



Validation Report

Reference Number: PCV: PHI 2009-49
Project Number: 24078
Loan Number: 1365-PHI and 1366-PHI(SF)
December 2009

Philippines: Second Irrigation Systems Improvement Project

Independent Evaluation Department
Asian Development Bank

ABBREVIATIONS

ADB	–	Asian Development Bank
BME	–	benefit monitoring and evaluation
BTOR	–	back-to-office report
EIRR	–	economic internal rate of return
FISCO	–	farmer irrigators' service cooperative
IAMIS	–	Irrigators' Association Management Information System
IED	–	Independent Evaluation Department
IMIS	–	Irrigation Management Information System
IPM	–	integrated pest management
ISC	–	irrigation service cooperative
ISF	–	irrigation service fee
JSM	–	joint system management
NIA	–	National Irrigation Administration
O&M	–	operation and maintenance
PAO	–	provincial agricultural office
PCR	–	project completion report
PNOC	–	Philippine National Oil Company
RRP	–	report and recommendation of the President
SEAE	–	Agriculture, Environment, and Natural Resources Division of the Southeast Asia Department
STP	–	sociotechnical profile

Key Words

adb, agricultural extension services, asian development bank, benefit monitoring and evaluation environment, ied, independent evaluation department, infrastructure, institutional strengthening, irrigation associations, operation and maintenance, philippines, project completion report validation, roads, schistosomiasis, watershed rehabilitation

Director	R. B. Adhikari, Director, Division 1, Independent Evaluation Department (IED)
Team leader	Toshio Kondo, Senior Evaluation Specialist, Independent Evaluation Division 2, IED
Team members	C. Infantado, Portfolio Evaluation Officer, Independent Evaluation Division 1, IED V. Melo, Operations Evaluation Assistant, Independent Evaluation Division 1, IED

In preparing any evaluation report, or by making any designation of or reference to a particular territory or geographic area in this document, the Independent Evaluation Department does not intend to make any judgments as to the legal or other status of any territory or area.

PROJECT COMPLETION REPORT VALIDATION FORM

A. Basic Project Data		PCR Validation Date:	December 2009	
Project and Loan Numbers:	24078 1365-PHI and 1366-PHI(SF)		Approved	Actual
Project Name:	Second Irrigation Systems Improvement	Total Project Costs (\$M):	46.9	41.7
Country:	Philippines	Loan/Grant (\$M):	30.0	25.0
Sector:	Agriculture and Natural Resources	Total Cofinancing (\$M):	16.9	16.7
ADB Financing (\$M):	ADF: 15.0	Borrower (\$M):	16.9	16.7
	OCR: 15.0	Beneficiaries (\$M):	0.0	0.0
Cofinancers:	0.0	Others (\$M):	0.0	0.0
Approval Date:	30 Aug 1995	Effectiveness Date:	24 Feb 1996	31 Mar 1997
Signing Date:	27 Nov 1995	Closing Date:	31 Dec 2002	11 Apr 2006
Project Officers: Appraisal Implementation PCR	Name:	Location (HQ or RM):	From	To
	M. Ashraf Malik	HQ	Jan 1995	Feb 1995
	M. Ashraf Malik	HQ	Aug 1995	Dec 1996
	J. Shobu	HQ	Jan 1997	Apr 1999
	T. Miyasato	HQ	May 1999	Sep 1999
	M. Ashraf Malik	HQ	Oct. 1999	Apr 2001
	E. Gozali	HQ	May 2001	May 2002
	C. Wensley	HQ	Jun 2002	Jun 2004
T. Miyasato	HQ	Jul 2004	April 2006	
Axel Hebel	HQ	May 2006	Oct 2006	
Validator:	D. Moffatt Consultant	Director:	R. B. Adhikari, IED1	
Quality Control Reviewer/Peer Reviewer:	T. Kondo Senior Evaluation Specialist, IED2			

ADB = Asian Development Bank, ADF = Asian Development Fund, HQ = headquarters, IED1 = Independent Evaluation Division 1, IED2 = Independent Evaluation Division 2, M = million, OCR = ordinary capital resources, PCR = project completion report, PHI = Philippines, RM = resident mission, SF = special fund.

B. Project Description (summarized from the report and recommendation of the President [RRP])

- (i) **Rationale.** Poverty reduction in rural areas was key to the development objectives of the Government and to the Asian Development Bank's (ADB's) strategic approach in the Philippines, which included rural development through improvement of irrigation systems together with strengthened operation and maintenance (O&M), provision of support services and inputs, and assistance to cooperatives. Experience has shown that investment in improving existing irrigation is more cost-effective than investment in new schemes. The selection of Leyte as the geographical focus of the Project was based on large underperforming irrigation areas in which more than 70% of the participants lived below the poverty line. The Project was designed to provide the support required to gain the anticipated benefits from the improvements in irrigation infrastructure. Further, the irrigation design used a rotational system that would improve water use efficiency and ensure equitable distribution of irrigation supplies.
- (ii) **Impact.** The anticipated impact of the Project was a reduction in poverty in Leyte province through raising farm incomes in the project irrigation systems. A 50% increase in average farm family income was expected to reduce the incidence of poverty from 72% to below 42%.

