

World Bank Project Evaluation Summary

1. LGU URBAN WATER AND SANITATION PROJECT

Report date: June 28, 2004

Loan amount: \$23.3 MILLION

Closing date: 09/30/2003

2. SOCIAL EXPENDITURE MANAGEMENT PROJECT

June 30, 2004

US\$100 MILLION

12/31/2003

3. TRANSMISSION GRID REINFORCEMENT PROJECT

June 29, 2004

US\$250 MILLION EQUIVALENT

12/31/2003

4. AGRARIAN REFORM COMMUNITIES DEVELOPMENT PROJECT

June 29, 2004

US\$50.0 MILLION

12/31/2003

5. LAND ADMINISTRATION AND MANAGEMENT PROJECT

June 27, 2005

US\$ 4.79 MILLION

12/31/2004

6. MINDANAO RURAL DEVELOPMENT PROJECT APL PHASE1

June 28, 2005

US\$27.5 MILLION

12/31/2004

7. WATER RESOURCES DEVELOPMENT PROJECT

JUNE 18, 2006

US\$ 58.0 MILLION

06/30/2005

8. MANILA SECOND SEWERAGE PROJECT

May 16, 2006

US\$ 48 MILLION

06/30/2005

9. EARLY CHILDHOOD DEVELOPMENT PROJECT

May 30, 2006

US\$19.00 MILLION

11/30/2005

10. SECOND SUBIC BAY FREEPORT PROJECT

April 14, 2004

US\$60 MILLION

06/30/2003

11. THIRD ELEMENTARY EDUCATION PROJECT

January 31, 2007

US\$113.4 MILLION

06/30/2006

1. LGU URBAN WATER AND SANITATION PROJECT

Report date: June 28, 2004

Loan amount: \$23.3 MILLION

Closing date: 09/30/2003

4.3 Net Present Value/Economic rate of return:

The project's net present value could only be computed for the water systems that are fully operational and able to generate actual data on revenues and costs. Hence, the economic cost-benefit analysis could not be computed for the Bukidnon cluster since none of those three sub-projects is fully operational yet. Among the LGUs in the Isabela cluster, the San Mateo system was not included in the analysis in view of the 6-month gap in financial data while the system was under private sector contract management.

The project has an EIRR of 19.56% for the Isabela cluster and 145.4 % for the Magdalena system. The project generated benefits for the users in terms of better quality of service at lower cost. Those who were purchasing water from vendors were able to realize substantial savings with water from their new system, particularly in Magdalena. Those who had their own wells as their exclusive source of water, as was the case in Isabela, now have a water source that is reliable, convenient and safe.

Although the overall EIRR is high, the sub-project benefits were lower than the levels expected in the Feasibility Studies, mainly because of the lower than expected usage by their beneficiaries. In the Isabela cluster, the LGU systems have yet to reach the number of connections obtained during the willingness-to-connect surveys. In Magdalena where almost all houses in the service area are connected to the system, the average level of consumption is less than half the estimated level during the planning stage hence bringing down user benefits by the same proportion.

4.4 Financial rate of return:

In financial terms, the Magdalena system is the most viable with an FIRR of 7.3 % and a net present value of P315.8 million (discounted at 15%). The FIRR for the Isabela cluster is 3.2% and the average NPV is negative P17.2 million. Among the LGUs in the Isabela cluster, Quezon has the highest financial viability indicators with an FIRR of 16.2% and was the only system that generated a positive NPV at P0.67 million (discounted at 15%). The rest of the water systems in the Isabela cluster have lower financial indicators than Quezon.

For the same reason that the level of water usage among the residents in the service coverage area is lower than expected, the FIRR for all the sub-projects is lower than estimated in the feasibility studies.

Household connections in Isabela are below design levels mainly because some residents opted to use their own wells than pay the monthly minimum charge for the system. Those households who are connected to the system consume much less volume than the average household in urban areas.

The water systems are all under LGU management and, as expected, collection efficiency varies greatly. Magdalena has excellent rates of collection efficiency and has every indication that the present management team is sustainable. In Isabela, the average collection efficiency is only 64%; however all of the waterworks management teams are mounting a campaign to improve collection to ease the LGU debt service burden.

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2. SOCIAL EXPENDITURE MANAGEMENT PROJECT

June 30, 2004

US\$100 MILLION

12/31/2003

4.3 Net Present Value/Economic rate of return:

The economic rate of return was not calculated for the project at the time of appraisal, nor was it calculated at closure.

4.4 Financial rate of return:

A partial financial rate of return was calculated for the project at appraisal. It estimated that a 40% reduction in the price of textbooks would increase available resources by 67% ($1/(1-0.4)$) or US\$29.5 million, yielding a return of 27% on US\$107 million project investment. This was re-calculated after project closing. In terms of cost savings alone, the 50% reduction in price of textbooks, the average of 35% reduction in the cost of school building construction, the average of 50% reduction in the price of school furniture together increased available resources to 39.5 million, yielding a return of 33% on US\$119.81 million project investment. This, of course, does not include savings on textbooks, school furniture and school construction funded through other sources.

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3. TRANSMISSION GRID REINFORCEMENT PROJECT

June 29, 2004

US\$250 MILLION EQUIVALENT

12/31/2003

4.3 Net Present Value/Economic rate of return:

The current estimates of the economic rate of return (ERR) are negative for both (a) the overall transmission interconnection program, including all components of the Project; and (b) the northwest Luzon 500/230 kV transmission system component (67% of total Project cost), as compared against the appraisal estimates of 27.2% and 20.3% (in real terms), respectively. This is mainly attributable to the combination of various adverse factors noted above, including (a) NPC's tariff adjustments have not been adequate; (b) Asian financial crisis and sharp devaluation of the pesos; (c) substantially lower electricity demand than expected and the capacity savings by reducing reserve requirements were not realized (during the period 1996-2003); and (d) over-contracting of IPP contracts with related high fixed costs to NPC. It should be noted that the current ERR is based on NPC's conservative assumptions, including (a) NPC average tariff for generation and transmission from 2004 onwards remain the same as that of the current tariff in 2004 in real terms, viz US 6.2 cents/kWh, and (b) average costs of power transmitted under the Project remain the same as the actual average costs of 2003 in real terms, viz variable cost of US 1.5 cents/kWh plus fixed costs of \$422 million per annum. The results of sensitivity analysis indicated the following: (a) even if the capacity savings of \$1.6 billion (in 1995 constant prices) projected at project appraisal were to be actually realized, the current estimate of the ERR for the overall Project would only be 4%; and (b) in the event NPC's average generation tariff were to be increased sufficiently for it to cover fully its operating costs in 2004, which together with transmission fees estimated to total about P5/kWh (US 9 cents in 2004 prices, or US 7.4 cents in 1995 constant prices, which is similar to the price assumed in the ERR calculation in the SAR), and to remain at this level in real terms thereafter, the current estimate of the ERR for the overall Project and the northwest Luzon 500/230 kV transmission system component would be increased to 18% and 15% (in real terms), respectively. This indicates the extent of cost recovery through tariff is a critically important factor for the Project economics.

