DETAILED FINANCIAL ANALYSIS AND EVALUATION

A. Introduction

1. A financial analysis of the Phuentsholing Township Development Project (PTDP) has been undertaken in accordance with ADB's *Guidelines for the Financial Management and Analysis of Projects* (2005).[1] A financial evaluation has been conducted to compare incremental revenues and costs, to determine whether the project is financial viable and a projected financial statement analysis has been conducted for the proposed special purpose vehicle (SPV), tentatively called the Amochhu Land Development and Township Corporation (ALDTC), to assess its financial health.[2]

B. Project Cash Flows

2. **Project costs.** The total construction cost of PTDP in constant April 2018 prices is estimated at Nu3,584 million ($53.1 million). This amount includes taxes, duties and physical contingencies, but excludes price contingencies or financial charges incurred during the construction period. All project cost estimates and incremental project net cash flows are expressed in constant March 2017 prices, so that the financial internal rate of return (FIRR) is readily comparable to the weighted average cost of capital (WACC), which is also expressed in real terms. Construction is expected to commence in July 2018 and be completed in June 2025. The residual value of the project assets is estimated at 50% of the total construction cost, to be realized at the end of the final year of the 30-year operations period (2023-2052).[3]

3. **Incremental Cash Flow.** The incremental net cash flows of the project consist of: (i) revenue from the lease of newly developed land; (ii) revenue from charges for the use of common infrastructure; and net of (iii) management, operations and maintenance (MOM) expenditures from 2023.

1. Lease Revenue

4. It is envisaged that Druk Holding and Investments Limited (DHI) will establish a special purpose vehicle to manage and further develop the new township, tentatively called the ALDTC (see footnote 3). This corporation will be the legal owner of the project-financed assets and collect revenue from the lease of these assets. During the operations period, the total annual lease revenue collected by the corporation is determined by: (i) the total area under lease; and

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[1] Strictly speaking, the financial analysis covers PTDP only which is Zone A of the government's planned larger development program called Amochhu Land Development and Township that will ultimately comprise five zones. In the future, the government may decide to develop all zones.

[2] DHI envisages that the government would transfer the ownership of the newly developed land as a freehold to the corporation. At the time of writing, the institutional arrangements for the township have not been defined. DHI does not consider appointing CDCL (or any other separate legal entity) as township manager because it is currently not permitted to sub-lease land in Bhutan, and leasing newly developed land through another legal entity is therefore currently not feasible. While DHI intends to apply for an exemption of this rule in the new township, it is currently assumed that DHI will first establish a department that would be dedicated to the management and further development of the new Phuentsholing Township. If the sub-lease constraint remains in force, this department would remain an integral part of DHI. If the government would permit the sub-leasing of land in the new township, the department would be split off from DHI and be given a separate legal status, thereby becoming, in effect, a special purpose vehicle for township management and development. The SPV is tentatively called the Amochhu Land and Township Development Corporation (ALTDC) and financial projections have been prepared for this SPV.

[3] The length of the operations period was based on the economic lifetime of buildings and other fixed infrastructures per Bhutan's prevailing accounting regulations. The operations period starts before completion of construction, because common infrastructure will have been completed in part of Zone A by the end of 2022.

(ii) the applicable lease rates based on the type of lessee (residential, commercial and other lessees have different lease rates).

5. **Area under lease by type of development.** It was assumed that the government will approve an ambitious program of financial and regulatory incentives to promote the development of the new township. All revenue and expenditure projections were based on the realization of this so-called "Business-Induced Scenario" (BIS).[4] For the BIS, the total leasable area is estimated at about 660,000 square meters (m^2) by the end of the project implementation period in 2052 (Table 1). In that year, residential housing would account for most of the area under lease (61%), followed by commercial (16%) and industrial (13%). Social housing, retail and the heliport would account for the remaining 10%. The land use plan under the BIS does not provide for the provision of health, educational or sports facilities (which would be in other zones). It is assumed that the 660,000 m^2 area will have been fully leased out by 2030, except for 65,000 m^2 of industrial developments, which would be realized during 2031-2052. It is important to note that ALDTC would exclusively lease areas to owners of large-scale real estate developments (such as housing estates, hotels, or shopping malls), who would sub-lease areas to their lessees. This means that, during the term of a lease, reductions in occupancy rates would not affect the area leased out by ALDTC.[5]