(iii) **Objectives or expected outcomes.** The project objective was to increase farm production by increasing cropping intensity and yields and having some diversification from paddy.

(iv) **Components and/or outputs**

(a) **Component 1: Physical infrastructure development.** The project framework was based on three subcomponents, but the text of this section in the RRP additionally referred to the implementation of measures to support O&M, which was, therefore, included here although it might belong more appropriately elsewhere.

- (1) Improvement to existing irrigation systems and increase in irrigation service area: (a) remodeling of the existing irrigation service area of 12,649 hectares (ha) in nine project systems; (b) improvement of existing diversions and distribution networks; (c) improvements to drainage infrastructure; and (d) reconstruction of the Guinarona diversion, emergency repairs to the Lower Binahaan supply works, rehabilitation of the Daguitan headworks, and construction of new Marabong dam (newly included during project implementation).
- (2) Improvement to existing roads and construction of new roads.
- (3) Institution of measures to achieve and sustain high standards for O&M: (a) improvements in irrigation service fee (ISF) collection, and (b) clear delegation of O&M responsibilities.

(b) **Component 2: Institutional development. The project framework was based on four subcomponents but the text of this section in the RRP additionally referred to the provision of benefit monitoring and evaluation (BME), which is therefore included here.**

- (1) Development of effective beneficiary organizations by (a) strengthening existing irrigation associations and irrigators' service cooperatives (ISCs), later renamed as farmer irrigators' service cooperatives (FISCOs); (b) formation of new irrigation associations or ISCs where none exist; (c) organization of the beneficiaries at all levels and training in the fields of irrigation water management, organizational and financial management, and integration of support services for farmers; and (d) trainers' training conducted for farmer irrigators organizers, water masters, and National Irrigation Administration (NIA) institutional development staff.
- (2) Local and overseas training for NIA staff (water management, system rehabilitation, and system O&M under rotational irrigation).
- (3) Provision to all beneficiary organizations (estimated as 47 at appraisal) of an office and post-harvest facilities.
- (4) Provision for BME through (a) preparation and analysis of benchmark information on existing irrigation associations; (b) benefit evaluation of the completed Project; (c) expansion of NIA's existing Irrigation Management Information System (IMIS) and Irrigators' Association Management Information System (IAMIS) to facilitate their use for BME of the Project; (d) updating sociotechnical profiles (STPs) to the IMIS format and implementing an improved IAMIS for irrigation associations in the pilot areas; (e) review of stage 1 BME activities in the pilot areas and preparation of plan for stage II BME activities; and (f) updating of STPs of the beneficiary communities and irrigation association profiles.

(c) **Component 3: Agricultural improvement. The project framework showed two subcomponents:**

- (1) Strengthening of agricultural extension services. This provided for some limited training of agricultural extension staff and some unspecified equipment.
- (2) Establishment of research and demonstration plots.

The text of the RRP described a number of activities, such as (1) design and dissemination of appropriate production technologies; (2) facilitation of the supply of certified seed, fertilizer, and other agricultural inputs to the Project systems under the Grain Production Enhancement Program; (3) support to income-generating activities for women in the Project area; and (4) integrated pest management (IPM) activities to supplement and intensify the current efforts of the national IPM program.

(d) Component 4: Environmental and social improvement and monitoring

- (1) Watershed rehabilitation and protection through (a) participation in the ADB-financed Forestry Sector Project's¹ community-based forest management programs covering 3,000 ha; (b) reforestation of 3,000 ha by the Philippine National Oil Company (PNOC); (c) improvement in environmental standards of PNOC designs and implementation procedures (supported by establishment of environmental laboratory at the Department of Environment and Natural Resources), and rehabilitation of seven gauging stations; and (d) improvement in farming practices in project area through strengthened extension services and provision of planting materials (e.g., contour farming, vegetative slope protection, alternative farming systems, and proper land use of swamp and marshland).
- (2) Provision of schistosomiasis control by (a) improving drainage, (b) constructing foot bridges, (c) vegetative control, and (d) limited use of chemicals.

C. Evaluation of Design and Implementation (PCR assessment and validation)

- (i) **Relevance of design and formulation.** The PCR rated the Project *relevant* for the beneficiaries, the borrower, and ADB. It directly addressed poverty in an area with a high incidence of poverty, using what should be a cost-effective approach based largely on irrigation rehabilitation. While the design was purported to take account of the importance of an integrated agricultural development approach, the PCR noted that, in fact, the integration of the agricultural improvement activities with the infrastructure development fell short, and could have been more effectively addressed at conceptualization and during implementation. The Independent Evaluation Department (IED) concurs with this but seeks to emphasize more strongly the failure in design to attribute adequate funding to the non-infrastructure elements. Less than 2% of the \$38 million in the project completion went to agricultural improvement and less than 2% to environmental and social issues, with much of the proposed environmental protection measures being dependent on another project and on PNOC. Institutional development was estimated at appraisal to cost \$4.35 million, although at completion only \$3.70 million, or 10% of project costs, had been expended, of which more than half was for the provision of offices, drying floors, and warehouses. Hence, although the RRP acknowledged the need for the infrastructural development to be accompanied by agricultural and institutional development, these activities were probably not adequately addressed at appraisal, were never adequately funded, and were not given sufficient attention during implementation.
- (ii) **Project outputs and costs as envisioned during appraisal as compared with actual costs and achievement of outputs, and reasons for deviation.** The text of the PCR did not precisely match the logframe in its description of project outputs. The text that follows is based on section B (iv) above, which adheres to the project framework layout but incorporates the additional elements of the Project as given in the RRP text but not reflected in the project framework.

