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Foreword

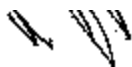
This summary of evaluation studies in the water supply and sanitation sector is the fourth in the *Assessing Development Impact (ADI) Series* of the Operations Evaluation Department (OED) of the Asian Development Bank (ADB). It presents the major findings, lessons, issues, and conclusions of OED's recent studies and reports in the sector.

Water supply and sanitation alone accounted for \$4 billion, equivalent to 5 percent of total lending, as of December 2000. Most of this assistance has been for the construction of water source pumping facilities, treatment plants, booster pumps, reservoirs, and/or main and distribution pipelines. There has also been technical assistance of almost \$65 million for preparation of projects and strengthening the local agencies that run the water services.

ADB's water supply and sanitation projects have been successful in physical terms. That is to say, they have added to the supply of much-needed water in Asia, where delivery of water has not been keeping pace with demand. Furthermore, they have made significant contributions to economic development, and in meeting basic needs, as well as in reducing poverty. Overall, the water supply projects have significantly benefited women and assisted gender equality. But many of the projects have faced internal difficulties—because of fundamental problems common throughout Asian countries' water industries. The two key problems, which are connected, are (i) the low prices typically charged for water, and (ii) the lack of private participation and competition in the industry. Sanitation has been given lower priority than water supply in the countries being assisted. Willingness to pay for pro-

vision of wastewater disposal facilities can be very low. It might be concluded that subsidization of investment in sanitation is to some extent inevitable for piped sewerage. Another solution is to reduce the demand for water for sanitation by devising alternative ways for waste disposal, such as on-site removal of solid waste, and pit latrines.

ADB's new water policy stresses the need for an integrated water resource management approach, with interlinked investments in river basins. For example, an integrated approach might combine (i) sealed septic tanks; (ii) educational campaigns to raise awareness of the principles of hygiene; (iii) neighborhood water supply provided by the private sector or a community initiative; (iv) more watertight piping; (v) 24 hour operations, even at low pressure, to avoid contamination by suction of material into old pipes; (vi) enhanced monitoring of water quality using community-based self-monitoring tools; (vii) bottling of modest volumes of checked water for drinking; (viii) a river basin approach, with good drainage both to reduce flood peaks during the rainy season and to avoid concentration of wastewater at limited points during the dry season; and (ix) a well designed discriminatory tariff system that would ensure reasonable financial internal rates of return but without penalizing the poor. It is time for ADB to prepare pilot projects in selected developing member countries to demonstrate the integrated approach.



VLADIMÍR BOHUN

Director

Operations Evaluation Department

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Introduction

Almost 20 percent of the people in the world lack access to safe drinking water; and half of the world's population does not have adequate sanitation. Without water, the prospects for economic and social development are seriously impaired. The lack of clean water undermines general living conditions, especially health. Diseases related to water and sanitation result in considerable suffering, with up to 50 percent of the population of developing countries suffering from them at any given time; and these diseases also kill about 10 million people annually. In addition, scarcity of potable water hinders the preparation of food and imposes a heavy burden of time and effort on those who have to fetch water, mostly women and children, who often have to walk several kilometers to wells. The problems are worst in rural areas, where almost three quarters of the world's poor live.

Two major statements on the world's water problems have been issued in recent years. First, the Dublin Principles of 1992¹ declared that every human has the right to claim a minimum amount of water to sustain life and meet sanitation needs. For survival, the minimum required is about 5 liters a day; and for sanitation, bathing, and cooking the minimum is about 50 liters. Second, the World Water Council stated in 1999 that it desires at least 95 percent of human beings to have safe water and sanitation by 2025.

Water problems are most acute in the Asian region, which contains almost a billion of the world's poorest people; but Asia has the lowest per capita availability of water of all the continents. It is estimated that 850 million people in Asia lack access to safe drinking water. For example, in Indonesia only 36 percent of the population had access to proper water supply in 1998.

Consequently, the Asian Development Bank (ADB) has devoted a large part of its lending to the water sector. Water supply and sanitation alone, on which this booklet focuses, accounted for \$4 billion, equivalent to 5 percent of total lending as of December 2000. The main beneficiaries of water supply and sanitation projects have been People's Republic of China, Indonesia, Republic of Korea, Malaysia, Pakistan, Philippines, and Thailand. Together they accounted for 80 percent of the total lending for water supply and sanitation.