4.4 Financial rate of return:

The SAR did not calculate a financial rate of return (FRR), but implied that it is similar to the ERR, "because the investments consist mainly of hardware systems, and because NPC is exempt from duties and taxes, the computation of the FRR is identical to that of the ERR, except for the application of the conversion factor." Based on the same reasons, the current estimate of the FRR is similar to the ERR noted above.

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4. AGRARIAN REFORM COMMUNITIES DEVELOPMENT PROJECT

June 29, 2004

US\$50.0 MILLION

12/31/2003

4.3 Net Present Value/Economic rate of return:

4.3.1 The end-of-project ERR, based on models of project investment, is estimated to be in the range of 22 percent to 29 percent. This is satisfactory compared to the appraisal estimate of 20 to 25 percent. The NPV is positive, and with a 26 percent ERR it is estimated to be PhP1.17 billion at a discount rate of 15 percent. Economic benefits are derived from: (a) incremental agriculture production from the expanded cropped area and improved yields, resulting from the combined effects of improved farm practices, new irrigation facilities and other on-farm investment; (b) lower vehicle operating costs, reductions in the need for expensive manual hauling, and savings in travel time; (c) the improvements in health from potable water systems; and (d) storage loss reduction and income from drying fees and rentals from multi-purpose centers. Parallel to increased farm-based income and as a result of lower transport costs, there has been an increase in trading and other economic activities and services provision in the ARCs, resulting in higher family incomes. An alternative way of estimating the project's ERR and NPV is to relate them to measured income growth. Assuming that two-thirds of the increased family real income between 1997 and 2003 can be attributable to the project, the ERR would be 26 percent.

4.4 Financial rate of return:

4.4.1 Financial returns to ARBs have been good. Income survey data indicate that net household incomes have increased by about 63 percent in real terms over 3 to 7 years, a weighted average of about 10 percent per annum. It appears that households have been reinvesting their earnings and, over the project as a whole, private business assets on the 102 ARCs covered have increased by PhP700 million in constant 1997 peso terms. The increase in annual financial benefits to ARBs is well above normal income growth in the Philippines and is much higher than anticipated at the time of the appraisal. Pre-project average family incomes of ARBs at PhP37,800 were well below the national poverty threshold of PhP48,200. By 2003, the average family income had increased by 63 percent to PhP61,600 in 1997 peso value terms (or PhP85,000 in 2003 terms). This is above the poverty line of PhP61,355, the estimated figure based on the 2002 official poverty threshold for a family of five and factoring an average inflation rate of 3.06 percent.

Annex 3. Economic Costs and Benefits

1. The Staff Appraisal Report (SAR) made estimates of the likely Economic Rate of Return (ERR) of the project in two different ways. It used simple models to estimate likely economic returns from specific investments in "hardware", specifically irrigation and rural access roads. It then combined these with estimates of rates of return in on-farm and other business investments to give a model based on the overall estimate for the project's ERR of 20 percent to 25 percent. The SAR recognized that if the project was to have a significant effect on real earnings, the ERR would need to be high. Under the assumption that real pre-project income (in 1996) was PhP25,000 per household, it was estimated that the ERR would need to be about 27 percent if a real income uplift of 40 percent was to be achieved over the six-year project period, and then sustained. Because the number of ARBs directly affected by irrigation is small (probably less than 10% of ARB families) and most of the roads benefits are indirect, measurement of changes in household income over the project period probably gives a better indication of its economic impact than analysis of the investment models.

Rerun of SAR Models

2. **Irrigation:** In the SAR, irrigation models were run for both new construction and rehabilitation. These showed ERRs of 17 percent for new construction and 31 percent for rehabilitation, with an average of 25 percent. The crop produced was assumed to be rice, and its economic price was based on import parity calculations and 1996 World Bank commodity price projections, which gave an Economic Conversion Factor (ECF) for outputs of 0.71.

3. An update of the ERR estimate has been made in the ICR for this component, based on the detailed results of 38 completed schemes which accounted for about 63 percent of the total investment in irrigation. Their initial analysis relied on the same ECF for rice (and other outputs) as used at appraisal. The ICR mission has used this work as the basis, for its estimate, but has adjusted the ECF for outputs to reflect actual past history, and 2003 World Bank projections. The ICR estimate of the average ERR for irrigation is lower, but acceptable at 16.9 percent. While world prices of rice have fallen in US dollars compared with SAR estimates, this disadvantage was partly offset by: (a) better incremental yields; and (b) lower per hectare US\$ investment costs than assumed in the SAR. Details of the calculations are shown in Annex 3a and 3b.

4. Of some concern is the fact that at this stage, a significant number of individual schemes have low ERRs. (CPO data indicates that of the 38 schemes reviewed, 15 of them, involving about 42% of total investment, had estimated ERRs of below 12%). This indicates the need for careful assessment of individual schemes and closer monitoring of the feasibility studies undertaken in follow-on projects.

5. **Roads:** Analysis of roads in the SAR was based on the assumption that two types of road would be constructed. *Barangay* access roads, whose function was to improve linkages between ARCs and the existing operational road network, and farm access tracks, which were intended to link the agricultural fields with the *barangays* within the ARCs. These tracks were intended to be low cost and designed for agricultural traffic. It was assumed that there would be a large degree of "self help" in their construction and they were focused on groups of farmers in a particular location, rather than the community as a whole. The ERR on farm access tracks was projected at appraisal to be about 24 percent. This was based on a cost of about US\$5,000 per kilometer with a typical two-kilometer track serving about 180 hectares. As there was no demand for farm access tracks, there is nothing to re-analyze in this regard.

6. *Barangay* access roads were analyzed *ex ante* through a model which assumed and quantified benefits from a reduction in vehicle operating costs and transport costs, particularly as a result in change of transport mode, in relation to: (a) passengers; (b) agricultural produce; and (c) non agricultural goods. The model also took account of benefits as a result of time saving by both passengers and vehicle operators, and generated benefits from more traffic under the assumption of a normally sloping demand curve for transport. The model relied on DPWH data on vehicle operating costs, and transport demand under different road conditions. The base case model at SAR (as described in the main text) was for a five-kilometer road, costing about PhP748,000 per kilometer (US\$29,000/kilometer) in early 1996 linking about 500 households to the existing road network. The estimated ERR from the base model was 20 percent. The model was quite sensitive to investment cost per kilometer and to population served. Unfortunately, this model was not used in evaluating individual schemes. Hence, it is not possible to review performance in the same way as for irrigation. In evaluating roads investment *ex ante*, the feasibility studies used a different type of approach geared to the analysis of improvement of roads which are part of the "network". The results of this analysis indicate ERRs for roads and bridges averaging about 30 percent if, as at appraisal, they are evaluated over 20 years. However, the methodology used is different from that used at appraisal and is more appropriate to network upgrading than to the *barangay* access.