(a) Component 1: Physical infrastructure development

- (1) **Improvement to existing irrigation systems and increase in irrigation service area.** The PCR reported a targeted service area, including a new area added to the Project by the construction of the Marabong dam (not originally included in the

¹ ADB. 1992. *Report and Recommendation of the President to the Board of Directors: Proposed Loans and Technical Assistance Grants to the Philippines for the Forestry Sector Project*. Manila.

Project), of 15,415 ha. Achievement was well below this, with the incremental area being only 38% of target and the final irrigated area, including the new area from the Marabong dam, estimated to be around 11,500 ha against a target of 15,415 ha (just under 75%). It is difficult to reconcile this much-reduced output with the PCR framework comment under "Activities" that canals, drainage, and roads all achieved full completion. The PCR reported that facilities for rotational water supply were established in almost all nine irrigation systems, either at the level of the scheme or more commonly at the level of the individual FISCO area, and that, overall, the rotational system was welcomed by the farmers. However, the midterm report referred to the difficulties encountered in introducing this system, noting "it takes farmers about two cropping seasons, associated with technical support in institutional development and training, to fully understand and adapt the rotational irrigation method." The text of the PCR made no specific mention of the reconstruction of the Guinarona diversion, the Lower Binahaan repairs, or the rehabilitation of the Daguitan headworks. The table given in Appendix 4 is difficult to follow, particularly as the actual works appear significantly to exceed the appraisal projections. Overall, however, this validation considers that the shortfall in the anticipated increase in irrigated area is the critical failure of the component for physical infrastructure development.

- (2) **Improvement to existing roads and construction of new roads.** Appendix 4 of the PCR showed 72 kilometers (km) of rehabilitated road and 94 km of new road. Confusingly, the targets for these were shown as zero. However, the project framework gave a total of 463 km of new or rehabilitated road against a target of 529 km—87% achieved.
- (3) **Institution of measures to achieve and sustain high standards for O&M.** The RRP proposed two measures required to achieve satisfactory O&M. With regard to improving ISF collection, the PCR reported some increase in this but with collection still low at only 55%. Delegation of responsibilities was also unsatisfactory. NIA and FISCOs divided responsibility between them but O&M on both sides was unsatisfactory. Most FISCOs acted in effect as paid labor, but with an hourly rate well below the market level. NIA had severe budgetary constraints and failure to take steps to reduce administrative costs left it unable to carry out routine maintenance as regularly as required. The Project had failed, therefore, to institute appropriate measures.

The cost of this component increased from the appraisal estimate of \$27.41 million to an actual expenditure of \$29.58 million. The PCR offered no explanation for this increase. It may, in part, reflect the post-appraisal inclusion of the Marabong dam and canal. However, it was not clear from the PCR what the cost of this was or how it was funded.

(a) **Component 2: Institutional development**

- (1) **Development of effective beneficiary organizations.** The PCR noted the active participation of the Project in the formation of 57 FISCOs (against a target of 47). FISCOs were expected to handle local O&M, water management, and provide services and resources to members. However, the majority of these did not attain joint system management (JSM) status, under which they are entitled to collect ISF and take a high level of management responsibility, a status that has been shown to engender a greater sense of ownership leading to better ISF collection and system management. Only 11 FISCOs had JSM, 38 operated under a contract by which NIA paid them for maintenance work, while eight had no contract with NIA. As a result, NIA annual survey of FISCOs indicated that most had poor or only fair performance records.

- (2) **Local and overseas training for NIA staff.** The PCR stated that the Project provided significant capacity building to the beneficiaries at large and to NIA. In Appendix 5, which lists training, it would appear that only a total of 69 days of training were allocated to staff as opposed to 4,179 to beneficiaries. The total training provided to NIA (assuming that this is what constitutes staff) seems very low.
- (3) **Provision to all beneficiary organizations of an office and post-harvest facilities.** The target for this (estimated at appraisal at 47) was exceeded, with 50 sets of offices and post-harvest facilities constructed. The PCR reported that the solar driers are being extensively used but little use is made of the warehouses, as most farmers need to sell their crops as soon as possible after harvest. Although FISCOs were supposed to repay the cost of the post-harvest facilities, most are behind in their payments.
- (4) **Provision for benefit monitoring and evaluation.** The PCR presented a satisfactory picture of project BME with an initial benchmark survey followed by 7 years of monitoring (reference is given to a joint ADB–NIA final BME report). However, the PCR Mission also noted that no formal monitoring of project impacts has continued beyond project closure. The PCR made no reference to the proposed expansion of NIA's IMIS or IAMIS, nor to the updating of STPs of the beneficiary communities.

The cost of this component was reduced to \$3.70 million, or 85% of planned expenditure. Since physical construction exceeded targets, this would imply a substantial reduction in the funding of institutional strengthening.