Most of the assistance has been for the construction of water supply facilities. Typically these included water source pumping facilities, treatment plants, booster pumps, reservoirs, and main and distribution pipelines. But there has also been technical assistance of almost \$65 million for preparation of projects and

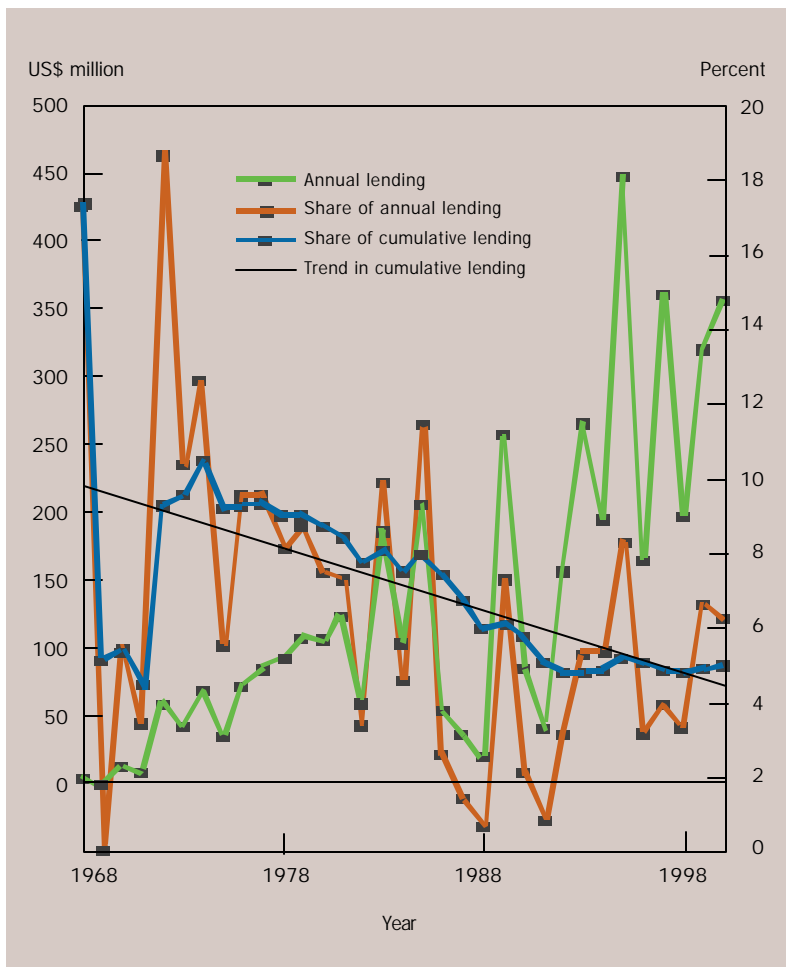
Without water, the prospects for economic and social development are seriously impaired. The lack of clean water undermines general living conditions, especially health.

¹ The United Nations International Conference on Water and the Environment (Dublin, 1992) concluded with four principles on the world's approach to water, which became known as the Dublin Principles.

Impacts

ADB's water supply and sanitation projects have been successful in physical terms. That is to say, they have added to the supply of much-needed water in Asia, where delivery of water has not been keeping pace with demand. Furthermore, they have made significant contributions to economic development, and in meeting basic needs, as well as in reducing poverty.

But many of the projects have faced internal difficulties—because of fundamental problems common throughout Asian countries' water industries. The two key problems, which are connected, are (i) the low prices typically charged for water, and (ii) the lack of private participation and competition in the industry. These common problems have been confirmed in a series of operations evaluation reports, on which this booklet is based. References are given on p. 18.



ADB Lending for Water Supply and Sanitation

strengthening the local agencies that run the water services. While water supply and sanitation's share of total ADB lending has been declining in recent years (see graph), lending for health, education, and rural development has increased.

