FINANCIAL ANALYSIS

A. Introduction

1. Financial analysis of the Phuentsholing Township Development Project was updated in accordance with the Asian Development Bank (ADB) guidelines for financial management and analysis of projects.[1] The ongoing project was approved by the Board of ADB on 5 June 2018, and agreements for a concessional loan of $28.74 million and grant of $24.26 million were signed on 3 July 2018.[2] The additional financing of the Phuentsholing Township Development Project will fund a portion of cost overruns (actual and expected). The revised investment costs, including additional financing, are $93 million.

2. The project's financial viability was evaluated while analyzing the incremental costs and revenues. A financial discounted cash flow analysis was conducted on an after-tax basis in real terms to determine the weighted average cost of capital (WACC), the financial internal rate of return (FIRR), and financial net present value. The analysis also included an appraisal of the financial sustainability of the proposed special purpose vehicle (SPV), the Phuentsholing Township Development Corporation (PTDC), which will be formed under Druk Holding and Investments (DHI), the executing agency. The SPV will own and operate the project assets and collect lease and other charges from the lessees. DHI will pass on the loan and grant funds to the implementing agency, the Construction Development Corporation Limited (CDCL), for project construction and implementation. The CDCL will hand over the assets to the PTDC once the assets become operational.

B. Project Cash Flows

3. **Project costs.** The total construction cost of the project in constant 2020 prices is estimated at Nu6.5 billion ($87.6 million).[3] This includes taxes, duties, and physical contingencies but excludes price contingencies or financial charges incurred during construction. All estimated cash flows are expressed in constant June 2020 prices. The project is expected to be fully operational by December 2025. The residual value of the project assets is estimated to be 50% of the total construction cost, to be realized at the end of the 30-year operations period (2023–2052).[4]

4. **Incremental cash flows.** The project's incremental net cash flows comprise revenues from the lease of newly developed land and charges for the use of common infrastructure, net of management, operations, and maintenance expenditures from 2023.

1. Lease Revenue

5. Annual lease revenue was estimated using (i) the total area under lease and (ii) the applicable lease rates based on the type of lessee. All revenue and expenditure projections assume that the government will approve an ambitious program of financial and regulatory incentives to promote the development of the new township (the business-induced scenario), for

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[1] ADB. 2019. *Financial Analysis and Evaluation – Technical Guidance Note*. Manila.
[2] The agreements were effective from 26 July 2018.
[3] Further details in the Detailed Financial Analysis and Evaluation (accessible from the list of linked documents in Appendix 2 of the report and recommendation of the President).
[4] The length of the operations period was based on the economic lifetime of buildings and other fixed infrastructure as per Bhutan's prevailing accounting regulations. The operations period begins before construction completion, because common infrastructure will have been completed in part of Zone A by the end of 2022.

which the total leasable floor area of Zone A is estimated at about 660,000 square meters (m^2) by the end of the project implementation period in 2025. In that year, residential housing will account for most area under lease (61%), followed by commercial uses (16%); industrial uses (13%); and social housing, retail, and a heliport (10%). It is assumed that the 660,000 m^2 area will be fully leased by 2030, except for 65,000 m^2 of industrial developments to be realized during 2031–2052. The PTDC, under DHI, will exclusively lease areas to owners of large-scale real estate developments, who will then sublease built-up areas to their lessees. Hence, reductions in occupancy rates should not affect the area leased by the PTDC.[5]

6. Based on a floor area ratio of 65% and average number of floors, the estimated floor space indexes are as follows: (i) for housing, commercial, and retail developments 3.25; (ii) for the heliport 0.65; and (iii) for the industrial developments 1.30. The total land area covered by developments under lease was therefore about 247,000 m^2, 38% of the total land area of Zone A, which is around 659,000 m^2. Considering that similar international real estate developments have leasable land normally around 50%–60% of total area, the lease area of Zone A may increase if there is demonstrated demand.