(b) **Component 3. Agricultural improvement**

- (1) **Strengthening of agricultural extension services.** Although the PCR stated that agricultural extension services were strengthened and staff were trained, it offered no specific figures to compare with the targets given in the RRP. Significantly, it pointed out that the agricultural extension programs lacked the necessary funding and institutional support.
- (2) **Establishment of research and demonstration plots.** Although the PCR reported a wide range of demonstrated technologies for production systems, pest management, and post-harvest technology, it indicated that, with the exception of uptake of new varieties, there was a low rate of adoption of any of the new technologies. IED would attribute this to inadequate extension services and lack of access to capital. Specific attempts to develop income-generating activities for women's groups was equally unsuccessful, with 21 out of 22 enterprises set up with project support having been discontinued by the time of the PCR. The PCR made no mention of the Project's participation in the Grain Production Enhancement Project or the national IPM program.

A key aim of the agricultural improvement measures was to increase cropping intensity and yields. At appraisal, it was expected that the Project would enable more irrigated areas to receive water during the dry season, bringing cropping intensity up from 121% of the service area to 180%. The PCR reported that the Project attained only 29% of its goal, increasing intensity to 138% in relation to the appraisal's target service area, and 132% in relation to the revised target service area. (The November 2004 review mission reports intensity of 196%, though it is not clear on what basis this figure is estimated and it may be looking only at benefited areas.) However, in terms of yields of paddy, the Project significantly exceeded its appraisal target of an increase from 3.7 tons (t) per ha to 4.1 t/ha. The initial nine schemes showed an average yield in benefited areas of 4.3 t/ha in the wet seasons and 4.6 t/ha in the dry seasons of 2002–2005. This was an increase in the incremental yield target of 150% for the wet season and 225% for the dry season.

Although not identified as a project activity in the RRP, nor referred to in the PCR, a comment was noted in the last review mission of a successful pilot credit scheme and proposals for

expanding this. It is not known whether this was continued or expanded.

The cost of this component was reduced to \$0.76 million, 75% of planned expenditure, reflecting a reduced effort in the component.

(c) **Component 4. Environmental and social improvement and monitoring**

- (1) **Watershed rehabilitation and protection.** The PCR presented a very negative picture of achievements in this subcomponent. The proposed input from the ADB-financed Forestry Sector Project did not materialize because the Project closed down and PNOC was downsized, so that, from a target of 6,000 ha of reforestation, there may have been 2,000 ha actually planted. However, this validation has noted that, in the PCR logframe, a slightly more positive view is given of PNOC's reforestation activities, quoting plans for continuing reforestation programs at a rate of 200 ha per year. Attempts to protect the watershed involving farmer groups using sloping agriculture land technology never extended beyond the original cooperators. Validation has noted that the review mission of December 2003 pointed to the deficiencies of this subcomponent and yet no action appears to have been taken to improve matters; the back-to-office report (BTOR) calls only for the project management office to undertake a post-project assessment of this activity.
- (2) **Provision of schistosomiasis control.** Significant reduction in the incidence of schistosomiasis and the colonies of the vector snail resulted from improved drainage, construction of 160 footbridges, application of molluscicide, and an information and education campaign. The PCR reported results of its field trip in which, of 14 FISCOs that had previously had high incidence of schistosomiasis, 12 said that their problems were now quite small.
- (3) **Environmental monitoring.** The environmental laboratory established under the project provided analyses of water quality during the life of the Project, but ceased this function thereafter, although the PCR notes that the laboratory has continued to function in other roles. Of seven gauging stations established under the Project, only two are continuing to operate due to lack of funds.

The cost of this component reduced to \$0.74 million, 72% of planned expenditure, reflecting a reduced effort in the component.

- (iii) **Project cost, disbursements, borrower contribution, and conformance to schedule** (as relevant to project performance). Total project cost as reported in the PCR was \$41.67 million, 89% of appraisal estimate. The reduction came in the ADB financing, while borrower contribution remained at 99% of estimate. IED has noted that the reduction is mainly attributed to there being no drawdown on physical or price contingencies. The actual project cost before project management costs was \$34.78 million against an appraisal estimate of \$33.81 million. An increase in expenditure on physical infrastructure of just under \$2.00 million was partly offset by the reduction in other components of just over \$1.00 million. The PCR recorded an increase in management costs of \$1.66 million attributed to the withholding by NIA of 5% of project funds, which had not been allowed for at appraisal.

The PCR reported a series of delays, starting with a 16-month delay in loan effectiveness, followed by a period of very slow activity during the first 3 years. Ultimately, the project implementation period was extended by 1 year; while part of this arose from the incorporation into the Project of the Marabong dam, the PCR also blamed delays and shortfalls in local budgets, and delays in procurement, difficult weather conditions, and attempts to schedule construction so that it caused the least possible disruption to cropping.

Review at validation of conformance to implementation schedule suggests that activities rarely took place at the time, or over the elapsed time, as planned at appraisal. Activities relating to physical infrastructure mostly ran for significantly longer than scheduled, as did most institutional development activities. Some agricultural improvement activities terminated earlier than planned, while two

activities—the farm inputs services project and the technological enhancement program—scheduled to run for nearly 5 years, ran for only 1 year. All of this reinforces the view that the agricultural improvement component received little support.

