



Completion Report

Project Number: 34382
Grant Number: 0018-CAM
December 2011

Cambodia: Tonle Sap Rural Water Supply and Sanitation Sector Project

CURRENCY EQUIVALENTS

		Currency Unit – riel (KR)	
		At Appraisal	At Project Completion
		(18 July 2005)	(31 July 2010)
KR1.00	=	\$0.00024	\$0.00023
\$1.00	=	KR4,105.00	KR4,241.00

ABBREVIATIONS

ADB	–	Asian Development Bank
DRWS	–	Department of Rural Water Supply
GAP	–	gender action plan
LARF	–	land acquisition and resettlement framework
M&E	–	monitoring and evaluation
MRD	–	Ministry of Rural Development
NGO	–	nongovernment organization
O&M	–	operation and maintenance
PDRD	–	provincial department of rural development
PIU	–	project implementation unit
PMU	–	project management unit
PPMS	–	project performance monitoring system
RWSS	–	rural water supply and sanitation
TSRWSSP	–	Tonle Sap Rural Water Supply and Sanitation Sector Project
UNICEF	–	United Nations Children’s Fund
WSUG	–	water and sanitation user group

NOTES

In this report, “\$” refers to US dollars.

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BASIC DATA

A. Grant Identification

1. Country	Kingdom of Cambodia
2. Grant Number	0018-CAM (SF)
3. Project Title	Tonle Sap Rural Water Supply and Sanitation Sector Project
4. Recipient	Kingdom of Cambodia
5. Executing Agency	Ministry of Rural Development
6. Amount of Grant	\$18,000,000
7. Project Completion Report No.	PCR: CAM 1287

B. Grant Data

1.	Appraisal	
	– Date Started	18 July 2005
	– Date Completed	29 July 2005
2.	Grant Negotiations	
	– Date Started	7 September 2005
	– Date Completed	9 September 2005
3.	Date of Board Approval	20 October 2005
4.	Date of Grant Agreement	27 December 2005
5.	Date of Grant Effectiveness	
	– In Grant Agreement	2 February 2006
	– Actual	2 February 2006
	– Number of Extensions	0
6.	Closing Date	
	– In Grant Agreement	30 June 2012
	– Actual	31 July 2010
	– Number of Extensions	0
7.	Disbursements	

a. Dates

Initial Disbursement	Final Disbursement	Time Interval
17 April 2006	10 December 2009	43.8 months
Effective Date	Original Closing Date	Time Interval
2 February 2006	30 June 2012	78.0 months
	31 July 2010 (Actual)	54.7 months

b. Amount (\$ million) Category ^a	Original Allocation ^b	Last Revised Allocation	Net Amount Available	Amount Disbursed	Undisbursed Balance ^c
3101. Consultants	2.59	1.82	1.82	1.83	(0.01)
3201. Civil works – Water Supply	8.25	8.49	8.49	8.36	0.13
3202. Civil works – Household Latrines	2.38	4.21	4.21	4.21	0.00
3203. Civil works – Public Latrines	0.26	0.00	0.00	0.00	0.00
3204. Civil works – Abandoned wells	0.00	0.14	0.14	0.14	0.00
3301. Pilot Test/Survey/Investigation	0.27	0.61	0.61	0.61	0.00
3601. Equipment/Vehicles/Furniture	0.49	0.36	0.36	0.36	0.00
3801. Skills Development Training	0.34	0.22	0.22	0.26	(0.04)
3901. Project Implementation	1.15	1.48	1.48	1.48	0.00
4101. Contracting NGOs	0.98	0.69	0.69	0.69	0.00
4901. Contingencies	1.30	0.00	0.00	0.00	0.00
Total	18.00	18.00	18.00	17.93	0.07

() = negative

^a All expenditures categories are net of tax.

^b Original allocation based on the grant financing agreement signed on 27 December 2005.

^c The balance grant amount of \$ 0.07 million was canceled on 23 February 2011.

10. Local Costs (Financed) ^a	
- Amount (\$ million)	16.64
- Percent of Local Costs ^a	100%
- Percent of Total Cost	100%

^a A distinction between local and foreign currency costs is no longer required.

C. Project Data

1. Project Cost (\$ million)

Cost	Appraisal Estimate	Actual
Foreign Exchange Cost	7.36	0.00
Local Currency Cost	16.64	19.67
Total	24.00	19.67

2. Financing Plan (\$ million)

Cost	Appraisal Estimate			Actual
	Foreign	Local	Total	Total
Implementation Costs				
Asian Development Bank	7.36	10.64	18.00	17.93
Government of Cambodia		2.06	2.06	1.46
Beneficiaries		3.94	3.94	0.28
Total	7.36	16.64	24.00	19.67

3. Cost Breakdown by Project Component (\$ million)

	Foreign Currency	Local Currency	Total Cost	Actual Total ^a
A. Community Mobilization and Skills Development				
1. NGO service contracts	0	979	979	686
2. Materials	0	45	45	0
3. Skills Development Program	0	60	60	0
Subtotal A	0	1,084	1,084	686
B. Water Supply Improvement				
1. Rehabilitation and upgrading of existing water supply systems	914	392	1,306	7,650
2. New water supply systems	2,950	4,425	7,375	706
3. Land acquisition	0	220	220	0
4. Pilot innovative WSS initiatives	36	36	72	0
5. Pilot groundwater testing	63	63	126	354
6. Water quality monitoring	41	35	76	253
7. Abandoned wells	0	0	0	136
Subtotal B	4,003	5,170	9,173	9,099
C. Sanitation Improvement				
1. Awareness campaign	0	60	60	0
2. Construction of family latrines	0	6,088	6,088	4,213
3. Construction of public latrines	0	60	60	0
Subtotal C	0	6,208	6,208	4,213
D. Capacity Building and Institutional Support				
1. Capacity building of MRD/PDRD/DORD/CC staff	36	36	72	264
2. Capacity building of WSS private suppliers	0	31	31	0
3. National water supply and sanitation database	0	113	113	0
4. Institutional support	0	60	60	0
Subtotal D	36	239	275	264
E. Project Implementation Assistance				
1. Consulting services, external evaluation	2,370	221	2,591	1,831
2. Equipment	324	56	380	356
3. Incremental administration	239	911	1,150	1,478
Subtotal E	2,933	1,188	4,121	3,665
F. Taxes and Duties	0	1,838	1,838	0
G. Contingencies				
1. Physical contingencies	215	556	771	0
2. Price contingencies	177	353	530	0
Subtotal G	392	909	1,301	0
TOTAL	7,364 30.7%	16,636 69.3%	24,000	17,927

CC = Commune Council; DORD = District Office of Rural Development; MRD = Ministry of Rural Development; NGO = nongovernment organization; PDRD = Provincial Department of Rural Development; WSS = water supply and sanitation.

^a Asian Development Fund grant component only.

Source: Asian Development Bank estimates

4. Project Schedule

Item	Appraisal Estimate	Actual
Civil Works Components		
Start of Construction	1 January 2007	5 January 2007
Completion of Construction	31 December 2011	31 December 2009
Consulting Services		
Consultant Mobilized	1 January 2006	21 April 2006
NGOs Mobilized	1 April 2006	1 August 2006

Other Milestones:

- (i) 30 October 2007: Minor change in project scope to allow ADB to shoulder the cost of abandoned wells (3% was originally to be financed by beneficiaries).
- (ii) 4 March 2009: Minor change in project scope to create a new subcategory for \$150,000 under civil works component (water supply) for abandoned wells.
- (iii) 5 February 2010: Major change in project scope to (i) bring the project completion date forward by 20 months to 30 April 2010 (with grant closing date on 31 July 2010), (ii) reallocate grant proceeds, and (iii) adjust targets.
- (iv) 7 March 2011: Closure of the project account.

ADB = Asian Development Bank, NGO = nongovernment organization

5. Project Performance Report Ratings

Implementation Period	Ratings	
	Development Objectives	Implementation Progress
From 2 February 2006 to 31 December 2006	Satisfactory	Satisfactory
From 1 January 2007 to 31 December 2007	Satisfactory	Highly Satisfactory
From 1 January 2008 to 31 December 2008	Satisfactory	Highly Satisfactory
From 1 January 2009 to 31 December 2009	Satisfactory	Highly Satisfactory
From 1 January 2010 to 30 April 2010	Satisfactory	Highly Satisfactory

D. Data on Asian Development Bank Missions

Name of Mission	Date	No. of Persons	No. of Person-Days	Specialization Members ^a
Concept clearance	25 January 2005			
Fact-finding	9–20 May 2005	3	15	a, b, e
Appraisal	18–29 July 2005	3	24	a, c, e
Inception	30 January–3 February 2006	2	10	a, e,
Review 1	27 November–4 December 2008	3	12	a, c,
Review 2	6–16 July 2007	2	10	a, e, f
Review 3	14–31 March 2008	3	15	a, d, e, f
Midterm review	14–29 January 2009	3	15	a, e, f
Review 4	29 September–11 Nov. 2009	3	15	a, e, f
Final review mission	15–29 March 2010	3	15	a, e, f
Project completion review	10–18 August 2011	2	5	a, e, f

a = project implementation specialist, b = economist, c = program officer, d = staff consultant, e = project analyst, f = gender specialist.

Cost Breakdown by Component

Component	Appraisal Estimate ^a (\$ million)	Actual ^b (\$ million)
A. Base Cost		
1. Community mobilization and skills development	1.080	0.686
2. Water supply improvement	9.170	9.099
3. Sanitation improvement	6.210	4.213
4. Capacity building and institutional support	0.280	0.264
5. Project implementation assistance	4.120	3.665
6. Taxes and duties	1.840	0.000
Subtotal (A)	22.700	17.927
B. Physical Contingencies		
Total (A+B)	1.300	0.000
	24.000	17.927

^a Total appraisal estimate includes an \$18 million Asian Development Fund grant plus government and beneficiary contributions.

^b Actual project cost based on \$18 million Asian Development Fund grant only.

Source: ADB

I. PROJECT DESCRIPTION

1. The Tonle Sap Rural Water Supply and Sanitation Sector Project sought to improve the health and quality of life of rural Cambodians by supporting achievement of the Cambodian Millennium Development Goals for access to rural water supply and sanitation (RWSS). The Asian Development Bank (ADB) Board of Directors approved an \$18 million Asian Development Fund grant in October 2005. The grant, which became effective in February 2006, supported a range of interventions to improve household access to RWSS in five provinces around Tonle Sap lake. The Tonle Sap region is the poorest in Cambodia when both the incidence of poverty and the total number of poor people are taken into consideration. The Ministry of Rural Development (MRD) implemented the project through a project management unit (PMU) in the Department of Rural Water Supply (DRWS). The project was the first large-scale intervention to improve access to water supply and sanitation services in rural Cambodia.

II. EVALUATION OF DESIGN AND IMPLEMENTATION

2. The project's expected outcome was sustained access for all community members, including the poorest, to safe water and sanitation and better hygiene. The four outputs were (i) community mobilization and skills development, (ii) water supply improvement, (iii) sanitation improvement, and (iv) capacity building and institutional support for MRD. The provincial departments of rural development (PDRDs) implemented the project in 859 villages of 129 communes in 18 districts of Kampong Chhnang, Pursat, Battambang, Siem Reap, and Kampong Thom provinces.

A. Relevance of Design and Formulation

3. The project was consistent with the government's National Water and Sanitation Policy (2003) and the RWSS Sector Investment Plan (2005–2015). RWSS was an integral part of the government's overall strategy for rural development and poverty reduction as established by the Rectangular Strategy, the National Strategic Development Plan (2004), and the National Poverty Reduction Strategy (2003). ADB's country strategy and program 2005–2009¹ aimed at poverty reduction with a geographic focus on the Tonle Sap provinces and identified RWSS as a sector in which ADB could play a catalytic role. When the project was formulated, Cambodia had the lowest water and sanitation coverage in East Asia. With a few exceptions, the project design was generally sound. The formulation process was mostly adequate, although there were some delays.² When MRD's approach to implementation was found to have heavily emphasized new RWSS hardware, the midterm review recommended a reorientation of project activities toward "software" (e.g. sanitation and hygiene promotion activities and capacity development for village water and sanitation user groups). It also recommended an expansion of the community procurement model for sanitation improvements, as opposed to large contracts procured through the PDRDs. While there were some cost underestimates at the outset (discussed in paras. 21–22), the January 2010 major change in scope was substantially the result of major cost escalations in Cambodia during 2007–2008. The major change in scope

¹ ADB. 2005. Country Strategy and Program 2005-2009. Phnom Penh.

² ADB fielded a first fact-finding mission in October 2002, based on the final report (May 2002) of the project preparatory technical assistance (ADB. 2001. *Technical Assistance to the Kingdom of Cambodia for Rural Water Supply and Sanitation*. Manila [TA3688-CAM]). Discussions between ADB and MRD regarding the modality of assistance and implementation arrangements took place during 2003–2004, with national elections contributing to delays. In 2005, when Cambodia became eligible for Asian Development Fund grant financing, ADB fielded a small-scale technical assistance project—ADB. 2005. *Technical Assistance to the Kingdom of Cambodia for Sustainable Rural Water Supply and Sanitation*. Manila. (TA 4570), approved on 2 March 2005, for \$150,000—to update the project design and finalize it for approval.

reduced the targets, cancelled the public sanitation component, brought the grant completion date forward by , and reallocated grant proceeds among cost categories. The change in scope exceeded 15% of total project costs, but did not materially alter or fundamentally affect the overall project purpose.

B. Project Outputs³

1. Output 1: Community Mobilization and Skills Development

4. This output sought to (i) raise awareness in target areas, (ii) develop village water supply and sanitation plans, (iii) improve water use and hygiene education, (iv) form and train water and sanitation user groups (WSUGs), and (v) set up a community skills development program for women and the poorest inhabitants to develop RWSS-related livelihood opportunities. Under this output, the PMU together with the PDRDs identified and selected target districts, communes, and villages based on the seven subproject selection criteria established in the grant agreement. In assigning weights to each criterion, the PMU did not prioritize the criterion for geographic coherence and contiguousness.⁴ A geographically scattered implementation area coupled with not consistently implementing water and sanitation interventions together in each village meant that the collective health benefits of improved sanitation and hygiene could not be achieved.

5. **Awareness raising and village planning.** MRD organized project information and awareness meetings at national, provincial, and district levels and presented village selection procedures to commune councils and village chiefs. The project encouraged community participation in assessing existing RWSS facilities, a choice of technology options, and village action planning. Supported by nongovernment organization (NGO) teams, there were at least three meetings per village (one each for project information dissemination, WSUG formation, and sanitation promotion). The PDRDs counted nearly 930,000 participants in these meetings.

6. **Water use and hygiene education.** The midterm review noted that after the initial awareness-raising meetings, this outreach had not taken place despite the installation of RWSS hardware. By that stage the budget limitations meant that the multi-day water use and hygiene education sessions held from October to December 2009 could only be offered to the board members of 2,295 WSUGs (40% of all groups).

7. **Water and sanitation user groups.** The project team established one WSUG for each water point. Each WSUG elected a five-member board with at least two women. By the end of the project, 5,685 WSUGs had been established in 859 villages. Three training sessions were delivered to WSUG boards, on: (i) roles and responsibilities for all 28,402 board members (including mobilization of community contributions, basic information on water supply options, and a well construction checklist); (ii) operation and maintenance (O&M) for at least one man and one woman per WSUG (procedures for hand pump O&M, dismantling and reinstallation, and minor repair); and (iii) water use and hygiene education (see para. 6).