Table 1: Cumulative Area under Lease by Type of Development, 2023-2030 and 2052
('000 m^2)

Development Type	2023	2024	2025	2026	2027	2028	2029	2030	2052
Residential housing	70	139	209	279	320	362	403	408	408
Social housing	20	40	40	40	40	40	40	40	40
Commercial	22	43	65	87	93	99	105	109	109
Retail	6	13	16	16	16	16	16	16	16
Heliport	5	5	5	5	5	5	5	5	5
Industrial	-	-	-	-	4	8	12	16	81
TOTAL	**124**	**242**	**336**	**427**	**479**	**531**	**582**	**595**	**660**

Source: Asian Development Bank estimates.

6. The estimated floor space index (FSI) for housing, commercial and retails developments was 3.25. This estimate was based on a floor area ratio of 65% and an average number of five floors (the maximum number of floors permitted in Bhutan is six, except for government and religious buildings). The FSIs for the heliport and industrial developments were estimated at 0.65 and 1.3, respectively. The total land area covered by developments under lease was therefore about 247,000 m^2 (Table 2). This was about 38% of the total land area of Zone A, which is about 659,000 m^2. This ratio is relatively low compared to international norms for similar real estate developments elsewhere in the world, which are in the order of 50% to 60%. This suggests that the area under lease may be increased significantly, provided there is a demonstrated demand.

[4] The details of this scenario are available in Excel spreadsheet available with ADB. The name of the spreadsheet is "Amochhu II IDPR financial economic analysis -01122016-v1.xlsm".

[5] Except in extreme circumstances, such as bankruptcy of an ALDTC lessee. The assumed collection efficiency of ALDTC was 95%.

Table 2: Land Cover by Type of Development, 2052

Development Type	Lease Area ('000 m^2)	Number of Floors	FSI [a]	Land Cover ('000 m^2) [b]	Land Cover % Zone A
Housing, commercial and retail	574	5.0	3.25	176	26.8
Heliport	5	1.0	0.65	8	1.3
Industrial	81	2.0	1.30	62	9.4
TOTAL	**660**	**4.6**	**2.99**	**247**	**37.5**

[a] The product of the number of floors and the assumed floor area ratio of 0.65.
[b] Computed as Lease Area / Floor Space Index.
Source: Asian Development Bank estimates.

7. **Lease rates.** Commercially viable lease rates for the first year of operations are 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) and government-approved lease rates issued in 2009. Lease rates were estimated 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 for 2023, the expected first year of operations, ranged from Nu30 per square feet for industrial developments to Nu135 per square feet for commercial and retail areas. The lease rates in 2023 for residential housing, which accounts for over 60% of the leasable area is expected to be 85% higher, in real terms, over and above increase in rate resulting from inflation, mainly because the new township is designed to be a much better place to live and work than other town in Bhutan and its neighboring areas. In addition, the regulatory incentives proposed for the project area (especially the removal of restrictions on sub-leasing and mortgaging land rights) would, by themselves, result in higher lease rates and land prices vis-à-vis areas where these incentives would not apply. Similarly, for commercial and retail developments (20% of the leasable area), the assumed lease rates would be about 60% higher than prevailing rates and lease rates for industrial areas would 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 once every five years to compensate the project owner for general price inflation in the intervening period.[6]

Table 3: Current and Projected Lease Rates
(Nu per square foot per year)

Development Type	Lease Current Rates expressed in Constant March 2017 Prices [a]: Nominal 2016 Prices	Lease Current Rates expressed in Constant March 2017 Prices [a]: 2021 Prices	Lease Rates in Assumed by CDCL for 2021 expressed in Constant 2021 Prices	Rates Adopted by ADB for Lease Rates in 2023[b]
Residential housing	5-17	9-22	41	45
Social housing	(not surveyed)	-	-	-
Commercial	17-42	22-75	123	135
Retail	17-42	22-75	123	135
Heliport	N/A	N/A	41	45
Industrial	1-17	2-22	28	30

Sources: Asian Development Bank estimates.

