

Performance
Evaluation Report

Indonesia: Decentralized Health Services Project



Performance Evaluation Report
December 2013

Decentralized Health Services Project in Indonesia

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Note

- (i) The fiscal year (FY) of the Government of Indonesia ends on 31 December.
- (ii) In this report, "\$" refers to US dollars.

Key Words

advocacy, asian development bank, capacity building, decentralized health services project, demographic and health survey family planning services, health insurance, health sector reforms, health service utilization financing program, health system management, independent evaluation department, indonesia, infant and maternal mortality rate performance evaluation report, project management support, under-5 mortality rate

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Abbreviations

ADB	–	Asian Development Bank
BAPPENAS	–	Badan Perencanaan dan Pembangunan Nasional (National Development Planning Agency)
BKKBN	–	National Population and Family Planning Board (Badan Koordinasi Keluarga Berencana Nasional)
DHS	–	Decentralized Health Services Project
DHS2	–	Second Decentralized Health Services Project
IDHS	–	Indonesia Demographic and Health Survey
IED	–	Independent Evaluation Department
IMR	–	infant mortality rate
M&E	–	monitoring and evaluation
MDG	–	Millennium Development Goal
MMR	–	maternal mortality ratio
MOH	–	Ministry of Health
MNCH	–	maternal, newborn, and child health
NGO	–	nongovernment organization
PCR	–	project completion report
SDR	–	special drawing right
SUSENAS	–	National Socioeconomic Survey (Survei Sosial Ekonomi Nasional)
TA	–	technical assistance
U5MR	–	under-5 mortality rate

Currency Equivalents

Currency unit – rupiah (Rp)

		At Appraisal	At Project Completion	At Evaluation
		14 December 2000	30 June 2009	30 November 2013
Rp1.00	=	\$0.00011	\$0.000097	\$0.000085
\$1.00	=	Rp9,315	Rp10,257	Rp11,755

Glossary

<i>Askeskin</i>	–	health insurance for the poor
<i>Jamkesmas</i>	–	health service utilization financing program
<i>Jampersal</i>	–	maternal health financing program
<i>JPS-BK</i>	–	Social Safety Net Program for Health
<i>polindes</i>	–	village delivery center
<i>posyandus</i>	–	village health posts
<i>puskesmas</i>	–	health centers

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The report was prepared under the overall guidance of Vinod Thomas, Director General, and Walter Kolkma, Director (Division 1), IED. IED retains full responsibility for the report.

Basic Data

Loan 1810-INO Decentralized Health Services

Project Preparatory and Institution Building Technical Assistance

TA No.	TA Name	Type	Amount (\$'000)	Approval Date
3448	Decentralized Health Services	PP	180.00	26 May 2000
3579	Support for Health Sector Policy Reform	AD	1,000.00	14 Dec 2000

Key Project Data (\$ million)	Per ADB Loan Documents	Actual
Total project cost	87.00	91.57
ADB loan amount/utilization	65.00	59.31
ADB loan amount/cancellation		15.88

Key Dates	Expected	Actual
Appraisal mission		25 Sep–23 Oct 2000
Inception mission		3–12 Apr 2001
Loan negotiations		16–17 Nov 2000
Board approval		14 Dec 2000
Loan agreement		27 Mar 2001
Loan effectiveness		25 Jun 2001
Loan closing	30 Sep 2006	30 Jun 2009
Months (effectiveness to completion)		96

Borrower	Republic of Indonesia
Executing Agency	Ministry of Health

Type of Mission	No. of Missions	No. of Person-Days
Appraisal	1	49
Inception	1	0
Review	13	155
Midterm review		54
Project completion review		20
Independent evaluation mission	1	14

AD = advisory, ADB = Asian Development Bank, PP = project preparatory, TA = technical assistance.

Executive Summary

The project performance evaluation report of the Decentralized Health Services Project in Indonesia provides a set of lessons from a sector-wide, reform-based health program in a country going through a process of decentralizing government services since 1999. The findings from the evaluation will feed into higher-level evaluations, including validation of the country partnership strategy final review planned for 2014.

The Asian Development Bank (ADB) approved a loan of \$65 million and project preparatory technical assistance (TA) of \$800,000 on 14 December 2000. The loan closed on 30 June 2009 after two extensions. An advisory TA of \$1 million, financing 36 person-months of the work of an individual consultant, was attached to the loan with the objective of strengthening local health sector reform. The project was originally designed to cover 50 districts and 12 cities in seven provinces but, as decentralization evolved, the coverage expanded to 73 districts in eight provinces.

The project aimed to improve the health status of the population in the project areas. It had twin objectives of (i) improving health and family planning services, and (ii) guaranteeing access of the poor to essential health and family planning services. Project components comprised (i) advocacy and capacity building; (ii) adaptation of health services to local needs through appropriate health sector reforms; (iii) investments in health and family planning; and (iv) project management support (e.g., implementation, and monitoring and evaluation). Likewise, the advisory TA envisaged six outputs: (i) health sector reforms identified, (ii) capacity for health system management and health service delivery built, (iii) health plans developed, (iv) awareness of health priorities created among decision makers, (v) operations research capacity developed, and (vi) project management supported.

The evaluation concludes that project performance was *successful* overall, which was also the project completion report's assessment. Primary, district, and provincial health services have developed to improve access for a greater number of people, including those in remote and rural areas, because of project support.

Locally, however, health service delivery has been constrained by limited funding that focuses on administrative expenditure and involves significant transaction costs. Insufficient recurrent expenditure, limited hospital beds and specialists, and high staff turnover are often inadequately dealt with. Nevertheless, the central government is responding to some of these concerns with the introduction and subsequent scaling up of health insurance schemes such as those initiated under the project.

The project is rated *relevant* at the time of design, during implementation, at completion, and at evaluation. It was also relevant in the context of Indonesia's development priorities, ADB's country strategy, and the Millennium Development Goals associated with child and maternal health. The project design would have benefited from smaller coverage (fewer provinces) and a more rigorous process in targeting disadvantaged populations to further enhance project relevance. Greater consideration of project risks, particularly related to institutional capacity and political economy, and development of risk mitigation strategies would have added rigor to the project design. The evaluation team notes that the midterm review of the project led to greater focus

on maternal and child health. This resulted in less emphasis on family planning and nutrition.

The project's performance is rated *effective* in achieving the stated outputs and outcomes. The health service infrastructure built or renovated with project support was found to be in good condition and well maintained. Similarly, health facilities are using the project-supported equipment well. A large number of health service staff received management and technical training and fellowships for higher studies. Some of them now occupy key positions in the health system. A review of health facility utilization suggests that poor households who otherwise could not afford health services have benefited the most. Health insurance coverage for the poor has also been a major catalyst for greater use of health facilities. Some of the reform measures introduced by the project, particularly subsidy to trained birth attendants and health insurance for the poor, have been scaled up and are likely to benefit disadvantaged groups.

Overall, the health outcome indicators show improvements across Indonesia, although no significant differences are observed between project-supported and non-project-supported districts or provinces. This applies to both the infant mortality rate and maternal mortality ratio. As suggested earlier, the project set ambitious targets and geographical coverage, which resulted in resources being spread thinly. Some of the targets proved unrealistic. For example, the project aimed to have at least 90% of deliveries assisted by trained birth attendants. This has been achieved only in Bali. In Central Sulawesi and Southeast Sulawesi coverage of skilled delivery is still below 70%. The size of resources committed across the vast implementation area was too small to make an impact on the provinces as a whole, even though the project led to positive results locally.

The project is rated *less efficient* due to implementation delays and limited economic returns. A six-month delay in loan effectiveness, two extensions to the project implementation period, and late release of counterpart funds contributed to this. Although the project produced most of its planned outputs, outcomes have not fully materialized. Most notably the revision of the economic analysis conducted during appraisal indicates that the project impacts have been significantly smaller than anticipated. The analysis at appraisal was based on the burden of disease in Indonesia being reduced by 4% compared with the burden of disease in developed countries. Given that the difference in health indicators in project and non-project provinces has not changed significantly, a 4% reduction in burden of disease is unlikely to have happened.

The evaluation finds that the project benefits are *likely sustainable*. Civil works and equipment procured under the project are fully utilized and many of the staff trained under the project have moved to key positions in local health administrations. Project-supported policy reform initiatives such as health insurance piloting in districts of Bali have been rolled out across the province, and are likely to be replicated as part of the upcoming expansion in the national insurance scheme. Schemes to subsidize traditional birth attendants are still being implemented and training modules are now included in local government curriculums and training programs. Furthermore, local governments have demonstrated commitment to improving health service delivery and increasingly began allocating more funds for health interventions. In cities, a number of well-equipped hospitals have been established and are available for referral services when required.

The evaluation concurs with the project completion report's assessment that ADB's performance was *satisfactory*. ADB fielded missions on time and accommodated government requirements, including two extensions of the loan closing date. Government performance, on the other hand, is rated *less than satisfactory*. Delayed release of counterpart funds of up to 6 months in a given year limited project activities that could only be taken up once funds were released. Project funds could have been used in fewer provinces with higher poverty incidence and lagging health indicators. Local area investment planning also should have been more pro-poor in its resource allocation. A more explicit guideline should have been issued on planning project allocations for different tiers of the health system and targeting lower-income districts. Efforts to encourage local governments to increase recurrent health expenditure should have been more emphatic.

Indonesia continues to face hurdles in the health sector. Key challenges are:

- (i) Needs are greatest in remote and rural areas. In many areas, outreach is limited due to geographical isolation.
- (ii) Wide disparities in technical and managerial capabilities, as well as in monitoring systems, remain across health service centers at all levels.
- (iii) The local health system puts too much emphasis on administrative support.

The evaluation recommends four measures:

- (i) ADB should remain engaged with the Government of Indonesia in the health sector because a large segment of the population is still in dire need of modest health services. This is consistent with ADB's inclusive-growth approach.
- (ii) ADB should promote that local, district, provincial, and central governments work on and adhere to a clear funding framework for stronger health and family planning services at all levels. Health service facilities need reliability and less complexity in funding for infrastructure development, procurement of equipment and drugs, and retention of qualified health workers.
- (iii) ADB should help the provincial governments, with support from the central government, to promote twinning arrangements with health facilities in other provinces and cities. This can serve as a sustainable model for increasing outreach of health services as well as skills development of health workers.
- (iv) ADB should have policy dialogue with the central government regarding the need for a lead role of the National Development Planning Agency, Ministry of Health, National Family Planning Coordination Board, and Statistics Indonesia in ensuring that health-related statistics are collected regularly and records are updated in a timely manner.

CHAPTER 1

Introduction

1. This chapter describes purpose and process adopted for the project performance evaluation. It states expected results and outlines project objectives and highlights key assessments provided in the project completion report.

A. Evaluation Purpose and Process

2. The Decentralized Health Services Project (DHS) in Indonesia was selected for evaluation to determine lessons from a sector-wide, reform-based program in a country experiencing decentralization. It also aimed to fill the knowledge gap in the performance of health projects supported by the Asian Development Bank (ADB). The evaluation findings will feed into other thematic and country evaluations by the Independent Evaluation Department (IED) in the near future. IED did not validate the findings of the project completion report (PCR) for this project.¹

3. ADB prepared the PCR in 2010 based on available data and concluded that, as of 2007, achievement of the targeted health indicators² had fallen short. However, the status of these targets was not known at the time of the PCR. Since then, the Indonesia Demographic and Health Survey (IDHS) of 2012 has been completed and preliminary results have been published, and this helped the evaluation team to ascertain the degree of achievement of targets.

4. One of the key elements of project justification was that investment in public health through the project would yield considerable economic benefits and substantial cost savings.³ The economic analysis at project appraisal was based on disability-adjusted life year and regional gross product data in each of the seven provinces, but it was not updated in the PCR. Hence, it is not known to what extent the reported “benefit–cost ratio in the range of 1.1 to 11.8” was realized. The PCR rated project performance less efficient based on process indicators such as contract awards, disbursements, and implementation delays.

5. The rationale given in the PCR for preliminary assessment of project sustainability (sustainable) was solely based on districts’ budget allocation for health. While it states that health-care reforms were adopted in all districts’ medium-term development plans, it does not say whether all or some reforms were implemented and continued by the central and district governments. The PCR states that several innovations were launched under the project (footnote 3, para. 16) but that it was not clear how successful these innovations were. Hence the PCR suggested that an

PCR suggested an evaluation of the efficiency and sustainability of the various local health initiatives

¹ ADB. 2010. *Completion Report: Decentralized Health Services Project in Indonesia*. Manila.

² The indicators included maternal mortality ratio, infant mortality rate, under-5 mortality rate, and life expectancy at birth. In addition, four outcome (purpose) targets included contact rates, unmet need for family planning, financial sustainability of health facilities, and the sustainability of local health safety-net programs.

³ ADB. 2000. *Report and Recommendation of the President to the Board of Directors: Proposed Loan and Technical Assistance Grant (financed from the Japan Special Fund) to Indonesia for the Decentralized Health Services Project*. Manila, paras. 114–115.

evaluation of the efficiency and sustainability of the various local health initiatives was needed before replicating the initiatives. It is not known if such an evaluation was made and if some or all innovations were replicated.

6. The evaluation is based on a review of program documents, various country studies, and the findings of an independent evaluation mission to Indonesia.⁴ The evaluation team undertook additional analysis to supplement data collected during the mission and data provided by the Directorate of Nutrition and Maternal Child Health.

7. The evaluation report has been prepared 3 years after the PCR was issued and is based on IED guidelines.⁵ It provides an in-depth analysis of relevant evaluation parameters, including economic reevaluation. It focuses on project outcomes and impacts as well as sustainability of benefits attained during the project period.

B. Expected Results and Project Objectives

The project aimed to improve the health status

8. The project aimed to improve the health status of the population in the project areas. Its objectives were:

- (i) improved health and family planning services, and
- (ii) guaranteed access of the poor to essential health and family planning services.

9. The project activities were clustered into four outputs:

- (i) advocacy and capacity building;
- (ii) adapting health services to local needs through appropriate health sector reforms;
- (iii) investments in health and family planning; and
- (iv) project management, including implementation, monitoring, and evaluation.

10. Technical assistance (TA) attached to the project⁶ envisaged six outputs:

- (i) health sector reforms identified,
- (ii) capacity for health system management and health service delivery built,
- (iii) health plans developed,
- (iv) awareness of health priorities created among decision makers,
- (v) operations research capacity developed, and
- (vi) project management supported.

⁴ The mission team held discussions with staff at the Directorate of Nutrition and Maternal and Child Health, and project staff of the Second Decentralized Health Services Project (DHS2); made field visits to selected sites in North Sulawesi, Bali, Central Sulawesi, and Riau Islands; held discussions with development partners such as the Australian Agency for International Development (AusAID), the German Society for International Cooperation; United States Agency for International Development (USAID), World Health Organization (WHO), and collected inputs from health facility staff.

⁵ IED. 2006. *Guidelines for Preparing Performance Evaluation Reports for Public Sector Projects*. ADB: Manila.

⁶ ADB. 2000. *Technical Assistance to Indonesia for Decentralized Health Services*. Manila (TA 3448, approved on 26 May 2000 for \$180,000).

C. Project Completion Report Assessment

11. ADB approved the PCR in January 2010, and it rated the project successful. The project was assessed as relevant, effective, less than efficient, and likely to be sustainable. It was consistent with ADB's strategy and met most stated objectives. When the project began, decentralization had not adequately clarified the devolution of functions to different tiers of government, which made implementation of the project, and local provision of health services, a challenge. This led to implementation delays, and consequently the project was deemed less than efficient.

12. Regarding the outputs, the project was effective and met many appraisal targets for the physical infrastructure and training. Regarding the outcome, the project was assessed as effective. It contributed to better health and family planning service delivery in the project areas. It helped develop capacity for local health planning and management, and bolstered the technical skills of doctors, nurses, village midwives, and paramedical staff. The PCR notes that the institutional agenda could have been more effective if the phasing or timing of policy reforms, resource constraints, and the political will of stakeholders had been realistically assessed and factored in.

13. The PCR also states that the TA produced several documents on local health sector reforms and training modules for health planning and budgeting, which the PCR deemed flexible and relevant. The project was originally designed to cover 50 districts and 12 cities in 7 provinces, but as decentralization evolved the coverage was expanded to 73 districts in 8 provinces. Of the 19 major covenants, 15 were complied with, 2 were partly complied with, and 2 were complied with delays. Partial compliance resulted from the late release of counterpart funds and the failure to recruit an international project management firm. Late compliance resulted from the late fielding of the midterm review mission and late submission of the government's PCR.

CHAPTER 2

Design and Implementation

14. The chapter draws on review of relevant documents, discussions with key informants, and data provided by the project. It discusses project formulation and rationale behind the project and summarizes cost, financing and implementation arrangements; procurement, construction and scheduling; and design changes. It also highlights four key outputs achieved under the project and reviews consultant performance and loan covenants associated with the project.

A. Formulation

Project preparation lacked detail

15. Overall, the evaluation noted that project preparation lacked detail. Local governments developed preliminary investment programs to meet local health issues and challenges. Due to the brevity of planning, it was agreed that the project would be revised after district and provincial staff had received further training in health planning and management. Consequently, implementation was done in two phases. The first phase focused on training and capacity building, with consolidation of local health sector development plans into more comprehensive sector plans. These plans were revised by the executing agency—the Ministry of Health (MOH)—and approved by ADB following certain criteria defined in the loan documents. The plans were implemented in the second phase of the project.

16. Given the limited time for project preparation there were no detailed reports on public health, medical equipment, and procurement needs in each province; and assessments of training needs assessments for operational and management staff. According to the PCR, the TA produced a number of documents on local health sector reforms and training modules for health planning and budgeting, but this input was provided only midway through implementation.

B. Rationale

The central government devolved some of its health-related responsibilities in 2001

17. At the time of project formulation, health service delivery in Indonesia was highly centralized, with limited management capacity at the district and local levels. As a result, health services were perceived to lack responsiveness to local issues. The central government devolved some of its health-related responsibilities in 2001, in line with laws governing regional autonomy and passed in 1999.⁷ At the time of project design it was deemed important that access to essential health services for the poor, vulnerable groups, and women be sustained during the transition because the country was still recovering from the Asian financial crisis 1997–1998. The Social Safety Net Program for Health (JPS-BK),⁸ which had been established with ADB support to

⁷ Law on Regional Autonomy (Law No. 22/99) and Law on Fiscal Balance (Law No. 25/99).