But recent reviews have resulted in a reassessment of the importance of the sector, and in ADB's new water policy.² The ADB publication *Emerging Asia* concluded that water pollution was the most serious environmental problem in the region, and water was selected as a priority for action in ADB's *Annual Report 1999*.

² *Water for All: The Water Policy of the Asian Development Bank*, October 2000.



Box 1: Terms Used in Economic and Financial Analysis

- The economic internal rate of return (EIRR) of a project measures the *net economic benefits to the community* attributable to an investment.
- The financial internal rate of return (FIRR) measures the *net financial revenues to the investing agency* resulting from a project. The FIRR can be negative despite a high EIRR if the prices charged are too low.
- “Willingness to pay” means simply what people would be willing to pay, as distinct from the price they actually do pay. This measures the true value of the good to the buyer. For water supply projects it is measured by the area under the demand curve for water, which is equivalent to the welfare cost saving plus the consumer surplus.

The evaluation reports that were reviewed end with a capsule conclusion, in which the overall performance of each project has been assigned to one of three groups—generally successful, partly successful, or unsuccessful. The most important criteria are a reasonably high economic internal rate of return (EIRR, see Box 1) and sustainability, i.e., the ability of the project to continue to generate benefits without having to resort to outside support.³ Of the water supply and sanitation projects that have been evaluated, only about 49 percent have been classified as generally successful compared with about 56 percent of all projects, and with 89 percent of power projects. One fundamental reason for this record is the fact that water supply and sanitation projects in the past did not have to face the usual discipline of economic evaluation. For most projects in other sectors, such as roads or energy, EIRRs usually have to be above 12 percent, which means that the economic benefits of a project had to be projected to exceed the costs before the go-ahead was given. But until 1998 water supply projects were excused from the obligation of cal-

culating the EIRR during appraisal, because it was assumed that the benefits were difficult to measure. Older appraisals relied mainly on *financial* internal rates of return (FIRRs) to assess the viability of a project.

In 1998, however, new guidelines were introduced for the calculation of EIRRs on water projects. Two main approaches are now used in the operations evaluations: the benefits are measured either by “willingness to pay” or by savings in time that would otherwise be incurred in walking to water supplies. When subjected to these tests, many of the water supply and sanitation projects have been found lacking. That is to say, although there are economic benefits, they are not commensurate with the costs incurred to obtain them. Few of the EIRRs have exceeded 12 percent, which is often regarded as a threshold for acceptability.

Institutional Efficiency, Operations, and Management

The institutions running the water supply industry are usually 100 percent state-owned. As in almost all countries for most of the last century, the provision of water supply has been regarded as a state responsibility. Many of these agencies, however, are performing poorly.

One of the common measures of efficiency is what the industry calls either unaccounted-for-water (UFW) or nonrevenue water (NRW).⁴ UFW can be very high; it is frequently over 30 percent, and went as high as 60 percent in Manila after

³ OED recently released new guidelines on project performance audit reports. Projects are now rated on five aspects, which are assigned different weights: relevance, efficacy, efficiency, sustainability, and institutional impact. The overall performance is computed to classify the project into one of four groups: highly successful, successful, partly successful, or unsuccessful.

⁴ Both essentially measure water produced at treatment plants minus water billed. NRW includes both technical (leakages) and non-technical (illegal connections, meter errors, incomplete billings, etc.) losses, while UFW includes only nontechnical losses.

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one of the projects. At that level the losses clearly jeopardize sustainability.

Another measure of efficiency is the operating ratio, which measures expenditure on operation and maintenance as a percentage of revenues. In general, an operating ratio of about 0.6 is typical of efficient systems, for example in Singapore. But in most of the projects that were reviewed, the operating ratio was higher, mainly as a result of low tariffs (see Box 2). It is also noteworthy that in some developing member countries, better operating ratios are found in the larger agencies (e.g., in Indonesia). There appear to be economies of size that work against the goal of poverty reduction, since rural water supply agencies tend to be small.

High operating ratios mean limited funds for the water supply agencies. And this leads to a downward spiral in performance. Typical results are

- declining production;
- limited hours of water supply per day (as low as 2-3 hours in an extreme case in Nepal);
- poor maintenance; for example, a project in Manila that was presented as an investment project funded what was in reality deferred maintenance, and still failed;
- sometimes high staff turnover; and
- long delays in completing the projects, often several years; the long implementation periods result in severe suppression of demand.