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[6] The assumed increase in lease rates was ([1.05^5 -1] =) 27.6% at the start of 2028, 2033, 2038, 2043 and 2048.

[a] Current lease rates partly inferred from land sale prices (with annual lease rates assumed at 7% of the sale value) and with reference to base lease rates of 2009.
[b] CDCL expected rates for 2021 inflated by two years using ADB's estimated long-term inflation rate for Bhutan (5.0% p.a.).

8. **Total lease revenue.** Based on the projected area under lease under the Business-Induced Scenario, and the lease rates mentioned in para. 7, total lease revenue—in constant March 2017 prices—is expected to increase from Nu55 million in 2023 to about Nu240 million in 2052 (Table 4). Revenue barely increases after 2030, when most of the planned area have already been leased out (except for part of the industrial area, but lease rates for industry are lower than for any other type of development). Expressed in real terms, lease revenue is lower in 2052 than in 2048, the last year during the projection period in which lease rates would be increased. This illustrates that in years with neither an increase in lease rates nor a material increase in the leasable area, revenue in real terms will decrease.

Table 4: Lease Revenue by Type of Development, Selected Years
(Nu million, constant April 2018 prices)

Development Type	2023	2028	2033	2038	2043	2048	2052
Residential housing	24	125	142	142	142	142	116
Social housing	-	-	-	-	-	-	-
Commercial	22	103	113	113	113	113	93
Retail	7	17	17	17	17	17	14
Heliport	2	2	2	2	2	2	2
Industrial	-	2	7	9	9	13	16
TOTAL	**55**	**249**	**280**	**283**	**283**	**286**	**240**

Source: Asian Development Bank estimates.

9. It is important to note that the demand projections prepared for the BIS assume that the government will approve a series of financial and regulatory incentives, including but not limited to permitting the mortgaging of land development rights, removing restrictions on lease terms (which presently cannot exceed 30 years), a 10-year income tax holiday for real estate developers in the project area, and exempting ALDTC from land tax and enterprise income tax during the project implementation period.[7] If this package of measures is not implemented or severely curtailed, actual demand will be substantially lower than projected demand.

2. Other Revenue

10. In addition to lease rates, ALDTC will also charge its lessees for the use of common infrastructure (such as piped water supply, sewerage systems, street lighting and solid waste management). The user charge consists of: (i) a base charge to cover the cost of common infrastructure; and (ii) a 20% surcharge to cover the management cost of ALDTC. The base charge will be set in relation to the full cost of providing these services, covering both capital costs and operations and maintenance (O&M) costs. It is assumed that in 2023, the first year of operations, the user charge will be 30% of the full cost. It is also assumed that the cost-recovery rate will gradually be increased until it reaches 100% in 2030, the year in which all non-industrial land will have been leased out. Revenue from user charges, expressed in constant March 2017 prices, are expected to increase from Nu18 million in 2023 to Nu61 million in 2030, by which year it will account for about 25% of total revenue (see para 12 for estimates of chargeable

[7] For details, see Annexure 8 to the Interim Report of the CDCL Consultant.

costs). The cost of maintaining the river bank trainings is included in the lease rates and will not be charged separately.

3. Management and Operations and Maintenance Expenditures

11. Management expenditures mainly consist of the marketing and administrative expenditures of ALDTC, and are estimated at 3% of the annual lease revenue of the corporation, with a minimum of Nu6 million (the annual cost of the project management unit during the construction period). In 2030 and after, this amounts to about Nu7 million per year, again in constant in March 2017 prices.

