

**TECHNICAL ASSISTANCE PERFORMANCE AUDIT REPORT
ON SELECTED ADVISORY TECHNICAL ASSISTANCE
FOR INSTITUTIONAL DEVELOPMENT AND CAPACITY BUILDING
IN THE WATER SUPPLY AND SANITATION SECTOR**

IN

**THE LAO PEOPLE'S DEMOCRATIC REPUBLIC AND
THE SOCIALIST REPUBLIC OF VIET NAM**

February 2003

CURRENCY EQUIVALENTS

		At Approval	At Operations Evaluation
Lao People's Democratic Republic			
Currency Unit – kip (KN)			
TA 1606-LAO			
KN1.00	=	\$0.001428	\$0.000093
\$1.00	=	KN700	KN10,728
TA 1787-LAO			
KN1.00	=	\$0.001395	\$0.000093
\$1.00	=	KN717	KN10,728
TA 1987-LAO			
KN1.00	=	\$0.001395	\$0.000093
\$1.00	=	KN717	KN10,728
Viet Nam			
Currency Unit – dong (D)			
TAs 1998/1999/2000-VIE			
D1.00	=	\$0.000095	\$0.000065
\$1.00	=	D10,500	D15,353
TAs 2375/2376-VIE			
D1.00	=	\$0.000085	\$0.000065
\$1.00	=	D11,700	D15,353

NOTES

- (i) The fiscal year (FY) of the Government of the Lao People's Democratic Republic ends on 30 September.
- (ii) The FY of the Government of the Socialist Republic of Viet Nam ends on 31 December.
- (iii) In this report, "\$" refers to US dollars.

ABBREVIATIONS

ADB	–	Asian Development Bank
ADTA	–	advisory technical assistance
DMC	–	developing member country
EA	–	executing agency
HCMCDPW	–	Ho Chi Minh City Department of Communications, Transport, and Public Works
HCMCWSC	–	Ho Chi Minh City Water Supply Company
Lao PDR	–	Lao People's Democratic Republic
m ³	–	cubic meter
MOC	–	Ministry of Construction
MBWSSDP	–	Management Board for Water Supply and Sanitation Development Projects
NPL	–	Nam Papa Lao (Lao Water Supply Company)
O&M	–	operation and maintenance
OEM	–	Operations Evaluation Mission
PCR	–	project completion report
PNP	–	provincial Nam Papa
TPAR	–	technical assistance performance audit report
WASA	–	Water Supply Authority
WSC	–	water supply company

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BASIC TECHNICAL ASSISTANCE DATA

TA 1606-LAO: Institutional Strengthening of the Water Supply Sector¹

Cost (\$'000) ²	Estimated	Actual
Foreign Exchange Cost	590	582
Local Cost	40	6
Total	630	588

Executing Agency Nam Papa Lao

Milestones	Date
President's/Board Approval	19 Nov 1991
Signing of TA Agreement	13 Dec 1991
Fielding of Consultants	10 Jan 1993
TA Completion:	Jan 1995
Expected	Jun 1996
Actual	Jun 1998 ³
TCR Circulation	Jun 1998 ³

Mission Type	Number	Date
Fact-Finding	1	31 May–21 Jun 1991
Inception	1	3–8 Apr 1992
Review	7	11–16 Dec 1992
		25–30 Jun 1993
		19–23 Nov 1993
		12–26 May 1994
		15–30 Nov 1994
		13–27 Jun 1995
		13–30 Nov 1995
Operations Evaluation ⁴	1	6–12 Oct 2002

TA 1787-LAO: Institutional Support to Nam Papa Lao⁵

Cost (\$'000) ²	Estimated	Actual ⁶
Foreign Exchange Cost	205	—
Local Cost	5	—
Total	210	142

Executing Agency Nam Papa Lao

Milestones	Date
President's/Board Approval	17 Nov 1992
Signing of TA Agreement	22 Jan 1993
Fielding of Consultants	15 Aug 1993
TA Completion:	—
Expected	Sep 1996
Actual	Mar 1999 ³
TCR Circulation	Mar 1999 ³

Mission Type	Number	Date
Fact-Finding	1	28 Mar–13 Apr 1992
Inception	1	25–30 Jun 1993
Review	6	19–23 Nov 1993
		12–26 May 1994
		15–30 Nov 1994
		3–27 Jun 1995
		13–30 Nov 1995
		17–27 Jun 1996
Operations Evaluation ⁴	1	6–12 Oct 2002

— = not available, TA = technical assistance, TCR = technical assistance completion report.
 Note: Footnotes on page vi.

TA 1987-LAO: Strengthening Planning Capabilities in Nam Papa Lao⁷

Cost (\$'000) ²	Estimated	Actual ⁶
Foreign Exchange Cost	171	—
Local Cost	86	—
Total	257	247

Executing Agency Nam Papa Lao

Milestones	Date
President's/Board Approval	18 Nov 1993
Signing of TA Agreement	17 Feb 1994
Fielding of Consultants	28 Nov 1996
TA Completion: Expected	31 Mar 1998
Actual	24 Sep 1997
TCR Circulation	Jul 2000 ³

Mission Type	Number	Date
Fact-Finding	1	20 Apr–4 May 1993
Inception	1	12–26 May 1994
Review	6	15–30 Nov 1994
		13–27 Jun 1995
		13–30 Nov 1995
		17–27 Jun 1996
		11–26 Nov 1996
		24 Feb–6 Mar 1994
Operations Evaluation ⁴	1	6–12 Oct 2002

TA 1998-VIE: National Water Tariff Policy Study⁸

Cost (\$'000) ⁹	Estimated	Actual ⁶
Foreign Exchange Cost	515	—
Local Cost	85	—
Total	600	594

Executing Agency Ministry of Construction

Milestones	Date
President's/Board Approval	29 Nov 1993
Signing of TA Agreement	28 Sep 1994
Fielding of Consultants	6 Feb 1995
TA Completion: Expected	Dec 1995
Actual	1 May 1996
TCR Circulation	— ¹⁰

Mission Type	Number	Date
Fact-Finding	1	18 Feb–8 Mar 1991
Inception	1	28 Nov–3 Dec 1994
Review	2	29 May–4 Jun 1995
		28 Nov–5 Dec 1995
Operations Evaluation ⁴	1	6–12 Oct 2002

TA 1999-VIE: Institutional Strengthening of HCMC Water Supply Company⁸

Cost (\$'000)²	Estimated	Actual⁶
Foreign Exchange Cost	595	—
Local Cost	5	—
Total	600	563

Executing Agency Ho Chi Minh City Water Supply Company

Milestones		Date
President's/Board Approval		29 Nov 1993
Signing of TA Agreement		28 Sep 1994
Fielding of Consultants		9 Apr 1995
TA Completion:	Expected	31 Dec 1998
	Actual	1 Jan 1999
TCR Circulation		— ¹⁰

Mission Type	Number	Date
Fact-Finding	1	5–24 Aug 1993
Inception	1	28 May–3 Jun 1995
Review	6	28 Nov–5 Dec 1995
		13–22 May 1996
		29–30 Jun 1996
		22 Aug 1996
		16–21 Sep 1996
		11–13 Feb 1997
Operations Evaluation ⁴	1	6–12 Oct 2002

TA 2000-VIE: HCMC Water Supply Master Plan⁸

Cost (\$'000)⁹	Estimated	Actual⁶
Foreign Exchange Cost	597	—
Local Cost	3	—
Total	600	590

Executing Agency Department of Communications, Transport, and Public Works

Milestones		Date
President's/Board Approval		29 Nov 1993
Signing of TA Agreement		28 Sep 1994
Fielding of Consultants		6 Feb 1995
TA Completion:	Expected	28 Feb 1996
	Actual	1 Apr 1996
TCR Circulation		— ¹⁰

Mission Type	Number	Date
Fact-Finding	1	18 Feb–8 Mar 1991
Inception	1	28 Nov–5 Dec 1995
Review	1	28 Nov–5 Dec 1995
Operations Evaluation ⁴	1	6–12 Oct 2002

TA 2375-VIE: Capacity Building for Provincial Water Supply and Sanitation Planning and Management¹¹

Cost (\$'000)⁹	Estimated	Actual⁶
Foreign Exchange Cost	620	—
Local Cost	80	—
Total	700	687

Executing Agency Management Board for Water Supply and Sanitation Development Projects under the Ministry of Construction

Milestones	Date
President's/Board Approval	17 Aug 1995
Signing of TA Agreement	15 Sep 1995
Fielding of Consultants	15 Jan 1996
TA Completion: Expected	18 Aug 1999
Actual	1 Aug 1999
TCR Circulation	— ¹⁰

Mission Type	Number	Date
Fact-Finding	1	1–18 Aug 1994
Inception	1	18–27 Mar 1996
Review	2	23–28 Jan 1997
		21 Jun–8 Jul 1999
Operations Evaluation ⁴	1	6–12 Oct 2002

TA 2376-VIE: Community Environmental Health Improvements for the Provincial Towns¹¹

Cost (\$'000)¹²	Estimated	Actual⁶
Foreign Exchange Cost	340	—
Local Cost	160	—
Total	500	491

Executing Agency Management Board for Water Supply and Sanitation Development Projects under the Ministry of Construction

Milestones	Date
President's/Board Approval	17 Aug 1995
Signing of TA Agreement	15 Sep 1995
Fielding of Consultants	24 Mar 1997
TA Completion: Expected	Mar 2000
Actual	26 Apr 1999
TCR Circulation	— ¹³

Mission Type	Number	Date
Fact-Finding	1	1–18 Aug 1994
Inception	1	18–27 Mar 1996
Review	2	23–28 Jun 1997
		24–26 May 1999
Operations Evaluation ⁴	1	6–12 Oct 2002

Footnotes

- ¹ Attached to Loan 1122-LAO(SF): *Southern Provincial Towns Water Supply Project*.
- ² Financed by the Asian Development Bank.
- ³ Circulation date of the project completion report on the related loan project that evaluated also the TA.
- ⁴ The Operations Evaluation Mission comprised K.E. Seetharam (Evaluation Specialist and Mission Leader) and Peter Mawson (Consultant).
- ⁵ Attached to Loan 1190-LAO(SF): *Rehabilitation and Upgrading of Vientiane Water Supply Project*.
- ⁶ No breakdown into foreign exchange and local currency costs available.
- ⁷ Attached to Loan 1267-LAO(SF): *Northern Provincial Towns Water Supply and Sanitation Project*.
- ⁸ Attached to Loan 1273-VIE(SF): *Ho Chi Minh City Water Supply and Sanitation Rehabilitation Project*.
- ⁹ Financed by the Japan Special Fund.
- ¹⁰ The TA will be evaluated in the project completion report on the related loan project.
- ¹¹ Attached to Loan 1361-VIE(SF): *Provincial Towns Water Supply and Sanitation Project*.
- ¹² Financed by the Danish Agency for Development Assistance.
- ¹³ TCR not required for TAs financed solely by bilateral sources.