7. A re-run of the SAR model has been undertaken during the ICR, using the average figure from 15 rehabilitated *barangay* access roads. These data indicate an ERR at 23 percent, using the same coefficients as at appraisal and expressing the results in constant 1996 pesos. These roads were on the average longer in length than envisaged at appraisal. The unit cost at PhP875,000/kilometer was 17 percent higher than in the SAR model. Agricultural production and area per farmer was also greater. A summary of the model's results is presented as Annex 3c.

8. An important impact of the roads not calculated directly in the analysis, because of an element of double counting but reflecting their perceived value, is the effect that roads improvement has had on land values. On average, CPO investigations show that the value of about 80,000 hectares of land adjacent to project-supported roads is estimated to have increased from PhP63,000 to PhP120,000 per hectare. This is more than double the rate of inflation over the project period.

9. The main benefits from the project have probably resulted from the agriculture and enterprise development activities, which have catalyzed business activities among ARBs. ERRs from well implemented on-farm investment which stem from the introduction of improved technologies are typically 30 percent to 40 percent, and often higher. The results of this can be captured through estimates of incremental household income.

10. An indication of the likely project ERR and a comparison with the SAR estimates is shown below:

	Estimate at Appraisal		Estimate at ICR		
	Investment Base Cost (excluding contingencies)		Base ERR (%)	Actual Investment (in current terms) (in US\$ million)	Base ERR (%)
	(in US\$ million)	(in PhP million)			
Rural Access Roads	23.5	611	20	33	22.6
Farm Access Tracks	2.1	55	24	n.a.	n.a.
Irrigation	18.6	484	25	19	16.9
Social Infrastructure	4.0	105	n.a.	5	n.a.
Agriculture/Enter- -prise	27.7	720	15 - 30	37	30 - 40
Community Development & Project Management	11.3	291	n.a.	11	n.a.
Total/Weighted Average Excluding Social Infrastructure & Project Management	72.9	1,870	20 - 25	89	22 - 29

11. **Alternative Estimate of Overall ERR:** The SAR also approached the question of project economic benefits by looking at its impact on incomes. It estimated that if by end of the project real incomes had increased by 40 percent (PhP10,000 per family across 80,000 families, in real term) with project investments of PhP28,600 per family (in 1996 currency term), the project ERR would be about 27 percent. In the event, real income per family is reported to have increased by 63 percent (by PhP24,500 in constant 1997 terms). If all is attributable to the project (which includes the cost on farm and other private investment) and applies to the 73,000 project ARB families, an overall estimate of the ERR could be made as follows:

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5. LAND ADMINISTRATION AND MANAGEMENT PROJECT

June 27, 2005

US\$ 4.79 MILLION

12/31/2004

4.3 Net Present Value/Economic rate of return:

It rarely makes sense to calculate the economic rate of return for a LIL and this project is no exception. A major reason for using the LIL instrument is to eliminate choices, and an options methodology to calculate the value of the LIL is more appropriate. The Project Appraisal Document (PAD) used ERR calculations more appropriate for an investment project. In arriving at an ERR of 24 percent, the appraisal had assumed that the LIL would issue 50,000 titles in rural and urban areas and improve the quality of records of about 50,000 titles in the urban area. As indicated in the PAD, even before project approval this target was revised to 30,000 which would have brought the ERR down to 14.4 percent. During implementation, as the project tested different approaches to systematic titling, the title production target was further revised from 30,000 to 2,000. The project ultimately produced 790 titles by the Loan's closing date of December 31, 2004 and ultimately distributed 2,000 titles by April 30, 2005. This would put the ERR firmly in the negative using the approach in the PAD.

However, in terms of titling, the primary purpose of this project was not simply to “mass-produce” titles. Rather, it was to test alternative approaches to systematic titling while establishing the necessary regulatory and legal framework for reform of land administration. A major part of the value of the LIL lies also in identifying the erroneous paths to be avoided. An economic analysis based on decision-tree analysis or options methodology to evaluate the value of the LIL has not been attempted. Instead, a simple analysis based on the follow-up project is offered (see Annex 3). In this approach, the benefit of the LIL is simply to bring forward the net benefits from the next phase of the program. Using this methodology, the ERR is found to be 7.95 percent.

4.4 Financial rate of return:

The ICR used the Financial Rate of Return (FRR) stream of cash flows used for LAMP II PAD and calculated the benefit of the project from advancing the benefits. The financial benefits came from the following sources: (i) income from initial registration (about US\$20 per title); and (ii) income from subsequent registration, which has three parts: (a) capital gains tax (about six percent of transaction value); (b) real property tax (about one to four percent of property value); and (c) registration fee and stamp duty (about US\$12). The financial costs are all project costs and the future management costs associated with the titling issue. Using the simplified approach, the Net Present Value (NPV), at seven percent cost of capital, is estimated to be around US\$4 million. However, the project is already generating substantial income flows to the Quezon City LGU. The project identified about 5,000 parcels that were not paying real estate taxes mainly because the records were burned in a fire in 1988. The taxes from these parcels now produce about US\$2.5 million per year. Including these benefits, the FRR is estimated at 11.92 percent (see table in Annex 3).

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6. MINDANAO RURAL DEVELOPMENT PROJECT

APL PHASE 1

June 28, 2005

US\$27.5 MILLION

12/31/2004

4.3 Net Present Value/Economic rate of return:

The economic benefits of MRDP 1 were generated mainly from: (i) the rehabilitation of FMRs with consequent savings in travel time and lower vehicle operating costs; (ii) higher farm productivity and cropping intensity from communal irrigation schemes; (iii) greater availability of potable water, a reduction in time in collecting water and the lower incidence of water-borne diseases; and (iv) income generating activities through the community fund. MRDP 1 also had significant non-quantifiable benefits in creating social capital through skills transfer and capacity-building of LGUs and communities, as well as in developing institutional mechanisms to facilitate change within the framework of devolution.

