



Completion Report

Project Number: 40282
Loan Number: 2273
October 2012

Viet Nam: Emergency Rehabilitation of Calamity Damage Project

CURRENCY EQUIVALENTS

Currency Unit – dong (D)

		At Appraisal (14 April 2006)	At Project Completion (31 December 2011)
D1.00	=	\$0.000070	\$0.000048
\$1.00	=	D14,300	D21,035

ABBREVIATIONS

ADB	–	Asian Development Bank
CPMU	–	Central Project Management Unit
DARD	–	Department of Agriculture and Rural Development
DMF	–	design and monitoring framework
EAL	–	emergency assistance loan
GITHRA	–	geo-information technology for hazard risk assessment
GIS	–	geographic information system
ha	–	hectare
IED	–	Independent Evaluation Department
IPDF	–	indigenous peoples development framework
km	–	kilometer
MARD	–	Ministry of Agriculture and Rural Development
O&M	–	operation and management
OM	–	operations manual
PCR	–	project completion report
PPC	–	provincial people's committee
PPMU	–	provincial project management unit
RISP	–	Rural Infrastructure Sector Project
RRP	–	report and recommendation of the President
SDR	–	special drawing right
TA	–	technical assistance
WRU	–	Water Resources University

NOTE

In this report, "\$" refers to US dollars.

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BASIC DATA

A. Loan Identification

1.	Country	Socialist Republic of Viet Nam
2.	Loan Number	2273-SF
3.	Project Title	Emergency Rehabilitation of Calamity Damage Project
4.	Borrower	Socialist Republic of Viet Nam
5.	Executing Agency	Ministry of Agriculture and Rural Development
6.	Amount of Original Loan	SDR34,733 million
	Amount of Supplementary Loan	SDR17,085 million
7.	Project Completion Report No.	PCR VIE 1347

B. Loan Data

1.	Appraisal	
	Original Loan	
	– Date Started	27 March 2006
	– Date Completed	28 April 2006
	Supplementary Loan	
	– Date Started	24 July 2008
	– Date Completed	12 August 2008
2.	Loan Negotiations	
	Original Loan	
	– Date Started	16 October 2006
	– Date Completed	17 October 2006
	Supplementary Loan	
	– Date Started	28 October 2008
	– Date Completed	28 October 2008
3.	Date of Board Approval	
	Original Loan	21 November 2006
	Supplementary Loan	8 December 2008
4.	Date of Loan Agreement	
	Original Loan	7 December 2006
	Supplementary Loan	29 December 2008
5.	Date of Loan Effectiveness	
	Original Loan	
	– In Loan Agreement	7 March 2007
	– Actual	23 April 2007
	– Number of Extensions	1
	Supplementary Loan	
	– In Amended Loan Agreement	29 March 2009
	– Actual	7 April 2009
	– Number of Extensions	1
6.	Closing Date	
	– In Original Loan Agreement	31 December 2009
	– In Amended Loan Agreement	31 December 2011
	– Actual	8 August 2012
	– Number of Extensions	0

7. Terms of Loan (Amended)
- Interest Rate 1% during the grace period with repayment of principal at 2% a year for the first 10 years after grace period and 4% per annum thereafter amortization
 - Maturity (number of years) 30
 - Grace Period (number of years) 10
8. Terms of Relending (if any) NA
- Interest Rate
 - Maturity (number of years)
 - Grace Period (number of years)
 - Second-Step Borrower

9. Disbursements

a. Dates

Initial Disbursement	Final Disbursement	Time Interval
30 July 2007	07 May 2012	57.7 months
Effective Date	Amended Closing Date	54.0 months
30 July 2007	31 December 2011	

b. Amount (SDR million) (ADB Loan only)

Category No.	Category or Subloan	Original Allocation	Last Revised Allocation (including supplementary loan) (4)	Amount Canceled	Amount Disbursed
(1)	(2)	(3)		(5)	(6)
01	Civil Works	29.46	46.56	0.76	45.80
02	Consulting Services	0.53	0.76	0.05	0.72
03	Project Management	4.31	3.76	(0.59)	4.35
04	Interest Charge	0.44	0.73	0.00	0.73
	Total (loan currency)	34.73	51.82	0.22	51.60
	Total \$ Equivalent	50.97	80.35	0.35	80.00

() = negative.

10. Local Costs (Financed)

- Amount (\$ million): 53.0
- Percent of Local Costs: 84.5%
- Percent of Total Cost: 57.5%

C. Project Data**1. Project Cost (\$ millions)**

Cost	Appraisal Estimate	Actual
Foreign Exchange Cost	30.79	29.45
Local Currency Cost	63.12	62.75
Total	93.91	92.20

2. Financing Plan (\$ million)

Cost	Appraisal Estimate	Actual
Implementation Costs		
Borrower Financed	13.88	12.20
ADB Financed	78.90	78.87
Other External Financing	0.00	0.00
Total	92.78	91.07
IDC Costs		
Borrower Financed	0.00	0.00
ADB Financed	1.13	1.13
Other External Financing	0.00	0.00
Total	1.13	1.13

ADB = Asian Development Bank, IDC = interest during construction.

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

Component	Appraisal Estimate	Actual
Civil Works	84.60	81.82
Consulting Services	1.18	1.19
Project Management	7.00	8.06
Interest Charge	1.13	1.13
Total	93.91	92.20

4. Project Schedule

Item	Actual
Date of Contract with Consultants	29 April 2008
Completion of Engineering Designs	30 September 2009
Civil Works Contract: Package 03, Subproject "Rehabilitation and upgrading of Vinh Ha-Vinh O Road"	
Date of Award	16 February 2008
Completion of Work	31 March 2010
Equipment and Supplies is included in civil work contracts, the contract with biggest equipment is Package 01, subproject "Rehabilitation and upgrading of Hung Xuan pumping station"	
Contract Award	2 December 2009
Completion of Work	28 May 2011

D. Data on Asian Development Bank Missions

Name of Mission	Date	No. of Persons	No. of Person-Days	Specialization of Members^a
Scoping Mission	4–7 & 11–15 Nov 2005	2	18	d, g
Reconnaissance Mission	13–26 Feb 2006	2	24	a, g
Fact-finding	27 Mar–28 April 2006	9	181	a, b, c, d, e, g, h, i, j
Inception Mission	24 Sep–6 Oct 2007	7	98	a, c, d, f, g, h, i
Review Mission	9–20 Feb 2008	2	24	a, g
Fact Finding for Supplementary Financing	24 Jul–12 Aug 2008	3	60	a, b, g
Review Mission	9–20 Feb 2009	2	24	a, g
Review Mission	14–29 Aug 2009	1	16	g
Special Project Administration Mission	13–22 Jan 2010	1	10	g
Review Mission	12–29 Oct 2010	1	18	g
Review Mission	18–27 Feb 2011	1	10	g
Review Mission	9–20 Sep 2011	1	12	g
Project Completion Review Mission	9–19 Jan 2012	4	44	b, e, g, h

^a a = engineer, b = financial analyst, c = counsel, d = economist, e = procurement consultant or specialist, f = control officer, g = project officer, h = project analyst, i = administrative staff, j = safeguard specialist.

I. PROJECT DESCRIPTION

1. The Emergency Rehabilitation of Calamity Damage Project was prepared in response to a request from the Government of Viet Nam for assistance to repair infrastructure damaged during a series of typhoons and floods in 2005.¹ That year, tropical storms and typhoons affected large parts of Viet Nam, causing loss of life and extensive damage in 16 provinces. Infrastructure that was critical to the livelihoods of poor rural households were destroyed as flash floods swept away bridges, roads, irrigation control structures, diversion weirs, and canals. Rainfall-induced landslides cut off roads and carried away houses and other vital property, including large tracts of terraced agricultural land and irrigation systems. Productive land adjacent to many rivers was covered by river-borne sediment. Flood protection infrastructure along rivers was lost, leaving rural communities vulnerable to further calamities. Sea dikes were breeched, flooding coastal plains used for rice farming and aquaculture, and exposing these areas to greater risk of damage during even moderate storms. The consequent loss of economic opportunities was a significant burden on the poor who also suffered from reduced access to markets, schools, services, and clean water.

2. In October 2005, the Ministry of Planning and Investment made an initial request for assistance from the Asian Development Bank (ADB), but two more typhoons inflicted further damage. ADB fielded scoping missions to assess the nature and extent of damage in November 2005 and February 2006. The missions concluded that damage was extensive and that its repair would be beyond the capacity of provincial authorities. On 20 January 2006, the Ministry of Planning and Investment asked ADB to provide emergency assistance according to ADB's recently approved disaster and emergency policy using loan savings from ongoing projects.² On 26 January 2006, the Ministry of Agriculture and Rural Development (MARD) established the Central Project Management Unit (CPMU) to prepare and administer the ensuing emergency assistance.

3. The assistance was to be packaged as a new project and the project's impact was to be sustained economic growth in 10 provinces severely affected by typhoons in 2005.³ Its outcome was to be rapid resumption of livelihoods and reduced vulnerability to natural disasters in the affected areas. This was to be achieved by (i) reinstating essential infrastructure, including roads, flood protection, irrigation systems, and social infrastructure; and (ii) concurrently providing equivalent or enhanced storm and flood protection to vulnerable areas where feasible.

4. Outputs were to consist of 39 core subprojects (selected from a list of 105 considered suitable for inclusion in the project), plus additional subprojects to be taken up if funds were available. These were to include flood protection, irrigation, roads and bridges, and social services. Flood protection subprojects were to repair and upgrade damaged sea dikes and flood protection embankments (including rebuilding dikes and embankments and related structures, protecting them against future recurrence of typhoons and floods, and adding protective works). Irrigation subprojects were to rehabilitate and protect damaged irrigation facilities, including reinstating damaged weirs, irrigation and drainage pumping stations, culverts, canals, drains, river banks, reservoirs, bridges, and access roads. Roads and bridges subprojects were to rehabilitate and protect damaged district and commune roads and bridges, including restoring and protecting road embankments, replacing damaged

¹ A design summary and performance targets from the original design and monitoring framework along with actual project achievements are in Appendix 1.

² ADB. 2004. *Disaster and Emergency Assistance Policy*. Manila.

³ The project area encompassed parts of the provinces of Ha Giang, Ha Tinh, Nam Dinh, Nghe An, Phu Tho, Phu Yen, Quang Binh, Quang Tri, Thanh Hoa, and Yen Bai.

pavements, resurfacing roads, and reinstating drainage works; while social services subprojects were to repair and protect damaged schools, water supply systems, and markets. The project design was based on the damage and needs assessment made jointly by the government and ADB in November 2005 and February 2006. Institutional arrangements were similar to those of the Rural Infrastructure Sector Project (RISP),⁴ which had been successfully implemented by the MARD between 1998 and 2005.

5. Initial funding, in the amount of \$50.97 million,⁵ was approved by ADB's Board of Directors in November 2006.⁶ Further supplementary funding was approved in December 2008 in the amount of \$25.5 million.⁷ Supplementary funding was required due to an initial underestimation of subproject costs, damage caused by subsequent typhoons and flooding during 2007 and 2008 before subprojects could be completed, and unanticipated and unusually high levels of inflation. The initial loan became effective on 23 April 2007 and both loans were closed on 8 August 2012. An associated technical assistance (TA) grant in the amount of \$500,000 and financed by the Republic of Korea e-Asia and Knowledge Partnership Fund was also approved at the same time. The TA commenced on 11 September 2009 and was closed on 27 June 2012.⁸

II. EVALUATION OF DESIGN AND IMPLEMENTATION

A. Relevance of Design and Formulation

6. The project was consistent with Strategy 2020 in that it focused on the repair, rehabilitation, and upgrading of key productive infrastructure.⁹ It was also fully consistent with ADB's prevailing country partnership strategy,¹⁰ and the government's national socioeconomic development plan¹¹ and disaster mitigation and management strategy.¹² In this context, ADB's country partnership strategy states that "A large proportion of the population remains vulnerable to natural disasters, including typhoons, flooding, drought,

⁴ ADB. 2006. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the Socialist Republic of Viet Nam for the Rural Infrastructure Sector Project*. Manila (Loan 2273-VIE, for \$50.97 million, approved on 21 November).

⁵ The project funding was allocated from loan savings from three projects: the Forestry Sector Project; the Vocational and Technical Education Project, and the Ho Chi Minh Environmental Improvement Project. At the time of appraisal, loan savings accounted for SDR58.6 million (approximately \$86.7 million), but only SDR29.5 (\$50.9 million) was allocated to the project, even though the government's cost estimates for damage repair and upgrading was in the region of \$80.0 million.

⁶ ADB. 2006. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the Socialist Republic of Viet Nam for the Emergency Rehabilitation of Calamity Damage*. Manila (Loan 2273-VIE, for \$50.97 million, approved on 21 November).

⁷ ADB. 2008. *Report and Recommendation of the President to the Board of Directors: Proposed Supplementary Loan to the Socialist Republic of Viet Nam for the Emergency Rehabilitation of Calamity Damage*. Manila (Loan 2273-VIE [supplementary], for \$25.5 million, approved on 8 December).

⁸ At the request of the Development Effectiveness Committee of the Board of Directors, the Independent Evaluation Department (IED) undertook a real-time evaluation of the project status at the beginning of 2009. (See Lessons from Processing and Ongoing Implementation of Loan 2273-VIE (SF): Emergency Rehabilitation of Calamity Damage Project. EIB 2009-01, March 2009—referred to in the text as "the IED real-time evaluation"). The project completion report (PCR) mission has taken note of the IED findings but, in accordance with PCR procedures, has prepared its own analysis of project status at completion at the end of 2011 taking into account, and referring to, the findings of the report where considered relevant. The technical assistance completion report is in Appendix 2.

⁹ ADB. 2008. *Strategy 2020: The Long-Term Strategic Framework of the Asian Development Bank, 2008–2020*. Manila.

¹⁰ ADB. 2006. *Viet Nam Country Operational Strategy (2007–2010)* Manila. The country partnership strategy covers 2007–2010 but was prepared in 2006 at the same time as the project.

¹¹ Government of Viet Nam. 2006. *Socio-Economic Development Plan 2006–2010*. Ha Noi.

¹² Government of Viet Nam. 2001. *Second National Strategy and Action Plan for Disaster Mitigation and Management of Vietnam, 2001–2020*. Ha Noi.

and communicable diseases such as avian influenza. The national socioeconomic development plan, in recognition of the link between vulnerability to natural disasters and persistent poverty, gives priority to economic and social infrastructure investment in disaster-stricken regions. Vulnerability will be reduced and social welfare networks built by (among others) preventing and mitigating natural disasters. The goal is to halve the number of people re-impooverished by natural disasters or other risks.” With this policy background, a project that would aim to repair and upgrade key rural infrastructure; protect rural areas from flooding and storm surges; restore economic livelihoods in some of the poorest provinces in the country; and enhance the protection of people, property, and infrastructure from future natural disasters would seem to be a highly relevant intervention for ADB support.

7. There were some concerns, however, both during the preparation of the project and subsequently—especially during the processing of the supplementary loan—about the relevance of the project design in relation to ADB’s disaster and emergency policy.¹³ Under the policy (recently approved at the time of project preparation), emergencies were to be addressed in three phases: (i) prevention, mitigation, and preparedness; (ii) transitional assistance and priority rehabilitation; and (iii) recovery. Funding was to be provided either through the reallocation of loan proceeds,¹⁴ or through the provision of an emergency assistance loan (EAL).¹⁵ For some reason, however, it was decided during the early stages of preparation that (i) the project would focus on the transitional assistance and rehabilitation phase, (ii) it would be funded through the reallocation of loan savings, and (iii) these would be repackaged in the form of an EAL. It is not clear why this approach was chosen. Since the rehabilitation was to be funded through a reallocation of loan savings it was not necessary to formulate it as an EAL, especially since EALs have a number of restrictions (for example a 12-week preparation period and a 2-year implementation period) that are difficult to comply with when dealing with large infrastructure.¹⁶ By unnecessarily packaging the assistance as an EAL rather than simply a reallocation of loan savings, the design suffered unnecessary constraints with subsequent consequences on the pace and efficiency of implementation.