- (iv) **Implementation arrangements, conditions and covenants, related technical assistance, and procurement and consultant performance.** The PCR regarded the implementation arrangements to be generally satisfactory and as proposed during appraisal. However, indicative of the lack of attention given to the agricultural aspects of the Project, appraisal did not make clear which agency would be the counterpart agency for the agricultural improvement component. Only after project inception was the provincial agricultural office (PAO) brought into the Project. The logframe in the PCR noted that PAO did provide agricultural officers and technicians to deliver agricultural services to beneficiaries. The logframe also indicated the establishment of 399 research and demonstration plots, presumably through PAO.

Loan covenants are reported to have been largely complied with, other than in the failure to reduce the number of NIA responsibility centers (thus, failing to generate the savings that were needed to fund more O&M), and in the execution of memoranda of agreement between NIA and the municipalities regarding maintenance of local infrastructure. The PCR made no mention of the only partial compliance with the covenant requiring the execution of a memorandum of agreement between NIA (Department of Environment and Natural Resources) and PNOC. A small-scale technical advisory assistance project examining land use in swamps and marshlands was stated as being of high quality, but because it was carried out in relative isolation from the implementers, its recommendations were never mainstreamed into project decision making.

Consultant services appear to have been heavily front-loaded, and the PCR stated that the Project would have benefited from a more substantial consultant input, particularly in the second stage. No problem was reported with procurement although, as noted, there were delays in the procurement of O&M equipment. The PCR rated the performance of consultants, contractors, and suppliers *generally satisfactory*, except for the contractor involved in the construction of the Marabong dam.

- (v) **Performance of the borrower and executing agency.** The PCR rated the performance of the borrower and executing agency *generally satisfactory*, noting only a weakness in the coordination between NIA and the counterpart agencies for agricultural, environmental, and social improvements. Later review missions report that NIA was reconsidering its Irrigation Management Transfer Policy, this being the reason for a halt in moving FISCOs to a JSM basis. It is not clear what ultimately happened on this but it would appear that NIA was reluctant to reduce its staffing levels or hand over a proper level of responsibility to local management. At validation, the question is raised regarding the use to which NIA put the 5% of project funds that it retained, and, while accepting that overall performance was rated *satisfactory*, failure to achieve targeted irrigation area or cropping intensity must be in part the responsibility of NIA.
- (vi) **Performance of ADB.** The PCR gave a rating of *satisfactory* to the performance of ADB. This needs to be considered in the light of certain project failings. While note was made in the appraisal of the importance of giving adequate attention to the non-infrastructure components, in practice this did not happen. Budgetary allocations to agricultural improvement, institutional strengthening, and environmental improvement all look relatively low. The PCR observed that the integration of the agricultural improvement activities with the infrastructure development fell short and could have been more effectively addressed at conceptualization and during implementation. Overall, the need for the infrastructural development to be accompanied by agricultural and institutional development was not adequately addressed at appraisal, never adequately funded, and not given sufficient attention during implementation.

While ADB carried out adequate reviews (13 between inception and project completion), from the data given in the PCR there would appear to have been no specific input in these to agriculture or the environment. IED has noted that there was no review of the project between November 2004 and its closure in April 2006; this is despite a comment on the last review mission from the director of the Agriculture, Environment and Natural Resources Division of the Southeast Asia Department saying "please monitor project implementation closely during the last few months." While the review missions

consistently rated development objectives and implementation progress *satisfactory*, this would not seem to accord with the fact that irrigation area and cropping intensity fell well below appraisal targets. Indeed, within a single loan review mission BTOR, there would seem to be contradictions, such as in that of November 2001, which reports progress at 54% against an elapsed implementation period of 84%, and yet concludes that project implementation is *generally satisfactory*. It is also difficult to reconcile the final outcome of the Project with the early highly optimistic assessments—e.g., the November 2000 BTOR of the loan review mission stated that "progress on institutional development and agricultural development has been particularly successful," and later "the target for catchment improvement using sloping agricultural land technology has already been achieved," and "collaboration has been exemplary with other agencies." It must be concluded that either these were highly optimistic assessments or that progress deteriorated later in the Project. There must also be a question raised regarding the advisability of sanctioning the addition to the Project of the Marabong dam.