In recalculating the economic returns, the approach used in the PAD was adopted as it was still considered appropriate. The economic rate of return (ERR) of the main investments for the Implementation Completion Report (ICR) have been re-estimated at 17% for FMRs, 25% for communal irrigation and 16% for communal spring development. The ERR for different livelihood activities financed through the Community Fund (CF), however, could not be calculated due to lack of sufficient data for the "with"- and "with-out" project situations, as well as the inherent difficulties in estimating direct costs and benefits for a wide range of diverse, community demand-driven (CDD) sub-projects.

For the project as a whole, the ERR is estimated at 17% and the net present value (NPV) at PhP 224.3 million at an opportunity cost of capital (OCC) of 12%. This includes the cost of institutional support under RDPAP but excludes the CFAD component which accounts for 15% of project costs. The results are generally in line with PAD estimates and continue to demonstrate that MRDP 1 is economically viable by component or as a whole. No sensitivity analysis was undertaken as the estimates for quantifiable benefits were conservative and substantial unquantifiable benefits were not taken into account in the ERR calculation (See Annex 3 and Working paper on Financial and Economic Analysis).

4.4 Financial rate of return:

The use of financial analysis only applies to specific interventions that generated direct monetary returns to beneficiaries or institutions. For the irrigation sub-projects, financial rate of return analysis does not apply to individual schemes or the sub-component as a whole as these investments are not considered "profit-earning entities". However, analysis was undertaken to ascertain the impact of the MRDP on incomes and showed a significant improvement. Compared to average household incomes of around PhP 36,342 per year "without project" those "with project" averaged PhP 76,5934 at full development for representative farmers. These estimates are in line with the results of the evaluation study and the M&E reports prepared by the PCO (based on "before-" and "after-" project situations). For CFAD, there was insufficient data to undertake project-wide household income analysis. However, a rapid rural appraisal indicated that 60% of participating farmers reported an increase in income "with project". FMR and water supply components do not qualify for financial analysis.

The future fiscal impact of the project for the national budget will be minimum as national level counterpart funds have already been absorbed as part of annual budget financing. On the part of the LGUs, there will be further fiscal demands to cover O&M costs for FMRs and irrigation systems. Irrigators' Associations (IAs) could be expected to share increasingly in O&M costs, linked to incipient increases in agriculture production and income that have been independently recorded through ex post surveys. It is likely that LGUs and beneficiary communities will be able to meet these financial commitments, given the interest of beneficiaries in MRDP 1 and the new ways local governments are introducing measures to generate revenues. In addition, a positive fiscal impact can be expected from MRDP 1 as a result of improved rural development planning, increased community participation, and new and better ways of allocating fiscal resources by LGUs in supporting rural development priorities.

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7. WATER RESOURCES DEVELOPMENT PROJECT

JUNE 18, 2006

US\$ 58.0 MILLION

06/30/2005

4.3 Net Present Value/Economic rate of return:

4.3.1 The Net Present Value and Economic Rate of Return calculation only takes into account the main quantified economic benefits of the project, the increased agricultural production, which have accrued directly from the restored and the newly-developed irrigated areas in 21 irrigation schemes. Other significant but non-quantified benefits of the project included: (a) additional income generation through on-farm crop diversification and off-farm activities; (b) efficiency gains from improved water resources planning, policy and institutional reforms; (c) improved public health through control of schistosomiasis; practices.

4.3.2 Following appraisal methodology, the NPV and the ERR were re-estimated for 21 NISs selected for system improvement (18 NISs) and repairs (3 NISs) in the project area, and for the project as a whole. The ERR for the project was estimated at 25.6 percent (NPV: US\$32.75 million) which is marginally lower than the 26.5 percent (NPV: US\$49.94 million) estimated at appraisal (Annex 3). The economic analysis shows that the recalculated ERRs for individual NISs are all favorable, ranging from 12 percent in Silbalom-Tigbauan RIS to 43 percent in Batang-Batang RIS. The variation of NIS ERRs reflects the different levels of achievement in key parameters such as crop yields, cropping intensity, the size of the irrigation and planted area, and the investment and O&M costs for each different type of scheme at the time of implementation. A comparison of detailed ERRs between SAR and ICR by each irrigation system is shown in the Working Paper on Financial and Economic Analysis (in project files).

4.4 Financial rate of return:

The farm-level financial analysis was carried out to indicate the project's impact on beneficiary farmers' incomes. The project at ICR is benefiting about 58,245 mostly poor farm families in the project area (42,303 of which are from the rehabilitated area, 14,968 from the restored area and 974 from the new area) compared to the appraisal projection of 20,000 and the 63,368 targeted during MTR. The farm model analysis shows a substantial increase in beneficiary farmers' incomes with comprehensive improvement in irrigation and drainage efficiencies, crop intensities and production. The impact of the project on farm incomes has been substantial and directly helped reduce poverty in the project area. At the ICR, the net annual crop income of farm households from without project to with project (ICR) was raised, in financial terms, from PhP7,850 to PhP13,240 and from PhP15,700 to PhP26,480 for share tenants and owner-operators, respectively, with an average farm size of 1 ha; from PhP15,700 to PhP26,480 and from PhP31,390 to PhP52,960 for share tenants and owner-operators with an average farm size of 2 ha; and from PhP23,440 to PhP39,270 and from PhP47,090 to PhP79,440 for share tenants and owner-operators with an average farm size of 3 ha (Economic and Financial Analysis on file). This represents an increase of 169 percent over the without-project case, and indicates strong financial incentives for farmers to participate in the project. The project has also helped improve the peoples' lives by providing alternative sources of income through employment opportunities. The result of incremental on-farm, direct employment is re-estimated to be 997,510 person-days annually. In addition, substantial new rural employment has been created through project civil works, and watershed management and erosion control activities during the project implementation.

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8. MANILA SECOND SEWERAGE PROJECT

May 16, 2006

US\$ 48 MILLION

06/30/2005

4.3 Net Present Value/Economic rate of return:

The 1996 appraisal report noted that most project benefits (abatement of fecal contamination and improvement in public health) were not easily quantifiable and that a cost-benefit analysis could only be calculated for the sewer connection component, for which an EIRR of 10 percent was calculated. Thus, the project as a whole was justified based on a least-cost analysis. The November 1997 restructuring mission indicated that the splitting of the project between the two concessionaires had no impact on its economic justification. The changes in content and scope of the project following the different changes introduced in its components make any comparison in justification virtually impossible.

The economic benefits of the final project include health and environmental benefits, an increase in the value of land regenerated through application of septage, and technology transfer measured in terms of increase in productivity due to skills training. The EIRRs were calculated separately for each concession area, 9.29 percent and 7 percent for MWCI and MWSI, respectively. The overall economic evaluation shows a positive EIRR of 8.13 percent. A risk analysis undertaken to assess the sensitivity of the return to increases in costs and decreases in benefits still shows a positive EIRR for the project. Attribution of benefits is as follows: health 33 percent; environment 64 percent; lahar reclamation and technology transfer 3 percent.