12. Estimates of annual O&M expenditure for each type common infrastructure were prepared based on a fixed percentage of the investment cost of the individual infrastructure components (except for water and power supply, where it was estimated at the cost of providing the estimated demand for piped water and electricity). These estimates also form the basis for setting service charges for the use of the infrastructure (see para. 11). In 2030, the O&M expenditure of common infrastructure is estimated at about Nu27 million. The annual O&M expenditure of the river bank training is estimated at 1% of the investment expenditure; this amount to about Nu20 million per year. All estimated expenditure amounts are expressed in constant March 2017 prices.

C. Weighted Average Cost of Capital

13. The discount rate used in financial benefit-cost analysis is the weighted average cost of capital (WACC), which represents the cost incurred by the project owner (DHI) for raising the capital necessary to implement the project. The after-tax WACC, in real terms, is estimated at 4.5% (Table 5). The estimate was based on the following assumptions:

(i) weights were taken from the project financing plan,
(ii) the nominal cost of the ADB-financed sub-loan is 2.55% during the 24-year repayment period (the interest rate is 1.0% p.a. during the 8-year grace period),
(iii) the nominal cost of equity is DHI's minimum required return on equity,
(iv) the nominal cost of the proposed ADB grant is the same as for equity (as per ADB's *Guidelines for the Financial Management and Analysis of Projects*),
(v) the tax rate was set at zero, if the government would grant ALDTC a 30-year exemption on enterprise income taxes, and
(vi) the inflation rates are long-term domestic and international cost escalation factors provided by ADB.

D. Financial Net Present Value and Financial Internal Rate of Return

14. The financial viability of PTDP is indicated by its financial net present value (FNPV) and its financial internal rate of return (FIRR). The FIRR is the rate at which the FNPV of the project's net cash flows, discounted at the WACC, are zero. Key assumptions used for the calculation of the FNPV and FIRR are the following:

(i) the capital investment expenditure consists of all incremental expenditures related to the construction of PTDP, including consulting services,
(ii) the operating expenditures include all annual incremental expenditures incurred by ALTDC, and consist of incremental management expenditure and the incremental expenditure of operating and maintaining common urban infrastructure and the river bank training,

(iii) incremental revenue from leases was estimated based on the Business-Induced Scenario,
(iv) incremental revenue from user charges was set at a fixed percentage of the actual incremental O&M expenditure of common infrastructure; this percentage is 30% in 2023 and will increase to 100% in 2030 and after,
(v) the government will exempt ALDTC from land taxes and enterprise income taxes throughout the operations period (2023-2052),
(vi) the residual value of the project-financed assets is 50% of the capital investment expenditure after 30 years of operations, and
(vii) all incremental financial revenue and expenditure are expressed in constant March 2017 prices, exclude price contingencies, depreciation and debt service charges.

15. As shown in Table 6, the FIRR of PTDP is estimated at 4.3%, which is slightly lower than the weighted average cost of capital (4.5%). This suggests that the project is not financially feasible in the base case scenario. The same conclusion can be derived from the project's FNPV, which is below the minimum required value of zero (minus Nu74 million).[8]

Table 5: Weighted Average Cost of Capital
(percent)

	Funding Source		
Item	**ADB Loan**	**ADB Grant**	**DHI**
Weight	45.6	38.5	15.9
Nominal cost	2.6	10.0	10.0
Tax rate	0.0	0.0	0.0
Tax-adjusted nominal cost	2.6	10.0	10.0
Inflation rate	1.5	1.5	5.0
Real cost	1.0	8.4	4.8
WACC (in real terms) [a]	**4.5**		

Source: Asian Development Bank estimates.

E. Sensitivity Analysis

16. Two types of sensitivity analysis were conducted. Firstly, a classic sensitivity analysis was prepared, which shows the impact of favorable and unfavorable changes to revenue and expenditure on the project's FIRR. Secondly, the sensitivity of the FIRR to the realization of two alternative development scenarios was considered: (i) the "Business as Usual" scenario, and (ii) an increase in the land coverage ratio from the current level of 38% to 50-60%.

[8] If the capital cost of the ADB grant would be set at zero, the WACC would decrease to 0.6%, far below the base case FIRR of 4.3%. Under this assumption, the project would be financially feasible.

