Validation Report
November 2019

People’s Republic of China: Ningxia Integrated Ecosystem and Agricultural Development Project
ABBREVIATIONS

ADB – Asian Development Bank
DMF – design and monitoring framework
EIRR – economic internal rate of return
FIRR – financial internal rate of return
GEF – Global Environmental Facility
IEM – integrated ecosystem management
NARB – Ningxia Agriculture Reclamation Bureau
NHAR – Ningxia Hui Autonomous Region
NHARG – Ningxia Hui Autonomous Region Government
PCR – project completion report
PRC – People’s Republic of China
TA – technical assistance
WACC – weighted average cost of capital

NOTE

In this report, “$” refers to United States dollars.

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<th>Director General</th>
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A. **Rationale**

1. The rapid economic growth of the People’s Republic of China (PRC) in recent decades has inflicted pressures on the ecosystems. Extensive urban and industrial development has led to increased pollution. Poor rural households have converted marginal lands near desertic areas into irrigated farms and have overused water resources. These increasing pressures have diminished vital ecosystem services and have reduced productivity of grasslands, farmlands, wetlands, forests, and mountain areas. The country’s western region has experienced serious land degradation problems, particularly the Ningxia Hui Autonomous Region (NHAR) that has the highest poverty incidence. Its over 350 million population includes poor and vulnerable people.
2. The Ningxia Integrated Ecosystem and Agricultural Development Project was designed to introduce an integrated ecosystem management (IEM) approach to combat land degradation and promote sustainable resource use. The project would promote economic activities that would link both commercial and conservation values to rehabilitate degraded ecosystems. It would also demonstrate measures to support sustainable rural livelihoods in poor communities. The project area included Jinfeng, Xingqiao, and Xixia districts; and Helan and Yongning counties that surround Yinchuan City. It covered 3,655 square kilometers of the Yinchuan Plain, extending from the Yellow River in the east to the Helan Mountains in the west of the NHAR. Cofinanced by a Global Environment Facility (GEF) grant, the project introduced the IEM approach and supported conservation efforts to protect 15 globally threatened species.

B. Expected Impacts, Outcomes, and Outputs

3. The project’s expected impact was improved environmental management to rehabilitate ecosystems and increase rural incomes in the project area. Its intended outcome was IEM approach providing sustainable livelihoods for the population in the project area. Its four expected outputs were (i) IEM capacity building and project management, (ii) land and water resource management, (iii) rural livelihood improvement, and (iv) ecosystem conservation.

4. The project completion report (PCR) documented three minor changes in scope. The first scope change, approved in March 2011, included (i) the cancellation of Ningxia Administrative Bureau’s involvement in improving livelihoods from ecological agriculture, and reallocation of funds to Ningxia Agriculture Reclamation Bureau’s (NARB) sustainable livelihoods efforts; (ii) Xixia canal construction and irrigation rehabilitation’s removal, and reallocation of funds to other on-farm water-saving irrigation investments; and (iii) the cancellation of Sanding, Yueya, and Tonggui lakes’ planned rehabilitation works, and reallocation of funds to habitat rehabilitation and public education in Sand and Mingcui lakes. The second scope change was undertaken during midterm review and approved in December 2012 to use unallocated amounts and loan surplus to (i) strengthen Yinchuan Wetlands Management Office’s monitoring and management capacity; (ii) improve quality control and operation management of NARB’s vineyards and dairy farms; (iii) promote integrated environment management at its vineyards and dairy farms; and (iv) improve public education facilities around Yinchuan wetlands. The third, was approved in February 2015 to use loan savings to support additional facilities for (i) public education and environmental management at Mingcui Lake, and (ii) improve the IEM demonstration center.

C. Provision of Inputs

5. The Asian Development Bank’s (ADB’s) Board approved the project in August 2008 after the GEF grant approval in July 2008. The agreement was signed in March 2009 and became effective in June 2009. The loan and grant were closed in April 2016, a 12-month delay from the original closing date. According to the PCR, this extension was to allow for the completion of additional project activities that were added during the October 2012 midterm review.