4.4 Financial rate of return:

The FIRRs were calculated for each service area, at 2 percent for MWCI, and -9 percent for MWSI, as a result of the high investment cost. The results of the base case put the FIRR at -7 percent and the sensitivity analysis indicates that the overall project is not financially viable when based only on sewerage fees. However, the CAs between MWSS and the concessionaires allow them to recover all prudently incurred costs related to the project through the rate rebasing mechanism. The project, therefore, becomes financially viable as long as the resulting tariff adjustments remain acceptable to the customers.

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9. EARLY CHILDHOOD DEVELOPMENT PROJECT

May 30, 2006

US\$19.00 MILLION

11/30/2005

4.3 Net Present Value/Economic rate of return:

During preparation, cost-effectiveness and cost-benefit analyses were carried out. The results of these studies indicated that the delivery of health, nutrition and early education inputs from this project would be highly cost-effective and combined in ways that strengthen the links between child health, education and economic returns. Investing in health and education of children increases a country's overall standard of living by building human resources that generate higher economic returns, reduce social costs and increase efficiency of other investments. For health and nutrition interventions, the net present value of wage gains for children benefiting from the project was expected to increase from 9 billion pesos to 30 billion pesos. Early childhood development interventions were also to improve school attendance and performance and increase children's prospects for higher productivity and future income. The economic rate of return calculated during preparation for this project's ECD interventions was estimated at a minimum of 15%.

No overall ERR or net present value calculations were carried out at the end of the project but it can be argued that there will be economic gains from the ECD-investments and, despite late start and slow progress, to some extent from the health and nutrition investments.

More specific cost-effectiveness studies were carried out during the life of the project. One study was on the cost-effectiveness of combining deworming and weekly iron-supplementation in the reduction of anemia among pre-schoolers. Anemia among pre-schoolers reduces attention span and education attainment and would reduce effectiveness of investments in education. The null hypothesis was that the combined strategy of deworming (high worm loads cause and worsen anemia) and iron-supplementation would have a higher impact than solely supplementing with iron. The study however showed that the combined strategy did not have a higher impact on reducing anemia. The results were consistent with results reported elsewhere, as the low prevalence and intensity of soil-transmitted helminthiases, particularly hookworm infection, meant that the contribution to anemia among pre-schoolers was minimal. Deworming is not an effective intervention in reducing anemia, unless there is moderate to severe hookworm infection. Most importantly, however, the cost-effectiveness analysis showed that cost-savings could be incurred through investing in weekly iron supplementation without deworming to effectively prevent mild anemia. This finding formed the basis of the DOH policy, which subsequently introduced weekly iron supplementation into the regular DOH program, under the DOH Administrative Order No.119 series 2003.

In addition, an action research found that the iron-fortified product *Pandesal* did reduce mild anemia levels among children, but did not have additional benefits when fortified with both iron and vitamin A. Although the study recommended the use of the least costly iron-fortificant, the study could have been improved by using the estimated positive impact of fortification on measures of nutritional status and the costs associated with fortification in order to compute benefit-cost ratios for each type of fortification. The study did, however, mention apparent secondary outcomes of the trial, such as positive changes in school attendance rates.

4.4 Financial rate of return:

Not estimated.

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10. SECOND SUBIC BAY FREEPORT PROJECT

April 14, 2004

US\$60 MILLION

06/30/2003

4.3 Net Present Value/Economic rate of return:

The SAR conducted economic analysis only on the water supply and power distribution components which were cancelled or significantly modified with the restructuring of the project. No specific economic analysis was carried out in the SAR for the Road and Bridges component because the civil works that were programmed under the project contributed to the overall improvement of the Freeport rather than for any discrete activity for which the related benefits could be defined. Likewise, after the restructuring, the power component involved only a minor emergency rehabilitation and maintenance and assistance to SBMA with the privatization of power distribution network. For these same reasons, the ICR evaluation focused its assessment on the overall economic development of the SBF as demonstrated by the following performance indicators:

	1998	June 30, 2003
Investments	\$2.59 billion	\$4.16 billion
No. of companies invested in SBF	304	640
Export value of goods produced at Subic	\$555.9 million	\$1.32 billion (in 2002)
Total number of employees in the SBF	7756	53, 017
Total number of tourists visiting the SBF	2.35 million	7.97 million (in 2002)
Number of ships calling to Subic Bay	1,373	1,764 (in 2002)
Revenue increase	PhP 82.5	PhP 226.2 million

4.4 Financial rate of return:

Not applicable

3.2 Revised Objective:

Soon after entering effectiveness on October 15, 1997, the project encountered a number problems which caused implementation delays and ultimately resulted in a substantive restructuring and cancellation of several components. First, the project was delayed by 11 months because the SBMA had issued a negative pledge against its assets, breaching the conditions of the Subic I Loan Agreement. More significantly, following the May 1998 Presidential elections in the Philippines, the new administration removed the SBMA chairman from office. The resistance of the outgoing SBMA chairman to accept this change in leadership, led to: (a) major civil disturbances within the Subic and neighboring area as many residents were loyal to the outgoing chairman; (b) a loss of key management and staff within the SBMA; and (c) political tension with the adjacent Municipality of Olongapo City which spilled over into the project, since two components required the city government's support to successfully implement.

The change in SBMA's leadership significantly altered the cordial relationship that was enjoyed previously between the SBMA and Olongapo City, with severe consequences, most notably, to the power and water project components. Concerning the power component, Olongapo City was no longer willing to merge the Public Utilities Department (PUD) of the City with its equivalent Department in the SBMA. For the water component, the political tension made it difficult for the SBMA to secure support for the bulk water supply in the Pamatawan area of Ambles. As a consequence, test drilling and other concessions and agreements were frustrated and lost, resulting again in significant delays. With these recurring problems, on March 2000, the SBMA requested that the Bank restructure these components and focus only on areas that were

fully within the SBMA's jurisdiction.

In an attempt to assist SBMA in improving project performance and to assure the accomplishment of the development objectives, SBMA and the Bank agreed in June 2000 to a 7-point action plan, including a restructuring of the project. SBMA prepared a restructuring proposal endorsed by the Department of Finance (guarantor). The restructuring was approved by the Board on June 1, 2001, and the Loan closing date was extended by the Bank to June 30, 2002. The restructured loan essentially cancelled the water and much of the power component for which the SBMA had needed the cooperation of Olongapo City, for an overall reduction in the total Loan from \$60 million to \$36.15 million.