8. For example, according to the ADB *operations manual* section on disaster and emergency assistance (OM D7/BP), in the wake of a disaster, immediate assistance must address rehabilitating high-priority physical and social infrastructure such as water, sanitation, power, communications, and transport; revitalizing basic services, particularly education and health care; and jump-starting economic productivity. However, the *operations manual* also states that mitigation measures, while identified in emergency programming during the transition phase, should also be part of a country’s national development process. Mitigation activities are indicated to include (i) protecting critical infrastructure; reinforcing vulnerable structures; and adjusting building, land-use, and zoning codes; (ii) constructing dams or dikes to prevent flooding, and building breakwaters in ports and low-lying coastal areas; (iii) acquiring hazard reduction technology; and (iv) strengthening governance and social cohesion. As pointed out in the Independent Evaluation Department [IED] real-time evaluation (footnote 8) this left the project design subject to the criticism that some of the proposed subprojects (dikes and flood protection embankments, for example) would not normally qualify for inclusion within the scope of an EAL. In reality, however, when replacing either protective or productive infrastructure it is best to design it to a level that will resist further damage in future disasters rather than to

¹³ These were brought out in the IED real time evaluation mentioned in footnote 8.

¹⁴ ADB *operations manual* section on disaster and emergency assistance D7/BP para. 19.

¹⁵ ADB *operations manual* section on disaster and emergency assistance D7/BP para. 20.

¹⁶ Infrastructure works include a mobilization phase, a design phase, and a contractor selection phase before construction work, which, given ADB and government procedures, are difficult to complete within a 2-year time period. When the time required for loan effectiveness is added, completing an infrastructure project within 2 years becomes even more difficult, especially for 39 subprojects.

simply replace it at previous design levels and then reinforce it later at a greater cost and a higher level of inefficiency—if it ever gets upgraded at all. Moreover, there is little point in rebuilding social or productive infrastructure (schools, roads, and irrigation systems) if they are just going to be damaged during the next major climatic event. Protection in the form of repaired and upgraded embankments and dikes is required to ensure their continued functioning.

9. A further deviation from ADB's disaster and emergency policy was the time taken to prepare the project. Under the policy for EALs, 12 weeks are provided as the preparation period.¹⁷ However, due to the nature of the assistance to be provided and the dispersed nature of the project area, preparation was a long process involving much interaction at the national and provincial levels and a fairly drawn-out internal processing of the project proposal.¹⁸ On the other hand, it is hard to argue that the project would have been better designed and more successful if the policy had been strictly followed and these consultations had not taken place. Finally, because of the constraints imposed on EALs, the project implementation period was limited to only 30 months,¹⁹ which is too short a time to implement a project consisting of infrastructure repair under at least 39 subprojects in 10 different provinces. The chosen design thus opens questions about both the ADB's disaster and emergency assistance policy and the project design itself, especially the implementation period chosen.

10. In terms of the specifics of the project implementation arrangements and scope, there were positive aspects and negative aspects. The project's implementation arrangements followed those of the just-completed RISP and thus implementation capacity was available at national levels and in some of the project provinces. This was a very good choice. There was, however, one shortcoming that was to have negative effects on implementation. The government had requested a loan of \$70.0 million and there was about \$80.0 million in loan savings available. However, a decision was taken to provide only \$50.97 million as a first step and to provide additional funding if these original funds were utilized efficiently. As a consequence, part of the initial start-up delays ensued as a result of trying to decide which of the provinces and subprojects should be allocated the limited funds. Funding limitations also affected the design of individual subprojects because, in many cases, less than optimal designs were chosen due to cost considerations. This must be considered unfortunate and unnecessary given that sufficient funding was available and could have been provided without even drawing down new loan funds.

11. Nonetheless, in view of the high levels of potential benefits in the form of the reestablishment of livelihoods for hundreds of thousands of rural and urban inhabitants and the protection of thousands of hectares of productive agricultural land, fish ponds, industrial areas and residential land, the selection of the project and subprojects can be considered highly relevant despite the discrepancies noted in paras. 7–10. Moreover, while the project was relevant at the time of appraisal, it is perhaps even more relevant now. During implementation basic improvements were made to the design of sea dikes and embankments, which have become models for the further development of such infrastructure in the country. In view of the likelihood of an increased frequency and intensity of climatic disasters due to global climate change, the designs, implementation procedures,

¹⁷ There are no such restrictions on the reallocation of loan savings which, in any event, would normally take less time to prepare and process than a new loan.

¹⁸ In line with the Disaster and Emergency Policy no project preparatory technical assistance (TA) was provided. Due to the longer time required to prepare the project, the RRP included a waiver for Board approval of the longer processing period.

¹⁹ This is 6 months longer than indicated in the ADB *operations manual* section on disaster and emergency assistance (OM D7).

and capacities developed during the implementation of the project can make a significant contribution to further climate change mitigation and climate disaster prevention.

B. Project Outputs

12. During the damage assessment undertaken for project preparation, 89 subprojects from the original list of 105 potential subprojects were identified for possible inclusion in the scope of the project. In view of the fact that insufficient funds were budgeted for all of these subprojects, they were prioritized, and at appraisal it was expected that the project outputs would comprise the completion of 39 core subprojects along with an unspecified number of additional subprojects chosen from the remaining 50, depending on the funds remaining.²⁰ In terms of physical outputs it was estimated that the 39 core subprojects would result in the repair, rehabilitation, or upgrading of (i) irrigation canals serving more than 11,000 hectares (ha) of irrigated land; (ii) 112 kilometers (km) of rural roads; (iii) about 30 km of sea dikes and flood protection embankments; and (iv) an unspecified number of schools, markets, and rural water supply schemes. Ultimately, with the delays in project start-up and given the urgency of some subprojects, 16 of the original subprojects were carried out using government funds. Thus, the total number of subprojects was reduced to 73 and reprioritized into 47 priority and 26 additional subprojects. This project scope (in terms of subprojects) was maintained at the time of appraisal of the supplementary loan and the physical output targets were revised to comprise (i) irrigation canals serving more than 18,286 ha of irrigated land, (ii) 211.6 km of rural roads, (iii) about 98.7 km of sea dikes and flood protection embankments, and (iv) 1 school.

13. At project completion, 70 of these subprojects were completed, while the remaining 3 were taken up by other donors. Physical accomplishments at the time of project completion were (i) irrigation infrastructure serving 18,992 ha; (ii) 213.3 km of rural roads; (iii) 118.8 km of sea dykes and flood protection embankments; and (iv) 1 school. Of particular note and indicating the impact of the project, the sea dikes and embankments now protect approximately 91,900 ha of residential and agricultural land with a population of about 967,400 people. Benefits resulting from these outputs are substantial because not only can productive activities be resumed but, as a result of the reduced risk from natural disasters, land values have increased and investments in new enterprises (such as high-value aquaculture activities) have already begun to grow. Output achievements are in excess of those expected at the time of the provision of the supplementary loan, and in some cases significantly so. An additional 706 ha of land served by irrigation infrastructure, and an additional 20 km of sea dikes and embankments would entail a significant level of additional and unexpected benefits, especially the sea dikes and embankments.

14. An analysis of the eventual project outputs thus indicates that, although outputs were achieved somewhat later than expected at appraisal (with most subprojects being completed in 2010 and 2011 rather than in 2009 as originally expected), the expected level of outputs was achieved and even surpassed. Moreover, most of the physical works were completed to acceptable or better standards. The project completion report (PCR) of the CPMU indicates that, of the 70 subprojects, in terms of their quality of construction 1 subproject is rated *very good*, 34 are rated *good*, 32 are rated *acceptable*, and 3 are rated *poor*. The PCR mission further confirms that most of the works visited had been generally constructed to acceptable standards or better, although some deficiencies were identified.²¹

²⁰ Footnote 7, para. 8.

²¹ One of the roads in Thanh Hoa province had been under-designed for the level of traffic and the district was having difficulty maintaining it. On the other hand, the sea dikes in Thanh Hoa and Nam Dinh provinces, which constitute a large portion of the investment, were impressively well designed and constructed to high standards.

C. Project Costs

15. At the time of project appraisal in 2006, the total investment cost was estimated at \$59.89 million.²² At the time the supplementary loan was prepared the project cost estimate was increased to \$93.91 million. The revised cost included full financing (including price escalation) for 47 priority subprojects²³ at an additional cost of \$13.28 million, as well as \$6.47 million for enhancing priority subprojects to reduce risk and vulnerability and \$8.29 million for completing additional subprojects that were reviewed during appraisal of the initial loan but for which funding was not provided. The balance of the project cost increase was for management costs of \$1.46 million, and interest charges.²⁴ Based on current estimates, the total cost of the project at completion was \$92.20 million. Of this, ADB contributed a total of \$80.00 million including service charge during construction of \$1.13 million. The two loans were able to cover this increase over the original estimate (\$50.97 million plus \$25.50 million = \$76.47 million) since they were denominated in SDRs, which appreciated against the dollar. The government contribution of \$12.20 million equivalent was slightly lower than the originally expected allocation of \$13.88 million.

16. The project required supplementary financing due to a series of factors. First, preparation was lengthy for a number of legitimate reasons, including the need for time to (i) identify participating provinces, (ii) examine potential subprojects for cost and initial feasibility (including the need to ensure the absence of major environment or resettlement issues), and (iii) assess additional damages caused by typhoons and floods that occurred after the government's initial request for assistance in October 2005. Second, further delays occurred while waiting for the loan to become effective and in recruiting project implementation consultants.²⁵ Throughout this period Viet Nam was suffering from unusually high levels of inflation such that, overall, contract prices increased by 25% or more from bid preparation to contract signing. Much of this was due to increased prices for materials.²⁶ A further factor leading to cost overruns was the tendency of the provincial governments to under-design subprojects in order to complete more works with the limited funds available, leading to project designs that were less than optimal and needed to be upgraded later to more expensive but more durable design standards. Also, many of the subprojects suffered further damage during the typhoons of 2007 and 2008 because, due to delays, they had not yet been started or they were still under construction. Finally, from the beginning, available funds were withheld from the original project cost. Footnote 8 of the RRP for the supplementary loan indicates that "The original list (of subprojects) was not fully financed because fewer loan savings were made available to fund the emergency assistance loan."

17. It is unlikely that the increases in cost will significantly affect the project's economic and financial rates of return or those of the individual subprojects. Benefits are high and many of the increases in commodity prices that sparked inflation were due to increases in commodities produced within the project area (rice and other food crops, and fish and livestock products). Both economic and financial returns resulting from the subprojects will cancel out many of the costs associated with inflation; and other additional costs will be compensated by the fact that without rehabilitation, production (and land values) would have been much lower than in a post-project situation. Moreover, with additional funding it was

²² This figure is somewhat lower than the \$70.00 million in loan savings requested by the government.

²³ As opposed to an original estimate of 39 core subprojects.

²⁴ The actual cost of price escalation was thus a rather small amount (\$13.28 million in total for 47 priority subprojects) and only 22% of the original project cost.

²⁵ Under Vietnamese law executing agencies cannot spend funds on a project until donor commitments have been signed, even in emergency situations. The appraisal mission should have been aware of this or should have asked for a waiver of these restrictions. If the funding had been undertaken through the reallocation of loan savings this would not have been an issue since the loans involved were already signed and effective.

²⁶ The impact of inflation was compounded by the sector-like modality used for the project. This modality applies no price contingency on civil works costs.

possible to complete additional subprojects that could not be taken up with the original funding package. Benefits will thus be higher than they would have been with the original project cost.

D. Disbursements

18. In light of the discussion on scheduling in Section II E, it is clear that the disbursement schedule prepared during appraisal was optimistic. The series of delays indicated in Section II C and II E naturally affected disbursement, but once the reasons for the delays had been resolved and the supplementary loan had been approved, disbursements picked up along with the physical construction works and the completion of contracts. Disbursement arrangements, which entailed a first generation imprest account at the national level and second generation imprest accounts in each of the 10 provinces, were appropriate and had been used for the earlier RISP. No problems with the functioning of these procedures were reported and, once submissions had been made, there were no reported delays in the provision of funds into the accounts or their liquidation once the submission of withdrawal applications was made to ADB through the Ministry of Finance.

E. Project Schedule

19. Because the project was prepared as an EAL, it had a much shorter implementation period than would normally have been allowed for a major infrastructure project and was due for completion within 30 months of loan effectiveness. There were delays in loan effectiveness, and implementation delays continued throughout the first year of implementation.²⁷ These included the normal start-up delays encountered when setting up offices for the executing and implementing agencies (especially in the provinces); and time taken to mobilize local consulting firms to undertake feasibility studies and prepare subproject designs, consult with local authorities, and recruit the loan implementation consultants for the project as a whole.²⁸ Implementation delays also occurred due to the need to coordinate subproject selection and design with 10 different implementing agencies, i.e., the provincial project management units (PPMUs) of the various participating provinces, as well as to ensure that ADB procedures were understood and followed both at the national and provincial levels. In hindsight, it was unrealistic to expect this type of project to be implemented within 2.5 years given the usual start-up issues, the need to coordinate with 10 PPMUs, and the time taken to recruit consultants. But by choosing to package the loan as an EAL, the staff preparing the project were constrained by ADB's disaster and emergency policy, which sets tight limits on both the preparation and implementation periods. It appears that the policy did not allow for designing a project that could have been meaningfully implemented within a reasonable and realistic time period.

20. While overall implementation performance was slower than expected, it was not without progress. As of 31 August 2008, the overall project implementation progress was estimated at 30% against the elapsed loan period of 57%.²⁹ The cumulative contract awards were \$21.2 million (equivalent to 39% of the net loan amount of \$54.5 million) and disbursements were \$13.7 million (equivalent to 25% of the net loan amount). Moreover, after the arrival of the loan implementation consultants and the approval of the supplementary loan, the pace of implementation picked up and the project was completed

²⁷ Effectiveness was anticipated in January 2007, with project completion on or about 30 June 2009. In actuality, the project was approved in October 2006, the loan was signed on 7 December 2006, and it became effective on 23 April 2007. Thus implementation began 3 months later than anticipated.

²⁸ These consultants were finally recruited in April 2008, some 14 months later than indicated in the implementation schedule given in the RRP.

²⁹ This rate of progress is common for infrastructure projects, which require detailed design and a bidding period for contractors before physical construction works can begin.

more or less according to the revised schedule agreed upon during the preparation of the supplementary loan.

F. Implementation Arrangements

21. At the national level, the project was managed through a CPMU established within the Agriculture Projects Management Board of the MARD. The MARD acted as the executing agency for the project as a whole. In the provinces, provincial people's committees (PPCs) were designated as implementing agencies and PPMUs were established within provincial departments of agriculture and rural development.³⁰ The PPCs were responsible for the selection of subprojects to be taken up by the project and the PPMUs were responsible for subproject implementation. A series of subproject selection criteria were formulated. These included the need to (i) avoid negative social and environmental impacts; (ii) ensure sufficient post-project operation and maintenance (O&M) funding; and (iii) ensure that rehabilitation is technically feasible, cost-effective, financially viable, and sustainable, and represents a least-cost alternative. Implementation arrangements generally followed those of the RISP. This helped to expedite the implementation of subprojects in former RISP provinces given that PPMUs already existed in these provinces and were familiar with ADB's implementation procedures. As such they can be considered as having been appropriate to deliver the project's expected outputs and outcome.

G. Conditions and Covenants

22. The borrower's compliance with loan covenants is in Appendix 3. Covenants were generally complied with except in two instances. Twice in Ha Giang province (an isolated province in the Northern Mountains region) land was acquired following government procedures rather than those set out in the loan agreement (i.e., including preparation of a resettlement plan). This was only identified during the PCR mission. The mission has determined that the amount of land involved was minor (about 6 ha of mainly communally owned forested land or privately owned land under perennial crops³¹), no households were physically displaced, and after consultations adequate payments were provided to compensate for minor economic displacement. While this comprises noncompliance with a number of covenants, the province involved was only one of 10 and is an isolated province with little experience in the implementation of internationally funded projects.

