FINANCIAL ANALYSIS

A. Introduction

1. A financial analysis was conducted following relevant Asian Development Bank (ADB) guidelines.[1] The financial analysis comprised: (i) assessment of the financial viability of the subprojects to be undertaken by the nine project participating enterprises (PPEs), (ii) a financial performance analysis of the PPEs, and (iii) financial management assessments (FMAs) for the executing agency, the Henan Provincial Government (HPG), and the implementing agencies (the nine PPEs and the Henan Animal Husbandry Bureau [HAHB]). Because the majority of the project investment (90.6%) will be for revenue-generating livestock production and processing activities under output 2, no fiscal impact analysis was performed for the nonrevenue-generating component of the project (the fiscal impact on HPG will be minimal).

B. Project Financial Analysis

2. **Assumptions for financial projections.** A financial analysis was carried out for each subproject and for the subprojects combined. Project revenues were projected based on output capacity and unit price by agricultural activity for each PPE based on the available feasibility studies. Operation and maintenance (O&M) costs mainly include raw materials and fuels, wages and benefits, maintenance and repair, and sales and management expenses. Depreciation of fixed assets was assumed in accordance with the guidelines of the Peoples' Republic of China, where applicable. Income tax of 25% was assumed for the three PPEs that are involved in food processing.[2] The weighted average cost of capital (WACC) was estimated to compare with the financial internal rates of return (FIRRs) to assess the financing viability of the subprojects. The cost of the ADB loan was estimated using the latest 10-year US dollar swap rate and the contractual spread of 0.5%.

3. **Project financial viability and sensitivity.** Financial viability was examined for each subproject and the project as a whole; the project FIRR was 16.9%, versus a WACC of 6.6%, confirming the financial viability of the project (Table 1). All subprojects were confirmed to be financially viable, with FIRRs of 11.4% to 24.9%, versus WACCs of 4.2% to 7.7%. Financial viability was further tested using the switching-value technique for three different scenarios: (i) revenue reduction, (ii) investment cost increase, and (iii) O&M cost increase. The sensitivity analysis showed that the project is highly sensitive to revenue reduction and O&M cost increases, but not sensitive to an investment cost increase. Sensitivity varies substantially across the subprojects. Among the nine subprojects, five are by and large robust in any adverse scenario, while four PPEs are sensitive to revenue reduction and O&M cost increases; it is important that those PPEs pay close attention to changes in inputs and outputs to minimize the potential for revenue reduction and O&M cost increases.

[1] ADB. 2005. *Financial Management and Analysis of Projects*. Manila; and ADB. 2009. *Financial Due Diligence – A Methodology Note*. Manila.
[2] Private agriculture enterprises are generally exempted from corporate tax in the People's Republic of China as part of the government's policy to develop the agriculture sector.

Table 1: Financial Viability and Sensitivity Analysis

PPE	FNPV (CNY million)	WACC	FIRR	SV for Investment Cost Increase	SV for Revenue Reduction	SV for O&M Cost Increase
Afanti	104.7	4.2%	24.9%	260.8%	3.1%	3.3%
Dadi	86.3	6.8%	17.1%	113.0%	7.8%	9.2%
Donghan	152.9	5.0%	16.3%	145.4%	5.5%	6.3%
Fenghua	47.8	4.3%	11.4%	81.7%	0.6%	0.6%
Hengtianran	58.2	7.7%	16.3%	87.8%	5.5%	6.2%
Kerchin	126.9	6.5%	23.6%	154.4%	5.8%	6.4%
Muyuan	58.8	6.8%	12.5%	129.6%	11.1%	13.8%
Niuniu	51.5	7.3%	14.8%	74.1%	3.7%	4.0%
Sangao	114.1	5.9%	18.4%	144.9%	2.8%	2.9%
Whole Project	**793.3**	**6.6%**	**16.9%**	**118.7%**	**3.7%**	**4.0%**

CNY = Chinese yuan, FIRR = financial internal rate of return, FNPV = financial net present value, O&M = operation and maintenance, PPE = project participating enterprise, SV = switching value, WACC = weighted average cost of capital.
Source: Asian Development Bank estimates.

C. Assessment of the Project Participating Enterprises' Financial Performance

4. The PPEs were selected because they have a minimum of an "A" credit rating from domestic commercial banks. They are regarded as dragon-head enterprises and would receive implicit support from HPG and the local governments. The borrowing of ADB loan proceeds by PPEs will be guaranteed by the project municipal governments or the project county governments as with other sovereign loans. Independent financial due diligence of the PPEs was conducted during project preparation, and their financial performance during 2011–2013 assessed based on audited financial statements (Table 2). Selected financial ratios were estimated to assess liquidity, profitability, capital structure, and debt service capacity. All nine PPEs show healthy capital structure, at least acceptable profitability, and at least adequate liquidity, except for Donghan PPE. However, two PPEs (Muyuan and Sangao PPEs) showed low debt service capacity during the period. Despite its good profitability, Donghan PPE also showed weak debt service capacity throughout the period and unhealthy capital structure in 2013 in addition to poor liquidity. However, Donghan PPE received a new capital injection from shareholders in 2014 that significantly boosted its financial standing. Nevertheless, these financial ratios will be closely monitored and assessed by the executing agency during project implementation.