7. **Lease rates.** Commercially viable lease rates for the first year of operations (2023) were estimated based on (i) a survey of prevailing market lease rates in Phuentsholing, Thimphu, and nearby towns in India; (ii) market prices of land in and around Phuentsholing; and (iii) government-approved lease rates issued in 2009, separately for each type of development (except rates for social housing, which were set at zero in consultation with DHI). The assumed annual lease rates ranged from Nu30 per square foot (ft^2) for industrial developments to Nu133 per ft^2 for commercial and retail areas. Lease rates for residential housing (over 60% of the leasable area) are expected to be 85% higher.[6] Similarly, for commercial and retail developments (20% of the leasable area), the rates are expected to be 60% higher than prevailing rates, and for industrial areas they are expected to be 30% higher than current market rates. No information was available on market rates for heliports. It is assumed that nominal lease rates would increase every 5 years to compensate the project owner for general price inflation in the intervening period.[7]

8. **Total lease revenue.** Based on the above projected lease area and rates, total lease revenue is expected to increase from Nu64 million in 2023 to about Nu290 million in 2052. Revenue will not significantly increase after 2030, as most of the planned area will already be leased (although part of the industrial area will remain unleased, lease rates for industry are lower than for other types of development). Lease revenue will decrease from 2048 to 2052, as neither the lease rates nor the area will materially increase during this period.

9. Demand projections for the business-induced scenario assume that the government will approve a series of financial and regulatory incentives, including (i) permitting the mortgaging of land development rights, (ii) removing restrictions on lease terms (presently limited to 30 years), (iii) providing a 10-year income tax holiday for real estate developers in the project area, and (iv) exempting the PTDC from land and enterprise income taxes during project implementation.

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[5] Except in extreme circumstances, such as the bankruptcy of DHI.

[6] This is mainly because the new township is designed to be a much better place, and the regulatory incentives proposed for the project area would result in higher lease rates.

[7] It is assumed that lease rates will increase by 27.6% ($1.05^5 - 1$) at the start of 2028, 2033, 2038, 2043, and 2048.

2. Other Revenue

10. The PTDC will also charge its lessees for the use of common infrastructure (such as piped water, sewerage systems, streetlighting, and solid-waste management). It is assumed that in 2023 (the first year of operations) the service charge will meet 30% of the actual cost, covering both capital and operation and maintenance (O&M), and will gradually increase to achieve full cost recovery by 2030. Revenue from user charges, including a 20% surcharge to cover the PTDC's management costs, are expected to increase from Nu18 million in 2023 to Nu61 million in 2030, when this will account for about 18% of total revenue. The PTDC's management expenditure and expenditure to maintain the riverbank training works is included in the lease revenue and will not be charged separately.

3. Management and Operations and Maintenance Expenditures

11. Management expenditures, mainly consisting of the PTDC's marketing and administrative expenditures, are estimated at 3% of the PTDC's annual lease revenue, with a minimum of Nu6 million (the annual cost of the project management unit during construction). From 2030 onward, this amounts to about Nu9 million per year.

12. Annual O&M expenditures for each type of common infrastructure were estimated based on a fixed percentage of the investment cost of the individual infrastructure components (other than water and power supply services, which were estimated based on the cost of meeting the estimated demand for piped water and electricity). These estimates also form the basis for setting user charges for the use of the infrastructure (para. 10). O&M costs for common infrastructure in 2030 are estimated at about Nu27 million, while annual O&M costs for the river training works are estimated at 1% of the investment expenditure (about Nu36 million).

C. Weighted Average Cost of Capital

13. The project's WACC was estimated considering the following key assumptions:

(i) the average of the local currency interest rates and interest rates during the grace period and repayment period of 2.0% was considered as the nominal cost of the ADB loan;

(ii) the nominal cost of equity was considered as 10%, which was the minimum required return of DHI (which will finance the project and own the SPV) for similar projects;

(iii) the nominal cost of the ADB grant is the cost of financing for the government; however, as the government has not issued bonds, the yield rates of 10-year liquid Government of India bonds are used, which are 5.91%; and

(iv) the tax rate is considered as zero, as it is expected that the government will grant the PTDC a 30-year exemption on enterprise income taxes.