³ The original project targets are in the Design and Monitoring Framework in Appendix 1. Revised targets and results can be found in Appendix 4.

⁴ Interpreted by the EA as “geographic locations for good efficiency of implementation and logistics management” the contiguousness criterion received just 5% of the total weighting. Poverty status received 10%, while the existing water and sanitation status were each weighted at 20% (MRD. 2010. Tonle Sap Rural Water Supply and Sanitation Project: Project Completion Report. Phnom Penh).

8. **Community skills development program.** This subcomponent was not implemented as envisioned.⁵ Some community members' skills were enhanced through village groups that were formed to construct household rainwater tanks and bio-sand filters, but the project did not target women or the poorest members of the community, and participation was voluntary (no income was generated). MRD found there was insufficient scope for this activity as RWSS-related livelihood opportunities are extremely limited in rural Cambodia. Project staff also did not provide referrals to livelihood improvement projects in any formal or organized way.

2. Output 2: Water Supply Improvement

9. This output aimed at (i) rehabilitating and upgrading existing water supply systems, (ii) constructing new water supply systems, (iii) improving drilling success rates through groundwater testing and resistivity surveys, (iv) introducing innovative water supply technologies, and (v) testing water quality.

10. **Upgrading existing water supply systems.** The project design targeted 6,185 upgraded systems and the June 2006 implementation plan had annual well rehabilitation targets, starting with 500 wells in 2006. However, MRD emphasized new water point construction from the outset and did not prioritize the upgrading of existing systems that were in disrepair. ADB noted the lack of rehabilitated wells during the midterm review, but budget limitations resulted in the project only being able to rehabilitate 257 wells.

11. **New water supply systems and drilling success rates.** Water supply improvements were made in 767 villages of the total 859 villages (89%), benefiting about 484,000 rural Cambodians. The project installed 3,169 drill wells, 1,087 combined wells, 221 protected hand-dug wells, 27 community ponds with slow sand filtration, 5 small piped water supply systems, 1,163 household rainwater tanks, and 982 household bio-sand filters. It also installed 214 iron reduction units in areas with high iron-content groundwater. A total of 550 drill wells and 130 combined wells were abandoned, for a total drilling success rate of 86%. Groundwater investigation activities included 275 electrical resistivity surveys and 336 vertical electrical sounding studies. While 356 villages (41% of the total) reached 100% service coverage for water supply, 220 villages (26%) remained with less than 50% coverage.

12. **Innovative technologies and water quality testing.** The project promoted seven technology options for water supply (see para. 11) and tested a number of community pond filtration systems and different pumps, including the Afridev deep well pump, the No. 6 suction pump, rope pumps and treadle pumps. Initial water quality testing was undertaken for each water point, both at the field level and in the national testing center in Phnom Penh. Equipment for regular testing was not procured, and regular testing unfortunately does not take place due to a combination of a lack of capacity at the village level and a lack of effective district institutions for community water point support.

3. Output 3: Sanitation Improvement

13. This output included (i) a nationwide water, sanitation and hygiene education campaign through television and radio; (ii) the construction of hygienic household latrines; and (iii) the

⁵ As designed, the program aimed at women and the poorest residents, and was intended to (i) raise awareness of economic and employment opportunities arising from water supply and sanitation (WSS)-related activities; (ii) identify potential participants, (iii) build capacity for WSS-related activities (construction, installation, and O&M of latrines, wells, rainwater and filter equipment, sludge removal, etc.); and (iv) provide referrals to livelihood improvement projects.

construction and rehabilitation of public latrines. The project design specified that the construction of latrines would be preceded by or concurrent with the hygiene education program.

14. **Nationwide education campaign.** This subcomponent was not implemented as envisioned. Instead of a nationwide campaign through television and radio, the project organized campaigns at the provincial, district, and village levels around national sanitation day. As discussed in para. 5, introducing sanitation awareness was part of the village engagement process but the level of outreach was low, with one meeting per village. Recognizing this shortcoming, a drive to implement water use and hygiene education for WSUG board members was initiated after the midterm review.

15. **Household latrines.** The project delivered household latrines to 45,046 households, or about 225,000 people. Four latrine models were offered under MRD's "informed choice" approach, subsidized according to type (from 60% subsidy for pour flush latrines to 90% for dry pit latrines). Most households (77%) selected wet latrines, with dry latrines selected by 23%. Subsidies were not targeted. The January 2010 major change in scope adjusted the sanitation component guidelines to allow families to construct any type of superstructure they wished, rather than prescribing a particular (often unaffordable) design. This increased the latrine completion rate because households were able to build low-cost thatch or corrugated iron sheet superstructures if they so chose.

16. **Public latrines.** This subcomponent envisioned construction of 200 public toilets at health centers, commune councils, schools, etc. As noted during the midterm review, difficulties were faced in meeting the required 50% contribution, particularly given the price escalations. The contribution requirement was lowered to 15%, but with no public toilets contracted by late 2009, the executing agency requested that the subcomponent be cancelled, which was done in the major change in scope of January 2010.

4. Output 4: Capacity Building and Institutional Support

17. The fourth output included (i) improved capacity of MRD to plan and monitor RWSS, (ii) a classification system for private sector companies, (iii) a national database on RWSS indicators, (iv) a gender strategy, and (v) a national strategy for RWSS with a set of technical guidelines.

18. **Improved capacity and private sector classification.** The capacity-building program for MRD (including PDRDs and district or rural development officers) covered project planning, budgeting, contract management, gender awareness, monitoring and evaluation (M&E) and technical issues through 30 separate multiday training sessions. Each session was targeted to a relevant participant group, e.g. water supply officers, community development officers, and M&E officers. To classify private sector entities, MRD developed a technical evaluation pre-qualification system for RWSS contractors. Expressions of interest were sought in July 2006 and 83 local firms submitted 139 proposal packages, out of which the MRD evaluation team selected 55 packages for four types of civil works: water well drilling (23 firms), hand dug and combined wells (13 firms), construction of piped water systems and community ponds (14 firms), and household water treatment (5 firms). Many firms qualified for multiple types of civil works (there were a total of 27 pre-qualified firms).

19. **National database.** This subcomponent envisioned a nationwide standard database for all RWSS established by the 3rd year and updated annually with quantitative, qualitative, sex-disaggregated, and poverty data. The PMU and consultant team found that setting this up would

require a coordinated interministerial initiative, which was beyond the scope of the project (the project provided for just 4 months of an international M&E specialist, whose time was expended (i) developing reporting systems for the national project performance monitoring system, and (ii) assisting 5 provincial departments that lacked M&E capacity. The lack of a national RWSS database means that sector monitoring remains problematic.⁶

20. **Gender and national sector strategies.** Based on implementation experience, the PMU developed a gender mainstreaming strategy for RWSS and provided this as an input to the national RWSS strategy development team. Development of a comprehensive national sector strategy was found to require significant additional resources and extensive stakeholder collaboration. After an extensive process of consultation with sector stakeholders from MRD, other ministries and agencies, development partners, NGOs, and the private sector, the strategy was endorsed by the MRD minister in March 2011. Implementation guidelines are planned for 2012 with support from the United Nations Children's Fund (UNICEF).

C. Project Costs

21. Project costs differed significantly from the original allocation, and grant funds were nearly fully committed by late 2009. Total project costs were lower due to a reduction in contributions by the government (\$1,46 million or 71% of the planned \$2.06 million) and beneficiaries (\$0.28 million or 7% of the planned \$3.94 million).⁷ The budget shortfall for civil works was recognized in the early stages of implementation and was noted in grant review mission aide memoires beginning in 2007. The three main reasons for the budget shortfall were cost underestimates at the project design stage, deviation from technology assumptions that resulted in higher costs (e.g. more deep-drill wells and pour flush latrines), and severe price escalation from 2007 to 2008. The March 2008 grant review mission estimated that an additional \$11 million would be required to meet the targets, as set out in the design and monitoring framework, of reaching 720,000 people with improved sanitation and 1.09 million people with improved water supply. To illustrate, the cost of drilled wells was originally estimated at \$1,600, assuming an average depth of 50–60 meters. In practice, MRD encountered difficult hydrogeological conditions in many areas and drilled deeper tube wells, often 80–100 meters deep. The average cost of these wells was \$2,086 in 2006, escalating to \$3,937 by the second half of 2008,⁸ an increase of 246% over the original estimate.

22. Under the sanitation component, the initial allocation of \$2.38 million for 150,000 household latrines assumed a very low grant contribution of \$16 per unit, despite the fact that the contribution schedule in the report and recommendation of the President (RRP) assumed a subsidy of \$18–\$20 depending on the latrine type. Compounding this initial underestimate, adapting to the flood-prone nature of the project areas meant increasing latrine durability by adding concrete rings to line the pits of even the most basic dry latrine design.⁹ In addition, severe price escalations led to a much higher average cost. The actual average contribution per latrine over the life of the project was \$104 (\$4.68 million for 45,056 toilets). At an average cost to the project of \$104 per latrine, achieving the original design and monitoring framework target

⁶ The United Nations Children's Fund began supporting this effort in November 2011.

⁷ The original estimates for beneficiary contributions included cash and in-kind contributions (e.g. labor, construction materials). The EA did not estimate the value of labor and other in-kind contributions. Cash contributions of \$0.28 million represent 3% of the cost of water supply improvements, as planned. The government financed taxes and duties.

⁸ Based on actual contracted amounts.

⁹ Cost estimates for latrines included in the 2005 RRP (footnote 3, above) were lower than the estimates provided in the 2002 project preparatory technical assistance final report (footnote 2, above).

of 150,000 latrines would have cost \$15.6 million, or 87% of the total grant amount. In the original allocation, the household sanitation component represented just 13% of the total grant.

D. Disbursements

23. At closing, the project had disbursements of \$17.93 million, or 99.6% of the total grant proceeds. Disbursements were facilitated by maintaining an imprest account ceiling of \$1.3 million (7.2% of the grant amount) during 2006–2008, which was later increased by \$0.5 million to \$1.8 million (10% of the total grant amount), in accordance with the *ADB Loan Disbursement Handbook* (January 2007, as amended from time to time). The project management unit found the 10% imprest account ceiling was inadequate to cover the funds flow from the first-generation to second-generation imprest accounts. ADB did not approve a further increase of the ceiling, but an advance rotating facility between first- and second-generation accounts coupled with regular monthly requests for replenishment of expenditures were applied with satisfactory results.

E. Project Schedule

24. The project was approved on 20 October 2005, declared effective on 2 February 2006, and closed on 31 July 2010, 23 months ahead of the planned closing date of 30 June 2012. The early completion was a result of budget limitations encountered in the face of cost underestimates at the project design stage, deviation from original technological designs that resulted in higher costs (e.g. more durable latrines, a larger number of deeper drilled wells), and, most significantly, severe price escalation from 2007 to 2008 (see paras. 21–22).

F. Implementation Arrangements

25. Project management was integrated into existing MRD structures with a central project management unit in the DRWS and one project implementation unit in each of the five PDRDs. An MRD steering committee was responsible for overseeing project implementation. A consultant team was fielded in April 2006.¹⁰ In August 2006 MRD recruited five NGO teams to support the PDRDs in community outreach, mobilization, and capacity development of the WSUGs. In August 2007 the project recruited officers from 18 district offices of rural development to assist the provincial teams and coordinate with local authorities, commune councils, and village officials, and to provide technical support to the WSUGs. The implementation arrangements were generally adequate, though the district officers had very high case loads, covering an average 48 villages each, many of which were remote and difficult to access. The level of outreach to WSUGs was generally not adequate to ensure their sustained functioning (discussed further in paras. 36–38).

G. Conditions and Covenants

26. Compliance with the grant covenants is detailed in Appendix 3. The government complied with 24 of the 40 covenants, partly complied with 11, and did not comply with 5 of the covenants. There were notable delays in the promulgation of a national strategy for rural water supply, sanitation and hygiene (originally expected by January 2008, within 24 months of grant effectiveness) and its technical guidelines (expected within 36 months). The delays were noted during the midterm review. The resources required for a highly collaborative strategy

¹⁰ Fielded by the Louis Berger Group in association with SBK Research and Development.

development process were underestimated.¹¹ The three major sector development partners (ADB, UNICEF, and Water and Sanitation Program) contributed significant additional financial and technical support.¹² Finalizing the strategy and ensuring government ownership took many meetings, consultations, and workshops, but the 15-year strategy (2010–2025) was ultimately endorsed by the MRD minister in April 2011. Technical guidelines are planned for 2012 with additional UNICEF support. None of the covenants were modified, suspended, or waived. The project was classified as category B for environmental impacts, which were expected to be significantly positive. Any negative impacts were assessed as temporary, minor and localized, and all were mitigated to acceptable levels. The MRD generally met all reporting requirements, though it did not maximize transparency as envisioned in the RRP (para. 30); despite repeated aide memoire recommendations, the project website remained out of date and lacked detailed information about project activities. There was also an 18-month delay in the submission of the first independent external monitoring report, originally expected within 24 months of the effective date.

H. Consultant Recruitment and Procurement

27. Consultants were recruited in accordance with ADB's Guidelines on the Use of Consultants. There were no deviations from agreed-upon procedures, and no disagreements between the borrower or executing agency and ADB on consultant selection. No significant problems were encountered in packaging contracts, preparing tender documents, or evaluating bids. The MRD PMU and project implementation units managed procurement according to the government's standard operating procedures for a total of 253 contract packages for water supply systems and 385 contract packages for sanitation improvements. Two procurement methods were implemented: larger-scale procurement at the PDRDs, and community-managed procurement, which was initially pilot tested in 10 villages and later expanded. Community-managed procurement was adopted for sanitation, rainwater tanks, and bio-sand filters.

I. Performance of Consultants, Contractors, and Suppliers

28. The consultant team included 5 international consultants (for 73 person-months) and 15 national consultants (for 377 person-months). An overall implementation plan with annual targets was developed by June 2006, but implementation soon deviated from this plan. For example, no water points were rehabilitated until 2009, despite annual rehabilitation targets beginning in 2006. The individual members of the consultant team exhibited dedication and motivation, but once the team was fielded there was no oversight, technical backstopping, or quality control by the international firm. There were no regular monitoring visits by management or technical specialists. Reports did not benefit from corporate support for formatting or editing, despite being prepared by a team of non-native English speakers. A number of important milestones slipped, including the baseline survey (not enumerated until 19 months into the contract) and the first external evaluation, which was 17 months late. Deviating from the original design, project implementation tended to emphasize the contracting and installation of new hardware over the crucial behavior change and water use and hygiene education activities, which were intended to take place before or alongside (but not after) the installation of hardware, and the more cost-effective rehabilitation of existing but non-functioning wells. The project was ultimately implemented in a piecemeal fashion over a scattered geographic area

¹¹ Assisting MRD to prepare a RWSS strategy was one of 21 tasks assigned to the international consultant team leader. MRD was to assign two fulltime professional staff to develop the RWSS strategy and guidelines, but this did not take place because a lack of internal capacity.

¹² A consultant team began work in December 2008 but the process suffered a setback with the resignation of the international team leader in May 2009. A new team leader was recruited by August 2009.

leaving large service coverage gaps, thus minimizing collective health benefits of improved RWSS. Stronger supervision by the international firm might have avoided this. Overall performance is therefore rated *partly satisfactory*. The performance of the NGO teams recruited to support the PDRDs is rated generally satisfactory, as is that of contractors. Though there were some delays in the completion of some contracts given the large volume of work, this was later rectified by setting a limit on the number of contracts for each contractor.