EXECUTIVE SUMMARY

This technical assistance performance audit report (TPAR) examines some key issues relating to institutional development and capacity building that were also identified in a recent impact evaluation study on water supply and sanitation projects in selected developing member countries of the Asian Development Bank (ADB). The issues include cost recovery, sustainability of water supply utilities, effectiveness of project management and administration, and the need for improved sanitation and hygiene. The TPAR reviews eight advisory technical assistance (ADTA) projects—three in the Lao People’s Democratic Republic (Lao PDR) and five in the Socialist Republic of Viet Nam (Viet Nam)—that were attached to loan projects for the construction or rehabilitation of water supply infrastructure to strengthen sector institutions.

The three ADTAs in the Lao PDR—1606-LAO, 1787-LAO, and 1987-LAO—aimed to improve the management and operations of Nam Papa Lao (NPL), the executing agency (EA), through changes in the tariff structure and organizational framework and through human resources development to enhance capabilities in financial management, planning, billing, and other areas. Except for part A of TA 1606-LAO, which sought to establish an in-house training capacity, the three ADTAs focused on management and financial, rather than technical and operational, aspects. The ADTAs were implemented between 1992 and 1997 and were complementary, with the second and third building on the work of the previous ones.

In Viet Nam, TA 1998-VIE aimed to develop a tariff structure and methodology to establish a more rational financial basis for water supply companies (WSCs). The Ministry of Construction was the EA. TA 1999-VIE provided assistance to improve management, financial, and computer systems in the Ho Chi Minh City Water Supply Company, the EA. TA 2000-VIE complemented this input by supporting the establishment of a planning function within the Ho Chi Minh City Department of Communications, Transport, and Public Works, the EA, and the preparation of medium- and long-term plans for the development of water supply for the city. The three ADTAs were implemented between 1995 and 1999.

The first of the ADTAs attached to the Provincial Towns Water Supply and Sanitation Project—2375-VIE—similarly provided support for the strengthening of management systems in the WSCs in the project towns and supported training to enhance capabilities in operation and maintenance and water loss reduction. TA 2376-VIE sought to maximize the benefits of improved water supply to consumers by promoting improved health and hygiene practices in the project towns. The Management Board for Water Supply and Sanitation Development Projects under the Ministry of Construction was the EA for these two ADTAs that were implemented between 1996 and 1999.

Major outputs of the ADTAs included reports and recommendations for tariff restructuring and reform (TAs 1606-LAO and 1998-VIE), management information systems (TAs 1787-LAO and 1999-VIE), corporate planning (TA 1987-LAO), master planning (TA 2000-VIE), and institutional restructuring (TA 1606-LAO). Training and recommendations for training were an important output of TAs 1606-LAO, 1987-LAO, 1999-VIE, and 2375-VIE. Computer systems and software for financial management, information systems, and billing represented outputs for TAs 1787-LAO and 1999-VIE. The most important outputs of TA 2376-VIE were the education materials prepared and the community participation methods developed for disseminating health and hygiene information.

All eight ADTAs contributed to building capacities in the EAs, although achievements were sometimes less than anticipated at the design stage. This is particularly so in the case of the ADTAs for NPL. Their objectives were too ambitious, beyond the ability of NPL and its staff.

NPL staff could not absorb the training outputs fully in the limited time frames. The three ADTAs were all implemented before 1998, when NPL was an entity with national responsibilities. NPL is presently responsible only for Vientiane's water supply system, and has a reasonable capability to operate and manage it. The ADTAs established in-house training capability, management information systems, computerized billing operations, and the elements of corporate planning. While NPL's capabilities increased as a result of these ADTAs, their objectives were not fully met because some recommendations have not been implemented yet. NPL staff expressed to the Operations Evaluation Mission (OEM) a wish for longer-term assistance to support the implementation of recommendations made under TA 1987-LAO on management, operational, and training matters. In the OEM's view, the effectiveness and sustainability of these capacity-building ADTAs could be enhanced with such support for change from ADB. Another lesson is that ADTA designs that result in recommendations beyond the current capacity of an institution to absorb or implement are not efficacious and involve inefficient use of resources.

The water tariff studies under TAs 1606-LAO and 1998-VIE provided a rational basis for establishing and adjusting tariffs, but progress in applying these results to achieve cost recovery and improve financial sustainability of WSCs has been slow in both countries. In the Lao PDR, the currency depreciation of the late 1990s was not matched by increases in NPL's tariffs, with the result that its financial resource base eroded.

The ADTAs in Viet Nam generally achieved their envisaged objectives and improved management and operational systems. TA 1999-VIE helped the Ho Chi Minh City Water Supply Company develop training programs, institutionalize training, implement management information systems, and computerize billing and other procedures. With the adoption of the medium-term plan prepared under TA 2000-VIE, the Company also benefited from a more rational approach to the planning of future system expansion.

TAs 2375-VIE and 2376-VIE for the WSCs of the Provincial Towns Water Supply and Sanitation Project significantly improved billing and financial management systems and through staff training also improved operation and maintenance and leak detection. WSCs in towns such as Thanh Hoa upgraded their technical operations and are reducing water losses. Nonetheless, their financial improvements are inhibited by the protracted approval procedures for adjusting tariffs.

The OEM rates TA 1606-LAO partly successful. The training center established under the ADTA is operating poorly due to lack of dedicated training faculty. TAs 1787-LAO and 1987-LAO are rated successful as they improved NPL's capabilities for financial management and corporate planning. TA 2376-VIE is rated highly successful since it made a significant contribution to health and hygiene education. Its impact is greater now than at completion because of the involvement of the Viet Nam Women's Union and, with the use of materials prepared under the ADTA in other projects, its overall impact will continue to increase. The remaining four ADTAs in Viet Nam are all rated successful. TA 1998-VIE established a rational basis for setting water tariffs in Viet Nam. The other three ADTAs provided much needed capabilities in management and planning for sector institutions.

The evaluation identified one important issue concerning capacity building in the water supply and sanitation sector in transition economies. NPL's experience demonstrates that when an institution is the recipient of a series of ADTAs over time, the effects can be cumulative and positive, even when the individual ADTAs may not have been, initially, very successful. The effectiveness and sustainability of ADTAs are limited if no provision is made for longer-term assistance to support the implementation of their recommendations, whether for management,

operational, or training matters. Financing for the implementation of recommendations must also be available, preferably from the associated loan project if there is one.

Another important lesson identified relates to the community health and hygiene programs associated with water supply and sanitation projects. These programs will be effective when they can be implemented by a professional organization, such as the Viet Nam Women's Union in TA 2376-VIE, which is already operating the same or similar types of activities. Where this arrangement is possible, there is a good chance that such activities will be continued after the completion of the ADTA.

The OEM is satisfied with the follow-up under ongoing ADB loan projects, and recommends no further specific follow-up actions for the EAs for these eight ADTAs.

I. BACKGROUND

1. Under the Long-Term Strategic Framework of the Asian Development Bank (ADB), poverty reduction in ADB's developing member countries (DMCs) is the overarching objective. Robust, sustainable growth is essential for significant gains in poverty reduction and this growth requires the building up of physical and social infrastructure, such as the provision of water supply and sanitation services. ADB's new water policy recognizes water as a socially vital economic good that needs careful management to sustain equitable economic growth and reduce poverty.¹ ADB's support for improving water supply in its DMCs usually takes the form of loans for infrastructure development and technical assistance grants for project preparation, institutional strengthening, and sector reform.

2. This technical assistance performance audit report (TPAR) evaluates eight advisory technical assistance (ADTA) projects supported by ADB in the water supply and sanitation sector—three in the Lao People's Democratic Republic (Lao PDR) and five in the Socialist Republic of Viet Nam (Viet Nam)—that were attached to loan projects for the construction or rehabilitation of water supply infrastructure (see Basic Data).

A. Rationale

3. The TPAR examines some key issues relating to institutional development and capacity building that were also identified in the recently completed impact evaluation study on water supply and sanitation projects in selected DMCs.² The issues, which include cost recovery, financial sustainability of water supply utilities, effectiveness of project management and administration, and the need for improved sanitation, hygiene, and community health, were addressed, in whole or part, by the eight ADTAs evaluated. The objective of the TPAR is to assess the impacts of ADB assistance for institutional development of the water supply and sanitation sector on the recipient users and institutions and on the sector performance.

B. Objectives and Scope

4. The common objective of the eight ADTAs was institutional strengthening of the water supply and sanitation sector in the Lao PDR and Viet Nam.

5. The three ADTAs in the Lao PDR, which were attached to three consecutive loan projects, aimed to improve the management and operations of Nam Papa Lao (NPL),³ the executing agency (EA), through changes in the tariff structure and organizational framework and through human resources development to enhance capabilities in financial management, planning, billing, and other areas. With the exception of part A of TA 1606-LAO, which sought to establish an in-house training capacity, the ADTAs focused on management and financial aspects rather than technical and operational ones. The ADTAs were implemented between 1992 and 1997 and were complementary, with the second and third building on the work of the previous ones.

6. In Viet Nam, the objective of TA 1998-VIE was to develop a tariff structure and methodology with the aim of providing a more rational financial basis for water supply

¹ ADB. 2001. *Water for All: The Water Policy of the Asian Development Bank*. Manila.

² ADB. 2002. *Impact Evaluation Study on Water Supply and Sanitation Projects in Selected Developing Member Countries*. Manila.

³ Also known as the Lao Water Supply Company. At the time the ADTAs were implemented, NPL was responsible for piped water supply systems throughout the country. In 1998, responsibility was decentralized to the provinces, each of which now has its own Nam Papa. NPL continues to be in charge of water supply in the capital Vientiane.

companies (WSCs). The Ministry of Construction (MOC) was the EA. TA 1999-VIE provided assistance to improve management, financial, and computer systems in the Ho Chi Minh City Water Supply Company (HCMCWSC), the EA. TA 2000-VIE complemented this input by supporting the establishment of a planning function within the Ho Chi Minh City Department of Communications, Transport, and Public Works (HCMCDPW), the EA, and the preparation of medium- and long-term plans for the development of water supply for the city. The three ADTAs, all attached to the same loan project, were implemented between 1995 and 1999.

7. The first of the ADTAs attached to the Provincial Towns Water Supply and Sanitation Project, TA 2375-VIE, similarly provided support for the strengthening of management systems in the WSCs in the project towns and supported training to enhance capabilities in operations and maintenance (O&M) and water loss reduction. TA 2376-VIE, attached to the same project, sought to maximize the benefits of improved water supply to consumers by promoting improved health and hygiene practices in the project towns. The Management Board for Water Supply and Sanitation Development Projects (MBWSSDP) under MOC was the EA for these two ADTAs that were implemented between 1996 and 1999.

C. Completion and Self-Evaluation

8. Project completion reports (PCRs) prepared for the three related project loans covered also the three ADTAs in the Lao PDR. TA 1787-LAO was considered successful, as it had a significant and positive impact on NPL's capabilities according to the PCR prepared in March 1999. TA 1987-LAO supplemented improvements made to NPL's financial management and information systems under TA 1787-LAO and was rated successful in the PCR prepared in July 2000. The self-evaluations in the PCRs presented a balanced assessment of the ADTA inputs and outputs generated, and provided adequate information to support the assessments on the achievement of the outputs. However, they discussed neither the impact of the ADTAs nor the achievement of their objectives. Subsequent independent evaluation in a project performance audit report rated TA 1606-LAO partly successful.⁴

9. TAs 1998-VIE and 2000-VIE were completed in 1996, while TA 1999-VIE was completed in 1999. As the related loan project was completed only in June 2002, the PCR has not been prepared yet. TAs 2375-VIE and 2376-VIE were completed in 1999, but the related loan project is still ongoing.