D. Evaluation of Performance (PCR assessment and validation)

- (i) **Relevance.** The PCR assessed the Project *relevant* and IED concurs with this. The Project directly addressed poverty in a poor region by providing the facilities to increase agricultural production. The PCR did, however, add the codicil that there was insufficient integration of irrigation management with agricultural extension and improvement activities, which impeded greater adoption of enhanced agricultural technologies. The PCR also questioned the advisability of the inclusion at the time of the midterm review of the Marabong dam, which distracted attention from the consolidation of the original project scope.
- (ii) **Effectiveness in achieving outcome.** The PCR rated the Project *effective* in achieving its outcome. The RRP logframe indicated the purpose (outcome) of the Project to be increased farm production setting a target of increased paddy production from 65,420 t to 99,320 t. Actual increase in 2005 fell short of this by about 1,000 t, which can reasonably be considered as being close to the targeted increase in production. This must be attributed to yields of paddy exceeding target, rising from 3.70 t/ha to 4.45 t/ha against a target of 4.10 t/ha. It is surprising that actual production came so close to the target given the significant reductions in the increases to irrigation area and cropping intensity. Part of the answer to this may lie in related RRP targets of increased crop production of 1,620 t/year and vegetable production of 3,320 t/year. The PCR gave no figures for these, but it may be conjectured that taking total production (rice and nonrice crops), the true shortfall was greater than was reflected by simply looking at paddy production and the *effective* rating may have to be revised.
- (iii) **Efficiency in achieving outcome and outputs.** The PCR concluded that the Project has been *inefficient*. The project economic internal rate of return (EIRR) at 4.7% falls well below ADB's viability criterion of 12.0%. The PCR also cited the significant shortfall in the incremental benefited area, probably due to failure in local management of water. IED supports this rating and also draws attention to failures to introduce high-value crops, failure of schemes to support women's groups, major shortfall in reforestation, and the lack of adequate strengthening of FISCOs or the extension services.
- (iv) **Preliminary assessment of sustainability.** The PCR presented a comprehensive review of sustainability and concluded that the Project is *less likely sustainable*. It attributed this to serious concerns over the ability to operate and maintain the irrigation system. Funding of O&M at all levels is dependent on collection of ISF, but this is far below a level needed to sustain O&M. This is exacerbated by a failure to hand over an appropriate level of responsibility to FISCOs. IED fully supports this rating and notes also the failure to bring about the intended agricultural improvement, and inadequate training in managing a rotational irrigation system, coupled with illegal manipulation of the system. IED suggests that, unless some of these issues are addressed quickly, the rating could be downgraded to *unsustainable*. At a more minor level, this validation also draws attention to the cessation of water quality monitoring after the end of the Project, and the fact that only two of seven water gauges installed continue to be operated.
- (v) **Impact** (both intended and unintended). The PCR fairly noted that the Project has had a *positive* impact on the lives of many beneficiaries, leading overall to a reduction in poverty in a poor region. However, it also emphasized that the impact had not been as extensive as it should have been and

there were serious doubts surrounding the sustainability of the impact that it has achieved. Key factors in this reduced impact were the shortfall in irrigation area, meaning that only 10,485 households benefited (compared to a target of 14,821 including Marabong); ineffective local water management; inadequate and underfunded O&M; and illegal manipulation of the rotational water system. It is worth quoting from Appendix 15 of the PCR: "For these households in benefited areas, therefore, the proportion below the threshold is likely to be much less than the 70% of 1994. This was an accomplishment, but it should be put in perspective. Over the entire target service area, there were still many households that do not have benefited land." The PCR estimated that around 4,300 households that should have benefited are generally unaffected by the Project, and their income in relation to the poverty threshold, is unlikely to have improved over the past 12 years. The PCR also observed that "the National Statistical Coordination Board found that the population affected by rural poverty on Leyte increased from 47.2% to 55.0% between 1997 and 2000 (early in the Project's implementation period). This would indicate that the general trend for households that are not on benefited land may be toward greater poverty. This underlines the significance of the Project's failure to benefit as many households as were targeted."

On the positive side, the Project has had a beneficial impact on schistosomiasis and on improved access to markets as a result of road construction.

The PCR gave no comment on the possible negative impact on the watersheds and, downstream from them, of the much-reduced reforestation, and failure to establish improved farming practices in the uplands.

E. Overall Assessment, Lessons, and Recommendations (Validation of PCR assessment)

- (i) **Overall assessment.** The PCR rated the Project *partly successful*. This was on the basis that the Project did generate some positive results including the following (in which this validation comment is given in brackets): (a) improved and expanded irrigation potential (but much less than expected and, therefore, at an uneconomic cost), (b) establishment of functional FISCOs (but largely neither enabled nor empowered to manage the schemes), (c) ISF collection (but at a level that does not make O&M viable), (d) improved access to markets (though possibly not sustainable unless the roads are maintained), and (e) improved livelihoods and food security (but for fewer people than intended). IED considers that the *partly successful* rating needs to be qualified. Without significant improvement in water management and O&M (necessitating much greater ISF collection), the schemes will be producing little more than they were pre-project. In that case, the Project would be more correctly rated *not successful*.
- (ii) **Lessons.** The PCR indicated the main lesson as recognizing that future performance of irrigation schemes will largely depend on improvements in farmers' water management, and specifically that FISCOs need to be stronger. The PCR suggested that NIA should hand over local management to FISCOs despite their weakness, which might precipitate more effective action from FISCOs (though this is, perhaps, more in the nature of a recommendation). IED would add to this the lesson that needs to be learned for future project design. Although the RRP acknowledges the importance of the agricultural and institutional aspects, learning its lessons from other ADB and non-ADB projects, in practice, it gave inadequate attention to these matters. The funding and other resources allocated to establishing the systems for operating and maintaining the schemes were not in proportion to those allocated to physical works. There needs to be genuine recognition of the input required to establish the capacity to manage irrigation at the community level, and to embed improved farming practices. At appraisal there was not even a nominated counterpart agency for the agricultural improvement component. More appropriate design needs to be backed by more appropriate monitoring of project progress and the flexibility to apply additional resources to components that are not achieving their objectives. Additional lessons may be learned from the Project: (i) not to expand the scope of a project when the initial project is already underachieving and (ii) the need for a careful analysis of how agrarian relations and interlinked markets in rural areas influence the behavior of farmers and other economic agents. There seems little doubt that the introduction, midway through the Project, of the Marabong dam distracted NIA from dealing with the problems of the originally designed project.

