



JAPAN INTERNATIONAL COOPERATION AGENCY

**COMMITTEE OF EMERGENCY SITUATIONS
AND CIVIL DEFENSE
THE REPUBLIC OF TAJIKISTAN**

**THE STUDY ON
NATURAL DISASTER PREVENTION
IN PYANJ RIVER**

FINAL REPORT

VOLUME 4 PHOTOGRAPH COLLECTION

DECEMBER 2007



CTI ENGINEERING INTERNATIONAL CO., LTD.

GE

JR

07-071



JAPAN INTERNATIONAL COOPERATION AGENCY

**COMMITTEE OF EMERGENCY SITUATIONS
AND CIVIL DEFENSE
THE REPUBLIC OF TAJIKISTAN**

**THE STUDY ON
NATURAL DISASTER PREVENTION
IN PYANJ RIVER**

FINAL REPORT

VOLUME 4 PHOTOGRAPH COLLECTION

DECEMBER 2007



CTI ENGINEERING INTERNATIONAL CO., LTD.

PROJECT COST ESTIMATE

Price Level : Average Prevailing Market Price in February 2007
Currency Exchange Rate : USD 1 = 3.4386 Tjs. = JPY 121.720;
JPY 10 = 0.2825 Tjs. and 1 Euro = 4.4430 Tjs.

