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Melamchi Water Supply Project

The Executive Director of the Melamchi Water Supply Development Board (MWSDB), Krishna Prasad Acharya, gazed out of his office at the majestic Himalayan Mountains. In January 2014, the Board had gathered to review the progress to date on the Melamchi Water Supply Project (MWSP), a key initiative to supply clean water to the region's 2.5 million inhabitants. The project that had long been stymied by political turmoil, cost overruns, poor project management, and a revolving consortium of international financiers. Recent studies proved that the water supply project remained technically feasible and economically sound, but additional financial support would be necessary.

After restructuring the loan agreement with the Asian Development Bank (ADB) in 2008, the MWSDB now needed an additional $38.1 million to cover cost overruns and ensure completion of the project by 2016. The Government of Nepal (GON) agreed to provide $13.1 million through issuing long-term bonds, but a funding gap of $25 million still remained. The Board was considering asking the ADB for an additional loan to cover the remaining costs, or seeking out private sector investors in Nepal to provide the additional funding. Given the heavily subsidized loans that the ADB had already provided for the project, any private sector investor would need to consider the real cost of capital and projected return on investment.

The Melamchi Water Supply Project is the most critical component of the water supply system in Kathmandu Valley and a reduction or cancellation of the project at this stage would result in (i) waste of project expenditures, (ii) failure to achieve the government's social sector agenda, and (iii) reputational risk for the multilateral development agencies involved. Acharya reviewed the project's history and financing plan and considered the options for additional funding.

Nepal: A Brief History

Bordered to the north by China and to the south, west, and east by India, Nepal is among the poorest and least developed countries in the world, with about one-quarter of its population living below the poverty line (See **Exhibit 1** for a regional map). The country is home to eight of the world's ten largest mountains, including the world's tallest peak, Mt. Everest. A landlocked country, Nepal is one of the most vulnerable countries in the world to the effects of climate change and natural disasters such as earthquakes, floods, landslides, and glacial lake outbursts. The lack of public sector infrastructure and development further exacerbates these environmental challenges.

Nepal was ruled by the Shah dynasty of kings from 1768 until 1951, when the Nepali monarch ended the century-old system of rule by hereditary premiers and instituted a cabinet system of government. Further reforms in 1990 established a multiparty democracy within the framework of a constitutional monarchy until an insurgency led by Maoist extremists broke out in 1996. The ensuing 10-year civil war between rebels and government forces witnessed the dissolution of the cabinet and parliament and assumption of absolute power by the king. Several weeks of mass protests in April 2006 were followed by months of peace negotiations between the Maoists and government officials, and culminated in a November 2006 peace accord and the declaration of an interim constitution. Following a nationwide election in April 2008, the newly formed Constituent Assembly overwhelmingly favored the abolition of the monarchic system in preference of a democratic republic, and elected the country's first president in in July 2008.

Between 2008 and 2011 there were four different coalition governments, led twice by the United Communist Party of Nepal-Maoist, which received a plurality of votes in the Constituent Assembly election, and twice by the Communist Party of Nepal-United Marxist-Leninist. In August 2011, Baburam Bhattarai of the United Communist Party of Nepal-Maoist became prime minister and, after the Constituent Assembly’s failure to agree over the type of federal structure for a constitution by the May 2012 deadline, dissolved the Constituent Assembly and called for new elections. Months of negotiations failed to produce a new election date until in March 2013, the chief justice of Nepal's Supreme Court, Khil Raj Regmi, was sworn in as Chairman of the Interim Council of Ministers for Elections to lead an interim government and charged with holding Constituent Assembly elections by December 2013.

In a country of 28 million people comprising more than 100 ethnic groups, the prolonged political conflict revealed that the Nepali state had been associated with exclusionary political, social and economic institutions that did not reflect the country's diversity. Poor law and order is a growing concern in some parts of the country and enforced strikes are frequently called by political parties which close down the country for extended periods.

More than one-quarter of Nepal’s population lives below the poverty line and food prices have risen quickly, further hampering the poor. As of 2012, nearly half of Nepal’s 18 million strong labor force is unemployed and of those who are employed, agriculture provides a livelihood for nearly three-fourths of the population and accounts for over one-third of Nepal’s GDP. Due to the country’s high unemployment rate, many Nepali citizens have left the country in search of work, with India, Qatar, the United States, and Thailand being the more popular destinations. Nepal has considerable scope for exploiting its potential in hydropower, with an estimated 42,000 MW of feasible capacity, but political instability hampers foreign investment.

Nepal embarked upon a new economic policy regime in the mid-1980s and has carried out various components of economic reform policies including fiscal, trade and FDI policies during the last decade. Quantitative restrictions on imports have been fully removed and customs duties have been rationalized and substantially reduced. Reforms have also been implemented on the foreign exchange front. However, political instability has stopped the reform process and the ambitions of the business community.

Foreign Direct Investment

As one of the least-developed countries in South Asia, Nepal attracts the least amount of foreign investment in the entire region. The inflow of direct foreign investment in Nepal began in the early 1980s through the gradual opening up of the economy. From 1980 to 1989, foreign investment inflows to Nepal were minimal with an annual average of $500,000. A clear-cut policy towards foreign investment was introduced in Nepal in the 1980s, with the enactment of the Investment and Industrial Enterprise Act of 1987. In its pursuit of outward oriented policies, Nepal began to encourage private foreign investment in every industrial sector (medium and large-scale), with the exception of defense activities. FDI inflow showed a distinct acceleration during the 1990s averaging $11 million per annum during 1990-2000, peaking at $23 million in 1997. This was primarily due to Nepal's more liberal trade policies, which comprised tariff rate reductions, the introduction of a duty drawback scheme, the adoption of a current account convertibility system and liberalization of the exchange rate regime. A reversal in the rising trend took place from the beginning of the 2000s. As of January 2014, China has overtaken India to become the largest contributor of FDI to Nepal. In the second half of 2013, FDI from China reached $174 million, accounting for over 60% of the country's total FDI commitment. See **Exhibit 2** for foreign direct investment inflows from 1980-2008.

