FINANCIAL ANALYSIS

A. Introduction

1. The financial analysis of the additional financing of the Agriculture and Rural Development Project was conducted following the Asian Development Bank (ADB) Financial Management and Analysis of Projects[1] and Financial Due Diligence – A Methodology Note.[2] The analysis consists of (i) financial evaluation, which examines financial viability of revenue-generating subprojects; (ii) financial management assessment (FMA); [3] (iii) financial sustainability assessment (FSA), which examines the impact of the investment on the Government of Mongolia (the borrower); and (iv) due diligence of financial intermediaries.[4]

B. Financial Evaluation of Revenue-Generating Subprojects

2. With the additional financing, the project will finance value chain investment (VCI) subprojects for about 70 additional enterprises from seven agro-processing subsectors: (i) wool and cashmere processing, (ii) leather processing, (iii) apparel production, (iv) meat processing, (v) dairy processing, (vi) sea buckthorn processing, and (vii) bee farming. The project will also finance an animal skin primary processing subproject. For wool and cashmere processing, leather and skin processing, meat processing, and dairy processing subsectors, financial data were mostly based on data from actual subprojects financed by the current project[5] because they are good proxies for subprojects from those subsectors. For the subsectors newly added for the additional financing, i.e., apparel production, sea buckthorn processing, bee farming, and the animal skin primary processing subproject, financial data were collected from relevant representative enterprises and farms.

3. **Methodology and assumptions.** The financial evaluation examined the financial viability of a representative subproject from each of the seven subsectors and the animal skin primary processing subproject by comparing the financial internal rate of return (FIRR), which represents financial benefits, and the weighted average cost of capital (WACC), which represents financial costs. The project-wide financial evaluation was not conducted as subprojects will be identified by financial intermediaries during project implementation. The financial evaluation assumed a period of 20 years. No residual value of the assets is assumed at the end of the period. Investment cost will comprise civil works, equipment, working capital, and training. The operation rates against full capacity of incremental production were assumed at 50% for the second year and 100% for the third year and after for all subprojects, except the dairy subproject. For this subproject it was assumed at 25% for the first year, 50% for the second year, 75% for the third year, and 100% for the fourth year. First, cost and revenue flows were projected to derive net revenues for both the without-project scenario and the with-project scenario. Second, the incremental cost and revenue flows were derived by subtracting the cost and revenue flows of the with-project scenario from those of the without-project scenario. Third, an incremental net revenue flow was derived by subtracting the incremental cost flow from the incremental revenue flow. Fourth, net present value of the subproject was derived by

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[1] ADB. 2005. *Financial Management and Analysis of Projects*. Manila.
[2] ADB. 2009. *Financial Due Diligence – A Methodology Note*. Manila.
[3] Financial Management Assessment (accessible from the list of linked documents in Appendix 2 of the RRP).
[4] Due Diligence Reports of Project Participating Banks (accessible from the list of linked documents in Appendix 2 of the RRP).
[5] ADB. 2008. *Report and Recommendation of the President to the Board of Directors: Proposed Asian Development Fund Grant and Technical Assistance Grant to Mongolia for the Agriculture and Rural Development Project.* Manila.

discounting the incremental net revenue flow with the WACC of 6.1%. Subproject cost comprises investment cost (i.e., buildings, equipment, raw materials, and training) and operation and maintenance (O&M) cost (i.e., materials, maintenance, labor, and utilities).

Table 1: Calculation of Weighted Average Cost of Capital

		VCI Subloan	PPEs
A.	Weight[a]	80.0%	20.0%
B.	Nominal Cost[b]	8.0%	15.0%
C.	Tax Rate[c]	10.0%	0.0%
D.	Tax-adjusted Nominal Cost [B x (1 - C)]	7.2%	15.0%
E.	Inflation Rate[d]	1.0%	8.7%
F.	Real Cost [(1+D)/(1+E) - 1]	6.1%	5.8%
G.	Weighted Component of WACC (F x A)	4.9%	1.2%
WACC		**6.1%**	

PPE = project participating enterprise, VCI = value chain investment, WACC = weighted average cost of capital.
[a] Weight is based on expected financing percentages of subproject.
[b] Nominal cost is based on estimated interest rate charged by financier.
[c] Based on corporate income tax.
[d] Based on the latest domestic and international cost escalation factors.
Source: Asian Development Bank.