H. Related Technical Assistance

23. Along with the supplementary loan, a technical assistance (TA) grant was provided for advisory assistance to the government in geo-information technology for hazard risk assessment. The total cost of the TA was \$625,000, of which \$500,000 equivalent was to be financed on a grant basis by the Republic of Korea e-Asia and Knowledge Partnership Fund and administered by ADB. The government was to provide the balance of \$125,000 in kind. The TA was to support increased disaster preparedness to mitigate the worst impacts of climate change through the provision of training on the use of advanced technology such as geographic information systems and remote sensing to staff of MARD's Disaster Management Center and the Water Resources University (WRU). A TA completion report has been prepared and is in Appendix 2. As indicated, while the TA prepared a training program, trained 17 trainers in the WRU as well as three MARD staff from provincial agencies, and prepared an e-learning course, no MARD staff at the national level completed the training. The PCR mission concluded that it is disappointing that the MARD did not take advantage of the training program and expertise developed under the TA to upgrade their

³⁰ PPCs are the main governing body within each province.

³¹ Only about 0.1 ha of household land was acquired.

staff capabilities in disaster prediction and management. The TA was thus rated *partly successful* although all intended outputs were achieved. The TA completion report notes, however, that there is scope to use the training materials for capacity building under ongoing and planned MARD projects and recommends that this is done.

I. Consultant Recruitment and Procurement

24. Recruitment of the international project implementation consultants was finalized much later than expected according to the implementation schedule. In reality, however, the consultants were in place 12 months after the loan became effective, which suggests only a 6-month or so delay given that, under Vietnamese regulations, consultant recruitment cannot commence before loan signing, and the normal minimal recruitment period following ADB procedures is about 6 months. This should have been taken into account during project preparation and contingency measures taken to overcome this problem, especially in view of the short implementation period of 30 months.³²

25. Procurement of civil works contracts was done in accordance with ADB and government procedures, primarily following national competitive bidding procedures. The loan agreement specified that civil works contracts estimated to cost more than \$2 million equivalent needed to be procured through international competitive bidding, but a waiver was received from ADB for some works above that amount to be procured by national competitive bidding. No major procurement problems were reported.

J. Performance of Consultants, Contractors, and Suppliers

26. After some initial personnel issues during the early part of their contract period were resolved, the performance of the international project implementation consultants is rated *fully satisfactory*. The consultants visited every subproject site (often many times) and were able to provide guidance on subproject design and the quality of construction to the PPMUs and contractors. In addition, before the end of their contracts, the consultants helped the government to prepare a very useful PCR that included individual subproject completion reports for all subprojects. An international consultant was recruited to provide guidance on the design of sea dikes. His recommendations were highly appreciated by the government and were followed, to the extent feasible, during subproject design and implementation.

27. There were reservations about the quality of works undertaken by some of the contractors, especially in some of the more isolated provinces—notably Ha Giang. Subproject completion reports indicated that some contractors did not mobilize in time and many individual contracts were extended due to bad weather and flooding. Also, while the first impression of the civil works is that they have been well constructed, both the consultants and the PCR mission noted, from time to time, poor quality of concrete and steelwork as well as below-standard protective coating for steelwork. In addition, concern must be raised about construction methods for roads in hilly areas where construction methods, especially spoil disposal and the exposure of roadside slopes, were not in accordance with sound environmental practices. This is an endemic issue for road construction in hilly and mountainous areas in Viet Nam and needs to be dealt with in future projects through strict contractor guidelines and site inspection by local residents and beneficiaries. Overall, however, the quality of the contractors' work was considered acceptable and this is reflected in the executing agency's PCR, which assessed the quality of construction for all provinces as between "acceptable" and "good".

³² For example, it might have been possible to use loan savings from another project to recruit consultants through a loan that was already effective, or to provide a small grant to fund start-up consultants.

K. Performance of the Borrower and the Executing Agency

28. Nearly all subprojects were completed by the executing agency to acceptable or better standards within the extended implementation period agreed upon at the time of preparation of the supplementary loan. Still, project implementation suffered from a series of constraints that seem to be endemic to projects undertaken in Viet Nam and by the MARD. These include (i) poor initial implementation planning, (ii) the delayed recruitment of consultants, (iii) difficulties in mobilizing funds for the government contribution to the project at both the national and provincial levels, (iv) the use of suboptimal design standards due to the application of cost norms, and (v) limited allocations for post-construction O&M. In the case of this project, in an early stage of the design process, participating provinces received commitments on the basis of estimates that were sometimes very preliminary. As a result, during feasibility studies and detailed design some subproject designs were reduced in quality to allow them to fit within the already-decided budget. For road projects, for example, this resulted in subprojects where rehabilitation was not designed to cover the full length of the road, leaving out sections at the beginning or the end; or in designs where the pavement thickness or road width was reduced. Additional funding (and time) was needed to resolve these deficiencies. Also, as noted, the international project implementation consultants were recruited 10 months later than should have been possible, despite the fact that this was an emergency project with a limited implementation schedule. Delays were also experienced in getting budget released to the CPMU and the various PPMUs from the national and provincial governments (again despite the emergency nature of the project). In addition, while the sea dikes were built to high international standards, the design standards of some of the other infrastructure (irrigation systems and rural roads) were limited by cost norms so O&M costs can be expected to be higher than necessary. The noncompliance by Ha Giang province with resettlement covenants and the inability of the CPMU to recognize this must also be taken as a deficiency and factored into the borrower's and executing agency's performance. Nonetheless, the MARD, the CPMU, and the PPMUs have shown themselves capable of implementing a complex project in a very limited time period to acceptable standards; and they have demonstrated that they have the capacity to implement not only simple medium-scale subprojects but also rather large-scale subprojects, such as the two sea dike subprojects in Nam Dinh province (which together cost about \$20 million).³³ On that basis, the performance of the borrower, executing agency, and implementing agencies is rated *satisfactory*, although resolution of the endemic issues raised should be a prime consideration in ADB's future program.

L. Performance of the Asian Development Bank

29. ADB's performance can best be described as mixed. The early stages of preparation and implementation were characterized by lapses in judgment and supervision, which had repercussions during the first phase of implementation and led to the need for supplementary financing.³⁴ These lapses can be characterized as follows:

- (i) The initial decision was made to process the emergency financing as an EAL rather than following much simpler procedures for the reallocation of loan savings, even

³³ A normal implementation period for a project of this size and complexity would be in the region of 6–7 years. The project was almost fully completed in 4.5 years.

³⁴ This is reflected in the Independent Evaluation Department (IED) evaluation, which rated the choice of loan modality, technical analysis, adequate and rigorous supervision by ADB during initial implementation, consultant recruitment, risk mitigation for unforeseen institutional and political factors, and unforeseen technical factors *unsatisfactory*.

though it was to be funded with loan savings.³⁵ This limited the preparation and implementation periods of the project and the scope of works that could be undertaken, and left the design subject to criticism for not following the policy.

- (ii) It was decided to provide only part of the funding required and requested rather than the full amount of loan savings available. This resulted in delays as priorities had to be set among subprojects and provinces.
- (iii) There was a lack of understanding of the constraints facing the executing agency in bringing about a rapid project start-up. ADB staff should be aware that advance action and consultant recruitment are not possible before loan signing in Viet Nam and the project should have been designed to cope with these constraints.³⁶
- (iv) The assistance was prepared in the form of a complex project covering 10 provinces by resident mission staff alone without any project design help or support from consultants or technical staff from headquarters other than safeguard specialists. Fortunately, the RISP model was available to follow so that implementation arrangements could be easily formulated and capable staff were in place at the national level and in some of the provinces.
- (v) Shortly after Board approval the project officer retired and no replacement was posted to the resident mission for several months. In the meantime, the project was administered from ADB headquarters in Manila. Consequently there was only light supervision of what was supposed to be an emergency project during the most critical start-up and early implementation periods.

30. The impacts of these administrative and managerial shortcomings were eventually overcome and, through the efforts of resident mission staff working together with the executing agency, the project was completed to acceptable standards, and with what seems likely to be a high level of benefits, many of which are already evident. On balance, in view of the missteps in project preparation and early implementation, ADB's performance is rated *partly satisfactory*, despite the later efforts to bring the design and implementation back on track.

III. EVALUATION OF PERFORMANCE

A. Relevance

31. As discussed in detail in Section II A, the choice of the project itself is considered highly relevant.³⁷ In terms of design, as noted throughout this report, it is not clear why the modality chosen was that of an EAL. If another modality had been chosen then many of the problems and issues associated with the project would not have arisen. In any event, the measures taken during the preparation of supplementary financing resolved most of the project issues. The project was ultimately successfully implemented, with benefits to probably more than 1 million people in 10 provinces, including some of the poorest in the country (para. 32). On this basis, the project and its design are rated *highly relevant*.

³⁵ This was possibly because none of the projects from which loan savings were available included a component with a similar scope that could be expanded to take on disaster rehabilitation works, although this was not an insurmountable problem.

³⁶ Yet again, if the EAL modality had not been used and funding were through the reallocation of loan savings, this would not have been an issue because the loans from which the funds were taken were already signed and effective.

³⁷ In this context, the IED real-time evaluation rates the relevance and selection of the original project proposal, appropriateness of social design, and the appropriateness of implementation arrangements *satisfactory*.

B. Effectiveness in Achieving Outcome

32. The outcome of the project was expected to be rapid resumption of livelihoods and reduced vulnerability to natural disasters in the affected areas. Performance indicators were (i) rural infrastructure constructed and repaired to agreed flood-resistance design standards; (ii) improved access to schools, markets, and other services; and (iii) reduced loss of life and damage in future storm seasons. A resumption of livelihoods and improved access to services can best be assessed through the irrigation and rural road subprojects. As shown in Appendix 1, these were all completed with a broader impact than planned at the time of either appraisal or the provision of supplementary financing. Moreover, because they entailed the rehabilitation and upgrading of existing infrastructure, there has been no need for a gestation period and benefits began to flow from the time of subproject completion. On the other hand, reduced loss of life and damage in future storm seasons can be assessed by the extent of successful provision of flood control infrastructure. In this case, flood protection was provided to approximately 91,900 ha of agricultural, industrial, and residential land, with a population of approximately 967,400 persons. When combined with the population that will benefit from improved irrigation and transport infrastructure, it can be assumed that the number of direct project beneficiaries is well over 1 million persons. (Some of the improved roads and irrigation systems will be within the flood protection areas, but many are not.) The main shortcoming was that these achievements were less rapid than they might have been and were slower than the pace planned during appraisal. Implementation delays resulted in the completion of subprojects 1–2 years after the original completion dates.³⁸ As measured against the project's performance indicators, therefore, the project appears to have achieved its desired outcome, although not as rapidly as originally expected. The project is thus rated *effective*.

C. Efficiency in Achieving Outcome and Outputs

33. Efficiency is associated with measures of cost efficiency such as economic and financial rates of return or cost effectiveness measures. In the case of emergency assistance, the *operations manual* section on disaster and emergency assistance (OM D7/DP) indicates that "appropriate financial and economic rates of return will be flexibly used with the emphasis on least-cost, high-impact, and rapid solutions not prejudicial to quality assurance in rehabilitation or reconstruction work. Although rigorous rates-of-return analysis may not be feasible, estimates in an order of magnitude should be provided and justified in as much detail as possible." Precise analyses of individual subprojects taken up under the project are not feasible in the absence of baseline data.³⁹ However there are ways of providing order-of-magnitude assessments of economic efficiency. The easiest method is a comparison with other similar investments, taking into account the fact that the infrastructure being repaired was functioning before it was damaged by the 2005 typhoons and floods, and assuming full or better functionality once it was repaired. Thus in the case of irrigation infrastructure, estimates from the recently completed Second Red River Basin Sector Project indicate that similar irrigation subprojects taken up for rehabilitation have rates of return ranging from 12% to 48% with the majority over 18%.⁴⁰ Rural road subprojects analyzed in the RISP PCR indicate economic internal rates of return of between 12% and 23%.⁴¹ There is thus a strong likelihood that the irrigation and rural road subprojects have been restored in an

³⁸ Although in reality the original project schedule was unrealistic in view of the scope of the project and the type of works envisaged.

³⁹ This is because the pre-project situation was one of damage from the 2005 floods.

⁴⁰ ADB. 2012. *Completion Report: Second Red River Basin Sector Project in Viet Nam*. Manila.

⁴¹ ADB. 2012. *Completion Report: Rural Infrastructure Sector Project in Viet Nam*. Manila. It may further be added that the rates of return for subprojects under the project are likely to be at the higher ends of these ranges because of lower capital costs given that, in most cases, they entailed repairs of existing, functioning facilities.

economically efficient manner. An assessment of the economic efficiency of flood control infrastructure is somewhat more difficult because it depends on damages that do not occur as a result of the infrastructure being put in place. The most reasonable assessment is to recognize that they have been built to specifications recommended by project-financed international consultants and that they are designed to protect a large area of productive and high value agricultural, industrial, and residential land as well as a large number of people from floods and storm surges at all but the highest levels of intensity. Given that the quality of works appears to range from “acceptable” to “good,” it can be expected that they will function as expected and can thus be assessed as being a cost-effective solution to the problem for which they were designed. On this basis the project is rated *efficient*.⁴²

D. Preliminary Assessment of Sustainability

34. Most of the subprojects inspected by the PCR mission were in operable condition.⁴³ Despite concerns about low levels of O&M funding and instances of poor-quality construction, Viet Nam has a long history of maintaining its irrigation and flood control infrastructure in operation (if not necessarily in optimal condition) in the face of numerous adversities. Observations of completed RISP subprojects also indicate that once infrastructure such as rural roads has been upgraded with international funding, efforts are usually made to maintain it in passable condition. Most of the infrastructure constructed under the project can therefore be expected to be maintained in a functional state for the foreseeable future. The issue of sustainability is thus one of the efficiency and cost of O&M rather than functionality. With higher standards of design and construction as well as higher levels of O&M funding, operation efficiency can be improved. In addition, the project has contributed directly to the likelihood of sustainability through its flood control investments (which will protect other infrastructure from storms and flooding) as well as the upgrading of the designs of rehabilitated roads, bridges, and irrigation systems to better withstand severe climatic events. The project outputs and outcome are thus rated *likely sustainable*.

E. Impact

35. The project is expected to have a significantly positive impact, restoring livelihoods and services and protecting a large number of people from the devastation of typhoon-generated floods and storm surges. With increasing climate variability, the need for such protection is becoming increasingly acute. The project will have a strong antipoverty impact as it is usually the poor who suffer the most from natural disasters and live in the most vulnerable areas. This includes a significant number of ethnic minorities who have and will benefit from the infrastructure rehabilitation and protection provided by the project. Several of the project provinces have significant ethnic minority populations, and in some provinces the population is overwhelmingly made up of ethnic minority groups. A positive economic impact can also be observed as aquaculture (a high-value economic activity) is already being developed within the areas protected by project-built dikes and embankments, and residents of the protected areas can now live with a significantly reduced fear of the loss of their homes and livelihoods. Unfortunately, due to inadequate construction specifications and poor contractor supervision, a few of the rural roads built in hilly areas have had negative environmental impacts in terms of spoil disposal and the protection of slopes and road embankments. Serious efforts must be taken in ongoing and future projects to avoid and prevent such occurrences.

⁴² It should be noted that the project suffered implementation delays and thus could be considered to have been somewhat inefficient in terms of efficiency of process. This, however, has been taken into account in assessing effectiveness, noting that the generation of benefits was later than originally envisaged at appraisal.

⁴³ Even the under-designed road in Thanh Hoa province was passable and had been upgraded to somewhat better condition when a second visit was made in May 2012.