D. Operations Evaluation

10. The TPAR evaluates the impact of the ADTAs on institutional arrangements and policies in the water supply and sanitation sector of the two DMCs. The TPAR also builds on the lessons and issues identified in the impact evaluation study (footnote 2).

11. The Operations Evaluation Mission (OEM) visited the Lao PDR and Viet Nam between 6 and 12 October 2002. The OEM reviewed and assessed for all eight ADTAs (i) their relevance and efficacy, in terms of objectives and scope of activities; (ii) their efficiency, in terms of consultants' performance and quality of outputs; (iii) the sustainability of their outputs; and (iv) their impacts on institutional capacity and policy development. The OEM sent questionnaires to the EAs and consultants who participated in the ADTAs to assess the quality of inputs and outputs, and discussed the ADTA impacts with concerned government officials.

⁴ ADB. 2000. *Project Performance Audit Report on the Southern Provincial Towns Water Supply Project in Lao PDR*. Manila. The three-category rating system of generally successful, partly successful, and unsuccessful was applied.

12. The OEM also carried out a desk review of relevant reports on assistance to the water supply and sanitation sector in the Lao PDR and Viet Nam. The preliminary findings of the impact evaluation study and the TPAR were discussed at a session during the Regional Workshop on Water in Asian Cities on 14–16 October 2002 at ADB headquarters under the auspices of the Third World Water Forum. The TPAR was circulated to concerned ADB departments, governments, and EAs for their review and comments. Comments received have been taken into account in finalizing the TPAR.

II. PLANNING AND IMPLEMENTATION PERFORMANCE

13. This section discusses the principal findings of the OEM on the design and implementation of the ADTAs. Details about the water supply sector in the two DMCs are given in Appendix 1. Responses of the EAs to the questionnaires sent to them prior to the field visits and at meetings with the OEM are summarized in the Supplementary Appendix.

A. Formulation and Design

14. All eight ADTAs evaluated were relevant to their respective EAs and to ADB's objective of increasing the institutional capabilities of water utilities to support their financial and operational autonomy. The EAs acknowledged the role of the ADTAs in building their management skills and enhancing their operational capabilities.

15. NPL was actively involved in the design of the three ADTAs in the Lao PDR. The OEM found that time and financial resources allocated to these ADTAs were in line with the resources usually allocated to ADTAs of this type. NPL also confirmed that the resources allocated were sufficient for the defined tasks, with the exception of the training component under TA 1987-LAO.

16. For TAs 1998-VIE, 1999-VIE, 2000-VIE, and 2376-VIE, the OEM found the level of involvement of the respective EAs satisfactory. In contrast, MBWSSDP's involvement in the design of TA 2375-VIE was low. The EAs also acknowledged that the ADTAs were relevant to their capacity and policy formulation needs.

B. Achievement of Outputs

17. The outputs from the eight ADTAs mainly comprised reports from consultants; training activities for staff from the EAs, WSCs, and community workers; and computerized systems for financial management and billing in the WSCs. Specifically, these included reports and recommendations for tariffs (TAs 1606-LAO and 1998-VIE), management information systems (TAs 1787-LAO and 1999-VIE), corporate planning (TA 1987-LAO), master planning (TA 2000-VIE), and institutional restructuring (TA 1606-LAO). Training and recommendations for training were an important output of TAs 1606-LAO, 1987-LAO, 1999-VIE, and 2375-VIE. Computer hardware and software for financial management, information systems, and billing were outputs for TAs 1787-LAO and 1999-VIE. For TA 2376-VIE, the most important outputs were the education materials prepared and the community participation methods developed for disseminating health and hygiene information.

C. Cost and Scheduling

18. The OEM confirmed that the computer hardware and software had been procured by the EAs according to ADB's *Guidelines for Procurement*. Except for TA 1787-LAO,⁵ the EAs generally utilized all the funds provided by ADB in the ADTAs.

19. TAs 1987-LAO, 2375-VIE, and 2376-VIE were implemented on or ahead of schedule and without significant problems. TA 2376-VIE experienced start-up delays due to initial setbacks in the implementation of the associated loan project but it was completed before any of the water supply systems being constructed under that project. The long-term effect of this timing mismatch has been minimal (para. 51), although at the time of the ADTA completion, the recommended health and hygiene practices could not be immediately adopted in the target communities. TAs 1787-LAO and 1999-VIE both used individual consultants. The OEM found that this resulted in poor coordination among the various components because the consultants were recruited at different times. In the case of TA 1787-LAO, part B (computer billing operations) was completed 2 years after part A (financial management and management information systems) and yet the two parts are interrelated. HCMCWSC noted that the lack of coordination in the timing of the inputs of individual consultants inhibited implementation of TA 1999-VIE recommendations and delayed the achievement of benefits from the ADTA. TA 1999-VIE experienced a 5-month delay during implementation but this had no major impact on its outcome.

D. Engagement of Consultants

20. The OEM confirmed that the consultants were engaged according to ADB's *Guidelines on the Use of Consultants*. The EAs were satisfied with the international and local consultants engaged for the ADTAs, although there was some difficulty with the first management information system consultant for TA 1999-VIE (para. 41).

E. Organization and Management

1. Lao PDR

21. NPL is a state-owned enterprise under the jurisdiction of the Department of Housing and Urban Planning of the Ministry of Communications, Transport, Posts, and Construction. At provincial level, the provincial Nam Paps (PNPs) now function as divisions of the respective provincial departments of communications, transport, post, and construction, under the control of the provincial governor. However, the Government has advised that PNPs will be progressively converted into state-owned enterprises under the provisions of the Business Law of 1994.

22. The policy to decentralize the urban water and sanitation sector in the Lao PDR was adopted by the Government in 1998. As a result, NPL, the former national-level WSC, became responsible for water supply only in Vientiane municipality, under the control of the municipality's governor, and PNPs became responsible for water supply in each of the other 16 provinces and the Xaysomboun Special Region.

23. With the decentralization of the sector, NPL and PNPs are fully responsible for all aspects of water supply development and management. Debt from the former NPL was reassigned among NPL and PNPs. The implication is that they should operate as corporatized

⁵ The OEM was unable to ascertain from NPL the reasons for the cost overrun in this ADTA.

entities seeking full cost recovery. This goal may be feasible for NPL, but the Government recognizes that PNPs face a more difficult task and permits concessionary financing terms or grants for investment until sufficient revenue can be generated to achieve full cost recovery.

24. In 1999, the Government established the Water Supply Authority (WASA) to regulate and coordinate activities in the sector. Although WASA currently provides technical support to PNPs, it is intended that it should eventually be the sector regulator with a mandate to assist the Government in formulating sector development strategies and plans and in setting norms, regulations, and technical standards. The documents to define WASA's legal status, responsibilities, and operational guidelines have already been drafted, but it will take time, operational experience, and policy dialogue before the various sector agencies will act according to their redefined roles and responsibilities.

25. Other agencies with interests in the water supply sector are the Ministry of Health, which is responsible for water quality, and Nam Saat, the agency responsible for water supply in rural areas and in towns and villages where there is no piped supply.

26. The OEM observed that NPL assigned sufficient counterpart staff to the three ADTAs. The OEM also interviewed staff from two PNPs, in Vientiane and Borikhamxay provinces, to assess whether PNPs had benefited from the ADTAs, noting that PNPs were formed after TA 1987-LAO was completed.

2. Viet Nam

27. In Viet Nam, responsibility for urban water supply and sanitation involves both the central and provincial governments. Central government agencies are chiefly responsible for policy making, standards, and development. Provincial and local governments are responsible for construction, supervision, and O&M of water supply systems. Under the Government's decentralization initiatives, the provincial authorities are becoming more active in project development.

28. At the central level, MOC is the main agency responsible for the sector. MOC also has a wide range of responsibilities for urban and rural planning and policies, construction standards, evaluation of construction projects, and human resources development for urban infrastructure development and maintenance. In 1994, MOC established MBWSSDP to manage externally assisted water supply and sanitation projects.

29. At the provincial level, the provincial people's committee has executive authority over all functions of government. The line ministries have corresponding departments at this level. The administrative responsibility for urban water supply and sanitation is usually assigned to the Department of Construction, which then delegates responsibility to a WSC. The provincial people's committees set water tariffs for the areas under their jurisdiction.

30. Other key organizations related to the water supply and sanitation sector include:

- (i) Ministry of Health, which is responsible for promoting health education and for water quality testing;
- (ii) Ministry of Science, Technology, and Environment, which is responsible for setting standards for drinking water and wastewater discharge;
- (iii) Ministry of Agriculture and Rural Development, which is responsible for regulating and monitoring surface water;

- (iv) Viet Nam Women's Union, a government-funded mass organization, with offices down to district level, which plays a major role in community mobilization and health education; and
- (v) Viet Nam Water Supply and Sewerage Association, a nongovernment business and professional organization, with members from WSCs and related companies, which is active in developing and implementing training courses for WSCs.

31. For all the five ADTAs in Viet Nam, counterparts were assigned to work with the consultants and staff of the EAs participated in the various training activities. The OEM understands from consultants for the two loan projects in Viet Nam that some project implementation problems arose from a lack of understanding of contracts and contractual obligations on the part of the EAs.⁶ Many, but not all, of the staff who participated in the ADTA activities are still within their organizations in positions where they are able to apply the skills and knowledge acquired.

III. ACHIEVEMENT OF PURPOSE AND IMPACTS

A. Achievement of Objectives

1. Adequacy and Quality of Reports and Services

32. The OEM reviewed the available final reports of consultants for the eight ADTAs. In general, the reports were well prepared and clear. No final reports could be located on the billing system prepared under part B (institutional framework) of TA 1606-LAO and the internal audit system prepared under TA 1787-LAO. For the ADTAs in Viet Nam, only the final report for part A (management information systems) of TA 2375-VIE was not made available to the OEM.

33. The recommendations of the three ADTAs in the Lao PDR were accepted by the Government but have only been partly implemented. In the case of TA 1606-LAO, the recommendations have been partly implemented for part A (human resources development) and part C (national water tariff study) but not at all for part B (institutional framework) because the latter were overtaken by the Government's reorganization of the sector. Under TA 1787-LAO, recommendations for billing operations were implemented but the system no longer meets NPL's needs, partly because it is based on stand-alone computers in each branch. Financial management, management information system, and corporate planning recommendations (TAs 1787-LAO and 1987-LAO) have only been partly implemented.

34. In Viet Nam, the recommendations of TA 1998-VIE (National Water Tariff Policy Study) were given effect through the issuance of two interministerial circulars. Implementation is the responsibility of the provinces and has not yet been widely undertaken. For TAs 1999-VIE and 2000-VIE, not all consultants' recommendations have been accepted. Those accepted have been or are being implemented by the EAs.⁷ The recommendations of TA 2375-VIE have been accepted and are being implemented. The recommendations of TA 2376-VIE were accepted by the Government but have not yet all been implemented. However, most recommendations on health and hygiene education programs continue to be implemented under the auspices of the Viet Nam's Women Union, which found them fully relevant.

⁶ Recent projects and ADTAs have included a provision for training on this subject for key EA staff during the start-up period.