ADB has frequently provided technical assistance to improve operations and financial discipline, but this has probably had only limited success—although it has proved difficult to identify the specific impact of ADB in institutional strengthening.

Privatization

Privatization has proved an effective way to solve the problems of many industries,

Box 2: Reasons for Low Financial Rates of Return

The FIRR was lower than the EIRR in almost all the projects reviewed. In fact, some of the FIRRs were negative. There are several reasons for this. Costs are often higher than expected, and water losses often account for over 30 percent of production; but the most important common problem is that *tariffs are too low*. This applies across a wide range of countries. The reasons are:

- Many of the users have low incomes and may be unwilling to pay for water.
- Governments are often unwilling to risk unpopularity by raising the price of an essential good.
- Much of the water supplied, especially to poor areas, is distributed via public water taps rather than household connections. Users of public water taps usually pay less and waste more.
- Revenues are further reduced by a vicious circle: Because revenues are limited, cash is not available for maintenance; consequently, more water is lost through leakage, and revenues fall even more.

but it is not yet widespread in water supply. Foreign investment in water supply lags well behind that in power or telecommunications. The main reasons are the following:

- Water tariffs tend to be low, and governments are often unwilling to raise them to levels that will cover costs.
 - Water utilities are more difficult than many other industries to open up to the private sector because of the large element of natural monopoly. There is limited scope for competition, which is necessary to get the best out of privatization.
 - The private sector requires returns on capital that are higher than those of state-owned water supply agencies.
- In these circumstances a gradual, stepwise approach to privatization may be

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In many operations evaluation surveys, the beneficiaries rated “health” as the second most important reason, after “convenience,” for having a house connection.



adopted.⁵ At first, public investment would continue, but with the facilities let on a management contract basis or leased out to private operators. As information, confidence, and the regulatory environment improve, the water supply could progress to a long-term concession.

There has been some progress in the shift to private sector participation. The Philippines has let 25-year concessions for water supply and sewerage in Manila, reportedly with some success; there have also been partial privatization projects in Malaysia (Johor Baru) and Thailand; ADB’s first build-operate-transfer water supply project was initiated in Chengdu in the People’s Republic of China; and in Indonesia the government has introduced concessions for water treatment and distribution, service contracts (for meter reading, leakage repairs, and revenue collection), and later two concessions for water supply in Jakarta. However, the projects reviewed in Indonesia predated the government’s private sector participation program, and therefore had no specific component or covenant dealing with privatization. Nevertheless, ADB did help indirectly by creating more efficient local water enterprises, which then became more attractive to potential private investors. There were also technical assistance activities dealing with water pricing and regulatory/sector reforms, which have accelerated the restructuring necessary to attract private sector participation.

In addition, the review of lending for integrated urban infrastructure develop-

ment projects in some countries (e.g., Indonesia) identified other prospects for attracting private sector participation.

Nevertheless, significant obstacles must be overcome in increasing the efficiency of the water supply industry. The existing state agencies are often operationally and financially weak, particularly where the facilities are small and/or in remote areas. But private participation is needed, given the scale of investment required. Another solution discussed in a recent evaluation in Indonesia is a much higher level of community involvement in the projects, which would improve the delivery of all urban services, including water supply and sanitation.

Socioeconomic Impacts and Poverty Reduction

ADB’s overarching objective is poverty reduction. And there can be little doubt that access to adequate water supply and sanitation is fundamental to this aim, given the high incidence of water-related illness and other consequences of poor water supply mentioned earlier. The evaluation reports confirm these gains, but find them difficult to quantify, as they are not attributable to water alone. Nevertheless, in many operations evaluation surveys, the beneficiaries rated “health” as the second most important reason, after “convenience,” for having a house connection.