4. **Financial viability.** Subproject revenue was derived from sales of products. All costs and revenues were expressed in 2015 prices. The financial evaluation confirmed that all the eight representative subprojects will be financially viable, with FIRRs ranging from 11.5% to 16.7%, which are greater than the WACC. The financial net present values of the subprojects are expected to range from MNT104 million to MNT679 million (Table 2).

Table 2: Financial Viability of Subprojects

Subproject	FNPV (MNT million)	FIRR (%)
Wool and Cashmere	661	13.5
Leather	474	15.1
Apparel	296	16.7
Meat	679	16.2
Dairy	265	14.3
Sea Buckthorn	125	12.9
Bee Farming	104	15.0
Primary Skin Processing	117	11.5

FIRR = financial internal rate of return, FNPV = financial net present value.
Source: Asian Development Bank.

5. **Sensitivity analysis.** Sensitivity analysis confirmed the robustness of the financial viability of all representative subprojects. The analysis was conducted using the switching value technique, which shows up to what level of adverse event (represented by changing key variables) each subproject can retain its financial viability against. The following adverse events were considered: (i) a reduction in revenue, (ii) an increase in investments causing a cost overrun, (iii) an increase in O&M cost, and (iv) a 2-year delay in project implementation to determine how the FIRR of VCI subprojects will respond to these changes. The sensitivity analysis indicated that those subprojects would remain financially viable against revenue reductions of 3.5%–12.6%, investment cost increase of 27.5%–141.7%, and O&M cost increase

of 4.2%–18.9%. A 2-year delay in subproject implementation will result in FIRRs ranging from 7.3% to 13.0%, implying financially viable despite the 2-year delay (Table 3).

Table 3: Sensitivity Analysis of Subprojects
(%)

Subproject	Base FIRR	Switching Values			Recalculated FIRR
		Revenue Reduction	Investment Cost Overrun	O&M Cost Increase	2-year delay in project implementation
Wool and cashmere	13.5%	7.1%	61.6%	8.8%	13.0%
Leather	15.1%	11.6%	59.6%	16.8%	10.1%
Apparel	16.7%	10.9%	89.5%	14.1%	11.8%
Meat	16.2%	12.6%	59.8%	18.9%	10.5%
Dairy	14.3%	4.1%	55.5%	4.6%	9.7%
Sea Buckthorn	12.9%	8.6%	49.2%	11.7%	8.9%
Bee Farming	15.0%	11.4%	141.7%	14.1%	12.1%
Primary Skin Processing	11.5%	3.5%	27.5%	4.2%	7.3%

FIRR = financial internal rate of return, O&M = operation and maintenance.
Source: Asian Development Bank.

C. Financial Management Assessment

6. The FMA examined the capacity of the existing implementation arrangement for the current project as it will mostly remain the same in the additional financing phase.[6] Under the implementation arrangements, the Ministry of Finance (MOF) is the executing agency, and the Ministry of Food and Agriculture and Ministry of Industry are the implementing agencies. The FMA covers funds-flow arrangements, staffing, accounting and financial reporting systems, financial information systems, and internal and external auditing arrangements. Based on the assessment, the key financial management risk identified is limited staffing in those agencies for financial management of the project. To mitigate the risk, the existing project management unit (PMU) for the current project will continue to be responsible for financial management of the project during the additional financing phase.

7. The PMU is staffed with qualified personnel who have successfully discharged the responsibility for financial managing of the current project since January 2009. The PMU has established accounting policies and procedures as well as a Microsoft excel-based accounting system to maintain and manage records of all financial transactions of the project. To strengthen the accounting system, it is recommended to update the system with a well-established accounting software. The Internal Audit and Monitoring Department of the MOF will continue to audit the project's financial statements on both a semi-annual and annual basis. The MOF will also engage independent auditors for the annual audit of financial statements, as is the case for the current project.[7] The PMU, in turn, will continue to submit annual audit reports to ADB in a timely manner, as has been done for the current project. The PMU will continue to

[6] Under the current project, the executing agencies are the Ministry of Finance (MOF) and Ministry of Food and Agriculture, supported by the project management unit (PMU) for implementation and management of the project, including financial management. Under the additional financing phase, the MOF will remain as the executing agency while the Ministry of Food and Agriculture and Ministry of Industry, as a result of division of the Ministry of Industry and Agriculture in December 2014, will become implementing agencies.