⁸ ADB. 1998. *Report and Recommendation of the President to the Board of Directors: Proposed Loans and Technical Assistance Grants (financed from the Japan Special Fund) to Indonesia for the Social Protection Sector Development Program*. Manila (Loans 1622-INO and 1623-INO), approved on 9 July 1998 for \$300 million (with 50.8% of the loan amount for the health sector); and ADB. 1999. *Report and Recommendation of the President to the Board of Directors: Proposed Loans and Technical Assistance Grants (financed from the Asian Currency*

protect vulnerable populations from the adverse impact of the crisis, also needed financial replenishment.

18. The project design team noted that a reformulation of the JPS-BK was required considering the challenge of decentralization with better targeting and cost-effective delivery of health services. Nutrition, reproductive health, and communicable disease control remained key issues for the health sector, along with the introduction of capacity to reform health-care financing and human resource development. In addressing these issues, the government faced a considerable resources gap since the JPS-BK was largely externally financed. In response to this need, the government requested ADB's support in early 2000 to help implement decentralization in the health sector. DHS was approved on 14 December 2000 and became effective on 25 June 2001.

19. At appraisal, the government had given high priority to sustaining health service delivery at a time of major upheaval in the architecture of the public sector health system. The project was undertaken at a time when central government services were being devolved and limited capacity for implementation was apparent at lower government levels. At the midterm of implementation, the government accorded high priority to improving women's health and project activities were reorganized to meet this demand. The project provided support for implementing government's priority. ADB had also accorded high priority to improving women's health in its 1999 Health Policy, and so this project was in line with the priorities of both the government and ADB. Indonesia's health policy, "Healthy Indonesia 2010," highlights the need to support primary health care and boost expenditures for health.⁹

20. In the Millennium Development Goal (MDG) progress report, the MDG targets associated with maternal health in Indonesia required special attention, particularly in relation to skilled attendance at child birth.¹⁰ Leading causes of maternal mortality included high-risk pregnancies and unsafe abortion. Constraints such as inadequate family planning, limited access to basic and emergency obstetric and neonatal care, limited capacity of health professionals in some areas, and a weak referral system hinder improvements in maternal health. These considerations make the project relevant in both the current and past contexts of the need to improve women's health.

MDG targets associated with maternal health in Indonesia required special attention

C. Cost, Financing, and Executing Arrangements

21. At appraisal, the project was estimated to cost \$87.0 million, with ADB providing a loan of \$65.0 million equivalent (special drawing right [SDR] 50.5 million) from its Special Funds resources. The government was to provide \$22.0 million mainly to finance taxes and duties, recurrent costs during implementation, and a portion of the civil works, training, consultants, operations research, and project management. By output, actual expenditures for advocacy and capacity building were 34% above those estimated at appraisal. Actual project management expenditure was 40% higher than that forecast at appraisal, largely because the project implementation period was much longer than planned. Only the operations research and pilot-testing output

Crisis Support Facility) to Indonesia for the Health and Nutrition Sector Development Program. Manila (Loans 1675-INO and 1976-INO), approved on 25 March 1999 for \$300 million.

⁹ C. Rokx et al. 2010. *New Insights into the Provision of Health Services in Indonesia: a Health Work Force Study.* Washington, DC: World Bank.

¹⁰ The National Development Planning Agency of Indonesia. 2011. *Report on the Achievement of the Millennium Development Goals, Indonesia 2011.* Jakarta.

(Adapting Health Services to Local Needs) incurred 17.4% less expenditure than planned (\$5.369 rather than \$6.501 million).

22. Disbursement by cost category reflects differences in output specific implementation. Output 3 (Investments in Health and Family Planning Services) was largely implemented as planned, so planned and actual disbursements for civil works and equipment are similar. For example, \$12.629 million was the planned expenditure for civil works and \$12.707 was disbursed. However, only 23% of the planned expenditure on domestic and international consultants (\$0.833 of \$3.630) was utilized. The implication of the shortfall is summarized in section G of this chapter.

23. The PCR noted that as a result of the appreciation of SDR against the US dollar, the dollar equivalent of SDR50.5 million increased from \$65.0 million to about \$72.0 million. When loan cancellations of \$12.6 million are considered, the undisbursed loan balance was only \$3.3 million. The actual expenditure stood at \$91.6 million, comprising \$59.3 million in ADB financing and \$32.3 in government funding. Thus ADB's actual contribution was 64.7% of the project cost instead of the originally envisaged 74.7%.

The provincial focus of the design was inappropriate

24. MOH established a central project management unit for managing implementation of non-family-planning activities, along with provincial management units in each of the project provinces. District implementation units were responsible for monitoring project implementation in subdistricts and villages. Some of the key informants told the evaluation team that the provincial focus of the design was inappropriate given that the devolution of health system management to the districts required district-specific project management capacity and training.¹¹

25. At appraisal, the World Bank (footnote 9) noted an intermediate role for the provinces in technical support, disease surveillance, health promotion, procurement, and personnel management.¹² At that time, however, it was unclear how functions would be distributed between central, provincial, and district authorities, even though the Law on Regional Autonomy had decentralized most health-related responsibilities. Consequently, ADB adopted a somewhat centralized project management structure for its follow-on project, the Second Decentralized Health Services Project (DHS2),¹³ since regional lack of professional and management skills was found to be the greatest constraint on implementation.

26. The family planning component was implemented by the National Population and Family Planning Board (BKKBN). It established a central management unit and secretariats in each of the project provinces. Institutional issues—such as family planning being integrated into local government offices, resulting in the loss of staff, and the absence of a joint technical committee (with representatives from MOH and BKKBN)—hindered project planning and implementation.

¹¹ The design of the follow-on project, DHS2 (footnote 13), thought to reflect the lesson of not having this focus and established greater district management control over implementation.

¹² World Bank. 2008. *Provincial Health Project in Indonesia*. Washington, DC. Available: <http://documents.worldbank.org/curated/en/2008/06/9736257/indonesia-provincial-health-project>

¹³ ADB. 2003. *Report and Recommendation of the President to the Board of Directors: Proposed Loans to Indonesia for the Second Decentralized Health Services Project*. Manila.

D. Procurement, Construction, and Scheduling

27. The project suffered considerable and repeated delays in civil works and in procurement of medical equipment and supplies. The key reason was the late release of counterpart funds, which narrowed the effective implementation window to only 6 months per year. Once funds were available progress was considered satisfactory. However, the continued delays resulted in two project extensions. Liquidity issues after the Asian financial crisis were noted as a possible cause in the evaluation team's discussions with stakeholders.¹⁴

The project suffered considerable and repeated delays

28. Civil works, which mostly involved either rehabilitation or rebuilding on the same land, were mostly awarded through competitive bidding. The PCR reported the performance of the civil works contractors as generally satisfactory. The quality of facilities inspected by the evaluation team was deemed good, and minor needs for repair (in roofing) and some drainage issues were to be expected given the age of infrastructure. Several key informants told the evaluation team that the lengthy bidding process under ADB guidelines, including letters of no objection, caused unnecessary delays to project implementation.

29. Contracts with an estimated value below a ceiling amount agreed during loan negotiations did not require a letter of no objection from ADB, but that ceiling had been set at a low level of \$50,000. Taking advantage of decentralization, some procurement and civil works contracts were divided into smaller, district-specific packages that often stayed below the ceiling, but because they had originally (at appraisal) been estimated to be above this threshold there was confusion about the proper procurement method. Better specification of civil works and equipment at design, and during implementation, might have helped overcome some of these problems, as would have TA on ADB processes.

30. The evaluation team found that all equipment procurement had been completed and inspection of facilities showed much of the equipment to be in good order. Some medical equipment was coming to the end of its useful life. Most health departments' staff indicated that local government finances were sufficient to replace basic equipment. Some noted the need for more sophisticated scanning equipment, but these could not be supported using local resources. The evaluation team observed that bed capacity was reaching the limit—bed occupancy rates exceeded 80%, in part because of expanded health insurance coverage. Hospital managers indicated that access to government finance was limited to covering the costs of capital equipment and precluded extensive infrastructure development.

The evaluation team observed that bed capacity was reaching the limit

31. The project was to be implemented over 5 years, with physical completion scheduled for 30 September 2006. It was physically completed on 30 June 2009, after two extensions. The major reasons for delay have already been discussed. Much of the delay occurred before the midterm review. In February 2004 (55% elapsed loan period), project implementation progress was 46%, cumulative contract awards were at 21%, and disbursements had reached 16%. At the time of the final loan mission, the project had achieved physical implementation progress of 89% against an elapsed loan period of 98.6%. Civil works were completed in 2006 and all goods had been delivered. By 18 November 2008, all proposed contract packages had been awarded and completed.

¹⁴ The DHS2 has not encountered these issues, so the problem appears to have been rectified.

Lengthy procurement processes were compounded by the lack of capacity

32. Issues associated with delays in counterpart funding and lengthy procurement processes were compounded by the lack of capacity to develop district implementation plans during the startup phase of the project. The lack of capacity and consequent time taken to formulate local investment plans was highlighted during the evaluation team's field visits, and suggests that the phasing and scope of the project was too optimistic given the uncertainty surrounding decentralization in Indonesia. The delay in mobilizing TA to help develop local planning capacity also undermined implementation efficiency, and given the size and geographic scope of the project, the original TA value was insufficient.

E. Design Changes

33. At the request of the government, ADB provided associated TA to assess project achievements and gaps.¹⁵ The analysis concluded that, among other things, the outcomes supported by the project were not on course to meet the 2010 targets set for the maternal mortality ratio (MMR) and the under-5 mortality rate (U5MR).¹⁶ Under the TA, at the request of the project manager, the consulting team formulated a "comprehensive grand strategy" to refocus on maternal and newborn child health (MNCH). The government approved the strategy, which had five pillars:

- (i) Improve the supply side of essential MNCH services in terms of access, quantity, and quality.
- (ii) Stimulate community demand for MNCH and family planning services.
- (iii) Improve cooperation between the public sector and private and nongovernment organizations (NGOs).
- (iv) Increase the capacity of district health offices to manage MNCH.
- (v) Develop local political commitment and funding for health and family planning from local government and Regional House of Representatives (*Dewan Perwakilan Rakyat Daerah*).

The new focus paid more attention to MNCH

34. According to key informants, the new focus paid more attention to MNCH and less attention to family planning and nutrition. This was partly attributable to reorganization within MOH and changes in project responsibilities.¹⁷

F. Outputs

35. The project had four outputs. Most were delivered as planned, although expenditures for output 2, which aimed to pilot local reform initiatives and to increase service efficiency, were 17.5% less than at appraisal (\$5.369 million compared with \$6.501 million). For all other outputs, planned and actual expenditures were close.

1. Output 1: Advocacy and Capacity Building

36. Output 1 primarily supported the training of staff in health system management and to a lesser degree in clinical skills, mainly in the area of MNCH. The first phase of the project included advocacy, social mobilization, and workshops to

¹⁵ ADB. 2000. *Technical Assistance to Indonesia for Support for Health Sector and Policy Reform*. Manila (TA 3579), approved on 14 December 2000 for \$1 million, associated with Loan 1810-INO (footnote 3).

¹⁶ Ministry of Health. 2008. *Completion Report: Decentralized Health Services Project in Indonesia*. Jakarta (p. 10).

¹⁷ At the time of the midterm review in 2005, the project was under the Directorate General of Community Health, a change from the earlier arrangement under the Secretary General (Project).

assist implementation, and involved 31,000 participants (52.3% male and 47.7% female). The project developed collaboration with local universities and teaching institutions with expertise in public health during this phase. Advocacy was used by the district health offices to receive support from local government and political commitment from local parliament, and from various local community leaders.

37. Various courses were offered, including short ones (less than 1 week). Diploma courses included midwifery, nursing, and nutrition, while undergraduate courses covered health management, health promotion, statistics, and nursing. Master courses were provided both in Indonesia and abroad in field epidemiology, reproductive health, health promotion, public health, and health economics. PhD courses on health management, and policy and nutrition, and specialized training for cardiologists and pediatricians were also supported. In all, 3,032 staff benefited from fellowships (Table 1) and nearly 56% of the participants were women. The proportion of women participating in bachelor's degree, master's degree, and specialist courses was unfavorable, however—the share of female staff trained is well below 50%.

Table 1: Number of Fellowships under the Project by Staff Level

Year	Staff Level								Total
	D-III	D-IV	S1	S2	Spec	S3	S2 (os)	SC	
2001–2005	1,231	62	655	575	21	8	32	36	2,599
2006–2008	50	6	134	219	2	0	6	18	433
Total	1,281	68	789	794	23	8	38	54	3,032
Female %	75.5	92.6	43.5	38.5	34.8	12.5	50.0	46.3	55.6

D-III = diploma 3, D-IV = diploma 4, S1 = bachelor's degree, S2 = master's degree, S2 (os) = short course (overseas), S3 = doctoral degree, SC = short course (in-country), Spec = specialist

Note: Based on Law No. 20/2003 on the National Education System, education in Indonesia consist of basic education, middle education, and higher education. Higher education encompasses: diploma, sarjana, magister, specialist, and doctorate. Diploma (D) is shorter and more practice-oriented than sarjana/bachelor (S). Diploma 4 (D-IV) is equal to the bachelor's degree (S1). After finishing D-IV or S1, a student can move to S2 (magister) or specialist (Spec) education (to become a doctor, for instance). Diploma levels are: diploma 1 (2 semesters), diploma 2 (4 semesters), diploma 3 (6 semesters), diploma 4 (8 semesters).

Source: Independent Evaluation Department—data collected by the evaluation team during field visits.

38. A consortium was established to coordinate the training program. Its members included BKKBN and the Ministry of Health and Social Welfare, university staff (national, regional, and local universities), and representatives of professional bodies (doctors and nurses) and NGOs. The main roles covered provision of technical support to formulate and implement human resource development activities and action programs; mobilization of necessary resources for training units; and evaluation of the impact of human resource development. The consortium established a list of training needs, then started developing corresponding modules for both the trainers and the trainees. To date, eight modules have been developed.

39. Management training involved 21,000 participants (57% female and 43% male). It aimed to improve the capability of health staff in the management of decentralized health services, decentralized health facilities, and priority health programs. The key informants cited capacity development as one of the major benefits of the project. Many respondents reported that local health resources could not support such training, although it had been instrumental in the career development of many current senior health officials. Key benefits listed by interviewees were: (i) better planning, (ii) module development for local government training, (iii) better organizational planning, (iv) ability to budget, (v) capacity to mobilize the community,

Many respondents reported that local health resources could not support such training

(vi) enhanced management of public health center facilities, (vii) problem solving, and (viii) networking.

40. Technical needs-based training covered lifesaving skills for midwives, basic emergency obstetric or neonatal care, normal delivery care, and comprehensive emergency obstetric and neonatal care. Training focused on developing the skills of midwives at health centers and village delivery centers (*polindes*) that provide ante- and postnatal care and assist with deliveries.

Midwives indicated that the training had been of value

41. The PCR noted that the project trained about 40,000 midwives and nurses, most of them district based, on lifesaving skills over 2 years. Midwives interviewed by the evaluation team indicated that the training had been of value and pointed to a need for follow-on training to refresh their skills, and to train new cohorts of midwives. Stated benefits from the training program were: high-risk pregnancy identification, improved referral capacity, antenatal care, emergency obstetrics, post-delivery care, and access to MNCH kits. However, the local budget was viewed as insufficient to meet the demand for MNCH training.

42. According to the PCR and based on discussion with BKKBN senior staff, capacity building in family planning covered: (i) training and fellowships for reproductive health and family planning; (ii) civil works to renovate warehouses, training centers, intensive and critical care facilities, family planning clinics, and various offices; (iii) advocacy and information, education, and communication concerning family planning; (iv) equipment for family planning counseling centers, advocacy, and communication; and (v) operations research aimed at improving contraceptive use by men and young adults. A total of 153 district staff benefited from in-country fellowship programs and degree courses (D3 to S-1), especially field workers in family planning. They also confirmed that refocusing the project largely on MNCH meant that family planning activities were limited.

2. Output 2: Health Sector Reforms

Strong government commitment and local community ownership played a significant role in sustaining the reforms

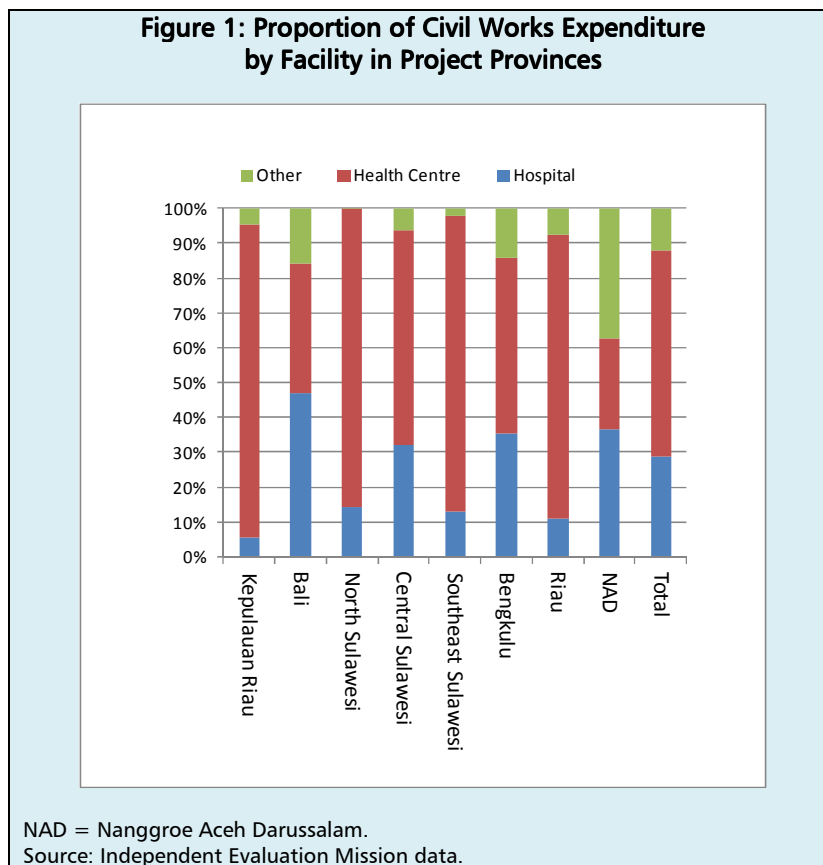
43. The second output aimed to pilot reforms to increase the efficiency and quality of health services. Activities followed the two-step approach of the project—consulting services initially supported local health sector analysis and, later, selection of locally suitable reform proposals (e.g., health-care financing, improving public financial management, streamlining human resources, and public-private partnerships) to be included in comprehensive health sector plans. Priority was to be given to meeting the needs of the poor and vulnerable groups. ADB reviews noted that the TA helped highlight key issues for local health sector reform and documented various case studies, while the PCR stated that the pilot covered about 40% of the project districts, including a partnership between traditional birth attendants and midwives, community-based health financing, and a total quality management model. Examples of reforms to boost the quality of health services and increase health-financing schemes to improve the use of health services are summarized in Table 2. Informants noted that strong government commitment and local community ownership played a significant role in sustaining the reforms introduced under the project.