LIST OF REPORTS

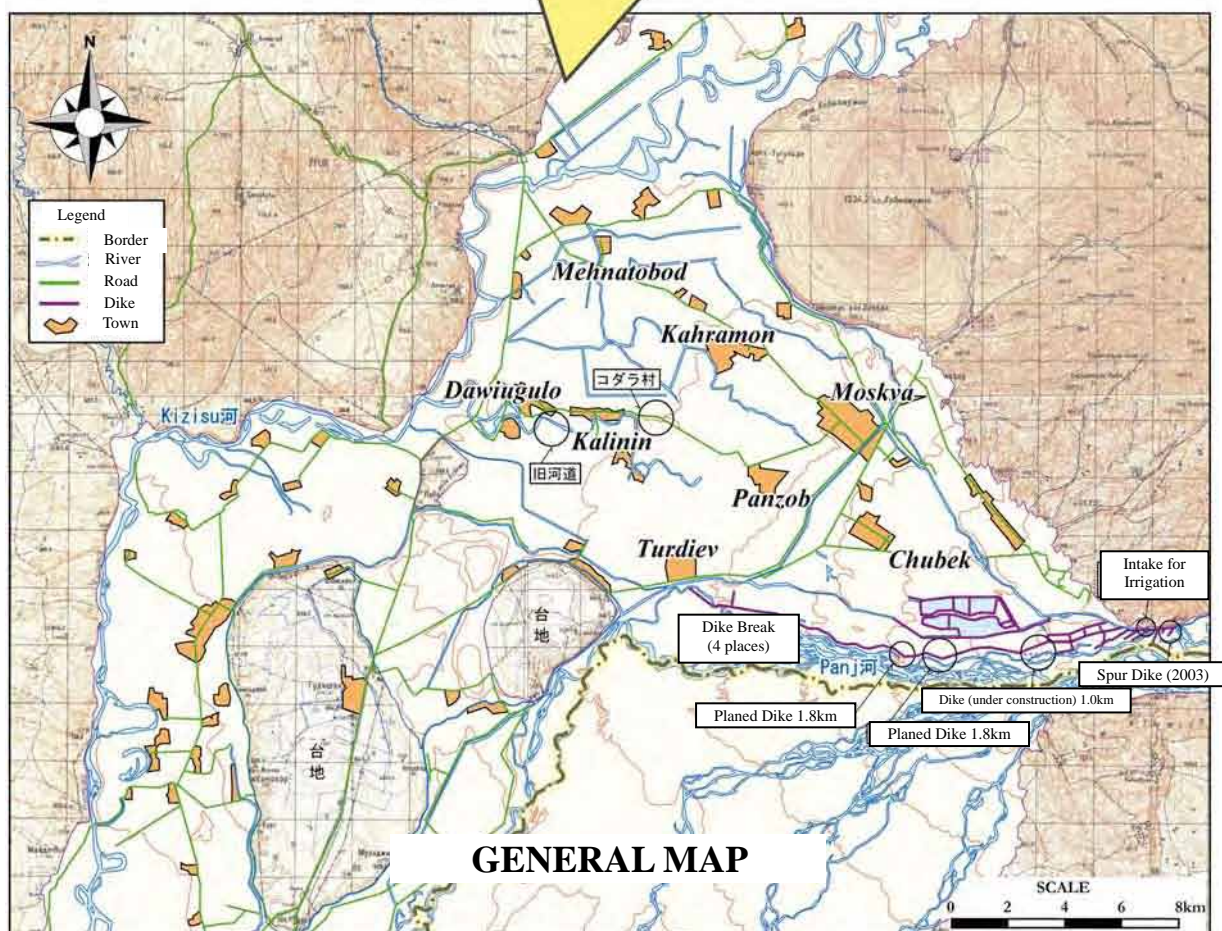
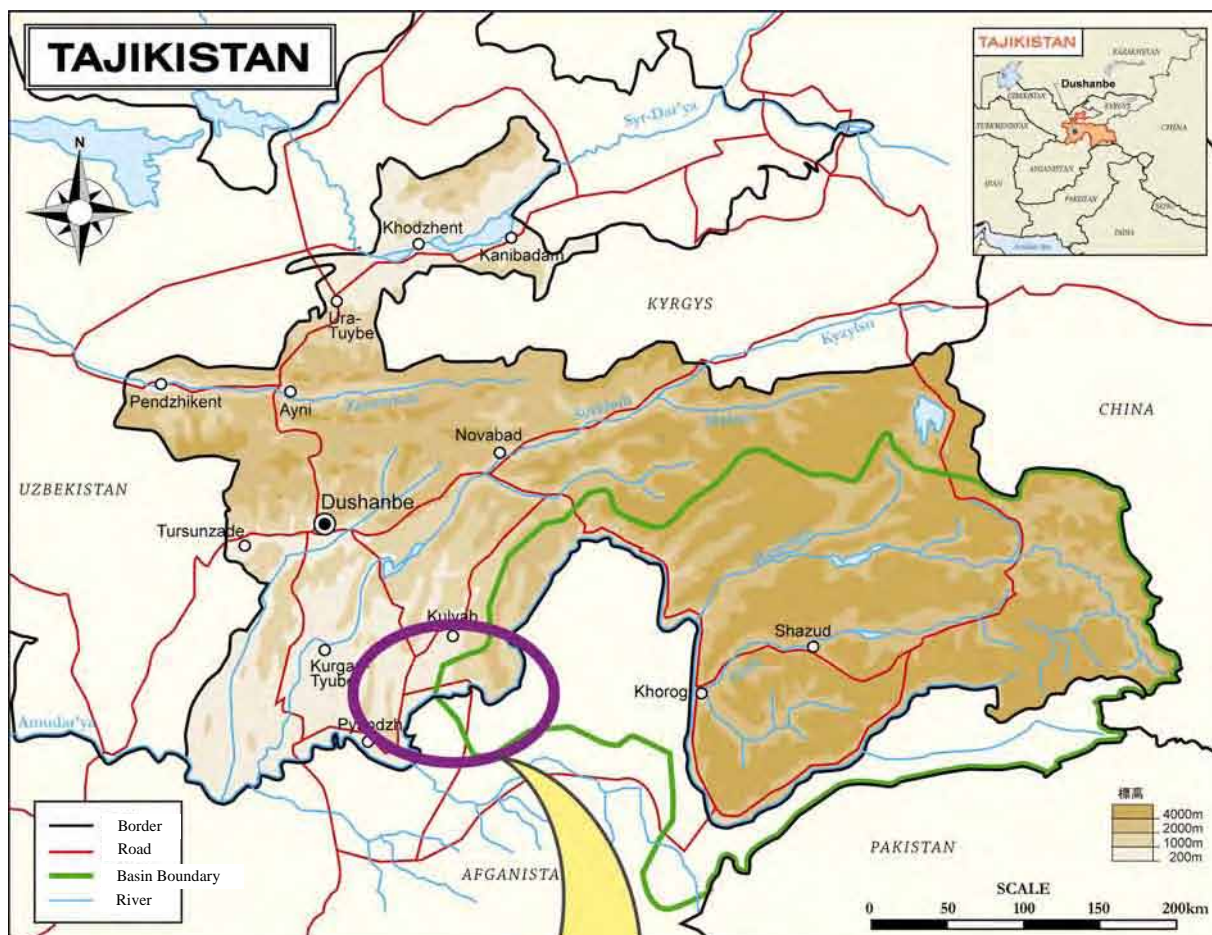
VOLUME 1 MAIN REPORT