With the amendment, President's Notification entitled 'Philippines – Second Subic Bay Freeport Project (Loan No. 4111-PH) Restructuring and Amendment to the Loan Agreement', dated June 1, 2001 to restructure the project, the development objective was revised: "to assist the SBF to attract and maintain private investors while remaining economically viable and environmentally sound". The revision of the development objective was not viewed as material as the spirit of the original objective was maintained. Additional emphasis was however placed on the environmental sustainability of the SBF for which the project components in this area were expanded. In addition, some qualifying text referring to water and power was deleted as those components were cancelled. In order to complete the works left unfinished by June 30, 2002 and achieve the development objective, the Loan closing date was further extended to June 30, 2003.

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11. THIRD ELEMENTARY EDUCATION PROJECT

January 31, 2007

US\$113.4 MILLION

06/30/2006

3.2 Achievement of Project Development Objectives

The project has achieved its development objectives. The three indicators with respect to achieving the project objectives include NER, completion rate for elementary education (grade six), and student achievement. Data with respect to these indicators show that the project has been successful in supporting the improvement of the quality of education, it has positively influenced the elementary completion rate, which improved from baseline, although it falls short of target, but its contribution to increasing the elementary NER is unclear, due to uncertainty about the accuracy of the elementary age population data and the NER statistic itself. However, all changes in these indicators are favorable in comparison to the data for the country as a whole at the time of project completion. In light of the results on student achievement, and the status of the completion rate and NER indicators as compared with the data for the country as a whole, the project merits a rating of *satisfactory* for the achievement of its objectives. Table 1 below exhibits the baselines, targets, and the achievement by each indicator.

Table 1: Project achievement indicators, by baseline, target, and latest status

Indicator	Baseline	Target	2002-2003	Project Status 2004-2005	Change (2003 to 2005)
Net Enrollment Ratio (NER)					
NER TEEP	72-97 percent (7-12 year olds) (division range) (1996)	91-95 percent (set post mid-term review)	83.3 percent (6-11 year olds)	79.4 percent (6-11 year olds)	-3.9 percentage points
*NER Country (excluding ARMM)	87 percent (7-12 year olds) (1996)		82.9 percent (6-11 year olds)	76.1 percent (6-11 year olds)	-6.8 percentage points
Completion Rate					
Completion TEEP	55 percent (division average) (1996)	64 to 72 percent (from SAR); 58 to 78 percent (set post mid-term review)	60.2 percent	61.4 percent	1.2 percentage points. 1995-2005 change is 6.4 percentage points
*Completion Country (excluding ARMM)	64 percent (1996)		64.8 percent	63.3 percent	-1.6 percentage points
Achievement					
NEAT	<50 MPS (1993-96)		Test Dropped		
NAT – TEEP ELS			46 MPS – Grade 4	65 MPS – Grade 6	
NAT –TEEP non-ELS			45 MPS – Grade 4	59 MPS – Grade 6	
NAT – non-TEEP (non-poor divisions)			44 MPS – Grade 4	60 MPS – Grade 6	
NSBA (overall) – TEEP	39.2 MPS (1999)	40-75 MPS (set post-mid-term review)	42.7 MPS (Grades 2,4,6)	45.8 MPS (Grades 2,4,6)	3.1 percentage points (not sig.) ⁷

NSBA (overall)- nonTEEP	42.5 MPS (1999)		42.4 MPS (Grades 2,4,6)	39.9 MPS (Grades 2,4,6)	-2.5 percentage points (not sig.)
NSBA TEEP versus nonTEEP Achievement Difference, 2005: 5.9 percentage points, significant, p<.05					

Note: the enrollment and completion indicators are based on data from GOP's Unified Data Gathering System. NER and completion rate for the country exclude the ARMM Region. The ARMM has a separate DepEd, which is responsible for collecting and submitting data to DepED.

NER: The baseline information is from SAR; target information is from GOP PCR.

Completion: The baseline information is from SAR; target information is from GOP PCR.

NEAT: Information is from GOP PCR.

NSBA: Information is from the NSBA 2005 technical report.

NAT: Information is from JBIC report (draft).

The JBIC researchers' report (draft, pg. 2-4) states that the TEEP participation rate improved by 3.4 percent between 1999 and 2002, compared with the 1.9 percent increase for non-TEEP non-ARMM provinces. This information is based on the Annual Poverty Indicators Survey (APIS) involving 40,000 randomly selected households in 1999 and 2002. No intermediate outcome indicator was specified as such in the redesigned project, but the Implementation Status Reports (ISR) also mention "Improved DepED capacity through more information-based decision-making and provide [sic] grants for school-based innovation."

Enrollment, Completion, and Student Achievement

In 1996 (two years prior to the start of project implementation in 1998), the overall NER was recorded at 87 percent (and the gross enrollment rate was 95 percent, based on the 7-12 age group), completion rate was 64 percent, and the 1993-1996 NEAT results were below 50 MPS.

Enrollment: TEEP overall fared better on NER than did the country as a whole; however, further analyses of data are required to assess accurate changes in the NER status.

With the implementation of BEIS in 2002-03, NER was computed on the basis of the 6-11 age cohort. End-of-project NER on the basis of the new population group shows a decline from 2002-2003 for both TEEP and the country as a whole, although the decline is three percentage points less for TEEP than it was nationwide.⁸ Possible causes of decrease could be a lower-than-expected growth of in this age cohort, which was projected to increase by two percent overall, based on the 2000 census data (although the population in the TEEP divisions showed a projected increase of a much steeper five percent between 2002-03 and 2004-05; GOP PCR, appendix 12). The BEIS team noted that it is likely that fewer children are entering schools at the required age of six as compared with children at age seven. Thus another possible cause of lower-than-expected enrollment could be parents' reluctance to send children to school at a younger age. The BEIS is currently conducting analysis of the enrollment data to identify potential reasons for the NER decline. The 2004-2005 enrollment ratios ranged between 68.8 percent in Agusan del Sur to 97.2 percent in E. Samar.

The actual number of 6-11 year old students enrolled in the TEEP divisions also decreased by one percent between 2002-03 and 2004-05 from 1,418,664 to 1,404,032 students. The estimated population increased, however, from 1,674,095 to 1,765,294 (five percent). The SAR had estimated the projected 7-12 population in the original 26 divisions to be 2,184,199 in 2002-03, a difference of 510,104 from the more recent estimates, which is probably due to the four divisions that were subsequently excluded from the project.⁹

The evaluation report prepared for JBIC (pg. 2-4) cites an increase of 3.4 percentage points in NER, from 92.5 percent to 96.0 percent between 1999 and 2002, possibly reflecting an increasing trend. The data are based on the

Annual Poverty Indicators Survey involving 40,000 randomly selected households. The non-TEEP, non-ARMM enrollment ratio rose from 95.3 to 97.2 percent. However, these data would pertain to the 7-12 age cohort. Thus, the current data on enrollments are insufficient to determine accurately the change in the NER status.