Table 2: Health Sector Reforms Introduced and Their Status

<p>1. Bakesra (Balaikeehatanrakyat) Southeast Sulawesi Rural and Remote Health Post</p> <p>The initiative aimed to improve access to health services and community empowerment, particularly for rural and remote areas. It was piloted in Kolaka District of Southeast Sulawesi covering 18 subdistricts and 30 villages. It led to increased coverage of antenatal care, immunization, better nutrition, and health promotion in the intervention areas. Findings indicated that a healthy lifestyle is a good approach to community empowerment and Bakesra has the potential to develop into an insurance program like <i>Akesra</i>. The initiative inspired the development of national Desa Siaga. However, Bakesra was discontinued due to the shift in attention to <i>JamkesmasJamkesda</i>, <i>Jampersal</i>, and BOK.</p>
<p>2. Jaminan Kesehatan Jembrana 2003-2007</p> <p>The initiative was piloted in Jembrana District, Bali to investigate the potential of universal health insurance with an aim to improve equity and quality of health services. It covered 6 subdistricts and 51 villages. It assisted renovation of buildings, provision of medical and nonmedical equipment, as well as fellowships for staff supported by Bhupati. The results have been encouraging. About 78% of the district's population is covered under the scheme, and residents have health cards that entitle them to get free primary and secondary (hospital) health care. The pilot has introduced integrated health services offered by private providers. It has been successful in unifying health budgets and providing health services down to the village level. Regulations on tariffs, standard operating procedures for services, pooling of resources, and promotion of public-private partnerships in health service delivery were developed as part of the pilot. The program is now adopted across all districts of Bali Province.</p>
<p>3. Provide Family Doctor In Riau Islands Province</p> <p>Riau Islands Province is a geographically difficult area to serve because the population is spread over many islands. This initiative was launched to overcome shortage of health facilities and staff, including doctors and nurses, in the archipelago with an aim to improve equity in access to quality health services. It was piloted in Tanjung Balai Karimun District covering 6 subdistricts and 65 villages. The initiative started in 2006 with only two medical doctors and had expanded to 35 doctors by 2008. The program allows home visits by contracted doctors and nurses to families in remote areas, and on average one doctor is assigned to 118 families in a month. The experience has been promising. As a result of this initiative, (i) families have access to comprehensive health services, (ii) local people have demonstrated change in their behavior and have adopted healthy lifestyles, (iii) school health programs are running effectively, and (iv) delivery of services has been more cost-effective than using motorboats as mobile health centers. The program has been scaled up and adopted in all districts of the province with remote communities. At the time of the evaluation team's field visits, 115 contracted doctors were serving remote areas. District health offices provide buildings and medicines. The success of the initiative was noted as being driven by the governor's strong commitment.</p>
<p>4. Midwives - Trained Birth Attendant Partnership</p> <p>The pilot program was launched in three subdistricts of Siak District (Riau Province) in 2004 with an aim to enhance community empowerment and focused particularly on improving health services and reforming the referral system. Under this initiative the local government provided Rp100,000 per month as an incentive for trained birth attendants (TBAs) to bring pregnant women to midwives. It offered better access to child delivery with the support of trained health workers, particularly for women from economically disadvantaged groups, which also helped reduce maternal and neonatal mortality rates. Better recording and reporting of MNCH activities and outcomes were noted as another result of the pilot. The initiative is ongoing, but incentives given to TBAs have been discontinued owing to lack of funds. The impact of this has not yet been assessed.</p> <p>A similar pilot was launched in Minahasa District, North Sulawesi with the same objective, covering all villages and all subdistricts. The program has helped improve antenatal care, delivery by trained health workers, and an integrated local budget for MNCH. Skillful midwives and TBAs made the program sustainable, and other districts have replicated the model. The partnership initially established still exists.</p>
<p>5. Manado Clean and Green City</p> <p>With project support, the initiative was introduced in Manado City, and in 9 subdistricts and 30 villages. Its focus was on changing human behavior through community empowerment. The initiative has been institutionalized and both the public and private sectors are actively participating. As a result, noticeable behavior change has been observed in most of the communities. The national committee has established awards for communities demonstrating lower diarrhea incidence. The program continues to date, largely thanks to government commitment, and has been replicated by other districts and Bitung City.</p> <p>MNCH = maternal, newborn and child health Source: Ministry of Health, Indonesia.</p>

3. Output 3: Health Services Infrastructure

44. Output 3 had the objective of building and renovating health service infrastructure and providing medical and nonmedical equipment. Civil works included the construction or rehabilitation of hospitals, health centers (*puskesmas*), and village health posts (*posyandus*).¹⁸ Given the project's objective of improving access to health services for the poor, lower-level facilities were to be the target of most construction activities. This focus varied a great deal across provinces (Figure 1): North Sulawesi had the largest proportion of overall construction resources earmarked for *puskesmas* and *posyandus*, Bali had the lowest. In Bali, construction expenditure was dominated by the rehabilitation of Polyclinic Amlapura Hospital, Indera Hospital, Tabanan Hospital and Klungkung Hospital. Nanggroe Aceh Darussalam (NAD) had large hospital expenditures but also spent large sums on construction of district and provincial health department buildings. Following the 2004 tsunami, Indonesia received an influx of funds from other sources and as a result a large amount of health center investment was reprogrammed by the project management.



45. The IED evaluation team visited a selection of health facilities and talked with relevant staff. It found that all but one of the health facilities supported by ADB were in good order, and district health officials were positive about the design and relevance of

¹⁸ The poor most often use *puskesmas* and *posyandus* because access is easier and they are cheaper than hospitals.

construction undertaken under the project.¹⁹ Medical and nonmedical equipment (including vehicles) accounted for \$20.8 million (23% of total project cost). The provision of motorcycles to the midwife coordinators strengthened outreach activities. Developing these facilities helped promote utilization of health insurance. BKKBN investments included (i) civil works such as renovation of school rooms for adolescent reproductive health, information and counseling centers, and contraceptive storage room at a cost of \$1.1 million, and for village family planning clinics; and (ii) information, education, and communication equipment and vehicles at a cost of \$ 2.4 million.

Developing these facilities helped promote utilization of health insurance

46. It should be noted, however, that the PCR cites reports by the National Audit Authority according to which the provision of equipment under the DHS was generally not satisfactory because the delivery of goods (e.g., ambulance boats and midwifery equipment kits) was incomplete, delayed, and/or not in compliance with specifications. The audit also found that civil works did not conform to the original design, and some were left incomplete. The evaluation team did not have enough time to verify these audit findings, but MOH did not contest them.

The audit also found that civil works did not conform to the original design

4. Output 4: Project Management

47. Under the output, 2,580 staff received training in project management and implementation. The actual expenditure exceeded appraisal estimates because of the extended implementation period and the need to support central, provincial, and district implementation committees for longer than expected. All planned activities appear to have been implemented, although monitoring and evaluation (M&E) was less than satisfactory. This issue is examined in the assessment of overall performance (chapter 3).

G. Consultants

48. The project provided for 22 person-months of international consulting inputs on policy and health system strategy, health service organization, and information technology. Only 14 person-months were used during implementation. No information technology input was used, but more than the planned amount of policy and strategy inputs was used at later project stages.

49. As for national consultants, the project used only inputs related to human resources. It did not use others planned on health policy analysis, systems development, hospital infrastructure and equipment, mother and child health, human resource management, family planning and reproductive health management, gender and health, and food and drug control.

50. Feedback from the evaluation team's field visits indicates that the consultants' performance was satisfactory. Input by international policy consultants was reduced at midterm because the project deemed it not relevant to Indonesia's context. The PCR notes that the project followed ADB's Guidelines on the Use of Consultants to recruit consultants. The project recruited consultants on an individual basis because the executing agency preferred to limit the number of international consultants. While

¹⁹ The Central Sulawesi provincial hospital was relocated to an area less prone to flooding. The old building was in disuse at the time of the evaluation team's visit and had been vandalized—broken windows, torn roofing, and some items missing. The hospital had received project support for renovations, which is deemed to be a sunk cost.

recruitment of individual consultants introduced flexibility, it made it harder for project management to coordinate their inputs and outputs.

M&E suffered from the absence of baseline information

51. The planned engagement of local consulting firms or NGOs to conduct social and environmental impact assessments did not receive adequate attention. M&E suffered from the absence of baseline information against which progress could be measured. Furthermore, the health management information system introduced under the project is deemed inadequate.

H. Loan Covenants

52. The PCR reported that compliance with major loan covenants was generally satisfactory. Audited financial statements and quarterly progress reports were submitted on time. Of the 19 major covenants, 15 were complied with, 2 were partly complied with, and 2 were complied with late. Late compliance was associated with the government's PCR and delays in the conduct of the midterm review. Partial compliance reflected late disbursement of government counterpart funds and not using an international firm for project management.

CHAPTER 3

Performance Assessment

53. The chapter provides an overall assessment of the project performance and discusses each of the four key performance assessment parameters. These include relevance, effectiveness, efficiency, and sustainability.

A. Overall Assessment

54. The evaluation rates the overall project performance *successful*, which is consistent with the PCR rating. The project helped improve the delivery of health services and, to a limited extent, family planning services by refurbishing and/or expanding local, district, and provincial health service facilities in eight provinces; boosting management and technical capacity of health service staff; introducing subsidies for traditional birth attendants, a model that has been expanded to other parts of Indonesia; and implementing a health insurance scheme for the poor segment of the population. Through capacity development initiatives, midwives could acquire competency in obstetric and neonatal care. The project also played an important role in increasing the share of health in district budget allocations.

The evaluation rates the overall project performance successful

55. The project outcomes and impacts are yet to emerge clearly. The evaluation did not find significant differences in key health indicators between the provinces supported by the project and those not supported. Nevertheless, improvements are noted in maternal and infant mortality rates in most of the provinces. Other provinces may have had similar health interventions funded by other development partners and/or government's internal resources. In addition, this may be due to an overall national commitment to prioritizing support for better health outcomes. Table 3 summarizes the project performance evaluation ratings, followed by detailed discussion. Appendix 1 outlines the achievements against the targets set in the design and monitoring framework.

Table 3: Assessment of Overall Performance

Criterion	Weight (%)	Assessment	Rating Value	Weighted Rating
Relevance	25	Relevant	2	0.50
Effectiveness	25	Effective	2	0.50
Efficiency	25	Less than Efficient	1	0.25
Sustainability	25	Likely Sustainable	2	0.50
Overall rating		Successful		1.75

Source: Independent Evaluation Department—evaluation team assessment based on Appendix 2.

B. Relevance

56. The evaluation rates the project *relevant* at design, during implementation, at completion, and at the time of evaluation. In 1999 and compared with other Asian countries, Indonesia had a high MMR of 420 maternal deaths per 100,000 live births, and an infant mortality rate of 43 deaths per 1,000 live births. Decentralization

threatened to slow any improvement in, or even worsen, these health indicators because at the time of this policy change districts and communities had limited capacity and institutional processes.

57. Development of human resources through training, workshops, and higher studies accounted for about 29% of project expenditure. The allocation is deemed justified given the need for provincial and district capacity to improve health service delivery, plan infrastructure investments, and purchase medical and nonmedical equipment. The project made provisions for piloting new approaches to health-care reform that would improve access and quality of health services, particularly for geographically and economically disadvantaged population segments.

A poverty and social assessment was not accomplished

58. The project documents did not explicitly state a rationale for resource allocation among central, provincial, and district levels. Allocations should have been based on the extent to which they supported particular functions under a decentralized model. Districts put forward proposals for funding of civil works, training, and equipment within each project province. Access to essential health services for the poor, vulnerable groups, and women was to be the overarching priority in any proposal for project support. A poverty and social assessment was to be prepared on how the various strategies and activities proposed for project support met the needs of the poor, vulnerable groups, and women. This task was not accomplished.

59. The project formulated guidelines for the preparation of a comprehensive health sector plan, and for central, provincial, or district proposals for project financing. After translation into Bahasa Indonesia the guidelines were distributed to all project provinces and districts. One international consultant and two domestic consultants visited all project provinces to assist local teams in preparing their plans. Ideally, hospital support should have focused on level-three inpatients to ensure that poor people benefited from the project.

60. The project aimed to improve locally managed health care delivery, support health sector reform, and strengthen health service infrastructure in the districts. The inclusion of community-led planning reflected lessons from earlier projects. As noted in the PCR, experiences made with the 1998 Social Protection Sector Development Program and the 1999 Health and Nutrition Sector Development Program (footnote 8) suggested a need to involve provinces or districts in the planning process to factor in their particular needs.

Community-led planning results in better health outcomes

61. While the evaluation concurs with the notion that community-led planning results in better health outcomes, the project would have benefited from more detailed situation and problem analysis, risk assessment, and consultation with different stakeholders during its formulation. Such an approach might have ensured better understanding of the needs and challenges of public health planning during decentralization. That the project design anticipated devolution at the provincial rather than the district level proved a key limitation. A more detailed approach might have led to a more realistic assessment of constraints to achieving the specified targets, and the formulation of strategies to overcome these hurdles. For example, the project suffered from late disbursement of government funds, yet a strategy was not considered to mitigate this risk—despite being highlighted in the appraisal design and monitoring framework.

62. The evaluation found baseline data on the targeted population and public health centers to be insufficient. Information on catchment population for each health

facility, available number of health workers, inventory of equipment, and other supplies—was lacking. Collecting available information and conducting needs and gaps analysis as part of a comprehensive analysis of the health sector and its services and facilities would have improved early project performance. The midterm review of the project helped in a greater focus on maternal and child health. As a result, project fund disbursement improved.

63. The project design was ambitious in its scope and geographical coverage. It originally included all districts in seven provinces, covering more than 19 million people in 50 districts and 12 cities (in Bali, Bengkulu, Riau, Central Sulawesi, NAD, North Sulawesi, and Southeast Sulawesi). The number of provinces increased from seven to eight and the number of districts from 50 to 73 after the inclusion of Gorontalo Province in 2005. The increase in the number of districts was partly due to the division of existing districts into smaller entities. Based on an estimated district health expenditure of \$38 per person, project expenditure averaged some 1%–2% of total district spending over the implementation period. Given this low level it is difficult to ascertain why target outcome indicators were set so ambitiously.

The project design was ambitious in its scope and geographical coverage

64. Health infrastructure and local capacities in these provinces were fragmented at the start of the project. While these conditions indicated the need for the project, they also highlighted the potential constraints on achieving project objectives, especially when activities and resources were thinly spread over a large area. The project was also overoptimistic given the complexity and uncertainty of the legal and economic dimensions of decentralization. For example, many staff at the lower levels of the health system had no experience in implementing donor projects. The large project area also made it difficult to provide the necessary capacity development training to meet the implementation schedule. The lack of early consultant input to help formulate a comprehensive capacity development strategy and set priorities for tackling such a complex project only exacerbated the problem.

65. These realities were not embedded in the project design. It would have been more desirable to implement the project across fewer provinces and a more compact area. The selection of provinces was reportedly based on an outcome of donor coordination at the time of project preparation, along with the criteria of willingness, commitment, and readiness of local authorities to participate in the project. Both rich and poor provinces were eligible. Given the pro-poor objective of the project, it would have been of greater value to select provinces with higher poverty incidence and greater health needs—as defined by indicators such as mortality rates and life expectancy—while still factoring in coordination with other stakeholders, and health infrastructure and human resource capacity. Clustering these provinces into a more manageable area would have made implementation support easier and capacity development efforts less costly. The original intention of the project (at the time of TA fact finding) was to limit the number of provinces to four. It is unclear why the geographic scope increased so much, although the government apparently requested (during pre-loan fact finding) that the project cover as many provinces as possible.

66. Given the institutional uncertainties of decentralization, a project loan coupled with TA was the proper lending modality for this project. ADB's Operations Manual notes that implementation experience with past policy-based loans, comprehensive sector analyses that identify structural constraints to sector development, and sound policy and institutional settings are prerequisites for making financing commitments

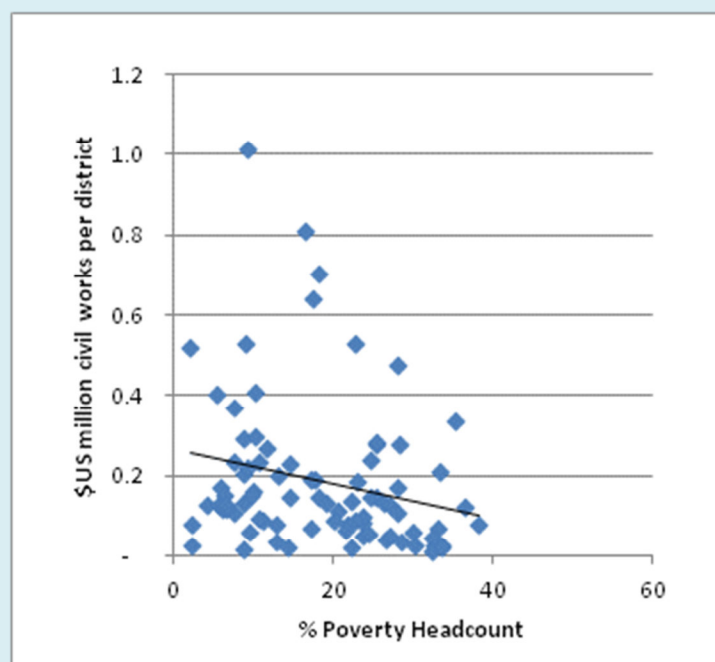
associated with program lending.²⁰ These conditions or analyses were not evident at appraisal. Moreover, the report and recommendation of the President went to some length to detail the uncertainties surrounding decentralization, yet adequate TA to support the project loan, along with realistic geographic coverage, was not factored into the design.

