

Study of the Project Financing Model in the Development of Water Supply Project in Nepal

—Melamchi Water Supply Project

Kathmandu Valley Water Supply and Sanitation Subproject (Subproject-2)

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Abstract—Nepal has been facing lots of threat in the sustainable development of projects. The one of the major challenge for Nepal is the supply of unhealthy and inadequate drinking water in Nepal. Being Kathmandu Valley one of the densely populated areas of Nepal, the supply of drinking water is insufficient as per the growth of the population. The water supply project 'Kathmandu Valley Water Supply and Sanitation Subproject' is being formulated to solve the water crisis in Kathmandu Valley. The Government of Nepal emphasizes on the use of PPP for procuring and financing infrastructure and services in the country. The legal framework must be improved to encourage private sectors as well as public sectors for flourishing PPP development initiatives in Nepal. With the use of PPP model in Water Supply project, it can be beneficial to the consumers of the country as it supplies drinking water in cost effective prices. The Public partnership with private sectors will help to improve the quality of drinking water and distribution of water to citizens in affordable prices.

Keywords—*project financing; PPP model; water supply company; nepal*

I. INTRODUCTION

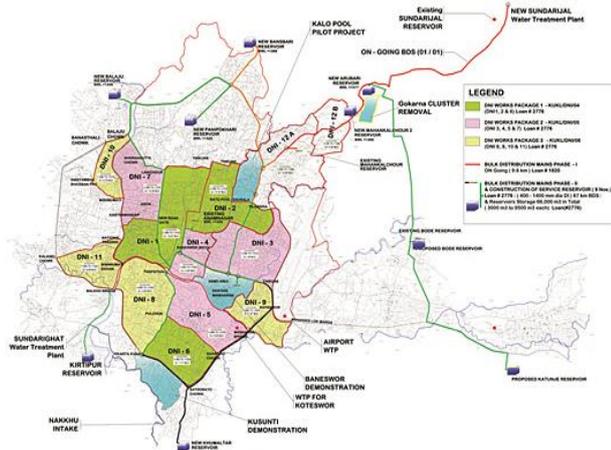
Nepal is a Himalayan country situated in between China to the north and India to the East, West and South. The country has been facing lots of threat in the sustainable development of projects. The one of the major challenge for Nepal is the supply of unhealthy and inadequate drinking water in Nepal. Mainly, the urban areas and densely populated areas of Nepal are suffering from great shortage of drinking water. Kathmandu Valley is one of the densely populated areas of Nepal as it is the center of all the administrative activities of Nepal. As per the growing population, the drinking water supply is not sufficient.

In this article, the water supply project 'Kathmandu Valley Water Supply and Sanitation Sub-project 2' has been developed in Nepal based on PPP model of project financing. This paper will focus on the importance of project financing in Nepal, a project financing model suitable for Nepal according to its situation, problems faced by Nepalese government and risk analysis in the water supply project.

II. OVERVIEW OF PROJECT

Melamchi Water Supply Project (MWSP) was approved on 21 December 2000 and became effective on 28 November 2001. MWSP is regarded as a long term sustainable alternative to alleviate the drinking water shortage problem within the Kathmandu Valley. This Project aims to supply fresh water from the Melamchi River of Sindhupalchowk district to Kathmandu Valley targeting to supply 170 million liters per day (MLD) of water per day through a 26.5km water diversion tunnel (WTD). The MWSP comprises four parts: (i) infrastructure development, (ii) social and environmental support, (iii) institutional reforms, and (iv) project implementation support. The withdrawal of World Bank, the Norwegian Agency for International Cooperation (NORAD), and the Swedish International Development Cooperation Agency (SIDA) caused huge financial gap of \$133 million equivalent. In 2007, the original project was splitted into two subprojects- the Melamchi River water diversion subproject (subproject 1) and the Kathmandu Valley water supply and sanitation subproject (subproject 2). MWSDB will continue to implement subproject 1; three new entities (i) the Kathmandu Valley Water Supply Management Board (KVWSMB), asset owner of water and wastewater systems within the Kathmandu Valley; (ii) the Water Supply Tariff Fixation Commission (WSTFC), responsible for the economic regulation of the sector; and (iii) the Kathmandu Upatyaka Khanepani Limited (KUKL), in charge of operating the assets under lease and license from KVWSMB; established in the Kathmandu Valley had taken over the roles and responsibilities of the existing Nepal Water Supply Corporation to implement subproject 2.