(iii) **Recommendations.** The major recommendation of the PCR is to provide further strengthening and empowerment of FISCOs. This needs to be achieved through training and better establishment of processes. Alongside this, the PCR recommends that mechanisms must be found for meeting the costs of O&M, including implementing the agreement made at appraisal that NIA would make funds available by reducing the number of responsibility centers. Its other recommendations call for the completion of the design of the Marabong transfer scheme, the replication of some of the small-scale activities of the Project, the revival of the gauging stations, and continued operation of the laboratory. IED concurs with all of this. It would, perhaps, expand the primary recommendation to an overall institutional strengthening and capacity building program to support water management, agricultural improvement, and O&M. Without this, there must be a risk that the scheme quickly becomes unsustainable. Even a small reduction in the effective life of the scheme would turn the current low EIRR figure to negative.

F. Monitoring and evaluation, design, implementation, and utilization (PCR assessment and validation)

The PCR noted that an effective system of M&E operated throughout the Project, starting with a benchmark survey and continuing through the two stages of the Project, the respondent sample increasing from 249 in stage 1 to 1,222 in stage 2. It is, however, noted that no formal monitoring of project impacts has continued beyond project closure. Validation recognizes that this is in contrast to many projects in which M&E seems to be inadequate, and the availability of data and information has facilitated a realistic assessment of project achievements and failures.

G. Other (e.g., safeguards, including governance and anticorruption; fiduciary aspects; government assessment of the Project, as applicable) (PCR assessment and validation)

None.

H. Ratings	Project Completion Report	Independent Evaluation Department Review	Reason for Disagreement/Comments
Relevance	Relevant	Relevant	The PCR noted the inadequate integration of irrigation management with agricultural improvement, and the questionable inclusion of the Marabong dam. IED concurs that the Project remained <i>relevant</i> .
Effectiveness in Achieving Outcome	Effective	Effective (less effective)	IED regards this as a conditional rating. Paddy production increase came close to target. However, no data are given on non-paddy crops but if, as seems likely, production has not increased then the overall shortfall in production should lead to a downgrading to <i>less effective</i> .
Efficiency in Achieving Outcome and Outputs	Inefficient	Inefficient	The Project has a very low EIRR and has failed to meet most of its output targets
Preliminary Assessment of Sustainability	Less likely sustainable	Less likely sustainable (not sustainable)	IED suggests that unless action has been or will be taken to address some of the failures in irrigation management, agricultural improvement, and O&M, this should be downgraded to <i>not sustainable</i> .

Borrower and Executing Agency	Generally satisfactory	Partly satisfactory	NIA's general project management, reporting, and financial management were satisfactory. However, these failed to integrate infrastructure development with institutional strengthening and agricultural improvement. Failure to reach a number of the output targets must in part be attributed to the performance of NIA.
Performance of Asian Development Bank	Satisfactory	Partly satisfactory	The design of the Project did not attribute sufficient weight or resources to the institutional strengthening and agricultural improvement needed to derive the targeted benefits from the infrastructure. During implementation, not enough attention was paid to these aspects and there seems to have been little or no supervisory input focused on the agricultural aspects. The inclusion at the midterm stage of the Marabong dam may have diverted too much attention and resources, to the detriment of the original project.
Impact	Positive	Partly positive	For farmers with land in the area that have benefited from the scheme, there has been a positive impact. However, impact has not been sufficiently widespread and there are serious concerns over the sustainability of what positive impact there has been.
Overall Assessment	Partly successful	Partly successful (not successful)	IED qualifies its overall rating by noting that, without significant improvements, the scheme will be producing little more than pre-project and the Project should be rated <i>not successful</i> .
Quality of Project Completion Report		Satisfactory	

I. Comments on PCR Quality

The overall quality of the PCR is good. It covers most outputs and key activities, and provides some detailed data in the appendixes. It gives a useful summary of achievements in relation to the RRP logframe. Somewhat confusingly, the text in the section on project outputs does not follow the logframe or the outputs as spelled out in the RRP. The PCR might be criticized for not translating project failures into some of the ratings. While this validation has concurred with the PCR ratings for effectiveness and sustainability, it has, in both instances, qualified these by noting that these ratings are only sustained on the basis of action being or having been taken to rectify deficiencies. It is also difficult to reconcile the *satisfactory* ratings for the performances of ADB and the executing agency with the significant shortcomings in the design and implementation of the Project. Had the performance of the two parties and the consultant (also rated *satisfactory*) all been satisfactory, then it might have been anticipated that the Project would have performed better.