[7] Since 2013, the National Audit Office has provided support for independent audit of the current project and also conducted its performance audit in 2011 and 2013.

carry out quarterly reporting to ADB and the Government of Mongolia. Additional training will be provided during the additional financing phase to update PMU staff with current ADB procedures. It is concluded that the overall financial management risk of the project is moderate without the mitigation measure, which will lower the level of financial management risk to low.[8]

D. Financial Sustainability Assessment

8. The FSA for the project was undertaken to examine the government's fiscal capacity, as the borrower, to provide the counterpart funds and fulfill the repayment obligation for ADB loans.[9] Table 5 presents projections of the counterpart fund requirement and ADB loan repayment obligations compared with the government's total expenditure.

Table 4: Fiscal Impact of the Project
(Billion Mongolian Togrog)

Item	2016	2017	2018	2019	2020	2025	2030	2035
Government annual expenditure[a]	8,865	9,954	11,177	12,550	14,092	25,154	44,898	80,140
Government counterpart fund obligation	0.2	0.8	0.4	0.3	0.2			
Government's ADB loan repayment[b]						4.7	4.7	4.7
Government's financial obligation for the project	0.2	0.8	0.4	0.3	0.2	4.7	4.7	4.7
Proportion of government's financial obligation for the project to government annual expenditure	0.003%	0.008%	0.003%	0.002%	0.002%	0.019%	0.010%	0.006%

ADB = Asian Development Bank.

[a] Data on government annual exenditure was obtained from National Statistical Yearbook 2013. Government annual expenditure is projected to increase at 12% per year based on the average growth rate of GOM annual expenditure over the period 2012-2014.

[b] Loan repayment based on straightline payment over a period of 20 years.

9. The FSA confirmed that the fiscal impact of the project would be significantly small (Table 4), both during and after project implementation. Hence, the government has adequate fiscal capacity to fulfill all of its financial obligations for the project.

E. Due Diligence of Financial Intermediaries

10. Due diligence were conducted for four project participating banks (PPBs) (i.e., Golomt Bank, Khan Bank, Trade and Development Bank, and Xac Bank) to assess their capacity to (i) deliver subloans to achieve project objectives, (ii) efficiently recover subloans, and (iii) make a reasonable profit from the participation to the project to cover operating costs and risks. Those PPBs have successfully served as financial intermediaries for the current project. They have satisfied the prudential ratios required by the government and complied with the project reporting requirements both the government and ADB. However, the assessment also found that loan portfolio concentration, increased delinquencies, and (iii) increased nonperforming loans are notable risks.[10]

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[8] A financial management action plan was not prepared based on the financial management assessment, which affirmed the adequate capacity and implementation arrangements for financial management. The implementation arrangements of the current project will continue for the additional financing.

[9] Financial sustainability assessment of subprojects will be conducted using financial statements of subloan recipient project participating enterprises during the project implementation.

[10] Moody's recently reported negative outlooks on Khan Bank, the Trade and Development Bank, and Xac Bank, and changed its outlook from *stable* to *negative* while it retained the lenders' current B1 ratings (http://blogs.wsj.com/moneybeat/2014/01/08/moodys-warns-on-mongolias-banks/). Standard and Poor's rated

11. The due diligence confirmed that PPBs are eligible to continuously serve as financial intermediaries for the project under the additional financing phase. However, the PMU on behalf of the MOF will closely observe the financial performance to ensure continuous eligibility for the project. Given the size of loan proceeds that each PPB is likely to receive ($10 to $15 million) against their respective lending size, the project will not have significant impact on any of the PPBs.[11]

F. Conclusion

12. The financial evaluation confirmed that all representative subprojects are financially viable and their financial viability is robust against different adverse scenarios. The FMA confirmed that the implementation arrangement established under the current project is adequate for financial management of the project. The FSA showed that the fiscal impact of the investment on the Government of Mongolia would be within an acceptable level. The updated due diligence reports for financial intermediaries confirmed that the existing four PPBs remain to be qualified financial intermediaries for the additional financing phase.

Golomt Bank's credit risk as B/Negative/B (RatingsDirect, Golomt Bank of Mongolia, July 22, 2014). Those ratings are defined to have significant credit risks and speculative elements.

[11] Based on total lending in 2013, the expected loan proceeds from the project will be 2.4% for Xac Bank and about 1.0% for the other three banks.