J. Performance of the Borrower and the Executing Agency

29. The project has resulted in improved capacity for implementation and sector management. Procurement of more than 600 contract packages was managed according to the government's standard operating procedures. Joint ADB–Ministry of Economy and Finance portfolio review meetings positively noted the project's financial management status. Institutional development measures envisaged at appraisal were implemented. However, the executing agency's performance was weaker in the areas of planning, poverty targeting, and M&E, with M&E capacity still weak, particularly at the provincial level. There were also a number of transparency issues: (i) the executing agency did not respond to requests to update the project website with the detailed information set out in the RRP;¹³ (ii) MRD simultaneously implemented an \$18.6 million RWSS project financed by International Monetary Fund debt reduction funds but did not involve DRWS, or make information about the initiative (including its costs or results) publicly available; (iii) MRD did not always promptly take action on the recommendations of the KPMG Cambodia Ltd. external auditing reports (such as continuing to use unlicensed software); and (iv) there were major delays in engaging the independent external monitor. MRD's overall performance is therefore rated *partly satisfactory*.

K. Performance of the Asian Development Bank

30. ADB made strong efforts to coordinate sector activities with other development partners and served for 2 years as lead development partner and co-facilitator of the government's Technical Working Group for Rural Water Supply, Sanitation and Hygiene (established in August 2007). ADB generally responded promptly to implementation issues as they arose and facilitated the mobilization of additional resources from the Water Financing Partnership Facility to support development of the national sector strategy. In principle the decision to delegate administration of the project to the Cambodia Resident Mission in February 2008 was sound, as delegation facilitates closer supervision, better management, and a stronger partnership with the executing agency. However, project supervision arrangements were not ideal. Staff continuity was not in evidence, with four different project officers over the course of a project that lasted less than 5 years. None of the ADB project officers were RWSS sector specialists or had previous experience implementing RWSS projects. This was a very large first project in a fledgling sector in a post-conflict country, with an executing agency that was assessed in the RRP as still requiring "considerable capacity building and assistance," and project implementation would have benefitted from strong technical expertise. ADB is by far the largest donor in Cambodia's RWSS sector but all project officers were generalist social sector officers simultaneously responsible for significant investments in a number of other sectors. Other development partners with far smaller programs have multiple full-time national and international RWSS sector experts based in-country. ADB's overall performance is rated *partly satisfactory*.

¹³ When retrieved on 27 October 2011, the very basic TSRWSSP information on the MRD website had not been updated since the first quarter of 2009.

III. EVALUATION OF PERFORMANCE

A. Relevance

31. The project was *highly relevant* as designed, given its close alignment with the government policy and the very low level of access to RWSS. The design strongly emphasized reaching the poor, and targeting mechanisms were detailed in the project administration manual. The changes made at midterm review to improve relevance focused on shifting the emphasis from new hardware construction to other aspects of RWSS (e.g., demand creation and behavior change through water use and hygiene education), which is essential for sustainability. The major change in project scope in January 2010 was necessitated by severe price escalation in Cambodia and thus does not reflect issues of relevance.

B. Effectiveness in Achieving Outcome

32. The project was *less effective* in achieving the outcome of sustained access to safe water and sanitation and better hygiene. Of the 767 project villages with water supply interventions, 220 (29%) did not achieve the outcome indicator of 50% service coverage. Of the 562 villages with sanitation improvements, 194 (34%) did not achieve the outcome indicator of 30% service coverage. The outcome indicator of 50% of households adopting improved hygiene practices was also not achieved. The 2010 MRD knowledge, attitudes, and practices survey asked respondents to identify critical times for washing hands; while 81% of respondents in the project's targeted villages said before eating, only 45% said after using the latrine, 38% said before preparing food, and 38% said after defecation. These values do not differ significantly from the general population.¹⁴ The average incidence of diarrhea in the preceding 2 weeks serves as a proxy indicator for improved hygiene, and there was no significant change between the baseline rate (18.1% of respondents) and end-line rate (17.8% of respondents). The incidence of diarrhea was actually lower in surveyed non-project areas (15.1%),¹⁵ which illustrates the lack of collective benefits when water and sanitation coverage is only partial.

C. Efficiency in Achieving Outcome and Outputs

33. The investment was *less efficient* in achieving the outputs. The per capita costs of each type of technology that informed the project design were vastly exceeded, reducing the efficiency.¹⁶ For example, the weighted average per capita cost of new water supply systems was estimated at \$11.30, with individual technologies ranging from \$3.82 per capita (for family filters) to \$15.27 per capita (for ponds and piped water systems). At project completion, the average per capita cost of new water supply systems was \$20.14, nearly double the estimate. Rainwater catchment, estimated at \$8.57 per capita, was the least efficient, with an actual average of \$80 per capita.

¹⁴ Data from 100 households in the five project villages that were covered by the knowledge, attitudes, and practices survey (1,620 households in 12 provinces) may not be representative of the entire TSRWSSP area, but neither the TSRWSSP end-line survey (250 households) nor the final external evaluation assessed knowledge or practice of the three critical hygiene behaviors (drinking clean water, washing hands with soap, and using a toilet).

¹⁵ The TSRWSSP baseline and end-line surveys each surveyed 1,000 households from project villages (200 from each province) and 250 households from non-project villages (50 from each province).

¹⁶ A full financial and economic reevaluation was not available.

34. Sanitation investments were estimated at a weighted average (across four types of latrine designs) of \$8.41 per capita. The actual average cost at the close of the project was \$104 per household latrine, or \$20.8 per capita. In 2009, the project was paying subsidies of \$133 for dry pit latrines and \$145 for pour flush latrines. In 2010, under the follow-on investment, MRD submitted cost estimates to ADB—for the same model of pour flush latrines in the same provinces—of \$71 each. This requires further explanation, as a price deflation of 51% seems unlikely. Finally, subsidies were distributed to villagers who agreed to make the required contributions, without assessment of need. In many cases, households opted to expand on the original design and construct large bathrooms, often with a \$200–\$300 input. Subsidizing a latrine for a household that could afford its own \$200 investment cannot be justified. The targeting of subsidies was highly inefficient.

35. The efficiency with which the executing and implementing agencies managed the project was generally satisfactory, until government regulations (issued in 2009) disallowed the payment of salary supplements as of January 2010. For the last 6 months of the project, staff motivation, particularly at provincial and district levels, was low. Despite the early cessation of salary supplements, the total grant expenditure for “incremental administration” was about 22% more than originally planned (\$1.48 million, rather than \$1.15 million). The efficiency of ADB's support, supervision, and administration was improved with project delegation to the resident mission.

D. Preliminary Assessment of Sustainability

36. Sustainability of project investments will be a challenge as it will depend primarily on the continued functioning of WSUGs and the motivation of the board members to take an active role in the management of water points and the promotion of sanitation and hygiene, which will require continued support by the MRD district officers. WSUGs and the wider communities generally did not receive enough training, outreach, and behavior change communication during the project period. The final external evaluation found that most WSUGs were inactive, and recommended that WSUGs needed more training. The government's project completion report estimated that only 30%–40% of WSUGs were still functioning at the end of the project. While the project trained PDRD district officers to provide continued technical support to WSUGs, this does not appear to be taking place.

37. During the project completion mission, it was noted by PDRDs and in villages that none of the deep-well Afridev pumps had required repair, which indicates these pumps are durable. However, the pumps and related spare parts are not readily available in Cambodia, and must be ordered by MRD from India, which may prove problematic in the future. The VN-6 pump, while not nearly as durable, is easy to repair with inexpensive parts that are available locally. Community management of the five piped water systems may be best handed over to private sector operators for enhanced efficiency. At one system it was observed that the public standpipes were not used, and meters had been removed. Instead, many households had opted to pay \$12 for their own connection. While this is a positive development and shows willingness to pay, the substantial investment in the public standpipes and meters appears to have been wasted. All community ponds that were visited were in major disrepair and generally unused, with the hand pumps removed completely at a number of ponds; however, the visits were conducted during the rainy season, when surface water is readily available. Surface water requires treatment, and many of the household bio-sand filters that were inspected appeared not to be in regular use.

38. TSRWSSP latrine usage rates of up to 97% have been documented in independent reports by the Water and Sanitation Program and the Netherlands Development Agency. This clearly refutes the conventional wisdom that subsidized latrines are often not used. However, sustainability is not guaranteed. When interviewed during the project completion mission, many latrine owners appeared unaware of what to do when their latrine pit is full (generally after 4–5 years). The project completion mission furthermore observed a number of instances of owners drilling a hole in the pit to allow overflow, which defeats the purpose and renders the latrine unhygienic, contaminating the environment with biological pathogens.

E. Impact

39. The impact of better access to improved water supply and hygienic latrines for individual households is high. Time spent fetching water is reduced, particularly for women, and many households are able to save money previously spent on purchasing water from private vendors. Household sanitation affords convenience and safety, particularly for women for whom open defecation, particularly at night, was a cause of concern. The project's strong gender action plan made a significant impact in terms of gender mainstreaming, detailed in Appendix 2. Unfortunately a strong impact in terms of health benefits of improved RWSS is not in evidence at project completion, with an insignificant change in the incidence of diarrhea among project households, and a higher incidence of diarrhea among project than non-project households. Furthermore, a national survey revealed that households in project areas were not able to demonstrate better hygiene behaviors than households in the general population. For collective health benefits to take place, RWSS coverage must be much higher than was achieved under the project. This lesson has been absorbed by the second phase of assistance, which aims at 100% coverage in all villages of each project commune.

IV. OVERALL ASSESSMENT AND RECOMMENDATIONS

A. Overall Assessment

40. The project expanded access to water supply and sanitation for a significant number of rural Cambodians, but the project was not implemented as conceived in a number of important areas, and did not provide the intended outcome (sustained access for all communities and their members, including the poorest). Poverty targeting methods were not followed, despite being very clearly outlined in the project administration manual. While the extent of the price escalations could not be anticipated, the response and reprogramming could have been stronger (on the part of MRD, the consultants, and ADB) to avoid dilution of resources, which led to a less-than-optimal service coverage outcome. The higher-level impact of collective better health is unlikely to be achieved.

41. The TSRWSSP design and monitoring framework may have been too ambitious, with 51 performance targets and indicators. A number of output indicators were not readily measurable within the project timeframe or did not include a baseline. As noted in the consultants' completion report, the performance M&E system included in the project administration manual was generally well conceived but weakly implemented, given the lack of experienced M&E officers. A great deal of existing administrative data, such as that gleaned annually from the Ministry of Planning's Commune Database, could have been used to support project implementation.

42. The issues documented in the preceding evaluation and summarized in the lessons and recommendations below were recognized from the midterm review, which meant that they were able to feed into the design of ADB's next phase of assistance. Lessons have been internalized by both ADB and MRD, with remedial measures strongly evident in the Second Rural Water Supply and Sanitation Sector Project (RWSSP2), approved in 2009 for implementation during 2010–2015.¹⁷

43. Overall, the project is assessed as *highly relevant* but *less efficient, less effective, and less likely to be sustainable*. The project is therefore rated *partly successful* in accordance with the definitions and guidelines provided by the Independent Evaluation Department.

B. Lessons

44. A number of major lessons have been learned from the TSRWSSP experience, and they are evident in the design and implementation of RWSSP2:¹⁸

- (i) RWSSP2 is being implemented in a much more focused geographic area, and in a more holistic manner, covering all villages in each selected commune and aiming at 100% water supply coverage and 75% sanitation coverage in order to achieve the intended collective health benefits;
- (ii) to maximize cost effectiveness, the first emphasis of RWSSP2 is the rehabilitation of wells in disrepair;
- (iii) RWSSP2 will only support the rehabilitation of non-functioning community ponds, rather than the construction of new ponds;
- (iv) to offer a more consistent, harmonized approach to NGO support, MRD has engaged one NGO to provide support for all provincial teams, instead of hiring individual NGO teams to support each PDRD;
- (v) recognizing the low capacity and high level of effort required for M&E, an international M&E firm has been engaged under RWSSP2 to work alongside MRD M&E officers to develop systems and build capacity; and
- (vi) subsidies for household sanitation will be offered, but will be very strictly and transparently targeted at those households measured as “poor level I” and “poor level II” using the Ministry of Planning's national Identification of Poor Households targeting mechanism.¹⁹

C. Recommendations

1. Project Related

45. **Future monitoring.** The national RWSS database envisioned in the project design is an essential monitoring tool that has not yet been realized, but which is now being developed with UNICEF support. It is recommended that MRD prioritize this effort. The Ministry of Planning's commune database, which is updated annually with data collected from each village, contains water supply and sanitation information that may be used for this purpose.

46. **Further action or follow-up.** Knowledge of hygiene and demand for sanitation remain low in Cambodia, as do the availability of low-cost latrine options and other sanitation services

¹⁷ ADB. 2009. *Report and Recommendation of the President to the Board of Directors: Proposed Asian Development Fund Grant to the Kingdom of Cambodia for the Second Rural Water Supply and Sanitation Sector Project*. Manila.

¹⁸ A detailed report on lessons learned is included as Supplementary Appendix C of the RWSSP2 RRP.

¹⁹ This is a proxy means test that measures easily observable household characteristics and assets and is implemented in all 24 provinces.

(e.g. de-sludging of full latrine pits). National education campaigns were envisioned under the project, and remain essential. The minister's endorsement of the national sector strategy demonstrates MRD's desire to improve access to rural water supply and sanitation for the large unserved population, but a stronger commitment from MRD to decentralization and deconcentration (with the requisite assignment of staff, functions, and budgets to subnational levels) will be required to achieve this goal. The national RWSS strategy outlines the resources that will be required. The 2008 census lists 24 provinces, 185 districts, 1,621 communes and 14,073 villages in Cambodia. The number of villages per commune varies from 3 to 30, with an average of 8.7. The average number of communes per district is 8.8. There are four main tasks under the operational support function to be provided at district level:

- (i) WSUG capacity development;
- (ii) support to the WSUGs (mentoring for management, finance, operation and maintenance, and conflict resolution);
- (iii) water quality surveillance; and
- (iv) data collection for the national RWSS database and management information system.

47. The national strategy recommends that each village be visited at least quarterly; if one support officer is able to visit one village per day, with approximately 150 field days and 50 office days per year, each support officer would have a case load of 37 villages. Therefore, MRD will need to assign at least 380 officers to cover 14,073 villages. This is equivalent to two officers per district. For mutual support and team working, there should be a minimum of two per district, with three per district in more populated districts. In total, approximately 450 support officers will be required to support the long-term service delivery managed by WSUGs on behalf of their communities.

48 **Timing of the project performance evaluation report.** A project performance evaluation report mission is recommended, given ADB's ongoing second RWSS project and plans for continued involvement in the sector. This mission would ideally take place in the latter portion of the dry season (typically November–April); field visits in March or April would allow assessment of continued access by households to an improved source of drinking water during the most water-scarce months.

2. General

49 Universal coverage is essential if rural water supply, sanitation and hygiene are to lead to collective health and quality-of-life benefits. The TSRWSSP has provided the 129 communes in which it worked with only partial service coverage. Future assistance should consider a focus on those unserved areas and households, with a holistic and cost-effective approach that includes both water and sanitation, and has a strong emphasis on hygiene behavior change, demand creation, and sanitation marketing.

