant, a few agreements may have to be executed with regards to the following rights of the Project Company:

I. Right to abstract a specified amount of water from the Doma Dam for power generation purpose
II. Right to modify the existing structures to suit the construction and operation of the hydro power plant (e.g. modifications to the outlet of the dam to abstract water)
III. Right to make alternative arrangements to divert or modify the flow of water for a specified time during execution of project works
IV. Right to control the operation of outlet gates of the dam to regulate the flow of the water

The lenders would also require step-in rights (rights to enter the contracts and take the place of the project company in case of default) and assignment of the project contracts (including concession agreement, land lease, PPA among others).

11. Risk allocation[36]

The structuring of project risk is an important part of any PPP project. The identification, analysis, mitigation and allocation of risk are crucial to the planning and success of every project. After critical risk areas are identified, their impact on different project parameters can be analyzed. This helps in prioritizing and structuring the mitigation process and increasing the probability of success of the project.

The primary principles of risk allocation are as follows:

a. Risk should be allocated, by contract or otherwise, to the party best able to mitigate or control such risk.
b. Economic benefits should be adjusted in relation to the risks assumed.
c. The return on investment to the private investor should be in consonance with the risk assumed by them.
d. Financial responsibility for project risks should be allocated to the project parties based on their credit worthiness and the willingness to assume the risk.
e. Certain risks which cannot be controlled or mitigated may not be attributable to any party. Such risks can cause a loss to the private party's investment.

Example in line with the above mentioned principles are:

I. Contractors to the project should be expected to accept risks which are linked to the construction of the project facilities.
II. The operator should be expected to accept risks which are linked to the operation of the project.
III. Government or Public participants should be expected to accept risks related to regulatory environment and local laws.

Generally project risks are shared between the lenders and the Equity investors in the proportion of their respective investment / exposure. Project sponsors are expected to bear performance risks (which are in part transferred to contractors, suppliers and/ or operators).

Typically, host governments / the Public Participant are willing to accept political risks in the host country, which include, for example,

- Legislative changes
- Failures and interference of host government authorities
- Currency inconvertibility
- General strikes and other non-project-specific labor related interferences
- Political unrest

[36] Source: http://bit.ly/1dGB6yI Retrieved on 02 September 2013

- War and similar events involving the host country

Host governments do not normally accept the financial risks of a project unless this is a requisite to a defined extent. This is done usually to make the project viable from the perspective of the lenders and the equity investors or to address other public policy objectives of the host government. Financial risks burden the economy and finances of the host country and also create contingent liabilities for the future. Governments therefore steer clear of assuming financial risks or providing financial/ sovereign guarantees to back the investments.

To some extent, risks can be covered by having adequate insurance available at a reasonable cost. Insurance is a commonly used instrument for covering the insurable risks, with the cost of insurance being included in the project's pricing.

The individual perspective on risk allocation varies from participant to participant depending upon their technical and financial position and their ability to evaluate, understand and mitigate the posed risk. Hence different parties in a PPP often negotiate differently on the allocation and incidence of identified risks. Negotiations are settled based on a risk vs. reward tradeoff.

PPP documentation often involves a Risk Matrix - a common tool in a tabular format, which compares the degree of incidence of various risks for all the PPP participants. The Risk Matrix allows the participants to understand various risks and their effect on the project. Mitigation measures for each risk and the allocation of risks to specific participants is also dealt with in the Risk Matrix. Another important factor analyzed in the risk matrix is the impact and consequences of the risk for parties to whom the risks have been assigned and to those who do not bear the particular risk.

A typical risk matrix for a PPP transaction is shared in the forthcoming section. [37] The risks are also described in detail in the next section.

Categorization of risks

One of the founding pillars of the concession agreement is the categorization of the identified project risks. Once risks are categorized, they can be evaluated and their impacts can be estimated. Project financing also depends heavily on highly structured assumptions and the allocation of risks to the entities involved in the project.

Some of the common categories of commercial risks involved in a PPP project are described below.

[37] Source: http://bit.ly/1dGB6yI Retrieved on 2 September 2013

11.1 Construction and completion risks:

Cost overruns and delays in performance are the most important and common risks associated with the construction period. The responsibility of project engineering design often lies with the private participant (Project Company), which in turn transfers the responsibility and risk to the contractor, under an EPC agreement containing back-to-back obligations, usually for a fixed price. Most of the construction risk (if not all) lies with the project company and not with the government. The project company may abstain from assuming the risks that relate to political uncertainty or country level risks. The private participant will also be averse to assuming any kind of risk where it does not have the opportunity to conduct a thorough due diligence of the project. As the private participant has the responsibility to execute the design and construction of the project, it is in the best position to assume the risk for the same as well.