In terms of foreign private investment, in large industries exporting more than 90% of their total production, foreign equity was allowed up to 100%. New projects by foreign investors require the formal approval of the Foreign Investment Promotion Division of the Ministry of Industry. In a step to further liberalize its foreign investment policy, Nepal announced a new set of incentives through the 1987 Act, under which the full remittance of dividends for investments in convertible currency was allowed.

Kathmandu Valley

Located in the foothills of the Himalayas, the Kathmandu Valley is home to seven UNESCO World Heritage sites and at least 130 important monuments, including several important pilgrimage sites for Hindus and Buddhists. Being a capital city, Katmandu Valley is also the most important urban concentration in Nepal and a center for trade, tourism, education, health care, and government. However, the increase in population and unplanned, haphazard urbanization has resulted in the city becoming a polluted municipality with open sewers and unhygienic disposal of waste leading to the pollution of all the existing rivers in Kathmandu. More than 2.5 million people in the Kathmandu Valley have long suffered from inadequate and unreliable clean water supplies and resorted to expensive bottled water, collecting rainwater, or drilling wells, leading to increasingly polluted wells and falling water in key aquifers. Insufficient clean water continues to undermine public health in and around Nepal's capital

The Melamchi Water Supply Project

In 1998, the Government of Nepal initiated work on a unique water supply project to ease the chronic water shortages and sanitation concerns in Kathmandu Valley. The Melamchi Water Supply Project (MWSP) supports infrastructure and institutional reforms that are critical to improving the Kathmandu Valley's water supply and aims to alleviate the shortage of potable water by diverting water from the nearby Melamchi River to Kathmandu Valley. At the time, water pollution was a major reason for water shortage. As rivers flowed into the core areas of the valley, the water was polluted by industrial and domestic waste and it was common to find excess ammonia, methane, iron and manganese. Some independent analysts at the time also criticized the Government of Nepal for the inadequate water supply system. A major weakness at the institutional level was the Nepal Water Supply Corporation, which was infested with inefficient red tape and bureaucracy.

In April 1998 the Government of Nepal introduced a new Water Supply Sector Policy, according to which water supply projects were to become semi-autonomous and the government's role was curtailed to being a facilitator. The Ministry for Physical Planning and Works set up an independent Melamchi Water Supply Development Board to look after the Melamchi Project. The core essence of the project was to transfer 170 million liters per day of fresh water from the adjoining Melamchi River to Kathmandu Valley in Phase I, and then augment this supply by an additional 170 million liters per day from the Yangri and Larke Rivers, which lie in the upstream proximity of Melamchi, in Phase II. By providing clean water to the residents of the valley, the Nepali government hoped to promote health and well-being of the residents, businesses, and tourists who frequent the area.

Project Features

Phase I of the project required major capital expenditure to set up i) a 27.5 km (17.1 miles) diversion tunnel (the Melamchi Tunnel) and a surface area of 8 square meters, ii) a conventional water treatment plant to be set up at the end of the tunnel, iii) a bulk water distribution system to carry treated water to reservoirs, and iv) the rehabilitation and modernization of the existing distribution system.

Given the nature of the program and environmental hazards involved, the initial program also included the following: i) social development support, ii) waste water management, iii) resettlement and compensation for the affected people, iv) coordination with non-governmental organizations, and v) an environmental impact assessment.

Phase II of the project will bring an additional 170 MLD water from the Larke and Yangri Rivers in the Melamchi Valley. Kathmandu Upatyaka Khanepani Limited (KUKL), the state authority responsible for distribution of drinking water in the Kathmandu Valley, estimates the current (2013) demand for drinking water at around 350 MLD, while the supply only reaches 180 MLD. With a 10% expected increase in water consumption every year, by the time Phase I of the MWSP is completed, Kathmandu will be on the brink of another era of water shortages. Successful completion of MWSP Phase I is critical for garnering additional funding from donor agencies and private sector to complete Phase II. According to independent studies, the expanded Melamchi project can also generate up to 225 MW of hydropower and provide irrigation to more than 30,000 hectares downstream.

Financing the Melamchi Water Supply Project: 2000 - 2008

The Government of Nepal reached out to multilateral and bilateral agencies around the world to help finance the Melamchi Water Supply Project. The first major success was achieved when the Asian Development Bank (ADB) approved initial funding for the project in December 2000. The funding became effective in November 2001 and it was originally estimated that the project would cost $464 million. While the ADB was the major lender, additional finance support came from a variety of multi-national organizations. Consortium and capital contributions included the following[1]:

Asian Development Bank	$120 million
Government of Nepal	$118 million
World Bank	$80 million
Japanese Bank of International Cooperation (JBIC)	$52 million
Norwegian Agency for Development Cooperation (NORAD)	$28 million
Swedish International Development Cooperation Agency (SIDA)	$25 million
Japan International Cooperation Agency (JICA)	$18 million
Organization of Petroleum Exporting Countries (OPEC)	$14 million
Nordic Development Fund (NDF)	$9 million

However, after the funding was approved, the project quickly became embroiled in various controversies. In 2004, the Kathmandu Valley Water Supply Board attempted to prompt private sector participation and engage Nepali investors to co-finance a portion of the project. The World Bank's funding participation was conditional on the private sector running the Operations and Management of water services after the project was completed. After many attempts from the Government of Nepal to engage private sector investors remained unsuccessful, the World Bank withdrew its support. Furthermore, three more development partners withdrew financial support from the MWSP, citing ongoing political unrest and instability, leaving a funding gap of $133 million. In June 2005, there were additional allegations of corruption in the procurement process, leading to further delays in project planning and execution.