14. The after-tax WACC, in real terms, is therefore estimated at 1.39% (

15. Table).

Table 1: Weighted Average Cost of Capital

Item	Loan (ADB)	Grant (ADB)	Equity (DHI)	Total
A. Amount ($ million)	47.20	34.30	11.50	93.00
B. Weightage (%)	50.80	36.84	12.37	100.00
C. Nominal cost (%)	2.00	5.91	10.00	
D. Tax rate (%)	0.00	0.00	0.00	
E. Tax-adjusted nominal cost (C x [1–D])	2.00	5.91	10.00	
F. Inflation rate (%)[a]	4.00	4.00	4.00	
G. Real cost ([1+E]/[1+F] –1) (%)	(1.92)	1.84	5.77	
H. Minimum rate test (I = 0%)	0.00	1.84	5.77	
I. Weighted component of WACC	0.00	0.68	0.71	
WACC (%, real terms)				**1.39**

( ) = negative, ADB = Asian Development Bank, DHI = Druk Holding and Investments Limited, WACC = weighted average cost of capital.
[a] The international and domestic inflation rate is in line with escalation rates published by ADB's Economic Research and Regional Cooperation Department.
Source: ADB estimates.

D. Financial Internal Rate of Return and Sensitivity Analysis

16. The FIRR of the project, including the additional financing component, is estimated at 2.64%, higher than the WACC of 1.39%, and the financial net present value of the project is estimated at Nu1.74 billion ($23.04 million). Therefore, the project is considered financially viable. A sensitivity analysis of the FIRR for key variables indicates that the project (including additional financing components) is financially viable and offers acceptable returns under a range of possible scenarios. The project FIRR is found to be most sensitive to change in revenues, and a decrease of 23% in revenue from the base case will render the project financially unviable.

E. Financial Health and Sustainability

17. **Historical financial performance of the Construction Development Corporation Limited.** The CDCL, the project's implementing agency, was incorporated under the Companies Act of the Kingdom of Bhutan, 2000 on 7 December 2009. It is a public sector company wholly owned by DHI. The CDCL is responsible for construction of assets and will hand over the assets to the PTDC after implementation.

18. The unaudited provisional accounts are available for the company for financial year (FY) 2019.[8] The company's revenue of Nu1.9 billion was 2.67 times the revenue in the previous year. However, the direct costs were substantially higher, and the company incurred a loss of Nu44.6 million before tax adjustments. The company made a marginal profit of Nu5.6 million in FY2018 and incurred a loss in FY2017.

19. The company's operating cash flow has varied between Nu35.6 million and Nu60.2 million from FY2017 to FY2019. The investing and financing cash flows do not show any trend. Overall, the cash flow has been marginally negative recently—Nu 3.5 million in FY2018 and Nu4.9 million in FY2019. The net cash flow during FY2016–FY2017 was marginally positive at Nu3.2 million. The company had a reasonable cash balance of Nu63.7 million at the end of FY2019.

20. Because of losses and marginal profits, the profitability ratios for the company have been either negative or close to zero during the FY2017 to FY2019. Because of an increase in turnover

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[8] The fiscal year (FY) of the CDCL ends on 31 December. "FY" before a calendar year denotes the year in which the fiscal year ends, e.g., FY2019 ends on 31 December 2019.

during FY2019, the capital and fixed asset turnover ratios were high at 2.08 for the capital ratio and 4.08 for the fixed asset turnover ratio. The current ratio stayed above 1.17 during this 3-year period (footnote 3).

21. The CDCL is considered to be financially weak and operates with very thin margins. Therefore, establishment of the PTDC to own and operate the project after its construction is critical from a financial viability perspective. This will ring fence the project's operations and revenues from CDCL's accounts and will ensure that the PTDC is financially healthy and able to repay the loans from its operating revenues, without needing financial interventions from DHI or the government.

22. **Projections of financial performance of the Phuentsholing Township Development Corporation.** The financial projections indicate that the PTDC will be able to generate sufficient lease revenue to finance its operations and meet its debt service obligations from 2023, the first year of operations. The PTDC's collection efficiency is assumed to be 95%.

23. Projected income statements show that the SPV will become profitable in 2028, the fifth year of operations. From 2028 onward, the corporation's net profit margin will remain between 5% and 8% in most years. In 2023, when the PTDC is assumed to become an independent legal entity, the estimated debt–equity ratio will be 1.02. This ratio will be 1.05 in 2030, when most of the leasable land will be occupied. Because of the substantial ADB grant, the debt–equity ratio is unusually low for a real estate development project throughout most of the operations period. Prior to 2023, DHI will need to cover interest payable during the construction period (Nu33 million). From 2023 onwards, when the project will start generating lease and services revenue, the PTDC will be able to meet its debt service obligations. The debt service coverage ratio of the entity is estimated at 1.4 in 2027, with subsequent increases. The current ratio will remain above 2.9 throughout the 30-year projection period (2023–2052).