VOLUME 2 SUPPORTING REPORT

SECTOR 1	RIVER PLANNING AND HAZARD MAPPING
SECTOR 2	HYDROLOGY AND HYDRAULICS
SECTOR 3	SEDIMENT AND EROSION
SECTOR 4	SATELLITE IMAGE ANALYSIS
SECTOR 5	RIVER FACILITY DESIGN
SECTOR 6	CONSTRUCTION PLAN AND COST ESTIMATE
SECTOR 7	SOCIO-ENVIRONMENT AND INSTITUTION
SECTOR 8	PREPAREDNESS, FORECASTING, WARNING AND EVACUATION
SECTOR 9	ECONOMIC AND FINANCE
SECTOR 10	PILOT PROJECT ON LOCAL COMMUNICATION NETWORK FOR DISASTER MANAGEMENT IN RAYON HAMADONI
SECTOR 11	FLOOD MONITORING FOR RIVER STRUCTURES

VOLUME 3 DATA BOOK

VOLUME 4 PHOTOGRAPH COLLECTION



FINAL REPORT (PHOTOGRAPH COLLECTION)

TABLE OF CONTENTS

General Map

Photograph Collection

	<u>Page</u>
Chapter 1. PHOTOGRAPH OF THE STUDY AREA.....	1-1
Chapter 2. CONDITION OF 2005 FLOOD DAMAGE.....	2-1
Chapter 3. SEMINARS AND WORKSHOPS	3-1
Chapter 4. PILOT PROJECT ON THE CONSTRUCTION OF SPUR DIKE AND THE REINFORCEMENT OF DIKE	4-1
Chapter 5. PILOT PROJECT ON LOCAL COMMUNICATION NETWORK FOR DISASTER MANAGEMENT.....	5-1

ABBREVIATIONS

Organization

JICA	:	Japan International Cooperation Agency
ADB	:	Asian Development Bank
MoES	:	Ministry of Emergency Situation and Civil Defense (Changed into Committee or CoES)
MMWR	:	Ministry of Melioration and Water Resources
SDC	:	Swiss Agency for Development and Cooperation
DHI	:	Danish Hydraulic Institute
REACT	:	Rapid Emergency Assessment and Coordination Team
UNT	:	United Nations in Tajikistan
UNDP	:	United Nations Development Programme
UNICEF	:	United Nations International Children's Emergency Fund
USAID	:	United States Agency for International Development
WB	:	World Bank
WHO	:	World Health Organization
FHA	:	Focus Humanitarian Assistance
Tajikmeteorology	:	Agency on Hydrometeorology
IMAC	:	Information Management and Analytical Center

Unit

°C	:	Degree Centigrade
dia.	:	Diameter
g	:	Gram
Ghz	:	Gigahertz
Mhz	:	Megahertz
ha	:	Hectare
Kg, kg	:	Kilogram
Km, km	:	Kilometer
K	:	kilometer point (E.g. 2.0K)
L. l. lit.	:	Liter
m	:	Meter
m ³	:	Cubic meter
m ³ /s	:	Cubic meter per second
mil.	:	Million
MLD	:	Million Liter per Day
MGD	:	Million Gallon per Day (1 MGD = 4.546 MLD)
Tjs.	:	Tajikistan Somoni
sec	:	second
t, ton	:	Tonnage
US\$, USD	:	American Dollar
W	:	Watt