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Source: melamchiwater.gov.np

Fig. 1. Overview of project

TABLE I. OVERVIEW OF THE WATER SUPPLY PROJECT (ADB, 2014)

Source: (Shrestha, 2014) & (ADB, 2018)

Items	Description
Project Name :	Melamchi Water Supply Project
Type :	Water Supply/ Water Treatment
Donor Name :	a. Asian Development Bank (ADB) – 45.60% b. Government of Nepal (GoN) – 29.50% c. Japan Bank for International Cooperation (JBIC) – 13.40% d. Japan International Cooperation Agency (JICA) – 5.10% e. Nordic Development Fund (NDF) – 2.90% f. Organization of Petroleum Exporting Countries (OPEC) – 3.90%
Project rationale and objectives :	a. To alleviate the chronic shortage of potable water in Kathmandu Valley and provide a sustainable, long-term solution for providing good quality drinking water b. To provide a reliable, affordable, consumer-oriented and sustainable potable water supply and sanitation services in the Kathmandu Valley.
Project Fund :	Total: USD 355.4 million Sub-project I: USD 274.4 million Sub-project II and III: USD 81 million
Project Duration :	2013 (extended due to various causes) Expected to finish by 2017-18

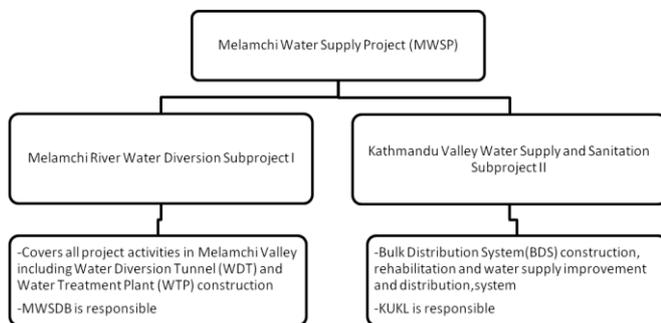


Fig. 2. Division of MWSP

III. SCOPE OF PROJECT

Under the ADB loan (Loan No. 1820), Scopes of the Kathmandu Valley Water Supply and Sanitation Subproject II are as follows:

- Immediate improvements of water supply services in Kathmandu valley through augmentation of surface and groundwater sources;
- Water quality improvement related works;
- Rehabilitation and improvement of water supply and sewer networks at the primary, secondary and tertiary levels as well as house connections in parts of KUKL service area;
- Design and construction of the Bulk Distribution System (BDS);
- Wastewater Systems Improvements in a phased manner; and
- Improvement of the Service Management system of KUKL.

IV. PROJECT PARTIES AND THEIR ROLES

A. Kathmandu Valley Water Supply Management Board (KVWSMB)

KVWSMB is a public body responsible for policies and ownership of water service infrastructures, established under Water Supply Management Board Act, 2006. KVWSMB is represented by 11 members, which are from GoN, local Government (Kathmandu Metropolitan, Lalitpur Sub-Metropolitan, Bhaktapur Municipality, Madhyepur Thimi Municipality, Kirtipur Municipality), Federation of Nepal Chamber of Commerce and Industries (FNCCI), one representative from three District Development Committee (DDC) within valley, representative of Consumer Association operating in the valley, representative nominated of Water/Sewerage service related NGOs and expert nominated from WASH sector. KVWSMB is an asset owner of the water system related to the Kathmandu Valley operations, which will in turn be leased out to KUKL under an asset lease agreement and an operating license.

B. Water Supply Tariff Fixation Commission (WSTFC)

The first study in the theory of foreign direct investment (FDI) is due to the study of foreign investment in developed countries. In 1957, Mundell states in International Trade and Factor Mobility that there is an alternative relationship between investment and trade. In his view, the existence of trade barriers will generate capital flows, and the barriers of capital flow will generate trade [1]. A professor at Harvard University in the United States named Vernon (1966) put forward the theory of product life cycle (PLC) in "International Investment and International Trade in the Product Cycle". In his view, the technological development of new products generally goes through three stages: Innovation, maturity and standardization;

the proportion of factors of production of this kind of products will also change regularly, beginning to change from technology-intensive to labor-intensive, and then from capital-intensive to labor-intensive. In addition, those countries with relatively large production advantages will also change accordingly, starting from individual developed countries to general developed countries, and then to developing countries. The trade strategies of the innovative countries also begin to change slowly, that is, to produce and export to the neighboring countries, in order to reduce production and exports. And then invest in close countries, and then stop production. According to the investment, production part is transferred to developing countries. Their own needs are gradually satisfied through overseas imports [2].