11.2 Operating risks:

The concession period for the proposed hydro power project at Doma dam is likely to be a long term contract. The operating costs for the project over the term of the concession period may be difficult to estimate without thorough understanding of the project components, their wear and tear, maintenance requirements and general levels of inflation in Nigeria. In general there are two ways of dealing with this issue:

- The Public Participant could allow the project company to pass the increased input costs on to the consumers of the electricity generated. The escalation could be pre-determined based on local inflation rate (CPI or WPI) for local expenses and foreign inflation (US CPI) for costs denominated in foreign currency.
- The project company could mitigate the input risks by entering into long-term supply agreements with reliable suppliers (although this means the project would not benefit from downward trends in costs).

Example: Volatility of input costs (labor costs) and technology changes.

11.3 Demand and price risks:

Hydroelectric Projects are highly dependent on the revenue paid by the public utility. Usually the private participant would bear this risk, but would insist on some measures from the government to mitigate the risks. A typical measure would be inclusion of ‘take or pay’ or ‘deemed generation’ clauses in the PPA. The PPA obligation of the utility could

also be supported by a federal government support letter. The price risk is taken care of by a fair and pre-determined tariff structure, in this case the MYTO II tariff mechanism.

11.4 Technology risks:

There are two main types of risks associated with technology.

- Latent defects in the technology used in the project would affect the performance of the project in the long run.
- Developments in technology may make the technology used in the project obsolete. This might also result in services delivered from projects based on old technology becoming inefficient or uncompetitive.

In case of the mini hydro power project, this risk is low as the technology for electricity generation is very mature and well understood. No major innovations are expected as the efficiencies of the current technology are quite high.

11.5 Change of law risks:

Changes in the governments' laws over the course of time may adversely affect the project company. As the changes of laws are within the control of the government, the Public Participant should accept to bear the risk of adverse circumstances for the project. The project company would be expected to be compensated for any discriminatory changes in laws. However, it would be expected to bear the risk of changes of law if these changes affect the project company's competitors equally.

11.6 Environmental risks:

Generally, the Public participant is liable for pre-existing conditions of the land where the Public participant has the obligation to provide the land to the project company, and is often achieved through including warranties and indemnities.

After the transfer of possession of the facility / land to the project company, the project company should be obliged to conduct the project in compliance with the applicable environmental regulations. Noncompliance with applicable environmental law and regulations lead to penalties as applicable under the Nigerian law, along with the cost of the clean-up required.

11.7 Casualty risks:

Casualties and mishaps are always a possibility on infrastructure construction sites. They should be insured against.

11.8 Ownership and Borrower risks:

The sponsors / share holders of the project would not want the creditors and lenders to the project to have recourse to their assets outside the project company. It is therefore prudent to ring-fence the project company and its assets that are pledged as security for supporting the borrowing.

11.9 Property and contingent liabilities:

This refers to protection of property ownership, risk of expropriation by the government or a public authority and compensation in case of expropriation to the private participant.

11.10 Country and political risk:

The project is affected by the civil and political stability of a country e.g. strikes, civil strife, coup etc.

11.11 Counterparty credit risk:

To minimize the counterparty credit risk the Public Participant needs to ensure that only reputed and the credit-worthy private participants are selected for the PPP project. If the counterparty is a newly incorporated special purpose vehicle, undertakings or guarantees from the parent organizations/ shareholders should be taken and their credit-worthiness should be assessed.

11.12 Exchange rate risks:

Generally the revenues earned in providing infrastructure services are in the local currency. As most overseas sponsors / equity investors report their earnings in a different currency, the earnings of the project company may get distorted due to the exchange rate fluctuations.

The principal and interest payment obligations for project finance may be in a different currency. Depreciation in the value of the local currency may make it difficult to repay the loan and may lead to default on the loan repayment obligations.

Exchange risks can be managed through hedging by purchasing forward contracts equivalent to the estimated outgo of foreign exchange. At times, the payment for services or a part thereof can be denominated in the foreign currency of choice for the lenders/ private participant.