Financing the Melamchi Water Supply Project: 2008 - 2014

In 2008, the Asian Development Bank approved major restructuring of the Melamchi Water Supply Project, allowing the project to move forward. The major change was the removal of a loan covenant requiring a private sector performance-based management contract for awarding the contract for constructing the Melamchi Tunnel, as well as a reduction in some of the social development initiatives in the project. This allowed construction of the MWSP to continue with a revised budget and timeline.

A revised loan agreement between the ADB and Government of Nepal dated April 6, 2008, provided a loan for the purpose of financing three major project components of the Melamchi Water Supply Project. This new agreement specified major changes in the scope and implementation arrangements of the loan and affiliated projects in response to a new project

[1] The Melamchi Valley Water Supply Project was valued and financed in USD. All loans and valuations numbers in this case are listed in USD.

design, funding consortium, and changed institutional setting. To improve operational efficiencies, the MWSP was divided into two subprojects with different implementation agencies: the Melamchi Water Supply Development Board (MWSDB) would oversee the Melamchi River water diversion subproject (Phase I), and the newly established water utility, Kathmandu Upatyaka Khanepani Limited (KUKL), would oversee the water supply and sanitation subproject (Phase II). **Exhibit 3** provides the details of each project component. After additional amendments to the initial agreement in 2008, the ADB agreed to provide a $137 MM loan through the Asian Development Fund.

The ADB loan terms charged interest at a rate of 1% per annum during the loan's 8-year grace period, and 1.5% per annum for the next 24 years, for a total loan maturity of 32 years.[2] Interest charges were due semiannually on June 15 and December 15 of each year. The Government of Nepal also sought funding from other development agencies to supplement the project financing. The modified consortium after the project revisions is below, for a total project investment of $317.3 million:

Asian Development Bank	$137 million
Government of Nepal	$90.6 million
Japan Bank for International Cooperation	$47.5 million
Japan International Cooperation Agency	$18 million
Nordic Development Fund	$10.5 million
OPEC Fund for International Development	$13.7 million

Exhibit 4 provides additional details about the revised funding consortium. Project covenants placed by the ADB required that the project be carried out with due diligence and efficiency and in conformity with sound administrative, financial, engineering, and environmental and water management practices. Throughout the tumultuous project history, the ADB remained a consistent partner for the MWSP and provided ongoing financial support and technical assistance to ensure sound project management and fiduciary stewardship. However, the increased costs and uncertain development timeline clouded the future of this relationship.

As of June 30, 2013, $166 million of the original $317.3 million had been disbursed, including $64.26 million by the Asian Development Bank. Undisbursed finds from the original committed amounts included $72.74 million for the ADB, $2.54 million for the Nordic Development Fund, and $4.35 million or the Japan International Cooperation Agency.

The Asian Development Bank

The Asian Development Bank is a multilateral development finance institution formed in 1966, whose mission is to support the economic development of countries in Asia. Approximately 1.7 billion people in the region are poor and unable to access basic goods, services, assets and opportunities. The ADB seeks to eradicate poverty by financing projects in five core areas of operations: infrastructure; the environment, including climate change; regional cooperation and integration; finance sector development; and education. The ADB provides

[2] The grace period is the period prior to payment of the first principal amount of the loan.

various forms of financial assistance to its developing member countries, including loans, technical assistance, grants, guarantees, and equity investments.

The ADB is modeled after the World Bank and currently has 67 voting member countries – of which 48 are from within Asia and the Pacific. Funds are raised through bond issues on the world market, as well as contributions from member countries, retained earnings from lending operations, and loan repayments. As of December 2012, the United States and Japan hold the two largest proportions of shares at 12.78% each. Additional shareholders include China with 5.45% and India with 5.36%. **Exhibit 5** displays a list of all member countries, their subscribed capital, and percentage voting power. In 2009, the ADB obtained member-contributions for its Fifth General Capital Increase (GCI) of 200%, in response to a call by G20 leaders to increase resources of multilateral development banks so as to support growth in developing countries amid the global financial crisis. For 2010 and 2011, a 200% GCI allowed lending of $12.5-13.0 billion in 2010 and about $11.0 billion in 2011. With this increase, the bank's capital base tripled from $55 billion to $165 billion.

To finance projects, the ADB offers "hard" loans from ordinary capital resources (OCR) on commercial terms. For OCR, members subscribe capital a 50% paid-in ratio for the initial subscription (including paid-in and callable elements), 5% for the Third GCI in 1983 and 2% for the Fourth GCI in 1994. The ADB borrows from international capital markets with its capital as guarantee.

The Asian Development Fund (ADF) affiliated with the ADB extends "soft" loans from special fund resources with concessional conditions. Funded by the ADB's member countries, the Asian Development Fund offers loans at very low interest rates as well as grants to help reduce poverty in the ADB's poorest member countries. Bridging the development gap in Asia and the Pacific, the ADF is a major instrument of concessional financing that has supported equitable and sustainable development in the region since 1973. In 2009-2012 alone, over 220 loan and grant projects totaling $11.8 billion were made to developing member countries of ADB. See **Exhibit 6** for a list of ADF eligible countries and resource allocation by region.

The ADF countries consist of ADF-financing only and blended countries with access to limited amounts of both ADF and ADB resources. These include 17 ADF-only countries and 12 blend countries. ADF eligibility is based on two criteria:

- gross national income (GNI) per capita, using the World Bank's GNI per capita estimates based on the Atlas method and the International Development Association's operational cut-off for eligibility
- creditworthiness

The ADB as a Development Leader

The Asian Development Bank links the allocation of Asian Development Fund resources to country performance. This system is based on the principle that aid is most effective in accelerating economic growth and poverty reduction in countries where policy and institutional performance is strong. Under the performance-based allocation policy, the ADB evaluates the relative performance of eligible borrowers with access to the ADF by conducting annual country performance assessments and uses the results to derive ADF allocations. Each country's performance is assessed based on the (i) quality of its macroeconomic management, (ii) coherence of its structural policies, (iii) degree to which its policies and institutions promote equity and inclusion, (iv) quality of its governance and public sector management, and (v) performance of the ADF project portfolio in the country. The country performance assessment ratings for 2012 are displayed in **Exhibit 7**.