Table 6: Financial Analysis of PTDP, 2018-2052
(Nu million, constant April 2018 prices)

	Financial Expenditure				Financial Revenue			Net Financial Revenue
Year	Capital Investment	Manage-ment	O&M	Total Expenditure	Lease Revenue	User Charges	Total Revenue	
2018	545			545				-545
2019	1,312			1,312				-1,312
2020	843			843				-843
2021	286			286				-286
2022	450			450				-450
2023	86	6	48	140	53	18	70	-70
2024	62	6	49	117	98	24	122	6
2025		6	49	55	137	30	167	112
2026		6	49	55	168	36	205	150
2027		6	49	55	177	43	220	165
2028		7	50	57	236	49	285	228
2029		7	50	57	245	55	300	243
2030		7	50	57	239	61	300	243
2031		7	50	57	228	61	290	233
2032		7	50	56	218	61	279	223
2033		8	50	58	266	61	327	269
2034		8	50	57	254	61	316	258
2035		7	50	57	243	61	304	247
2036		7	50	57	232	61	293	237
2037		7	50	56	221	61	282	226
2038		8	50	58	269	61	330	272
2039		8	50	58	256	61	317	260
2040		7	50	57	244	61	305	248
2041		7	50	57	232	61	293	237
2042		7	50	56	221	61	282	226
2043		8	50	58	269	61	330	272
2044		8	50	58	256	61	317	260
2045		7	50	57	244	61	305	248
2046		7	50	57	232	61	293	237
2047		7	50	57	222	61	284	227
2048		8	50	58	272	61	333	275
2049		8	50	58	260	61	321	264
2050		7	50	57	249	61	310	253
2051		7	50	57	238	61	300	243
2052	-1,792	7	50	-1,735	228	61	290	2,025
							FNPV @ WACC 4.5%	**-74**
							FIRR	**4.32%**

Source: Asian Development Bank estimates.

17. Sensitivity tests were conducted by varying the capital expenditure, lease revenue, MOM expenditure and combinations of these factors. Sensitivity tests indicate that a reduction in capital expenditure of 3.6% or an increase in lease revenue of 2.9% are needed to lift the FIRR above the hurdle rate of 4.5% (Table 7). This suggests that the first phase of the project (i.e. Zone A) may become financially feasible without requiring overly optimistic assumptions.

Table 7: Sensitivity to Changes in Selected Project Variables

Item	Change from Base Case	FNPV (Nu million)	FIRR (percent)	SV of FNPV (percent)
Base case	–	-74	4.32	–
Favorable changes				
Capital expenditure	-20%	483	5.48	-3.6
Lease revenue	+20%	617	5.50	+2.9
MOM expenditure	-20%	75	4.58	-13.5
Combination of the above		1,324	7.08	
Unfavorable changes				
Capital expenditure	+20%	-632	3.48	-3.6
Lease revenue	-20%	-766	3.01	+2.9
MOM expenditure	+20%	-223	4.05	-13.5
Combination of the above		-1,472	2.05	

FIRR = financial internal rate of return, FNPV = financial net present value, MOM = management, operations and maintenance, SV = switching value.
Source: Asian Development Bank estimates.

18. The Business-Induced Scenario assumes that the government will approve an ambitious program of financial and regulatory incentives to promote the development of the new township. If this package of measures would not be implemented, it is likely that demand for leasable land would be suppressed. It is estimated that under an alternate conservative scenario—labelled "Business as Usual"—the leasable area would drop by 13% from 660,000 m^2 to about 560,000 m^2. FIRR would further fall from 4.3% to 3.6% (Table 8). On the positive side, efforts to increase land coverage from of 38% of Zone A (the share in the base case) to 50% or 60% will lift the FIRR above the hurdle rate of 4.5%. This, however, will only be feasible if there is a demand for the substantial increase in the leasable area, and this, in turn, is largely dependent on the approval of the abovementioned financial and regulatory incentives.