IV. OVERALL ASSESSMENT AND RECOMMENDATIONS

A. Overall Assessment

36. In terms of the planned area of irrigation rehabilitation; the length of rural road rehabilitation; and the length of repaired, upgraded, or extended embankments and sea dikes, the project has exceeded its expected outputs. Moreover, most of the subprojects appear to have been constructed to acceptable or higher standards and have been allocated O&M funding which, although somewhat deficient, will ensure that the infrastructure provided will remain in generally operable condition. In addition, the level of benefits is expected to be high, returning production in damaged irrigation schemes to pre-disaster levels or better and generally bringing rural roads back to pre-disaster service levels or better. The flood control embankments and sea dikes have been designed to provide protection to almost 1 million people, ensuring that the government's efforts toward economic development and poverty reduction are not negated or stymied by natural disasters (which, in view of changing climatic patterns, may well increase in frequency). Modest deficiencies in the quality of civil works in some places detract from these achievements as do levels of O&M funding that are lower than desirable. Some early expected benefits were lost and costs increased due to implementation delays. Overall, however, the project is rated *successful*.

B. Lessons

37. **Project start-up.** A look at previous and ongoing projects implemented by the MARD in Viet Nam shows a common pattern: slow initial start-up accompanied by delays, slow progress, and confusion followed by an intense pace of implementation from about the midterm of the project period, followed in turn by successful completion of the project scope, often at a higher level of coverage or output than originally conceived (see for example the PCRs for the RISP and the Second Red River Basin Sector Project). This project has followed the same pattern. The obvious lesson from this experience is that the MARD and the provincial departments of agriculture and rural development are capable of implementing medium- to large-scale rural infrastructure projects, but there are some structural or institutional factors that constrain project start-up and initial implementation. As it is likely that the MARD will continue to be an executing agency supported by ADB in the future, it would seem worthwhile to expend some effort in determining what these factors are and identifying means to overcome or mitigate them. It is noted that since the PCR was completed, an effort has been launched by the resident mission and the MARD to try to reduce start-up delays by removing constraints to the government use of ADB's advance action procedures.

38. **ADB's disaster and emergency policy.** A further lesson learned or at least hinted at by the experience of implementing this project is that, given the realities of the type of investment ADB is best adapted to support in view of its funding modalities, consultant recruitment procedures, and procurement regulations (i.e., generally capital-intensive infrastructure rehabilitation) and the level of supervision possible at field level (i.e., generally less intense than bilateral agencies or United Nations organizations), ADB's current policy on disasters and emergency assistance may be too restrictive. A preparation period of only 3 months may be inadequate to allow a full damage assessment and the design of rehabilitation and remedial measures. Moreover, if the disaster is weather related, rebuilding service infrastructure without improved design standards and protection from future severe weather is likely to be a waste of effort because the rebuilt infrastructure will still be vulnerable to future floods, typhoons, or storm surges. This will entail a longer period than the 2-year implementation period currently prescribed in the policy and in the *operations manual*.

39. **Provincially delegated projects.** For projects that entail the delegation of design and implementation to provincial authorities, it is important to ensure that provincial

implementation staff are fully briefed and trained on ADB safeguard requirements such as land acquisition and resettlement.

C. Recommendations

1. Project Related

40. **Future monitoring.** Steps should be taken to monitor the government's commitment to O&M in the completed subprojects. The resident mission should also monitor the ability of the improved infrastructure, especially the sea dikes, to withstand future catastrophic weather events and protect the intended land areas, infrastructure, and residents. These aspects can be reviewed at the time of preparation of a project performance evaluation report.

41. **Covenants.** The project is fully complete, so there is no need or leverage for covenants to be maintained.

42. **Further action or follow-up.** The project is fully complete and no further action is required.

43. **Additional assistance.** The government has shown itself capable of successfully implementing this type of project. Should further assistance be requested, it should be favorably considered by ADB.

44. **Timing of the project performance evaluation report.** This should be undertaken after at least 2 years after project completion so that the sustainability of the infrastructure provided and upgraded can be assessed.

2. General

45. **Diagnostic study of project start-up constraints.** In view of the endemic problems and issues in project start-up with MARD projects and in Viet Nam in general, it would be valuable for a study to be undertaken to diagnose the institutional and regulatory constraints that result in almost every project experiencing start-up problems and delays. This could be undertaken by the Independent Evaluation Department, the Central Operations Services Office, or the Southeast Asia Department. A program loan or sector development program might then be considered as a basis for helping to resolve and remove such constraints.

46. **Review of the policy on disasters and emergency assistance.** Given the experience of this project, it would be worthwhile to undertake a review of other recent disaster and emergency projects to determine if the policy needs some revisions or adjustments in order to be an effective tool for assistance to ADB's developing member countries.

47. **Construction quality and appropriate design standards.** As noted in paras. 16 and 28, following appropriate design standards—especially in relation to climate change factors—rather than designs dictated by cost norms, and ensuring high-quality construction are endemic problems for development projects in Viet Nam. Future projects could reduce the impact of these factors by (i) including requirements in the loan agreement that engineering designs should be based on the most appropriate design regardless of existing cost norms, (ii) providing more rigorous contractor selection requirements, (iii) penalizing and blacklisting underperforming contractors, and (iv) ensuring that sufficient supervisory consulting services are provided under the project.

APPENDIX 1: DESIGN SUMMARY, PERFORMANCE TARGETS, AND ACHIEVEMENTS TO DATE

Design Summary	Performance Indicators/Targets	Achievement	Remarks
Impact			
Sustained economic growth in areas affected by the 2005 typhoons	<ul style="list-style-type: none"> Economic growth rates for affected districts 	Economic growth rates in affected district have increased from a low of 3.8% and a high of 11.1% in 2005 to a low of 6.3% and a high of 14.5% in 2011.	
Outcome			
Rapid resumption of livelihoods and reduced vulnerability to natural disasters in the affected areas	<ul style="list-style-type: none"> Rural infrastructure constructed and repaired to agreed flood-resistance design standards Improved access to schools, markets, and other services Reduced loss of life and damage in future storm seasons 	70 subprojects have been completed comprising 25 for flood protection, 17 for irrigation, 26 for rural roads, and 22 for social services. All have been built to higher standards than the original structures and are less likely to suffer from damage due to future climatic events. The flood protection structures will result in reductions in loss of life and damage to property in the future while the irrigation, road, and social services subprojects will result in restored and improved access to services and livelihoods.	
Outputs			
<p>1. Essential infrastructure (roads, flood protection, irrigation systems, and social infrastructure) reinstated</p> <p>2. Equivalent or enhanced storm and flood protection provided to vulnerable areas</p>	The DMF for RRP for the supplementary loan envisaged the rehabilitation of 47 priority subprojects completed by October 2010 and an additional 26 subprojects by 30 June 2011. These were to result in (i) irrigation canals serving more than 18,286 ha of irrigated land; (ii) 211.6 km of rural roads; (iii) about	30 priority subprojects were completed by October 2010, another 38 subprojects were completed by 30 June 2011, and 2 remaining subprojects were completed in September and October 2011 encompassing (i) irrigation infrastructure serving 18,992 ha of land, (ii) 213.3 km of	In total, of the original 105 subprojects proposed, 70 (including 47 priority and 23 additional subprojects) have been financed by the project. Other subprojects were financed by other resources including other donors and the government. The physical targets set at the time of appraisal of

Design Summary	Performance Indicators/Targets	Achievement	Remarks
	<p>98.7 km of sea dikes and flood protection embankments; and (iv) 1 school.^a</p> <p>This was considerably more than envisaged in the original DMF that focused on 39 priority subprojects comprising (i) irrigation canals serving more than 11,000 ha of irrigated land; (ii) 112 km of rural roads; (iii) about 30 km of sea dikes and of flood protection embankments; and (iv) schools, markets, and rural water supply schemes; as well as unspecified outputs from an unspecified number of subprojects chosen from 50 additional identified potential subprojects.</p>	<p>rural roads, (iii) about 118.8 km of sea dykes and flood protection embankments, and (iv) 1 school.</p>	<p>the supplementary loan have been surpassed.</p>

DMF = design and monitoring framework, ha = hectare, km = kilometer, RRP = report and recommendation of the President,

^a See Appendix 2 of the supplementary loan RRP for details. The DMF in the supplementary loan RRP indicates that these figures are for the priority subprojects only, but Table A2.1 clearly indicates that they are for the whole project.

APPENDIX 2: TECHNICAL ASSISTANCE COMPLETION REPORT

Division: Viet Nam Resident Mission

TA No., Country and Name:		Amount Approved: \$625,000	
TA 7220-VIE: Geo-Information Technology for Hazard Risk Assessment		Revised Amount: \$500,000	
Executing Agency: Ministry of Agriculture and Rural Development	Source of Funding: Republic of Korea e-Asia and Knowledge Partnership Fund	Amount Undisbursed: \$76,882	Amount Utilized: \$423,118
TA Approval Date: 8 December 2008	TA Signing Date: 30 March 2009	Fielding of First Consultant: 1 September 2009	TA Completion Date: Original: 31 August 2010 Actual: 31 August 2011 Account Closing Date: Original: 30 November 2010 Actual: 27 June 2012

Description. In line with ADB's Disaster and Emergency Assistance Policy, 2004, the technical assistance (TA) was designed to enhance the government's capability to (i) carry out risk and vulnerability assessments, including physical, economic, social, and environmental impacts; and (ii) mainstream prevention and preparedness activities into the development process.^a The TA consisted of two main components: (i) training, and (ii) a pilot project for a selected province. The TA was designed to enhance capabilities to include alternative approaches, including non-structural ones, to mitigate natural hazard risks; while also making use of economic tools to improve the planning, design, and sustainability of risk mitigation measures. The principle methodology to be used under the TA was training of academic staff and students of the Water Resources University (WRU) in Ha Noi, as well as key staff of the Central Committee for Flood and Storm Control and the Department of Dike Management, Flood and Storm Control. Participants were to be trained to apply geo-information technology for hazard risk assessment (GITHRA) (specifically those hazards associated with water-related natural disasters) in selected case study areas. Capacity to apply this technique was to be built through interactive courses. Training modules were to be developed for incorporation into an elective master's degree course at WRU.

Expected Impact, outcome, and outputs. The expected impact of the TA was to enhance the government's capability to carry out risk and vulnerability assessments. The stated outputs of the TA according to the report and recommendation of the President were (i) improved knowledge base of different types of natural disasters, inventory of at-risk facilities, and hazard maps in selected areas; (ii) improved ability to use a computer-based geographic information systems (GIS) to assess hazard risks and prepare visual presentations of vulnerability, including the capability to assess and present risk and vulnerability in economic, social, and physical terms; (iii) capability built within the relevant disaster management agencies to operate and maintain the database and decision-making tools; and (iv) capacity built among faculty staff of WRU to use the training materials prepared under the TA project. These were expected outcomes; the actual outputs were (i) training courses and manuals for hazard risk assessment; (ii) a pilot study to be used for project-based learning during the TA project; (iii) the training of selected staff in hazard risk assessment using GIS and remote sensing; (iv) demonstrations of the application of GIS and remote sensing for hazard risk assessment in the selected case study area; (iv) a workshop using course participants as mediators to transfer the fundamentals of the methodology to colleagues, managers, and decision makers of relevant organizations; (v) development of a web-based training package (in digital and print versions) for information dissemination to other stakeholders; and (v) a donor coordination workshop to assess the outcome of the TA and expand the scope.

Delivery of inputs and conduct of activities. The formulation of the TA was adequate for a contribution to overall knowledge development and management. The skills promoted and developed would have been useful to staff of the Ministry of Agriculture and Rural Development (MARD) and provincial agencies, and they would have added to overall hazard identification and management skills in the country if they had been part of a larger effort. However, past experience has shown that this type of one-off exercise often does not have sustainable results because the results of training are not reinforced either in the workplace or through further and continued studies. The terms of reference for the experts were adequate within the limited scope of a modest effort at bringing new concepts into the country and the consultants' performance rating indicates that their performance was satisfactory overall and in most specific instances. Some reductions in scope were necessitated by the inability to travel from Europe to Viet Nam

^a ADB. 2008. *Proposed Technical Assistance to the Socialist Republic of Viet Nam for Geo-Information Technology for Hazard Risk Assessment*. Manila (TA 7220-VIE, for \$0.5 million financed by the Republic of Korea e-Asia and Knowledge Partnership Fund, approved for administration by the ADB on 8 December).

during the early part of TA implementation. Overall, the TA was implemented as planned, including the pilot study and the planned workshops. ADB staff participated in review missions and key workshops at appropriate times.

Evaluation of outputs and achievement of outcome. The TA trained 17 selected staff of the WRU and three staff of MARD provincial agencies in the application of geo-information tools—GIS, Remote Sensing, and spatial modeling—for hazard and risk assessment. Eight others (six from WRU and two from MARD) followed part of the program, although no MARD staff at the national level completed the training activities. Apart from this training, the TA produced the following outputs: (i) a case study for the use of GITHRA in Yen Bai, Northern Viet Nam; (ii) a fully worked out United Nations International Strategy for Disaster Reduction-based GITHRA methodology consisting of two text books: *Spatial Modeling of Natural Hazard Processes* and the GITHRA guidebook; (iii) fully worked out GITHRA exercises for hands-on training for multi-hazard risk assessment and disaster management; and (iv) an e-learning package to facilitate off-location internet-based training. This package includes textbooks, all the exercises, and the required data, including the data from Yen Bai provincial case study. All materials have been translated into Vietnamese to enable the newly trained trainers to conduct courses for governmental, provincial, and local staff. TA participants expressed their satisfaction during the final donor workshop on 14 January 2011 in Ha Noi. In their opinion, the most important outputs were the development of the hazard risk assessment methodology and the training materials, and these were evaluated positively. The methodology was considered sound and applicable within the Vietnamese context, and the training materials were evaluated as extensive and very hands-on with their numerous practical exercises. However, the project completion review mission noted that very few of the participants in the training had been from the MARD, although one of the main objectives had been to train MARD staff in hazard risk assessment. Moreover, although a web-based course had been developed there did not seem to be much demand for it and representatives of the WRU indicated that further training had not been undertaken. As noted, one of the design issues was that this exercise was not part of a continuous process and there was thus little follow-on from the training provided. Indeed the TA was only marginally related to the project itself and thus did not generate the interest and participation expected during its formulation.

Overall assessment and rating. In view of the lack of participation of MARD staff in the training and the lack of follow-up in the use of the online training course, the TA is rated *partly successful*. Staff of the WRU were trained and participated in the pilot project, and a training course is available if needed.

Major lessons. One-off technical training seldom has sustainable long-term benefits unless there is full ownership and participation on the part of the intended beneficiaries. This TA seems to have been donor driven with the usual consequences of this type of exercise. Future efforts at capacity building in hazard risk assessment should be incorporated into a long-term effort through established channels. If the funding had been provided through the WRU rather than through highly paid international consultants it could have sustained hazard risk assessment training over several years rather than over a few isolated months. The funds could also have been used to provide scholarships for WRU staff and students to study hazard risk assessment abroad.

Recommendations and follow-up actions. The training materials developed by the TA would be of value to MARD national and provincial staff working on ongoing and planned MARD projects in the Northern Mountains and the Central Highlands. WRU staff should contact the project directors of these projects to offer access to the training material and WRU expertise as part of the capacity building activities being undertaken with project funds.