67. The evaluation team noted during the field visits that lower levels of the health system, most frequently used by the poor, were supported by the project and continue to operate. Pro-poor fund allocations did not seem to follow a geographic priority. Many of the districts visited by the evaluation team were close to urban centers where poverty rates are not so pronounced.

The districts with higher poverty headcount, or greater percentage of people living below the poverty line, received the lowest share of civil works funding

68. Plotting district-specific civil works expenditure against poverty headcount in each district (or city) illustrates a pro-rich allocation of resources (Figure 2). The districts with higher poverty headcount, or greater percentage of people living below the poverty line, received the lowest share of civil works funding.²¹ Other ADB health sector support projects, which include the Health Care in the Central South Coast Project in Viet Nam,²² did adopt geographic allocation formulas based on poverty headcount to distribute the envelope of loan resources for civil works and equipment to provinces in a pro-poor fashion. Although planning should be community-led, some guidance such as formulas for broad allocation of funds could have helped align resource allocation with project objectives.

Figure 2: Value of District Civil Works Expenditure vs. District Poverty Headcount (% below poverty line)



Source: Independent Evaluation Mission data.

²⁰ ADB. 2013. *Operations Manual Section D4/BP*. Manila, issued on 1 April 2013.

²¹ Correlation coefficient of -0.22 .

²² ADB. 2008. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to Viet Nam for the Health Care in the South Central Coast Region Project*. Manila (Loan 2468-VIE, approved on 7 November 2008 for \$72 million).

69. Despite the above-mentioned shortcomings in the project design, district health services were encouraged to identify health priorities and key areas of health-care reform. Health-care reforms were piloted in many instances—such as the insurance scheme in Bali and subsidies for traditional birth attendants. Much of the construction centered on lower-level health facilities that are primarily used by the poor. Health facility use by people in lower wealth quintiles is particularly low in Indonesia, so the targeting of infrastructure to improve health outcomes for this group is considered still relevant at evaluation.

Much of the construction centered on lower-level health facilities

C. Effectiveness

70. The project's performance is rated *effective* in achieving outputs and outcomes, confirming the PCR rating. The PCR noted that facility upgrades and staff training helped improve the quality of services, especially patient services that are largely used by the poor. For example, more births are now attended by skilled personnel. The PCR also concluded, however, that both before and during project implementation external factors might have equally contributed. The government launched new financing programs such as *Jamkesmas* to support health service utilization by the poor, *Jampersal* for maternal health, and block resources for the operation of lower-level health facilities. Social Security Law No. 40/2004 was enacted with the objective of universal social health insurance coverage. Finally, the growing involvement of the private sector in Indonesian health care also influenced the use of health services. In the absence of detailed M&E information it is difficult to quantify the role of project support and other forms of health financing in these developments.

More births are now attended by skilled personnel

1. Improved health and family planning services

71. An aim of the project was to increase contact rates by 25%. Contact rates were selected as an indicator because decentralization was seen as a major risk to the provision of social sector services and social infrastructure.²³ ADB's health sector policy highlights access to basic health services as a core objective.²⁴ Contact rates increased in NAD, Riau, North Sulawesi and Central Sulawesi (Table 4). Outpatient contact rates²⁵ increased in all project provinces except Southeast Sulawesi and Bali. Rates have decreased or stabilized in these two provinces, although a trend in rate is not evident. In Bali, 53.1% had an outpatient contact in 2000, which increased to 79.8% in 2003, then decreased to 57.71% in 2006. The rate again increased in 2010, to 75.02%. Although the trend is upward for most other provinces, there is large variation in year-to-year contact rates.

²³ IED. 2010. *Special Evaluation Study: Asian Development Bank Support for Decentralization in Indonesia*. Manila.

²⁴ ADB. 1999. *Policy for the Health Sector*. Manila.

²⁵ Number of persons experiencing illness who contacted a health care provider, divided by the number of persons complaining of illness.

Table 4: Outpatient and Family Planning Contact Rates in Project Provinces

Province	Outpatient Contact Rate (%)			Family Planning Contact Rate (%)		
	2003	2006	2010	2003	2006	2010
NAD	32.66	47.63	60.40	52.17	68.23	75.88
Riau	32.85	40.67	52.87	45.39	76.35	65.95
Bengkulu	33.63	33.04	36.34	79.77	86.76	89.79
Riau Islands	n.a.	40.07	52.09	n.a.	78.66	65.06
North Sulawesi	10.50	43.54	48.33	70.67	78.93	84.46
Central Sulawesi	31.38	37.70	56.55	n.a.	70.68	77.50
Southeast Sulawesi	87.18	30.07	78.41	40.67	85.68	75.89
Bali	79.76	57.71	75.02	72.13	88.83	85.67

NAD = Nanggroe Aceh Darussalam, n.a = not available.

Source: Independent Evaluation Department—data collected by the project evaluation team.

72. Much of the project investment focused on developing health centers. Outpatient contact information captures patient presentation at health centers, hospitals, and other government-run facilities. Contact rates have increased by 13.8% to 17.4% across all project provinces between 2006 and 2010. This represents a 26% increase, which is just above the project target of 25%.

Contact rates for health centers in project provinces compared with non-project provinces are not significantly different

73. When contact rates for health centers in project provinces are compared with non-project provinces, they are not significantly different. Increases of this order across the country suggest that factors such as health insurance expansion may be the main driving force, rather than infrastructure improvement under the project. Recent sector analysis indicates that primary care is still hindered by complex financing and reporting arrangements, lengthy budget approval processes, and centralized human resource management.²⁶ The review team received positive feedback on the role of the project in tackling some of these management constraints and in improving access to health services. But to quantify the difference the project made on decentralized health services, it is necessary to compare facility performance and client outcomes in project and non-project districts. While project performance monitoring systems were included in the project design, the evaluation team did not find a basis for detailed comparisons and for an assessment of impacts. The evaluation team was made aware that data collection in the public sector is sometimes hampered by poor supervision.

74. ADB review missions noted that several local governments decided to charge user fees for health services, but none of them had a pricing policy or reimbursement regulations in place. They also made no systematic evaluation of the effect of their decision on utilization by the poor and the vulnerable. This policy could have lowered facility contact rates, and ideally the loan agreement should have set conditions to prevent such a negative impact.

75. The project included a target that at least 90% of deliveries be assisted by trained birth attendants. Only Bali achieved this in 2005 (92%), all other project provinces fell short.

76. Family planning contact rates increased until 2006 but fell in 2010 in four of the eight project provinces (Bali, Riau, Riau Islands, and Southeast Sulawesi), while only marginal improvements are seen in the other four provinces (Table 4). Indonesia's family planning service at the time of devolution was a very centrally managed vertical

²⁶ AusAID. 2011. *Australia Indonesia Partnership for Health Systems Strengthening 2011–2016*. Program design document. Canberra.

program integrated into population offices within local governments. The budget provided to family planning services decreased substantially. Consequently, several family planning indicators are stalling and even falling in some provinces.

Several family planning indicators are stalling and even falling in some provinces

77. While contact rates are increasing, contraceptive prevalence rates are not. The prevalence of contraceptive use among never-married women and currently married women aged 15-49 has been collected as part of the DHS. This indicator is used for measuring the success of family planning programs. The data suggests that the contraceptive prevalence rate has not improved since 2003 and has remained just under 60%. The rates in project provinces are similar to those in non-project provinces and suggest that the project was not effective in improving the use of contraceptives. This may be partly due to the lower emphasis on family planning support when the project was refocused on MNCH-related activities (paras. 33–34).

2. Guaranteed access of the poor to essential health and family planning services

78. ADB review missions noted that the project did not help find strategies to strengthen pro-poor targeting (of ongoing social safety-net schemes such as the health card), and out-of-pocket expenditure on health care for this population segment remained high. It was also highlighted that the poor often need to travel long distances, and the project did not help find mechanisms that could cover opportunity and transport costs. The evaluation examined public health facility visit for the poorest quintile using National Socioeconomic Survey (SUSENAS) data and noted large increases between 2001 and 2007 were reported for Riau, where rates increased from 3.0 to 11.9 visits per 100 people. Other provinces with large increases were Riau Islands, North Sulawesi and Southeast Sulawesi, where the rates almost doubled. As already noted, a large number of factors contributed to the observed increase in facility use. Between 1997 and 2007, overall use of both inpatient and outpatient health services among those who report illnesses increased (footnote 9). *Jamkesmas*, the government-funded health insurance scheme for the poor, covered about 40% of poor and near-poor households.²⁷ The project supported implementation of the reform strategies such as *Jamkesmas* and financed investments to improve lower-level public health infrastructure, and provided basic equipment most often used by medical staff for diagnosis of the poor.

79. Inspection of these facilities by the evaluation team indicated that most had a functioning basic set of diagnostic equipment and basic pharmaceutical supplies. When asked how the poor had benefited from the project, most stakeholders told the evaluation team that insurance and improvement in infrastructure had been key factors. Some also highlighted that the project had directly targeted investment in lower-level public health centers most frequently used by the poor.

80. Given that outpatient contact rates in project and non-project provinces do not appear to differ substantially, the evaluation did not explore differential use by wealth quintile. Exploration of the incremental impact of the project was investigated primarily for the economic reevaluation, in which per-quintile data is not considered. Given the increased facility use by the poorest quintile, the evaluation concludes that the project met its health facility targets on access and use by the poor. In the absence of quintile

²⁷ P. Harimurti et al. 2013. *The Nuts & Bolts of Jamkesmas – Indonesia’s Government-Financed Health Coverage Program*. World Bank. Washington, DC.

analysis per project and non-project district, it is difficult to quantify the magnitude of the impact that could be attributed to the project.

3. District budget for health

The overall upward trend in the allocation of local budget to health is evident

81. A target in the report and recommendation of the President was that most district governments would allocate at least 4% of their budget to health. It is evident that all provinces achieved this target in their own budgets, but there was no systematic collection of data on how far the districts themselves achieved this. The same issue was highlighted in completion reports for the World Bank's provincial health projects. Like many indicators assessed in this report, the estimates have a great deal of year-on-year variation (Table 5). For example, the percentage allocation of Bali's budget to health increased from 3.5% in 2002 to 9.3% in 2005, then dropped to 3.9% in 2011. The definition of the indicator appears to differ on whether to include or exclude the value of health insurance. Such variation makes specific time series evaluation impractical. Despite this issue, the overall upward trend in the allocation of local budget to health is evident, particularly in the provinces with a larger concentration of the poor (NAD, Riau, Riau Islands, Bengkulu, Central Sulawesi, and Southeast Sulawesi).

Table 5: Average District Budget by Province Allocated to Health

(Percentage of total expenditure)

Province	2002 (%)	2003 (%)	2005 (%)	2007 (%)	2011 (%)
NAD	3.5	4.2	n.a.	8.8	10.3
Riau	3.2	3.2	3.8	4.1	6.2
Riau Islands	n.a.	n.a.	3.0	4.8	7.4
Bengkulu	4.6	1.4	5.6	n.a.	13.5
Bali	3.5	3.8	9.3	7.2	3.9
North Sulawesi	7.9	16.9	3.8	5.7	5.7
Central Sulawesi	0.7	3.7	6.9	7.9	11.6
Southeast Sulawesi	1.7	3.0	6.9	8.6	19.7

NAD = Nanggroe Aceh Darussalam, n.a. = not available.

Source: Data collected by the evaluation team.

District level appropriate planning and budgeting tools are used in preparing district health plans

82. A review of district health expenditure in 2006 found that at least 40% of public expenditure on health is for personnel, and districts have limited discretion over the deployment of public expenditure on health.²⁸ Despite decision making being limited, the evaluation team observed that at the district level appropriate planning and budgeting tools are being used in preparing district health plans. Low levels of public spending on health have been deemed to be a key reason for poor health indicators, such as high mortality rates and the excessive use of self-treatment in Indonesia. Key informants indicated that training provided under the project has assisted in mobilizing local level resources for the health sector.

83. The project has also helped promote counseling services and awareness of health issues among both men and women. However, the outreach of family planning services has stagnated in recent years due to the reduced focus in the later stage of project implementation. The PCR noted that perceived risks associated with side effects

²⁸ P. Heywood and N. Harahap. 2009. Public funding of health at the district level in Indonesia after decentralization – sources, flows and contradictions. *Health Research Policy and Systems* 2009. No. 7:5.

of contraceptive use might have contributed to unmet needs²⁹ for family planning services. The decrease in family planning indicators might be linked to the decrease in BKKBN budget and the reorganization of BKKBN.

84. The PCR also acknowledged that the government acted to mitigate the impact of the Asian financial crisis in 1997 by providing block grants to *puskesmas* and midwives to support local health services. Adoption of *Askeskin* (a health insurance for the poor) from 2006 has enabled provision of free outpatient and limited inpatient care for the poor, and nutritional supplements for pregnant women and newborns. The coverage of the insurance scheme varies across the provinces. Nevertheless, there is no evidence of significant differences in health service use between project and non-project provinces.

The government acted to mitigate the impact of the Asian financial crisis in 1997 by providing block grants

D. Efficiency

85. Like the PCR, the evaluation rates the project's performance *less efficient*. There were significant delays at startup because implementation units had limited experience with ADB operational procedures. ADB received the government's decree for establishing the central project management unit, 30/MENKES-KESOS/SK/2001, on 11 January 2001, but it became effective only on 25 June 2001. This was largely associated with delays in the issuance of legal opinion on project implementation before all necessary legal documents between ADB and the Government of Indonesia had been endorsed.

86. The problem was exacerbated by the need to establish a large number of implementation units when Indonesia adopted decentralization and devolution of decision making to the districts. Since all districts in each project province were eligible for support, more than 50 districts had to prepare investment plans during the first phase to program civil works, equipment, and much of the training budget. No TA was provided at startup.

87. Given the perceived complexity of ADB procedures and limited project preparation, the omission of TA compounded the lack of international project management experience. Although delays were inevitable given the large changes in organizational structures and processes within the public health service during decentralization, these could have been reduced to some degree with appropriate TA. Project phasing should have reflected this degree of complexity, devoting more time to capacity development in the initial 2 years. Also, as already mentioned, the number of project provinces and districts could have been reduced to manage the demand for health service capacity development.

The omission of TA compounded the lack of international project management experience

88. The PCR noted that 55% of the loan period had elapsed by the end of 2003, when the midterm review was conducted, and only 21% of contract awards and 16% of disbursements had been undertaken. During the later stages of the project, implementation was slowed by late provision of counterpart funds, which repeatedly narrowed the implementation window.

89. Other factors that undermined project efficiency included (i) transfer of large numbers of health service staff to districts, but not all districts were willing to take them on board and instead appointed recruits from within their districts; (ii) low

²⁹ Unmet need is the statistical measure that calculates how many sexually active women say they want to stop or delay child bearing.

absorptive capacity of district health offices; and (iii) long delays in release of counterpart funding from the Ministry of Finance.³⁰ As a result the project had to be extended twice.

90. **Implementation arrangements.** At the completion of the project, eight provincial implementation units and 73 district implementation units had been established. A technical review team was set up in every province to review district and provincial proposals and annual reports. The team comprised technical experts from provincial health services and BKKBN, the private sector, the community, professional health organizations, local academic institutions, and project consultants. ADB supervision missions noted that BKKBN staff periodically participated in the provincial and district meetings but since they were not involved in local situation analysis and in the selection of family planning activities, their input at the meetings was limited. The PCR noted that a central technical committee (jointly staffed by MOH and BKKBN) for the family planning component of the project did not exist, and this may have constrained coordination during project implementation.

The creation of new districts in the project area reduced allocations of resources for local activities

91. The project was also designed with a view that health service delivery would be devolved to the provincial authorities. Resources for district-based project management and associated capacity development were therefore limited. This oversight largely reflected the evolving nature of decentralization and the ensuing uncertainties at the time of project formulation and inception (footnote 11). The creation of new districts in the project area reduced allocations of resources for local activities, which contributed to delays in implementation. It was agreed that project resources originally allocated for physical investments (health facilities and equipment) in the new districts would be maintained but managed by the district implementation unit of the "old" district or by the provincial project implementation unit. This arrangement complicated districts' implementation of project activities. Limiting the number of districts, or allocating more resources to those already included in the design, would have avoided this issue, and would have led to more efficient implementation.

92. **Economic reevaluation.** The project economic analysis indicated an overall benefit–cost ratio of more than 4:1. The PCR, however, did not present economic or financial analysis. This evaluation has reevaluated the appraisal estimate using revised burden-of-disease estimates and the economic value of labor productivity losses avoided as a result of improved medical services.

93. The evaluation team's interviews with key respondents resulted in updated (2010) burden-of-disease estimates for Indonesia and a longer cost-benefit time frame. Key benefits stem from decreasing mortality rates in provincial surveys in 2007 and 2012 undertaken by IDHS and captured in the most recent burden-of-disease estimates.³¹ When non-project provinces are considered, the difference in mortality rates and coverage of key health services (outpatient contact rates in health centers,

³⁰ In 2006, budget release was delayed by 8 months and hence implementation of project activities had to be squeezed into 4 months.

³¹ Statistics Indonesia (Badan Pusat Statistik—BPS) and Macro International. 2008. *Indonesia Demographic and Health Survey 2007*. Calverton, Maryland: BPS and Macro International; Statistics Indonesia (Badan Pusat Statistik—BPS), National Population and Family Planning Board (BKKBN), and Kementerian Kesehatan (Kemenkes—Ministry of Health), and ICF International. 2013. *Indonesia Demographic and Health Survey 2012*. Jakarta: BPS, BKKBN, Kemenkes, and ICF International; and Institute for Health Metrics and Evaluation, Human Development Network, The World Bank. 2013. *The Global Burden of Disease: Generating Evidence, Guiding Policy – East Asia and Pacific Regional Edition*. Washington, DC.

vaccination coverage, use of health care for childhood diseases) are not significant. Correspondingly only a minor contribution of the project to improved health outcomes can be estimated at the provincial level. Appendix 3 contains detailed analysis using a time frame of 20 years, which more closely reflects the economic life of the infrastructure developed under the project.

94. It is estimated that the project requires a reduction in burden of disease in project provinces of 2%. The breakeven burden-of-disease reduction is less than 4% estimated at appraisal. Although comparison of health indicators in project and non-project provinces found no evidence of burden of disease decrease, the evaluation team, in discussions with key informants, noted that project has had positive health benefits. Given only marginal decrease in burden of disease is required for breakeven, it is likely that the project generated marginal net benefits.