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions and Risks
<p>Impact Improved health and quality of life for rural people in line with the Cambodian Millennium Development Goals (CMDGs) targets for safe water supply and sanitation (WSS)</p>	<ul style="list-style-type: none"> • Increase the percentage of rural people with access to safe drinking water to 50% by 2015 (CMDG target 7.10) • Increase the percentage of rural people with access to improved sanitation to 30% by 2015 (CMDG target 7.12) • Reduce under-5 child mortality due to waterborne diseases by half of the 1990 level by 2015 (CMDG target 4.1) 	<ul style="list-style-type: none"> • Reports and statistics from government agencies, development partners, and NGOs • ADB project performance audit report 	<p>Assumptions</p> <ul style="list-style-type: none"> • The Government is committed to the implementation of the MDGs • Communities have sustained interest in participating in the project.
<p>Outcome Sustained access for all communities and their member, including the poorest, to safe water and sanitation and better hygiene</p>	<p>By 2011, in the project areas:</p> <ul style="list-style-type: none"> • 1.09 million people have access to safe water and 0.72 million people have access to sanitation • 1,760 villages have better WSS facilities • 50% of rural people have access to a reliable supply of safe water • 30% of rural people have access to hygienic latrines • At least 50% of the households in the selected villages adopt improved hygiene practices • Institutional capacity improved 	<ul style="list-style-type: none"> • MRD reports • Quarterly reports • Project baseline survey • Data from commune health centers • Project evaluation after project completion • External evaluation 	<p>Assumptions</p> <ul style="list-style-type: none"> • MRD is committed to implementing the project goals. • Communities will contribute and participate.
<p>Outputs Component1: Community mobilization and skills development</p> <ol style="list-style-type: none"> 1. People in target areas aware of the Project 2. Water supply and sanitation plans prepared for implementation (information about the Project, rapid appraisal of WSS needs, village mapping, selection of the very poor, baseline survey, informed choice) 3. Improved water use and health education 4. Water and sanitation user groups formed and trained. 5. Small groups trained on water-related opportunities 	<p>By 2011, in the project areas:</p> <ul style="list-style-type: none"> • 1,760 subprojects selected, prepared and implemented • 80% of people aware of the Project and WSS issues • 60% of residents—men and women—in each village involved in village planning and the selection of WSS systems • All subprojects have baseline surveys and environment analysis • All piped water systems and pond project have LAR plans • All selected villages have identified their poorest households • All WSS systems have established WSUGs, • All WSUGs elect boards with at least 40% women • At least 50% of all members trained in the maintenance of WSS systems in every WSUG are women • At least 150 groups supported to develop water-related activities • 90% of WSUGs boards functioning and able to manage the water systems 2 years after project completion 	<ul style="list-style-type: none"> • Commune investment plans • Commune reports • Project monitoring reports • NGO reports 	<p>Assumption</p> <ul style="list-style-type: none"> • NGOs are committed to the Project and will collaborate with the Government. <p>Risks</p> <ul style="list-style-type: none"> • WSUGs may not function because villagers have little experience working together in an organized manner. • Local people may be overburdened by participation in and contributions to the Project.

	<ul style="list-style-type: none"> • 80% of target water users can perform at least three good hygiene practices 		
<p>Component 2: Water supply improvement</p> <ol style="list-style-type: none"> 1. Existing water supply systems rehabilitated and upgraded 2. New water supply systems provided 3. Improved technologies for groundwater testing and the transfer of this technology 4. Improved monitoring of water quality 	<p>By 2011, in the project areas:</p> <ul style="list-style-type: none"> • 1.09 million people have access to safe water through the rehabilitation or new water supply systems • 6,185 systems repaired or upgraded • 80% of rehabilitated water systems functioning after 3 years • 7,700 new water supply systems built • 90% of new systems functioning after 3 years • All households have access to individual systems where community systems are not possible or suitable • All very poor households have access to safe water • 75% of WSUG boards collect regular fees for maintenance • 50% of trained maintenance personnel are women • 10 pilot systems implemented with related transfer of technology • Rate of successful drilling improved by 20% • Initial water testing for all new systems • A regular system of water testing is available in all participating provinces 2 years after project completion 	<ul style="list-style-type: none"> • Quarterly reports • Monitoring reports • Evaluation study/reports • Special studies • Field visits and interviews • Process monitoring 	<p>Risks</p> <ul style="list-style-type: none"> • The weak capacity of PDRDs may cause delays in identifying selecting, and appraising suitable subprojects, and in effectively managing contracts and local contractors. • Water users may be reluctant to contribute. • Villagers are not used to making realistic, informed choices. • WSUGs may not effectively provide maintenance. • Spare parts may not be available due to changes in technology or the business environment. • Non-transparent bidding and private sector contracting may reduce the efficiency of the systems.
<p>Component 3: Sanitation improvement</p> <ol style="list-style-type: none"> 1. Information on water use and sanitation disseminated through a national awareness campaign 2. Household latrines built and maintained 3. Public latrines and hand-washing stations build and maintained 	<p>By 2011, in the project areas:</p> <ul style="list-style-type: none"> • 80% of rural Cambodians have access to sanitation information through radio and TV • 0.72 million people have access to household latrines • 150,000 household latrines built • 80% of benefiting households maintain their latrines after 3 years • 200 public latrines built, with separate latrines for men and women and, if necessary, a LARP prepared • All public latrines have O&M contracts with local committees or the private sector • 80% of public water systems functioning after 3 years 	<ul style="list-style-type: none"> • Quarterly reports • Monitoring reports • Special studies • Evaluation studies • Field visits and interviews • Process monitoring 	<p>Risks</p> <ul style="list-style-type: none"> • Water users may be reluctant to contribute. • Villagers are not used to making realistic, informed choices. • Users may not provide adequate maintenance, and the facilities may run inefficiently. • Non-transparent bidding and private sector contracting may reduce the efficiency of outputs.
<p>Component 4: Capacity building and</p>	<ul style="list-style-type: none"> • All MRD and PDRD staff involved in the Project trained in their field 	<ul style="list-style-type: none"> • Minutes of PMU and PIU 	<p>Assumptions</p> <ul style="list-style-type: none"> • MRD changes its

<p>institutional support</p> <ol style="list-style-type: none"> 1. Improved capacity of MRD, PDRDs, DORDs, and commune councils to plan, facilitate, and monitor RWSS while taking into consideration gender issues, the environment, ethnic/indigenous groups, resettlement, and the private sector 2. Classified and trained private entrepreneurs provide equipment and services in the framework of the Project 3. A national database on WSS indicators established and maintained 4. A gender strategy developed for RWSS 5. RWSS strategy and guidelines developed and ready for implementation 	<p>of activity by the second year</p> <ul style="list-style-type: none"> • PMU and PIU with sufficient capacity to implement the required services by the third year • Training participants at least 30% female • Specification and requirements for PSP prepared • A classification system of private sector companies in place by the second year • All classified private entrepreneurs trained to comply with MRD specifications • Nationwide standard database for all rural water supply and sanitation established by the third year and updated annually—quantitative and qualitative, sex-disaggregated, with poverty data • Guidelines on mainstreaming gender in RWSS developed by the second year • A RWSS strategic policy unit and a development partners forum for RWSS by the first year • The RWSS strategy finalized by the second year, and all RWSS guidelines finalized by the third year 	<p>meetings</p> <p>Quarterly and half-yearly reports</p> <ul style="list-style-type: none"> • Training needs assessment report • Progress of training activities • Process monitoring • Database system • Gender action plan for the Project • Guidelines on mainstreaming gender in RWSS approved by MRD 	<p>role from implementation to facilitation and monitoring.</p> <ul style="list-style-type: none"> • MRD committed to the national decentralization and deconcentration process. <p>Risk</p> <ul style="list-style-type: none"> • The need exists to strengthen internal controls within MRD to mitigate the risk of fraud and corruption in the Project.
<p>Activities with Milestones</p> <p>Component 1:</p> <ul style="list-style-type: none"> • Awareness campaign Q1-Q2 • Identify target areas at provincial level: Q1-Q2 • Prepare WSS village plans, integrating gender action plan, poverty and ethnic/indigenous groups' recommendations: Q1-Q3 • Implement the community mobilization and skills development: Q2-Q4 <p>Component 2:</p> <ul style="list-style-type: none"> • Design technical standards: Q2-Q3 • Prepared bidding documents, select, and supervise constructors: Q2-Q3 • Provide rehabilitated and/or new water supply systems to selected villages: Q3-Q4 • Implement groundwater testing activities, water monitoring: 2006-2010 <p>Component 3:</p> <ul style="list-style-type: none"> • Implement national campaign on sanitation: 2006-2010 • Design technical standards: Q2-Q3 • Prepared bidding documents, select and supervise constructors: Q2-Q3 • Provide hygienic latrines to households and public: Q3-Q4 <p>Component 4:</p> <ul style="list-style-type: none"> • Carry out training needs assessments: December 2006 • Implement training activities: 2006-2010 • Establish the RWSS strategic policy unit: April 2006, and a development partners forum: June 2006 • Prepare the RWSS strategy: December 2007 and guidelines: December 2008 			<p>Inputs</p> <ul style="list-style-type: none"> • ADB grant: \$18.00 million • Government: \$2.06 million • Beneficiaries: \$3.94 million

GENDER ACTION PLAN AND RESULTS

1. **Background.** Despite some progress, Cambodia's gender disparities persist, hindering the country's efforts at sustainable human, social and economic development. Gender mainstreaming is the government's main strategy to address the concerns of both men and women in all sectors. Each line ministry is obliged to set up a gender mainstreaming action group tasked with promoting women's equality through developing, implementing, and monitoring sector policies from a gender perspective. The Ministry of Rural Development (MRD) gender mainstreaming action group was established in 2006 and a gender mainstreaming action plan (GMAP) was developed for 2006–2010.¹

2. The Tonle Sap Rural Water Supply and Sanitation Project (TSWRSSP) was developed with gender equity as a theme. The project aimed to have a positive social impact by increasing access to safe water and proper sanitation for rural women and men through four outputs: (i) community mobilization and skills development, (ii) water supply improvement, (iii) sanitation improvement, and (iv) capacity building and institutional support. The project design took a proactive approach to ensure that women and ethnic minorities would gain maximum possible benefits from all project activities. The project was implemented in five provinces around the Tonle Sap lake: Kompong Thom, Siem Reap, Battambang, Pursat and Kampong Chhnang.

3. The project design phase included extensive social and gender analysis and determined specific concerns and the need for water use and hygiene education for men and women. At the time, about half (52%) of the population of the five target provinces was female, and almost 27% of households were managed by women. Women in Cambodia bore primary responsibility for collecting water. It was anticipated that women and girls would experience benefits from the project in terms of time savings, a reduced burden in terms of labor, and improved family and community health.² A summary gender action plan (GAP) was included in the report and recommendation of the President (RRP), while a more detailed gender analysis and action plan was included in the project administration manual (PAM).³ The detailed GAP and an assessment of achievements against each action are in Table A2.3.

4. **The Gender Action Plan.** The GAP was designed with specific gender targets and indicators to promote the fullest possible participation of women and girls in project activities (Table A2.3). Women were empowered to take on roles on the boards of water and sanitation user groups (WSUGs), and in the operation and maintenance (O&M) of water and sanitation facilities. The GAP was well structured, providing broad guidance on how gender actions could be implemented at the field level to reduce the burden on women and girls in accessing safe and reliable drinking water with adequate sanitation facilities, increasing their productive time and their chance of attending school, and reducing medical expenditures caused by poor water and sanitation.

5. The TSRWSSP GAP was comprehensive, with clear outcomes and outputs and defined activities. The project's design and monitoring framework (DMF) incorporated gender targets from the GAP under each output. A 2009 review of GAPs in Cambodia recommended the

¹ The GMAP was under revision as of November 2011, with the effort led by the MRD secretary of state responsible for gender mainstreaming.

² ADB. 2005. *Report and Recommendation of the President to the Board of Directors on a Proposed Grant to the Kingdom of Cambodia for the Tonle Sap Rural Water Supply and Sanitation Project*. Manila

³ ADB. 2006. *Project Administration Manual: Tonle Sap Rural Water Supply and Sanitation Sector in Cambodia*. Manila

TSRWSSP model as a good example for other projects.⁴ The GAP was developed with the executing agency to ensure the proposed activities responded to the local context.

6. GAP implementation and monitoring was facilitated by a community development and gender focal point in each of the five project implementation units (PIUs). The PMU included a full-time national officer for gender and community development who had primary responsibility for GAP monitoring. Along with this fulltime attention, a major factor in the GAP's success was that PMU, PIU, and ADB staff and consultants were gender aware and culturally sensitive, and understood the central importance of gender issues.

7. **Gender Action Plan achievements.** As illustrated in Table A2.1, GAP targets were generally met and in some cases exceeded. The PMU initially planned to offer training on O&M to one man and one woman per WSUG board (indicator B), thus achieving a targeted 50:50 male–female ratio. In implementing the training plan, the PDRDs encountered greater demand for O&M training, and opened the training to additional WSUG board members to join on a voluntary basis. The extra participants tended to be men, which skewed the gender balance in the final result; women appeared to comprise just 38% of total trainees, but the project did train at least one man and one woman from each WSUG as planned. This target is therefore considered to be achieved.

8. Women's participation in the 30 technical training programs (indicator C) varied significantly according to the particular topic and the intended audience. For example, the training courses on hand pump repair and technical support for O&M were aimed at MRD's provincial water supply officers and district officers. All the officers were men, meaning there would be no female participants, and achieving a 50-50 ratio would have been impossible. On the other hand, facilitation training for the participatory assessment targeted community development officers and NGO staff, who were predominantly women. On balance, total female participation was 40%, but this masks the differences by session. A 50% target was in retrospect not realistic, given the overwhelming dominance of male staff in the PMU and PDRDs.

Table A2.1: Gender Action Plan Achievements

Key indicator	Total	Women	Target	Actual
Female members of WSUG boards	28,402	12,273	40%	43%
Women's participation in O&M training	18,741	4,734	50%	38%
Women's participation in technical training	27,799	11,269	50%	40%
Men's participation in water use and hygiene education	11,166	6,234 (men)	50% (men)	56% (men)

WSUG = water and sanitation user groups, O&M = operation and maintenance

Source = MRD Project Completion Report, 2010.

9. **Output 1: community mobilization and skills development.** Women were strongly encouraged to participate in the initial district information workshops for commune and village officials to understand the project concept and scope.⁵ This encouraged women's participation in the project implementation activities.⁶ The project's Village Engagement Plan was gender sensitive. However, although women participated, final decisions would remain with male family members. In an example from Siem Reap, the PIU technical advisor reported that after the first discussion about household latrines with a family, the project team would wait for the family to decide when the household latrine should be built and where. For those families in which

⁴ Crishna, B. 2009. *Assessing the Implementation of Three Project Gender Action Plans*. Phnom Penh..

⁵ Economic Institute of Cambodia. 2010. *Evaluation Report*. Phnom Penh.