Others

CD	:	Civil Defense
CIS	:	Commonwealth of Independent States
EIA	:	Environmental Impact Assessment
ICRC	:	Internal Committee of the Red Cross
NGO	:	Non-Governmental Organization
M/P	:	Master Plan
F/S	:	Feasibility Study
P/P	:	Pilot Project
TA	:	Technical assistance
ToR	:	Terms of Reference

CHAPTER 1. PHOTOGRAPH OF THE STUDY AREA

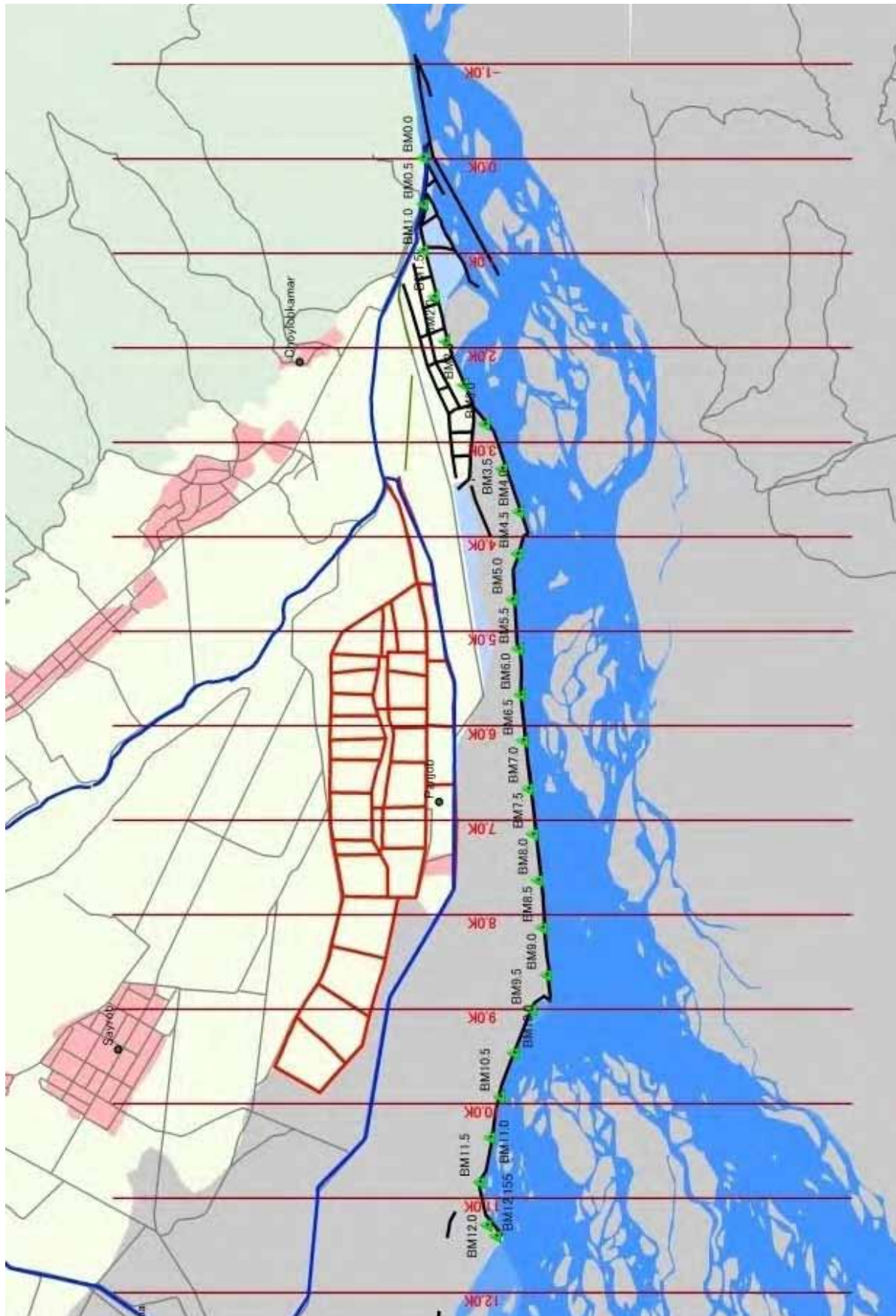


Fig. 1.1. Bench Mark and Station Point

Chapter 1. PHOTOGRAPH OF THE STUDY AREA



Intake Guide Dike (July 2006)