Table 8: FIRR and FNPV for Selected Scenarios

Scenario (Land Coverage)	FNPV (Nu million)	FIRR (percent)
Business as Usual (31%)	-486	3.56
Business-Induced, Base case (37%)	-74	4.32
Business-Induced, Medium (50%)	918	5.98
Business-Induced, High (60%)	1.655	7.09

Source: Asian Development Bank estimates.

FINANCIAL EVALUATION OF PTDP

19. This section presents pro forma projected financial statements (cash flow statements, income statements and balance sheets) for ALDTC, if the SPV is formed. The statements were prepared in accordance with ADB's *Guidelines for the Financial Management and Analysis of Projects* and cover the period 2018 (the first year of construction) through 2052 (the final year of the 30-year operations period, which is assumed to start in 2023).

A. Assumptions Used for the Preparation of Financial Statements

20. Projected cash flows statements have been prepared, based on which income statements and balance sheets were subsequently derived by adjusting cash flows for non-cash items, including depreciation (but not for the effects of corporate tax liabilities, assuming the government will grant ALDTC an exemption on corporate income taxes until the end of the projection period).

21. **General assumptions.** These can be summarized as follows:

(i) financial statements are expressed in current Ngultrum (Nu); where relevant, constant April 2018 prices were converted into current prices using appropriate domestic and international cost escalation factors (Table 1),
(ii) cash flows are assumed to be realized at the end of a financial year, and
(iii) the Nu/$ exchange rate was adjusted over time to reflect differences between domestic and international cost escalation factors, in accordance with purchasing power parity theory.

22. **Investment cash flows.** The total construction cost of the project is estimated at Nu4,293 million. This amount consists of engineers' base costs, recurrent costs accruing during the construction period, physical contingencies, price contingencies and taxes and duties. The residual value of the project is estimated at 50% of the nominal construction cost, to be realized at the end of the final year of the operational period.

Table 1: Domestic and International Cost Escalation Factors
(in percent per annum)

Item	2016	2017	2018	2019	2020[a]
Domestic cost escalation factor	4.0	5.0	5.0	5.0	5.0
International cost escalation factor	1.5	1.4	1.5	1.5	1.5

Sources: Asian Development Bank (ADO 2016), World Bank.
[a] Factors for 2020 also apply to subsequent years.

23. **Operational cash flows.** The net operational cash flows of ALDTC consist of: (i) lease revenue, plus (ii) other revenue, minus (iii) management, operating and maintenance (MOM) expenditure.

24. In any given year, the total lease tariff revenue of ALDTC is determined by satisfied demand for land and the applicable lease rates (see Table 2 for assumptions). In formula:

$$\sum_{i=1}^{n} LD_i \times LR_i$$

Where n = number of customer groups,
LD_i = annual demand for land of customer group i,
LR_i = lease rate applicable to customer group i,

Table 2: Assumptions related to Lease Revenues

Parameter	Assumption
Number of customer groups (n)	Six (residential housing, social housing, commercial, retail, heliports and industrial)
Demand for land by customer group i (LD_i)	660,000m^2 in the Business-Induced Scenario (see appendix on Financial Analysis for details)
Lease rate applicable to customer group i (LR_i)	Lease rates in 2023 range from Nu30 per square feet for industrial developments to Nu135 per square feet for commercial and retail developments (the rates apply to the Business-Induced Scenario; again, see appendix on Financial Analysis for details)
Lease rate increase	Once every five years by 27.6% (to compensate for price inflation of 5.0% p.a. in the intervening period), starting in 2028.

Source: Asian Development Bank.

25. Other revenues consist of user charges that lessees will need to pay for the use of common infrastructure (such as piped water supply, sewerage systems, street lighting and solid waste management). These charges will be set in relation to the actual cost of providing these services. In 2023, the first year of operations, the service charge will be 30% of the actual capital and operations and maintenance cost. The cost-recovery rate will gradually be increased until it reaches 100% in 2030. ALDTC's management expenditure and the expenditure on maintaining the river bank trainings are included in the lease rates and will not be charged separately.