Prepared by: Dennis Ellingson

Designation: Principal Natural Resources Specialist

APPENDIX 3: STATUS OF COMPLIANCE WITH LOAN COVENANTS

No.	Covenant	Reference in Loan Agreement	Status of Compliance
A	General Covenants		
A1	The Borrower shall (i) maintain, or cause to be maintained, separate accounts for the Project; (ii) have such accounts and related financial statements 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 report of the auditors relating thereto (including the auditors' opinion on the use of the Loan proceeds and compliance with the financial covenants of this Loan Agreement as well as on the use of the procedures for imprest account/statement of expenditures), all in the English language; and (iv) furnish to ADB such other information concerning such accounts and financial statements and the audit thereof as ADB shall from time to time reasonably request.	Loan Agreement, Section 4.02	Complied with
A2	The Borrower shall enable ADB's representatives to inspect the Project, the Goods and Works financed out of the proceeds of the Loan, and any relevant records and documents.	Loan Agreement, Section 4.03	Complied with
B	Particular Covenants in Schedule 5		
B1	As the Project Executing Agency, MARD shall have overall responsibility of Project implementation.	Loan Agreement, Schedule 5, para. 1	Complied with
B2	The existing CPMU within MARD's Agriculture Projects Management Board shall be responsible for (i) providing overall Project management and coordination; (ii) liaising with the respective PPC and DARD in each Project Province to prepare, select, and implement the Subprojects; (iii) providing advice and project orientation training to the DARDs; (iv) guiding the DARDs in relation to design standards; (v) assisting the DARD to procure goods and services through international competitive bidding; (vi) monitoring progress and budgets, and preparing progress reports covering the whole Project by consolidating the reports from each Project Province; and (vii) preparing the Project completion report. A team of international consultants, recruited by the	Loan Agreement, Schedule 5, para. 2 and Supplementary Loan Agreement, Section 2.08	Complied with

No.	Covenant	Reference in Loan Agreement	Status of Compliance
	Borrower shall (i) assist the CPMU to review the feasibility study and design specifications prepared for each subproject by the PPMU in each Project Province, including any variation to such design specifications, (ii) provide recommendations to the PPMU and CPMU to enhance the design specifications for each Flood Protection Subproject in order to ensure that adequate safety standards are met, and (iii) provide confirmation to ADB, when requested, on whether the final design specifications for a Flood Protection Subproject adequately incorporate their recommendations.		
B3	(a) The PPCs of the Project Provinces shall be the implementing Agencies and shall, through the DARDs, be responsible for (i) screening and classifying the Subprojects based on the criteria specified in para. 5 of this Schedule and excluding any that would be classified category A in relation to ADB's requirements on environment, resettlement, or indigenous peoples; (ii) implementing public consultations and carrying out social analyses and environmental assessments; (iii) preparing the Subproject feasibility studies and detailed design, including all necessary environmental assessment reports, Resettlement Plans, indigenous peoples development plans, or other specific actions that may be needed; (iv) procuring Goods, Works, and services; (v) supervising construction implementation, including incorporating any specified environmental mitigation measures and/or specific actions aimed at mitigating adverse social impacts and compensating Affected People for losses; and (vi) ensuring adherence to the EMPs.	Loan Agreement, Schedule 5, para. 3(a)	Complied with
B4	The provincial people's committee (PPC) shall cause the department of agriculture and rural development (DARD) to (i) ensure that for each Subproject screened as environmental category B, an initial environmental examination (IEE) and an environmental management and monitoring plan (EMP) are prepared; (ii) for any resettlement for which there will be less than 200 Affected People, a Resettlement Plan is prepared in accordance with the Resettlement Framework; (iii) if there are ethnic minority groups that would be an advantage in development process or would encounter constraints on their availability to enjoy Project benefits, an indigenous peoples development plan is prepared in accordance with the IPDF; and (iv) only Subprojects with no resettlement impacts are implemented during the first Year of project implementation.	Loan Agreement, Schedule 5, para. 3(b)	Partly complied with. Ha Giang province had not prepared resettlement plans for two subprojects in accordance with the resettlement framework.

No.	Covenant	Reference in Loan Agreement	Status of Compliance
B5	<p>The PPMUs shall be responsible for Project implementation in the Project Provinces under the direct administration of the respective DARD. Each PPMU shall be headed by a Project manager at the provincial level and comprise a sufficient number of appropriately qualified staff, acceptable to ADB, including a social and environmental sectors coordinator, economist, accounting and financial management staff, and engineering and technical staff consistent with the number and complexity of the Subprojects to be managed.</p>	Loan Agreement, Schedule 5, para. 4	Complied with
B6	<p>Subproject Selection Criteria</p> <p>The Borrower shall ensure that all Subprojects meet the following criteria to receive financing under the Project:</p> <ul style="list-style-type: none"> (i) the damage to be repaired under the Subproject shall have been caused by the 2005 series of typhoons and tropical storms; (ii) the Subproject shall not cause any significant negative environmental or social impacts or significant resettlement; (iii) no subprojects shall be located within or adjacent to designated protected or conservation areas and their buffer zones, change the course of a river or alter river characteristics in a significant way, or have the potential to make significant changes in the surrounding environment; (iv) In the case of a flood protection subproject,^a the design specification for such subproject shall be approved by ADB; (v) rehabilitation shall be technically feasible, cost-effective, financially viable, and sustainable, and represents a least-cost alternative, while at the same time incorporate natural disaster risk reduction measures where necessary and feasible; (vi) the respective PPC shall have an operation and maintenance (O&M) plan for the Subproject and assured provision of annual O&M budget, exclusive of any beneficiary contribution that may be negotiated during Subproject selection and preparation; (vii) the contracted works under the Subproject can be completed within the Project implementation period; (viii) partial financing of a Subproject from sources other than the Loan and the Borrower's counterpart funding shall be permissible provided that the amounts and sources of all such external funding are clearly and transparently presented as part of the financing plan and submitted to ADB for 	Loan Agreement, Schedule 5, para. 5 and Supplementary Loan agreement, section 2.11	Substantially complied with. Some subproject works included damage from floods and typhoons that occurred in the subproject areas after 2005, but the original selection was based on 2005 damage. O&M plans have been prepared for all subprojects but the provision of adequate post-project O&M budgets will need to be monitored.

No.	Covenant	Reference in Loan Agreement	Status of Compliance
	<p>approval;</p> <p>(ix) costing of the Subproject shall not be less than \$300,000 unless otherwise agreed by ADB (Supplementary Loan agreement, section 2.10); and</p> <p>(x) in the case of a Flood Protection Subproject, the design specifications of the relevant subproject have been approved by ADB.</p>		
B7	The Borrower shall also ensure that the Subprojects incorporate measures to enhance their resistance to typhoon damage based on risk and vulnerability analyses.	Loan Agreement, Schedule 5, para. 6	Complied with
B8	<p>Resettlement</p> <p>The Borrower shall ensure that:</p> <p>(i) only Subprojects where resettlement will impact less than 200 affected people (AP), in accordance with ADB's Policy on Involuntary Resettlement (1995) and related requirements, are financed by the Project;</p> <p>(ii) only Subprojects with no resettlement impact are implemented during the first year of Project implementation;</p> <p>(iii) during detailed design, every effort is made to avoid relocating households or interfering in the income-earning activities of those at or near the site;</p> <p>(iv) if any land is to be acquired for implementation of a Subproject or if there is any impact on persons occupying or using land at the Subproject site that would necessitate compensation, a Resettlement Plan is prepared in full consultation with and disclosure to the AP;</p>	Loan Agreement, Schedule 5, para. 6	<p>Complied with</p> <p>Complied with</p> <p>Complied with</p> <p>Partly complied with. Three resettlement plans were properly and adequately prepared for three subprojects in Thanh Hoa province following consultations undertaken by the district and commune offices. However, in Ha Giang province a small amount of land acquisition—about 6 ha of mostly agricultural land—was undertaken using standard government procedures rather than following the procedures indicated in the loan</p>

No.	Covenant	Reference in Loan Agreement	Status of Compliance
	<p>(v) the Resettlement Plans are updated on the basis of detailed technical designs, in full consultation with and disclosure to the AP prior to submitting to ADB for review and approval; and</p> <p>(vi) land acquisition and resettlement activities are implemented in accordance with the terms of the updated and approved Resettlement Plans, applicable laws and regulations of the Borrower and requirements of ADB's Policy on Involuntary Resettlement. In case of discrepancies between the Borrower's laws, regulations and procedures and ADB's Policy on Involuntary Resettlement, ADB's Policy shall prevail.</p>		<p>agreement. Compensation was provided for economic displacement and no households were physically displaced. This lapse was only identified at the time of PCR preparation.</p> <p>Partly complied with because of the Ha Giang province case.</p> <p>Partly complied with because of the Ha Giang province case.</p>
B9	<p>Resettlement</p> <p>The Borrower shall also ensure that: (i) special measures and complementary mitigation and enhancement activities are incorporated in the Resettlement Plans to protect socially and economically vulnerable groups that may be at high risk of impoverishment, such as those without legal title to land or other assets, ethnic minority peoples, households headed by women, children, the disabled or elderly, and the poorest people; (ii) appropriate assistance through asset building strategies are provided to help such groups improve their socio-economic status such as land-for-land, replacement housing for minimum standard and increased security of tenure.</p>	Loan Agreement, Schedule 5, para. 7	Partly complied with. In Ha Giang province measures taken were standard government measures.
B10	<p>Resettlement</p> <p>The Borrower shall ensure that a qualified social science or other suitably qualified institution acceptable to ADB is contracted to conduct independent external monitoring and evaluation of the resettlement process and impacts.</p>	Loan Agreement, Schedule 5, para. 8	Substantially complied with. Because little land acquisition was required overall, the responsibility for resettlement monitoring was given to the loan implementation consultants. This was acceptable to ADB when the measure was taken. They

No.	Covenant	Reference in Loan Agreement	Status of Compliance
			either did know about the Ha Giang province case or did not bring it to the attention of either the CPMU or the ADB.
B11	Resettlement The Borrower shall ensure that (i) adequate budgetary support is fully committed and made available to cover the costs of land acquisition, resettlement and rehabilitation within the agreed implementation period; and (ii) counterpart funds are provided in a timely manner for resettlement to meet any unforeseen obligations in excess of the resettlement budget estimates in order to satisfy resettlement requirements and objectives.	Loan Agreement, Schedule 5, para. 9	Partly complied with and complied with late. In addition to the fact that Ha Giang province did not follow the required procedures there were also delays in the provision of compensation. This issue has now been resolved.
B12	Affected People (AP) The Borrower shall ensure that implementation of the Resettlement Plans are carried out with the full participation of the AP. The comments and suggestions of the AP and communities shall be taken into account during the design and implementation phases of the resettlement activities. To ensure that all grievances of the AP on any aspect of land acquisition, compensation, relocation, and determination and payment of entitlements are resolved in a timely and satisfactory manner, and that all avenues for airing grievances are available to the AP, the Borrower shall set up a mechanism under the Project to deal with any such grievances during Project implementation.	Loan Agreement, Schedule 5, para. 10	Complied with in three subprojects in Thanh Hoa province where ADB procedures were followed and resettlement plans were prepared and implemented as required. Not complied with in Ha Giang province where standard government procedures were followed.
B13	Community Participation The Borrower shall ensure that (i) the DARDs actively promote community participation in the selection, preparation, implementation and performance monitoring of the Subprojects; (ii) bidding documents include provisions to ensure contractors' preferential hiring of local labor; (iii) equal opportunities are guaranteed for female workers to work with the principle of equal pay for work of equal value; and (iv) necessary measures are taken to prevent employment of child labor.	Loan Agreement, Schedule 5, para. 11	Complied with
B14	Indigenous People The Borrower shall ensure that the Subprojects do not adversely affect indigenous peoples, female-headed households, disable, elderly or other similarly vulnerable groups. In the event that indigenous people are affected by or are beneficiaries of any Subproject, the Borrower shall ensure that their rights and needs are fully	Loan Agreement, Schedule 5, para. 12	Complied with. Several of the subproject areas included ethnic minority populations among their beneficiaries and, in some provinces,

No.	Covenant	Reference in Loan Agreement	Status of Compliance
	respected in compliance with ADB's Policy on Indigenous Peoples (1998) and in accordance with the indigenous people's development framework (IPDF).		notably Ha Giang and Yen Bai, ethnic minorities make up the majority of the population. Because all subprojects are expected to have a positive impact—indeed they are aimed at restoring existing infrastructure at more sustainable design levels—it was not necessary to develop any special practices or procedures. The one instance of possible negative impact was the acquisition of a small amount of land in Ha Giang province without the preparation of a resettlement plan following ADB guidelines. However, compensation for affected individuals was provided at acceptable levels.
B15	<p>Gender Development</p> <p>The Borrower shall ensure that women, in particular those who belong to female-headed households and ethnic minority groups, participate, at a rate satisfactory to ADB, in (i) consultations on resettlement planning; (ii) preparation of detailed measurement of losses; (iii) capacity building programs on resettlement; and (iv) relocation, compensation and livelihood improvement activities to be undertaken under the Project.</p>	Loan Agreement, Schedule 5, para. 13(a)	Complied with
16	<p>Gender Development</p> <p>The Borrower shall also ensure that any land rights granted to AP shall be issued in the names of both husband and wife.</p>	Loan Agreement, Schedule 5, para. 13(b)	Complied with
17	<p>Established, Staffed, and Operating PMU/PIU</p> <p>Central Project Management Unit (CPMU) within the Ministry of Agriculture and Rural Development (MARD) shall be responsible for the overall Project management and coordination.</p> <p>The provincial people's committees (PPCs) of the Project provinces shall be the implementing agencies.</p>	<p>Loan Agreement, Schedule 5, para. 2</p> <p>Loan Agreement, Schedule 5, para. 3(a)</p>	Complied with

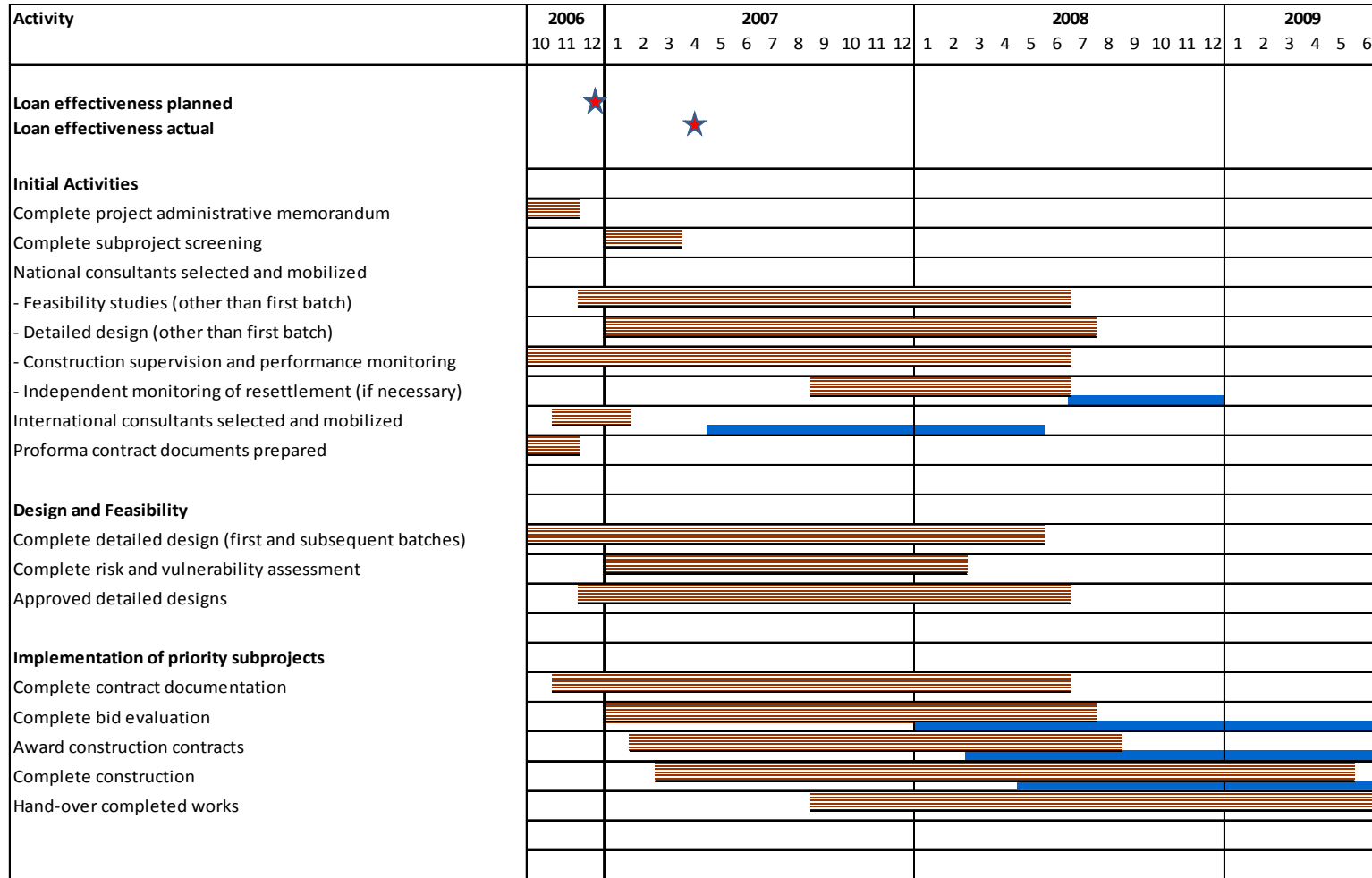
No.	Covenant	Reference in Loan Agreement	Status of Compliance
18	<p>Selection of Consultants <u>Quality and Cost-Based Selection (QCBS)</u>. Except as ADB may otherwise agree, and except as set forth in the paragraph below, the Borrower shall apply QCBS for selecting and engaging consulting services.</p> <p>The Borrower shall apply the following method for selecting and engaging the specified consulting services, in accordance with, among other things, the procedures set forth in the Procurement Plan: Single Source Selection for national consultants.</p>	<p>Loan Agreement, Schedule 4, para 6</p> <p>Loan Agreement, Schedule 4, para 7</p>	<p>Late compliance. International consultant recruitment delayed by 13 months.</p> <p>Complied with</p>
19	The existing CPMU shall consolidate and submit to ADB progress reports prepared by each Project province.	Loan Agreement, Schedule 5, para. 2	Complied with
20	The existing CPMU shall submit to ADB a project completion report.	Loan Agreement, Schedule 5, para. 2	Complied with
	<p>Anticorruption Measures The Borrower shall comply with, and shall cause the project executing agency (EA) and the implementing agencies (IAs) to comply with ADB's Anticorruption Policy. The Borrower (i) acknowledges ADB's right to investigate, directly or through its agents, any alleged corrupt, fraudulent, collusive or coercive practices relating to the Project; and (ii) agrees to cooperate fully with, and to cause the project EA and the IAs to cooperate fully with any such investigation to extend all necessary assistance, including providing access to all relevant books and records, as may be necessary for the satisfactory completion of any such investigation.</p>	Loan Agreement, Schedule 5, para. 14	Complied with
21	<p>Anticorruption Measures Without limiting the generality of para. 14, Schedule 5 of the Loan Agreement, the Borrower shall (i) ensure that the project EA and the IAs conduct periodic inspections on the contractors' activities related to fund withdrawals and settlements; and (ii) ensure and cause the project EA and the IAs to ensure that all contracts financed by ADB in connection with the Project include provisions specifying the right of ADB to audit and examine the records and accounts of all contractors, suppliers, consultants and other service providers as they relate to the Project.</p>	Loan Agreement, Schedule 5, para. 15	Complied with
22	<p>Anticorruption Measures To deter corruption and increase transparency, the Borrower shall maintain the website to disclose information about public procurements, including those related to the Project. For each contract, the website shall include information on, among others, the list of participating bidders,</p>	Loan Agreement, Schedule 5, para. 16	Complied with