Discussions with key informants, noted that project has had positive health benefits

95. **Monitoring and evaluation.** MOH supported the compilation of benefit monitoring reports at the end of the project for all project provinces. In each province, two districts (or cities) with high and low Indonesian Human Development Index 2002 ratings were selected to measure outcomes in terms of human development: longevity (life expectancy), knowledge (education attainment), and a decent standard of living (adjusted income). Exit interviews were also used to assess clients' satisfaction in a sample of 30 respondents per health center. The scores of the survey were provided in the English version of the report. However, the instrument and samples used to generate scores were not provided. Gender-disaggregated data was collated in regard to program inputs and a range of case studies conducted to illustrate selected impacts.

96. Reporting during implementation was not satisfactory. Within 6 months of loan effectiveness the central project management unit was to develop a performance monitoring system for training and capacity-building activities, and each province was to develop an M&E framework for local activities. TA was to be provided to support collection of data. At midterm, ADB requested that M&E must be strengthened. Many districts had not yet identified indicators related to their local priorities, training quality was not systematically assessed, and the health information system was not developed. As a result quarterly implementation reports were often delayed and not comprehensive. To systematically assess impacts, facility-level data from project and non-project provinces needs to be analyzed. Additionally, a survey of health outcomes using a statistical approach is required to quantify impacts. Indicators such as maternal and infant mortality are not likely to be meaningful at this level, given the low numbers of cases relative to population size. Indicators for maternal health such as obstetric complications, referrals, client satisfaction, and health expenditures are more likely to capture any differences in the health status, and thus project impact.

Reporting during implementation was not satisfactory

E. Sustainability

97. The project is likely to be *sustainable*. The evaluation team found during its site visits that buildings and equipment were in good condition and well used.³² Almost all provincial and district health officials interviewed considered ongoing financial support from local government resources to be sufficient for the current capacity and coverage of public health facilities.

Local governments' budgets for health had increased

³² With the exception of the provincial hospital of Central Sulawesi, which has been relocated to another area that is larger in size and not prone to flooding.

98. The evaluation team and the PCR both noted that local governments' budgets for health had increased as a percentage of overall district budgets in most of the districts with high incidence of poverty. Local government regulations and decrees have also been issued to ensure the sustainability of health and family planning investments and the continuation of health-care reforms.

99. The evaluation team witnessed an ongoing district health planning and budgeting exercise at visited health departments. Various other components of the project have been institutionalized and were being supported by national and local organizations. Subsidy schemes for traditional birth attendants continue and have been replicated in other areas. Awareness of maternal care has improved, along with basic emergency obstetric care, and emergency obstetric care referral systems have been accepted and continue to expand beyond project completion.

Referrals have more than tripled in several project provinces

100. The degree of increase in obstetric and neonatal emergency referrals is evident in Table 6. Referrals have more than tripled in several project provinces. NAD in particular has seen the largest percentage increase in obstetric referrals, from less than 2,000 cases in 2003 to more than 22,000 in 2010. While other investments have flowed into health services beyond this project, it is evident from the stakeholders that ADB funding has played a role in strengthening health services in several districts. Institutionalization of health insurance for the poor has been recognized as a major achievement under the project and good practices identified during project implementation have been adopted in the follow-on DHS2 (footnote 13).

Table 6: Obstetric and Neonatal Emergency Referrals by Province

Province	Obstetric Emergency Referrals			Neonatal Emergency Referrals		
	2003	2006	2010	2003	2006	2010
NAD	1265	1147	22,263	49	850	14,832
Riau	6536	3791	27,466	6,886	2,621	19,119
Bengkulu	4857	678	7,942	716	374	5,526
Riau Islands	NA	907	9,994	n.a.	267	6,374
North Sulawesi	3057	1467	9,706	426	163	6,646
Central Sulawesi	n.a.	1754	12,472	6,230	442	7,387
Southeast Sulawesi	2228	2068	9,552	2,035	244	5,984
Bali	3336	1418	14,085	1,036	615	9,697

n.a. = not available.

Source: Independent Evaluation Department—data collected from the Ministry of Health and provincial health offices.

Good practices identified have been adopted

101. The major thrust of the project-supported policy reforms, including health insurance for the poor and subsidies for traditional birth attendants, is likely to be sustained. ADB assistance in the sector and government commitment helped prioritize universal coverage in provinces such as Bali. The project provided some continuity to previously established programs, in particular those related to the block-grant funding of health centers under the government's earlier social safety-net program. MOH has made an effort to ensure continuity of the project outputs by incorporating these elements into other aid-agency-supported activities on maternal health. Good practices identified during the project implementation have been adopted in DHS2 (footnote 13).

Staff trained under the project are now in influential positions

102. Furthermore, technical and managerial staff trained under the project are now in influential positions in the government's health system and are better placed to ensure that good practices under the project are implemented effectively and sustained for the benefit of people, particularly those in geographically challenging areas.

103. At the district level, most of the health service facilities still rely heavily on annual budgetary allocation from the central government, while local government budgets are used for hiring staff for the health facilities, and purchasing equipment and medical supplies. At times, allocation from the central government, particularly for health infrastructure improvement or expansion, tends to be inadequate to service demand for health services.

CHAPTER 4

Other Assessments

104. Chapter 3 was devoted to the assessment of four core evaluation criteria: relevance, effectiveness, efficiency, and sustainability. This chapter discusses on other evaluation parameters—project impacts, performance of ADB and the borrower, role of development partners in Indonesia’s health sector, and the performance of technical assistance to the project.

A. Impacts

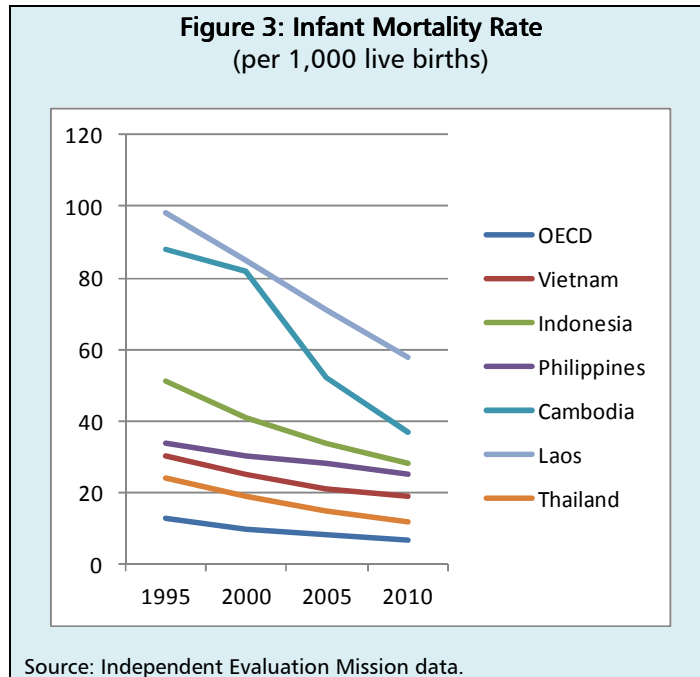
105. This section is based on data analysis, largely sourced from IDHS published in 1997, 2003, and 2007 and findings from the 2012 IDHS. Although the PCR was prepared in 2010, it largely relied on the 2007 IDHS. The 2012 report provides a more recent picture of the health status in Indonesia and helps understand health outcomes and health facility utilization, in both project and non-project provinces.

1. Selected Millennium Development Goals

The project has helped Indonesia to stay on track to achieve reduction of child mortality

106. **Infant mortality rate.** The project has helped Indonesia to stay on track to achieve one of the key health-related MDGs—reduction of child mortality. Performance targets included reducing the U5MR and infant mortality rate (IMR) to at least 30% below the local benchmark data. Reducing the U5MR by two-thirds between 1990 and 2015 is the MDG 4 goal. Provincial U5MR data provided by the government during the evaluation showed decreases in all project provinces except NAD, and Southeast Sulawesi (Table A4.1). Variations in year-on-year provincial data were evident for this indicator.

107. Nationally, the IMR has shown a large, although slowing decline since 2003. This trend follows what had been evident since the 1990s, as demonstrated in Figure 3. However, Indonesia’s IMR is still higher than in other countries within the Association of Southeast Asian Nations (e.g., the Philippines, Thailand, and Viet Nam).



108. In Indonesia, the overall IMR declined in the target provinces from around 42.1 deaths per 1,000 live births in 2003 to 37.0 in 2012 (Appendix 4, Table A4.1). However, significant variations are noted across the provinces. For example, in Riau and Bengkulu provinces the downward trend has been consistent between 2003 and 2012, while other provinces have experienced increases between the survey years. The IMR increased in Bali and North Sulawesi between 2003 and 2007, but then decreased in 2012.³³

Significant variations are noted across the provinces

109. While the overall IMR decreased in Indonesia between 2003 and 2012, very small differences in change have been observed between the project and non-project provinces. For example, in 2003 the IMR averaged 42.1 in project provinces and 43.2 in non-project provinces, which declined to 37.0 and 36.3 in 2012, respectively. The overall difference between project and non-project provinces was greater in 2007, largely because of changes in provinces included in 2003 and 2007 in IDHS, but the difference narrowed significantly in 2012. These findings also demonstrate the instability of provincial mortality results. The use of longer-term moving averages hinders the comparison of provincial indicators because the results of survey years prior to project implementation are included.

110. The IDHS reported that children in richer households had lower mortality rates than those in poorer households in 2007. For example, the IMR for children in the lowest wealth quintile was 56 deaths per 1,000 live births, compared with 26 deaths per 1,000 live births for children in the highest wealth quintile. The observation highlights the need to improve access to and use of health services by poor people. Declining immunization coverage and still widespread pockets of malnutrition may be hindering further progress in the improvement of this indicator.

³³ It should be noted that because fertility levels are low in Indonesia, the IDHS infant and child mortality estimates are based on relatively small numbers of cases, which leads to unstable estimates. To reduce this problem, mortality measures based on the 2007 IDHS are calculated for 5-year birth interval periods.

111. **Maternal mortality ratio.** Survey respondents cited training, health reforms, and infrastructure improvements carried out under the project as vital in improving maternal health outcomes. The national MMR³⁴ in 2000 was estimated to be 353 with a wide confidence interval, which decreased to 220 in 2010. However, attributing gains to the project is made difficult because the rate is based on a 5-year moving birth cohort. Low fertility in Indonesia skews statistics, given the relatively small number of births per year relative to the total population. The government set a target for the number of pregnant women accessing reproductive health services to be 90% by 2010. This target was included in the project objectives, but has not been met in most provinces, with the exception of Bali.

2. Maternal Health and Gender Impact

112. Overall, the project has had an impact on women's health. It developed a subsidy scheme for traditional birth attendants to give pregnant women skilled antenatal care and delivery, which continues and has improved the overall coverage of skilled health care for women. As such, the project played an important role in raising awareness about women's reproductive health issues and incorporating gender in community health services.

Midwives cited a lack of capacity in obstetrics and the delay in referral treatments as main reasons for maternal death

113. **Access to caesarean section for childbirth.** During the evaluation team's discussions, midwives cited a lack of capacity in obstetrics and the delay in referral treatments as main reasons for maternal death. Health professionals received technical training in reproductive health, and local government officials raised awareness of the importance of maternal health in local communities. As a result, the proportion of women opting for caesarean section is increasing in all project provinces (Appendix 4, Table A4.2). Large increases are evident since 2006 in more prosperous provinces such as Riau and Bali. In Bali, women opting for caesarean section increased from 1.7 % of all deliveries in 2006 to 14.1% in 2010.

114. **Assistance during child delivery.** The government had set a target of 90% of childbirths to be assisted by medical staff by 2010. The project also adopted this target. The coverage of skilled health staff increased from 69.1% in 2003 to 83.7% in 2012 in project provinces (Appendix 4, Table A4.3). This was slightly higher than in non-project provinces (from a population-weighted average of 68.1% in 2003 to 82.1% in 2012). Only Bali and NAD achieved the national target. Central Sulawesi and Southeast Sulawesi are far behind other provinces (63% and 66%) but it should be recognized that these provinces started from a low base of 54% and 42%.

115. **Antenatal care.** In Indonesia, antenatal care is defined as pregnancy-related health care provided by a medical professional.³⁵ Its coverage has steadily increased.³⁶ Central Sulawesi, NAD, and Southeast Sulawesi had major increases in access to antenatal care (Appendix 4, Table A4.4). Overall, the population-weighted achievements have been similar in both project and non-project provinces. Since only women who gave birth in the last 5 years responded to the IDHS question on the use of antenatal care, full project impacts are yet to emerge.

³⁴ The maternal mortality rate refers to the number of maternal deaths per 100,000 live births.

³⁵ Medical professionals include general practitioners, obstetricians, gynecologists, nurses, or midwives.

³⁶ Women who had a live birth in the 5 years before each IDHS were asked who provided antenatal care during their pregnancy.

3. Child Health

116. **Child immunization.** Vaccines are provided to health service centers through the national and provincial health systems. Children receive vaccinations from village health posts (*posyandus*), maternity clinics (*polindes*), and health centers (*puskesmas*). Project support for the development of these facilities may have contributed to better immunization coverage.³⁷ Provincial data suggests that immunization coverage dropped in 2007 in at least five of the project-supported provinces compared with 2003 levels, while North and Southeast Sulawesi experienced some increase (Appendix 4, Table A4.5). According to the 2012 IDHS, compared with 2007, all project provinces have realized greater coverage, i.e., above the 2007 overall level (up from 52.4% to 65.0%). The immunization coverage in non-project provinces increased from 61.7% to 69.7%. This may have been driven by Indonesia launching a vigorous national immunization drive after 2007.

117. **Diarrhea treatment at health service facilities.** Diarrhea can be fatal, particularly for children, if it is not treated in time. The IDHS asked mothers of children who had diarrhea whether the children had been taken to a health service facility.³⁸ Data confirms that the use of health facilities for diarrhea treatment increased from 57.1% in 2007 to 65.9% in 2012 in project provinces (Appendix 4, Table A4.6), although to various degrees—Bengkulu led with 81.6% in 2012 while Southeast Sulawesi lagged at 55.4%. Between 2007 and 2012, Bali was the only province with lower use of service facilities.

Use of health facilities for diarrhea treatment increased from 57.1% to 65.9%

118. Nationally, average health facility utilization increased from 51.0% in 2007 to 64.6% in 2012, against an increase from 57.1% in 2007 to 65.9% in 2012 in project provinces. The empirical evidence from IDHS is consistent with Indonesia's SUSENAS results.

4. Family Planning

119. The project also aimed to improve family planning services in project areas. Unintended pregnancies, at an estimated 24 million per year, are a major issue in the country. Many of these women seek abortion, which in turn increases the rate of maternal mortality. Jakarta Post quotes BKKBN data and reports that the number of abortions in Indonesia increased by 15% annually; and in 2012, 2.4 million abortions took place in the country, of which about 800,000 were teenagers.³⁹ Several sources report that many abortions are carried out under unsafe conditions and at great risk.

Many abortions are carried out under unsafe conditions and at great risk

120. Key informants involved in delivering family planning training under the project told the evaluation team that the training largely focused on disseminating and sharing knowledge about birth control implants and use of injections. Although the family planning component faced implementation difficulties due to the impact of decentralization, better family planning and lower incidence of unwanted pregnancies have had a positive gender impact in that more women are aware of available options.

³⁷ Children are considered fully immunized when they have received one dose of vaccine against tuberculosis (BCG), three doses each of the DPT (diphtheria, pertussis, and tetanus) and polio vaccines, and one dose of measles vaccine.

³⁸ Refers to children under the age of 5 who had diarrhea in the 2 weeks preceding the survey and were taken to a health facility.

³⁹ Available: <http://www.thejakartapost.com/news/2013/02/20/abortion-today-still-secret-easy-find.html>, as of 25 December 2013.

121. **Contraceptive prevalence rate among married women** (15–49 years). IDHS reports data on the prevalence of contraceptive use among never-married women and currently married women aged 15–49. This indicator is used for measuring the success of family planning programs. The results indicate that overall there has not been a major shift in the prevalence of contraceptive use between 2003 and 2012 (Appendix 4, Table A4.7). Some improvements were seen between 2003 and 2007 in selected provinces, but these gains reversed in 2012. The prevalence rates were mostly similar in project and non-project provinces but collectively non-project provinces had a marginally higher rate than the project provinces (62.4% vs. 59.0%). Among the project provinces, NAD had the lowest prevalence rate in both 2007 and 2012.

122. **Unmet need for family planning services.** Unmet need for family planning has modestly increased in both project and non-project provinces (Appendix 4, Table A4.8). Available data show that it declined marginally between 2003 and 2007, largely due to Riau, Bengkulu, Bali, Central Sulawesi, and Southeast Sulawesi. However, it increased in all provinces in 2012, compared with 2007.

B. Performance of ADB, Borrower and Development Partners

1. ADB Performance

The evolving decentralization required close supervision of the project, and adjustments both from ADB and the government

123. Overall, ADB's performance is rated *satisfactory*. As listed in the PCR, ADB fielded 13 project review missions, 1 emergency rehabilitation mission, 1 midterm review mission, 1 final review mission, and 1 PCR mission. The evaluation considers that a two-part midterm review mission between December 2003 and March 2004 responded to the needs of the project and country priorities. While implementation progress throughout the project period was considered satisfactory or highly satisfactory, the evolving decentralization required close supervision of the project, and adjustments both from ADB and the government. ADB also positively responded to evolving organizational change within MOH and placement of the project implementation responsibility as desired by the government. ADB also approved two extensions of the project (24 months and 3 months) at the request of the government, which helped complete project activities as much as possible.

124. The evaluation team, through focus group discussions and key informant interviews, learned that ADB review missions largely concentrated on Jakarta and took only limited field visits. According to the PCR, ADB also changed project officers four times and project analysts twice. ADB staff turnover slowed communication between project and ADB staff. Nevertheless, the government and project staff deemed ADB's support during implementation satisfactory.

2. Borrower Performance

125. The evaluation rates the borrower's performance *less than satisfactory* under the decentralization model adopted by Indonesia. The PCR noted that the project was managed by different executive secretaries in different departments, with limited integration between health and family planning activities. The midterm review highlighted that a major issue in project administration was the lack of timely systematic reporting of project activities, making it difficult to react swiftly. The main reason for this significant delay was the need for consolidation of district reports at central and provincial levels, along with many districts having a poor understanding of project administration.