Completion: TEEP completion rate improved from baseline, while the rate for the country as a whole remained about the same.

Between 2002-03 and 2004-05, the completion rate increased only slightly from 60.2 to 61.4 percent, while the nationwide indicator declined from 64.8 to 63.3 percent.¹⁰ However, the completion rate increased roughly 6.4 percentage points between 1996 and 2005 from a baseline of 55 percent (based on all TEEP provinces at the time), but declined by 0.7 percentage points nationwide. Division-by-division data show uneven performance, with completion rate improving for 10 divisions but declining for 13 between 2002-03 and 2004-05. The division-level completion data ranged from 48.6 in Apayao (which declined) to 90.5 in E. Samar (which improved significantly) in 2005.

Student Achievement: TEEP's strongest result is with respect to student achievement, as evidenced through the overall TEEP performance on NSBA and NAT assessments.

NSBA. TEEP schools performance improved significantly on the NSBA overall score, by 5.8 percentage points ($p < .05$) between baseline year (1999) and 2004-05 (although the school samples were not the same). Using just the 2003-2005 sample, TEEP school performance did not improve significantly between the two school years (2003 and 2005). However, the TEEP score was significantly higher (5.9, $p < .05$) than that of the comparable non-TEEP sample in 2005. The TEEP sample schools also performed significantly better in each grade level and in the individual subject areas tested (see NSBA 2005 technical report). Data disaggregated by type of school (e.g., multigrade, monograde, etc.) were not available to the ICR team; and division-level results are not reported here, as the division-level samples may not be robust. (The ICR mission did not have information available regarding the sampling frame and the robustness of the division-level samples.)

NAT. Analysis of nationwide NAT data shows a large improvement in the mean rank of TEEP schools.¹¹ Each school was ranked in the country on the basis of its NAT scores in 2002-03 and 2004-05 and its change in rank was calculated between these two school years. The analysis shows that the mean rank of TEEP ELS schools improved by 2,846 between 2002-03 and 2004-05.¹² In comparison, the improvement in the mean rank was lower for the schools located in two clusters of *non-poor divisions*: the mean rank improvement for National Capital Region (NCR) was 2,186, and the mean rank improvement for Pampanga+schools, another group of non-poor divisions, was 975. At 746, the change in mean rank was positive for non-ELS TEEP schools as well. Other groups of divisions either declined or improved less dramatically. However, data disaggregated at the individual TEEP division-level shows that not all TEEP divisions improved; in fact, the mean ranking of nine divisions declined. Nonetheless, their MPS score improved between 2002-03 and 2004-05. (Although this latter comparison is not strictly valid due to the differences in the grade levels tested – grade four in 2003 and grade six in 2005 – it provides an indication of the direction of the divisional performance). Analysis using a difference-in-difference approach with the NAT MPS data is not yet available.

Annex 10.1 provides division-by-division data on change in achievement rank and completion rates.

Department of education capacity through information-based decision-making and schoolbased grants

The project monitoring and evaluation subcomponent was established to ensure a robust system of data to track project implementation, progress, and outcomes, and to use the information generated for building capacity for transparent planning and policymaking at all levels of the education system. It was also instituted for improving management oversight and to provide support for project implementation. The project MIS built upon the core database of the DepED BEIS, which includes information on student enrollment and other key school information, such as school name, type of school, location, and so on. The system was envisioned to support the modernization of the DepED MIS and to establish the proposed DepED information and communication center. The MIS database includes additional elements, such as the results of the NSBA, and is electronically populated at the division-level and linked to the BEIS. Divisions without internet access to the database provide a CD of the database for CPISU input. The project has succeeded in enhancing capacity of DepED staff and other administrative staff involved in the project at all levels of the system, although support is clearly necessary at the division and school levels (see section 2.3).

The project also successfully supported 3,069 divisional grants (of which 2,990 have been completed and the remaining grants are ongoing) through SIIF, which were also considered to be an important aspect of capacity building at the local level. A total of 2,583 schools (30 percent) took advantage of the SIIF, including 726 multigrade (17 percent of all multigrade schools) and 836 large monograde and 1,021 small monograde schools (47 percent of all monograde schools). The SIIF projects focused on several types of interventions, including: production, development and printing of instructional materials, and development to instructional programs, specifically for underserved and disadvantaged students. All divisions except one, E. Samar, exceeded their targets; E. Samar completed only 59 percent of its projects.

The ICR mission interviews and document reviews revealed that the SIIF grants were clearly empowering, and, in coordination with the SBM component, provided schools with the autonomy to experiment with solutions that were specific to their environment.

Linkages between outputs and outcomes

The project results were achieved clearly due to the level of resources injected into the education system as well as the ways in which those resources were provided and the ways in which they were utilized. The emphasis on civil works and furniture ensured that physical capacity was not only available, but that the physical environment was attractive to parents and children to attend school safely and comfortably; the provision of textbooks and teaching materials ensured that the curriculum could be implemented and both teachers and students had access to key educational resources needed for teaching and learning; and the provision of extensive capacity building ensured that the resources being provided were used well and the knowledge and skills of the education staff were enhanced for management and teaching.

The management and information system and the student assessment components introduced much-needed rigor in developing and implementing data-based planning, programming, and assessing performance.

In addition, a clear catalyst for change was SBM, which served as the central integrating framework for directing project inputs and building local capacity for education planning and program implementation beginning in school year 2003-04. The core features of SBM included designing a five-year School Improvement Plan (SIP) in partnership with the parents and the community and using systematic data such as student achievement (based on school, division, or national tests) and students' language needs. Although small in terms of its share of project funds (about one percent, providing roughly PhP 1,000 per month per school), SBM was explicitly designed to yield large dividends: mobilize community support for the school; catalyze ownership of the education process and outcomes; and enhance transparency. SIIF similarly provided impetus for local planning and programming. SBM implementation was a gradual process, beginning with the principal-led school building program and school-based procurement of furniture, which empowered school heads to manage a portion of the school resources and oversee capital improvements of their buildings.

This is not to say that there were no implementation problems, or that the quality of the inputs and implementation processes was uniformly high. For example, the implementation of SBM has highlighted clear issues that need to be addressed going forward, including: (a) how the roles, responsibilities, and accountabilities of the various community stakeholders should be defined and clarified in devising school improvement plans; and (b) what roles and responsibilities teachers-in-charge should have in SBM, given time constraints. Several school heads interviewed noted the time-consuming nature of managing community relations, in addition to other responsibilities, such as providing instructional leadership. Furthermore, they emphasized that they want the community "involved, but not too involved." A separate evaluation of the SBM, sponsored by CPISU, is forthcoming. Many of the schools the ICR mission visited did not have 1:1 textbook ratio or adequate furniture, indicating distribution problems. Furthermore, students in several schools visited by the ICR mission were not allowed to take workbooks and notebooks home, potentially restricting parental involvement in education and limiting valuable time for learning. Distance to school still remains an issue with respect to access in remote areas. However, a trial and error approach and experimentation ensured that the use of project resources was broadly in the right direction.