The ADB works with each developing member country to define a medium-term development strategy and operational program called a Country Partnership Strategy (CPS). The CPS is aligned with the country's development plan and poverty reduction goals, and is developed in close consultation with the government and other country stakeholders including civil society, non-government organizations, private sector, as well as the country's other development partners. The CPS timeframe is aligned with the country's strategic planning cycle, where relevant and feasible. Adjustments in the timeframe can be made if justified by major economic or political developments. In such cases, an interim CPS with a time horizon of a maximum of two years and abbreviated business process may be prepared when there is considerable uncertainty.

One of the key goals of the ADF's loan-making activities is to encourage the development of private sector partnerships in member countries. Many of the poorer member countries lack the political stability and financial infrastructure to foster private sector investment and concerns about poor public financial management, procurement, fiduciary oversight, accountability, and transparency are widespread. Government reforms at the national and local level are essential to enhancing the efficiency and effectiveness of public services and development projects. The ADB further works with individual member countries to advise the government on basic reforms that create a welcoming business environment and support access to financing opportunities and the development of the private sector. Elements of each country's CPS emphasize leveraging co-financing and knowledge about ADB and ADF lending programs, as well as connecting investments with reforms and institutional changes.

Nepal and the ADB

The ADB's partnership with the government of Nepal extends back to 1968 when the country joined the ADB as a founding member. For 2013-2017, the strategic priorities for the country partnership strategy focus on (i) accelerating growth by addressing infrastructure bottlenecks in energy, transport, urban infrastructure, and irrigation; (ii) promoting inclusion with enhanced access to education and skills development, water supply and sanitation, rural infrastructure (electricity and roads), and services; and (iii) strengthening institutions for higher portfolio performance, asset sustainability, and governance. As of December 31, 2009, the ADB had committed nearly $3 billion in loans and grants to Nepal, including ADF loans of $2.42 billion, an ordinary capital resources loan of $2 million, ADF investment grants of $495.65 million, and non-sovereign loans of $49.5 million. In addition, Nepal has received technical assistance grants amounting to $137.9 million.

As of August 2013, the active ADB-financed portfolio in Nepal amounted to $1.53 billion, with 45 on-going investment projects financed through 19 loans and 26 grants. In 2012, disbursement of funds was hindered by the dissolution of the constituent assembly in March 2012 and the establishment of an interim government in March 2013. Labor strikes, slow procurement, and poor project management further delayed progress on ADB-funded initiatives. The poor quality of available contractors and project management professionals further strained the local government agencies tasked with executing these projects, who were already pressed for resources and capital, both managerial and financial.

Eight of these projects support water supply initiatives and other municipal infrastructure, and the ADB assistance was focused on the timely implementation of the MWSP and associated projects to extend distribution systems in the Kathmandu Valley, and providing water supply and sanitation, and other urban infrastructure in secondary and small towns. **Exhibit 8** details the ADB's cumulative loans to Nepal by sector.

Nepal has also benefited from many venture initiatives launched by the ADB. Nepal was chosen as the pilot country for the ADB's small wind power initiative, where Nepal installed its first mini wind–solar hybrid power in a village of Nepal's Nawalparasi district. Two sets of 5-kilowatt (kW) wind turbines have been installed to help meet the village's electricity demand.

Private Sector Participation

Throughout the MWSP's history, the local Kathmandu Valley government sought private sector investors to supplement support from international development finance institutions. During the early years, private sector bidders were not interested in a lease contract to manage the water services portion of the project, resulting in the World Bank's departure from the funding consortium. In determining the cost of capital investors knew that the project was granted at 1- 1.5% interest by the ADB and other international development partners, which represented 71% of the total capital raised. The Government of Nepal would contribute 29% of the capital through a bond issuance at 10% coupon rate. At an inflation rate of 1.9%, the real interest rate on the bonds would be 7.95%. This cost of capital was much higher than the 1% to 1.5% interest rate on debt that the development agencies were providing for the project. However, the ADB's calculated the cost of capital as the opportunity cost of investing in the Melamchi project, versus investing in other financial investment. Therefore the return demanded needed to be at least 7.95% or greater.

Calculating the cost of capital for the MWSP was more complicated. Nepal is considered a developing country with a host of issues not common in the developed world. While the national government was committed to the project, it was not well equipped to enforce financial and project implementation discipline. Additionally, the government was experiencing a series of reforms whereby democratic monarchy was replaced by absolute democracy, leading to institutional uncertainty and instability and the decade-long Maoist insurgency caused foreign investment into Nepal to dwindle. Private sector involvement, which is readily available in many other countries, could not be relied on in Nepal. Due to the uncertain business and political climate, the private sector was hesitant to get involved in a long-term infrastructure projects. It was critical for the development agencies to factor these risks into their valuation.

Determining the cost of capital considers risks such as currency exposure, expropriation, wars and terrorism, and natural disasters. Each is weighed appropriately and incorporated into the overall cost of capital calculation. While the aforementioned risks would potentially increase the cost of capital, there were other factors that could potentially reduce the cost of capital such as the presence of other development agencies as a syndicate in the financing and other international partners. Nepal relied on other development agencies and foreign government assistance to support other public service projects all around the country. Such dependence greatly reduced expropriation (direct, indirect or creeping) risks for the ADB. **Exhibit 9** shows the projected cash flows for the MWSP. Spot rate for USD to Nepali Rupee in early 2014 was hovering around 97.818 i.e. (1 USD = 97.818 NPR).