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2 These were mainly the training and implementation of ecological agriculture programs; implementation of beef production; biofertilizer production; and development of a greenhouse, a plant propagation unit, and a logistics center.

3 At appraisal, $32.52 million (15% of total project costs) was established as contingencies.

4 The PCR indicated that it took 6 months from approval to signing due to the long process of obtaining the required legal opinions from relevant domestic agencies.

6. At appraisal, total project cost was estimated at $221 million and actual costs were $218.4 million. Fund reallocations among components were agreed during execution. The cost sharing at appraisal and closing was implemented as planned. Total loan and grant disbursements were 99.6% and 95.6% of the originally commitments. At loan closing, the undisbursed amounts were refunded to ADB. The initial disbursement was in September 2009 and the final was in October 2016. Disbursement was slower than planned as the project had to be extended for 12 months. While provision of 127 person-months of consulting services were envisaged (27 person-months of international specialists and 100 person-months of national specialists), only 84 person-months had been used (19 person-months of international specialists and 65 person-months of national specialists).

7. The project was classified as category A for the environment and category B for involuntary resettlement. A summary environmental impact assessment and resettlement plan were prepared. The only activity that was initially considered environment category A and required a resettlement plan was the construction of an irrigation canal in Xixia. However, a change of scope in 2011 removed the Xixia canal from the project and land acquisition and involuntary resettlement were no longer required. After the change in scope, the project became category B for the environment, category C for involuntary resettlement, and category C for indigenous peoples. There was no plan prepared as no negative impact was anticipated.

8. The project was accompanied by a technical assistance (TA) on Capacity Building for Integrated Ecosystem Management in NHAR. The total cost of the TA was $0.8 million. ADB financed $0.6 million through a grant, and the government provided $0.2 million. The TA was implemented from January 2008 to May 2012, and was closed in September 2012, with an 86% disbursement of ADB funds.

D. Implementation Arrangements

9. At appraisal, the Ningxia Hui Autonomous Region Government (NHARG) was the executing agency through Ningxia Finance Department. The NHARG coordinated activities of the four project implementation agencies: NARB, Yinchuan Municipality Government, Ningxia Water Resources Department, and the Ningxia Administrative Bureau. Each agency established a project implementation office. NHARG created a lead group comprising 11 sector agencies to coordinate across sectors and decide for key project aspects. It also established a provincial project management office to be responsible for the daily implementation.

10. During implementation, the scope change approved in March 2011 removed the Ningxia Water Resources Department and the Ningxia Administrative Bureau as implementing agencies as their respective project components were cancelled. The rest of the implementation

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6 The PCR indicated that there were three changes in scope. New activities were added, and the participation and financing of government agencies was modified. The participation and financing of Ningxia Administrative Bureau and Water Resources Department was withdrawn from the project and the rest of the agencies increased their financing of project costs. The allocations changed as follows: (i) IEM capacity building and project management reduced from $9.3 million to $3.7 million, (ii) land and water resource management went from $40.5 million to $31.2 million, (iii) rural livelihoods improvement increased from $100.6 million to $127.5 million, and (iv) ecosystem conservation and tourism rose from $27.6 to $35.9 million (footnote 5, para. 8).

7 The PCR indicated that the reasons for deviating consulting services were the changes of activities that were agreed during project execution. The originally proposed consulting inputs to design water resource management plans were reallocated to prepare a strategy for developing the wine-making industry (footnote 5, para. 25).

arrangements envisaged at appraisal were mainly followed. The Ningxia Finance Department was effectively the project fund manager.

11. The accompanying TA would support in strengthening the institutional capacity of the NHAR in IEM such that the project implementation was effective. Activities included training and dissemination of international best practices, technical studies for specialized project design needs, and the setup of a robust project performance monitoring system that incorporated biodiversity and resource conservation aspects.\(^9\)

12. The PCR indicated that the borrower and the executing agency generally complied with the loan covenants (footnote 5, Appendix 7). Of 37 covenants, only 4 were not complied and were associated with the irrigation canal infrastructure removed from the project after the change in scope in 2011.