Spillway Guide Dike (July 2006)



Intake Weir (May 2006)



Spillway Gate (May 2006)



Concrete Block Spur Dike in Guide Dike (March 2006)



Concrete Block Spur Dike in Main Dike (May 2006)

*Shooting date is in parenthesis

Chapter 1. PHOTOGRAPH OF THE STUDY AREA



Round Head Spur Dike, Constructed in 2006 (May 2006)



Round Head Spur Dike, Constructed in 2007 (July 2007)



Gabion Type Revetment (September 2006)



Concrete Block Type Revetment (August 2006)



Combined Concrete Block and Gabion Type Revetment
(July 2006)



Upstream End of Intake Guide Dike (April 2006)

*Shooting date is in parenthesis



Upstream End of Intake Guide Dike (August 2006)



Upstream End of Intake Guide Dike (July 2007)



Riverbed Scour and Irregular Concrete Block in BM 2.6km (December 2006)



Revetment Washed Away in BM 3.0km (December 2006)



Riverbed Scour and Irregular Concrete Block in BM 3.5km (December 2006)



Seepage Point in BM 3.8km (August 2006)

* Shooting date is in parenthesis

Chapter 1. PHOTOGRAPH OF THE STUDY AREA



Temporary Installation of Concrete Block against Bank Erosion in BM 6.7km (December 2006)



Broken Gabion in BM 8.2km (December 2006)



Temporary Installation of Concrete Block against Bank Erosion in BM 9.2km (December 2006)



Temporary Installation of Concrete Block and Boulder against Bank Erosion in BM 10.3km (December 2006)



Bank Erosion in BM 10.7km (December 2006)



Temporary Installation of Concrete Block against Bank Erosion in BM 11.3km (December 2006)

* Shooting date is in parenthesis

Chapter 1. PHOTOGRAPH OF THE STUDY AREA



Before Revetment Washed Away in BM 2.8km
(May 2007)



After Revetment Washed Away in BM 2.8km
(August 2007)



Before Revetment Washed Away in BM 2.8km
(May 2007)



After Revetment Washed Away in BM 2.8km
(August 2007)



Temporary Installation of Concrete Block for Bank
Erosion in BM 3.2km (July 2007)



Seepage Point in BM 8.4km (July 2007)

* Shooting date is in parenthesis

CHAPTER 2. CONDITION OF 2005 FLOOD DAMAGE



Flooded Condition in Hamadoni -1 (July 2005)



Flooded Condition in Hamadoni -2 (July 2005)



Flooded Condition in Hamadoni -3 (July 2005)



Flooded Condition in Hamadoni -4 (July 2005)



Flooded Condition in Hamadoni -5 (July 2005)



Flooded Condition in Hamadoni -6 (July 2005)

* Shooting date is in parenthesis



Recovery Work in Hamadoni -1 (July 2005)



Recovery Work in Hamadoni -2 (July 2005)



Explanation of Governmental Response form Deputy Premier to Local Residents (July 2005)



Interview After Site Visit (July 2005)



Handing Over Ceremony of Relief Material (July 2005)



Relief Material (July 2005)

* Shooting date is in parenthesis

CHAPTER 3. SEMINARS AND WORKSHOPS



Working Group Meeting -1 (March 24th, 2006)



Working Group Meeting -2 (March 24th, 2006)



Stakeholder Meeting -1 (June 6th, 2006)



Stakeholder Meeting -2 (June 6th, 2006)



Technologies Transfer Seminar about River Plan and Design -1 (July 11th ~12th, 2006)



Technologies Transfer Seminar about River Plan and Design -2 (July 11th ~12th, 2006)

* Shooting date is in parenthesis



Hazard Map Seminar -1 (August 1st, 2006)



Hazard Map Seminar -2 (August 1st, 2006)



Hazard Map Seminar -3 (August 3rd, 2006)



Hazard Map Seminar -4 (August 3rd, 2006)