Table 2: Project Participating Enterprises' Financial Performance in 2013

Enterprise	Main Product	Total Assets (CNY million)	Total Debt (CNY million)	Sales (CNY million)	Net Profit After Tax (CNY million)	Financial Ratio: Current Ratio	Net Profit Margin	Debt-Equity Ratio	Return on Capital	Debt Service Coverage Ratio	Credit Rating
Afanti	Beef	210	101	196	12	1.30	6.1%	0.9	15.5%	4.1	AA+
Dadi	Pigs	124	3	113	18	16.60	16.3%	0.0	16.4%	n.a.[a]	AA
Donghan	Duck meat	106	73	197	16	0.60	8.1%	2.2	62.6%	0.4	A
Fenghua	Pork	314	122	182	45	1.40	24.6%	0.6	28.5%	10.6	AA+
Hengtianran	Cattle	84	26	52	10	1.60	19.9%	0.4	19.4%	1.9	A+
Kerchin	Cattle	480	259	325	31	1.30	9.5%	1.2	17.1%	5.3	AA
Muyuan	Pigs	3,235	1,978	2,044	304	0.90	14.9%	160.0%	26.6%	40.0%	AAA
Niuniu	Cattle	216	67	272	25	2.20	9.3%	40.0%	20.6%	420.0%	A+
Sangao	Chicken meat	256	136	309	12	1.10	4.0%	110.0%	11.7%	50.0%	AA+

PPE = project participating enterprise.
[a] Those PPEs have either very low borrowing or no loan repayment in 2013.
Source: Asian Development Bank estimates.

5. The ADB loan will finance 46.1% of the total project investment, with 51.3% financed by the PPEs as counterpart funding. Most of the PPEs are in a business expansion phase, and the analysis showed that not all have sufficient internally generated cash flows to cover their counterpart funding requirement. It is estimated that four PPEs may encounter problems as they may need to borrow more than 30% of the counterpart funding requirement from domestic commercial banks. These PPEs have good credit ratings and good working relationships with local commercial banks, making it feasible to generate counterpart funding from self-generated cash supplemented by domestic bank borrowing as needed.

C. Financial Management Assessment

6. The FMA was conducted in accordance with ADB guidelines (footnote 1). The FMA includes a review of the executing and implementing agencies (including each PPE) based on the following: (i) funds flow arrangement; (ii) staffing of accountants and financial specialists; (iii) accounting policies and procedures; (iv) internal and external auditing; (v) reporting and monitoring, and (vi) information systems. The instrument used for the assessment was ADB's FMA questionnaire.

7. The Henan Finance Department, particularly its international division (which serves as the project imprest account holder) has sufficient financial management experience for donor-funded projects, having managed 10 ADB loan projects since 2000. The assessment confirmed that the Henan Finance Department meets all ADB requirements. The project management office, which is currently implementing the Dryland Sustainable Agriculture Project,[3] has also demonstrated its experience with ADB-financed projects. The 10 implementing agencies (i.e., HAHB and the nine PPEs) are classified into three categories based on the extent to which they meet ADB's financial management requirements.[4] Muyuan PPE is the only implementing agency that is classified as meeting all the requirements. HAHB and three PPEs (Afanti, Fenghua, and Sangao PPEs) are grouped into a second category (mostly meeting ADB's financial management requirements), while the remaining six PPEs (Dadi, Donghan, Hengtianran, Kerchin, and Niuniu PPEs) are classified as meeting the minimum financial management requirements.

8. The overall financial management risk of the project is considered moderate given the relatively low risk associated with the executing agency, but varying financial management capacity at the nine PPEs. The PPEs' lack of experience in ADB project management, lack of accounting staff, and insufficient internal auditing are major issues, and will be closely monitored during project implementation. Significant training and support on ADB policies and procedures—including procurement, disbursement, and project management—will be required. A comprehensive financial policies and procedures manual should be developed to guide financial management activities and ensure staff accountability at the implementing agency level. HPG will ensure each PPE appoints a finance staff member to manage project accounts and provide financial management assistance as needed.

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[3] ADB. 2008. *Report and Recommendation of the President to the Board of Directors: Proposed Loan and Administration of Grant to the People's Republic of China for the Dryland Sustainable Agriculture Project.* Manila.

[4] The criteria concern an entity's (i) financial regulations, standards or pronouncements; (ii) legal and organizational structure; (iii) financial statement reports and audit reports during 2010–2012; (iv) agreements and contracts; (v) Chart of Accounts; (vi) organization; (vii) financial section structure; and (viii) financial staff and others concerned with the entity's financing.

D. Conclusion

9. The financial analysis confirmed the financial viability of each subproject and the subprojects in combination, while project profitability varies by subproject. As commonly observed in similar agriculture projects, financial viability is not sensitive to capital investment cost overruns, but is sensitive to lower-than-expected revenues or higher-than-expected O&M costs. Further, project financial sustainability is contingent on the financial strength of the PPEs. The PPEs were selected based on well-defined criteria and enjoy good credit standing with local banks (at least A or above). They are dragon-head enterprises in Henan Province and receive implicit support from HPG and the local governments through the government guarantee of the ADB loan proceeds. Most of the PPEs are expanding their businesses, and counterpart funding from domestic borrowing will be needed to varying degrees. The PPEs are required to submit their audited financial statements so that the executing agency and ADB can monitor their financial performance. Counterpart funding availability should also be closely monitored, and HPG and the governments may encourage the PPEs to prioritize ADB project funding over other capital expenditures.