26. Operating expenditure consists of ALDTC's expenditure on management, operations and maintenance. Annual management expenditure was estimated at 3% of lease revenue. The annual operations and maintenance expenditure of the river training works was estimated at 1% of the investment expenditure. The annual O&M expenditure of common infrastructure was estimated at a percentage of the investment cost (except for water and power supply, where it was estimated at the cost of providing the estimated demand for piped water and electricity).

27. **Financial cashflows.** The construction cost of the project will be financed from: (i) a Nu2,295 million ADB-financed sub-loan from the Royal Government of Bhutan to ALDTC, (ii) a Nu1,804 million ADB grant, and (iii) Nu858 million of DHI's internal revenue (including working capital of Nu50 million). The conditions of the ADB-financed sub-loan to DHI would be the same as the loan conditions that apply to the government, except for the currency (Ngultrum instead of US Dollar) and the interest rate (the government would apply a 2.55% surcharge to the interest rate that is payable after the 8-year grace period). Refer to Table 3 for assumed sub-loan conditions. The projected allocation of the total cost over the five-year construction period is skewed towards 2019 and 2020, when about 60% of the ADB-financed sub-loan and grant will be disbursed.

Table 3: Assumed Subsidiary Loan Conditions

Item	ADB-Financed Subsidiary loan
Subsidiary loan amount	Nu2,295 million
Interest rate (% p.a.)	1.00 (years 1-8), 2.55 (years 9-32)
Commitment fee (% p.a. on undisbursed balance)	(none)
Front-end fee (% loan amount)	(none)
Grace on interest (years)	(none)
Grace on principal (years)	8
Principal repayment (years)	24

Source: Asian Development Bank.

28. **Adjustments for non-cash items.** The total construction cost of the project, including will be depreciated over the 30-year operations period at historical cost price. In accordance with prevailing accounting regulations, the straight-line method is used (so that depreciation charges amount to 3.3% of gross assets per annum).

C. Analysis of Financial Statements

29. As discussed in the appendix on financial analysis, the project is not considered financially feasible (the FIRR is estimated at 4.3%, which is lower than the weighted average cost of capital of 4.5%). However, financial projections indicate that ALDTC will be able to generate sufficient revenue to meet its debt service obligations starting in 2023, the first year of operations. This apparent contradiction is explained by the fact that a major portion of the project is financed by an ADB grant, and ADB estimates the cost of capital of grant funds at the same rate as the cost of equity, even though grants do not need to be repaid. ALDTC would exclusively lease areas to owners of large-scale real estate developments (such as housing estates, hotels, or shopping malls), who would sub-lease areas to their lessees. This means that, during the term of a lease, reductions in occupancy rates would not affect the area leased out by ALDTC. The collection efficiency of ALDTC was set at 95%, although it is recognized that the collection efficiency of the developers themselves may be lower.

30. **Profitability.** Projected income statements show that the ALDTC will become profitable in 2025, the third year of operations (Table 4). From 2028 onward, the corporation’s net profit margin (defined as net income / invested equity) will remain between 8% and 12% in most years. This is comparable to the minimum rate of return that DHI requires for strictly commercial operations (10%).

31. **Financial position.** In 2023, when ALDTC is assumed to become an independent legal entity, approximately 60% of its assets will be financed by debt and the remaining 40% by equity (which includes the ADB grant). The debt/equity ratio will decrease from 1.46 in 2023 to 0.78 in 2030, the year in which most of the leasable land will have been occupied. In 2049, the ADB subsidiary loan will have been repaid in full. Throughout most of the operations period, the debt/equity is unusually low for a real estate development project. This is mainly because ALDTC’s balance sheet will include the very substantial ADB grant.

32. **Liquidity.** Before 2023, ALDTC will not generate revenue, and DHI will therefore need to cover interest that is payable during the construction period (Nu50 million). From 2023 onwards,

when the project will start generating lease revenue, ALDTC will be able to meet its debt service obligations comfortably. As shown in the projected cash flow statements, the debt service coverage ratio (DSCR) of the entity is estimated at 2.0 in 2026, the first year of sub-loan repayment. Even though this is the lowest DSCR during the operations period, it is substantially higher than commonly used threshold values of 1.2 to 1.5. From 2028 to 2038, the DSCR will range between 3.0 and 5.0, and remains above 5.0 until final repayment of the loan in 2049. The current ratio before dividend payments would remain above 4.0 throughout the 30-year projection period (2023-2052).