No.	Covenant	Reference in Loan Agreement	Status of Compliance
	name of the winning bidder, basic details on bidding procedures adopted, amount of contract awarded, and the list of goods/services procured. In addition to the web-based disclosure, stakeholders, which include civil society and non-governmental organizations, shall be provided detailed information on procurement on public notice boards in their respective areas.		
23	Design specifications: The Borrower shall ensure that the design specifications and the work for all subprojects give due consideration to the recommendations of the Project International Consultants recruited in accordance with the second sentence of paragraph 2 of this Schedule 5.	Supplementary Loan Agreement, section 2.12	Complied with

ADB = Asian Development Bank, PPMU = provincial project management unit.

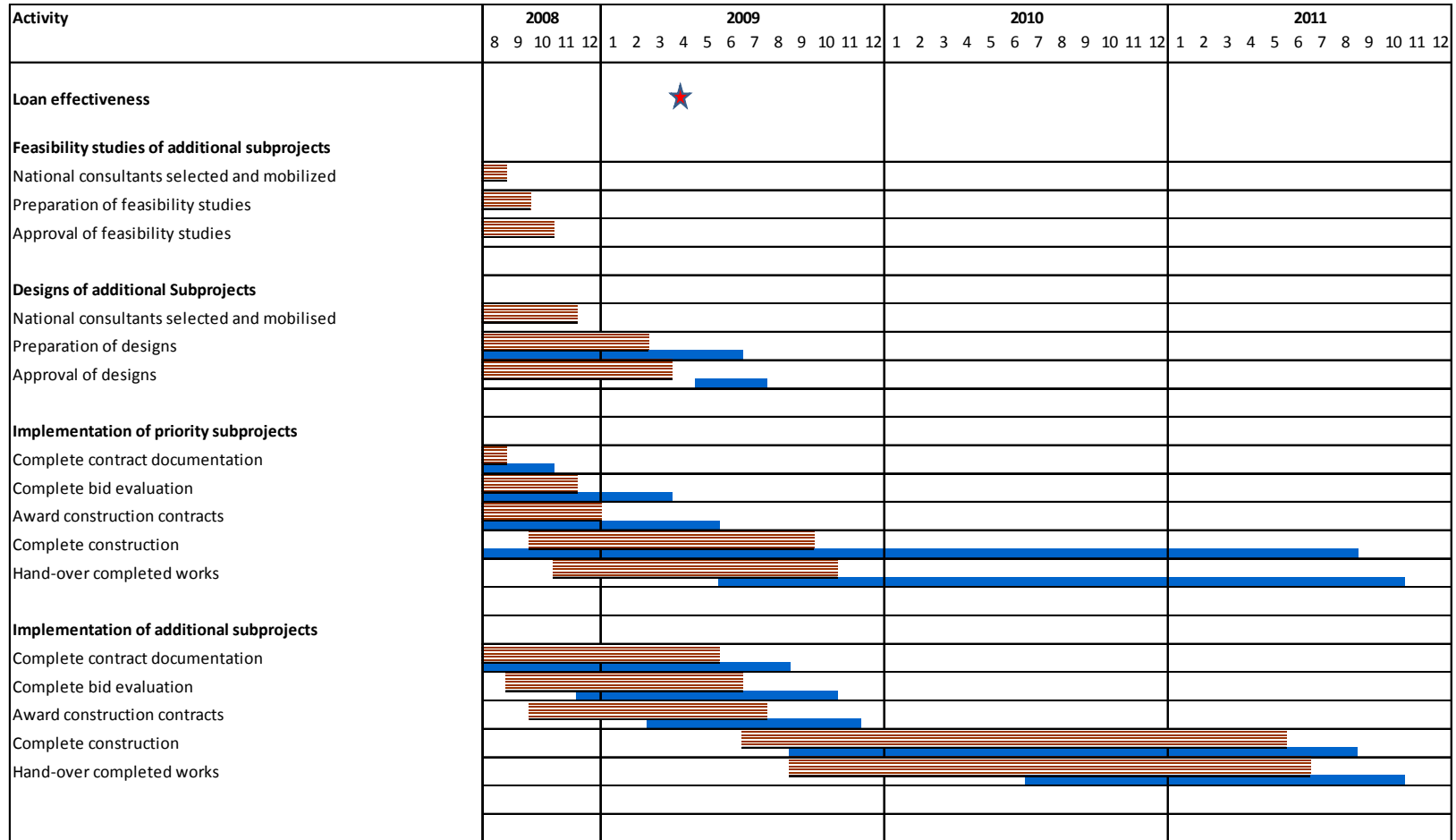
^a A subproject indicated as a flood protection subproject in Appendix 2 of the RRP for the Supplementary Loan.



APPENDIX 4(a): PROJECT IMPLEMENTATION SCHEDULE - Original Loan



Planned = 
Actual = 

APPENDIX 4(b): PROJECT IMPLEMENTATION SCHEDULE - Supplementary Loan



Planned = 
 Actual = 

APPENDIX 5: SUMMARY OF CONTRACTS

Contract No.	ADB Financed (US\$)	Contract name
0001	211,088	SURVEY AND FS PREPARATION/APPRaisal OF TECHNICAL DESIGN AND COST ESTIMATES, HA TINH PROVINCE
0002	152,017	SURVEY AND FS PREPARATION/TECHNICAL DESIGN AND COST ESTIMATES. QUANG BINH PROVINCE
0003	42,202	SURVEY AND FS PREPARATION. PHU YEN PROVINCE
0004	240,076	SURVEY AND FS PREPARATION, TECHNICAL DESIGN, NGHE AN PROVINCE
0005	200,313	SURVEY,FS PREPARATION AND OTHER CONSULTING SERVICEFOR PHU THO PROVINCE
0006	387,806	SURVEY AND FS PREPARATION, CONSTRUCTION SUPERVISION, YEN BAI PROVINCE.
0007	250,584	SURVEYS, TECHNICAL DESIGNS AND COST ESTIMATES PREPARATION. HA GIANG PROVINCE.
0008	477,429	SURVEY AND FS PREPARATION. NAM DINH PROVINCE.
0009	4,244	APPRaisal OF FS AND TECHNICAL DESIGNS OF THANH HOA SUBPROJECTS
0010	203,830	LOCAL CONSULTANTS OF QUANG TRI SUBPROJECTS
0011	1,962,384	OPERATING COSTS OF CPMU AND PPMUS
0012	1,044,607	PACKAGES 05-09 CIVIL WORKS CONTRACTS, HA TINH PROVINCES
0013	2,041,633	PACKAGES OF CIVIL WORKS, QUANG BINH PROVINCE.
0014	3,263,158	PACKAGES IN QUANG TRI PROVINCE.
0015	248,927	PACKAGE 19, NAM DA IRRIGATION, YEN BAI PROVINCE (01A/HD-XD DATED 16JUN09 PLUS 01B/HD-XD DATED 8OCT
0016	157,556	PACKAGE 26, CIVIL WORK, HA GIANG PROVINCE
0019	791,597	CIVIL WORK PACKAGES 14/15/23/27, YEN BAI PROVINCE PLUS VARIOUS VARIATIONS
0020	73,806	CONSTRUCTION SUPERVISION, QUANG BINH PROVINCE (7 CONTRACTS)
0021	75,709	CONTRACTS 482/2007, 62/61-2007, CONSULTING SERVICE HA GIANG PROVINCE
0022	16,316	CONSTRUCTION SUPERVISION, PACKAGES 1/2/3 HA TINH PROVINCE
0023	105,510	PACKAGES 01/02/03/04 CONSULTING SERVICES FOR QUANG TRI PROVINCE
0024	166,874	PACKAGE 13, BAN NGOA FLOOD PROTECTION, YEN BAI PROVINCE
0025	15,458	SURVEY AND PREPARATION OF TECHNICAL DESIGN AND COST ESTIMATES, KM38 - THONG NGUYEN ROAD, HA GIANG
0026	8,696	SURVEY AND FS/TECHNICAL DESING/COST ESTIMATE REPARATION, NGOC VANH/A LANG PS/KHE NHOI RESERVOIR
0027	5,299	VARIOUS CONSTRUCTION INSURANCE PACKAGES OF HA TINH PROVINCE

Contract No.	ADB Financed (US\$)	Contract name
0029	8,737	CONSTRUCTION SUPERVISION, VAN HOA EMBANKMENT QUANG BINH PROVINCE
0030	880,460	PACKAGES 07/8/9 CIVIL WORKS, VAN HOA EMBANKMENT QUANG BINH PROVINCE
0032	16,213	SURVEY AND FS PREPARATION, CAU DUC DAM, DA LA AND DUNG DAMS, QUANG TRI PROVINCE
0033	18,964	CONSTRUCTION INSURANCE FOR VINH HA-VINH O ROAD ANDO GIANG DIKE SUBPROJECTS, QUANG TRI PROVINCE
0034	24,641	PREPARATION OF TECHNICAL DESIGN AND COST ESTIMATES NAM BINH AND LONG UYEN EMBANKMENT, BEN SACH BRIDGE
0035	302,458	CIVIL WORK PACKAGE 02, QUANG NGUYEN COMMUNE EMBANKMENT, HA GIANG PROVINCE
0036	4,848	APPRAISAL OF TECH DESIGN & COST ESTIMATES, NGOI NHI-THAC HOA, NAM KHAT-LA KHAT, SON THINH-BAN MOI
0037	6,992	BIDDING INVITATION: TRAM TAU, NAM DA, SON A, ZE SUP HINH, SON THINH, NAM KHAT, NGOI NHI AND BAN NGOA
0038	541	APPRAISAL OF FS: VAN HOA EMBANKMENT, VUC TRON KIEN GIANG ZONE II SUBPROJECTS, QUANG BINH
0039	5,664	INSURANCE FOR VAN HOA EMBANKMENT AND KIEN GIANG ZONE II DIKE SUBPROJECTS, QUANG BINH PROVINCE
0040	518	BIDDING INVITATION, VAN HOA EMBANKMENT SUBPROJ QUANG BINH PROVINCE
0041	4,557	CONSTRUCTION SUPERVISION, VAN HOA EMBANKMENT SUBPROJECT, QUANG BINH PROVINCE
0042	2,844	APPRAISAL OF DESIGN & COST ESTIMATES, FS OF NA DONG, QUANG NGUYEN AND VINH QUANG SUBPROJECTS
0043	3,304	INSURANCE OF QUANG NGUYEN, VINH QUANG AND NGHIA THUAN COMMUNE MARKET SUBPROJECTS, HA GIANG PROVINCE
0044	20,378	APPRAISAL OF TECH DESIGN AND COST ESTIMATES OF QUYNH DI DIKE & TRANG SON EMBANKMENT; AND PREPARATION
0045	812,407	CWS PACKAGES 13/14/15, THACH DAI-THACH XUAN ROAD HA TINH PROVINCE
0046	380,225	CWS PACKAGE 10, HUONG VINH BRIDGE SUBPROJECT HA TINH PROVINCE
0047	376,920	CWS PACKAGE 12, NGAN SAU EMBANKMENT SUBPROJECT HA TINH PROVINCE
0048	293,165	CW PACKAGE NO.3, TRANG SON EMBANKMENT SUBPROJECT NGHE AN PROVINCE
0049	553,814	CIVIL WORK PACKAGES 1-4, RAC RIVER EMBANKMENT HA TINH PROVINCE
0050	173,155	CW PACKAGE 11, LA RIVER EMBANKMENT SUBPROJECT HA TINH PROVINCE
0051	1,371,434	CIVIL WORKS PACKAGES 1/2/3, Y VICH SEA DIKE THANH HOA PROVINCE
0052	332,400	CIVIL WORK PACKAGE 1, DIEN NGOC EMBANKMENT NGHE AN PROVINCE
0053	946,320	CWS PACKAGE 2, QUYNH DI DIKE SUBPROJECT NGHE AN PROVINCE