126. The government did not provide timely counterpart funds during the project period, although local governments allocated sufficient funds for sustaining civil works and equipment. This led to a much shorter implementation period in a fiscal year, which may have compromised the quality of work completed. The Financial and Development Supervisory Agency (Badan Pengawasan Keuangan dan Pembangunan) issued an audit report in 2007 that the project had ineffective supervision and review of activities. The audit report enumerated nine cases amounting to Rp691,762,960 and involving (i) overpayment on training and workshop per diems, civil works contractors, suppliers, and consultants (MOH/BKKBN); (ii) poor supervision of civil works (MOH); non-use of medical equipment and completed civil works for the intended purpose (MOH and BKKBN); and ineligible payments to fellowship participants (MOH).

The government did not provide timely counterpart funds

127. The evaluation findings confirm the PCR statement that formal coordination was lacking between MOH and BKKBN, an agency responsible for family planning services. As a result, during the midterm review the focus was mostly on the provision of MNCH services and less on family planning. Even for health service delivery, project implementation was largely seen as being driven by MOH, with limited ownership by the local and district health offices.

Formal coordination was lacking between MOH and BKKBN

128. Discussions with different stakeholders also indicated that initial implementation delays were largely due to inadequate local and district institutional capacity, which was to be supported by engaging services of a project management firm. The evaluation team noted that this did not happen and that the project opted to engage a small number of individual consultants. Furthermore, as stated in the PCR, the project implementation units were managed by retired civil servants with no experience in health services decentralization and ADB's operational policies and guidelines. Also, it was reported that project staff turnover was quite high.

129. The borrower should have emphasized that the project needed a baseline survey so that project progress could be monitored over time. However, this did not happen until after the midterm review, which prevents systematic analysis of project impact. The TA team finally helped set up a health indicator monitoring system by incorporating selected MNCH indicators.

3. Development Partners' Performance

130. No other development partners were involved in the project, although other agencies also supported health reform and associated activities in Indonesia. The World Bank, Japan Bank for International Cooperation, United States Agency for International Development, Australian Agency for International Development, the Netherlands, and specialized United Nations agencies—United Nations Development Programme, United Nations Children's Fund, United Nations Population Fund, and World Health Organization—have been active in the support of Indonesia's health sector. External assistance has averaged \$200 million–\$350 million per year between 2000 and 2010, or around 1%–2% of total health expenditure.⁴⁰

131. The World Bank financed a series of provincial health projects with similar objectives to those of the DHS. One was the Provincial Health Project in Lampung and Yogyakarta, which was implemented between 2000 and 2007 with World Bank

⁴⁰ World Health Organization. 2013. *Global Health Observatory Data Repository*. Available: <http://apps.who.int/gho/data/node.country.country-IDN>

financing of \$31.26 million.⁴¹ It included activities to support newly decentralized organizational structures, health financing mechanisms, workforce policies, and local health service delivery and financing arrangements. The independent completion report (footnote 12) rated the project moderately satisfactory, but noted that the central government had limited capacity for decentralization, project performance indicators required better definition, and provinces and districts needed more guidance. The report emphasized that the “enabling environment provided by the central government had significant shortcomings for project implementation from the point of view of lateness in disbursement of funds and confusion over precise allocation of authorities among government levels.”

132. The Second Provincial Health Project was implemented between 2002 and 2007 in the provinces of North Sumatra, West Java, and Banten. It had \$57 million in World Bank financing and the objectives of assisting effective health sector decentralization, initiating sector reforms, and protecting health services for the poor. Components were designed to tackle decentralization issues in districts and provinces, and to assist communicable disease control, equity in service provision, establishment of a food and drug control agency, and supporting health research. The project was rated as having an unsatisfactory outcome. Implementation was constrained by districts not having clearly defined functions and standards, poor performance indicators, along with the scope of the project being too broad and “attempting to implement too wide a scope of reforms at the same time placing a large burden on project implementers.”⁴²

Complex projects require considerable capacity development

133. From 2003 to 2008, the World Bank implemented the Health Workforce and Services Project.⁴³ It aimed to support health sector decentralization in Jambi, East Kalimantan, West Kalimantan, and West Sumatera through improved health financing and services, and to strengthen health workforce policy and management. The completion report rated the project outcomes moderately unsatisfactory. Lessons included that complex projects require considerable capacity development during the early years of implementation and warrant a longer implementation period, and that M&E responsibilities should be made clearer at startup. The most difficult obstacle to implementation, however, was lateness in the central government’s disbursement of project funds.

134. The United States Agency for International Development has focused on infectious diseases, including tuberculosis, HIV/AIDS, neglected tropical diseases, avian and pandemic influenza, along with maternal and child health.⁴⁴ In the past the agency was a major supporter of family planning in Indonesia, but the country has since graduated from being eligible for assistance. In the field of maternal health, the program includes activities to support obstetrical care and referral systems, and care for children suffering respiratory illnesses. Indonesia has also been a large recipient of Global Fund grants to support prevention of HIV/AIDS, malaria, and tuberculosis, and associated care. Since 2003 some 17 grants valued at \$500 million have been targeting

⁴¹ World Bank. 2000. *Provincial Health Project in Indonesia*. Washington, DC. Available: <http://documents.worldbank.org/curated/en/2000/05/437378/indonesia-provincial-health-project>

⁴² World Bank. 2008. *Second Provincial Health Project in Indonesia*. Washington, DC. Available: <http://documents.worldbank.org/curated/en/2008/06/9735922/indonesia-second-provincial-health-project>

⁴³ World Bank. 2003. *Health Workforce and Services Project in Indonesia*. Washington, DC. Available: <http://documents.worldbank.org/curated/en/2003/05/2216140/indonesia-health-workforce-services-project>

⁴⁴ GHI. 2011. *Indonesia GHI Country Strategy*.

these diseases. The grants contain funds to support health worker training, community outreach, capacity of laboratories, vector control, testing, procurement of insecticide-treated nets, and enhancing the health information system.

135. The Global Fund and the Australian Agency for International Development are currently the major supporters of health systems strengthening. The Global Fund health systems strengthening program entails a grant of \$16.5 million to develop a national health information system, scaling up the sample registration system, and promoting health system research. The Australia Indonesia Partnership for Health Systems Strengthening (valued at \$50 million from July 2011 to June 2016) will link with the Global Fund program. It aims to expand the number of qualified nurses and midwives, and support local governments to staff health centers. Additionally, the Australia Indonesia Partnership for Maternal and Neonatal Health (valued at \$16.6 million in June 2012) aims to increase the number of births covered by skilled birth attendants, increase the number of women using health facilities to give birth, and help reduce malaria and anemia among mothers. Capacity developed under the DHS is now being deployed in other donor-supported areas, and lessons and experiences from these projects should be disseminated. This issue is discussed in chapter 5.

Capacity developed under the DHS is now being deployed in other donor-supported areas

C. Technical Assistance

136. Attached to the loan was TA to assist MOH in defining, implementing, and evaluating health sector reforms in the context of decentralization. The TA had six outputs: (i) health sector reforms identified, (ii) capacity for health system management and health service delivery built, (iii) health plans developed, (iv) awareness of health priorities created among decision makers, (v) operations research capacity developed, and (vi) project management supported.

137. Originally, \$1 million in TA was approved, but this was revised during implementation to \$1.86 million, with the Australian Agency for International Development cofinancing an additional \$0.86 million for consulting services and operational costs. The TA supported management and planning training, and assistance with health sector reforms. The scope was broadened to include tsunami damage assessment and reconstruction, national health accounts, and strengthening of MNCH. The TA was extended four times and consultants replaced due to poor performance.

138. The TA had the same overall objective of improving the health status of the population in the project areas, and of assisting the planning of health reforms under objective 2. According to MOH staff interviewed during the evaluation, the TA supported the government's intention to strengthen local capacity for health service delivery. Additionally staff noted that the TA helped introduce initiatives like health insurance, health financing, drug use management, health-care quality improvement, and public-private partnerships. Training modules developed under the TA helped train more than 200 district health staff on evidence-based health planning and budgeting in project and non-project districts. In two instances, the evaluation team witnessed a planning and budgeting exercise, and staff's active participation was evident. The TA also helped MOH assess damage and reconstruction efforts after the 2004 tsunami in NAD. The TA completion report rated the TA satisfactory.

Training modules developed under the TA helped train district health staff on evidence-based health planning and budgeting

139. The PCR states that the TA helped the project produce several documents on different health sector initiatives and training modules in health planning and budgeting; however, "health sector reform [was] not fully achieved because the focus

was largely on documentation of existing reforms rather than launching and evaluating new local initiatives.” The evaluation team could access only a few of the outputs produced under the TA and, hence the quality of consultants’ outputs could not be assessed. Moreover, several outputs had no English translation. The consultant recruitment approach provided flexibility in engaging individual consultants, but coordination of various outputs proved challenging for project management. The evaluation considers that sequencing of consultants’ engagement could have been more strategic. For example, district health planning could have been followed by M&E. Moreover, tangible contribution from the TA came only after the midterm review. If a firm had been engaged from the beginning, some project implementation delay could have been avoided. In view of the broad geographic scope of the project and the technical nature of decentralization-related challenges, the TA was originally under-resourced.

CHAPTER 5

Issues, Lessons, and Follow-Up Actions

140. This chapter draws on evaluation findings discussed in preceding chapters. It identifies key issues facing Indonesia's health sector, lessons derived from the project design, implementation and completion; and recommends follow-up actions by ADB and the government.

A. Issues

1. Geographic Targeting

141. According to senior staff at MOH, the original selection of seven provinces across Indonesia intended to avoid duplication of resources between ADB and the World Bank. The rationale for this selection, as provided to the evaluation team, was weak. These provinces did not have proportionately larger poor populations, particularly adverse health indicators, or several districts without doctors, nor were they experiencing issues with overall economic development. Instead, the selection generated a very broad and scattered footprint for implementation. Some of the provinces, such as Bali and North Sulawesi, have very favorable health indicators. There was some suggestion that these provinces could provide a model for the poorer-performing provinces and interaction during the project would increase average performance of participating provinces. Apart from some study tours to insurance-implementing districts in Bali, there appeared to be limited interaction between provinces.

142. If the pairing of higher- and lower-performing provinces was done with the aim of lifting average performance, a number of activities such as institutional twinning, reciprocal work placement, and a broader program of information and experience exchange should have been included in the design. In addition to a vague rationale for province selection, the allocation of funds among participating districts was not based on evidence of poverty prevalence or health performance indicators. Analysis provided in the relevance section of this report suggests that district allocation was not poor.

2. District capacity and monitoring systems

143. Insufficient district capacity and internal administration and management systems constrained the success of health service delivery, and still do. Project delays reflected cumbersome procedures in procurement, contract review, disbursement, liquidation, and approval processes. The work of technical and administrative units was not adequately synchronized for efficient project implementation. Benefit monitoring and evaluation was not integrated. Many of the indicators established to track institutional development were not specific, and required definition from a time-bound and quality-standard point of view. In a decentralized service system, local health

The allocation of funds was not based on evidence of poverty prevalence or health performance indicators

Project delays reflected cumbersome procedures

Measurable and time-dependent indicators should have been used departments need a functioning M&E system to track investment activities and outputs, and health sector performance and impact. Technical monitoring guidelines such as the World Health Organization's handbook⁴⁵ have been developed to monitor and evaluate health system performance. Measurable and time-dependent indicators, such as those outlined in the handbook, should have been used to monitor and evaluate project performance and consolidate in project completion and implementation reporting.

3. Project design and scheduling

144. Overall the project design was understood and large-value components were successfully implemented, despite delays in progress. The use of a project loan coupled with TA was the proper modality given the limited sector assessment and considerable policy uncertainty at the time of decentralization. Reviews of other ADB loans, such as the performance evaluation report for the Punjab Devolved Social Services Program,⁴⁶ noted that project lending is best suited to demarcate specific capacity development measures needed in the implementation of agreed reforms [as this] is a less predictable process that requires some flexibility and responsiveness. The DHS design gave flexibility to adapt to the evolving decentralization process. It contributed to the overall capacity building of human resources with initiatives such as fellowship programs, resulting in the placement of trained staff into higher management positions in project areas. Districts' planning capacity and vision of the proposed project activities was not sufficient during project startup and early review missions noted this problem.

The design was also overambitious 145. The implementation schedule did not accommodate an appropriate time frame or activities to foster early project ownership. The design was also overambitious in its geographic scope. More than 70 districts were involved in implementation, with differing levels of capacity, high staff turnover, and all with limited experience in international project operations. The number of provinces should have been reduced and resource allocation should have been based on poverty and health status.

District-specific plans, supported by more substantive TA, should have been developed 146. District-specific plans, supported by more substantive TA, should have been developed. Procurement could have been packaged into a smaller number of large-value contracts, reducing the delays associated with ADB and government procurement processes. Concentration of funding in a smaller geographic area would also increase the probability of provincial health indicators reflecting positive outcomes of the project. As already noted, project investment accounted for less than 2% of district expenditure, which limits the scope for funding to have a significant impact on the regional health statistics (para. 63). Larger allocations per district would not have had a substantial impact given the small size of the project relative to overall district health expenditure.

B. Lessons

147. **Proper problem analysis is needed based on risk and mitigation analysis before rolling out a program under decentralization.** Problem analysis⁴⁷ was undertaken to some degree during project preparations. Risks were outlined in the project framework (under Assumptions and Risks) but little detail was given in the main text of the report

⁴⁵ World Health Organization. 2010. *Monitoring the building blocks of health systems: a handbook of indicators and their measurement strategies*. Geneva.

⁴⁶ ADB. 2012. *Performance Evaluation Report: Punjab Devolved Social Services Program in Pakistan*. Manila.

⁴⁷ ADB. 2007. *Guidelines for Preparing a Design and Monitoring Framework*. Manila.

and recommendation of the President, or in the project design. Greater attention should have been placed on the political economy of decentralization, such as outlining key stakeholders, defining differential impacts of reforms, and identifying risks associated with possible future behavior of key stakeholders,⁴⁸ along with capacity assessments across the broad geographic spread of the project. It would have been important to better assess the factors that help or hinder managerial and operational institutionalization of local health systems. The project did not do so. As a result, the standardized approach may not have worked in all districts. Decentralization is an evolving process and requires time to develop adequate capacity.⁴⁹

148. Results from successful pilot initiatives should be disseminated in time and used in scaling up such initiatives to maximize the impact. The health insurance scheme piloted in the Jembrana district of Bali has been recognized as one of the successful initiatives and is now being rolled out across the entire province. A number of lessons have emerged for ADB and the World Bank from piloting of this reform. This view was shared by people interviewed during the evaluation and by the World Bank, who stated that “more lessons could undoubtedly be drawn by undertaking a comparative study of all decentralization experiences, including those supported by development partners like the World Bank and ADB. Such a study could focus on the different ways provinces have established the province-district relationship, the relative costs and benefits of each, and the variety of ways districts and provinces have developed to exercise autonomy in the health sector despite continuing lack of clarity in the policy environment and their dependency on central government funding” (footnote 12).

149. The scope and implementation coverage of projects should be manageable. For significant impact, project investment should not be spread too thinly nor be so ambitious in scope as to hamper implementation. The project interventions, while generating some positive outcomes locally, did not show much impact at the provincial level because they were too small to produce a broader impact. Concentrating investment in a few provinces would have been more effective. Strategic investment choices based on poverty and health needs should have been made when deciding geographical coverage.

150. Capacity development requires continued commitment. Indonesia still has a relatively high MMR (para. 111). Capacity development in the areas of obstetric and neonatal care is still required, and the evaluation team came to know from the district health departments that they have limited finance to meet this capacity development requirement. According to key informants, basic emergency obstetric and neonatal care centers are often not used to assist with complications due to perceived lack of capability, and that not all districts have a functioning hospital with required emergency capability. Considerable further investment in infrastructure and human resource capacity will be required to meet the maternal mortality MDG target by 2015.

⁴⁸ ADB. 2013. *Guidance Note: Use of Political Economy Analysis for ADB Operations*. Manila.

⁴⁹ In reviewing the World Bank provincial health projects, it was noted that “no one could see clearly how the implementation of decentralization would evolve; the important thing was to put mechanisms in place which could respond well to opportunities and risks ... further analysis would have been helpful looking at how decentralization could be expected to impact the underlying causes of the entrenched problems in the sector, as some problems could be transformed by decentralization and those which would likely be unaffected by decentralization” (footnote 12). The evaluation team concurs with this finding. Strength-weakness-opportunity-threat and risk analysis should have been coupled with strategies to mitigate these risks.

151. **Greater synergy is required between family planning and health-care services.** Inclusion of family planning advocacy in future programs could help reduce maternal mortality, as high fertility and maternal mortality are correlated. During key informant interviews, many expressed an opinion that more support for family planning is needed. It will require a coordinated and balanced joint approach from MOH and BKKBN, supported by appropriate resources.

152. **A comprehensive approach is needed for a well-functioning health system.** Well-functioning provincial and district systems have proven to contribute to overall coordination and control of local health service delivery. During evaluation, health facility staff frequently cited the development of human resource capacity through longer-term fellowships as a key benefit of the project. Many of the project-supported fellows are now in key positions within the district and provincial health services. Many fellows thought that their careers would not have progressed so well without the project. The skills for networking, problem-solving, and data analysis and presentation that these fellowships help develop are still being used.

153. ADB has helped improve infrastructure and promote reforms in a comprehensive manner. This was seen as a key positive feature of the project. Informants thought that by combining better planning and infrastructure and higher-quality human resources, access to health services and their quality had improved. Many felt that without a comprehensive approach this might not have happened.

154. **A good M&E system can help develop a better understanding of what works and what does not.** While the potential benefits of a comprehensive approach were noted during the evaluation team's field visits, there is limited effort to quantify these benefits systematically. A survey of stakeholders was conducted at project exit and documented in a benefit-monitoring report. A range of customer satisfaction questions were posed and scored in the survey. Satisfaction indicators related to benefits associated with (i) training for midwives, (ii) utilization of skills by staff after training, (iii) availability and equipment to support MNCH, (iv) quality of civil works, (v) operations research, (vi) problem-solving ability of district health officers, (vii) staff motivation, (viii) political commitment, (ix) effectiveness of health reforms, (x) level of district funding (xi) health center utilization, (xii) safe delivery, and (xiii) patient satisfaction. However, no baseline survey was conducted with the satisfaction survey, so changes in with-and-without or before-and-after comparisons cannot be assessed. Similarly, no non-project facility appears to have been included in the survey. This would have helped in determining incremental benefits from project intervention compared with non-project situations.