Table 4: Projected Financial Statement for ALDTC, Selected Years
(Nu million, current prices)

Item	ALDTC as DHI Department					ALDTC as Separate Legal Entity				
	2018	2019	2020	2021	2022	2023	2024	2030	2040	2050
INCOME STATEMENT										
Lease revenue	-	-	-	-	-	74	145	470	782	1,302
Other revenue	-	-	-	-	-	13	19	67	109	179
Total revenues	**-**	**-**	**-**	**-**	**-**	**87**	**163**	**537**	**891**	**1,481**
Management and O&M	-	-	-	-	-	44	46	67	109	179
Depreciation	-	-	-	-	-	132	140	143	143	143
Total operating expenses	**-**	**-**	**-**	**-**	**-**	**176**	**186**	**210**	**252**	**322**
Net operating income	**-**	**-**	**-**	**-**	**-**	**-89**	**-23**	**327**	**639**	**1,159**
Interest expenses	0	3	7	11	15	23	23	51	28	-
Net income after interest	**-0**	**-3**	**-7**	**-11**	**-15**	**-112**	**-46**	**277**	**611**	**1,159**
Net profit on owned capital	-0.1%	-0.2%	-0.3%	-0.5%	-0.9%	-7.1%	-3.0%	11.6%	9.3%	7.8%
CASH FLOW STATEMENT										
Net cash inflows from operations	-	-	-	-	-	261	221	470	782	1,302
ADB-financed subsidiary loan	84	405	451	303	480	450	121	-	-	-
ADB grant	468	958	377	-	-	-	-	-	-	-
DHI investment	87	119	169	53	103	195	132	-	-	-
Subtotal cash inflows	**639**	**1,482**	**997**	**356**	**584**	**906**	**474**	**470**	**782**	**1,302**
Capital expenses	589	1,480	990	345	568	218	104	-	-	-
Principal repayments	-	-	-	-	-	-	-	78	100	-
Interest payments	0	3	7	11	15	23	23	51	28	-
Subtotal cash outflows	**589**	**1,482**	**997**	**356**	**583**	**241**	**127**	**128**	**128**	**-**
Net cash flows	**50**	**0**	**0**	**1**	**1**	**665**	**347**	**342**	**653**	**1,302**
Cash balance, BOY	50	50	47	40	29	14	252	1,500	6,245	14,882
Net cash inflows from operations	-	-	-	-	-	261	221	470	782	1,302
Debt service obligations	0	3	7	11	15	23	23	128	128	-
Cash balance, EOY	50	47	43	29	14	252	450	1,842	6.898	16,184
Debt service coverage ratio	**-**	**-**	**-**	**-**	**-**	**11.4**	**9.6**	**3.7**	**6.1**	**-**
BALANCE SHEET										
Current assets	50	47	43	29	14	34	128	1,519	6,576	15,862
Net fixed assets	589	2,068	3,058	3,403	3,971	3,838	3,706	2,912	1,588	265
Assets	**638**	**2,115**	**3,097**	**3,432**	**3,984**	**3,872**	**3,834**	**4,431**	**8,164**	**16,126**
Current liabilities	-	-	-	-	-	3	11	204	648	1,322
Long-term loans	84	490	940	1,243	2,295	2,295	2,295	1,847	927	-
Equity (including ADB grant)	554	1,625	2,157	2,188	1,689	1,574	1,528	2,380	6,589	14,804
Liabilities	**638**	**2,115**	**3,097**	**3,432**	**3,984**	**3,872**	**3,834**	**4,431**	**8,164**	**16,126**
Debt/Equity Ratio	0.15	0.30	0.44	0.57	1.36	1.46	1.50	0.78	0.14	-
Current assets/ Current liabilities						12.0	12.0	7.4	10.1	12.0

Source: Asian Development Bank.