⁷ The initial recommendations of TA 1999-VIE related to information technology and management information system were revised by the second consultant. The long-term plan from the TA 2000-VIE report has been subsumed in the long-term plan of the city government.

2. Training and Technology Transfer

35. The three ADTAs in the Lao PDR had specific training components or activities. Under TA 1606-LAO, one component dealt specifically with training of trainers and staff, and developing an in-house training capability. The two later ADTAs included training activities related to financial management systems, billing systems, and corporate planning. This training has clearly benefited NPL and its operations. Training programs run by NPL staff continue and several courses for technical staff were organized during 2002. NPL is currently looking for assistance to further strengthen its training capabilities and develop facilities for a separate training center, which it currently does not have.

36. NPL staff state that they have difficulty implementing ADTA recommendations (para. 33) because the level of transfer of skills and knowledge achieved within the time frame of an ADTA is often inadequate for staff to be able to undertake tasks by themselves. The transfer of skills would be more effective and permanent if the ADTA were supported by some form of long-term, periodic technical and training support.

37. The training provided under TA 1999-VIE benefited HCMCWSC because it was relevant to its management and operational needs. The ADTA also helped identify HCMCWSC's training needs and institutionalize the training function. TA 2000-VIE provided training in planning for the counterpart staff but not all of them have remained in positions where the skills acquired can be used. TA 2375-VIE provided training on the management information system and financial issues for management staff and on O&M and leak detection for technical staff. All of this training was relevant to the operation of WSCs involved, although MBWSSDP noted that more attention should have been given to preparing training documents in consultation with local specialists. Since the completion of the ADTA, technical training has continued in-house and through the urban development training centers near Hanoi and HCMCWSC. TA 2376-VIE provided training for trainers and motivators for the dissemination of health and hygiene information to communities. The activities of those trained continue under the auspices of the Viet Nam Women's Union.

3. Institutional Development

38. Two of the eight ADTAs, 1787-LAO and 1999-VIE, had components for developing computer systems and improving WSC billing operations. Under part B of TA 1787-LAO, recommendations were made for upgrading the information technology systems within NPL, but lack of funding subsequent to ADTA completion has restricted the extent to which these have been implemented. The billing system still operates on stand-alone computers in each of the NPL's branches in Vientiane. Implementation of this component was poorly coordinated with the management information system component. In HCMCWSC, a similar coordination problem was experienced with the information technology component of TA 1999-VIE, as the consultant for this component only started work after the consultants for the other two components had finished. The computer hardware was purchased relatively early and there have consequently been some problems with the compatibility of hardware and software. The local area network for HCMCWSC is still not established although the information technology system is expected to be operational early in 2003.

39. Management information systems, including finance and accounting, and corporate planning were components in five of the ADTAs. TAs 1787-LAO and 1987-LAO transferred skills to NPL staff, but these are still unable to implement the systems fully. In Viet Nam, MBWSSDP and WSCs appear to have successfully adopted the major parts of the systems

recommended by TAs 1999-VIE and 2375-VIE. The master planning process of TA 2000-VIE were adopted by HCMCDPW, which acquired skills to update the plan.

4. Performance of Consultants

40. The performance of consultants was generally satisfactory for all three ADTAs in the Lao PDR and for TAs 1998-VIE, 2000-VIE, and 2376-VIE in Viet Nam.

41. For TAs 1999-VIE and 2375-VIE, the EAs assessed the consultants' performance overall as only partly satisfactory. Part B of TA 1999-VIE (management information system development) was divided into three phases. The first two phases were completed in August 1996 but HCMCWSC was unable to use the outputs produced. A different consultant was appointed for the third phase, whose recommendations are now being implemented. There was a lack of coordination with the first consultant, but HCMCWSC noted that their own lack of experience with consultants at the time contributed to this deficiency.

42. For TA 2375-VIE, the dissatisfaction of MBWSSDP is related to the timing and length of consultants' inputs rather than to the actual performance of the consultants. MBWSSDP considers that the ADTA should have been carried out prior to the implementation of the related loan project so that the new skills and capacity acquired could have been better used during project implementation. The OEM concurs with this view.

B. Impacts

43. All eight ADTAs contributed to building capacities in the EAs, although achievements were sometimes less than anticipated at their design. This is particularly so in the case of the three ADTAs for NPL in the Lao PDR. Their objectives were too ambitious, beyond the ability of NPL and its staff. NPL staff could not absorb fully the training outputs in the limited time frames of the ADTAs that were all implemented before 1998, when NPL was an entity with nationwide responsibilities. Nevertheless, the ADTAs established in-house training capability, management information systems, computerized billing operations, and the elements of corporate planning. NPL is presently responsible only for Vientiane's water supply system and has a reasonable capability to operate and manage it. While NPL's capabilities increased as a result of these ADTAs, the objectives were not fully met because recommendations were not implemented nationwide. According to the staff from the PNPs in Vientiane and Borikhamxay provinces interviewed by the OEM, training received was not relevant to their needs. The corporate planning procedures developed were probably too complex to suit such smaller companies.⁸

44. The five ADTAs in Viet Nam generally achieved their objectives and improved management and operational systems. The impacts of TAs 2375-VIE and 2376-VIE on WSCs were positive as a result of improved billing and financial management systems, O&M, and leak detection. WSCs in towns such as Thanh Hoa upgraded their technical operations and are reducing water losses. However, financial improvements are inhibited by the slow procedures for adjusting tariffs.

45. Impacts on HCMCWSC of the development of training programs and the institutionalization of training, the implementation of management information systems, and the computerization of billing and other procedures were positive as well. With the adoption of the medium-term plan prepared under TA 2000-VIE, HCMCDPW also benefits from a more rational

⁸ PNPs were trained by NPL staff who had been trained under TA 1987-LAO. PNPs were more concerned about expanding coverage and collecting payments to repay debts.

approach to the planning of future system expansion. Some of these activities are still in process or have only been completed recently, so the full impact on the institution is not yet known and the sustainability of the impacts cannot yet be fully judged.

Impact on Policy Development

46. The ADTAs under review also included a water tariff study for each country. Part C of TA 1606-LAO was completed in August 1993. The report recommended one tariff structure for Vientiane and another for all the provinces. The latter had a simpler structure and lower rates than the former. Although these tariff arrangements were superseded when the water supply sector was decentralized in 1998, with the authority to set tariffs passing to each province, the tariff framework remains largely in place. In Vientiane, the tariff structure is still the same as that recommended in the study. Because of the major local currency depreciation, rates have increased in kip terms, but declined in dollar terms.⁹ In the provinces, the tariffs also generally follow the structure proposed by the tariff study. The effect of decentralization and the increased emphasis on financial autonomy of WSCs has led to more significant price increases in the provinces. In Vientiane province, the average domestic tariff is more than 2.5 times the average in Vientiane municipality, and in Borikhamxay it is 3.5 times the Vientiane rate. TA 1606-LAO has not resulted in improved financial autonomy for NPL.¹⁰

47. Part B of TA 1606-LAO developed proposals for restructuring NPL's institutional framework. However, the Government implemented its own decentralization proposals for the sector in 1998. Consequently, this part of the ADTA had no impact on policy, although this had been the objective.

48. In Viet Nam, TA 1998-VIE set out a methodology for establishing water tariffs and then applied it in four representative cities—Hanoi, Ho Chi Minh City, Nha Trang, and Thanh Hoa. This methodology was the basis for two interministerial circulars on water tariffs, promulgated in April 1997 and June 1999. Responsibility for setting water tariffs belongs to the provincial people's committee in each province. Procedures to adopt or update a tariff are slow and the methodology of the tariff study has not yet been widely adopted. The intended impact of the ADTA on cost recovery policy and greater financial autonomy for WSCs is being achieved only slowly.

49. The outputs of TA 2000-VIE included a master plan and medium-term plan for the development of the Ho Chi Minh City water supply system. The Government adopted these, in updated form, and intends to update the medium-term plan every 5 years. This type of planning was not undertaken by HCMCDPW prior to the ADTA.

C. Sustainability

50. The sustainability of impacts of the ADTAs for NPL has been affected by the lack of support after their completion. While NPL has been able to implement and sustain some recommendations, other aspects have not been implemented or not sustained because staff have been unable to solve problems of implementation when they have arisen. The need for a

⁹ In 1993, the suggested price for the first 5 cubic meters (m³) of consumption was KN60/m³ (\$0.08); the current price is KN219/m³ (\$0.02). Since many of the inputs for the water supply system are imported, there may be implications for the long-term viability of the system, as the kip has depreciated further in recent years.

¹⁰ In 2001, NPL's average direct operating expenses per m³ sold were KN354, or just over \$0.03. This was close to the reported average domestic tariff of KN350/m³. Domestic sales, therefore, did not make any contribution to capital costs.

more flexible, adaptive, and longer capacity-building program to strengthen the capabilities of NPL and PNPs has been recognized in a recent project preparatory technical assistance.¹¹

51. In Viet Nam, because of the involvement of the Viet Nam Women's Union and its continued activities, the impact of TA 2376-VIE is likely to be highly sustainable over the long term. The institutional strengthening of MBWSSDP and HCMCWSC under TAs 1999-VIE and 2375-VIE is sustainable, in view of the positive commitment of the EAs to improve billing efficiency and financial performance. HCMCDPW, the EA for TA 2000-VIE, has acquired skills to update the master plan prepared. The ADTA impacts are sustainable as Hb Chi Minh City government is committed to implementing the master plan. MOC has adopted the recommendations of TA 1998-VIE as the basis for water supply tariffs although the adoption by provincial WSCs is slow due to the lengthy approval processes required to establish new tariff structures.

IV. OVERALL ASSESSMENT

52. The ADTAs generally achieved their objectives and contributed to improved delivery of water supply services to people living in the respective service areas in both DMCs. Their overall performance is summarized below (for details, see Appendixes 2 and 3).

A. Relevance

53. Being the first ADTA to NPL, TA 1606-LAO, which included several objectives is assessed as relevant, while the subsequent two ADTAs that concentrated on the urgent need to strengthen NPL's capabilities are assessed as highly relevant. TA 1998-VIE is assessed as relevant as it developed a sound basis for cost recovery of WSCs. TA 2376-VIE is assessed as highly relevant to WSCs as it aimed at making full use of the water supply and sanitation facilities and, in turn, improving health in the project towns. The other three ADTAs in Viet Nam focused on building capabilities within the EAs and are also assessed as highly relevant.

B. Efficacy

54. The first two ADTAs to NPL, 1606-LAO and 1787-LAO, are assessed as less than efficacious because their outputs were overtaken by NPL's decentralization and reorganization. TA 1987-LAO is assessed as efficacious, as it successfully assisted in preparing NPL's long-term corporate plan. TAs 1998-VIE, 1999-VIE, and 2000-VIE are assessed as efficacious. TA 2375-VIE is assessed as less efficacious, as its outputs could not be extended beyond the pilot towns. TA 2376-VIE is assessed as highly efficacious in achieving the community environmental awareness and health improvement.

C. Efficiency

55. The efficiencies of ADTA inputs varied. TA 1606-LAO is assessed as less efficient, and the subsequent two ADTAs to NPL as efficient. In Viet Nam, inputs were efficient in TAs 1998-VIE, 2375-VIE, and 2376-VIE, and less efficient in TAs 1999-VIE and 2000-VIE.