II. EVALUATION OF PERFORMANCE AND RATINGS

A. Relevance of Design and Formulation

13. The PCR rated the project highly relevant, emphasizing the project’s alignment with government plans. The Eleventh Five-Year Plan (2006–2010) for National Economic and Social Development of the PRC\(^{10}\) contemplated resource conservation and ecosystem rehabilitation processes, while the Twelfth Five-Year Plan (2011–2015)\(^{11}\) promoted rural and green development. The project was consistent with the proposed areas of work of ADB’s country partnership strategies (CPSs). The CPS 2008–2010 aimed to support poorer provinces, integrate rural development, and protect regional public goods.\(^{12}\) The CPS 2011–2015 included as pillars the promotion of inclusive growth and environmentally sustainable development.\(^{13}\) The project also contributed to the GEF’s strategic objectives of biodiversity conservation and combating land degradation. The PCR noted that the project was well designed to address the root causes of land degradation and poverty.\(^{14}\) It stated that the three minor changes in scope were made to respond to changes in government development plans and contributed to enhancing the project impact and outcome, establishing a model that can be replicated in other provinces.

14. The project was aligned with the government and ADB’s strategies and plans. However, this validation notes various project design issues. First, the results chain should have been robust. Links between the IEM approach and increased incomes from the transition to higher-value rural industries was not apparent. The project outcome had two elements: conserving ecosystems and improving rural livelihoods. While the proposed activities for the IEM approach were to promote ecosystem conservation, rural livelihood improvements were undertaken through productive investments and increased market access. These investments, however, had little direct relation to ecosystem rehabilitation, despite some incorporated sustainable natural resource practices, which would have been a transformatively design needed


\(^{14}\) The PCR stated that ‘the project allocated a significant share of loan proceeds to improving sustainable livelihoods through the establishment of vineyards, dairy farms, and beef cattle breeding.’ The actual expenditures were $127.5 million (more than 50% of total project expenditures) (footnote 5, para. 34).
for the project to be highly relevant. The PCR also did not provide information on how poor communities benefited from commercial enterprises. Second, the project required three changes in scope during implementation, including the removal of the Xixia canal component. The project invested a large amount of resources in the Xixia canal component (28% of Output 2 cost) including environment and social safeguards. The cancellation resulted to (i) reduction in the number of expected beneficiaries in water use efficiency from 15,000 farmers to 4,000; and (ii) cancellation of project activities under the Ningxia Administrative Bureau, and reallocation of funds to sustainable livelihoods efforts implemented by NARB. The PCR did not adequately explain the impact of the cancellation on output achievements. Third, the definition and baseline data of various performance indicators at the output level was deficient, leading to measuring and interpretation issues (para. 34). The PCR provided limited information on the baseline information of ecosystem conservation in the design and monitoring framework (DMF), making it difficult to assess the magnitude of the problems and the level of project contribution to address them. For these reasons, this validation rates the project relevant.

### B. Effectiveness in Achieving Project Outcomes and Outputs

15. The PCR rated the project effective. It stated that the project achieved all outcome indicators at completion: (i) the IEM approach has been mainstreamed in government policies; (ii) the number of rural people with increased incomes from transition to higher-value agriculture reached 150,000, over the original 140,000 estimated; however, only eight out of 20 enterprises recorded increased incomes and the PCR did not provide information on the number of poor communities with increased incomes (original target was 6); (iii) agro-chemical use was reduced by 69% and water use by 60% per unit of cultivated land (targets were 25% and 10% respectively); (iv) water balance was achieved in nine major lakes and wetland systems as expected; and (v) 15 globally threatened wild species were protected with improved habitat as expected.

16. The PCR documented the achievements of output performance indicators, considering the revisions in indicators and targets after the scope change in March 2011. The output achievements the PCR reported—(i) under Output 1: IEM strategy and action plan was approved in 2012, participating institutions built capacity to implement IEM in thematic plans, stakeholders were aware of the IEM approach, stakeholders established the strategy and action plan was approved in 2012, and the PCR were aware of the IEM approach; (ii) under Output 2: 8,000 farmers improved their water use efficiency, reducing water use by 60%; and water quality of irrigation discharge stabilized at Class III–IV together with a 69% decrease in agrochemical fertilizer use; (iii) under Output 3: 10,500 households increased incomes through engagement in beef, dairy, and grape production and processing; and 17,500 households increased their income through engagement in perennial crops and shelter belt plantations; and (iv) under Output 4 (ecosystem conservation): the number of visitors reached 1.2 million in Sand Lake and Yinchuan wetlands, wetland conservation area in Sand Lake reached 7,134 hectares (ha), an additional 53,150 ha were added to the Helan Mountain conservation area, and 1,599 ha of Yinxin wetlands were revegetated.