Country and Project Risk Assessment

The Asian Development Bank broadly classifies its risk assessment into two categories: inherent risk and control risk. Inherent risk covers country specific risks such as inadequate financial management, accountability and the prevalence of corruption in the country. Control risk covers situations that can be mitigated through contracts and covenants, such as progress reports and mandating project partnerships. Project specific risks include delays and corruption among local contractors and bureaucrats.

Sovereign Risk

<u>Currency Risk:</u> Nepal's currency is pegged to Indian Rupees at the rate of 1.6x Indian rupee (INR). INR has seen increased volatility against the dollar in recent years. Current dollar reserves are $6.36 billion and the balance of payment remains positive with inflows of $553.2 million in January 2014. Strain on Nepal's dollar reserves could occur if the balance of payment situation turns adverse. Nepal is currently operating in a high inflation environment and year-over-year inflation was at 9.7% in January 2014. The fiscal situation is tight with government running a surplus of Nepali Rupees (NRs.) 56 Billion.

<u>Political Risk:</u> Nepal has a history of political volatility. Frequent changes in the government can result in changing national, regional and local policies, which could impact the support provided to the government. In addition, the MWSP has already experienced allegations of corruption and mismanagement, which might be partial reason for withdrawal of selective donors from the project.

<u>Legislative Risk:</u> Civil laws in Nepal are still being developed for protection of business transaction. Any disputes between parties would need to be resolved under common law in International Court of Arbitration.

Operational Risk

<u>Project delays:</u> MWSP has already been delayed multiple times. Any further delays could lead to cost overruns in the current high inflationary environment and hinder the effectiveness of future ADB projects in the region.

Operating Costs: In order to make debt repayments, the project needs to demonstrate debt repayment capacity by remaining profitable over the course of debt repayments. This can be impacted by operating costs and movements in input costs.

Reputational Risk

Resettlement Protests: The MWSP will result in displacement of many resident of the Melamchi Valley. The Government of Nepal and the ADB have previously been criticized for insensitivity to local communities and indigenous populations. Human rights activists have said that the ADB's policies for indigenous peoples and involuntary resettlement, while usually up to international standards on paper, are often ignored in practice, are too vague or weak to be effective, or are simply not enforced by bank officials. In a scenario where this criticism turns into a larger protest, it could be a reputational risk for the ADB.

Environment Risk: The ADB's core philosophy includes managing the environment. A portion of the project loan will go towards (a) a social development fund, buffer zone development, health and education project, and (b) a resettlement action plan, public relations plan and environmental management plan through the Melamchi Valley Development Committee.

Exhibit 1: Map of Nepal and the Kathmandu Valley

Exhibit 2: Foreign Direct Investment in Nepal

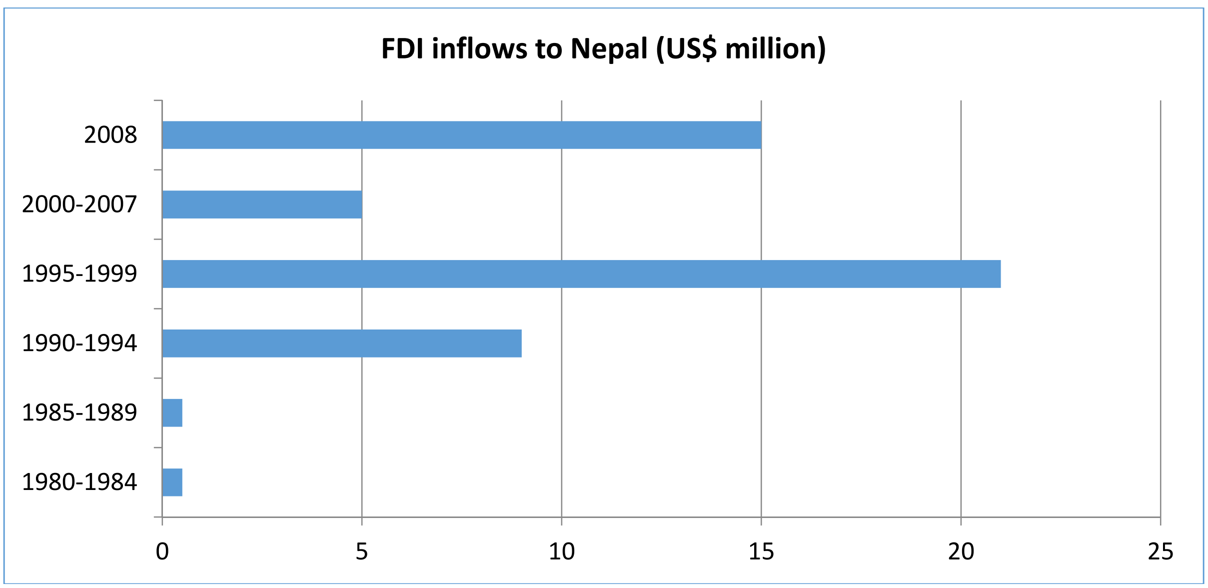

Exhibit 3: Melamchi Water Supply Project Sub-project Details

Sub-project 1: Melamchi River Diversion	Sub-project 2: Kathmandu Valley Water Supply and Sanitation
• Cost: $235.32 million • Melamchi Water Supply Development Board (MWSDB) as project management agency • Construct Melamchi tunnel (27.5 km) to supply 170 MLD (45 MGD) water • Improve Social and Environmental conditions – construction of health care center, schools, forest nursery	• Cost: $64.08 million • Kathmandu Upatyaka Khanepani Limited (KUKL) – implementation agency • Leased assets and operating license from Kathmandu Valley Water Supply Management Board (KVWSMB) – the asset owner • Improve distribution and treatment system network in Kathmandu Valley • Adjust existing water tariff structure

Exhibit 4: Revised Funding Consortium (2008)