¹¹ TA 3903-LAO: *Preparation of the Northern and Central Regions Water Supply and Sanitation Project*, for \$700,000, approved on 20 August 2002.

D. Sustainability

56. The sustainability of impacts is assessed as less likely for the three Lao PDR ADTAs. NPL will be unable to use the ADTA outputs without follow-up external support. The nationwide impacts are limited, as PNPs do not use the systems developed by the ADTAs. The sustainability is better for the ADTAs in Viet Nam. It is assessed as most likely for TA 2376-VIE because of the continued activities of Viet Nam Women's Union, and as likely for the other four ADTAs.

E. Institutional Development and Other Impacts

57. The institutional development and other impacts of the three Lao PDR ADTAs are assessed as significant in that they contributed positively to building up skills in NPL and to making NPL aware of its weaknesses and skill gaps. TA 1999-VIE generated significant impacts on HCMCWSC. The impacts of TA 2376-VIE are also assessed as significant, noting that the trainers and motivators trained under the ADTA have been involved in similar awareness campaigns under the auspices of the Viet Nam Women's Union. The impacts of the other three ADTAs in Viet Nam are assessed as moderate.

F. Overall Ratings

58. TA 1606-LAO is rated partly successful.¹² The subsequent two ADTAs, 1787-LAO and 1987-LAO, are rated successful. TA 2376-VIE is rated highly successful, in view of the fact that it has made a significant contribution to health and hygiene education. The impact of the ADTA is greater now than at completion. As the materials prepared under the ADTA are now used in other projects, its overall impact will continue to increase. The remaining four ADTAs in Viet Nam are rated successful.

G. Assessment of Asian Development Bank and Developing Member Country Performance

59. ADB guidance and supervision were satisfactory for all eight ADTAs. The EAs confirmed that ADB review missions spent an average of 4–5 days during ADTA implementation and loan review and followed up on the consultants' activities and the implementation of recommendations. The OEM also observed that the issues and lessons from TA 1606-LAO were followed up in the subsequent two ADTAs to NPL.

60. The performance of the Lao PDR Government and NPL was satisfactory. In the case of the ADTAs that were completed some time ago (e.g., TA 1606-LAO, completed in 1996) the OEM noted that few of the staff who participated in discussions appeared to have direct experience of the ADTAs.

61. The performance of government agencies in Viet Nam was also satisfactory. HCMCWSC mentioned the problem of staff who had participated in TA 2000-VIE and received training moving on to other positions, retiring, or leaving the agency to work in the private sector. MOC lacks sufficient staff with direct experience of the National Water Tariff Study (TA 1998-VIE) to pursue the implementation of the new tariff structures.

¹² This is consistent with the rating in the project performance audit report. ADB. 2001. *Project Performance Audit Report on the Southern Towns Water Supply Project*. Manila.

V. ISSUES, LESSONS, AND FOLLOW-UP ACTIONS

A. Key Issues

62. ADTAs in the water supply and sanitation sector usually provide inputs for defined tasks over a relatively short period. The design of ADTAs should be relevant to both the needs and the current capacities of an institution. ADTA design that results in recommendations beyond the current capacity of an institution to absorb or implement is inefficacious and involves inefficient use of resources.¹³ Not all institutions have the capability to implement ADTA recommendations without further support and assistance. This has been, and remains, the case with NPL. In Viet Nam, the capacity to implement recommendations is greater. The effectiveness and sustainability of ADTA are limited if no provision is made for longer-term assistance to support the implementation of ADTA recommendations, whether for management, operational, or training matters. Financing for the implementation of recommendations must also be available, preferably from the associated loan project if there is one. Future ADTAs by ADB for capacity building in the water supply and sanitation sector, especially in transition economies, should be implemented as flexibly as possible, both in relation to terms of reference and the inputs of consultants in order to ensure that results are appropriate to the actual situation of the recipient agency. There should also be coordination with other external funding agencies to avoid overlapping activities. To improve sustainability of ADTA results, additional technical and training support for EAs should be considered.

63. Similarly, water tariff reform is a long process requiring constant policy dialogue between governments and external funding agencies. The ADTAs in the two DMCs provided a rational basis for establishing and adjusting tariffs but progress in applying the results of these studies to achieve cost recovery and improve financial sustainability of WSCs has been slow. In the Lao PDR, the currency depreciation of the late 1990s has not been matched by increases in NPL's tariffs. The resource base of NPL has, therefore, been eroded in relation to the costs of new or replacement equipment, computer hardware and software, and other inputs. NPL's ability to provide for capacity building from its own resources is also limited. In Viet Nam, the slow progress in tariff reform is attributable to protracted approval procedures. With ADB's continued policy dialogue, the achievements could be further improved.

B. Lessons Identified

64. The community health and hygiene programs, associated with water supply and sanitation projects, will be more effective when they can be implemented by a professional organization, such as the Viet Nam Women's Union in TA 2376-VIE, which is already operating the same or similar types of activities. Where this arrangement is possible, there is a good chance that such activities will be continued after the completion of the ADTA.

65. For transition economies, coordination and timing are important for the effectiveness of ADTAs. When an ADTA has several components that are interrelated, consultants' inputs should be arranged so that the outputs can be properly coordinated. When this does not happen, the result is inefficient implementation and the potential benefits of the ADTA are not fully achieved, as observed in TAs 1606-LAO and 1998-VIE.

66. Coordination and timing between an ADTA and the associated project is also important, as confirmed by TAs 2375-VIE and 2376-VIE. Two distinct lessons have emerged from their

¹³ The OEM suggests monitoring by ADB Resident Mission during ADTA implementation to ensure an appropriate and useful outcome of the ADTA.

experiences. ADTAs such as TA 2376-VIE should be implemented only when the new water supply infrastructure provided by the project is in place. If an ADTA is related to technical matters such as TA 2375-VIE, it is more appropriate for it to be implemented before or at the beginning of the project so that project implementation may receive the greatest benefit from the ADTA. If an ADTA is providing support for management and financial matters, coordination with an attached or related project may be less significant.

67. The Lao PDR experience shows that when an institution is the recipient of a series of ADTAs over time, the effects can be cumulative and positive, even when the individual ADTAs may not have been, individually, very successful.

C. Follow-Up Actions

68. The OEM is satisfied with the follow-up under ongoing ADB loan projects, and recommends no further specific follow-up actions for the EAs for eight ADTAs.

WATER SUPPLY COMPANIES AND RELATED INSTITUTIONS IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC AND VIET NAM

A. Lao PDR

1. Nam Papa Lao and Provincial Nam Papas

1. The three advisory technical assistance (ADTA) grants from the Asian Development Bank (ADB) helped establish basic systems for managing water supply in Vientiane. They provided know-how for water system development that has continued after their completion.

2. **Tariffs.** The present tariff has four categories: domestic and government, business, businesses using water as an input, and foreigners. The tariff structure in use in Vientiane comes from TA 1606-LAO, but a mechanism is needed for automatic adjustments. Rates (effective from 1 September 2001) are in Table A3.1. The average tariff for the domestic category is around KN350 per cubic meter (m^3).

Table A3.1: Tariff Structure

Monthly Consumption	KN/ m^3	\$/ m^3	Monthly Consumption	KN/ m^3	\$/ m^3
Domestic and government			Businesses using water as input		
0 to 5 m^3	219	0.027	0 to = 50 m^3	855	0.104
>5 to = 20 m^3	263	0.032	>50 to = 100 m^3	1,216	0.147
>20 to = 50 m^3	229	0.028	>100 m^3	1,360	0.165
> 50 m^3	383	0.046			
Businesses not using water as input			Diplomatic/foreigners		
0 to 5 m^3	549	0.067	1 to = 10 m^3	6,184	0.750
>5 to = 20 m^3	602	0.073	>10 m^3	7,668	0.930
>20 to = 50 m^3	636	0.077			
> 50 m^3	670	0.081			

m^3 = cubic meter.

Source: Nam Papa Lao, 2002.

3. **Billing.** The efficiency is currently about 50% (private customers [households, businesses] pay promptly but government agencies pay late). The billing system needs updating and improving. Water bills are issued to customers within 10 days of meters being read; payment should be within 15 days of the issuance of the bill; if not paid by the end of the month a reminder is sent; a second reminder follows in 20 days, after which the supply will be disconnected if payment is still not made. The reconnection fee is KN50,000. The cost of a new connection is KN800,000 to KN1 million.

4. **Operational Issues.** Leaks in the system result in nonrevenue water problems.¹ Nonrevenue water for Vientiane, which was above 50% before the ADTA, is currently about 30% and there is a target of 25%. Staffing at Nam Papa Lao (NPL) Vientiane is about 10 per 1,000 connections, but construction and repairs are mostly contracted out to private companies. Current consumption averages 197 liters per capita per day. This is rather high and is partly due

¹ Nonrevenue water is the difference between water produced at treatment plants and water billed. It includes both technical (leakages) and non-technical (illegal connections, meter errors, incomplete billings, etc.) losses.

to leaks on customers' premises.² Aside from identifying and mending leaks, improved performance will also require attention to collecting bills, customer payment, quality control, etc.

5. Ongoing and planned institutional development projects supported by other external assistance agencies include:

- (i) Belgium—upgrading billing system, software from local provider;
- (ii) France—cofinanced with ADB—mapping system, leak control program;
- (iii) Japan International Cooperation Agency—master plan; and
- (iv) preparation, with the World Bank, of a project for reorganization of NPL and other state-owned enterprises.

6. NPL has experienced difficulties with implementing ADTA recommendations because there has been no follow-up support available once the ADTA was completed. This reflects the relatively low skill base from which NPL is starting. The problem has been recognized by ADB in a recent ADTA for the water sector in Lao PDR,³ in which a more flexible approach to inputs and timing is being adopted.

7. The policy to decentralize the urban water and sanitation sector in the Lao PDR was adopted by the Government in 1998. As a result, NPL, the former national level water supply company (WSC), became responsible only for water supply in Vientiane municipality and provincial Nam Papas (PNPs) became responsible for water supply in each of the other 16 provinces and the Xaysomboun Special Region. The operations evaluation mission also reviewed two PNPs to assess how the ADTAs impacted on them.

8. **Vientiane PNP.** In Vientiane province there are three piped water systems—at Phonhong, Vang Vieng, and Ban Khoune. Altogether the three systems have 3,184 connections, of which 930 are for the ADB-financed system at Phonhong (the provincial capital). The average tariff is KN978/m³ but this does not cover production costs (including debt servicing and depreciation). The loss for the first 9 months of the current year was KN38 million. Nonrevenue water is 19%–20%.

9. There used to be a different tariff for each of the three systems, but a uniform provincial tariff has been in use since 1 September 2001. To change the tariff, the PNP makes a proposal to the respective departments of communication, transport, post, and construction and if agreed, it goes to the provincial governor for final approval. At the last revision, the Vientiane PNP estimated a tariff, based on cost estimates, with three options—100%, 50%, and 0% depreciation. The governor chose the 50% depreciation level. Part of the reason for the current loss made by PNP is that in its accounts it continues to provide for full depreciation. Since 1998, there have been two tariff adjustments.

10. Since 2001, the Vientiane PNP has had a computerized system for accounting and billing. The hardware and software were purchased from a private company in Vientiane.