Contract No.	ADB Financed (US\$)	Contract name
0054	433,105	CONTRACT 176/2008, HUNG TAY PRIMARY SCHOOL SUBPROJ NGHE AN PROVINCE
0055	192,148	CW PACKAGE 05, BIEN GANH BRIDGE/SPILLWAY. NGHE AN PROVINCE
0056	1,045,065	CIVILWORK PACKAGES HG03/04/05, HA GIANG PROVINCE
0057	1,539,402	CIVIL WORK PACKAGES XQ1/2, XUAN QUY-THANH QUAN ROAD, THANH HOA PROVINCE
0058	1,000,340	CIVIL WORK PACKAGES XL1/2, XUAN LAM-PHU SON ROAD THANH HOA PROVINCE
0059	1,450,067	CIVIL WORK PACKAGES HT02/3/4, HAI THANH SEA DIKE THANH HOA PROVINCE
0060	119,637	CIVIL WORK PACKAGE OF DIEN LUC DAM SUBPROJECT NGHE AN PROVINCE
0061	276,976	CIVIL WORK PACKAGE 4, TRANG SON EMBANKMENT, NGHE AN PROVINCE
0062	507,040	CIVIL WORK PACKAGES 49/50/52, NGOI NHI+THAC HOA IRRIGATION SUBPROJECT, YEN BAI PROVINCE
0063	768,281	CIVIL WORK PACKAGES 31/32, NAM KHAT - LA KHAT AND NAM KHAT - MI HANG TAU ROAD, YEN BAI PROVINCE
0064	50,144	CONSTRUCTION SUPERVISION, HAU LOC SEA DIKE, HAI THANH SEA DIKE AND XUAN QUY-THANH QUAN ROAD SUBPROJECT
0065	43,019	MINE AND EXPLOSIVE DISARMAMENT, XUAN LAM-PHU SON ROAD, XUAN QUY-THANH QUAN ROAD SUBPROJECTS,
0066	34,011	CONSTRUCTION SUPERVISION, VARIOUS SUBPROJECTS IN HA TINH PROVINCE PLUS VO#05-BSGS/HDXD
0067	72,169	PREPARATION OF TECHNICAL DESIGN AND COST ESTIMATES OF NEW SUBPROJECTS IN HA TINH PROVINCE
0068	9,410	VARIOUS INSURANCE CONTRACTS IN QUANG BINH PROVINCE
0069	3,047	APPRAISAL OF TECHNICAL DESIGN AND COST ESTIMATES NAM BINH-LONG UYEN EMBANKMENT, CAM THACH EMBANKMENT
0070	1,701	CONSTRUCTION BIDDING INVITATION, CAM THACH EMBANKMENT AND NAM BINH-LONG UYEN EMBANKMENT SUBPROJECTS
0071	57,399	CONSTRUCTION SUPERVISION IN VARIOUS SUBPROJECTS IN NGHE AN PROVINCE
0072	24,913	10 CONTRACTS OF APPRAISAL OF TECHNICAL DESIGN AND COST ESTIMATES AND CONSTRUCTION SUPERVISION,
0073	4,474	VARIOUS INSURANCE CONTRACTS IN YEN BAI PROVINCE
0074	27,965	CONSTRUCTION SUPERVISION IN VARIOUS PACKAGES OF YEN BAI PROVINCE
0076	195	APPRAISAL OF BIDDING SELECTION RESULTS IN VARIOUS SUBPROJECTS OF QUANG BINH PROVINCE
0077	1,069,972	INTERNATIONAL CONSULTANT PACKAGE
0078	203	APPRAISAL OF CONSTRUCTION BIDDING FOR 6 SUBPROJECTS IN NGHE AN PROVINCE
0079	5,486	BIDDING INVITATION COSTS FOR KIEN GIANG ZONE II DIKE

Contract No.	ADB Financed (US\$)	Contract name
		AND VUC TRON RESERVOIR SUBPROJECT
0080	148,004	PACKAGE 51, NGOI NHI+THAC HOA IRRIGATION, YEN BAI PROVINCE
0081	42,826	INSURANCE PACKAGES FOR DIFFERENT SUBPROJECTS IN THANH HOA PROVINCE
0082	9,043	INSURANCE PACKAGES FOR VARIOUS SUBPROJECTS IN HA TINH PROVINCE
0083	1,156	BIDDING INVITATION FOR BEN SACH BRIDGE AND TAN LONG PS, PHU YEN PROVINCE
0084	43,614	INSURANCE FOR NA DONG AND MAU DUE STREAM EMBANKMENT, AND LUNG TAM-THAI AN ROAD AND CONSTRUCTION SUPERVISION
0085	40,566	CONSTRUCTION SUPERVISION PACKAGES FOR HA GIANG PROVINCE (06 CONTRACTS)
0086	5,904,109	CIVIL WORKS PACKAGES 1-11, HAI HAU DIKE, NAM DINH PROVINCE
0087	4,938,632	CIVIL WORKS PACKAGES GT01-GT07, GIAO THUY DIKE NAM DINH PROVINCE
0088	349,398	CIVIL WORKS PACKAGES 36/37 OF SON THINH-BAN MOI ROAD, TRAN PHU AND CHAN THINH SUSPENSION BRIDGES
0089	218,750	CIVIL WORKS PACKAGES 44/45 OF ZE SU PHINH AND NAM KHAT IRRIGATION, YEN BAI PROVINCE
0090	9,547	INSURANCE PACKAGES FOR YEN BAI PROVINCE
0091	90,705	CONSTRUCTION SUPERVISION PACKAGES FOR NAM DINH PROVINCE
0092	67,560	INSURANCE PACKAGES FOR NAM DINH PROVINCE
0093	13,906	CONSTRUCTION SUPERVISION FOR XUAN LAM-PHU SON ROAD, THANH HOA PROVINCE
0094	7,705	CONSTRUCTION SUPERVISION FOR HUNG TAY PRIMARY SCHOOL, NGHE AN PROVINCE
0095	14,098	INSURANCE PACKAGES OF NGHE AN PROVINCE
0096	137	APPRAISAL OF TECHNICAL DESIGN, LUNG TAM-THAI AN RD HA GIANG PROVINCE
0097	9,146	CONSTRUCTION SUPERVISION FOR NGOI NHI+THAC HOA IRRIGATION, YEN BAI PROVINCE
0098	187,497	CIVIL WORK PACKAGE 39, SON THINH-BAN MOI ROAD YEN BAI PROVINCE
0099	124,356	CIVIL WORK PACKAGE 43, ZE SU PHINH AND NAM KHAT IRRIGATION, YEN BAI PROVINCE
0100	749,906	CIVIL WORK PACKAGES HG07.1/2, LIEN HIEP-DUC XUAN ROAD, HA GIANG PROVINCE (LINH QUY & QUE LAM CO.)
0101	411,290	CIVIL WORK PACKAGE HG06, SAN SA HO-PO LY NGAI ROAD HA GIANG PROVINCE
0102	66,344	APPRAISAL OF TECHNICAL DESIGN & COST ESTIMATES, BIDDING CONSULTANTS AND CONSTRUCTION SUPERVISION
0103	5,147	INSURANCE FOR LIEN HIEP-DUC XUAN ROAD, AND SAN SA HO-PO LY NGAI SUBPROJECTS, HA GIANG PROVINCE
0104	668,992	PACKAGE 03, XUAN QUY-THANH QUAN ROAD
0105	113,438	PACKAGE 38, SON THINH-BAN MOI ROAD, TRAN PHU AND

Contract No.	ADB Financed (US\$)	Contract name
0106	511,372	CHAN THINH SUSPENSION BRIDGES AND CHAN THINH PACKAGE HT1, HAI THANH SEA DIKE, THANH HOA PROVINCE
0107	646,513	CIVIL WORKS PACKAGES 01-06, TAM NONG RESERVOIRS PHU THO PROVINCE
0108	10,413	APPRAISAL OF FS, TECHNICAL DESIGN AND COST ESTIMATES FOR GIAO THUY AND HAI HAU SUBPROJECTS, NAM DINH
0109	14,372	INSURANCE FOR 4 SUBPROJECTS IN PHU THO PROVINCE (PLUS SUPPLEMENTARY CONTRACT NO. 07B/BHXD-2008)
0110	880,606	PACKAGE 01, XUAN AN-TRUNG SON SPILLWAYS, PHU THO PROVINCE
0111	490,644	CIVIL WORKS PACKAGES 1/2, MY THUAN SPILLWAY, PHU THO PROVINCE
0112	540,800	CIVIL WORKS PACKAGES 1/2/3, CAM KHE DISTRICT PHU THO PROVINCE
0113	58,849	CONSTRUCTION SUPERVISION OF 4 SUBPROJECTS IN PHU THO PROVINCE PLUS SUPPLEMENTARY CONTRACT
0114	1,226	APRAISAL OF TECHNICAL DESIGN AND COST ESTIMATES VAN HOA EMBANKMENT, QUANG BINH PROVINCE
0116	341,202	CIVIL WORK PACKAGES 5/6, NAM BINH-LONG XUYEN SUBPROJECT, PHU YEN PROVINCE
0117	462,739	CIVIL WORK PACKAGES 5/6, BEN SACH BRIDGE AND TAN LONG PS, PHU YEN PROVINCE PLUS PKG 6'S VO
0118	246,163	CIVIL WORK PACKAGE 5, CAM THACH VILLAGE EMBANKMENTPHU YEN PROVINCEPLUS VO NO. 81/PL2009/05(XL-TDA-0
0119	162	APPRAISAL OF FS, NAM BINH-LONG UYEN AND BEN SACH BRIDGE SUBPROJECTS, PHU YEN PROVINCE
0120	12,324	CONSTRUCTION SUPERVISION, SON THINH-BAN MOI ROAD YEN BAI PROVINCE
0121	1,974	APPRAISAL OF PRICE ADJUSTMENT FOR MY THUAN, CAM KHE AND XUAN AN-TRUNG SON SUBPROJECTS, PHU THO
0122	3,088	VARIOUS CONSULTANT/INSURANCE CONTRACTS_ HA GIANG PROVINCE
0123	11,723	APPRAISAL OF TECHNICAL DESIGN AND COST ESTIMATES HAI HAU PRIMARY DIKE, NAM DINH PROVINCE
0124	18,951	CONSTRUCTION SUPERVISION, CAM THACH VILLAGE AND NAM BINH-LONG UYEN SUBPROJECTS, PHU YEN PROVINCE
0125	897,297	CIVIL WORK PACKAGES A/B/C, XOP NHI-BAO NAM ROAD NGHE AN PROVINCE
0126	91	APRAISAL OF BIDDING RESULT, XOP NHI - BAO NAM ROAD NGHE AN PROVINCE
0127	3,812	APPRAISAL OF TECHNICAL DESIGN AND COST ESTIMATES HAI HAU AND GIAO THUY PRIMARY DIKES
0128	9,792	INSURANCE FOR 3 SUBPROJECTS IN PHU YEN PROVINCE
0129	13,351	SPECIMEN OF EXP AND PREPARATION OF ENVIRONMENTAL REPORT, THANH HOA PROVINCE
0130	25,067	PREPARATION OF TECHNICAL DESIGN AND COST

Contract No.	ADB Financed (US\$)	Contract name
0131	3,718	ESTIMATES LONG DAI BRIDGE, QUANG BINH PROVINCE PREPARATION OF FS, QUANG PHUC EMBANKMENT, QUANG BINH PROVINCE.
0132	23,277	CONSTRUCTION SUPERVISION, NAM KHAT-LA KHAT SUBPROJECT, YEN BAI PROVINCE PLUS VO#06/2009/HD-TVGS DATE
0133	310	APPRAISAL OF TECHNICAL DESIGN AND COST ESTIMATE NGHIA THUAN COMMUNE, HA GIANG PROVINCE
0134	2,924	BIDDING INVITATION FOR XUAN LAM-PHU SON ROAD, HAI THANH SEA DIKE, THANH HOA PROVINCE
0135	39,834	PREPARATION OF FS, TECHNICAL DESIGN AND COST ESTIMATE, CHOC SPILLWAY, PHU THO PROVINCE
0136	1,117,904	PACKAGE HG02 - SUBPROJECT: REHABILITATION AND UPGRADING OF KM38 THONG NGUYEN ROAD
0137	159,045	PREPARATION OF FS FOR KM38-THONG NGUYEN RD AND DUONG THUONG-THAI AN RD, HA GIANG PROVINCE
0141	79,791	PREPARATION OF TECHNICAL DESIGN AND COST ESTIMATES DUONG THUONG-THAI AN ROAD, HA GIANG PROVINCE
0142	3,486	INSURANCE, XOP NHI-BAO NAM ROAD, NGHE AN.
0143	100,372	TECHNICAL DESIGN AND COST ESTIMATE FOR MAU DUC-THACH NGAN SPILLWAYS AND HUNG XUAN PS, NGHE AN.
0147	19,181	TECHNICAL DESIGN AND COST ESTIMATE FOR QUANG PHUC EMBANKMENT, QUANG BINH PROVINCE.
0148	86,159	AUDITING SERVICES - CONTRACT NO. 02/2009/CS/CPMU DATED 4AUG09 PLUS VO#02BS/2011/CPMU 22MAR11
0149	17,040	CONSTRUCTION SUPERVISION, XOP NHI-BAO NAM ROAD NGHE AN PROVINCE
0150	27,657	PREPARATION OF FS, CHE LA IRRIGATION SUBPROJECT HA GIANG PROVINCE
0151	571,749	SUPPLEMENTARY CONTRACT TO PACKAGE HG06, SAN SA HO- PO LY NGAI SUBPROJECT, HA GIANG PROVINCE
0152	241,376	PACKAGE NO. 56 (TL56-2273-VIE): EMBANKMENT SECTION FROM EXISTING EMBANKMENT TO A HA VILLAGE, NGHIA LO, YEN BAI PROVINCE
0153	211,566	PACKAGE NO. 57 (TL57-2273-VIE): EMBANKMENT SECTION ON THE LEFT BANK OF NUNG STREAM TO EXISTING EMBANKMENT
0154	431,803	PACKAGE NO. 58 (TL58-2273-VIE): EMBANKMENT SECTION ON THE RIGHT, FROM BAN NGOA SUSPENSION BRIDGE, PHU THO PROVINCE
0155	649,830	PACKAGE NO. 61 (GT61-2273-VIE): REHABILITATION AND UPGRADING OF NAM KHAT-LA KHAT ROAD,
0156	376,887	PACKAGE NO. 62 (GT62-2273-VIE): REHABILITATION AND UPGRADING OF NAM KHAT-MI HANG TAU
0157	554,781	CIVIL WORK CONTRACT: REHABILITATION AND UPGRADING OF TUONG VAN DIKE AND QUY HA DAM, QUANG TRI PROVINCE
0158	234,728	CIVIL WORK CONTRACT: REHABILITATION AND UPGRADING OF CAU DUC, DA LA AND DUNG DAMS, QUANG

Contract No.	ADB Financed (US\$)	Contract name
		TRI PROVINCE
0159	317,796	CIVIL WORK CONTRACT: REHABILITATION AND UPGRADING OF HIEU NAM RESERVOIR, QUANG TRI PROVINCE
0160	177,937	REHABILITATION AND UPGRADING OF THE PUMPTING STATION, STRENGTHENING 2 MAIN CANALS OF 190M AND 1000M
0161	610,146	PACKAGE NO. 1 OF SUBPROJECT: REHABILITATION AND UPGRADING OF KHE NHOI RESERVOIR, TINH GIA DISTRICT,
0162	481,168	REHABILITATION AND UPGRADING OF 4.357KM OF CAU CHAY DIKE
0163	7,234	CONSTRUCTION INSURANCE - REHABILITATION AND UPGRADING OF KHE NHOI RESERVOIR, TINH GIA
0164	867,574	REHABILITATION AND UPGRADING OF DUONG THUONG-THAI AN ROAD, HA GIANG PROVINCE
0165	8,295	CONSTRUCTION INSURANCE & SURVEY AND PREPARATION OF FS, YEN BAI
0166	70,120	NAM DINH - REHABILITATION AND UPGRADING OF HAI HAU PRIMARY DIKE (BIDDING PACKAGE NO. HH01)
0167	153,697	NAM DINH - REHABILITATION AND UPGRADING OF HAI HAU PRIMARY DIKE (BIDDING PACKAGE NO. HH03)
0168	140,119	NAM DINH - REHABILITATION AND UPGRADING OF HAI HAU PRIMARY DIKE (BIDDING PACKAGE NO. HH05)
0169	80,787	NAM DINH - REHABILITATION AND UPGRADING OF HAI HAU PRIMARY DIKE (BIDDING PACKAGE NO. HH06)
0170	90,259	NAM DINH - REHABILITATION AND UPGRADING OF HAI HAU PRIMARY DIKE (BIDDING PACKAGE NO. HH07)
0171	155,288	NAM DINH - REHABILITATION AND UPGRADING OF HAI HAU PRIMARY DIKE (BIDDING PACKAGE NO. HH08)
0172	121,034	NAM DINH - REHABILITATION AND UPGRADING OF HAI HAU PRIMARY DIKE (BIDDING PACKAGE NO. HH09)
0173	143,139	NAM DINH - REHABILITATION AND UPGRADING OF HAI HAU PRIMARY DIKE (BIDDING PACKAGE NO. HH10)
0174	45,968	NAM DINH - REHABILITATION AND UPGRADING OF HAI HAU PRIMARY DIKE (BIDDING PACKAGE NO. HH11)
0175	125,575	NAM DINH - REHABILITATION AND UPGRADING OF GIAO THUY PRIMARY DIKE (BIDDING PACKAGE NO. GT01)
0176	153,473	NAM DINH - REHABILITATION AND UPGRADING OF GIAO THUY PRIMARY DIKE (BIDDING PACKAGE NO. GT02)
0177	145,188	NAM DINH - REHABILITATION AND UPGRADING OF GIAO THUY PRIMARY DIKE (BIDDING PACKAGE NO. GT03)
0178	150,010	NAM DINH - REHABILITATION AND UPGRADING OF GIAO THUY PRIMARY DIKE (BIDDING PACKAGE NO. GT05)
0179	196,501	NAM DINH - REHABILITATION AND UPGRADING OF GIAO THUY PRIMARY DIKE (BIDDING PACKAGE NO. GT06)
0180	61,437	NAM DINH - REHABILITATION AND UPGRADING OF GIAO THUY PRIMARY DIKE (BIDDING PACKAGE NO. GT07)
0181	107,117	NAM DINH - REHABILITATION AND UPGRADING OF GIAO THUY PRIMARY DIKE (BIDDING PACKAGE NO. GT04)
0182	1,394	APPRAISAL OF DESIGN AND COST ESTIMATES, CHOC