WSTC was established as per Water Supply Tariff Fixation Commission Act (2006), formed for the protection of the interests of consumers by providing qualitative and reliable water supply and sanitation service to the consumers at a reasonable price, by fixing the tariff of water supply and sanitation service. The Commission members, including the Chief Commissioner are appointed on competitive basis. KUKL is required to submitting proposal for water tariff fixation to the Commission together with its documentary evidence of cost and expenditure. The Commission evaluates and scrutinizes the proposal, make necessary amendments and approve after a thorough public hearing.

C. Kathmandu Upatyaka Khanepani Limited (KUKL)

KUKL is a private company established in 2007 under the Companies Act of 1996 as a utility operator. KUKL is responsible for managing and operating the water supply and sanitation system within the Kathmandu Valley to provide qualitative, quantitative and constant service at cost-effective prices to the citizens of the country. Under an asset lease agreement and an operating license with KVWSMB, KUKL is responsible for maintaining the leased assets in good working condition, preparing a capital investment and asset management plan and a 5-year investment plan for the purpose of providing water services over 30 years and issue preference share to KVWSMB against the assets transferred to it and not more than 10% dividend to shareholders if KUKL is able to make profit. KUKL also has to pay lease fee 6% of total collection, and NPR10 million as license renewal cost to KVWSMB.

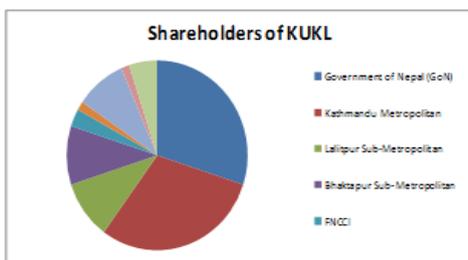


Fig. 3. Shareholders of KUKL

D. Project Implementation Directorate (PID)

Project Implementation Directorate (PID) was formed under KUKL Board through a MOU signed on 19 April 2009

between Government of Nepal (GoN) [Ministry of Finance (MoF), Ministry of Physical Planning and Works (MPPW)], Kathmandu Valley Water Supply and Management Board (KVWSMB), KUKL and Asian Development Bank (ADB) to design, implement and report the safeguards systems/activities.

E. Major Contributors/ Donors

MWSP was initially estimated to cost USD 317.32 million. However, an additional fund worth USD 38.1 million was negotiated in 2014 between the GoN and ADB; thus the revised estimated cost of the project is USD 355.4 million. The majority of the budget share(USD 27.4 million) is allotted to subproject I whereas the remaining budget of USD 81 million is allotted to subproject II for the treatment and distribution of water, as well as for the enhancement/mitigation of the socio-cultural and environmental features of the project.

TABLE II. CONTRIBUTIONS OF MAJOR DONORS IN MWSP

Institution	Contribution/loan the amount for MWSP in USD in million		
	Total	SubProject I	SubProject II
Asian Development Bank (ADB)	162	128.8	33.2
Japan Bank for International Co-operation (JBIC)	47.5	47.5	-
Japan International Cooperation Agency (JICA)	18	-	18
Nordic Development Fund (NDF)	10.5	10.5	-
Organization of Petroleum Exporting Countries OPEC	13.7	13.7	-
Government of Nepal (GoN)	103.7	73.9	29.8
Total	355.4	274.4	81

Source: (Shrestha, 2014)

V. GOVERNMENT PLANS, POLICIES AND STRATEGIES

The increased population has resulted shortage of water supply along with a stress on existing urban water supply and sewerage services. Therefore, the Government of Nepal is fully committed to provide safe drinking water and sewerage services for the whole citizen of Nepal. There are several efforts to streamline planning and investment in the sector. Some of the major legal frameworks established are shown in the table III.