² Secondary connections—i.e., a household having an informal connection to the system via a neighbor with a proper connection—are relatively common in Vientiane and may partly account for the high 250–300 liters per capita per day.

³ TA 3903-LAO: *Northern and Central Regions Water Supply and Sanitation*, approved for \$700,000 on 20 August 2002, notes that “Experience shows that a predetermined capacity building program with a fixed input schedule often fails to achieve the intended objectives because the time required for the recipient agency to digest the recommendations, build consensus and translate the consensus into action may not match the input schedule of the consultants ... Therefore, a more flexible, adaptive and longer period capacity building program is required.” Specifically, consultants could be available over a longer period, intermittently and provide technical support as needed.

11. **Borikhamxay PNP.** There is only one piped water supply system in the province, for Pakxan, which is the provincial capital. The system has 1,800 connections. The average tariff is KN1,140/m³ and for the last 2 years the PNP was operating at a profit. Both the number of connections and the tariff are above the projections in the project completion report for the Northern Towns Project. In this province, the tariff is based on full recovery of depreciation and since 1998 there have been four tariff adjustments. In 2000 there was a loss of KN57 million, in 2001 a profit of KN14 million, and in 2002 a profit over KN30 million is estimated. The 2001 profit was recalculated by the Tax Department, using only the permitted level of deductions for social charges, etc., at KN36 million. Nonrevenue water is only 5.8%. The explanation given for this is that it is a new system using a ground water source. Pakxan has had computers for about 2 years. These were taken from NPL—the system was set up under a World Bank project.

12. The PNPs pay the same taxes as any other commercial enterprise. These are:

- (i) 5% on revenue from sales of water;
- (ii) 10% on other revenue (e.g., connection charges); and
- (iii) 35% on net profit.

13. The two PNPs use different billing methods where taxes are concerned. In Vientiane, the tariff includes taxes, but in Borikhamsay the tariff does not include taxes so the actual amount billed to customers is almost 5% higher than the stated tariff.

2. Water Supply Authority

14. The Director General of the Water Supply Authority (WASA) acknowledged the problems of upgrading capacity in the water sector. WASA knows what its own weaknesses are. More focus is now directed on capacity building and on community awareness whereas previously it was on physical systems. WASA can give advice to PNPs about price increases, and can especially play a role in convincing governors of the desirability of PNPs being financially self-sufficient. The ability to absorb skills has also been limited because there were few engineers (and others with tertiary qualifications). This situation is gradually changing. In TA 1987-LAO, the lack of technical and language skills among staff constrained the transfer of skills. Skill levels within the sector are increasing and English language training is now included under recent projects.

15. WASA is looking for Japan International Cooperation Agency funding for a project for Vientiane municipality—about \$20 million for a new treatment facility for 30,000 m³/day and transmission to the university area for 20,000 m³/day and then in a second phase to expand the treatment facility to 50,000 m³/day.

16. A regulation on water quality standards has been drafted. At present there is a lack of equipment, apparatus, know-how, skills, etc., for a proper quality monitoring program. WASA would like to set up regional laboratories with individual water systems having simple testing kits for day-to-day testing.

17. Among PNPs, Luang Prabang now operates profitably, as does Pakxan. Provinces have increased tariffs. Provincial governors have the authority to approve tariff increases. There is one PNP for each province although some provinces have more than one water company (e.g., Vientiane province). Tariffs are province wide.

B. Viet Nam

1. Ministry of Construction and Management Board for Water Supply and Sanitation Development Projects

18. The Ministry has overall responsibility for the water supply sector including WSCs. The Thanh Hoa WSC⁴ has 325 staff, of which about 250 are actually employed for the water supply system. There are approximately 24,000 household connections and coverage is about 60% of the city's population (about 85% of the inner city area). Nonrevenue water in this system in the first 6 months of 2002 was 35%, in the third quarter 32%. The target is to reduce nonrevenue water to 30% by the end of 2003. In Thanh Hoa, the average tariff should be D2,900/m³ but is currently at D1,780/m³ (households: D1,500/m³, commercial: D3,500/m³, state-owned industry: D2,500–3,000/m³, private sector industry: D6,700/m³).

19. In Hanoi, water is supplied for only 3–4 hours per day. The timing is unreliable, but most houses have tanks (underground and on the roof) so that the short hours of supply and unreliable timing do not affect people very much. Water is always boiled before drinking.

20. The main features of water tariffs in Viet Nam, the responsibility of the Management Board for Water Supply and Sanitation Development Projects, are:

- (i) the interministerial circulars set out the method for establishing a tariff;
- (ii) tariffs are set for each province and the authority for approving the tariff in each province is the provincial people's committee;
- (iii) the WSC submits a proposal to the provincial-level departments of construction and finance and the pricing board; and
- (iv) these agencies review the proposal and make a recommendation to the chairperson of the provincial people's committee.

21. The approval process can be very slow. It took the WSC in Thanh Hoa 4 years to get approval for an increase of D200/m³.

2. Ho Chi Minh City Water Supply Company and Department of Communications, Transport, and Public Works

22. The Ho Chi Minh City Water Supply Company (HCMCWSC) uses principally surface water sources. Treatment capacity was 650,000 m³/day but has been increased with ADB project by 100,000 m³/day. There is also a treatment plant at Dinh Anh with capacity of 100,000 m³/day and ground water usage is 50,000 m³/day. Total current capacity is therefore 900,000 m³/day. The city's population is around 7 million. There are currently about 350,000 connections, serving about 70% of the population of the inner city (population of 4 million). Total annual revenue is approximately D500 billion and the collection rate is more than 99%. The total number of employees is about 2,000.

23. HCMCWSC is organized into five water franchises (branches), each in charge of meter reading, billing, collection, and repairs in a specified area. There are also separate enterprises that operated the water treatment plants and for the assembly and repair of water meters. A deep well enterprise operates 30 deep wells throughout the city.

⁴ One of the towns under the first ADB project, Loan 1361-VIE(SF): *Provincial Towns Water Supply and Sanitation*.

24. HCMCWSC has two proposals for follow-up TAs:
- (i) Assist with a program for leak control. At present nonrevenue water is about 37%. The company's target is to reduce this to 29% by 2005.
 - (ii) Assist with geographic information systems mapping of the distribution network. HCMCWSC would need the assistance of a highly qualified technical expert to help with such a program.
25. The Department of Communications, Transport, and Public Works is responsible for implementing water tariffs and developing and updating the master plan.
26. The medium-term plan approved by the Government does not follow completely the recommendations in TA 2000-VIE, but is closely based on activities under that ADTA. The plan has 16 projects for expansion of the network and three for expansion of production capacity. The expansion of population and the urbanization process have all occurred as expected in the TA master plan. The main differences with the original are:
- (i) timing and implementation schedule;
 - (ii) budget—the approved plan has a much higher budget than the original, mainly due to the tenfold increase in land acquisition costs and because the distribution network plans are more detailed than in the original; and
 - (iii) there are some differences in projections, but these are generally small.
27. It is expected that the master plan will be updated every 5 years. When updated, it will have to be resubmitted for approval. Revision of the plan would start after about 3 years and studies to update it would probably take a year or so. Then once the revised plan has been drawn up, the approval process would have to start.

3. Viet Nam Women's Union

28. The Viet Nam Women's Union has a current membership of over 11 million. Activities fall under six main programs:
- (i) upgrading of knowledge, skills, and capacity of women;
 - (ii) income generating activities to enhance the household economy;
 - (iii) child and mother care programs;
 - (iv) awareness, involvement of women in politics, etc.;
 - (v) strengthening the Viet Nam Women's Union network; and
 - (vi) international relations and activities.
29. For TA 2376-VIE, the Viet Nam Women's Union were the local consultants. They carried out a baseline survey, training of trainers (20 trainers—2 weeks of subject skills/knowledge, 1 week of community participation methods) and organized the training of motivators in the towns by these trainers. Motivators include health workers, teachers, etc.
30. The first project in the water supply and sanitation sector in which Viet Nam Women's Union was involved was a UNICEF project in 1993. This was the first project that introduced the community participation approach in Viet Nam. However, much of the further development of the approach has been in ADB-funded projects. The ADTA contributed to the acceptance of community participation approaches for the water supply and sanitation sector.

SUMMARY EVALUATION OF SELECTED ADVISORY TECHNICAL ASSISTANCE IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC

1. The Operations Evaluation Mission (OEM) conducted the evaluation of the three advisory technical assistance (ADTA) grants in the Lao People's Democratic Republic (PDR) based on a desk review of relevant Asian Development Bank (ADB) documents, including project completion reports (PCRs) and project performance audit reports (PPARs), consultants' reports, responses from executing agencies at meetings and discussions during the field visit and from responses to the questionnaire circulated to the executing agency prior to the field visit. Details of the responses of the executing agency to the questionnaires sent prior to the field visits and from meetings with the OEM are summarized in the Supplementary Appendix. The evaluation has taken into consideration factors relating to design, inputs, implementation, outputs, and impact of the ADTAs.

A. TA 1606-LAO: Institutional Strengthening of the Water Supply Sector¹

2. Consisting of three parts, TA 1606-LAO was designed to provide assistance for institutional strengthening of the water supply sector, specifically for human resources development; for strengthening the institutional framework; and for a national water tariff study. Financing consisted of \$630,000 from ADB and \$70,000 from the Government. Part A was to provide assistance to the Human Resources Department in training trainers and developing sound training programs and facilities to support water supply maintenance and development. Part B was to assist the Government in developing an appropriate institutional framework for the operation and development of the urban water supply subsector. Part C consisted of the development of a national water tariff study that included a methodology for the determination of water tariffs for NPL and its branches. TA inputs included international consulting services as follows: part A: 10 person-months; part B: 5 person-months; and part C: 5 person-months. Actual TA outputs included: Final Reports consisting of Executive Summary, August 1993; Final Training Report, December 1993; Part A: Human Resources Department, May 1994; and Part C: National Water Supply Tariff Study, August 1993; and an Addendum to Final Completion Report, June 1996.

1. Relevance

3. The ADTA was relevant to the needs of Nam Papa Lao (NPL) to strengthen its operations. It focused on, among other items, the much-needed training of officers in water supply and maintenance.

2. Efficacy

4. The activities relating to establishing training capability and providing a basis for water tariff policy were achieved but the work on institutional framework was carried out without sufficient consultation with government officials. The ADTA was less than efficacious.

¹ TA 1606-LAO: *Institutional Strengthening of the Water Supply Sector*, for \$630,000, approved on 19 November 1991.

5. The PPAR² for Loan 1122-LAO to which TA 1606-LAO was attached noted:
- (i) Under part A, the training center established in 1992 was used only sporadically because of a lack of trainers. The training under the ADTA had been useful, although short and in insufficient numbers.
 - (ii) Under part B, a new organizational structure was proposed, but the ADTA consultant focused mostly on the views of NPL staff and did not assist NPL to coordinate sufficiently with government officials. The Government reorganized the sector along other lines.
 - (iii) Under part C, the tariff study addressed the issues of tariff structure and cost recovery adequately, but with the decentralization of the sector, each province has become responsible for its own water tariffs. Tariffs now differ by province, reflecting the varying costs of supply.