Stakeholders	Funding Level and Purpose
Government of Nepal	• $90.6 MM • Ministry of Urban Development chairs MWSDB • Ensures counter party funding
Asian Development Bank	• $137.0 MM @ 1-1.5% p.a. for 32 yrs • Monitors loan covenants • Supervises the overall project implementation
Japan Bank for International Cooperation	• $47.5 MM @ 1% p.a. for 30 yrs • Support for water treatment plant upgrades
Japan International Cooperation Agency	• $18.0 MM @ 1% p.a. for 30 yrs • Support for shallow groundwater wellfield near KTM
Nordic Development Fund	• $10.5 MM @ 1-1.5% p.a. for 32 yrs • Support for diversion tunnel construction
OPEC Fund for International Development	• $13.7 MM @ 1% p.a. for 20 yrs • Support for access road construction in Melamchi Valley

Exhibit 5: Asian Development Bank Member Countries and Subscribed Capital (As of December 31, 2012)

	Year of Membership	Subscribed Capital[a] (% of total)	Voting Power[b] (% of total)
REGIONAL			
Afghanistan	1966	0.03	0.33
Armenia	2005	0.30	0.54
Australia	1966	5.79	4.93
Azerbaijan	1999	0.45	0.65
Bangladesh	1973	1.02	1.12
Bhutan	1982	0.01	0.30
Brunei Darussalam	2006	0.35	0.58
Cambodia	1966	0.05	0.34
China, People's Republic of	1986	6.44	5.45
Cook Islands	1976	0.003	0.30
Fiji	1970	0.07	0.35
Georgia	2007	0.34	0.57
Hong Kong, China	1969	0.55	0.73
India	1966	6.33	5.36
Indonesia	1966	5.44	4.65
Japan	1966	15.61	12.78
Kazakhstan	1994	0.81	0.94
Kiribati	1974	0.004	0.30
Korea, Republic of	1966	5.04	4.33
Kyrgyz Republic	1994	0.30	0.54
Lao People's Democratic Republic	1966	0.01	0.31
Malaysia	1966	2.72	2.48
Maldives	1978	0.004	0.30
Marshall Islands	1990	0.003	0.30
Micronesia, Federated States of	1990	0.004	0.30
Mongolia	1991	0.02	0.31
Myanmar	1973	0.55	0.73
Nauru	1991	0.004	0.30
Nepal	1966	0.15	0.42
New Zealand	1966	1.54	1.53
Pakistan	1966	2.18	2.04
Palau	2003	0.003	0.30
Papua New Guinea	1971	0.09	0.37
Philippines	1966	2.38	2.21
Samoa	1966	0.003	0.30
Singapore	1966	0.34	0.57
Solomon Islands	1973	0.01	0.30
Sri Lanka	1966	0.58	0.76
Taipei,China	1966	1.09	1.17
Tajikistan	1998	0.29	0.53
Thailand	1966	1.36	1.39
Timor-Leste	2002	0.01	0.31
Tonga	1972	0.004	0.30
Turkmenistan	2000	0.25	0.50
Tuvalu	1993	0.001	0.30
Uzbekistan	1995	0.67	0.84
Vanuatu	1981	0.01	0.30
Viet Nam	1966	0.34	0.57
Subtotal		**63.54**	**65.16**

	Year of Membership	Subscribed Capital[a] (% of total)	Voting Power[b] (% of total)
NONREGIONAL			
Austria	1966	0.34	0.57
Belgium	1966	0.34	0.57
Canada	1966	5.23	4.48
Denmark	1966	0.34	0.57
Finland	1966	0.34	0.57
France	1970	2.33	2.16
Germany	1966	4.33	3.76
Ireland	2006	0.34	0.57
Italy	1966	1.81	1.75
Luxembourg	2003	0.34	0.57
The Netherlands	1966	1.03	1.12
Norway	1966	0.34	0.57
Portugal	2002	0.11	0.39
Spain	1986	0.34	0.57
Sweden	1966	0.34	0.57
Switzerland	1967	0.58	0.77
Turkey	1991	0.34	0.57
United Kingdom	1966	2.04	1.93
United States	1966	15.60	12.78
Subtotal		**36.46**	**34.84**
TOTAL		**100.00**	**100.00**

Notes: Totals may not sum precisely due to rounding.
[a] Subscribed capital refers to a member's subscription to shares of the capital stock of ADB.
[b] The total voting power of each member consists of the sum of its basic votes and proportional votes. The basic votes of each member consist of such number of votes as results from the equal distribution among all members of 20% of the aggregate sum of the basic votes and proportional votes of all members. The number of proportional votes of each member is equal to the number of shares of the capital stock of ADB held by that member.

Exhibit 6: Asian Development Fund Eligible Countries and Resource Allocation

Group A (Asian Development Fund Financing Only)

Afghanistan
Bhutan
Cambodia
Kiribati
Kyrgyz Republic
Lao People's Democratic Republic
Maldives
Marshall Islands
Myanmar
Nauru
Nepal
Samoa
Soloman Islands
Tajikistan
Tonga
Tuvalu
Vanuatu

Note: India is eligible for ADF assistance under ADB's Graduation Policy bu currently does not have access to the ADF

Group B (Blend ADF and OCR)

Armenia
Bangladesh
Georgia
The Federated States of Micronesia
Mongolia
Pakistan
Palau
Papua New Guinea
Sri Lanka
Timor-Leste
Uzbekistan
Vietnam

Share by Region*	
Central and West Asia	37%
East Asia	3%
Pacific	4%
South Asia	30%
South East Asia	26%

*2009-2012 Average annual approvals

Volume by Country (in $ Million)*	
Banglades	496
Vietnam	483
Afghanista	323
Nepal	243
Pakistan	227

Exhibit 7: Country Performance Assessment Ratings (2012)