Less clear is the contribution of the policy research component (including the studies under SIIF national window) of the project to meeting the project objectives. Although a number of research reports have been produced, and an inventory for the research completed is ready, the dissemination is weak, and recommendations have yet to be mainstreamed into policy. This fact implies that a key link in maintaining and mainstreaming knowledge into DepED operations is currently missing. Other research studies were not implemented. For example, the National Educational Testing and Research Center proposal to develop and standardize achievement tests was delayed and will not be completed, although a national policy on student achievement is currently under development.

Finally, it should be noted that many of the TEEP schools are also beneficiaries of other projects, such as UNICEF's program of child-friendly schools, which also potentially contribute to the observed outcomes in this project.

3.3 Efficiency

No NVP, ERR, or FRR was calculated for the project, and no analyses are available to assess the current status. However, the SAR presented supporting evidence regarding the investment choices (see Annex 5).

The SAR also cited a cost-effectiveness study in the Philippines that showed: The difference in student achievement between students with textbooks and those without ranged from 0.17 to 0.22 of a standard deviation in mathematics and Filipino, respectively. The cost-effectiveness ratio was 253 pesos per standard deviation of student achievement in mathematics; and the cost-effectiveness ratio for classroom furniture was 164 pesos per standard deviation of student achievement in mathematics.

The SAR also estimated the increase in the completion rate, if the quality of three education inputs (supplies, building, and teacher quality) were improved by 50 percent. In addition, the SAR provided simulations of the effect of the provision of workbooks, classroom furniture, and both, on increase in achievement, which ranged from 7.5 to 20 percent in NEAT mathematics scores.

The investment choices were grounded in research, but the project's efficiency in attaining the key objectives – enrollment, completion, and student achievement – cannot be accurately benchmarked due to lack of post-project completion comparative analyses in the Philippines. Nonetheless, in addition to the indicators discussed in this document under section 3.2, the project-supported gains in efficiency can be judged by the indicators discussed below, although not all gains are precisely quantified and compared against benchmarks or alternatives.

Achievement. The quality of education has improved (see section 3.2). Additional analyses show that the percent of schools reaching the 75 MPS mastery level in mathematics was 33 percent for TEEP ELS and 24 percent for other TEEP schools in 2005. In contrast, the next highest proportion of schools – 26 percent – reaching this mastery level was in Pampanga+, a non-poor group of divisions. A similar pattern is evident for all subjects combined (see the JBIC report).

The project cost roughly PhP 845 pesos per year per enrolled child (based on total project cost in pesos, including LGU contributions, divided by an estimate of the total number of children enrolled during the eight plus years of the project).ⁱ[13] A rough cost-effectiveness ratio, using the overall NSBA gain in student achievement from 1999 to 2005, was PhP 834 per student per standard deviation gain. The cost-effectiveness ratio comparing TEEP versus non-TEEP 2005 NSBA scores was similar at 837 pesos per standard deviation. The actual difference in achievement in each case was about one standard deviation.¹⁴ The per capita cost in the Philippines for elementary education was PhP 4,811 in 1998 and PhP 5,725 in 2004 (in nominal terms).ⁱⁱ[15] TEEP provinces were allocated an additional PhP 57 in 1998 and PhP 311 in 2004, for a total of PhP 4,848 in 1998 and PhP 6,036 in 2004. If we assume that 60 percent of the project funds were spent on civil works (based on actual IBRD expenditures) and the remaining were provided on top of the per pupil expenditures noted above, the "extra" per pupil costs would amount to PhP 311 for MOOE (2004) and PhP 338 project funds, for a total of PhP 649 in 2004. Using this figure, at the higher end, the overall gain in student achievement cost an extra 11 percent per student per year. The ICR team is unable to comment on whether the gains justify the extra cost due to lack of comparative data. However, the government could further analyze these data and develop benchmarks for the future.

Time for completing civil works. The principal-led construction was typically completed in 90 days as compared to 120 days required for LGU-led construction. Estimates by the JBIC review based on a small sample show that the

average cost per room for a two-story six monograde-classroom building was PhP 465,260 for the construction completed between 2002-2005, as opposed to PhP 562,800 under the Department of Public Works and Highways, for a savings of PhP 97,540 or 17 percent. Similarly, savings for a one-story six monograde-classroom building was estimated to be six percent.

Textbook costs and availability. Textbooks costs were reduced by at least 40 percent and took less time, 12 months, to procure than the standard of 24-36 months in previous years. The project achieved an overall 1:1 textbook:student ratio (rather than the 2:1 target) within the same budget envelop, due to combining procurement with the Second Social Expenditure Management Project (SEMP), also funded by the World Bank. Bidding time was reduced from 24 months to 3 months.

The question is whether the gains achieved can be sustained and spread to other provinces given budget requirements. As discussed in section 2.5, GOP plans to mainstream key processes of the project, and the Bank is supporting this effort through the NPSBE project. The analyses included in the NPSBE Project Appraisal Document (RN 35445-PH) shows that the plans to redeploy teachers will result in substantial yearly savings (reducing expenditures by PhP 2.1 to PhP 9.4 billion). LGU implementation of the school building program is expected to result in savings of another PhP2.4 billion to PhP3.4 billion. GOP has identified other sources of funds as well. Thus, the project gains are expected to continue.

Annex 3. Economic and Financial Analysis

The SAR presented analyses which showed that: (a) the average provincial per capita expenditure (of households) was correlated with net enrollment ratio and student achievement (no correlation coefficients were provided); (b) the incidence of poverty was lower in households headed by individuals with a college education compared to those without; (c) about one-fifth of children dropped out of school due to inaccessibility of schooling and high cost of education; unsurprisingly, the cost-to-income ratio was higher, 35 percent, for the bottom per-capita expenditure quintile as compared to five percent for the top quintile, and parental contributions to per unit cost financing had increased five fold between 1986 and 1994; (d) student absenteeism was negatively associated with school quality; and (e) research that showed that private rates of return to schooling in 1988 were highest for primary schools (18.3) percent, and the estimated social rate of return was 13.3 percent.

The project was expected to reduce the costs of children going to school by improving its quality and accessibility. Thus, the private costs of education were expected to become lower than 30 percent, the estimate available from 1994. It is unclear, however, whether this expectation was realized.

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