Hazard Map Seminar -5 (August 5th, 2006)



Hazard Map Seminar -6 (August 5th, 2006)

* Shooting date is in parenthesis



Stakeholder Meeting -1 (January 30th, 2007)



Stakeholder Meeting -2 (January 30th, 2007)



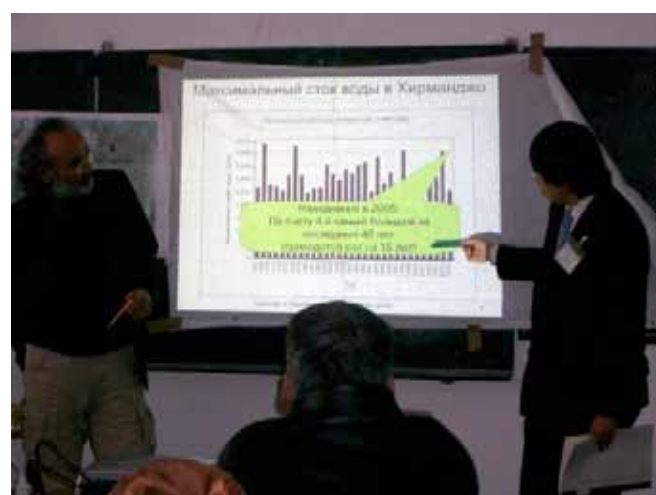
Seminar on Flood Fighting -1 (February 9th, 2007)



Seminar on Flood Fighting -2 (February 9th, 2007)



Workshop on Flood Fighting in Hamadoni -1
(February 17th, 2007)



Workshop on Flood Fighting in Hamadoni -2
(February 17th, 2007)

* Shooting date is in parenthesis



Workshop on Flood Fighting in Hamadoni -3
(February 18th, 2007)



Workshop on Flood Fighting in Hamadoni -4
(February 18th, 2007)



Flood-Evacuation Map Exercise -1 (May 5th, 2007)



Flood-Evacuation Map Exercise -2 (May 5th, 2007)



Field Flood-Evacuation Drill -1 (May 6th, 2007)



Field Flood-Evacuation Drill -2 (May 6th, 2007)

* Shooting date is in parenthesis



Draft Master Plan Seminar -1 (May 17th, 2007)



Draft Master Plan Seminar -2 (May 17th, 2007)



Technologies Transfer Seminar about Construction Management -1 (July 26th, 2007)



Technologies Transfer Seminar about Construction Management -2 (July 26th, 2007)



Master Plan Seminar -1 (October 30th, 2007)



Master Plan Seminar -2 (October 30th, 2007)

* Shooting date is in parenthesis

**CHAPTER 4. PILOT PROJECT ON THE
CONSTRUCTION OF SPUR DIKE
AND THE REINFORCEMENT OF
DIKE**

*Chapter 4. PILOT PROJECT ON THE CONSTRUCTION
OF SPUR DIKE AND THE REINFORCEMENT
OF DIKE*



Before Construction of Upstream Cofferdam (December 6th, 2006)



Upstream Cofferdam Under Construction (December 22nd, 2006)



Before Construction of Downstream Cofferdam
(January 4th, 2007)



Completion of Cofferdam (January 10th, 2007)

* Shooting date is in parenthesis

**Chapter 4. PILOT PROJECT ON THE CONSTRUCTION
OF SPUR DIKE AND THE REINFORCEMENT
OF DIKE**



Condition of Existing Revetment Before Construction (January 4th, 2007)



Removal of Existing Concrete Blocks
(January 18th, 2007)



Removal of Existing Concrete Blocks
(May 2nd, 2007)



Embankment Work for S1 (January 11th, 2007)