Unfortunately, however, it seems possible that the poorer the area, the lower the probability of success. Shortfalls in performance relative to expectations at the time of appraisal were often more pronounced in rural areas or the peripheries of urban areas. This is a consequence of the particularly low willingness to pay and the (partly related) poor performance of the agencies. For example, in Indonesia the smaller local water and sewerage enterprises were seen to have weaker finan-

⁵ ADB is in a strong position to assist with the transition from state-owned to private operations, having wide inter-industry experience in the area. The requirement would include the setting up of independent regulatory bodies; the development of higher, but probably discriminatory tariffs (possibly including low prices for a basic minimum requirement); benchmarking of performance; the organization of international (or local) competitive bidding; and financial support for new private projects in an area previously dominated by the state. The presence of ADB in the list of lenders can give comfort to commercial banks, which are not yet used to lending for this type of project. In urban areas, the private sector could take over responsibility for investment.

cial positions than the larger ones; and in remote Nepal, a rural water supply project was considered to be only partly successful. Another weakness of the projects in more remote areas is that they lack industrial users.

Sanitation

Sanitation has been given lower priority than water supply in the countries being assisted. Willingness to pay for provision of wastewater disposal facilities can be very low. In one survey in Malaysia, about half of the respondents said they were unwilling to pay for waste disposal, and most of the rest said that they would be prepared to pay only 1-5 percent of their water bills, which were already low. It might be concluded that subsidization of investment in sanitation is to some extent inevitable for piped sewerage. Another solution suggested in some evaluation reports, and introduced in newly prepared projects, is to reduce the demand for water used for sanitation by employing alternative methods of waste disposal, such as on-site removal of solid waste, and pit latrines.

Gender

ADB has placed particular emphasis on the importance of women's development in recent years. And although these issues were not made explicit when most of the projects were initiated, the improvements to water supply clearly benefited women. Women are usually the main users of water in the household and the carers of the sick. The ending of the need to fetch water, which in some, although not all, societies is delegated to the women and children, can be a major saving in time and labor. Also, in a limited way, the provision of piped water helps to enhance productivity as well as the status of women

in rural areas. Overall, the water supply projects have significantly benefited women and assisted gender equality.

Environmental Impacts

ADB's water supply projects generated mostly positive effects on the environment. But there have been a few adverse impacts, especially where limited knowledge led to pollution of groundwater, like the arsenic pollution in shallow groundwells in Bangladesh.

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Pollution is particularly undesirable in the water sector, because water, unlike electricity, cannot be created or produced. It can only be collected or harvested. Pollution therefore reduces the finite volume of supply. In some countries this is critical. The vulnerability of a region is measured by what is known as “water stress.” Water stress is the degree of annual water use, i.e., water withdrawn from a groundwater source for human consumption, as a percentage of total resources in that basin. For a country it is measured in terms of the total stress for all its river basins. Stress begins when withdrawals of fresh water rise above 10 percent of renewable resources. Countries have high water stress when the ratio of water use to supply exceeds 40 percent. Where it is high, pollution of the scarce supply undermines the sustainability of clean water availability.

Many of the projects reviewed avoided the problem of pollution. But there were exceptions, including the Philippines Second Island Provinces Rural Water Supply Project. The pollution there arose for two reasons. First, shallow groundwater was polluted by septic tanks that were installed (independently of the project) too close to shallow wells and hand pumps. Many of the tanks did not have sealed bottoms, and the concrete blocks were porous. The result was that effluent leaked into the shallow groundwater. Second, at the coastal sites in the same project, excessive extraction from deeper wells changed the balance of fresh water and seawater. This sucked seawater into the fresh water, turning it brackish and making it too salty for human consumption. These developments resulted in health problems in the local communities. Other problems arise from simple ignorance of hygiene. For example, interviewees in Sumatra expressed a preference for rivers rather than toilets for the disposal of human waste.

More general problems of pollution are caused by failure to dispose of the waste. The correct solution is to have the sludge that is accumulated in the septic tanks removed and disposed of in centralized facilities. This is mandatory in industrialized countries, but it would be expensive in developing countries. An option would be “dry disposal,” a method that has the advantage of providing compost for agriculture. For example, a number of households can pipe waste to a central sealed tank, which would process it into methane gas for cooking, plus compost.

These problems call for, first, education in the principles of hygiene; and, second, “total system” approaches to entire river basins—combining water supply and sanitation, and also drainage, sewerage, and solid waste management. One such integrated system is described at the end of this booklet.