11.13 Interest rate risks:

Usually, international lenders provide finance on the basis of the cost of risk free capital (usually LIBOR) plus a mark-up margin (lender's perception of the market risks). As a result, the project company may be exposed to the risk of a general rise in interest rates. The Public Participant needs to consider whether this rise in interest rate could indirectly be passed on to the customers (for example, as an adjustment to tariffs due to increase in debt servicing expenses). Generally, interest rate swaps are available at a price and allow the borrower to fix the interest rate for the entire loan repayment period.

RISK MITIGATION ANALYSIS				
RISK	**REASON**	**REMEDY**	**CONSEQUENCES FOR LENDERS**	**CONSEQUENCES FOR INVESTORS**
Development period & Construction Period Risks				
Cost Overrun	*Within Construction Consortium Control*	Included in Fixed Price Lump Sum EPC Contract	No Effect	No Effect
	Outside Construction Consortium Control:			
	- Insured event	Proceeds of insurance policy including business interruption insurance	Draw on standby finance if insurance policy exhausted; Debt coverage ratios reduced if standby debt used	Return eroded by servicing of standby finance
	-Uninsured force majeure	Draw on standby finance	Debt coverage ratios reduced if standby debt used	Return eroded by servicing of standby finance
	- Ground conditions	Draw on standby finance	Debt coverage ratios reduced if standby debt used	Return eroded by servicing of standby finance

RISK MITIGATION ANALYSIS				
RISK	**REASON**	**REMEDY**	**CONSEQUENCES FOR LENDERS**	**CONSEQUENCES FOR INVESTORS**
	- Owner variation orders	Draw on standby finance and limit scope of variations by Owner	Debt cover factors reduced if standby debt used	Return eroded by servicing of standby finance
	- Changes of law, delays in obtaining approvals or permits, increased taxes	Standby finance drawn pending tariff adjustment	Debt covers factors reduced if standby debt used	Return might be reduced because of timing effects
Delay in Completion	Within Construction Consortium Control	Liquidated Damages/ Penalties imposed on the contractor as per the EPC contract terms. (Sufficient to cover interest due to Lenders and fixed operating costs)	Debt cover factors reduced, if standby debt drawn	No effect (except loss of opportunity to earn bonuses) unless penalties fully spent. Use of standby finance for further costs will erode return

RISK MITIGATION ANALYSIS				
RISK	**REASON**	**REMEDY**	**CONSEQUENCES FOR LENDERS**	**CONSEQUENCES FOR INVESTORS**
	Insured Force Majeure	Proceeds from business interruption insurance policy	Standby finance drawn if insurance policy exhausted; Debt cover factors reduced if standby debt finance used	To the extent that the ability to pay dividends is postponed, return may be eroded
	Ground Conditions	Draw on standby finances	Debt cover factors reduced if standby debt finance used	Return eroded by servicing of standby finance
Failure of Plant to meet Performance Specifications at Completion Tests as a result of fault by Construction Consortium	Capacity shortfall	Penalties payable by Construction Consortium supplemented by insurance	If capacity shortfall is significant, Debt coverage ratios may be reduced from base case levels. Otherwise, no effect.	Return reduced if penalties from Construction Consortium exhausted. Also, if capacity shortfall is significant, revenue generation from the project may be reduced.

RISK MITIGATION ANALYSIS				
RISK	**REASON**	**REMEDY**	**CONSEQUENCES FOR LENDERS**	**CONSEQUENCES FOR INVESTORS**
Operating Costs Overrun	Costs exceed original estimates, Not an insurance or Force Majeure event	Standby finance drawn	Debt cover factors reduced if standby debt used	Return reduced by servicing of standby finance
	Insurance costs exceed original estimates	Standby finance drawn pending Tariff adjustment	Debt cover factors slightly reduced depending on timing effect	Return may be reduced. Investors may be forced to invest higher equity amounts to compensate for higher costs.
Increased Financing Costs	Interest rate increase	Standby finance drawn pending Tariff reopener	Debt cover factors slightly reduced depending on timing effect	Return may be reduced. Investors may be forced to invest higher equity amounts to compensate for higher costs.

RISK MITIGATION ANALYSIS				
RISK	**REASON**	**REMEDY**	**CONSEQUENCES FOR LENDERS**	**CONSEQUENCES FOR INVESTORS**
	Adverse exchange rate fluctuations	Standby finance drawn pending tariff reopener	Debt cover factors slightly reduced depending on timing effect	Return may be reduced, if the tariff is not denominated in the foreign currency of choice, or if hedging does not cover entire foreign currency component of revenue.
	Adverse changes in terms of finance	Standby finance drawn pending tariff reopener	Debt cover factors slightly reduced depending on timing effect	Return may be reduced. Investors may be forced to invest higher equity amounts to compensate for higher costs.