COUNTRY PERFORMANCE ASSESSMENT RATINGS, 2012

DMCs	A. Economic Management				B. Structural Policies				C. Policies for Social Inclusion/Equity						D. Public Sector Management and Institutions							
	1	2	3		4	5	6		7	8	9	10	11		12	13	14	15	16		17	
	Macroeconomic Management	Fiscal Policy	Debt Policy	Average	Trade	Financial Sector	Business Regulatory Environment	Average	Gender Equality	Equity of Public Resource Use	Building Human Resources	Social Protection and Labor	Policies and Institutions for Environmental Sustainability	Average	Property Rights and Rule-based Governance	Quality of Budgetary and Financial Management	Efficiency of Revenue Mobilization	Quality of Public Administration	Transparency, Accountability, and Corruption in the Public Sector	Average	Portfolio	CCPR
Pacific Countries																						
Kiribati	3.0	3.0	3.5	3.2	3.0	3.0	2.5	2.8	3.5	3.0	3.0	3.0	3.0	3.1	3.0	2.0	3.0	3.0	3.0	2.8	3.5	8.9
Marshall Islands	2.5	2.5	3.0	2.7	3.5	3.0	2.5	3.0	3.0	2.0	2.5	3.0	2.5	2.6	3.5	3.0	3.0	2.0	2.5	2.8	3.5	8.3
FSM	2.5	2.5	2.5	2.5	4.0	3.5	2.5	3.3	3.0	2.5	2.5	2.0	3.0	2.6	3.0	3.0	3.0	2.0	3.0	2.8	3.5	8.4
Nauru	3.0	2.5	2.0	2.5	4.0	1.0	2.0	2.3	3.5	3.5	3.0	3.5	2.5	3.2	2.5	4.0	3.0	3.0	3.5	3.2	3.5	9.3
Palau	3.5	2.5	4.0	3.3	4.0	3.5	2.5	3.3	3.0	3.5	4.0	4.0	4.0	3.7	4.0	3.5	3.5	3.0	3.0	3.4	3.5	11.8
Papua New Guinea	4.0	3.5	4.5	4.0	4.5	3.0	3.0	3.5	2.5	3.5	2.5	3.0	2.5	2.8	2.5	3.5	4.0	2.5	3.0	3.1	2.5	9.7
Samoa	4.0	3.5	3.5	3.7	5.0	4.0	3.5	4.2	3.5	4.5	4.5	3.5	4.0	4.0	4.0	3.5	4.5	4.0	4.0	4.0	3.0	14.5
Solomon Islands	3.5	3.5	4.5	3.8	4.0	3.5	3.5	3.7	3.0	3.5	3.0	2.5	2.5	2.9	3.5	3.5	3.0	2.5	3.0	3.1	4.5	11.6
Timor-Leste	3.5	4.0	4.5	4.0	4.5	2.5	2.5	3.2	3.5	3.5	3.0	3.0	2.5	3.1	3.0	3.0	4.0	3.0	3.0	3.2	3.5	11.0
Tonga	3.5	3.5	3.0	3.3	4.5	3.5	3.0	3.7	3.0	4.0	4.0	3.0	4.0	3.6	3.5	4.0	4.5	4.0	3.5	3.9	3.5	13.7
Tuvalu	3.5	3.0	2.0	2.8	3.5	2.5	2.5	2.8	3.0	3.5	4.0	3.5	3.0	3.4	4.0	2.5	3.0	3.5	3.0	3.2	3.5	10.1
Vanuatu	4.0	3.5	4.0	3.8	3.0	3.5	3.0	3.2	3.0	3.0	2.5	3.0	2.5	2.8	3.0	3.5	2.5	3.5	2.5	3.0	3.5	10.0
Average	**3.4**	**3.1**	**3.4**	**3.3**	**4.0**	**3.0**	**2.8**	**3.3**	**3.1**	**3.3**	**3.2**	**3.1**	**3.0**	**3.2**	**3.3**	**3.3**	**3.4**	**3.0**	**3.1**	**3.2**	**3.5**	**10.6**
Group A Countries																						
Afghanistan	3.5	3.5	3.5	3.5	3.5	2.0	3.0	2.8	2.0	3.5	3.5	3.0	2.5	2.9	1.5	4.0	3.5	3.0	2.5	2.9	3.5	9.3
Bhutan	4.5	4.5	4.5	4.5	4.0	3.5	3.5	3.7	4.5	4.5	5.0	4.5	5.5	4.8	4.5	4.5	5.0	5.5	4.5	4.8	3.5	19.5
Cambodia	4.5	4.5	5.0	4.7	4.5	4.5	3.5	4.2	4.5	4.5	4.5	3.5	3.5	4.1	3.5	4.5	4.0	4.0	4.0	4.0	3.0	15.5
Kyrgyz Republic	4.5	4.0	4.5	4.3	5.0	3.5	4.0	4.2	4.5	4.0	4.5	5.0	4.0	4.4	3.5	3.5	4.0	4.0	4.0	3.8	3.0	14.7
Lao PDR	4.5	4.0	4.0	4.2	4.5	3.5	3.5	3.8	4.5	4.5	4.5	3.5	4.0	4.2	4.0	4.0	4.0	4.5	3.5	4.0	3.5	15.6
Maldives	4.0	3.5	3.0	3.5	4.0	3.0	4.0	3.7	4.0	4.5	4.5	4.0	4.0	4.2	4.0	3.0	4.0	4.0	3.0	3.6	2.5	12.0
Nepal	4.5	4.0	4.5	4.3	4.5	4.0	3.5	4.0	4.5	5.0	4.0	4.5	4.5	4.5	3.0	4.0	5.0	3.5	3.5	3.8	3.0	14.6
Tajikistan	4.0	4.0	4.0	4.0	4.0	3.5	4.0	3.8	3.5	4.0	3.5	3.5	3.0	3.5	3.5	4.0	3.5	3.5	3.0	3.5	4.0	13.5
Average	**4.3**	**4.0**	**4.1**	**4.1**	**4.3**	**3.4**	**3.6**	**3.8**	**4.0**	**4.3**	**4.3**	**3.9**	**3.9**	**4.1**	**3.4**	**3.9**	**4.1**	**4.0**	**3.5**	**3.8**	**3.3**	**14.3**
Group B Countries																						
Armenia	4.0	5.0	5.0	4.7	5.0	4.5	4.5	4.7	4.5	5.0	5.0	5.0	4.0	4.7	3.5	4.5	4.5	4.5	3.0	4.0	3.0	16.4
Bangladesh	4.5	4.0	4.5	4.3	3.0	4.0	3.0	3.3	4.5	4.5	4.5	4.0	4.0	4.3	4.0	4.0	4.0	3.5	4.0	3.9	3.0	14.3
Georgia	4.5	4.5	5.0	4.7	5.5	3.5	5.5	4.8	4.5	4.5	4.5	4.5	3.0	4.2	4.0	5.0	5.5	4.5	4.0	4.6	3.5	19.4
Mongolia	4.0	3.5	4.0	3.8	4.5	3.5	4.5	4.2	4.0	4.0	4.0	4.0	3.0	3.8	4.0	4.0	4.5	4.0	3.5	4.0	3.5	15.2
Pakistan	4.0	3.5	4.0	3.8	3.5	4.0	4.0	3.8	2.5	4.0	3.0	3.5	4.0	3.4	3.0	4.5	3.5	3.5	3.5	3.6	3.0	12.5
Sri Lanka	4.5	4.0	4.0	4.2	4.5	4.0	4.0	4.2	4.0	4.5	4.5	3.5	4.0	4.1	4.0	4.0	4.0	3.5	3.5	3.8	4.0	15.6
Uzbekistan	5.0	5.0	5.0	5.0	3.0	4.0	4.0	3.7	4.0	4.0	4.5	4.0	4.0	4.1	4.0	4.5	4.0	3.0	2.5	3.6	3.0	13.8
Viet Nam	4.5	4.5	4.5	4.5	4.0	4.5	4.0	4.2	5.0	5.5	5.0	4.5	4.5	4.9	4.5	4.5	4.5	4.5	4.0	4.4	3.0	17.6
Average	**4.4**	**4.3**	**4.5**	**4.4**	**4.1**	**4.0**	**4.2**	**4.1**	**4.1**	**4.5**	**4.4**	**4.1**	**3.8**	**4.2**	**3.9**	**4.4**	**4.3**	**3.9**	**3.5**	**4.0**	**3.3**	**15.6**
Average Non-Pacific	**4.3**	**4.1**	**4.3**	**4.3**	**4.2**	**3.7**	**3.9**	**3.9**	**4.1**	**4.4**	**4.3**	**4.0**	**3.8**	**4.1**	**3.7**	**4.2**	**4.2**	**3.9**	**3.5**	**3.9**	**3.3**	**15.0**
Average (All)	**3.9**	**3.7**	**3.9**	**3.8**	**4.1**	**3.4**	**3.4**	**3.6**	**3.7**	**3.9**	**3.8**	**3.6**	**3.5**	**3.7**	**3.5**	**3.8**	**3.9**	**3.5**	**3.3**	**3.6**	**3.3**	**13.1**