TABLE III. MAJOR LEGAL FRAMEWORKS

S.N.	Plans/Policies/ Strategies	Activities
1.	National Drinking Water Quality Standards (2006)	<ul style="list-style-type: none"> - Provided details of the national water quality standards to be applied to all new urban systems. - Complemented the Environment Protection Act (1997) which requires Environmental Impact Assessments (EIA) and Initial Environmental Examination (IEE) of all new projects and pollution control for all water resources. - KUKL has to follow national standard drinking quality standards maintained for supplied water
2.	Water Supply Management Board	<ul style="list-style-type: none"> - Emphasized on the involvement of local bodies and institutions in the water

	Act (2006)	supply and wastewater sector development in the urban areas. - Allowed for involvement of the private sector in the management and operation and maintenance of the systems. - In case of Kathmandu valley, the act has made it mandatory for Kathmandu Valley Water Supply Management Board (KVWSMB) to issue license to a service provider for operation and management of its water supply and wastewater system.
3.	Water Supply Tariff Fixation Commission Act (2006)	- Provided the authority to the Water Supply Tariff Fixation Commission (WSTFC) for economic regulation of water supply and wastewater services and in resolution of consumer complaints.
4.	National Urban Water Supply and Sanitation Sector Policy (2009)	- Formulated to provide overall water supply and sanitation policy support and guidance towards achieving equity in service delivery. - Emphasized for demand side management of water supply and promotion of effective and appropriate institutions at local level for implementation, operation and management of water supply and wastewater systems. - Encouraged private sector participation and involvement of users in the decision making process.
5.	Government's 3 Year Interim Plan (2007-2010)	- Provided the guidance on urban sector priorities highlighting, in particular, the need to address the effects of rapid urbanization on service levels, water quality and scheme maintenance. - Expressed the need of full integration of sewerage, on-site sanitation and solid waste management in all urban schemes and specifically endorsed cost recovery from consumers.
6.	The Nepal Water Supply Corporation Act (2nd Amendment) (2007)	- Provided the legal base for transfer of ownership of water supply and wastewater service system of any urban center operated by NWSC to any other appropriate organization as decided by the Government.
7.	National Urban Strategy (2015)	- Proposed minimum water provisioning, water security, safety and sanitation coverage including protection and management of fresh water sources. - Provided desirable conditions with indicators of water and sanitation service to achieve strategies and its activities with responsible agency encouraging the private sector involvement in water sector.

VI. SUITABLE PROJECT FINANCING MODLE IN NEPAL

Nepal mostly used Build Operate Transfer (BOT) and Public Private Partnership (PPP) financial model for the construction and development of projects. The more appropriate project financing model for Nepal could be PPP project financing model based on the situation of Nepal. PPP is often seen as the vehicle to bridging the infrastructure gap in Nepal where governments generally do not generate adequate revenue to fund many projects on their own and refrain from resorting too much on debt financing that can widen fiscal deficit. According to IMF (2017), Nepal has emerged as one of the top 10 low income developing countries (LIDCs) to attract investment in infrastructure projects built under the PPP. The Report also mentioned that Nepal has attracted \$1.2 billion in 12 infrastructure projects operating on PPP model, which is 1.2

percent of the country's gross domestic product (GDP). Government of Nepal has been attempting to promote PPP in the country to bridge the infrastructure gap. In this respect, it introduced PPP Policy last year which comprises provisions on project preparatory fund and viability gap funding. The water supply project also used PPP model. The Nepalese government has no enough money to develop so private companies will invest in the project. So PPP model is suitable for the development of the nation.

In 2015, the Government of Nepal approved a PPP policy that defines the broader contours of private sector participation in the country. The policy has identified energy, telecom, urban and rural environment as areas for PPP. Standalone Public Enterprise, Joint Ventures and Privatization are not considered PPP as per the legal definition in the policy paper. The policy provided the space for a Viability Gap Fund and project preparation facilities in order to help project developers and expedite PPP projects though the guidelines for Viability Gap Funding are yet to be established. The government should also identify the projects (long and short list) to be built under PPP and finalize the guiding regulations.