RISK MITIGATION ANALYSIS				
RISK	**REASON**	**REMEDY**	**CONSEQUENCES FOR LENDERS**	**CONSEQUENCES FOR INVESTORS**
Government	Minor changes in tax, law, customs, legal requirements, environmental standards	Tariff adjustment (if during construction period, standby finance drawn)	Standby finance could be required. No effect on Debt Service Cover Factor	No effect, as long as the changes are pass-through in the concession agreement.
	Expropriation, nationalization, consents withdrawn, interference causing severe prejudice	Owner entitled to terminate as Government default	If owner terminates, loan repaid or assumed as compensation	If Government defaults and owner terminates, compensation paid for termination
	Fundamental breach by the Government, under agreements	Owner entitled to terminate as Government default	If owner terminates, loan repaid or assumed as Compensation	If Government defaults and owner terminates, compensation paid for termination
OPERATION PERIOD				
Operating Costs Overrun	As a result of changes in regulations	Tariff adjustment	No effect	No effect
	At Owner's request	No adjustment to Tariff	Debt cover factors reduced	Return reduced

RISK MITIGATION ANALYSIS				
RISK	**REASON**	**REMEDY**	**CONSEQUENCES FOR LENDERS**	**CONSEQUENCES FOR INVESTORS**
	As a result of failure by the operator	No adjustment to Tariff. Penalties payable by the operator	Debt cover factors reduced if penalties exhausted	Return reduced if penalties exhausted
Inflation, Adverse Changes in Cost of Finance, Exchange or Interest Rate Rates	Macroeconomic factors in the local and global economies	Tariff adjusted by indices. Small possibility that movements in indices do not exactly match changes in actual costs	Debt cover factors could be reduced	Possibility of erosion in return
Foreign Exchange Non-Availability/Non-Convertibility	Due to lack of liquidity in local currency markets or due to Government restriction on currency convertibility	Government guarantees availability of foreign exchange. If Government defaults, Owner can terminate	Loan repaid or assumed as Compensation	No effect (except loss of opportunity to earn bonuses) if Government pays under guarantee. If Government defaults under guarantee and Owner terminates Compensation paid for termination
Failure to Make Available Sufficient Foreign Exchange	Government default	Owner can terminate	If Owner terminates, loan is repaid through Compensation	Compensation paid for termination

RISK MITIGATION ANALYSIS				
RISK	**REASON**	**REMEDY**	**CONSEQUENCES FOR LENDERS**	**CONSEQUENCES FOR INVESTORS**
Failure of purchaser of power (State owned utility) to Perform Obligations	Due to bad financial condition of the public utility or due to lack of demand in the grid	Government guarantees performance. If Government defaults under guarantee, Owner can terminate	No effect if Government pays under guarantee. If Government defaults under guarantee and Owner terminates, loan repaid or assumed as Compensation	No effect (except loss of opportunity to earn bonuses) if Government pays under guarantee. if Government defaults under guarantee and Owner terminates, Compensation paid for termination
Forced Outage or Temporary Shortfall in Capacity	Owner's fault	Penalties payable by Owner	If penalties completely erode shareholders returns, possibility of insufficient cash. Debt service Escrow Account to be drawn down	Any penalty paid will erode return for investors

RISK MITIGATION ANALYSIS				
RISK	**REASON**	**REMEDY**	**CONSEQUENCES FOR LENDERS**	**CONSEQUENCES FOR INVESTORS**
Forced Outage or Temporary Shortfall in Capacity	Purchaser or electricity utility fault	Capacity Purchase Price payable anyway	No effect	No effect
	Force majeure event	Capacity Purchase Price paid anyway	Government guarantees default by Purchaser. If Government defaults, Owner terminates and loan repaid or assumed as Compensation	Loss of opportunities to earn bonuses. If Government defaults, Owner can terminate. Compensation for termination paid by Government
Failure of the Operator to Perform Obligations	The Operator's breach of Operations and Maintenance Agreement	Penalties payable by the Operator	Debt cover factors reduced if the Operator's penalties exhausted and standby debt finance used	Return reduced
Environmental Incidents Caused by the Operator	The Operator's breach of Operations and Maintenance Agreement	Indemnity from the Operator	Debt cover factors reduced if the Operator's penalties exhausted and standby debt finance used	Return reduced