Sustainability

The viability of many of the water supply agencies that received ADB assistance has been limited by low tariff rates, as described earlier, resulting in low FIRR, and the vicious circle of limited funds for maintenance, followed by higher water losses. In practice, however, the agencies are able to continue to operate, often with budgetary support from government funds—justifiable in the sense that the EIRR is much higher than the FIRR.

Lessons Learned

Despite many years of awareness of the problems, the water industries of the region still suffer from deep-rooted weaknesses:

Experience has shown that the water projects in poor areas have tended to be less successful than those in richer areas.

- Water losses, due especially to leakages, remain high.
- Prices and FIRR are too low; and where prices are low, consumption and wastage are excessive, and the private sector loses interest. Low tariffs are a deterrent to investment, especially by private companies.
- Tariff collection is poor, partly due to illegal connections and poor meter reading. This leads to a downward spiral in performance as a consequence of shortages of funds for operation and maintenance.
- Almost all projects have been subject to delays.
- The better off have often benefited more than the poor. In fact, there appear to be some fundamental problems in reaching the poor. High installation charges are deterrents to house connections, while water drawn from public taps tends to be wasted. And the water agencies operating in rural areas tend to be weaker than those working in more af-

fluent urban areas. Experience has shown that the water projects in poor areas have tended to be less successful than those in richer areas.

ADB Proposes an Integrated Approach

ADB's water supply projects have been successful in helping to satisfy the growing demand for piped water. Their main aim was to provide new capacity to deliver water to consumers; and, in doing so, they have assisted in economic development, and in meeting basic



It is time for ADB to prepare pilot projects in selected developing member countries to demonstrate the integrated approach.

- more watertight piping;
- 24-hour operations, even at low pressure, to avoid contamination by suction of material into old pipes;
- enhanced monitoring of water quality using community-based self-monitoring tools;
- bottling of modest volumes of checked water for drinking;
- a river basin approach, with good drainage both to reduce flood peaks during the rainy season and to avoid concentration of wastewater at limited points during the dry season; and
- a well designed discriminatory tariff system that would ensure a reasonable FIRR, but without penalizing the poor. One solution would be a stepped tariff with a “low lifeline tariff” for low consumption to cover basic needs, subsidized by progressively rising tariffs for the larger volumes that are used for, say, car washing. In addition, FIRRs could be increased by bottling a limited percentage of the water for drinking and selling it below the market price, but nevertheless far above the cost of production. The revenues from bottled water could therefore cross-subsidize the distribution of essential volumes to poor users, and also improve FIRRs. Furthermore, where drinking water is available in bottles at affordable prices, it would be possible to limit distribution via public taps and also avoid the need for connections and meters for poorer users.

It is time for ADB to prepare pilot projects in selected developing member countries to demonstrate the integrated approach.

Next, despite continuing policy dialogue, many water supply institutions remain inefficient, and their financial viability remains too weak to be able to implement such programs. The key challenge is to create incentives in the indus-

try to make it perform efficiently and with more financial discipline. One option for rural water supply and sanitation would be increased community participation; but the most reliable solution in the urban areas is probably private participation—via contracting out, concessions, or private investment and operations. The transition to private operations with incentives and competition, however, is likely to be slower than in other sectors. The industry is therefore caught between weak existing state systems and the difficulties of bringing in private participation. These are challenging problems in the water supply and sanitation sector to tackle in the years ahead. ADB, with its wide experience in the area, will be able to make a major contribution.

Evaluation Studies

PPA: INO 22264, 23212, 20104: Three Integrated Urban Infrastructure Development Projects, November 2000.

IES: INO 99004: Bank Assistance in the Water Supply and Sanitation Sector in Indonesia, September 1999.

PPA: PHI 24028: Second Island Provinces Rural Water Supply Sector Project, December 1999.

PPA: PAK 09007: Hyderabad Water Supply and Sewerage Project, November 1997.

PPA: NEP 15064: Rural Water Supply Sector Project, December 1997.

PPA: PHI 21222: Manila Water Supply Rehabilitation Project and Second Manila Water Supply Rehabilitation Project in the Philippines, April 1997.