⁶ Sex disaggregated data from review mission reports, monthly and quarterly monitoring reports.

husbands lived at home or the household was headed by a woman, the decision was made almost immediately. However, if the husband had migrated for work, no decision was made, possibly because it was a financial decision. But this created delays, and sometimes families missed the opportunity altogether (footnote 6). In Khmer culture women are at times silent spectators during meetings, and do not feel comfortable in sharing their views. The attitude that women should not speak freely when men are present and that men should lead discussions remains prevalent.⁷

10. This component established WSUGs to foster teamwork and joint ownership by men and women of water and sanitation facilities. At the completion of the project, nearly 5,700 WSUGs had been established with more than 28,400 board members. Sex-disaggregated data on WSUG membership is available at all levels (Table A2.2). Five board members, of whom at least two were female, were elected for each WSUG: (i) a chair, (ii) vice-chair, (iii) treasurer (in charge of financial management), (iv) water supply component member, and (v) sanitation component member. Throughout project implementation, most women members were assigned as treasurers and technical members (water supply and sanitation component). Capacity-building training aimed to ensure that board members had adequate management capacity for sustainable functioning of the project facilities. The training topics included (i) roles and responsibilities, (ii) O&M, and (iii) water use and hygiene promotion.

Table A2.2: Sex-Disaggregated Data of Water and Sanitation User Group Board Members

Province	Number of WSUGs	Board Members	Female Members	% Female
Battambang	1,325	6,625	2,978	45
Kg. Chhnang	1,096	5,501	2,422	44
Kg. Thom	1,269	6,345	2,538	40
Pursat	780	3,856	1,844	48
Siem Reap	12,15	6,075	2,491	41
Total	5,685	28,402	12,273	43

Kg. = Kompong, WSUG = water and sanitation user group
Source: MRD Project Completion Report, 2010.

11. Although some WSUGs are a model of success, many were dysfunctional as of November 2011. Women and men are not working effectively in pump repair, collection of O&M fees, or in mobilizing cohesive community action for good water, sanitation and hygiene behavior. A number of interviewees said it is easier to collect fees when all WSUG members participate, which develops a sense of social capital, but in most cases this duty was delegated to women alone. Voluntary contributions depend on what individual households can afford—e.g. small amounts (KR300–KR500 per family per month)—but not all members contribute. Poor families normally contributed labor and local construction materials. Many households were not willing to contribute O&M funds except when a pump broke. In some cases households did not trust the O&M fund keeping, and still had a low level of appreciation of the importance of O&M (footnote 7). Both the MRD project completion report and the final external evaluation report noted that a majority of the WSUGs and their boards were inactive by the end of the project. The clear lesson is that WSUGs require a great deal of support, which is best offered by an adequate complement of MRD district-level officers.

12. **Output 2: water supply improvements.** The project installed nearly 4,500 new water points with hand pumps, and trained at least one man and one woman per WSUG on O&M. Sustained access to improved water supply is not possible without active involvement of the users. Solutions that are planned for rather than with users are less likely to be sustainable.

While targets were exceeded, it is important to note that some women faced difficulties participating as WSUG board members if their parents or husbands did not allow it. Project completion review field visits also confirmed that many female board members were not active, and possibly overshadowed, due to their lack of confidence and perception that their contribution was of less value in decision making (footnote 7).

13. **Output 3: sanitation improvements.** The project delivered more than 45,000 household latrines. The level of understanding of importance of using latrines has increased, thus leading to higher demand for sanitation. A female household head in Angdungkun village, Siem Reap, said that although she lives in a small house and her family is very poor, she felt that a latrine near the house was very useful for her family, so she borrowed money to buy materials to contribute.⁸

14. There have been changes in sanitation practices. Women and children use the latrines regularly and also keep them clean. Field discussions confirmed that women only rarely defecated in the field now that their households have access to latrines. In a few individual cases, women said all family members, including the husband and sons, helped to clean the latrine. Personal safety is an important factor: women and girls in particular feel safer and more secure using a latrine near their home at night. One interviewee confirmed that “it is easier to use a latrine, especially for my daughter who does not need to hide behind a tree anymore. It is safer for her to use at night time.”

15. Despite overall achievement of the GAP target for male participation in hygiene and sanitation education (40%), disaggregated data show that the target was not met in all provinces (i.e. male participation in hygiene and sanitation education in Kampong Thom was 24% and 25% in Siem Reap). It also proved difficult to reach the poorest households with sanitation. The village chief of Leap Torng village, Kampong Thom said that a few destitute households in the village wanted to have latrines but had no money to buy materials for the required contributions (footnote 9).

16. **Output 4: capacity building and institutional support.** By project completion (June 2010) a broad range of training had been delivered to PMU, PIU, and WSUG members, including awareness, managerial and practical skills training. The PMU prepared technical guidelines on gender mainstreaming in the rural water supply & sanitation sector based on its experiences under the TSRWSSP. The PMU developed GAP reporting procedures and trained PIU staff and NGO teams. The PIU community development officers monitored gender-disaggregated data compiled on a quarterly basis and included it in project quarterly reports. However, despite significant outreach and gender training, there is still limited awareness and understanding of gender issues among the predominantly male MRD staff.

17. **Conclusion and recommendations.** Gender mainstreaming in TSRWSSP was satisfactory but sustainability of the project's efforts is the overarching challenge in the face of very little or no continuing support for WSUGs, and a general climate in which women have little decision-making authority, which is an issue throughout the country. Recommendations include:

- (i) WSUG guidelines should be revised to be more user friendly and to enable the participation of women who are not household heads and are less educated. A clear quota for women in higher-ranking positions (e.g. at least vice-chair) should be set, to increase their decision-making power.

⁸ Field note for aide memoir October 2009; discussion during village walkabout.

- (ii) To strengthen women's participation in the WSUGs, they should be given leadership, advocacy, and facilitation training. There are some active women on WSUG boards, and they could be developed as resource people and trainers to share experiences with other less active board members.
- (iii) To be viable community-level institutions, WSUGs require much more outreach and support than was offered under TSRWSSP, particularly following the project closure. The decentralization and deconcentration reforms underway in Cambodia should lead to the assignment of more district-level RWSS staff .
- (iv) The assessment of GAPs in Cambodia found that in general, training methods used were old fashioned, employing a top-down approach. These sessions should be dynamic and based on adult learning principles, using participatory training strategies, including rapid appraisal. There is a need to generate greater awareness on safe water use, sanitation and hygiene, and encourage men to participate in such training.
- (v) An RWSS database system with sex-disaggregated data needs to be standardized across PDRDs, where M&E capacity remains weak. Stronger M&E training and support should additionally emphasize qualitative data for changes in behavior, community perception and traditional practices and gender roles.

Table A2.3: Detailed Gender Action Plan and Achievements

Project Component	Actions Proposed	TSRWSSP Accomplishments
Component A: Community Mobilization and Skills Development		
A.1. Awareness Campaign on Project Objectives	PIU and NGOs shall introduce the project to commune and village representatives.	Project information dissemination workshops were organized in 2006 at the national level and in all five target provinces. All commune chiefs in the project target areas were invited to the workshop. The PIU & NGO teams organized information meetings in every target village; participants included commune chiefs and councilors, village chiefs and community leaders, and householders.
	At least 25% of the NGO team shall be female.	The project recruited five NGO teams in five provinces; six (30%) of the 20 NGO staff members were female.
	Meeting participants shall include both males and females.	All project information meetings had male and female participants.
A.2. Pre-selection of Subprojects	Identification of A.2. Pre-selection of villages shall be based on agreed pre-selection subproject criteria.	The general criteria for village selection included: (i) total population (10%); (ii) poverty status (10%); (iii) existing RWSS status (40%); (iv) demand for RWSS, commitment to contribute to construction cost (10%); (v) health indicators (15%); (vi) ethnic balance (10%); (vii) geographic location and logistical conditions (5%); and (viii) no duplication with other RWSS programs.
	Incidence of water and sanitation-related diseases shall be disaggregated by gender.	
A.3. Preparation of Water Supply and Sanitation Village Plans (WSSVP)	Consultations shall take place with potential water users (men and women) on their participation in the planning, implementation, contribution, and O&M of water points.	The Village Engagement Plan for subproject implementation included information sessions, sanitation promotion, participatory planning, and identification of water supply and household latrine options. All householders were invited to those meetings and men and women participated.
	Identification of FHHs and other vulnerable groups (e.g., ethnic minorities).	Village data collection included FHHs and ethnic minority data.
	Priorities of water and sanitation users shall be identified by gender in the WSSVP.	Male and female WSUG members participated in meetings for identification of water supply options and site selection.
	Women's participation at village meetings shall be encouraged (e.g., women's focus groups and meetings shall be held at a time that is convenient for women).	Women were encouraged to participate in the village meetings, and in fact made up the majority of participants.
	Different technical options shall be explained to both men and women.	The informed choice approach presented seven options for water supply improvements and 10 options for household latrines to both men and

Project Component	Actions Proposed	TSRWSSP Accomplishments
		women.
	Gender-specific impacts on land acquisition and environment shall be considered.	Gender aspects were included in the LARF and executing agency procedures. Voluntary land contribution agreements for water supply systems required both husbands and wives to sign.
	Data collection for village health profiles shall be disaggregated by sex, ethnicity, and income	All village data was disaggregated by gender.
A.4. Organization and support of water and sanitation user group (WSUG)	FHHs, irrespective of ethnicity or income levels, shall have equal access to becoming a member of the WSUG and WSUG board.	All households within the catchment area of each water point were included in the WSUG, irrespective of ethnicity, income level, and social status. WSUG boards had two positions for women, for which many FHHs were elected.
	At least 40% of the WSUG board shall be female.	There were 12,273 women elected to WSUG boards out of a total of 28,402 WSUG board members (43%).
	At least 50% of the WSUG board members that attend training shall be female.	Four types of training programs were conducted for WSUG Board members: (i) training in roles and responsibilities: 28402 participants, including 12273 (43%) women; (ii) training in water use and hygiene education: 11166 participants, including 4932 (44%) women; (iii) training in O&M: 18741 participants, including 11269 (41%) women; and (iv) training in technical checklists: 27799 participants, including 33208 (39%) women.
A.5. Hygiene and Sanitation Education	Training materials shall be sensitive to the needs of both men and women. Distinct ethnic or indigenous water use and hygiene behaviors shall be considered.	All training materials included gender aspects, especially in the water use and hygiene promotion, and household-level water and sanitation improvements.
	Awareness of links between water and diseases shall be raised among men and women	
	At least 40% of all hygiene and sanitation education participants shall be men.	Out of 11,166 total participants in the water use and hygiene education training, 6,234 (56%) were male. However, not all provinces reached the 40% target.
A.6. RWSS Skills Development	Awareness of RWSS-related employment opportunities shall be raised for men and women, either in joint focus groups or disaggregated focus groups.	The project did not implement activities related to RWSS employment opportunities except opportunities for working with household latrine construction teams through local contractors. Women and men participated in the rainwater tank construction and fabrication of bio-sand filters but these were voluntary labor contributions by beneficiaries. No training was conducted for skills development at village level.
	The poorest and females (in groups or as individuals) shall be	

Project Component	Actions Proposed	TSRWSSP Accomplishments
	<p>eligible for capacity building in skills development for RWSS-related activities (e.g., installation, construction, and O&M of latrines, wells, rainwater harvesting, filters, and jars).</p> <p>About 40% of all capacity building/training activities shall be reserved for women.</p>	
B. Component B: Water Supply Improvement		
<p>B.1. Rehabilitation and Upgrading</p> <p>B.2. Construction of New Systems</p>	<p>Specific considerations that affect women (e.g., access to water points, child safety, and operating hand pumps) shall be reviewed prior to rehabilitation or construction of new water points.</p> <p>FHHs shall receive equal compensation and allowances according to the LARF.</p>	<p>Environmental assessments and initial environmental examinations exercises were organized through WSUG meetings, and all men and women were participated in the exercises. There were specific clauses in the construction contracts to protect and safety of environment and people.</p> <p>This was assured in the LARF but all land for civil works was contributed on a voluntary basis.</p>
<p>B.3. and B.4. Groundwater Testing, Resistivity Surveys, Water Quality Testing</p>	<p>Consultation with men and women shall take place regarding the location of groundwater testing and soil resistivity surveys.</p> <p>Qualified females shall have equal access to training and employment opportunities for quality testing of water supply systems put in place by the project.</p>	<p>All site locations, including the test wells for groundwater investigation, were determined at WSUG meetings; both men and women participated.</p> <p>Water quality tests were conducted by PIU water supply officers and district officers; there were no female officers in those posts.</p>
C. Component C: Sanitation Improvement		
<p>C.1. National Awareness Campaign for Sanitation Improve-ments</p>	<p>Attention shall be paid to sanitation, both at home and in public (e.g., in schools, markets, tourist places, temples, and pagodas), and hygiene promotion shall include both women and men through formal and informal means.</p> <p>A national awareness campaign on sanitation shall target different socioeconomic groups and address the sanitation and</p>	<p>The project organized national sanitation day events in which male and female speakers from the PMU, PIUs, and WSUG boards were included. Key messages focused on public and household-level sanitation practices and improvements.</p> <p>The project did not implement a national awareness campaign.</p>

Project Component	Actions Proposed	TSRWSSP Accomplishments	
	hygiene concerns of both men and women.		
C.2. and C.3. Construction and Rehabilitation of Household and Public Latrines	Attention shall be paid to sanitation both at home and in public (e.g., in schools, markets, tourist places, temples, and pagodas), and hygiene promotion shall include both women and men through formal and informal means.	<ul style="list-style-type: none"> (i) The TSRWSS public latrine component was cancelled due to cost-sharing issues. (ii) During the design period, the designs for public latrines were prepared with separate rooms for men and women. (iii) Both husband and wife were responsible for selection of a design option for their household, and the project approved the household latrine identification process only with the consensus of a husband and wife. (iv) The bidding processes were conducted as per the general guidelines of the government (MEF standard operating procedures); due to the nature of works, there were no women-only resource groups for construction contractors. 	
	A national awareness campaign on sanitation shall target different socioeconomic groups and address the sanitation and hygiene concerns of both men and women.		
C.2. and C.3. Construction and Rehabilitation of Household and Public Latrines	Specific considerations that affect females (e.g., separately built and located public latrine facilities for women with sufficient space in bathrooms) shall be reviewed.		
	The PIU shall link resource groups to the private sector during preparation of contracts. Trained women-only resource groups shall be equally considered to certify completion of physical works, assist contractors, and provide construction services to households that are willing to pay but not construct or maintain latrines.		
	FHHs shall receive equal compensation and allowances for land acquisition	All land was donated on a voluntary basis.	
D. Component D: Capacity Building and Institutional Support			
D.1. Capacity Building of MRD staff at all administrative levels and Commune Councils	A GWG or MRD member shall participate in the RWSS strategic unit.	The gender officer at the project management unit was a member of GWG or MRD.	
	The human resource plan developed at the start of the project shall consider gender-specific RWSS needs (e.g., women will be	The HRD plan had specific requirements for women's participation in the project teams (such as CD officers, appointment of female staff for CD or gender officers at PIUs, and a minimum 25% of NGO staff were women).	