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16 East Asia Department. 2010. Consultation Mission to the People’s Republic of China: Ningxia Integrated Ecosystem and Agricultural Development Project. Back-to-office-report, dated 5 July 2010 (internal). Manila. The Xixia canal extension triggered environmental safeguards linked to the Xixia tombs cultural protection and management zone. The canal extension was not pursued due to high costs and low returns from the canal water.

17 The PCR cited the Ningxia Wetlands Management Regulations released in 2009 and the integrated management plan for Helan Mountain Protection Area (footnote 5, para. 37).

18 No information was provided on how to measure awareness, nor compliance with regulations.
17. This validation rates the project effective. The DMF’s outcome and output performance targets were substantially achieved. Some issues remain in terms of the deficient definition of performance indicators and targets. As such, indicators under Output 1, IEM capacity building and natural resource regulations, are subject to different interpretations. Outputs 3 and 4, rural livelihood improvements and ecosystem conservations, have quantitative targets that make it easier for project assessment. However, achievements in the number of people with increased income or number of tourist visitors are difficult to attribute only to the project.

18. On safeguards, the cancellation of the Xixia canal component reduced environmental and resettlement risks significantly. As a result, the project was classified as category B for environment, category C for involuntary resettlement, and category C for indigenous peoples (para. 7). The PCR provided information on the management of possible project impacts on the environment, acknowledging that the environmental management plan was well implemented.\(^\text{19}\) Minor temporary impacts such as dust, wastewater, and solid wastes occurred from construction activities in Outputs 2, 3, and 4. There was no environmental deterioration that was identified. Also, there were no complaints received from the public. There was no gender action plan that was prepared and limited information on gender impacts was included in the PCR.\(^\text{20}\)

C. Efficiency of Resource Use

19. The PCR rated the project efficient. An estimation of the economic internal rate of return (EIRR) was conducted at project completion. The economic analysis at completion was not entirely comparable to the analysis undertaken at project design given some changes in scope and assumptions. At design, EIRR was calculated only for the subprojects related to agricultural production (benefits were quantified from beef, wine, and vegetable production), and the wetlands site restoration (benefits were quantified from visitor receipts). For the subprojects analyzed, EIRR was above 12% except for one.\(^\text{21}\) At completion, EIRR was estimated for a set of subprojects: (i) beef production was 4.4%; (ii) wetland rehabilitation, 10.7%; (iii) Yingxi alternative livelihoods, 11.3%; and the (iv) rest (mainly related to productive investments) were above 12%. The adopted approach to estimate the EIRR had the following caveats: (i) limited information was provided to justify the validity of the counterfactual (agricultural producers outside the project area, visitors in other natural and historical sites); (ii) no information was included on how land degradation affected agricultural productivity, one of the main limiting factors; and (iii) the project has generated many non-quantified benefits associated with the restoration of ecosystems and cultural heritage.

20. This validation rates the project efficient. Some of the estimated EIRRs at completion were below 12% for subprojects related to ecosystem preservation. These estimates represent a lower bound since many benefits of project activities were not included. EIRRs of productive agricultural investments were above 12%. The methodology used to calculate the EIRR was acceptable despite limitations in quantifying economic benefits of IEM (footnote 5, Appendix 2, para. 2). Process efficiency was appropriate. There was no significant cost overrun, although budget was reallocated among project components. Changes in scope after the midterm review resulted in

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\(^{20}\) The PCR indicated that income-earning activities and training for women were included in the design to ensure equal opportunity. During project implementation, 50% of agricultural laborers were female (footnote 5, Appendix 10).