3. Efficiency

6. The ADTA did not achieve the benefits foreseen, partly because of the reorganization of the sector by the Government, which was not along the lines proposed by the ADTA. The training inputs were too little to achieve the benefits hoped for. The ADTA was less than efficient.

4. Sustainability

7. Because of the reorganization of the sector and the limited capacity within NPL, the sustainability of outputs of the ADTA is assessed as less likely.

5. Institutional Development and Other Impacts

8. The other developmental impacts are assessed as significant, although the positive impacts of one of the components, the tariff study, were overcome by the reorganizations of NPL.

6. Overall Assessment

9. Overall, the OEM rates the ADTA partly successful. Those at NPL with direct experience of this ADTA appear to be few. The present situation is that NPL has training staff, but no “training center”—i.e., no dedicated training facility. Senior management are aware of the need for more and more regular training. Tariffs in Vientiane municipality (which is now the NPL service area) follow the structure proposed in the ADTA, but there is no mechanism in place for regular adjustment.

B. TA 1787-LAO: Institutional Support to Nam Papa Lao³

10. The ADTA was designed to provide the institutional support to Loan 1190-LAO: Rehabilitation and Upgrading of Vientiane Water Supply by establishing a management information system in NPL as part A of the ADTA and strengthening NPL’s computer billing operations as part B. TA cost and financing consisted of \$210,000 from ADB and \$20,000 from the Government. TA inputs included the services of one international expert for each part, each

² ADB. 2000. *Project Performance Audit Report on the Southern Provincial Towns Water Supply Project in the LAO PDR*. Manila.

³ TA 1787-LAO: *Institutional Support to Nam Papa Lao*, for \$210,000, approved on 17 November 1992.

for 4 person-months. A TA Advisory Committee was created with representatives from the Ministry of Communications, Transport, Posts and Construction; NPL; and Ministries of Economy, Planning and Finance. Actual TA outputs included Management Information System Report, February 1995 and Report on Information Technology Strategic Systems, January 1997.

1. Relevance

11. The ADTA was highly relevant to the ongoing need to strengthen NPL's management capabilities. It followed up on the training, and institutional development provided under the previous ADTA, and targeted further improvements using information technology, such as management information and computerized billing systems.

2. Efficacy

12. The systems proposed for implementation did not take NPL's technical and institutional capabilities fully into account. The internal audit proposals were inappropriate because they did not fit in with government requirements. The lack of provision for long-term follow up and support inhibits effective implementation in the Lao PDR context. NPL staff noted at meetings with the OEM that only parts of the management information system are used because of its large data requirements. The computerized billing system operates on stand-alone personal computers in each of the NPL branch offices in Vientiane and this makes it difficult to share or incorporate data into a company-wide system. It was also mentioned that the computer system had problems with Y2K. NPL used its own funds for a new billing software package and some hardware. Some of the other recommendations of the information technology consultant have not been implemented because of lack of funds.

13. An internal audit system and procedure manual were also developed to assist management with establishing internal control measures, but this did not mesh with the requirements of other government agencies and has not been implemented because of this lack of appropriateness. The ADTA is assessed as less than efficacious.

3. Efficiency

14. The objectives of the ADTA were only partly achieved because recommendations were not fully appropriate to NPL's needs and capacity to implement. The timing of the two components was not coordinated and there was little opportunity for coordination between the two individual consultants. Each part of the ADTA was implemented by an individual consultant. The report for part A, on management information systems, was submitted in February 1995, but the report of the information technology consultant, related to the billing systems, was only finalized 2 years later in January 1997. The ADTA is assessed as less than efficient.

4. Sustainability

15. The sustainability of outputs of the ADTA is assessed as likely. NPL staff say that some parts of the management information system are in use and the billing system, because it is based on stand-alone computers in each NPL branch. Nonetheless, sustainability is constrained by the lack of the necessary skills within NPL. After completion of the ADTA, there was no further training or support for the implementation of recommendations. This was regarded by NPL management as one reason (an important one) why implementation of recommendations had been less than complete.

5. Institutional Development and Other Impacts

16. Although the efficacy and efficiency of the ADTA may have been less than hoped, the other developmental impacts are assessed as significant as the ADTA has still contributed positively to building up skills in NPL and to making the organization aware of its weaknesses and skill gaps.

6. Overall Assessment

17. Overall, the ADTA is rated successful.

C. ADTA 1987-LAO: Strengthening Planning Capabilities in Nam Papa Lao⁴

18. The objectives of this ADTA were to improve NPL's financial management systems, install integrated management information systems, and enhance its billing and collection facilities. These were to be achieved by assisting NPL in the preparation of a long-term corporate plan and identifying short-term measures to implement it, including necessary organizational and operational changes (such as the integration of the proposed management information system under TA 1787-LAO with the planning process). Training programs were also part of the ADTA. TA cost and financing consisted of \$257,000 from ADB and \$7,000 from the Government. TA inputs included 6 person-months international and 18 person-months domestic consultants' services. A TA advisory committee was created with representatives from Ministry of Communications, Transport, Posts and Construction; NPL; and the Ministry of Finance. Actual TA outputs included an Inception Report, December 1996; an Interim Report, February 1997; a Final Report, September 1997; and a Review Report, March 1998.

1. Relevance

19. As with TA 1787-LAO, this ADTA is assessed as highly relevant as it addressed the need to improve NPL's institutional capabilities and introduce planning into the management process. The ADTA was partly a follow up for the management information system activities under TA 1787-LAO.

2. Efficacy

20. The ADTA is assessed as efficacious. To introduce complete corporate planning systems was perhaps too ambitious an objective given NPL's capacity to absorb the skills required for this process to be institutionalized. A simpler objective may have been more effectively achieved. As with the previous ADTA, the OEM found that only some parts of the corporate planning model recommended by the consultants were being used by NPL, notably the parts relating to income and expenditure planning. Some functions within the planning process, such as investment planning, have been taken over by the Water Supply Authority.

⁴ TA 1987-LAO: *Strengthening Planning Capabilities in Nam Papa Lao*; for \$257,000, approved on 18 November 1993.

3. Efficiency

21. The ADTA is assessed as efficient as the activities were all completed as planned. Training was given to provincial Nam Papa staff after the completion of the ADTA, but NPL staffs in Vientiane are unaware of any provincial Nam Papa using the corporate planning system because it is difficult to use, the format is complex, and the data requirements are extensive. Consequently, implementation of the technical recommendations appears to be only partly completed.

4. Sustainability

22. The consultants noted in their final report that “the long term sustainability of Corporate Planning is unlikely without the continued support of external expertise.” NPL staff concurred with this view. NPL experiences difficulty in adapting the corporate planning process to the changing situation of the company. NPL is able to use some aspects of the planning system but finds it too complex to use all. Provincial Nam Papas do not use the system at all. The sustainability is assessed as less likely.

5. Institutional Development and Other Impacts

23. The other developmental impacts are assessed as significant. The financial analyst of the local consultant for the ADTA noted that NPL is now able to provide much more data on request than was the case previously, implying improved capabilities within the organization.

6. Overall Assessment

24. Overall, the ADTA is rated successful.

SUMMARY EVALUATION OF SELECTED ADVISORY TECHNICAL ASSISTANCE IN VIET NAM

1. The Operations Evaluation Mission (OEM) conducted the evaluation of the five advisory technical assistance (ADTA) grants in Viet Nam based on a desk review of relevant Asian Development Bank (ADB) documents, including project completion reports (PCRs) and project performance audit reports (PPARs), consultants' reports, responses from executing agencies at meetings and discussions during the field visit and from responses to the questionnaire circulated to executing agencies prior to the field visit. Details of the responses of executing agencies to the questionnaires sent to them prior to the field visits and from meetings with the OEM are summarized in the Supplementary Appendix. The evaluation has taken into consideration factors relating to design, inputs, implementation, outputs, and impact of the ADTAs on executing agencies and water utility customers.

A. TA 1998-VIE: National Water Tariff Policy Study¹

2. The objective of this ADTA was to develop a methodology for determining the tariff structure for water supply companies (WSCs). The activities that were to be undertaken to achieve this objective were (i) review of existing organizational framework, policies, and guidelines; (ii) survey of four representative WSCs: Hanoi, Ho Chi Minh City, Thanh Hoa, and Nha Trang; (iii) development of recommended social and financial objectives, tariff policy, and the methodology for determining water tariffs; and (iv) application of the tariff methodology to determine the tariff structure and levels for the surveyed WSCs. TA cost and financing consisted of \$600,000 from the Japan Special Fund and \$25,000 from the Government. TA inputs included 18 person-months international and 12 person-months domestic consulting services. Actual TA outputs included an inception report, May 1995 and a final report, May 1996.

1. Relevance

3. The ADTA is assessed as relevant to the development of the water supply and sanitation sector since it provided a rational basis for setting tariffs, based on economic and financial as well as social objectives. It also contributed to developing a sound basis for cost recovery.

2. Efficacy

4. The ADTA is assessed as efficacious. It developed a structure for water tariffs and a methodology for establishing a tariff. Implementation of the recommendations at national level followed with the issuance of interministerial circulars. Although the central Government has promulgated tariff regulations, implementation at the provincial level depends on provincial authorities recognizing the need for placing water supply utilities on a more financially sustainable footing and on local decision-making processes.

3. Efficiency

5. The ADTA is assessed as efficient. The consultants completed their tasks satisfactorily. The potential benefits of the ADTA for water consumers and WSCs have not yet been fully achieved because of slow implementation of the recommendations.

¹ TA 1998-VIE: *National Water Tariff Policy Study*, for \$600,000, approved on 29 November 1993.

4. Sustainability

6. The sustainability is assessed as likely. The ADTA recommendations are sustainable at least as the basis for water supply tariffs, but slow implementation makes it difficult to be sure of this at this stage.

5. Institutional Development and Other Impacts

7. The other developmental impacts are assessed as moderate. The slow adoption of the tariff recommendation by the provinces and the lengthy domestic processes required to establish or adjust a tariff inhibit the achievement of full benefits. More time may be needed to judge the full impact of the ADTA.

6. Overall Assessment

8. Overall, the ADTA is rated successful.

B. TA 1999-VIE: Institutional Strengthening of the Ho Chi Minh City Water Supply Company²

9. The objective of this ADTA was to provide the institutional strengthening necessary to ensure the longer-term financial and technical viability of the Ho Chi Minh City Water Supply Company (HCMCWSC). It had three components, namely: training program development, development of a management information system, and computer systems development to determine and undertake modifications to existing computer billing hardware and software to ensure an acceptable standard of performance and reliability over the medium term. Different individual consultants carried out each component. TA cost and financing consisted of \$600,000 from ADB and \$50,000 from the Government. TA inputs included the services of international consulting services as follows: 6 person-months for part A; 7 person-months for part B; 6 person-months for part C. Actual TA outputs included final reports (Final Report–part A: Training, October 1995; Draft Final Report–part B: Management Information System, October 1995); an Accounting Manual, October 1995; Report on Staff Training and Development, November 1995; and Information Technology Reports consisting of Management Information System Phase 3 Final Report, January 1999; and an Accounting/Management Information System Evaluation Report (Phase 3).

1. Relevance

10. This ADTA was highly relevant to HCMCWSC's needs at the time that it was implemented. In addition to providing training on water supply maintenance, it also developed computer systems to improve the longer-term financial and technical viability of HCMCWSC.