CCPR = composite country performance rating, DMC = developing member country, FSM = Federated States of Micronesia, Lao PDR = Lao People's Democratic Republic

Exhibit 8: Asian Development Bank Cumulative Lending to Nepal (2012)

Sector	Loans	Amount ($mm)	Percentage (%)
Agriculture and Natural Resources	48	788.89	27.9
Education	11	185.40	6.56
Energy	15	521.90	18.46
Finance	9	214.10	7.57
Industry and Trade	9	142.23	5.03
Public Sector Management	2	65.00	2.30
Transportation and IT	18	407.36	14.41
Water Supply and Municipal Infrastructure	15	489.80	17.32
Multi-sector	1	12.75	.45
Total	128	2,827.43	100
Total Disbursements		1,972.6	

Exhibit 9: Summary of Cash Flows for MWSP (in Nepali Rupees ‘000s)

Item	2009 (audited)	FY 2010 (unaudited)	FY 2011 (unaudited)	FY 2013 (unaudited)	FY 2016 (projected)	FY 2027 (projected)	FY 2034 (projected)
Sales of water and sewerage fees	472,071	503,937	544,221	529,600	1,546,500	9.878,700	21,477,400
Less: Cost of sales	288,424	302,445	280,556	299,352	599,676	1,339,691	2,889,353
Gross profit	**183,648**	**201,492**	**263,664**	**230,248**	**946,823**	**8,539,009**	**18,588,047**
Other operating income	51,955	62,254	60,859	70,188	95,895	302,241	627,496
Selling expenses	39,060	48,864	48,254	56,058	87,181	272,179	623,363
Administrative expenses[a]	122,788	138,776	186,488	297,574	1,338,548	5,623,799	1,382,662
Operating profit	**73,755**	76,105	89,780	(53,286)	(383,010)	2,945,272	17,209,518
Interest provision	227	0	0	0	0	0	0
Retirement fund provision	19.502	28,415	30,873	0	0	0	0
Depreciation	5,030	6,518	9,773	23,418	35,720	96,663	200,689
Net Profit	**48,996**	41,134	49,133	(76,684)	(418,731)	2,848,608	17,008,808
Provision for doubtful accounts	143,475	(153,261)	(165,374)	(148,288)	(433,020)	(493,935)	(1,078,870)
Deferred tax	20,919						
Income tax provision	(4,447)						
Prior year adjustment		15,102	59,569				
Profit (Loss) for the Year	**(110,801)**	**(112,112)**	**(116,182)**	**(224,972)**	**(851,751)**	**2,354,673**	**15,934,958**
Profit (Loss) 2009 transferred to Balance Sheet	**(135,797)**	(247,939)	(364,122)	(841,650)	(1,862,429)	160,782	54,948,933

( ) = negative.
[a] Interest included within administrative expenses from FY 2010 onward.
Source: Kathmandu Upatyaka Khanepani Limited. Original signed projections available upon request.