155. Generally accepted health systems strengthening indicators, such as those outlined in the World Health Organization's handbook (footnote 45), should be included in a national and project-related M&E system. To determine project impact, a focused survey of health status and client attitudes in project and non-project provinces should have been conducted at the start (to establish a baseline) and at project completion. Without this information it is not possible to attribute and quantify shorter-term project benefits.

156. **Proper evaluation of capacity development would help assess the utility of current investment and justify further investment in human resource development.** A large number of staff in health service delivery received training or fellowships under the project. However, there has not been any attempt to document actual benefits stemming from this investment. A proper analysis will help the central, provincial,

and district governments to determine skills gaps that can be targeted over the next couple of decades. Periodic evaluation of the value and impact of expenditure on capacity development should have been conducted. Although the number of physicians and the ratio of physicians to population have increased in all provinces and in rural areas, deployment practices and inequitable distribution remain serious concerns. M&E of current deployment and a skills audit are crucial to ascertain whether an effective long-term health workforce strategy is being implemented (footnote 9).

C. Follow-up Actions

157. The ADB-supported DHS2, approved in 2003 (footnote 13) and ongoing, has incorporated some of the lessons derived from the implementation of this project. The provinces covered in the DHS2 are different from those in the DHS. Nevertheless, this evaluation has that are applicable to the ongoing project as well as any future investment by ADB, other development partners and the government. The evaluation has four key recommendations:

158. **ADB should remain engaged with the Government of Indonesia in the health sector** since there is tremendous need and scope for supporting health services and health policy reforms to achieve better health outcomes for more people, including some of the key MDG indicators such as maternal mortality and infectious disease control. The country is still lagging in these areas and much of the current donor support is associated with the control of particular infectious diseases rather than developing the health system more broadly. Although health systems strengthening has gained more focus in current donor support, a multilateral financing institution such as ADB has a comparative advantage in encouraging the government to mobilize resources for the health sector, assisting public financial management and tax reform, helping formulate health insurance, and creating an environment conducive for private investment.⁵⁰

159. **The government should provide a clear funding framework and simplified financing arrangements for enhancing local, district, provincial, and central health and family planning services.** Local health financing in Indonesia is characterized by complicated budgeting and planning cycles, which involve a multitude of financing channels. Consequently transaction costs are high, and delays in fund disbursement effectively reduce the window in which health facilities can operate efficiently within a given year. It is vital to simplify these procedures and funding arrangements, and give greater autonomy to districts over operational budgeting and human resources. One of several options may be to provide matching grants (1:1) to local, district, and provincial entities. More stable funding arrangements will most likely help them plan and implement health activities.

160. **Provincial governments, with support from central government, should promote twinning arrangements with other health facilities** within and outside their provinces for human resource development in the health sector. This would require a credible assessment of current deployment, and a skills audit of health service delivery facilities. Where possible, efforts should be made to encourage intra-district or inter-district mobility of experienced staff to go on secondment arrangements, supported by a genuine incentive scheme.

⁵⁰ ADB. 2013. Health in the Post-2015 Development Agenda for Asia and the Pacific. Manila.

161. **BAPPENAS, MOH, BKKBN and the National Statistics Office need to take a joint lead role in ensuring that health-related statistics are collected regularly and records are updated on time** so that information and data can be extracted for policy formulation and program development. This would be possible if each agency ensured that flow of data and information from local, district and provincial health facilities is uninterrupted and consolidated efficiently. The government may seek assistance from one of the development partners (including ADB) if funding emerges as a key constraint. BAPPENAS should also organize an annual event where experiences and lessons from various pilot initiatives are shared across national and international agencies involved in promoting better health outcomes.

Appendixes

APPENDIX 1: DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets/Indicators		Data Sources/Reporting Mechanisms
	Appraisal Target	Actual (Average Provincial Figures)	
<p>Goal Improved health status of the population in all project districts</p>	<p>By 2010, in the project districts</p> <ul style="list-style-type: none"> MMR: 200 deaths per 100,000 live births, or at least 30% lower than local benchmark data IMR: 30 deaths per 1,000 live births, or at least 30% lower than local benchmark data U5MR: 40 death per 1,000 live births, or at least 30% lower than local benchmark data LEB 70 years, or at least 2 years more than local benchmark data 	<ul style="list-style-type: none"> According to government statistics, MMR decreased from 232 deaths per 100,000 live births in 2003 to 84 in 2012. This is equivalent to a 63% decrease. The largest decreases were evident in Southeast Sulawesi and NAD, where reductions of more than 200 per 100,000 live births were recorded. IMR in the original project provinces fell from 42 deaths per 1,000 live births in 2003 to 36.6 in 2010. This represents a reduction of 13%. Increases in IMR were reported in Bali, North Sulawesi, and Central Sulawesi between 2003 and 2010. U5MR fell from 59.7 per 1,000 live births in 2003 to 43.3 in 2010. This represents a decrease of 27%. The largest decrease was reported for Bali, from 30.3 to 5.4 deaths per 1,000 births The PCR reported that Riau, Bali, and North Sulawesi had attained a life expectancy of at least 70 years 	<ul style="list-style-type: none"> Annual district health profiles UNICEF and WHO data or estimates
<p>Purpose Improved health and family planning services in the project area</p> <p>Access of the poor to essential health and family planning services guaranteed</p>	<p>District targets for at least 47 of the 62 project districts or cities (75%) met.</p> <ul style="list-style-type: none"> Contact rates at least 25% higher than benchmark data 	<ul style="list-style-type: none"> The contact rate increased by 31% between 2003 and 2010 for outpatient services. Increases were not evident in all provinces. Decreases were apparent in Southeast Sulawesi and Bali, while large increases (between 61% and 360%) were recorded in Central Sulawesi, North Sulawesi and Riau. 	<ul style="list-style-type: none"> National Socioeconomic survey – health module Demographic and Health Survey BKKBN reports Local government budget

Design Summary	Performance Targets/Indicators		Data Sources/Reporting Mechanisms
	Appraisal Target	Actual (Average Provincial Figures)	
	<ul style="list-style-type: none"> Unmet needs for family planning 30% lower than benchmark data Sustainability: ratio of local government's budget for health over total public expenditure at least 4% Sustainable local health safety-net program 	<ul style="list-style-type: none"> Unmet demand for family planning remained relatively constant between 2003 and 2007, and then increased in 2010. Unmet demand has increased most notably (by more than 5%) in North Sulawesi, Central Sulawesi, and Southeast Sulawesi between 2003 and 2010. The average ratio in 2002 was 3.6% and increased to 9.8% by 2011. The largest increases were in the provinces of Central Sulawesi, NAD, and Southeast Sulawesi. The latter's ratio increased from 1.7% to 19.7%. Only aggregate provincial ratios were provided so it is unclear how many districts have made the threshold. Indicator for this target unclear 	
Local capacity to develop and maintain quality health systems and health-care delivery services	<ul style="list-style-type: none"> No breakdown of health care services delivery Specific indicators: availability of essential drugs and contraceptives Targeting public subsidies to the poor: local health safety net program; local primary health care services Awareness of gender-specific health needs Quality of district proposals 	<ul style="list-style-type: none"> Indicator for this target unclear Average contraceptive prevalence rate among married women (15-49 years) remained stable across four project provinces between 2003 and 2010. Increases were apparent in Riau, Bali and Southeast Sulawesi. The PCR found that visit rates among the poorest 20% increased by at least 25% between 2001 and 2007. World Bank project reviews also found the poor using health facilities to a greater extent in target provinces. The PCR noted that the number of midwives trained in lifesaving skills increased by at least 50%, except in NAD and North Sulawesi. Numbers of midwives and nurses in each province dramatically increased between 2003 and 2010. For example, 	<ul style="list-style-type: none"> Performance monitoring system; field visits; NGOs and media reports Experts' assessment of local health safety-net program; NGOs and media reports Local reproductive health services Experts' assessment of the proposals and reports

Design Summary	Performance Targets/Indicators		Data Sources/Reporting Mechanisms
	Appraisal Target	Actual (Average Provincial Figures)	
	<ul style="list-style-type: none"> Quality of district yearly implementation reports 	<p>the number of midwives in NAD increased from 325 to 8,930.</p> <ul style="list-style-type: none"> This is a non-specific indicator and should have been specified on a time-bound and minimum-quality basis. The PCR noted that proposals and annual work plans were reviewed, but there was no clear guidance on reporting implementation progress. 	
Health sector reforms	<ul style="list-style-type: none"> Local health sector reforms introduced: increased efficiency, increased quality in health sector 	<ul style="list-style-type: none"> These outcomes were not routinely measured as part of project M&E. Discussions during the evaluation indicated that local health reforms strengthened health care management capacity and service delivery. Case studies are provided in the main text of the report. 	<ul style="list-style-type: none"> Experts' assessment of the need and quality of local reforms
Health services infrastructure	<ul style="list-style-type: none"> Physical health infrastructure: clean and rehabilitated health facilities; equipped with required medical equipment 	<ul style="list-style-type: none"> The number of health centers in project provinces more than doubled between 2003 and 2010. Large increases were evident in NAD and Southeast Sulawesi. Much of the increase in NAD was not related to the project. The project was responsible for 188 health centers with beds and 162 health centers without beds, and renovation of 158 sub-district health centers. Hospital beds increased by 54% between 2003 and 2010 in project provinces. A total of 86 hospitals were renovated and seven were constructed using project funds. Medical equipment and ambulances were procured to support construction and health needs in each district. 	<ul style="list-style-type: none"> Project reports Field visits
Project management	<ul style="list-style-type: none"> Timely implementation of central-level project activities (100% MOHSW and BKKBN proposals) and completion of district proposals in at least 50 of the 62 project 	<ul style="list-style-type: none"> Project implementation was delayed by late disbursement of counterpart funds and by planning and implementation bottlenecks. 	<ul style="list-style-type: none"> Project reports Field visits Project completion report

Design Summary	Performance Targets/Indicators		Data Sources/Reporting Mechanisms
	Appraisal Target	Actual (Average Provincial Figures)	
	districts		
Training activities	ADB: \$16,898.30 Counterpart funds: \$4,592.80	ADB: \$19,977.0 Counterpart funds: \$12,685.0	<ul style="list-style-type: none"> • Withdrawal applications • Disbursements • Annual audit reports and financial statements
Consulting services	ADB: \$3,107.30 Counterpart funds: \$3,186.20	ADB: \$833,205.0 Counterpart funds: \$1,139.0	
Civil works	ADB: \$12,236.30 Counterpart funds: \$5,677.10	ADB: \$12,707.7 Counterpart funds: \$6,716	
Equipment and materials	ADB: \$17,243.10 Counterpart funds: \$1,067.00	ADB: \$17,259.0 Counterpart funds: \$3,928	
Operation studies	ADB: \$1,170.50 Counterpart funds: \$713.70	ADB: \$1,363.8 Counterpart funds: \$963	
Project management	ADB: \$3,537.80 Counterpart funds: \$4,383.30	ADB: \$5,192.5 Counterpart funds: \$6,519.9	

BKKBN = National Population and Family Planning Board, IMR = infant mortality rate, LEB = life expectancy at birth, M&E = monitoring and evaluation, MMR = maternal mortality ratio, MOHSW = Ministry of Health and Social Welfare, NAD = Nanggroe Aceh Darussalam, NGO = nongovernment organization, PCR = project completion report, U5MR = under-5 mortality rate, UNICEF = United Nations Children's Fund, WHO = World Health Organization.

Source: Independent Evaluation Department and project documents.

APPENDIX 2: RATING MATRIX FOR CORE EVALUATION CRITERIA

Table A2.1: Rating Matrix for Project Performance Evaluation Criteria

Parameter/ Criteria	PCR	IED	Reason for Disagreement with PCR Rating / Comment
Relevance	Relevant	Relevant	
Effectiveness in Achieving Outcomes	Effective	Effective	
Efficiency in Achieving Outputs and Outcomes	Less Efficient	Less than Efficient	
Preliminary Assessment of Sustainability	Likely Sustainable	Likely Sustainable	
Overall Assessment	Successful	Successful	
Impact	Not Rated	Limited	No significant differences exist between project and not-project districts or provinces. While access has improved, actual impact remains limited.
ADB Performance		Satisfactory	
Borrower Performance	Satisfactory	Less than Satisfactory	Delay in budget release caused implementation delays.
Technical Assistance	Satisfactory	Less than Satisfactory	Evidence of consultants' outputs could not be substantiated. Only part of overall outputs could be used by the project. Coordination of individual consultants' output remained a challenge.
Quality of PCR		Satisfactory	

IED = Independent Evaluation Department, PCR = project completion report.

Source: IED. 2006. *Guidelines for Preparing Performance Evaluation Reports for Public Sector Operations*. Manila.

Appendix A2.2: Core Evaluation Criteria Rating Values

Rating Value	Relevance	Effectiveness	Efficiency	Sustainability
3	Highly Relevant	Highly Effective	Highly Efficient	Most Likely
2	Relevant	Effective	Efficient	Likely
1	Less than Relevant	Less than Effective	Less than Efficient	Less Likely
0	Irrelevant	Ineffective	Inefficient	Not Likely

Source: IED. 2006. *Guidelines for Preparing Performance Evaluation Reports for Public Sector Operations*. Manila.

APPENDIX 3: ECONOMIC REEVALUATION

A. Introduction

1. The project is reevaluated following the Asian Development Bank's (ADB) Guidelines for the Economic Analysis of Health Sector Projects.¹ The economic life of the project was assumed to be 20 years from the commissioning of health infrastructure, a discount rate of 12% was applied, and cost and benefits were included in constant 2013 prices. The goal of the project was to help improve the health status of populations in target provinces, by developing human resource capacity, introducing health reforms to improve the coverage of services, and developing health infrastructure to improve access. These activities generate health benefits by reducing the direct costs associated with treating disease, along with the indirect costs of impaired productivity and premature mortality. These economic benefits were quantified through a comparison of "with" and "without" project situations.

2. Following cost-benefit analysis conducted at appraisal, economic benefit estimation was conducted using a disability-adjusted life year (DALY) approach to measure the potential changes in burden of disease after project implementation. DALYs measure the number of years of life lost (YLL) due to premature mortality and quality of life through disability weights for differing diseases. The project was expected to reduce the gap in burden of disease, as measured by DALYs, between project provinces and developed countries.

3. At the time of implementation Indonesia had a far higher burden of disease per person than developed (Organisation for Economic Co-operation and Development [OECD]) countries, which is referred to as the DALY gap. This gap was estimated to have narrowed, using assumptions associated with the 2010 Global Burden of Disease Study.²

4. The number of DALYs gained (through a reduction in the burden of disease) was multiplied by the average earnings in project provinces. At appraisal, these benefits over 10 years were compared with the costs of project activities, with resulting benefit-cost ratios varying from 11.8 in Riau to 1.1 in Bengkulu. The overall benefit-cost ratio for the project was 4.5.

5. A result of this order indicates that for each dollar of project investment, the project generates \$4.5 of benefits. The rationale for such a high return was not clearly stated in appraisal documents, so the analysis is redone in this section using the comparison of service delivery and health outcomes for project and non-project provinces.

B. Indonesian Burden of Disease

6. Infant and maternal mortality rates have fallen in Indonesia. Maternal mortality ratios show a declining trend but are high relative to other East Asia countries. It is evident in Table A3.1 that Indonesia has high maternal mortality when compared with Thailand and the Philippines, but lower ratios than Cambodia and the Lao People's Democratic Republic. Maternal mortality is caused by problems such as postpartum and antepartum hemorrhage—where too much blood is lost—along with placental abnormalities, infection, and unsafe abortion.

¹ ADB. 2000. *Handbook for the Economic Analysis of Health Sector Projects*. Manila.

² Institute for Health Metrics and Evaluation, Human Development Network. 2013. *The Global Burden of Disease: Generating Evidence, Guiding Policy: East Asia and Pacific Regional Edition*. Seattle: World Bank.

Table A3.1: Maternal Mortality
(per 100,000 live births)

	1995	2000	2005	2010	Change (%)
OECD	26	25	19	19	(28)
Viet Nam	160	100	74	59	(63)
Indonesia	420	340	270	220	(48)
Philippines	140	120	110	99	(29)
Cambodia	750	510	340	250	(67)
Lao PDR	1200	870	650	470	(61)
Thailand	54	66	54	48	(11)

Lao PDR = Lao People's Democratic Republic, OECD = Organisation for Economic Co-operation and Development.
Source: World Bank development Indicators.

Table A3.2: Infant Mortality
(per 1,000 live births)

	1995	2000	2005	2010	Change (%)
OECD	13	10	8	7	(48)
Viet Nam	30	25	21	19	(37)
Indonesia	51	41	34	28	(45)
Philippines	34	30	28	25	(26)
Cambodia	88	82	52	37	(58)
Lao PDR	98	85	71	58	(41)
Thailand	24	19	15	12	(50)

Lao PDR = Lao People's Democratic Republic, OECD = Organisation for Economic Co-operation and Development.
Source: World Bank development Indicators.

7. Infant mortality has been decreasing. Mortality rates do not, however, provide a complete indication of the health status of a population. The burden-of-disease metric referred to as the DALYs is most often used to capture mortality and morbidity impacts of different diseases. One DALY represents the loss of the equivalent of 1 year of full health. The loss of 1 year of life through premature mortality would be estimated to be the loss of one DALY, denoted as YLL. Years of life can also be led with disability inflicted by disease, known as years lived with disability (YLD). Weights have been established for differing causes of disease to account for this morbidity. The YLL and YLD attributable to differing diseases were first estimated as part of the 1993 World Development Report.³ This burden of disease was updated in 2010. Burden of disease estimates for Indonesia and high-income countries are in Table A3.3.

Table A3.3: Disability-Adjusted Life Years per 1,000

	1995	2000	2005	2010
DALY rate per 1,000				
Indonesia	375.0	350.7	338.0	320.5
High-income countries	275.2	266.6	260.8	261.3
Gap	99.8	84.1	77.2	59.3
Annual gap reduction	-	15.7	6.9	17.9
YLD rate per 1,000				
Indonesia	104.2	104.6	103.8	105.4
High-income countries	119.1	120.9	123.1	125.7
Gap	(14.9)	(16.3)	(19.3)	(20.4)
Annual gap reduction	-	1.4	2.9	1.1

³ World Bank. 1993. *World Development Report*. Washington, DC.