TABLE IV. COMPARISON OF BOT AND PPP

Operation Procedure Model	BOT	PPP
Project cycle	-Project Identification -Bidding Process -Project company set up -Project financing -Construction -Operation -Project transfer	-Project selection -Project Identification and Appraisal -Project company set up -Bidding Process and project financing -Construction -Operation -Project transfer
Risk	High	Medium
Accessibility of fund	Hard	Easy
Ownership of Government	Absolute	Partial
Franchise	None	Partial
Financing costs	High	Medium
Financing Time	Long	Short
Risk of Government	High	Medium
Policy Risk	High	Medium
Impact for Macroeconomic	Both	Favorable
Scope	Project with mature technology and stable ROI, the infrastructure project with less Competition	Policy urban infrastructure project, the operating infrastructure project with low ROI

VII. PPP MODEL IN NEPAL

The development of infrastructures is the utmost need for the economic development of the nation. Only the investment of Government to build those infrastructures is not enough so investment of private sectors should be also emphasized with the development of PPP policy in Nepal. PPP Policy of the Government of Nepal provides a framework to enable the private sector participation in the development and improvement of public infrastructure and services at national

and local level. It is essential to create a conducive policy environment for the participation of private sector in development, implementation, and operation of public infrastructure and services.

According to Public Private Policy Act of Nepal Government, a PPP project should have following features:

- Project contract period should have been clearly set.
- There should be full or partial capital investment of private entities for the purpose of construction, rehabilitation/ modernization of infrastructure services.
- Private entity should be provided with responsibilities to operate, maintain and deliver infrastructure services or project management contract should have been entered with the responsibilities of operation and maintenance thereof.
- Payment arrangement linked with work performance should be made as per earlier set benchmark for private entities.
- Acceptance by private entity to bear income related risk partly and/or fully.
- All the above provisions should be mentioned in the duly signed project contract by public and private entities.

KUKL was established with an intention to operate in Public Private Partnership. The shareholder composition includes Government, Private Sector Organization represented by different Chamber of Commerce, FNCCI, and Employees Trust. KUKL is governed by board responsible for formulating policies, strategies and to supervise all the activities of the company. The Government authorized KUKL to implement subproject 2 on behalf of KVWSMB, receiving KVWSMB's financial resources. Procurement contracts under the subproject 2 were entered between KUKL and contractors and suppliers, and checks was signed and issued by KUKL.

VIII. PROBLEMS OF PROJECT FINANCING METHODS IN NEPAL

A. Government

- As a government, the loan payback period in project financing should be a long term agreement from 15-25 years period. The time for collection of revenue and pay back the loan to project financing institutions is enough. But most of the private companies do not agree with the long term agreement as the companies prefer for short term transfer to earn their profits. Thus, this will create a conflict between the public body seeking to meet the long-term objectives of a community and the private company seeking to earn profits in the shortest period of time possible.
- The government should pay attention to the quality of project financing provision so that the poor finance service could not claim for the huge payment from the government.

- Corruption has been the major challenge for the entire development of project as well as the nation. The government should monitor and audit the project financing process time to time.
- The government should be updated about the problems of management and maintenance cost of project after successful completion of project to reduce the risk of high maintenance cost.

B. Investors

- The investors should pay attention to the time schedule and transfer period to mitigate the risks caused due to shorter period agreement.
- In Nepal, the political condition is unstable so the investors should pay attention to the political risk of Nepal as well as corruption.
- Inflation and foreign exchange rate should be taken seriously when project agreement is signed as the price of local currency may alter after the agreement is signed.

C. Local Bodies

- Low institutional capacity and lack of capacity enhancement of human resource.
- Lack of timely reconstruction of infrastructure destroyed during the conflict.
- Lack of continued execution of provisions under the LSGA and confusion in its implementation owing to delay in the amendment of conflicting provisions in other acts and regulations.
- Lack of institutions to control corruption and compliance to fiscal discipline in local bodies.
- Lack of timely and quality execution of development works owing to the absence of required technical support.
- Excessive work burden on the personnel deputed in local bodies.

IX. RISKS OF THE WATER SUPPLY PROJECT

The risks faced by the water supply project are shown below along with its management in table 2.