\(^{21}\) The Yingxi alternative livelihoods had an EIRR of 11.3%, the rest of subprojects ranged from 13.8% to 44.5% (footnote 5, Appendix 8).
new activities and a 12-month loan closing extension was granted to allow for enough implementation time.

D. Preliminary Assessment of Sustainability

21. The PCR rated the project likely sustainable. Financial, institutional, and social sustainability supported the rating. An evaluation of the financial internal rates of return (FIRRs) for four subprojects that generated financial benefits was conducted at completion. FIRRs were all above the weighted average cost of capital (WACC). The financial performance of the participating commercial enterprises indicated that they would likely struggle in the face of market risks. The PCR indicated the enactment of new regulations and institutional reforms as evidence of mainstreaming the IEM approach in institutions. According to the PCR, conservation activities were implemented through specialized institutions that have adequate budgets for implementation. However, the PCR did not present data on actual financial needs and availability of funds. At the social level, the PCR highlighted the capacity building activities for local farmers and land managers, and the establishment of farmer field schools for vineyard and dairy farms. Limited evidence was presented on the financial capacity of farmers to invest and maintain new agricultural practices.

22. This validation notes that the PCR presented limited evidence to support the likely sustainable rating. A careful examination of the FIRR of some subprojects, such as beef, dairy and sand lake restoration, revealed that FIRRs were very sensitive to small changes in prices and costs. Financial performance of the participating enterprises showed negative or very small profit ratios in four out of six companies. For conservation agriculture, the PCR did not provide information on the returns and capacity of farmers to sustain the benefits of water-saving irrigation technologies. On these points, ADB’s East Asia Department provided very recent updates, including the government’s commitment with institutional setup and adequate funds, which indicates the government is ready to compensate operational expenses in case of any deficiencies to ensure their function of conservation.

23. For institutional sustainability, the PCR presented limited evidence on the skill composition and training of personnel in regulatory agencies. The PCR also noted the lack of operation funds to run the IEM demonstration center (footnote 5, para. 51). As the extension of protected areas had been expanded considerably, questions would arise on the ability to effectively monitor and protect the areas. The expansion of tourism presents potential threats to biodiversity in some areas. Ecological conservation is a constitutional element of the government, and the government shows strong commitment financially and institutionally. Given the above, this validation rates the project likely sustainable.

III. OTHER PERFORMANCE ASSESSMENTS

A. Preliminary Assessment of Development Impact

22 FIRRs were in the range of 5.3% to 12.8%, above the 3.28% WACC.
23 Institutions such as Yinchuan Wetland Management Office and the Helan Mountains Nature Reserve Management Bureau.
24 The PCR stated that a 10% change in revenues, production costs, or number of visitors will decrease the FIRR below the WACC (footnote 5, Appendix 8).
25 The PCR presented data on potential threats to biodiversity. For two out of the six protected areas (Sand and Yuehai lakes), threats to biodiversity have increased in 2018 compared to 2014 (footnote 5, Appendix 9).
24. The PCR rated the project’s development impact highly satisfactory given the evidence presented on the achievement of impact indicators from 2008 to 2016 in the DMF. The number of poor smallholders linked to commercial enterprises increased from 210 to 2,873. The area under conservation agriculture expanded from 530 ha to 36,350 ha. Wildlife conservation area increased from 62,210 ha to 193,536 ha, and the area dedicated to wetland conservation increased from 11,566 ha to 13,000 ha. The number of visitors to tourism sites increased from 0.9 million to 2.4 million. All indicators were met or surpassed original expectations.

25. This validation notes, however, that various impact indicators of the DMF were not well designed to measure project impacts. Given that the project placed a value on IEM, impact indicators related to ecosystem services and/or functions should have been included, such as indicators of land and water condition. Environmental impacts, such as soil quality, water quantity and quality, or biodiversity, should have been measured instead of number of conservation areas in hectares. Socioeconomic impacts should have been measured in terms of smallholder’s incomes, employment, and tourism-related income instead of number of people. The PCR presented some information related to these aspects and stated that annual growth rate of rural farmer’s incomes per capita ranged from 10.4% to 15% from 2008 to 2016. From 2009 to 2015, the average per capita income of project beneficiary households increased by 175% compared to 160% increase of a control group. The PCR presented (i) an estimated reduction of 25,200 tons of carbon dioxide equivalent per year from the vineyards covered in the project,26 and (ii) the reduction of on-farm water and fertilizer use by 60% and 69%, respectively. The PCR also noted the improved management27 of protected areas with project intervention, and mixed results in terms of biodiversity threats in those areas (footnote 5, Appendix 9).