Contract No.	ADB Financed (US\$)	Contract name
		SPILLWAY
0183	330,526	REHABILITATION OF XUAN AN - TRUNG SON ROAD (SUPPLEMENTARY)
0185	300,452	CONSTRUCTION OF NA DONG AND MAU DUE STREAM EMBANKMENT, YEN MINH DISTRICT, SUPPLEMENTARY
0186	28,312	VINH QUANG PRIMARY SCHOOL, HOANG SU PHI DISTRICT, SUPPLEMENTARY
0187	125,457	REHABILITATION AND UPGRADING OF XOP NHI-BAO NAM RO
0188	768,712	REHABILITATION OF SAN SA HO - PO LY NGAI ROAD, SUPPLEMENTARY PLUS VOS03/2011/H?BS-HG06 & 07/2011/HDB
0190	319,603	PKG NO. 01-GT3 - UDGRADING CHOC SPILLWAY, TAN SON DISTRICT, PHU THO
0191	326,148	PKG NO. 02-GT3 - UDGRADING CHOC SPILLWAY, TAN SON DISTRICT, PHU THO
0192	1,474	HA GIANG - APPRAISAL OF TECHNICAL DESIGN AND COST ESTIMATES AND CONSTRUCTION BIDDING CONSULTANT (04
0193	14,822	HA TINH - 04 CONTRACTS OF SURVEY AND PREPARATION OF FS, TECHNICAL DESIGN AND COST ESTIMATES
0194	2,885	APPRAISAL OF TECHNICAL DESIGN AND COST ESTIMATE, YEN BAI
0195	949	QUALITY CONTROL THANH HOA
0196	215,942	PKG 16: UPGRADING NHA TRAI, ONG NGHE BRIDGES, HA TINH
0197	194,289	PKG 17: UPGRADING KHE SANH RESERVOIR CULVERT, HA TINH
0198	216,580	PKG 18: UPGRADING QUYEN RIVER EMBANKMENT
0199	242,527	PKG 19: UPGRADING TRI RIVER EMBANKMENT, HA TINH
0200	196,472	PKG 20: UPGRADING TRI RIVER EMBANKMENT, HA TINH
0201	256,757	PKG 21: UPGRADING NHA THANH BRIDGE, HA TINH
0202	210,318	PKG 22: UPGRADING BA DAN, TIEM, HA TINH
0203	250,095	PKG 23: UPGRADING DA BAC SLUICE AND XUAN SONG DAM, HA TINH
0204	329,940	PKG 24: UPGRADING DA BAC SLUICE AND XUAN SONG DAM, HA TINH
0205	212,560	PKG 25: UPGRADING NHA THO RESERVOIR, HA TINH
0206	409,399	PKG NO. 1 - UPGRADING MAU DUC - THACH NGAN SPILLWAY, NGHE AN
0207	909,222	PKG NO. 1 - REHABILITATION AND UPGRADING OF HUNG XUAN PUMPING STATION, NGHE AN
0208	246,016	PKG NO. 07/XL-KQP - UPGRADING QUANG PHUC EMBANKMENT, QUANG BINHPLUS VO#17/2011/HDXLBS-QP_6JUN11
0209	251,216	PKG NO. 06/XL-KQP - UPGRADING QUANG PHUC EMBANKMENT, QUANG BINHPLUS VO#16/2011/HDXLBS-KQP_6JUN11
0210	234,260	PKG NO. 05/XL-KQP - UPGRADING QUANG PHUC EMBANKMENT, QUANG BINHPLUS VO#15/2011/HDXLBS-

Contract No.	ADB Financed (US\$)	Contract name
		KQP_6JUN11
0211	987,712	PKG NO. 01/XL-CLD - UPGRADING LONG DAI BRIDGE, QUANG BINH PLUS VO#14/2011/HDXLBS-CLD_6JUN11
0212	204,227	PKG 2 - UPGRADING CHE LA IRRIGATION, HA GIANG PLUS VO# 23/2010/HDXL-HG02_20DEC10
0213	383,209	PKG 2 - UPGRADING COMBINED SPILLWAY AND FIRST SECTION OF THUONG BINH ROAD
0214	75,096	CONSTRUCTION SUPERVISION AND INSURANCE_HA TINH PROVINCE (23 CONTRACTS)
0215	43,011	VARIOUS CONSULTANT/INSURANCE CONTRACTS_HA GIANG PROVINCE (7 CONTRACTS)
0218	14,528	CONSULTANT AND INSURANCE CONTRACTS_TRAN CHOC REPAIRMENT, PHU THO PROVINCE
0219	1,550	CONSULTANT CONTRACTS, REPAIRMENT OF VUC TRON LAKE'S MAIN WATERWAY AND QUANG PHUC EMBANKMENT, AND
0220	21,603	CONSULTANT & INSURANCE CONTRACTS, UPGRADING HIEU NAM RESERVOIR, CAU DUC DAM, DALA AND DUNG DAMS, &
0221	20,429	VARIOUS CONSULTANT, INSURANCE, AND CONSTRUCTION SUPERVISION CONTRACTS, THANH HOA PROVINCE
0222	17,685	VARIOUS CONSULTANT AND INSURANCE CONTRACTS, YEN BAI PROVINCE
0223	847,138	REHABILITATION OF ANG PHONG EMBANKMENT FROM SECTION K24+247 TO K24_747, GIAO THUY DISTRICT(PKG GT08)
0224	1,116,301	PKG GT09: REHABILITATION OF CULVERT NO. 9 AT K17+620, HAI HAU PRIMARY DIKE
0225	619,456	PKG HH12: REHABILITATION OF BA NON-XUONG DIEN EMBANKMENT, SECTION FROM K5+636.8 TO K6+022.3, HAI HAU
0226	669,080	PKG HH13: REHABILITATION OF BA NON-XUONG DIEN EMBANKMENT, SECTION FROM K6+022.3 TO K6+431.2, HAI HAU
0227	660,002	PKG HH14: REHABILITATION OF BA NON-XUONG DIEN EMBANKMENT, SECTION FROM K6+525.2 TO K6+914.4, HAI HAU
0228	669,521	PKG HH15: REHABILITATION OF BA NON-XUONG DIEN EMBANKMENT, SECTION FROM K6+914.4 TO K7+306.6, HAI HAU
0229	673,708	PKG HH16: REHABILITATION OF BA NON-XUONG DIEN EMBANKMENT, SECTION FROM K7+306.6 TO K7+706.6
0230	659,661	PKG HH17: REHABILITATION OF BA NON-XUONG DIEN EMBANKMENT, SECTION FROM K7+706.6 TO K8+115.7
0231	609,455	PKG HH18: REHABILITATION OF BA NON-XUONG DIEN EMBANKMENT, SECTION FROM K8+115.7 TO K8+920 , HAI HAU
0232	375,441	PKG HH19: REHABILITATION OF GOT TRANG EMBANKMENT, SECTION FROM K26+920 TO K27+120, HAI HAU PRIMARY D

Contract No.	ADB Financed (US\$)	Contract name
0236	19,823	AUDITING SERVICES FOR NAM DA, NGOI NHI, ZE SU PHINH, TRAM TAU, SON A AND BAN MOI SUBPROJECTS
0237	23,518	AUDITING SERVICES FOR LUNG TAM, VINH QUANG, NGHIA THUAN, QUANG NGUYEN AND NA DONG SUBPROJECTS
0238	9,150	AUDITING SERVICES ANF XUAN QUY AND Y VICH SUBPROJECTS, THANH HOA PROVINCE
0239	350	APPRAISAL OF TECHNICAL DESIGN, XUAN QUY SUBPROJECT THANH HOA PROVINCE
0240	1,328,522	PACKAGE 6, O GIANG DYKE, QUANG TRI
0241	133,255	SUPPLEMENTARY CIVIL WORKS CONTRACTS FOR HH02/HH04, HAI HAU, NAM DINH
0242	1,528	Appraisal of technical Design for extension work
0243	643	TECHNICAL DESIGN AND COST ESTIMATION - VINH QUANG PRIMARY SCHOOL 12B/2009/HD-XD
0244	44,286	CONSTRUCTION SUPERVISION, HAI HAU PRIMARY DIKE 12/2010/HD-TVGSHHMR
0245	19,088	CONSTRUCTION SUPERVISION - GIAO THUY PRIMARY DIKE 02/2010/HDGTTB-MR
0246	9,192	AUDITING SERVICES FOR HAI THANH SEA DIKE AND XUAN LAM-PHU SON ROAD
0247	395,680	Y VICH SEA DIKE CIVIL WORKS
0248	496,063	QUYNH DI DIKE, PACKAGE NO. 01
0249	482,270	REHABILITATION OF NHA THANH BRIDGE EXTEN PACKAGE HT21; TA NGHEN DIKE HAULOC & CON PHUONG CONSTRUCT
0249	2,654	REHABILITATION OF NHA THANH BRIDGE EXTEN PACKAGE HT21; TA NGHEN DIKE HAULOC & CON PHUONG CONSTRUCT
0250	22,199	PROJECT MAGAGEMENT COSTS
0251	1,320	AUDIT SERVICES FOR MY THUAN SPILLWAY
0252	607,143	REHABILITATION OF SON THINH-BAN MOI, CHAN PHU, CHAN THINH BRIDGE AND CHAN THINH - MUI KIM ROAD,
0253	4,466	CONSTRUCTION SUPERVISION OF CHE LA IRRIGATION, BIDDING CONSULTANT FOR CHE LA IRRIGATION
0254	1,548	SCHOOL VINH QUANG - HOANG SA CHU, HA GIANG EMBARKMENT WITH CONSTRUCTION QUALITY CONTROL CENTER
0255	23,070	APPRAISAL OF CONSTRUCTION QUALITY: LUNG TAM- THAI AN ROAD, LIEN HOP SPILLWAY, LIEN HIEP-DUC XUAN ROA
0256	293,399	NA DONG AND MAU DUE STREAM EMBANKMENT. PACKAGE HG03 (EXTENSION WORK). 21/2010/HDXL-HG03
0257	1,357	CONSTRUCTION BIDDING CONSULTANT - REHABILITATION OF KM38 - THONG NGUYEN ROAD
0258	7,872	CONSTRUCTION SUPERVISION- REHABILITATION OF LIEN HOP SPILLWAY/ BRIDGE AND THE FIRST SECTION OF THUON
0259	749,525	PACKAGE HG02 (EXTENSION WORK) - REHABILITATION OF DUONG THUONG - THAI AN ROAD
0260	371,848	BIDDING PACKAGE NO.01 (EXTENSION WORK)- DIEN NGOC EMBANKMENT

Contract No.	ADB Financed (US\$)	Contract name
0261	44,547	PACKAGE NO. 01 (EXTENSION WORK)- HUNG TAY PRIMARY SCHOOL
0262	396,545	PACKAGE NO. 01 (EXTENSION WORK)- HUNG XUAN PUMPING STATION
0263	26,678	AUDITING SERVICES:LA RIVER EMBANK, HUONG VINH BRIDGE/SPILLWAY, PHO CHAU TOWN EMBANKMENT
0264	260,624	BIDDING PACKAGE 20 (EXTENSION WORK)- REHABILITATION OF KIEN GIANG ZONE II DIKE
0265	387,065	BIDDING PACKAGE 21 (EXTENSION WORK)- REHABILITATION OF KIEN GIANG ZONE II DIKE PLUS VO#03/2011/HDXLBS-
0266	159,306	REHABILITATION AND UPGRADING OF KM38- THONG NGUYEN ROAD. BIDDING PACKAGE HG02 (EXTENSION WORK)
0267	23,596	CONSTRUCTION SUPERVISION: Y VICH SEA DYKE- HAU LOC REHABILITATION OF NHA THANH BRIDGE: 3 CONTRACTS
0268	248,903	REHABILITATION OF KIEN GIANG ZONE II DIKE, PACKAGE 19 PLUS VO# 01/2011/HDXLBS-TKG DATED 6 JUN 11
0269	578,434	REHABILITATION OF XUAN AN - TRUNG SON SPILLWAYS PACKAGE NO.01-GT1/BX (EXTENSION WORK)
0270	33,668	AUDITING SERVICES FOR SUBPROJECTS OF HAI HAU & GIAO THUY PRIMARY DIKES
0271	23,131	CONSTRUCTION QUALITY CONTROL SERVICES FOR HAI HAU AND GIAO THUY PRIMARY DIKES SUBPROJECTS
0272	3,287	APPRAISAL OF TECHNICAL DESIGN AND COST ESTIMATES (EXTENSION WORK) FOR QUYNH DI DIKE, HUNG XUAN PUMP
0273	4,063	AUDITING SERVICES FOR LIQUIDATION REPORT OF SUBPROJECT: REHABILITATION OF RESERVOIRS IN CAM KHE AND
0274	8,686	AUDITING SERVICES FOR SUBPROJECTS IN QUANG BINH, QUANG TRI, NGHE AN
8801	993	OTHER EXPENSES OF VAN HOA EMBANKMENT SUBPROJECT. QUANG BINH PROVINCE
8802	26,700	CONSTRUCTION SUPERVISION, AUDIT SERVICES, CONSTRUCTION QUALITY CONTROL
8803	73,874	CONSTRUCTION QUALITY CONTROL AND AUDIT SERVICES

APPENDIX 6: DETAILED COST BREAKDOWN BY FINANCIER

Item	Appraisal Estimate					Actual						
	Cost		ADB		GOV		Cost		ADB		GOV	
	\$	\$	%	\$	%	\$	\$	%	\$	%		
A. Investment Costs												
1. Civil Works												
Rural Infrastructure	45.77	43.23	94.4	2.54	5.6	75.25	71.07	94.5	4.18	5.5		
2. International Consultants	0.77	0.77	100.0	0.00	0.0	1.07	1.07	100.0	0.00	0.0		
3. Project Management	6.87	6.33	92.3	0.53	7.7	8.11	6.73	83.0	1.38	17.0		
4. Taxes and Duties	5.85	0.00	0.0	5.85	100.0	6.64	0.00	0.0	6.64	100.0		
Subtotal (A)	59.25	50.33	84.9	8.93	15.1	91.07	78.87	86.6	12.20	13.4		
B. Interest during implementation	0.64	0.64	100.0	0.00	0.0	1.13	1.13	100.0	0.00	0.0		
Total Project Cost (A+B)	59.89	50.97		8.93		92.20	80.00		12.20			
% Total Project Cost	100.0		85.1		14.9	100.0		86.8		13.2		