TABLE V. WATER SUPPLY RISKS AND ITS MANAGEMENT

Major Risks	Management
Public Financial Management	
The institutional capacity of municipalities to manage their finance, in terms of professional human resource and accounting system, is low; and there is ineffective internal controls, audit, monitoring and evaluation systems along with high dependence on government grants and Local Development Fee.	Technical assistance for: <ul style="list-style-type: none"> - Institutional capacity building of municipalities to upgrade existing financial management systems, develop strategic business plans, and enhance tax base assessments; - Strengthening internal audit and monitoring and evaluation systems - Preparation of phase out plan of local development fee, with alternative source of revenue, in conjunction with MuAN and MoFALD and in consultation with all municipalities.
Low commitment to address auditor's comments and suggestions including regularization, realization and settlement of unsettled accounts.	Advocate that MC & PM applied for government grants ensure the incorporation of these issues.
Risk of cost and time overruns of sub projects owing to disbursement delays, strikes and closure and low capacity of community users' groups.	Develop monitoring mechanism in ADB projects to ensure that disbursements are made on time by the TDF and other responsible agencies. Establish quarterly and/or as and when necessary interaction amidst user groups, civil society and representatives of political parties in ADB projects. Support capacity development of leaders and office bearers of user groups.
Procurement	
Procurement is not integrated with financial management and there is absence of safeguards to ensure budget adequacy, Procurement Management and Information System (PMIS) and quality control and performance evaluation for procurement works: Eg. Absence of performance audit	Technical assistance to enable municipalities to develop and implement a PMIS, which is integrated with municipalities' management information system to coordinate financial management, budgeting and procurement; and train relevant officials in quality control and performance evaluation for procurement. Ensure that performance audit is a precondition for ADB projects in municipalities
Bribes and corruption are accepted and taken for granted by the society	Support anticorruption organizations and civil society organizations to launch anti-corruption campaigns
Collusion is rampant and threats, intimidation, and extortions are common practices	Lobby and advocate for bidding in multiple places (two or more) and introduction of e- bidding system. Support FCAN to familiarize contractors on e-bidding and to develop simple instruction manual
Procurement plans (PP) are not prepared for use in budget formulation and procurement is not guided by specific procurement manuals.	Provide technical assistance to develop capacity of municipalities to prepare PP and manuals and advocate ensuring that PPP is part of MC & PM.
Corruption	
Executing and implementing agencies do not have an effective anti-corruption strategy or action plan.	Provide technical support GoN for the preparation of an anti-corruption strategy and action plan for ministries/line agencies and local bodies
CIAA presence at the district level is limited to deputation of legal officer in some District Administration Offices. No institutional presence at the local	Lobby and support the establishment of CIAA offices at the regional level Lobby and support for permanent staff at the CIAA.

level.	
Culture of reporting corruption cases and complaining against irregularities by the civil society is low with the tendency of accepting petty corruption as a mean to get one's work done engrained in the people's mindset and law enforcement agencies are perceived to be corrupt.	Support anticorruption organizations and civil society organizations to launch anti-corruption campaigns

X. PROBLEMS AND DEFICIENCIES OF DIFFERENT PROJECT FINANCING MODEL

As already mentioned, BOT and PPP financing model are more used in Nepal for the development of project, so only the problems and deficiencies of BOT and PPP will be studied.

	BOT	PPP
Advantages	<ul style="list-style-type: none"> - The organization is simple and the negotiation between the government and the private sector is easy. - The ROI of project is accurate, and the conflicts of interests between government and private sectors reduce. - BOT can broaden the sources of funding in order to lower government's financial burden. 	<ul style="list-style-type: none"> - Public and private sectors take part in the preliminary study in early stage in order to shorten the cycle of work and lower the project fee. - Make up a strategic alliance to negotiate with people which hold different concept about the goal of interest. - The private sectors can introduce advanced technology and management experience in the initial stage. - The government holds control of the project.
Disadvantages	<ul style="list-style-type: none"> - Public and private sectors tend to deal with a long-term investigation and negotiation, so the tender fee is extremely high. - Because there exists high risk for investors and lenders, it is difficult for financing. - During the concession period, the government may lose the control of projects. - It is harmful to introduce advanced techniques and management by private sector. 	<ul style="list-style-type: none"> - How to ensure the difficulties that cooperation and the government takes responsibilities in cooperation, so the burden of risk will increase. - The form of organization is relatively complicated, and the degree of difficulty in management increases. - How to set up the return rate of project may become a controversial problem.

XI. IMPORTANCE OF PROJECT FINANCING IN THE DEVELOPMENT OF PROJECTS IN NEPAL

In Nepal, project financing is significant as the development of project will help in the growth of the economic condition of the country as well improvement in the infrastructures of the nation. Firstly, project financing schemes are characterized by a high level of debt and extensive long-term contracting to guarantee an effective risk distribution; as a result, it is often better able to mitigate risk and reduce transaction costs than other forms of FDIs or commercial loans. In addition, it is not dependent on local financial markets,

thereby enabling investors to enter economically and politically less stable countries like Nepal. Secondly, project finance not only enables economic growth by generating revenue through taxes, jobs and royalties, but also creates revenues and spill-over effects by setting up strategically important assets such as power plants and other infrastructure ventures. In water supply project based on PPP model in Nepal, the private company (KUKL) will be responsible for building, managing and asset maintenance, service provision and financing the investment, in exchange of regular payments by the government and/or user charges.