2. Efficacy

11. The ADTA is assessed as efficacious. It has significantly improved the capability and performance of HCMCWSC. The training component helped determine training requirements

² TA 1999-VIE: *Institutional Strengthening of Ho Chi Minh City Water Supply Company*, for \$600,000, approved on 29 November 1993.

and led to the establishment of a training division within HCMCWSC. Previously, there had been staff assigned to training but no formal place for it. The training recommended was implemented with funds from the related project loan, both locally and in Thailand and Australia. According to HCMCWSC, the training program, to be improved, should be “practical, focused on sector areas, with longer training periods so as to apply to real working conditions.” Training is seen as essential for the future development of the project and training programs will therefore continue.

12. The information technology (computer systems) component started later than the other two components—in June 1996, whereas the reports for parts A and B had been submitted in October 1995. This created problems as there was no coordination at all with the other two parts. Also, some hardware had been procured under the project, quite early on, and by the time the software recommendations were made some of the hardware was no longer the most up to date. One result is that all the information technology recommendations have not yet been implemented. The local area network is not yet established.

3. Efficiency

13. The ADTA is assessed as less than efficient. Some of its objectives were achieved. However, using individual consultants led to lack of coordination among consultants and among components, which delayed the achievement of results. The first consultant for part B for the development of management information systems produced a report and recommendations that HCMCWSC found inappropriate. Eventually, a second consultant prepared new recommendations (report submitted in January 1999) and these recommendations are now being implemented.

14. HCMCWSC mentioned that they had no complaints about the qualifications of the consultants but they did point out several problem areas:

- (i) the first management information system consultant lacked experience in Viet Nam and produced recommendations that were inappropriate;
- (ii) conversely, HCMCWSC had, at that stage, little experience with foreign consultants and it did not coordinate well with the consultants; and
- (iii) one effect of having the components carried out by individual consultants rather than by a single firm was that there was little coordination among the consultants and therefore among the components. This led to inefficiencies.

4. Sustainability

15. The sustainability of the ADTA impact is assessed as likely. HCMCWSC has been implementing TA recommendations. The evident commitment on its part to doing so and improving performance suggests that the TA outputs will be sustainable in the long term.

5. Institutional Development and Other Impacts

16. The other developmental impacts are assessed as significant. The ADTA was appropriate to HCMCWSC’s requirements and generated significant impacts on its capacity for project implementation.

6. Overall Assessment

17. Overall, the ADTA is rated successful.

C. TA 2000-VIE: Ho Chi Minh City Water Supply Master Plan³

18. The objective of the ADTA was to identify needs and priorities of development and draw up a master plan for water supply development for the city up to 2015. Activities were to include (i) identification and consolidation of the findings of previous and ongoing studies; (ii) supplementing these findings as necessary with surveys, investigations, and planning proposals; and (iii) preparation of recommended development strategies with reports, plans, lists, schedules, and a comprehensive final report. Financing consisted of \$600,000 from the Japan Special Fund and \$80,000 from the Government. TA inputs included 21 person-months of international consulting services. Actual TA outputs included an inception report, April 1995; an interim report, August 1995; and a final report (including long- and medium-range development programs), April 1996.

1. Relevance

19. The ADTA was highly relevant to the needs of HCMCWSC to plan the expansion of its water supply system to meet the demands of a growing population and of that part of the population not yet served by the city water system.

2. Efficacy

20. The ADTA is assessed as efficacious. The medium-term plan in the final report provided the basis for a revised and updated plan that was approved by the Prime Minister in 2000. The planning process will continue in the Ho Chi Minh City Department of Communications, Transport, and Public Works and it is expected that the plan will be revised every 5 years. Each revision would have to be submitted for approval. The long-term plan from the final report has been subsumed in the long-term plan of the city government.

3. Efficiency

21. The ADTA is assessed as less than efficient. It took 6 months longer to complete than originally scheduled, but otherwise implementation went smoothly. It then took 4 years for the plan to be approved by the Government. Many of the staff members trained under the ADTA have not been retained in positions where they can use the training. Some have been given other assignments or have resigned from the Ho Chi Minh City Department of Communications, Transport, and Public Works, reducing the effectiveness of the TA activities.

4. Sustainability

22. The sustainability of the impact of the ADTA is assessed as likely. Provided periodic revisions to update the plan are carried out as intended, the planning process will also be sustainable.

5. Institutional Development and Other Impacts

23. The other developmental impacts are assessed as moderate. The ability to prepare medium-term plans has been satisfactorily transferred to the Ho Chi Minh City government but continuity will depend upon commitment on the part of the city government.

³ TA 2000-VIE: *Ho Chi Minh City Water Supply Master Plan*, for \$600,000, approved on 29 November 1993.

6. Overall Assessment

24. Overall, the ADTA is rated successful.

D. TA 2375-VIE: Capacity Building for Provincial Water Supply and Sanitation Planning and Management⁴

25. This ADTA aimed to develop a comprehensive training program to strengthen the management and technical skills of WSC personnel. This was to be achieved by (i) the development of the project management information systems, and (ii) the development of water supply corporate planning and management systems, including operation and maintenance, water loss reduction, and accounting and financing management. Financing consisted of \$700,000 from the Japan Special Fund and \$50,000 from the Government. TA inputs included international consulting services as follows: 8 person-months for part A and 18 person-months for part B. Actual TA outputs included inception reports (parts A and B), July 1996, November 1997; interim report (part B), April 1998; Final Report [part A] (not available), and Final Report (part B), August 1999.

1. Relevance

26. The ADTA is assessed as highly relevant. It provided training for financial management and billing issues, operation and maintenance, and leak reduction, all of which were highly relevant to the needs of the Management Board for Water Supply and Sanitation Development Projects, the Executing Agency.

2. Efficacy

27. All outputs were useful for the provincial towns included in the project. Management, accounting, and billing systems are being used. However, the Executing Agency considers that an ADTA of this type should be completed before the start of the loan project, so that the skills acquired can be used during the project. The Executing Agency assessed the outputs as only less than satisfactory. The OEM rates the ADTA as less than efficacious.

3. Efficiency

28. The ADTA is assessed as efficient. The objective of improving skill levels has been achieved, especially with regard to technical skills. The impact on systems for management information and management may be less. Training under the ADTA included staff from both the first and second ADB-funded Provincial Towns Water Supply and Sanitation Projects. The water loss reduction activities have been effective. In Thanh Hoa, one of the project towns, nonrevenue water,⁵ which was above 50% before the ADTA, was 35% in the first 6 months of 2002 and 32% in the third quarter. The target for the end of 2003 is to have it down to 30%.

⁴ TA 2375-VIE: *Capacity Building for Provincial Water Supply and Sanitation Planning and Management*, for \$700,000, approved on 17 August 1995. The ADTA was financed from the Japan Special Fund.

⁵ Nonrevenue water is the difference between water produced at treatment plants and water billed. It includes both technical (leakages) and non-technical (illegal connections, meter errors, incomplete billings, etc.) losses.

4. Sustainability

29. The sustainability of the ADTA outputs is assessed as likely. Three years after its completion, training has continued. Some training activities (mostly for operation and maintenance and other technical issues) are available at the urban development training center near Hanoi (funded by the French Government). There is a similar (Japan International Cooperation Agency-funded) training center near Ho Chi Minh City.

5. Institutional Development and Other Impacts

30. The financial and billing systems introduced under the ADTA are used in the provinces, in both the first and second project towns, but there has been no extension of these systems to towns not included in the ADB-funded projects. However, Ministry of Construction staff members are aware that some provinces not included in these projects have purchased and are using leak detection equipment for themselves, so there is perhaps some indirect benefit of the ADTA here. Overall, the other developmental impacts are assessed as moderate.

6. Overall Assessment

31. Overall, the ADTA is rated successful.

E. TA 2376-VIE: Community Environmental Health Improvements for the Provincial Towns⁶

32. This ADTA intended to optimize the benefits of the loan project in the towns by developing and implementing a community environmental health program to target (i) women and children, (ii) households in areas of greatest disease burden and risk of disease from lack of water and sanitation facilities, and (iii) public areas such as markets and schools. The activities under the ADTA included training programs and preparation of related materials to (i) inform householders about aspects of the project, (ii) demonstrate how health can be promoted and disease prevented through the project; (iii) demonstrate how the quality of life of householders can be improved through the project; (iv) demonstrate the cost effectiveness of the new water supply and sanitation system; (v) enhance the equity of access to the new facilities; (vi) demonstrate how the project can contribute to economic development; and (vii) provide incentives to have and use piped water supply and hygienic sanitation. Financing consisted of \$500,000 from Danish Agency for Development Assistance and \$70,000 from the Government. TA inputs included 11 person-months and 80 person-months of international and domestic consulting services, respectively. Actual TA outputs included Final Report, April 1999; photographic summary, June 2000; handbook for community environmental health improvement; educational leaflets and posters; environmental sanitation songs; motivator training manual; motivator manual; training course for public latrine cleaners; training course on household economic advantages of piped water—video and discussion guide; and fecal transfer cartoon video.

⁶ ADTA 2376-VIE: *Community Environmental Health Improvements for the Provincial Towns*, for \$500,000, approved on 17 August 1995. The ADTA was financed by the Danish Agency for Development Assistance.

1. Relevance

33. The ADTA was highly relevant to the health of the populations in the project towns and to making full use of the water supply and sanitation facilities provided under the Project.

2. Efficacy

34. The ADTA is assessed as highly efficacious. The reasons include (i) the international consultants' team leader was very effective, and (ii) the local consultants were the Viet Nam Women's Union who are very well placed and well equipped to continue the community awareness programs after completion of the ADTA. The TA budget was under the control of the international consultant and relations between the international and local consultant were cooperative. Funds for implementation were under the control of the Ministry of Construction, and Viet Nam Women's Union has found this to be troublesome. In the future, funding for health and sanitation awareness should preferably be under a separate budget.

3. Efficiency

35. The ADTA is assessed as efficient. Although the benefits of the ADTA were not clear at the time that it was completed, the benefits have become more obvious as time has passed and as the infrastructure built under the project has come on stream. Coordination and timing between an ADTA and the associated project is important, as confirmed by this ADTA. Such ADTAs should be implemented only when the new water supply infrastructure provided by the project is in place.

4. Sustainability

36. The sustainability of the ADTA outputs is assessed as most likely. Because of the Viet Nam Women's Union's involvement and their continued activities with its outputs, the impact of this ADTA should be highly sustainable over the long term. The Viet Nam Women's Union rates the output as only sustainable, but given their own evidence that the effects of the ADTA are more obvious in the project towns now than at its completion, a higher rating is more appropriate.

5. Institutional Development and Other Impacts

37. The other developmental impacts of the ADTA are assessed as significant, given that the trainers and motivators trained under the ADTA have been enthusiastically involved in similar awareness campaigns under the auspices of the Viet Nam Women's Union. The ADTA should have been timed to coincide with the construction of project facilities. This would have further improved the overall impact of the ADTA.

6. Overall Assessment

38. Overall, the ADTA is rated highly successful, in view of the fact that it has made a significant contribution to health and hygiene education. The impact of the ADTA is greater now than at completion. As the materials prepared under the ADTA are now used in other projects, its overall impact will continue to increase.