* Shooting date is in parenthesis

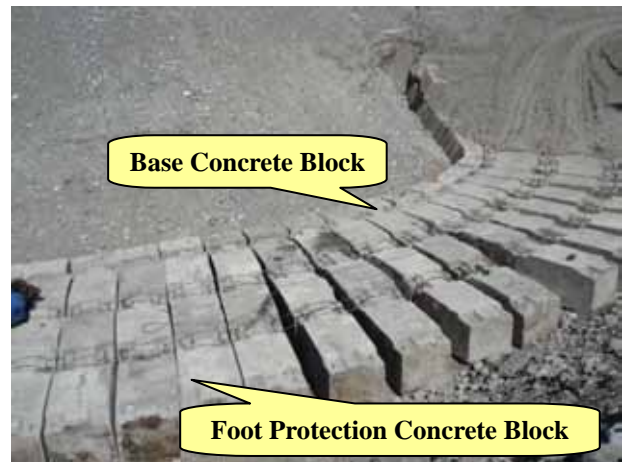
**Chapter 4. PILOT PROJECT ON THE CONSTRUCTION
OF SPUR DIKE AND THE REINFORCEMENT
OF DIKE**



Excavation Work for S1 (February 11th, 2007)



Connecting Concrete Blocks with Iron Wire in S2
(February 28th, 2007)



Base Concrete Block and Foot Protection Concrete
Block in S2 (March 6th, 2007)



Base Concrete Block in S2 (March 7th, 2007)



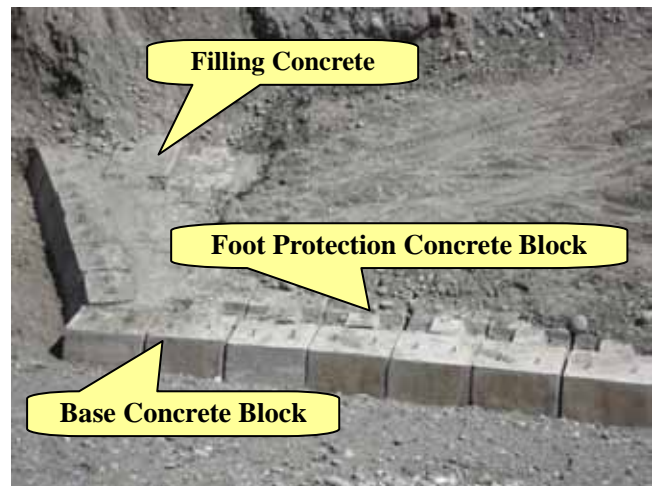
Filling of Spaces between Concrete Blocks in S2
(March 20th, 2007)

* Shooting date is in parenthesis

**Chapter 4. PILOT PROJECT ON THE CONSTRUCTION
OF SPUR DIKE AND THE REINFORCEMENT
OF DIKE**



Base Concrete Block and Foot Protection Concrete Block in S1 (March 20th, 2007)



Base Concrete Block and Foot Protection Concrete Block in S1 (March 24th, 2007)



Backfilling Work in S1 (March 30th, 2007)



Trimming and Clearing a Slope in S2 (March 19th, 2007)



Slope Protective Work in S2 (March 20th, 2007)



Slope Protective Work in S2 (March 24th, 2007)

* Shooting date is in parenthesis

**Chapter 4. PILOT PROJECT ON THE CONSTRUCTION
OF SPUR DIKE AND THE REINFORCEMENT
OF DIKE**



Slope Protective Work in S1 (March 29th, 2007)



Slope Protective Work in S1 (April 10th, 2007)



Slope Protective Work in S2 (March 30th, 2007)



Slope Protective Work in S2 (April 10th, 2007)



Slope Protective Work in S1 (April 16th, 2007)



Slope Protective Work in S1 (April 23rd, 2007)

* Shooting date is in parenthesis

**Chapter 4. PILOT PROJECT ON THE CONSTRUCTION
OF SPUR DIKE AND THE REINFORCEMENT
OF DIKE**



Wet Stone Masonry in S2 (April 2nd, 2007)



Washing Stone in S1 (April 20th, 2007)



Filling of Spaces between Concrete Blocks on
Revetment in Upstream of S1 (April 15th, 2007)



Trimming and Clearing a Slope Downstream of S1
(April 18th, 2007)



Rehabilitation of Existing Revetment Downstream of S1 (April 23rd, 2007)



* Shooting date is in parenthesis

**Chapter 4. PILOT PROJECT ON THE CONSTRUCTION
OF SPUR DIKE AND THE REINFORCEMENT
OF DIKE**



Slope Protective Work Downstream of S1
(April 20th, 2007)