Project Component	Actions Proposed	TSRWSSP Accomplishments
	equally eligible for study tours).	
	Gender training shall be provided to MRD staff at all administrative levels and in commune councils.	Gender training and workshops were conducted in cooperation with the GWG or MRD. The head of GWG head presided over the training and workshops, and also visited target villages and met with WSUGs.
	Women and men shall have equal access to new employment and training opportunities generated by the project.	All project staff had equal access to training opportunities.
D.2. Capacity Building and Classification of Private Entrepreneurs	The registration of private sector groups shall consider gender awareness and experience in RWSS.	The bidding process, including preliminary selection and screening, was conducted according to the government's standard operating procedures. Due to the nature of the work, there were no private sector groups with female workers. However, during construction, (especially household latrine construction), female workers were included in the private construction teams.
D.3. Establishment of national RWSS database	RWSS indicators for the national database shall be disaggregated by gender, ethnicity, and income where appropriate.	All project data were sex disaggregated but the national database is still under development.
D.4. Support for RWSS policy and guidelines	The GWG or MRD shall prepare national guidelines on mainstreaming gender in the RWSS sector within 36 months.	GWG or MRD prepared general gender mainstreaming guidelines for MRD, and TSRWSS project staff were trained on these guidelines.
	The guidelines on water use and hygiene education shall be updated within 36 months to reflect gender and ethnic hygiene concerns.	The project prepared a handbook for water use and hygiene education (WUHE), including gender issues for WSUGs, and conducted training sessions.
	Guidelines on community participation in RWSS shall be completed within 36 months and include ways to encourage women's participation in RWSS (e.g., gender-disaggregated focus groups, and meeting times convenient to women).	Project-level technical guidelines were prepared, including both community participation in RWSS and gender mainstreaming.
	Participatory guidelines on gender-responsive M&E shall be completed within 36 months and include gender-disaggregated indicators.	The project performance monitoring system included indicators disaggregated by gender.

Project Component	Actions Proposed	TSRWSSP Accomplishments
E. Project Implementation Arrangements		
	The chairperson of GWG or MRD shall be a permanent member of the national steering committee. The Ministry of Women's Affairs shall be invited to meetings, as needed.	GWG or MRD focal person was a member of the national project steering committee
	At least two members of GWG or MRD (from the Department of Rural Water Supply and the Department of Rural Health Care) shall be members of the PMU.	The PMU gender officer and the PMU health and hygiene education officer were members of GWG or MRD.
	At least one member of the PIU shall be responsible for women's affairs.	The PIU community development officers were responsible for gender activities.
	At least one member of the commune council shall oversee women's affairs.	Every commune council has a commune committee for women and children (CCWC), and CCWC members were generally included in the project's public education campaigns and WUHE training.
	GAP consulting services shall include (i) an international gender and social development advisor (6 person-months), (ii) a national community development specialist (10 person-months), and (iii) a national resettlement or social specialist (6 person-months).	One international gender and social development advisor was recruited for 6 months; one national community development specialist was recruited for 45 months (extended from original plan of 10 months) and one national resettlement specialist was recruited for 6 months.
	NGOs shall mainstream gender needs and concerns in project activities.	NGO and PIU teams were trained on gender mainstreaming, including gender needs assessments, and responsible for gender action plans through the village engagement process.
	Project benefits and impacts shall be monitored through sex-disaggregated data. Survey respondents shall include both men and women. Records of participation and awareness training shall also be disaggregated.	The project performance monitoring system collected data disaggregated by gender, as did all project surveys.
	Progress reports to ADB and the government shall include gender updates.	All reports to ADB included gender updates.
	The independent M&E specialist shall monitor	GAP implementation was primarily monitored by the ADB Cambodia Resident Mission's gender

Project Component	Actions Proposed	TSRWSSP Accomplishments
	GAP implementation.	specialist. External monitoring commenced later than expected.

ADB = Asian Development Bank , CCWC = Committee for Women and Children , CD = Community Development , FHH = female headed household , GAP = Gender Action Plan , GWG = Gender Working Group , HRD = human resource development , LARF = land acquisition and resettlement framework , M&E = monitoring and evaluation , MEF = Ministry of Economy and Finance , MRD = Ministry of Rural Development , NGO = Non-Governmental Organization , O&M = operation and maintenance , PIU Project Implementation Unit= , PMU = Project Management Unit , RWSS = Rural Water Supply and Sanitation , TSRWSSP = Tonle Sap Rural Water Supply and Sanitation Project, WSSVP = water supply and sanitation village plan , WSUG = water and sanitation user group , WUHE = water use and hygiene education

Source: Project Management Unit, MRD

APPENDIX 3: STATUS OF COMPLIANCE WITH GRANT COVENANTS

Covenant	Reference in Grant Agreement	Status of Compliance
Social Covenants		
MRD shall ensure that the Gender Action Plan agreed upon by the Recipient and ADB is fully implemented. This includes, but is not limited to, ensuring that (i) at least 40% of the membership in each WSUG Board are female; (ii) 50% of those from the WSUG Board who are trained in water supply O&M are female.	Schedule 5, Para 37	<p>Complied with 43.3% of the membership of each WSUG board is female.</p> <p>38.2% of the WSUG board members trained on O&M were female, but one woman and one man were trained for each water point, according to the original plan. In practice more men wished to join the training and the PDRDs did not turn them away, therefore the female participation rate is lower than 50%.</p>
MRD shall ensure that the contract documents with NGOs carrying out community mobilization require that: (i) at least 25% of the NGO's community mobilization team are female; (ii) the training carried out by NGOs as part of the community mobilization is directed at the poor and vulnerable, and that at least 40% of those being trained are female; and (iii) at least 40% of all hygiene and sanitation education participants are male.	Schedule 5, Para 38	<p>Complied with Five NGO teams (one for each province) were recruited by 1 August 2006. Each NGO partner provided a team of 4 professional staff, including 6 women out of the 20 total NGO staff members (30% women). Community mobilization and training was gender balanced, though it was often difficult to encourage male participation, particularly during peak agricultural seasons.</p>
Environmental Covenants		
The Government will ensure that its laws and regulations governing environmental impact assessments, as well as ADB's Environment Policy (2002), are followed. If there is any discrepancy between the Government laws and regulations and ADB's Environment Policy, ADB's Environment Policy requirements will apply.	Schedule 5, Para 27	<p>Complied with IEE procedures were prepared and the PIU staff trained. PIU teams produced simple IEE reports for each water point and community ponds.</p>
Each PIU shall prepare an IEE based on a cluster of subprojects. MRD shall ensure that IEEs (a) are based on the sample IEE prepared during project preparation, (b) meet ADB's Environment Policy Requirements, (c) include details of local consultation carried out, (d) are submitted to ADB for approval prior to civil works contracts being awarded for the subproject if any critical environmental issues are identified. MRD shall certify that clearance of unexploded ordinance has been completed prior to submission of an IEE to ADB for approval - or, if an IEE has already been approved, prior to commencement of civil works.	Schedule 5, Para 28	<p>Complied with The project developed Initial Environmental Examination procedures and a check list for all village action plans. The IEE procedures were explained at the first village level meetings and to the Water and Sanitation User Group Boards. The PIU Sanitation/ Environmental Officer and WSUG Boards prepared IEEs for each water point including the Land Acquisition Assessment for each bid package. The IEEs were submitted to ADB before the contract approval.</p>
MRD shall ensure that the contract documents	Schedule 5,	Complied with

Covenant	Reference in Grant Agreement	Status of Compliance
for all civil works under the Project include specific measures in accordance with ADB's Environment Policy to mitigate negative environmental impacts caused by the construction and to give due consideration to prevention of damage to the natural environment in the design, construction, operation and maintenance of project facilities.	Para 29	As per the IEE procedure, the PIU teams checked the environmental impact during construction. WSUG Board contract supervision procedures included checking on the mitigation of environmental impacts during construction by drainage channel construction, mud-pit digging during drilling, clearing all mud and drill-cuttings after drilling completed, construction of a fence to protect from animals entering well platform, grass planting on the banks of community ponds, etc.
MRD shall utilize the previously agreed upon Environmental Assessment Review Framework (EARF) to implement the Project. MRD shall further monitor the contracts' implementation of civil works, including environmental mitigation measures identified in the IEE. The Environmental Officers in the PIUs shall be responsible for IEE preparation and EARF implementation.	Schedule 5, Para 30	Complied with The PIU teams monitored contract implementation of water supply and sanitation construction works. IEE surveys were carried out before the approval of the 27 community pond contracts and 5 small piped water supply systems. There were no environmental impacts for any project interventions. The PIU Sanitation/ Environment Officers were trained in the IEE and EARF procedures.
Persons affected in their land or business by the Project shall be compensated for any losses in accordance with any LARP or LARF prepared in accordance with the Recipient's laws, regulations and procedures, and ADB's requirements as defined in ADB's Policy on Involuntary Resettlement (1995). In case of discrepancies, ADB requirements shall apply.	Schedule 5, Para 31	Complied with There was no land acquisition under the project.
Each PIU shall prepare a LARP based on a cluster of subprojects and in accordance with the LARF. MRD shall ensure that each LARP is submitted to, and approved by ADB prior to civil works contracts being awarded.	Schedule 5, Para 32	Complied with All land was contributed voluntarily and there were no land acquisition issues.
The relevant PDRD shall provide MRD with monthly reports on any required land acquisition or resettlement. MRD shall provide ADB with quarterly status reports on any required land acquisition or resettlement process as part of the progress reports required for this Grant Agreement and shall provide a report immediately following completion of LARP implementation.	Schedule 5, Para 33	Complied with There are no resettlement issues.
Site selection of RWSS systems shall be made in full consultation with any people living on land (whether or not holding a title to the land) which is deemed suitable for use by a water supply system, latrine or other project benefit. If it is necessary to use land on which	Schedule 5, Para 34	Complied with The village action plan process was carried out by each WSUG with participation of the members, in which the environmental impacts and land requirements were fully disclosed to all

Covenant	Reference in Grant Agreement	Status of Compliance
<p>titled or not titled persons are living or operating a business, then, any donation use of the land shall not severely affect the affected persons' living standards and such use shall be linked directly to benefits for the affected persons. In the event of a voluntary donation of land for use by the Project, then the voluntary nature of the donation shall be documented by written record and verified by an independent third party.</p>		<p>members. There were no land issues. All lands are contributed by owners voluntarily; all voluntary contribution agreements for public use were signed by husband and wife, and declared publicly. These agreements were approved by the Village Chiefs and endorsed by the Commune Chiefs.</p>
<p>The Recipient shall ensure that an adequate grievance mechanism system is in place for disputes regarding compensation or other matters as a result of land acquisition or resettlement.</p>	Schedule 5, Para 35	<p>Complied with There were no disputes.</p>
<p>Without limitation to the overall application of ADB's Policy on Involuntary Resettlement, the following principles shall apply in respect of compensation of project affected people</p> <p>a) Project affected people shall be compensated and assisted in such a way that generally their economic and social future shall not be unfavorably affected by the Project and, in particular, that they shall not face a material reduction income, deterioration of living standards or unnecessary social and cultural dislocation as a result of the Project;</p> <p>b) Project affected people shall not be required to have a legal title to the land used by them to be eligible for compensation;</p> <p>c) The amount of compensation in respect of land acquisition shall be at a level sufficient to cover the full replacement cost (at market value) of the land and the structures built thereon; and d) All compensation and resettlement activities shall be satisfactorily completed and income restoration measures in place before commencement of civil works.</p>	Schedule 5, Para 36	<p>Complied with There were no involuntary resettlement issues.</p>
Financial Covenants		
<p>The Recipient shall ensure timely provision of counterpart funds in the form of exemption from taxes and duties and land acquisition. Counterpart funding may also be used, as needed, for clearance of unexploded ordinance in the project area.</p>	Schedule 5, Para 39	<p>Partially complied with MEF allocated the counterpart funds for the project, but the overall amount was \$1.46 million compared to the planned \$2.06 million.</p>
<p>Each PIU shall prepare quarterly progress reports for submission to the PMU for consolidation and reporting to ADB. The PIUs shall submit quarterly reports and data to the PMU within fifteen (15) days of the end of each quarter. The PMU shall (i) collect: and consolidate all Project progress reports, site reports, technical and financial reports and</p>	Schedule 5, Para 40	<p>Complied with PIUs prepared quarterly reports and submitted them to the PMU for consolidation and reporting to ADB. Reports were timely.</p>

Covenant	Reference in Grant Agreement	Status of Compliance
<p>submit them to ADB; and (ii) prepare quarterly progress reports, a midterm Project evaluation report and an overall Project completion report. The quarterly report shall include: (i) a narrative description of progress made during the reporting period; (ii) modifications, if any, to the implementation schedule; (iii) details of land use and resettlement; (iv) implementation of the EARF; (v) major Project activities by PMU, PIUs and NGOs; (vi) financial and procurement-related information; (vii) problems experienced and remedial actions proposed; and (viii) the work to be carried out during the upcoming reporting period. Quarterly reports shall be submitted to ADB within thirty (30) days of the end of each quarter.</p>		
<p>Without prejudice to the generality of Section 4.02 of this Grant Agreement, for purpose of audit accounts and financial statements of the Project carried out pursuant thereto, the Recipient shall ensure that any independent auditors financed from the proceeds of the Grant shall be selected and engaged in accordance with competitive selection procedures acceptable to ADB.</p>	Schedule 5, Para 41	<p>Complied with The Financial Statements and Auditor's Reports were received on 29 June 2007; 27 June 2008; and 30 June 2009.</p>
<p>The Recipient shall ensure that a separate accounting system for Project expenditures is maintained in accordance with sound accounting principles. All Project accounts, including financial statements, statements of expenditures and account records, shall be audited annually as part of the regular audit accounts and financial statements by a single audit firm. The consolidated audit reports (in English) shall be submitted to ADB in accordance with the requirements and within they deadlines stated in Section 4.02 (a) of this Grant Agreement. The audit opinion shall include: (i) an assessment of the adequacy of accounting and internal controls systems with respect to Project expenditures and other financial transactions, and to ensure safe custody of Project financed assets; (ii) a determination as to whether the Recipient, EA and implementing, agencies have maintained adequate documentation for all financial transactions, specifically including the SOE and imprest account procedures; and (iii) confirmation of compliance with this Grant Agreement's financial covenants and ADB requirements for management.</p>	Schedule 5, Para 42	<p>Complied with. Separate accounting systems were maintained, and accounts were regularly audited by KPMG Cambodia.</p>

Covenant	Reference in Grant Agreement	Status of Compliance
MRD shall ensure that PPMS system shall be operated throughout Project implementation to: (i) examine the Project's technical performance; (ii) evaluate delivery of Project facilities; (iii) assess achievement of the Project's objectives; and measure the Project's social, economic, financial, and institutional impacts. Socioeconomic data shall be disaggregated by income group, sex and where applicable, ethnic group. PIUs shall be responsible for carrying out PPMS activities. Each PIU shall establish a PPMS baseline based on pre-Project surveys and data. Annual PPMS reports shall be prepared by each PIU for consolidation by the PMU and submission to ADB.	Schedule 5, Para 43	Complied with. The PPMS system was operated throughout the period of project implementation, though most data analysis was undertaken at the central level. Much of the village baseline data remains in hard copy at PIUs.
Within 24 months of the Effective Date [by January 2008] and again within 48 months of the Effective Date [by January 2010], MRD shall ensure that an external monitor engaged under a terms of reference as agreed upon by MRD and ADB, shall complete an independent assessment of project effectiveness, specifically including an examination of the subproject selection and implementation process.	Schedule 5, Para 44	Partially Complied with In 2009 MRD contracted the Economic Institute of Cambodia (EIC) to conduct an external evaluation. The final report was submitted in July 2009, 18 months late.
Sector Covenants		
Within 3 months of the Effective Date, MRD shall have established RWSS Strategic Unit, chaired by the chair of the PSC and supported with two full-time professional staff to develop the RWSS strategy and guidelines for its effective implementation.	Schedule 5, Para 21	Partly Complied with DRWS and DRHC initially nominated two senior officials for an RWSS Strategic Unit but an overall RWSS sector coordination mechanism was established in August 2007: the Technical Working Group for Rural Water Supply, Sanitation, and Hygiene (TWG-RWSSH). MRD set up a TWG Secretariat headed by Director DRHC with Director DRWS as Deputy, and members are the directors and deputy directors from departments of Rural Water Supply, Rural Health Care, Planning, and Administration and Finance of MRD. The TWG Secretariat was tasked with developing the national RWSSH sector strategy. MRD did not appoint two full-time professional staff to develop the RWSS strategy. Instead, ADB, UNICEF and WSP co-financed a consultant team which launched work in 2009.
Within six months of the effective date (by August 2006), MRD shall have established establish an RWSS Development Partners' Forum with representatives of the key	Schedule 5, Para 22	Complied Late MRD established the Technical Working Group for Rural Water Supply, Sanitation and Hygiene (TWG-RWSSH) in August