	1995	2000	2005	2010
	YLL rate per 1,000			
Indonesia	270.8	246.7	234.2	215.2
High-income countries	156.1	145.7	137.7	135.5
Gap	114.7	101.0	96.5	79.6
Annual Gap Reduction	-	13.7	4.6	16.8

() = negative, – = not available, DALY = disability-adjusted life year, YLD = years lived with disability, YLL = years of life lost.

Source: Institute for Health Metrics and Evaluation, Human Development Network. 2013. The Global Burden of Disease: Generating Evidence, Guiding Policy: East Asia and Pacific Regional Edition. Seattle: World Bank.

8. Assumptions underpinning the calculation of the reduction in the burden of disease gap were not included in the appraisal document for the Decentralized Health Services Project (DHS), but the approach was referred to in the follow-on Second Decentralized Health Services Project (DHS2). In the DHS2, the economic analysis conducted at appraisal indicated that the gap in DALYs between non-Indian and Chinese Asian countries and established market economies was about 143 per 1,000 population. The gap in DALYs was estimated by disaggregating the major disease categories, using relatively recent burden of disease data from previous health projects in the 1990s. Estimates in the global burden of disease study of 2010 update this estimate to a gap of 84.1 DALYs per 1,000 in 2000. This base difference is used in the reevaluation of the project's economic analysis. It should also be noted that the decrease in burden-of-disease gap is estimated to be associated with reductions in YLL, rather than YLD.

C. Project Contribution to Health Financing

9. Indonesia's health spending levels and trends are contained in Indonesia's National Health Accounts. Health financing is very fragmented with numerous channels of public financing from the central to lower governments, along with insurance, private spending, and local government support. Before 2004, private health expenditure had the largest share of total health spending and averaged 58%, but by 2006 private and public expenditure were about equal.

10. Total health expenditure at the district level was estimated to be around \$38 per person. Multiplied by the total population in the project implementation area, total district health expenditure was around \$700 million at the time of project implementation. The total cost of the project estimated in the report and recommendation of the President was \$87.03 million, with a realized expenditure by June 2008 of \$84.60 million.

11. Averaged over a 7-year implementation period, project expenditure was around 1%-2% of total district spending. When making assumptions about the potential impact of a project loan on provincial outcomes, the relative contribution of the development partner as opposed to other sources of finance needs to be considered. In this case, it is evident that development partner financing comprises a very small part of overall financing at the district level.

D. Major Assumptions

12. The DHS had the objectives of improving the treatment of diseases and quality of family planning services, and injury-related clinical services. This was estimated in the report and recommendation of the President's economic evaluation to reduce the DALY difference between OECD market economies and Indonesia by 4%. Based on a gap of 84.1 DALYs per 1,000 inhabitants, a gap reduction of this order would have lowered the burden of disease in Indonesian target provinces by 3.4 DALYs per 1,000 inhabitants.

13. Studies in the Asia and Pacific region of factors constraining the use of maternal and child health services found that the financial costs of treatment were the dominant barrier to obtaining medical care in Bangladesh, Cambodia, and Pakistan. Distance and transport difficulties were reported as major factors, so better access as a result of infrastructure developed under the project and improved contact rates are likely to have had some impact on the health of those in project provinces.⁴

14. Because there was no substantial difference in the health outcomes of the project and non-project provinces (“with” and “without” scenarios) the reduced burden-of-disease gap attributable to the project is smaller than the estimated impact at appraisal of 4%. Informants during the evaluation were adamant, however, that the project had positive health benefits. While the loan resources comprise less than 2% of the district health expenditures, it was noted that those resources are used for critical activities such as staff training and investments in remote areas, which are critical for health outcomes. Health centers constructed by the project are intended to treat most health conditions, and the training of staff has improved the quality of health services beyond the mother, newborn, and child health (MNCH) services. Management staff also has been trained to make better use of the scarce resources. Although a significantly reduced burden of disease cannot be quantified using Indonesia Demographic and Health Survey data, a breakeven burden of disease required for the project to break even is determined in the next section.

E. Cost-Benefit Analysis

15. The quantitative cost-benefit analysis for the project follows the methodologies outlined in ADB’s Guidelines for the Economic Analysis of Health Projects and a World Bank publication.⁵ The analysis covers a projection period of 20 years and is in constant 2013 dollar prices. Incremental recurrent costs are estimated at 5% of investment costs and projected over the cost-benefit analysis. An annual minimum wage of \$1,389 is used for base calculations.

16. The main benefits that were quantified include health benefits from reducing the burden of disease in Indonesia as a result of capacity and infrastructure development. A DALY gap of 84 per 1,000 inhabitants is included to determine the breakeven gap reduction required to generate a positive economic benefit. This gain in life years could also be valued at the annual minimum wage in Indonesia. The indirect cost estimation draws on the human capital approach, which has been widely used to assess the productivity losses from illness or injury as measured by income forgone due to morbidity, disability, and mortality. Labor force participation rates and earnings of affected individuals are used to calculate the value of productivity losses due to morbidity and premature mortality. An annual wage of \$1,389 is used and adjusted using a shadow wage factor of 0.5, because not all DALYs are associated with working-age people.

17. The World Health Organization’s Commission on Macroeconomics and Health evaluated the links between health and poverty.⁶ Analysis undertaken as part of the commission estimated that by averting 8 million deaths, around \$180 billion in economic benefits would be generated per year, or \$22,500 per death in direct economic savings by 2015. The estimate assumed that each DALY is valued at 1 year of average per capita income. Gross national index per capita was \$3,420 in 2012.⁷ This cost is

⁴ R.P. Rannan-Eliya et al. 2012. *Impact of out-of-pocket expenditures on families and barriers to use of maternal and child health services in Asia and the Pacific: Evidence from national household surveys of health care use and expenditures*. Summary technical report. Manila: ADB.

⁵ E. Bloom and P. Choynowski. 2003. *Economic Analysis of Health Projects: A Case Study in Cambodia*, ERD Technical Note No. 6, Manila: ADB; and P. A. Musgrove. 2003. *Health Economics in Development*. World Bank, Washington, DC, November 2003 issue.

⁶ WHO. 2001. *Macroeconomics and Health: Investing in Health for Economic Development*. *Report of the Commission on Macroeconomics and Health*. Geneva.

⁷ Gross national index per capita (formerly GNP per capita) is the gross national income, converted to U.S. dollars using the World Bank Atlas method.

used as a high bound estimate in sensitivity analysis. A lower bound of around \$1,075 per year (the minimum was in Central Sulawesi) is included to gain an appreciation for the robustness of results to changes in value of labor assumptions.

F. Evaluation Results

18. The breakeven burden-of-disease reduction is estimated to be 2%, and leads to the reduction of nearly 0.04 million DALYs per year. A marginal decrease in burden of disease of this order is possible despite provincial health indicators not demonstrating clear impacts. As noted in the main text (para. 108), many Indonesia Demographic and Health Survey indicators are a moving average and recent estimates may not reflect the health benefits of the project.

Table A3.4: Cost-Benefit Analysis

Year	Economic Cost (\$ million)	O&M (\$ million)	Total Cost	Population in Target Provinces (million)	Reduction in Disease Burden (DALYs millions)	Economic Benefits (\$ million)	Net Benefits (\$ million)
2001	2.99	0.10	3.09	19.13	n.a.	n.a.	(3.09)
2002	11.19	0.31	11.50	19.33	n.a.	n.a.	(11.50)
2003	21.35	0.77	22.12	19.52	n.a.	n.a.	(22.12)
2004	24.33	1.45	25.78	19.71	n.a.	n.a.	(25.78)
2005	11.46	1.79	13.25	19.91	n.a.	n.a.	(13.25)
2006	9.90	2.02	11.91	20.11	n.a.	n.a.	(11.91)
2007	12.51	2.27	14.78	20.31	n.a.	n.a.	(14.78)
2008	10.85	2.35	13.20	20.52	n.a.	n.a.	(13.20)
2009		2.35	2.35	20.72	0.03	24	21.60
2010		2.35	2.35	20.93	0.03	24	21.84
2011		2.35	2.35	21.14	0.04	24	22.08
2012		2.35	2.35	21.35	0.04	25	22.33
2013		2.35	2.35	21.56	0.04	25	22.57
2014		2.35	2.35	21.78	0.04	25	22.82
2015		2.35	2.35	22.00	0.04	25	23.07
2016		2.35	2.35	22.22	0.04	26	23.33
2017		2.35	2.35	22.44	0.04	26	23.59
2018		2.35	2.35	22.66	0.04	26	23.84
2019		2.35	2.35	22.89	0.04	26	24.11
2020		2.35	2.35	23.12	0.04	27	24.37
2021		2.35	2.35	23.35	0.04	27	24.64
2022		2.35	2.35	23.58	0.04	27	24.91
2023		2.35	2.35	23.82	0.04	28	25.18
2024		2.35	2.35	24.06	0.04	28	25.46
2025		2.35	2.35	24.30	0.04	28	25.73
2026		2.35	2.35	24.54	0.04	28	26.01
2027		2.35	2.35	24.78	0.04	29	26.30
2028		2.35	2.35	23.12	0.04	27	24.37
Total	104.59	58.01	162.60		0.76	525	362.51
EIRR							12.0%
BCR							1.00
NPV	12%						0.00

() = negative, BCR = benefit-cost ratio, DALY = disability-adjusted life year, EIRR = economic internal rate of return, n.a. = not available, NPV = net present value.

Source: Independent Evaluation Department computations.

G. Sensitivity Analysis

19. There is a substantial amount of uncertainty surrounding a number of variables used in the baseline evaluation. The impact on investment returns resulting from changes in the value of labor is provided in Table A3.5, and from changes to reductions in the burden-of-disease gap in Table A3.6.

Table A3.5: Sensitivity of Investment Criteria to Changes in Assumed Wage Rate

Investment Criteria	Low	Base	High
	\$1,075	\$1,389	\$3,420
Net present value (\$ million)	(75.67)	0.00	489.47
Benefit-cost ratio	0.77	1.00	2.46
Economic internal rate of return (%)	9.2%	12.0%	23.2%

20. It is calculated that the economic internal rate of return of the project would decrease by 2.8% if the value of labor was reduced to \$1,075 per year.

Table A3.6: Sensitivity of Investment Criteria to Changes in Assumed Discount Rate

Investment Criteria	Low	Base	High
	5%	12%	20%
Net present value (\$ million)	200.06	0.00	(284.61)
Benefit-cost ratio	1.95	1.00	0.52

21. It is calculated that the net present value would increase by \$200 million if the discount rate is decreased to 5.0%.

H. Conclusions

22. The economic benefits of undertaking the project are positive if a 20-year projection is included. At appraisal it was estimated that the gap between Indonesia and OECD countries could be reduced by 4, which would be a positive economic benefit if the burden of disease were reduced by 2%. Although no substantial changes were evident in health outcome indicators between project and non-project provinces, a marginal increase is likely based on discussions in this report. Correspondingly, the project is more than likely generated positive economic benefits.

APPENDIX 4: HEALTH OUTCOMES IN PROJECT PROVINCES

Table A4.1: Infant Mortality Rate in Project Provinces of Indonesia
(Deaths per 1,000 Live Births)

Year	1997	2003	2007	2012
Project Provinces	58.8	42.1	38.5	36.6
NAD	45.5		25.0	47.0
Riau	60.4	43.0	37.0	24.0
Bengkulu	72.3	53.0	46.0	29.0
Bali	39.5	14.0	34.0	29.0
North Sulawesi	47.6	25.0	35.0	33.0
Central Sulawesi	94.5	52.0	60.0	58.0
Southeast Sulawesi	78.1	67.0	41.0	45.0
Non-Project Provinces^a	49.0	43.2	65.6	37.4
Difference	9.8	(1.1)	(27.1)	(0.7)

NAD = Nanggroe Aceh Darussalam.

Note: ^a Non-project provinces included all provinces except those covered by World Bank provincial health projects since 2000 (Yogyakarta, Lampung, North Sumatra, West Java, Banten, Jambi, East Kalimantan, West Kalimantan, West Sumatra) and Jakarta. Population-weighted averages provided for project and non-project provinces.

Source: Indonesia Demographic and Health Survey (1997, 2003, 2007, and 2012). Non-project provinces do not include Jakarta, or provinces covered by the World Bank's provincial health projects.

Table A4.2: Deliveries and Provision of Cesarean Section, By Province
(2003, 2006, 2010)

Province	Deliveries ('000)			Cesarean Section (% of Deliveries)		
	2003	2006	2010	2003	2006	2010
NAD	54	76	76	n.a.	8.0	9.8
Riau	79	64	62	n.a.	8.4	19.2
Bengkulu	63	77	76	n.a.	3.7	5.9
Riau Islands	n.a.	81	79	n.a.	1.9	7.4
North Sulawesi	52	63	77	n.a.	2.3	4.2
Central Sulawesi	79	72	78	n.a.	3.2	7.6
Southeast Sulawesi	77	72	59	n.a.	10.7	7.6
Bali	96	84	66	n.a.	1.7	14.1

NAD = Nanggroe Aceh Darussalam, n.a. = not available.

Source: Provincial Health Offices, Indonesia.

Table A4.3: Percentage of Mothers Receiving Assistance during Delivery from a Skilled Provider
(%)

Year	1997	2003	2007	2012
Project Provinces	43.6	69.1	75.8	83.9
NAD	39.4		72.5	89.8
Riau	44.2	74.0	84.9	86.4
Bengkulu	42.3	68.6	72.3	87.2
Bali	77.6	87.8	92.6	98.7
North Sulawesi	45.7	85.7	87.3	85.8
Central Sulawesi	22.6	54.0	59.6	62.9
Southeast Sulawesi	25.3	42.0	56.6	65.9
Non-Project Provinces	40.4	68.1	71.9	82.1
Difference	3.2	1.0	3.9	1.9

NAD = Nanggroe Aceh Darussalam.

Note: Skilled providers include doctors, nurses, midwives, and auxiliary nurses or midwives.

Source: Indonesia Demographic and Health Survey (1997, 2003, 2007, and 2012). Non-project provinces do not include Jakarta, or provinces covered by the World Bank's provincial health projects.

Table A4.4: Percentage of Women Receiving Antenatal Care from a Skilled Provider

Year	1997	2003	2007	2012
Project Provinces	88.5	90.4	93.1	95.6
NAD	85.2		89.2	95.3
Riau	86.0	90.3	93.2	95.8
Bengkulu	86.7	91.9	93.7	96.5
Bali	97.5	97.7	98.8	99.3
North Sulawesi	95.6	96.8	95.9	95.1
Central Sulawesi	82.5	82.4	90.7	93.2
Southeast Sulawesi	89.2	84.9	91.3	93.1
Non-Project Provinces	91.6	92.0	93.1	95.7
Difference	(3.1)	(1.6)	0.0	(0.1)

NAD = Nanggroe Aceh Darussalam.

Source: Indonesia Demographic and Health Survey (1997, 2003, 2007, and 2012). Non-project provinces do not include Jakarta, or provinces covered by the World Bank's provincial health projects.

Table A4.5: Percentage of Children Aged 12–23 Months Who Received All Basic Vaccinations

Year	1997	2003	2007	2012
Project Provinces	58.3	63.5	52.4	65.0
NAD	45.5		26.8	49.7
Riau	60.4	55.2	41.4	57.6
Bengkulu	72.3	69.2	54.9	66.7
Bali	39.5	80.3	72.2	87.0
North Sulawesi	47.6	68.6	76.1	77.1
Central Sulawesi	94.5	66.5	50.3	67.2
Southeast Sulawesi	78.1	52.8	64.6	70.5
Non-Project Provinces	60.1	58.6	61.9	69.7
Difference	(1.8)	4.9	(9.5)	(4.7)

BCG = bacille Calmette-Guérin vaccine, DTP = diphtheria-tetanus-pertussis vaccine, NAD = Nanggroe Aceh Darussalam.

Note: Basic vaccinations include BCG, measles, and three doses each of DTP and polio vaccine (except polio 4).

Source: Indonesia Demographic and Health Survey (1997, 2003, 2007, and 2012). Non-project provinces do not include Jakarta, or provinces covered by the World Bank's provincial health projects.

Table A4.6: Percentage of Children Taken for Treatment to a Health Facility by Mothers

Year	1997	2007	2012
	%	%	%
Project Provinces	53.3	57.1	65.9
NAD	69.3	68.9	69.9
Riau	48.2	49.7	63.5
Bengkulu	45.6	47.8	81.6
Bali	63.4	89.3	76.0
North Sulawesi	51.7	58.4	64.3
Central Sulawesi	48.7	42.9	59.5
Southeast Sulawesi	51.7	41.4	55.4
National	54.8	51.0	64.6

NAD = Nanggroe Aceh Darussalam.

Source: Indonesia Demographic and Health Survey (1997, 2007, and 2012).

Table A4.7: Percentage of Women Using Contraceptive Methods

Year	1997	2003	2007	2012
Project Provinces	55.0	59.5	61.1	59.0
NAD	37.1		47.4	46.8
Riau	48.0	57.8	56.7	61.1
Bengkulu	66.6	68.2	74.0	64.2
Bali	68.1	61.2	69.4	66.2
North Sulawesi	71.2	70.1	69.3	68.9
Central Sulawesi	51.7	54.6	63.6	55.7
Southeast Sulawesi	53.1	48.6	50.7	51.5
Non-Project Provinces	58.2	62.4	61.9	62.4
Difference	(3.2)	(3.0)	(0.8)	(3.3)

NAD = Nanggroe Aceh Darussalam.

Source: Indonesia Demographic and Health Survey (1997, 2003, 2007, and 2012).

Table A4.8: Unmet Need for Family Planning

Year	1997	2003	2007	2012
Project Provinces	8.6	8.9	8.5	12.5
NAD	10.3		12.0	14.0
Riau	12.7	10.4	9.1	11.8
Bengkulu	7.4	8.0	6.1	9.1
Bali	5.8	6.9	5.8	9.3
North Sulawesi	4.4	4.4	6.1	10.8
Central Sulawesi	9.4	10.2	8.3	15.7
Southeast Sulawesi	8.9	13.4	12.9	18.4
Non-Project Provinces	15.5	16.3	15.4	19.5
Difference	(6.8)	(7.3)	(6.9)	(7.0)

NAD = Nanggroe Aceh Darussalam.

Source: Indonesia Demographic and Health Survey (1997, 2003, 2007, and 2013).