XII. GOVERNMENT APPROVAL AND PROCUREMENT PROCESS

A. *Government Approval*

- Project procurement process can be commenced only after having project selection and related feasibility studies, project's suitability appraisal, documents related to Request for Proposal and receiving approval for the proposed project.
- With regard to suitability appraisal to be carried out by PPP Center, Project Implementing Agency (PIA) may carry out feasibility study and appraisal of suitability of project procurement documents.
- Approving agency or authority may grant approval with mandatory conditions to be incorporated in such documents. Procurement process can be commenced after such approval.
- Concerned authority or entity shall secure approval again from competent authority or entity in case any changes have to be made in project procurement documents or estimated project outlay or project's relevant aspects or project's procurement process (except changes of administrative nature) had those were already approved before receiving the project proposal.
- Prior to reaching project agreement with the private entity, Project Implementing Agency of PPP shall submit detailed feasibility study of the project along with project's project procurement documents, details of bidders and that of preferred competitors to approving authority or entity for the review.
- Project approving authority or entity, after having opinions of PPP center if it deems necessary, shall forward the project to PIA after approving it.

B. *Procurement Process*

Procurement process of PPP projects shall be as follows:

- Request for Expression of Interest (REOI)
- Request for Qualification (RFQ): Make Short-listing of pre-qualified bidders public on the basis of criteria mentioned in the documents while requesting for qualification
- Request for proposal (RFP)

- Evaluation and selection of preferred bidders
- Bid approval
- Signing of the project agreement

XIII. BENEFITS OF WATER SUPPLY PROJECT

The implementation of water supply project will benefit the large population of the country. The benefits of water supply are as follow:

- The successful project is the solution for chronic drinking water scarcity in the Kathmandu Valley as the project will distribute 0.135 m³/d of water to 1.1 million population of the Valley.
- If MWSP is able to supply 510,000 m³/d of water and all of the water can be distributed, then the water deficit can be solved as soon as possible.
- This will also improve the health of the people as the water is bound to meet the quality as guided by the WHO resulting in the reduction of waterborne diseases such as diarrhea and dysentery.
- The government and KUKL have committed to reform current water supply and sewerage connection policies to facilitate individual connections to the poor, socially excluded, and households headed by women. The inhabitants will have improved sanitation provisions as well as a respite from the mental, social and economic problems caused by water shortages.
- The drinking water will be supplied to the citizens at cost effective prices and connection fees will be also reduced for poor households under these projects.
- The project is expected to contribute to transfer of technical skills from the consultants to MWSD staff, increase public awareness regarding the importance of water raising stakeholders' concerns on environmental and social issues on the cost of water tariffs, and on disruption of people's livelihoods and their resettlement because of land acquisition.

XIV. CONCLUSION

There is a need for increased investment in infrastructure and other basic services to provide best services to the people. However, only the investment form government is not enough for the development of infrastructure and public services implying the need for a greater role of the private sector. The Government of Nepal emphasizes on the use of PPP for procuring and financing infrastructure and services in the country. There is still a huge gap between the public and private sectors. There is a need of clear policy guidelines on PPP by the government. The legal framework must be improved to encourage private sectors as well as public sectors for flourishing PPP development initiatives in Nepal. With the use of PPP model in Water Supply project, it can be beneficial to the consumers of the country as it supplies drinking water in cost effective prices. The Public partnership with private

sectors will help to improve the quality of drinking water and distribution of water to citizens in affordable prices.

Public Private Partnership (PPP) financing model is more suitable for the development of the project in Nepal which will boost the economic growth of the nation. Since, Nepalese government has no enough money to invest for the construction and development of the infrastructures, the government should seek for either international investors or private companies to reduce the project risks. The proper agreement should be made clear between all the partners of the project so that the conflict among them will be reduced. The parties should motivate themselves to achieve the goal of supplying safe and healthy drinking water over the country rather than making huge profits by degrading quality of water. Thus, PPP model is suitable for the development of water supply project in Nepal.

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