Covenant	Reference in Grant Agreement	Status of Compliance
development partners and NGOs active in RWSS sector to support the work of RWSS Strategic Unit.		2007, co-chaired by the Minister for Rural Development with ADB as lead donor facilitator until 2009, replaced by WSP after 2 years. Members represent relevant line ministries and core development partners.
Within 24 months of the Effective Date [by Jan 2008], MRD shall have a promulgated RWSS Strategy.	Schedule 5, Para 20	Not Complied with An ADB, UNICEF and WSP collaborated on a TOR in 2008 and jointly selected and co-financed a consultant team to develop the national RWSS strategy by at the beginning of 2009. The Team Leader had to be replaced and the work was delayed. The strategy was completed in 2011.
Within 36 months of the Effective Date [by Jan 2009] and pursuant to the RWSS Strategy referred to in para. 20 above, MRD shall have promulgated the guidelines on (i) mainstreaming gender in RWSS sector; (ii) community participation in RWSS systems; (iii) contributions and subsidies for RWSS systems; (iv) private sector participation in RWSS systems; (v) planning for the RWSS sector; (vi) water monitoring and water quality testing; participatory, monitoring and evaluation; and (vii) O&M of RWSS systems; and (viii) shall have updated the Guidelines on Water Use and Hygiene Education. The relevant guidelines will take into account the integration of vulnerable groups, including disable persons, into RWSS systems.	Schedule 5, Para 23	Partly Complied with The guidelines could not be developed until the strategy was finalized, and are now planned for 2012. However, the project prepared 7 technical guidelines as inputs to the national guidelines, in (i) mainstreaming gender in RWSS sector; (ii) community participation in RWSS systems; (iii) contributions and subsidies for RWSS systems; (iv) private sector participation in RWSS systems; (v) planning for the RWSS sector; (vi) water monitoring and water quality testing; participatory, monitoring and evaluation; and (vii) O&M of RWSS systems.
Within 36 months of grant effectiveness, MRD will update the 1995 Guidelines on Water Use and Hygiene Education.	Schedule 5, Para 23	Not Complied with MRD DRHC drafted new hygiene guidelines in mid 2010.
The training carried out by NGOs as part of the community mobilization is directed at the poor and vulnerable, and that at least 40% of those being trained are female.	Schedule 5, Para 38	Not Complied with The skills development subcomponent was not carried out.
At least 40% of all hygiene and sanitation education participants are male.	Schedule 5, Para 38	Complied with The project ensured gender balance in training activities.
A WSUG shall be formed for each water system in accordance with the revised MRD Guidelines on the Establishment of the WSUG. The Recipient shall formally recognize the WSUGs as separate entities with beneficial ownership of water supply systems used and maintained by them. In accordance with this recognition, MRD through its PDRDs shall issue a certificate to each WSUG recognizing the WSUG as the beneficial	Schedule 5, Para 9&10	Partly Complied With the coordination and cooperation of the commune councils and village chiefs, PDRDs formed 5,685 WSUG Boards in 859 villages. MRD initiated discussions with the Ministry of Interior (MOI) for official recognition and legalization of WSUGs under administration and management of Commune Councils.

Covenant	Reference in Grant Agreement	Status of Compliance
owner of the relevant water supply system. The commune council shall notify the applicable PDRD of each WSUG.		
Each WSUG shall elect a Board responsible for coordinating project activities in the village including collection of local materials contributions, scheduling labor inputs, and managing the O&M for WSS systems. The WSUG Board shall reflect a proportional representation of the ethnic minority membership of the WSUG.	Schedule 5, Para 11	Complied with 5 board members were selected by the WSUG members to be responsible for coordinating project activities. All WSUGs were trained on WSUG roles and responsibilities and O&M of water points.
MRD shall ensure that contributions of WSUGs cover at least the cost of O&M of the RWSS systems. PDRDs will provide technical support to the communities in the project areas to ensure continued O&M of the systems.	Schedule 5, Para 12&13	Not complied with Community cost sharing for water supply construction and full responsibility for the cost of O&M has been approved in the Policy and WSUG Guidelines issued by MRD. Every water point constructed through the project established a WSUG and trained it on the operation and maintenance procedures and provided hand tools and essential two-year maintenance spare parts. WSUGs are responsible for O&M including financial contributions for of water supply facilities repair. Technical support to WSUGs was provided by District Officers of the Rural Development (members of the PIU Teams) during the project, but this support is not in evidence post-project.
The PIU shall identify the poorest households in a village. A maximum of 20% of village households may be determined as the poorest. The households so identified shall be entitled to make their entire contribution in kind with no cash contribution required, whether or not they are a member of a WSUG, and are desirous of having a RWSS system.	Schedule 5, Para 14	Not complied with The PIU did not identify the poorest at the village level. Instead, at the WSUG formation meetings, this process was discussed and the WSUG members identified poor families. The total cash contributions (for 3% of water supply cost) were shared among the WSUG members according to the wealth status. However, it was assured all families including poor families are entitled for water use.
PIU shall review requests for construction of public latrines by commune councils. The PIU shall enter into an O&M agreement with each commune council requesting assistance for public latrine construction to serve market places, schools, tourist areas, pagodas, health centers, and prisons (separate for female and male). For these latrines, a subsidy of 50% of the base cost shall be paid by the commune council which shall also have the authority to collect this subsidy from the beneficiaries of the public latrines.	Schedule 5, Para 15	Not Applicable Public latrine component cancelled in major change of scope.

Covenant	Reference in Grant Agreement	Status of Compliance
MRD shall ensure that civil works contracts for piped water systems require a six-month guarantee of successful operations after commissioning (with a specified portion of the contractual payment due only after a successful guarantee period). The guarantee shall include but not be limited to a protection against system breakdown and environmental damage.	Schedule 5, Para 16	Complied with The piped water supply systems were completed in early 2010.
PIUs shall be responsible for assessing the availability of spare parts and preparing a spare parts supply plan consistent with RWSS method being used. As part of the water pump supply contract entered into with private suppliers, the PIUs shall ensure that provisions are included to secure a fixed number of spare parts in a private outlet located in each district served by the Project. The PIUs shall notify the WSUGs of the suppliers' address, price schedule for spare parts and agreed method of payment.	Schedule 5, Para 17	Partly Complied A set of spare parts and tools was provided to each WSUG after the well was handed over to the WSUG, for certain types of handpumps only. The AfriDev pumps are not available in Cambodia and have to be special ordered by MRD.
Each WSUG shall enter into a contract with the landowner on whose land Project facilities are being installed to ensure that access to the Project facilities shall be openly available to all WSUG members. When land is donated for use by the Project for Project facilities, MRD shall ensure that the commune council, which shall become entitled to the donated land, grants open access to the Project facilities to all WSUG members.	Schedule 5, Para 18	Complied with. Access to water supply facilities is openly available to all WSUG members and community members at large.
MRD shall ensure that each WSUG selects one WSUG Board member to collect the contribution required of its members to meet, at a minimum, the cost of the O&M for the RWSS system chosen in the subproject area.	Schedule 5, Para 19	Complied with. Each WSUG includes a treasurer responsible for collecting community contributions.
Other Covenants		
MRD shall establish a Project Steering Committee comprising the concerned departments within MRD, the chair of the Gender Working Group within MRD, and representatives from the Participating Provinces' PDRDs. The PSC shall be chaired by an MRD Secretary of State, who shall also act as Project Coordinator, and the PSC shall meet at least every three months to coordinate project activities.	Schedule 5, Para 2	Partly Complied with The PSC was established in January 2006 chaired by Mr. Try Meng, Secretary of State of MRD. Members are representatives of the departments of Rural Water Supply, Rural Health Care, Community Development, and Planning, plus the MRD Focal Person for Gender Actions and Directors of the PDRDs. The steering committee did not meet every three months (there were only 5 PSC meetings total).

Covenant	Reference in Grant Agreement	Status of Compliance
MRD shall establish a PMU with a part-time Project Director, a full-time Project Manager, and other full-time staff with appropriate technical qualifications, including an environmental officer and a resettlement officer. The PMU Project Manager, the PMU Project Director, and the Chair of the PSC/Project Coordinator shall not be replaced during the term Project without the prior approval of the Ministry of Economy and Finance and ADB.	Schedule 5, Para 3	Partly Complied with The PMU was headed by a part time Project Director, Dr. Mao Saray (Director, DRWS), and managed by a full-time Project Manager, Mr. Noun Pich Nimith.
Each PDRD in the participating provinces shall establish a PIU with a part-time Director, a qualified PDRD staff members as the full time PIU Project Manager, and other full-time staff with appropriate technical qualifications, an environmental officer and a resettlement officer.	Schedule 5, Para 4	Partly Complied with 5 PIUs were established with part-time Directors, full-time Managers and full-time technical staff in place by February 2006. As per the consultant final report, however, not all staff had appropriate technical qualifications and not all were full-time given other project commitments.
Each PDRD shall appoint one District Officer from each district participating in the project, to assist the WSUGs in monitoring civil works and to ensure quality control.	Schedule 5, Para 6	Complied with One district officer was appointed in each of the 18 project districts to assist WSUGs in monitoring civil works and to ensure quality control. However, the area of responsibility (# of villages) was too large for one officer to cover in any depth.
In order to select villages to participate in the Project, each PIU shall perform the following actions: (i) select an appropriate NGO active in RWSS to carry out community mobilization activities, (ii) issue a notice to all commune councils in the participating provinces and, through them, to the villages in the participation provinces, describing the project, its objectives, scope and organization; (iii) in conjunction with the selected NGO, invite representatives from the commune councils and villages to participate in a district level meeting to explain procedures and conditions to participate in the Project; (iv) attend the district integration workshops to determine a village's interest in becoming a subproject and thereby participating in the Project, (v) pre-select the villages which will be included in the Project for the coming year; (vi) ensure that the selected NGO assists each interested village in preparing a village plan suitable for inclusion in the Project; (vii) oversee submission of the village plan to the	Schedule 5, Para 7	Complied with. The village engagement process was fully implemented.

Covenant	Reference in Grant Agreement	Status of Compliance
applicable commune council for approval; and (viii) after approval by the commune council, arrange for procurement of the appropriate civil works contracts.		
<p>PIU shall identify subprojects for inclusion in the Project based on the following criteria: (i) poverty of the village as demonstrated by the poverty ranking of the commune in which the village is located (priority will be given to villages in the poorest 20% of the communes); (ii) existing water supply coverage in the village as demonstrated by the initial project proposal submitted by the village and confirmed by the commune council (priority will be given to villages in communes where the safe water supply coverage is 20% or less); (iii) geographic coherence and contiguousness of the proposed villages for each year of Project implementation; (iv) village commitment as demonstrated by (a) a request by the village for inclusion in the project, (b) availability of necessary land, (c) a resolution to form a WSUG, and (d) resolution to meet the required contributions for the Project facilities; (v) health indicators as demonstrated by the incidence of diarrhea; (vi) ethnic balance between proposed villages; and (vii) the proposed village is not receiving duplicative assistance from another donor. A village shall be excluded from the Project if the requested water supply and sanitation (i) will cause significant adverse environmental impacts or (ii) will require significant resettlement or land acquisition.</p>	Schedule 5, Para 8	<p>Partly complied with. The PMU and PIUs selected villages for inclusion in the project based on the established selection criteria, but criteria (iii) received a very low weighting (5%) which meant it was not prioritized. Geographic coherence and contiguousness was not achieved, which had a negative effect on achieving collective health benefits.</p>
<p>The Recipient shall (i) maintain, or cause to be maintained, separate accounts for the Project; (ii) have such accounts and related financial statement audited annually, in accordance with appropriate auditing standards consistently applied, by independent auditors whose qualifications experience and terms of reference are acceptable to ADB; (iii) furnish to ADB, as soon as available but in any event not later than 6 months after the end of each related fiscal year, certified copies of such audited accounts and financial statements and the reports of the auditors relating there to (including the auditors' opinion on the Grant Agreement as well as on the use of the procedures for imprest account/statement of</p>	Article IV, Section 4.02 (a)	<p>Complied with</p> <ul style="list-style-type: none"> (i) The PMU/PIUs maintained separate accounts for the Project (ii) Project accounts were audited as required. (iii) The audit report for 2006 was submitted on 29 June 2007, the report for 2007 was submitted on 27 June 2008, and the report for 2008 was submitted on 29 June 2009. (iv) Financial reports were submitted to ADB on schedule.

Covenant	Reference in Grant Agreement	Status of Compliance
expenditures), all in the English language; and (iv) furnish to ADB such other information concerning such accounts and financial statement and audit thereof as ADB shall from time to time reasonably request.		
The Recipient shall enable ADB's representatives to inspect the Project, the goods financed out of the proceeds of the Grant, and any relevant records and documents.	Article IV, Section 4.03	Complied with

APPENDIX 4: Grant 0018-CAM: Tonle Sap Rural Water Supply and Sanitation Project Results

Design Summary	Original Performance Targets/Indicators	Revised Targets and Results
Impact Improved health and quality of life for rural people in line with the Cambodia Millennium Development Goal (CMDG) targets for safe WSS	Increase the proportion of rural people with access to safe drinking water to 50% by 2015 (CMDG target 7.10)	Access to an improved source of drinking water, rural: (i) 2010 KAP Survey: 37.5% (dry season), 66.1% (wet season). (ii) 2008 Census: 40.5%
	Increase the proportion of rural population with access to improved sanitation to 30% by 2015 (CMDG target 7.12)	Access to improved sanitation, 2010 KAP Survey: 23.9% Access to improved sanitation, rural, 2009 CSES: 22.9% Households with toilet facility, 2008 Census: 23.2% ^a
	Reduce under-5 child mortality due to waterborne diseases by half of the 1990 level by 2015 (CMDG target 4.1)	Under-5 mortality: 1998: 124 per 1,000 live births (CMDG report 2010) 2005: 83 per 1,000 live births (CDHS 2005). 2010: 54 per 1,000 live births (CDHS 2010)
Outcome Sustained access for all communities and their members, including the poorest to improved and safe water supply and sanitation and better hygiene	By 2011, in the project area: ^b 1.09 million people have access to water supply and 0.72 million people have access to sanitation	The change in scope revised the targets to 0.59 million for water supply and 0.23 million for sanitation. At project completion, 0.48 million had access to water supply (81% of the revised target) and 0.21 million access to sanitation (91% of the revised target) (MRD PCR). ^c
	1,760 villages have better WSS facilities	The target was not explicitly revised . At project completion the project had worked in 859 villages, but WSS interventions were not integrated. Of the 859 villages, 767 have new water supply facilities and 562 villages have new sanitation facilities. WSS facilities were both improved in 470 villages, water supply only was improved in 297 villages, and sanitation only in 92 villages. Coverage in TSRWSSP villages is for the most part only partial: 100% water supply coverage was achieved in 356 of 767 villages, 100% sanitation coverage achieved in 3 out of 562 villages.
	50% of rural people have access to safe and regular supply of water	Not achieved at the provincial level. Coverage in Pursat and Kampong Thom is close to the CMDG target, but coverage is well below the target in Kampong Chhnang, Battambang, and Siem Reap. Rural water supply coverage by province, in 2005, and 2010 (TSRWSSP estimates): (i) Kampong Chhnang: 21% (2005), 31% (2010); Pursat: 10% (2005), 46% (2010); Battambang: 15% (2005), 31% (2010); Siem Reap: 33% (2005), 29% (2010); Kampong Thom: 17% (2005), 45% (2010). d Not achieved at the district or commune level, and only partially achieved at village level. 220 villages or 29% of those with water supply improvements still have less than 50% service coverage.