26. This validation notes that project attribution is hard to measure for indicators, such as beneficiary’s income, environmental performance, or even numbers of visitors. The project region has experienced growth in agricultural incomes and tourist visitors during the project period. The proposed treatment and control group did not have enough statistical power as only 80 households were surveyed for each group, given that the project was expected to benefit more than 100,000 households. Based on the evidence, this validation notes the positive development impacts of the project and rates it satisfactory.

B. Performance of the Borrower and Executing Agency

27. The PCR assessed the performance of the borrower and the executing agencies satisfactory. It emphasized that the executing agency provided enough counterpart funds and staff resources during implementation. Coordination between the executing agency and the implementing agencies was effective, and loan covenants were complied with. Overall, NHARG provided adequate funds and enough staff to deliver the project outputs and is likely to continue to adopt regulations for ecosystem management and prioritize poverty reduction. This validation rates the performance of the borrower and executing agency satisfactory.

C. Performance of the Asian Development Bank and Cofinanciers

28. The PCR rated the performance of ADB highly satisfactory. It documented the supervision and problem resolution activities during implementation. ADB fielded 10 missions to support project implementation and its response to requests of the executing agency were timely and

27 The Management Effectiveness and Threats Tool, developed by World Wildlife Fund and the World Bank, was used to monitor and report progress in achievements of protected area management effectiveness.
constructive. ADB provided a TA for wetland conservation and sustainable land management, including capacity building activities for the involved agencies. The project experienced changes in scope three times. This validation notes that ADB managed to respond to requests from the executing agencies to address necessary changes in scope, but there were delays in project implementation. The monitoring of the project results improved due to the need to comply with GEF standards. The DMF design had some deficiencies in properly measuring project performance results. This validation rates the performance of ADB satisfactory.

D. Others

29. The PCR noted that the executing agency and implementation agencies managed procurement and administered contracts effectively. ADB awarded 288 contracts under the loan and 21 contracts under the GEF grant. A project’s procurement-related review concluded that procurement complied with requirements, and there were no major problems or issues noted. The performance of consultants, contractors, and suppliers was satisfactory. Contract award projections were realistic and there were no significant delays in contract implementation despite the loan extension.

IV. OVERALL ASSESSMENT, LESSONS, AND RECOMMENDATIONS

A. Overall Assessment and Ratings

30. Overall, the PCR rated the project successful. The project was aligned with the country and ADB priorities. The project outcomes and outputs were substantially achieved. However, the DMF design had some deficiencies. The estimated EIRR for project components was in an acceptable range—10.7% to 18.1%—except for beef production. Financial sustainability for rural enterprises did not appear to be guaranteed and limited data was provided on the resources available to enforce regulations and keep up with the responsibilities to protect expanded areas of wildlife and wetland conservation. Under the core criteria, the project is relevant, effective, efficient, and likely sustainable. This validation rates the project successful. The table summarizes these ratings.

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<tr>
<td>Relevance</td>
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<td>Relevant</td>
<td>Some design deficiencies were noted in the integration of productive investments and ecosystem conservation.</td>
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<td>Effectiveness</td>
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<tr>
<td>Preliminary assessment of impact</td>
<td>Highly satisfactory</td>
<td>Satisfactory</td>
<td>Presented impacts cannot be entirely attributed to the project.</td>
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<tr>
<td>Borrower and executing agency</td>
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<td>Satisfactory</td>
<td></td>
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<tr>
<td>Performance of ADB</td>
<td>Highly satisfactory</td>
<td>Satisfactory</td>
<td>Loan closing had to be extended for 12 months; DMF had design deficiencies.</td>
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**B. Lessons**

31. **The project level lessons** identified in the PCR are summarized as follows: (i) the lack of development assets of poor smallholders hindered the adoption of sustainable land management practices, their connection with agri-business firms in the value chains accelerated their adoption of best-practices as it also improved their incomes; (ii) capacity building of all the stakeholders throughout project implementation was instrumental for positive results; and (iii) adequate response (through changes in scope) to changing government needs can maximize project effectiveness.