IES: MAL 94025: Bank Operations in the Water Supply and Sanitation Sector, December 1994.

IES: THA 91027: Bank Operations in the Water Supply Subsector in Bangkok, February 1992.

**ADB ASSISTANCE TO THE WATER SUPPLY AND SANITATION SECTOR
BY MEMBER** As of March 2001

A. Loans

Member	No. of Loans	Amount (\$ million)	Percent
Bangladesh	2	45.40	1.0
Bhutan	1	3.30	0.1
Cambodia	1	20.00	0.5
China, People's Republic of	7	846.50	19.0
Hong Kong, China	2	41.50	0.9
Indonesia	9	325.60	7.3
Kiribati	1	10.24	0.2
Korea, Republic of	18	488.40	11.0
Kyrgyz Republic	1	36.00	0.8
Lao People's Democratic Republic	5	58.10	1.3
Malaysia	10	219.11	4.9
Marshall Islands	1	9.90	0.2
Micronesia, Federated States of	1	10.60	0.2
Myanmar	4	35.96	0.8
Nepal	7	224.00	5.0
Pakistan	7	264.50	5.9
Papua New Guinea	4	45.54	1.0
Philippines	20	772.80	17.4
Singapore	3	47.00	1.1
Solomon Islands	1	1.65	0.0
Sri Lanka	4	164.70	3.7
Thailand	8	540.00	12.1
Viet Nam	6	239.60	5.4
Total	123	4,450.40	100.0

Continued on page 20

ADB's Operations Evaluation Department

The Operations Evaluation Department (OED) supports ADB's vision of a poverty-free region by pursuing excellence in evaluation and ensuring its impartiality, integrity, and independence. OED is responsible for administering ADB's independent operations evaluation functions, which aim to (i) improve the design and execution of ADB's future activities in light of the lessons learned from its operations, and (ii) enable ADB to account to its shareholders for the effectiveness of its development assistance to its developing member countries.

OED's mandate has broadened and has become considerably more demanding over the past several years. In addition to its traditional focus on measuring the performance of completed projects, programs, and technical assistance, OED has intensified its work on (i) preparing in-depth studies of particular thematic issues; (ii) evaluating the effectiveness of ADB's operations, practices, and procedures; (iii) providing real-time feedback on ongoing operations; (iv) monitoring and reporting on actions taken by ADB and its executing agencies in response to OED recommendations; (v) building evaluation capacity within and outside ADB to enhance self-evaluation; and (vi) coordinating closely with multilateral and bilateral agencies on evaluation methodology.

B. Technical Assistance (TA)

Member	No. of TAs	Amount (\$ million)	Percent
Bangladesh	6	2.54	3.4
Bhutan	2	0.50	0.7
Cambodia	3	1.20	1.6
China, People's Republic of	22	13.84	18.6
Cook Islands	2	0.54	0.7
Fiji	3	1.55	2.1
Indonesia	18	6.23	8.4
Kazakhstan	1	0.60	0.8
Kiribati	3	1.60	2.2
Korea, Republic of	13	1.34	1.8
Kyrgyz Republic	2	1.25	1.7
Lao People's Democratic Republic	9	2.63	3.5
Malaysia	7	1.42	1.9
Marshall Islands	2	0.35	0.5
Micronesia, Federated States	2	0.84	1.1
Myanmar	6	1.02	1.4
Nepal	10	2.72	3.7
Pakistan	13	4.54	6.1
Papua New Guinea	6	2.65	3.6
Philippines	23	10.41	14.0
Samoa	1	0.11	0.1
Solomon Islands	2	0.17	0.2
Sri Lanka	8	3.28	4.4
Thailand	22	8.35	11.2
Tonga	1	0.10	0.1
Viet Nam	8	4.62	6.2
Total	195	74.40	100.0

C. Regional Technical Assistance (RETA)

Type of RETA	No. of RETAs	Amount (\$ million)	Percent
Training	5	0.61	16.3
Conference	3	0.62	16.6
Study	2	0.27	7.2
Research	1	0.60	16.0
Others	4	1.64	43.9
Total	15	3.74	100.0

For more information visit or call the Operations Evaluation Department, ADB.

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