Design Summary	Original Performance Targets/Indicators	Revised Targets and Results
	30% of rural people have access to hygienic latrines	<p>(i) Not achieved at the provincial level. Coverage in Kampong Thom is close to the CMDG target, other provinces fall far short.</p> <p>Rural access to improved sanitation, 2005 and 2010 (TSRWSSP estimates): (i) Kampong Chhnang: 5% (2005), 15% (2010); Pursat: 6% (2005), 13% (2010); Battambang: 15% (2005), 20% (2010); Siem Reap: 6% (2005), 11% (2010); Kampong Thom: 13% (2005), 24% (2010).^e</p> <p>(ii) Not achieved at the district or commune level, and only partially achieved at village level. 194 villages or 35% of those with sanitation improvements still have less than 30% service coverage.</p>
	At least 50% of the households in the selected villages adopt improved hygiene practices.	Not achieved. The MRD KAP survey (2010) asked respondents to identify critical times for washing hands, and while 81% of respondents in TSRWSSP villages said before eating, only 45% said before after using the latrine, 38% said before preparing food, and 38% said after defecation. These values do not differ significantly from the general population. ^f
	(vi) institutional capacity improved.	This is not a specific or measurable indicator (no baseline value, institutions not specified).
<p>Outputs</p> <p>Component 1: Community Mobilization and Skills Development:</p> <p>People in target areas aware about the project</p> <p>Water Supply and Sanitation plans prepared for implementation (information about project, rapid appraisal of WSS needs, village mapping, selection of the very poor, baseline survey, informed choice)</p> <p>Improved water use and health education</p> <p>Water and Sanitation Users Groups formed and trained</p> <p>Small groups trained on water related opportunities</p>	<p>By 2011, in the project areas:</p> <p>1760 subprojects selected, prepared and implemented</p>	Target not explicitly revised. Budget limitations limited project implementation to 859 villages, but the extent of project support and resulting service coverage in each village varies widely.
	80% people aware of the project and WSS issues	Exceeded. Data from the TSRWSSP end-line survey confirm that 96% of respondents were aware of the project. Village information meetings, held at the start of project activities in each village, had more than 926,000 participants in total (MRD PCR). However, the end-line survey sample may be somewhat biased, given that 75% of households own a latrine. Nearly two-thirds of TSRWSSP villages (64%) have less than 50% sanitation coverage.
	60% men and women in each village involved in village planning and selection of WSS systems	No data are available on the proportion of adult men and women that participated in village planning. According to the MRD PCR, the project encouraged participation, but the extent varied from village to village depending on factors such as (i) water scarcity, (ii) community leadership, (iii) villagers' workload (e.g. in agriculture), and (iv) socioeconomic conditions. This indicator may have been somewhat ambitious.
	All subprojects have baseline surveys, environment analysis	Achieved. Village data exists for each TSRWSSP village, but in hard copy only (in binders at the PDRD offices). The baseline socioeconomic survey covered 125 villages in November 2007.

Design Summary	Original Performance Targets/Indicators	Revised Targets and Results
	All piped water systems and ponds project have LAR plans	Not applicable. All land was donated voluntarily with proper documentation. There were no involuntary resettlement impacts, and LAR plans were not required.
	All selected villages have identified the poorest households in the village	Not done. The project did not emphasize reaching the poor (MRD PCR, p. 17). Most of the project staff were not aware of the poverty targeting strategy and no specific actions were planned to identify the poor (p. 19). The sanitation component and household rainwater tanks favored better-off households.
	All WSS systems have established water and sanitation user groups (WSUGs),	Achieved. The project established 5,685 WSUGs, one for each communal water point.
	All WSUGs elect boards with at least 40% women	Exceeded. Women comprised 43% of WSUG board members.
	At least 50% of all members trained in the maintenance of WSS systems in every WSUG are women	Achieved. At least one man and one woman from each WSUG participated in O&M training as per the original plan. However,
	At least 150 groups supported to develop water related activities	Not implemented.
	90% of WSUG boards functioning and able to manage the water systems 2 years after project completion.	Too early to assess, but unlikely. The continued functioning of WSUGs is unlikely according to both the MRD PCR and the final external evaluation.
	80% of target water users can perform at least three good hygiene practices	Not achieved. The MRD KAP survey (2010) asked respondents to identify critical times for washing hands, and while 81% of respondents in TSRWSSP villages said before eating, only 45% said before after using the latrine, 38% said before preparing food, and 38% said after defecation. These values do not differ significantly from the general population. ⁹ The 2009 water use and hygiene education seminars reached only 40% of WSUGs (responsible for sanitation & hygiene promotion in the villages).
Component 2: Water supply improvement: Rehabilitated and upgraded existing water supply systems New water supply systems provided Improved technologies for ground water testing and transfer of technology	By 2011, in the project areas: 1,09 million people have access to safe water through the rehabilitation or new water supply systems.	The target was revised to 0.59 million based on an upper bound estimate of average number of households reached per system. At project completion the PMU estimated 0.48 million (81%) had access to water supply based on actual population figures.
	6,185 systems repaired or upgraded	The revised target was achieved, but the new target of 257 rehabilitated wells was very low, as a result of the budget constraints encountered. The PMU emphasized new systems from the outset. RWSSP2 is emphasizing rehabilitation before new construction.

Design Summary	Original Performance Targets/Indicators	Revised Targets and Results
Improved water quality monitoring	80% rehabilitated water systems functioning after 3 years	This is too early to assess (wells were rehabilitated in 2009). As rehabilitated wells tended to be fitted with VN6 pumps, their sustainability is in question.
	7,700 new systems built	The revised target of 4,509 new community waters supply systems was achieved. The project delivered 3,169 drill wells, 1,087 combined wells, 221 protected hand-dug wells, 27 community ponds, and 5 small piped water supply systems.
	90% of new systems functioning after 3 years	This cannot yet be assessed. It is likely that drilled wells fitted with Afridev handpumps are likely to continue to function (no problems were found at project completion). However, wells fitted with the VN6 pump, community ponds, and the piped water supply systems are less likely to be functioning after 3 years.
	All households have access to individual systems where community systems are not possible or suitable	This target was not prioritized, and not achieved. The project supported individual systems for 2,145 households (1,163 rainwater tanks and 982 bio-sand filters).
	All very poor households have access to safe water	This was not achieved. Only 356 out of 859 TSRWSSP villages (41%) achieved 100% coverage for water supply. In the absence of a household targeting system, only 100% coverage can ensure that all very poor households have access. Household rainwater tank construction was particularly biased to the non-poor given the required durable roofing material.
	75% WSUG boards collecting regular fees for maintenance	This is unlikely to be sustained. The MRD PCR estimates that only 30-40% of WSUG board members were active at the end of the project.
	50% maintenance personnel trained are women	At least one man and one woman from each WSUG participated in O&M training, as planned. However, the training was opened to all willing board members, and in many cases additional men opted to join. Therefore the final percentage of women participants was lower than 50%.
	10 pilot systems implemented with related transfer of technology	Not implemented.
	Rate of successful drilling improved by 20%	No baseline available. The project delivered 3,169 successful drilled wells with 550 abandoned wells, for a negative well incidence of 14.8%
	Initial water testing for all new systems	Initial water testing was done for all new systems.
	Regular system of water testing is available in all participating provinces 2 years after Project completion	Regular water testing not available as of 1 year after project completion.

Design Summary	Original Performance Targets/Indicators	Revised Targets and Results
<p>Component 3: Sanitation improvement:</p> <p>1.Information on water use and sanitation through a National Awareness Campaign</p> <p>2.Household latrines built and maintained</p> <p>3.Public latrines and washing hand stations build and maintained</p>	<p>By 2011, in the project areas:</p> <p>80% rural Cambodians have access to sanitation information through radio and TV</p>	<p>The project did not support a national campaign using radio and TV. Instead, it implemented sanitation awareness campaigns in the project provinces.</p>
	<p>0.72 million people have access to households latrines</p>	<p>The target was revised to 0.23 million. At project completion, 0.21 million have access to sanitation.</p>
	<p>150,000 household latrines built</p>	<p>The revised target of 45,046 latrines was achieved. Of these, , 23% were dry pit or VIP latrines, while 77% were water sealed or pour flush latrines.</p>
	<p>80% of benefiting households maintain the latrines after 3 years</p>	<p>It is too early to assess this target, but it is likely to be achieved, based on the TSRWSSP end-line survey, project completion mission field visits, and two independent studies by development partners (WSP and SNV) that each find a very high rates of latrine usage and maintenance under TSRWSSP, contrary to the conventional wisdom that subsidized latrines are not used.</p>
	<p>200 public latrines built, separate latrines for men and women, LAR plan prepared if necessary</p>	<p>The component was cancelled when required contributions of 50% were deemed too high for potential public partners (e.g. commune councils, health centers, schools, and pagodas).</p>
	<p>All public latrines have O&M contracts with local committees or private sector</p>	<p>Not applicable, component cancelled.</p>
	<p>80% public latrines functioning after 3 years.</p>	<p>Not applicable, component cancelled.</p>
<p>Component 4: Capacity building and institutional support:</p> <p>Improved capacity of MRD/PDRD/DORD/CC to plan, facilitate, monitor RWSS taking into consideration gender issues, environment, ethnic/indigenous groups, resettlement, private sector;</p> <p>Classified and trained private entrepreneurs to provide equipment and services in the frame of the Project</p> <p>A national data base on WSS indicators established and maintained</p> <p>A gender strategy developed for RWSS</p> <p>RWSS Strategy and guidelines developed</p>	<p>All MRD and PDRD staff involved in the project are trained in their field of activity by year 2</p>	<p>This target was achieved. The project implemented 30 training programs across a range of management and technical skills for the PMU and PIUs.</p>
	<p>PMU and PIUs have sufficient capacity to implement the required services by year 3</p>	<p>This target was partially achieved. Many project staff had limited vision with a narrow focus on immediate tasks to complete targets. Many staff did not pay attention to long-term perspectives in the post-construction period (MRD PCR, p. 16). Capacity for M&E remains generally weak, particularly at PDRD level. This is being remedied under RWSSP2 with greater support from an international M&E specialist firm tasked with capacity development.</p>
	<p>Participants of training activities include at least 30% women</p>	<p>Achieved.</p>
	<p>Specification and requirements for PSP prepared</p>	<p>Achieved. To classify private sector entities, MRD developed a technical evaluation pre-qualification system for RWSS contractors. Expressions of interest were sought in July 2006 and 83 local firms submitted 139 proposal packages, out of which the MRD evaluation team selected 55 packages for</p>
	<p>A classification system of private sector</p>	

Design Summary	Original Performance Targets/Indicators	Revised Targets and Results
and ready for implementation	companies is in place by year 2	four types of civil works: water well drilling (23 firms), hand dug/combined wells (13 firms), construction of piped water systems and community ponds (14 firms), and household water treatment (5 firms). Many firms qualified for multiple types, so the total number of pre-qualified firms was 27.
	All classified private entrepreneurs are trained to comply to the MRD specifications	
	Nationwide standard database for all rural water supply and sanitation established by year 3 and updated annually -quantitative and qualitative, sex-disaggregated, poverty data	Not achieved. Availability of updated RWSS sector data remains problematic, and no nationwide standard database exists or is maintained.
	Gender strategy of RWSS developed by year 2	Achieved. The project implemented a gender action plan to ensure that the benefits of RWSS reached men and women equally. The project also developed technical guidelines for gender mainstreaming (finalized in 2009) as an input to future national guidelines.
	A RWSS Strategic Policy Unit, and a Development Partners Forum for RWSS place by year 1	Achieved. The inter-ministerial Technical Working Group (TWG) for Rural Water Supply, Sanitation and Hygiene was established in 2007, chaired by MRD. ADB was the lead donor co-facilitator, a role that rotated to WSP in 2009 and UNICEF in 2010. MRD established a TWG Secretariat. TWG meetings take place on a quarterly basis (approximately).
	The RWSS strategy and all RWSS guidelines finalized respectively by year 2 and year 3	Partially achieved with delays. MRD developed the RWSS strategy in a highly consultative process over the period 2008-2010 with development partner and consultant support. The Minister of Rural Development endorsed the Khmer version in April 2011. The English version is being finalized in August 2011. MRD has developed a dissemination plan. A rolling operational plan and technical guidelines are part of the Technical Working Group's work plan for 2011-2012. When delays in the strategy development became evident, the TSRWSSP developed project-level technical guidelines (finalized in 2009) as an input to eventual national guideline development.

CC = commune council , CDHS = Cambodia Demographic and Health Survey , CMDG = Cambodian Millennium Development Goal, CSES = Cambodia Socio-Economic Survey , DORD = District Office of Rural Development , KAP = knowledge, attitudes and practices , LAR = land acquisition and resettlement, M&E= monitoring and evaluation , MRD = Ministry of Rural Development , O&M = operation and maintenance , PCR = project completion report , PDRD = Provincial Department of Rural Development , PIU = Project Implementation Unit , PMU = Project Management Unit, RWSS = Rural Water Supply and Sanitation , RWSSP2 = Second Rural Water Supply and Sanitation Project , SNV = Netherlands Development Organization, TSRWSSP = Tonle Sap Rural Water Supply and Sanitation Project , TWG = Technical Working Group , UNICEF = United Nations Children's Fund , WSUG = water and sanitation user group , WSP = Water and Sanitation Program , WSS = water supply and sanitation

^a 2008 Census does not distinguish between improved or unimproved sanitation.

^b The "project area" is defined as the five provinces.

^c MRD developed revised targets based on average population served, actual achievement was based on actual population, per the 2008 Census

^d 2010 estimates only add the population served by TSRWSSP to the baseline, they do not include other water supply interventions.

^e 2010 estimates only add the population served by TSRWSSP to the baseline, they do not include other sanitation interventions.

^f Data from 100 households in the five TSRWSSP villages covered by the KAP survey are not necessarily representative of the entire TSRWSSP area, but neither the TSRWSSP end-line survey nor the final external evaluation assessed knowledge or practice of the three critical hygiene behaviors (drinking clean water, washing hands with soap, and using a toilet).

⁹ The outcome target of “at least 50% of the households in the selected villages adopt improved hygiene practices” is less ambitious than this target (80% of target water users can perform at least three good hygiene practices).

Sources:MRD TSRWSSP Project Completion Report 2010, TSRWSSP Endline Survey 2010, MRD KAP Survey 2010.