32. This validation builds on the PCR’s key lessons and suggests the following lessons:

   (i) **Sector level lesson.** Sustainable resource management requires actions beyond the development of a regulatory framework. Institutional coordination is required among different agencies and resources are needed to promote resource conservation. A range of interventions are available from productive investments to capacity building and training. Adequately managed protected areas can generate significant economic benefits to local communities.

   (ii) **Results framework lesson.** It is important to have a clear results chain to have a robust design and to effectively implement projects. It will also help extract valuable lessons from the project. At the impact level, farmer’s livelihoods and the status of the environment (soil quality, water quality, biodiversity) are critical aspects to be monitored. At the outcome level, farmer’s adoption of agricultural practices, their use of resources, the institutional capacity, and operational performance to manage protected areas constitute relevant information. Valid control groups should be identified, to the extent possible, to properly measure benefits attributable to the project.

**C. Recommendations for Follow-Up**

33. This validation builds on the PCR’s key recommendations and suggests the following: (i) the government should ensure effective oversight and implementation of the new regulatory framework, including the coordination among agencies, to continue IEM approach; (ii) the operational and financial performance of participating commercial enterprises should be closely monitored; (iii) the IEM demonstration center and the two farmer field schools should have guaranteed funds to continue their operation and dissemination of best practices; and (iv) the government should closely monitor the financial needs of the protected area management agencies to guarantee their sufficient operation and performance.

V. OTHER CONSIDERATIONS AND FOLLOW-UP

A. Monitoring and Reporting

34. The project’s DMF had various design deficiencies that limited its ability to measure results. The following limitations were noted in this validation:
(i) Indicators did not always follow a logic results chain. Increased incomes or number of bird species were identified as output indicators rather than impact indicators.

(ii) Impact indicators were not well designed to measure project impacts. Environmental impacts, such as soil, water, and quality, should have been measured instead of the size of conservation area. Socioeconomic impacts should have been included such as smallholder’s incomes, employment, and tourism-related income instead of number of tourists.

(iii) The definition of IEM capacity building and natural resource regulations are subject to different interpretations.

(iv) There was no indicator proposed to measure the number of people trained both in IEM and agricultural practices.

(v) There was no indicator established to measure institutional capacity for agencies responsible of the protected areas.

(vi) A valid control group was not established to determine project attribution, particularly for indicators, such as increased incomes, tourists, or number of species conserved.

B. Comments on Project Completion Report Quality

35. This validation considers the quality of the PCR satisfactory. It provided useful explanatory descriptions. However, this validation also notes that the PCR presented limited evidence to support the project ratings and statements. Aspects that could have been improved are (i) evidence and reasoning should have been presented adequately to support performance ratings; (ii) additional discussion on the project impacts on gender should have been provided; (iii) the cancellation of sub-component should have been explained appropriately; and (iv) the PCR should have assessed the inadequacy of DMF indicators to measure project performance.

C. Data Sources for Validation

36. Data sources for this validation were the PCR, the report and recommendation of the President, TA documents, back-to-office reports and aide memoire relating to loan review and midterm review missions. The PRC’s CPS for 2008–2010 and 2011–2015 were also reviewed.

D. Recommendation for Independent Evaluation Department Follow-Up

37. This validation recommends the elaboration of a project performance evaluation report in the next 2 to 3 years to observe project impacts and assess whether these are sustainable. The project performance evaluation report should focus on assessing changes in household incomes; agricultural productivity (including yields, prices, and access to markets); and poverty rates. The adoption of conservation agricultural practices by farmers should also be assessed together with the financial and operational performance of enterprises. It should also explore how to measure environmental impacts, such as changes in water quantity and quality, soil quality, and biodiversity. Additionally, an assessment of the agencies responsible for protected area management, the availability of funds for their operation, and their financial sustainability should be conducted.