J. Recommendation for Independent Evaluation Department follow up

The PCR makes a number of important recommendations and this validation has qualified the ratings given for effectiveness and sustainability, and has suggested that, without remedial measures, the overall assessment of the Project should be considered *not successful*. IED might consider an early follow-up review. The Project closed in April 2006 and the project completion review mission took place in October 2006. Although the PCR was not published until November 2007, it is assumed that its important recommendations were made known to the executing agency at the time of the review or shortly thereafter. Given the negative view of the sustainability of the Project without significant actions, an early post-completion review should be given urgent consideration.

The PCR has given both the executing agency and ADB a rating of *satisfactory*. The validator has questioned these, noting some significant failings within the Project for which some responsibility must lie with the executing agency and ADB. An in-depth analysis of the performances of the executing agency and ADB on this project might provide some useful lessons.

K. Data Sources for Validation

The data sources include the Project's report and recommendation of the President, PCR, and BTORs on loan review missions and the midterm review mission.

REGIONAL DEPARTMENT'S RESPONSE TO THE PROJECT COMPLETION REPORT VALIDATION REPORT

On 3 August 2009, the Independent Evaluation Department (IED) circulated a draft project completion report validation report for interdepartmental comments. IED received comments from the Agriculture, Environment, and Natural Resources Division of the Southeast Asia Department on 14 August 2009. The division supported IED's assessment and offers the following comments:

The Agriculture, Environment, and Natural Resources Division of the Southeast Asia Department (SEAE) thanks IED for an opportunity to comment on the draft validation report for the captioned projects. We find the validation report well balanced and we broadly concur with the findings that the quality of the project completion report was satisfactory. We take note of the comments on the quality of the PCR and the specific qualifications given by IED regarding the design and implementation of the project. However, we take this opportunity to draw IED's attention to a number of issues that occurred between design and the completion of project implementation and which have a bearing on the outcome of the investments.

Failure to increase irrigation service fee (ISF) collection and impact on operation and maintenance (O&M). Implementation of the project spanned the 1998 presidential election. One aspect of the election campaign by Joseph Estrada was the announcement of a "social irrigation fee." Following a successful election, President Estrada issued Administrative Order (AO) 17 on 31, August 1998, concerning the so-called Socialized ISF as an urgent interim measure to provide relief to small-scale farmers. It stipulated that (i) farmers owning less than 2 hectares (ha) of irrigated farm land will pay only 50% of the former ISF; (ii) farmers owning more than 5 ha of irrigated farm land will pay 50% more than the former ISF; (iii) the minimum amortization payment of 75 kilograms (kg) of paddy per year for the communal irrigation system (CIS) is reduced to 50 kg/ha per year with no interest. In addition, the Department of Agriculture submitted legislative proposals to the Congress to (i) increase administrative and overhead charges from 5% to 10% of the total cost of projects undertaken by the National Irrigation Administration (NIA), and (ii) negate back accounts of ISF and CIS amortization.¹

One impact of the Socialized ISF was to reduce NIA income, thereby limiting the capacity to undertake adequate O&M, which was already a source of friction with farmers, many of whom considered ISF too high, with reference to the services provided. The difference in ISF rates, according to land holdings, triggered redistribution of land within families, which resulted in a further reduction of potential ISF income for NIA. This would not have been anticipated during project design.²

¹ ADB. 1999. *Review of Cost Recovery Mechanisms for National Irrigation Systems*. Manila (approved on 4 August 1999 in the amount of \$300,000).

² ADB. 1999. *Technical Assistance to the Philippines for the Review of Cost Recovery Mechanisms for National Irrigation Systems*. Manila. Based on findings of this TA, Government rescinded AO 17 on 1 January 2002 and commenced development of two-tiered O&M arrangements, with beneficiaries responsible for O&M of lower-order canals and control structures.

Failure to develop effective beneficiary organizations. The PCR and IED validation reports correctly note that NIA was reluctant to transfer system management to the beneficiary organizations as NIA was reluctant to reduce its staff levels. In practice, such a reduction was difficult for a Government-owned and controlled corporation, such as NIA, to implement. In 2008, NIA approved a rationalization plan that provides for substantial staff reductions at the center and also in regional and irrigation system offices. NIA rationalization plan is being implemented from 2009 through 2013, with support from the recently approved World Bank Participatory Irrigation Development Project. Linked to the approval of the rationalization plan NIA has approved its unified irrigation management transfer policy that is expected to result in more effective beneficiary organizations. ADB delayed processing of a parallel project, the Irrigation System Operational Efficiency Improvement Project, until 2008 when the rationalization plan was approved and the Irrigation Management Transfer policy would be more likely to be effective.

Assessment of sustainability. The introduction of rotational operations was well received in some systems (Mainit River Irrigation System for example) where NIA senior staff demonstrated commitment to the objectives of the Irrigation Management Transfer policy and communicated well with FISCO leaders and farmers. In other systems the irrigation superintendents were less committed and a failure to adequately communicate and train farmer leaders, which led to vandalization of the newly introduced and poorly understood control structures. SEAE concurs with the PCR assessment of *less likely sustainable*.

Recommendation for IED follow-up. SEAE understands that a number of the project irrigation systems have been included in the long-list of projects to be rehabilitated under the World Bank Participatory Irrigation Development Project. IED may wish to consider whether further follow-up review would be beneficial.