Slope Protective Work Downstream of S1
(April 28th, 2007)



Slope Protective Work Downstream of S2
(May 3rd, 2007)



Slope Protective Work in Downstream of S2
(May 11th, 2007)



S1 from a Upstream View(May 14th, 2007, at
Completion Inspection)



S2 from a Downstream View(May 14th, 2007, at
Completion Inspection)

* Shooting date is in parenthesis

**Chapter 4. PILOT PROJECT ON THE CONSTRUCTION
OF SPUR DIKE AND THE REINFORCEMENT
OF DIKE**

Manufacture Method of Concrete Block Using Metal Form



Installing Metal Form (May 3rd, 2007)



Pouring Concrete into Metal Form (May 3rd, 2007)



Compaction of Concrete (May 3rd, 2007)



Removing Metal Form (May 10th, 2007)



Completion of Concrete Block: 2.0m x 1.0m x 1.0m



Completion of Concrete Block: 2.0m x 1.0m x 0.5m

* Shooting date is in parenthesis

CHAPTER 5. PILOT PROJECT ON LOCAL COMMUNICATION NETWORK FOR DISASTER MANAGEMENT

**Chapter5. PILOT PROJECT ON LOCAL
COMMUNICATION NETWORK
FOR DISASTER MANAGEMENT**



Preparatory meeting -1 (August 28th, 2007)



Preparatory meeting -2 (August 28th, 2007)



The Patrol Team on Dike with VHF Handie-Talkie
(August 29th, 2007)



Receipt of the CSR by VHF Base in Hukumat of Hamadoni
(August 29th, 2007)



Signing for the Evacuation Order (August 29th, 2007)



A car-messenger from the Hukumat of Hamadoni
(August 29th, 2007)

* Shooting date is in parenthesis

**Chapter5. PILOT PROJECT ON LOCAL
COMMUNICATION NETWORK
FOR DISASTER MANAGEMENT**



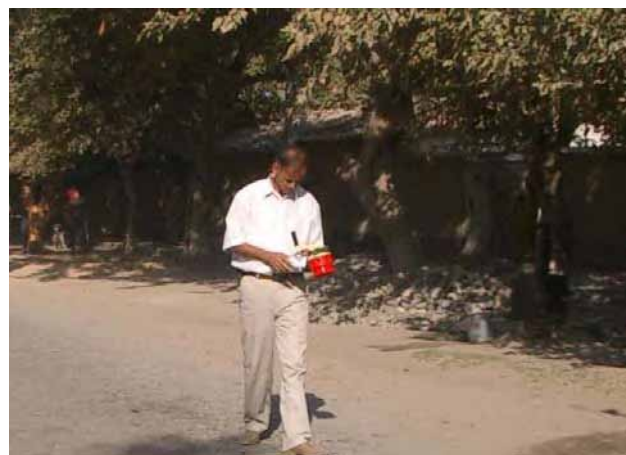
Receipt of the evacuation order at Jamoat Office
in Turdiev (August 29th, 2007)



An on-foot messenger from Jamoat Office
(August 29th, 2007)



Receipt of the evacuation order at Sarhadchi
(August 29th, 2007)



Dissemination of the evacuation order using Hand Siren
(August 29th, 2007)



Counting the number of gathered residents
(August 29th, 2007)



Evaluation Meeting with the Residents -1
(August 29th, 2007)

* Shooting date is in parenthesis

**Chapter5. PILOT PROJECT ON LOCAL
COMMUNICATION NETWORK
FOR DISASTER MANAGEMENT**



Evaluation Meeting with the Residents -2
(August 29th, 2007)



Evaluation Meeting with the Residents -3
(August 29th, 2007)



Evaluation Meeting with the Representatives -1
(August 30th, 2007)



Evaluation Meeting with the Representatives -2
(August 30th, 2007)



Evaluation Meeting with the Representatives -3
(August 30th, 2007)



Evaluation Meeting with the Representatives -4
(August 30th, 2007)

* Shooting date is in parenthesis