

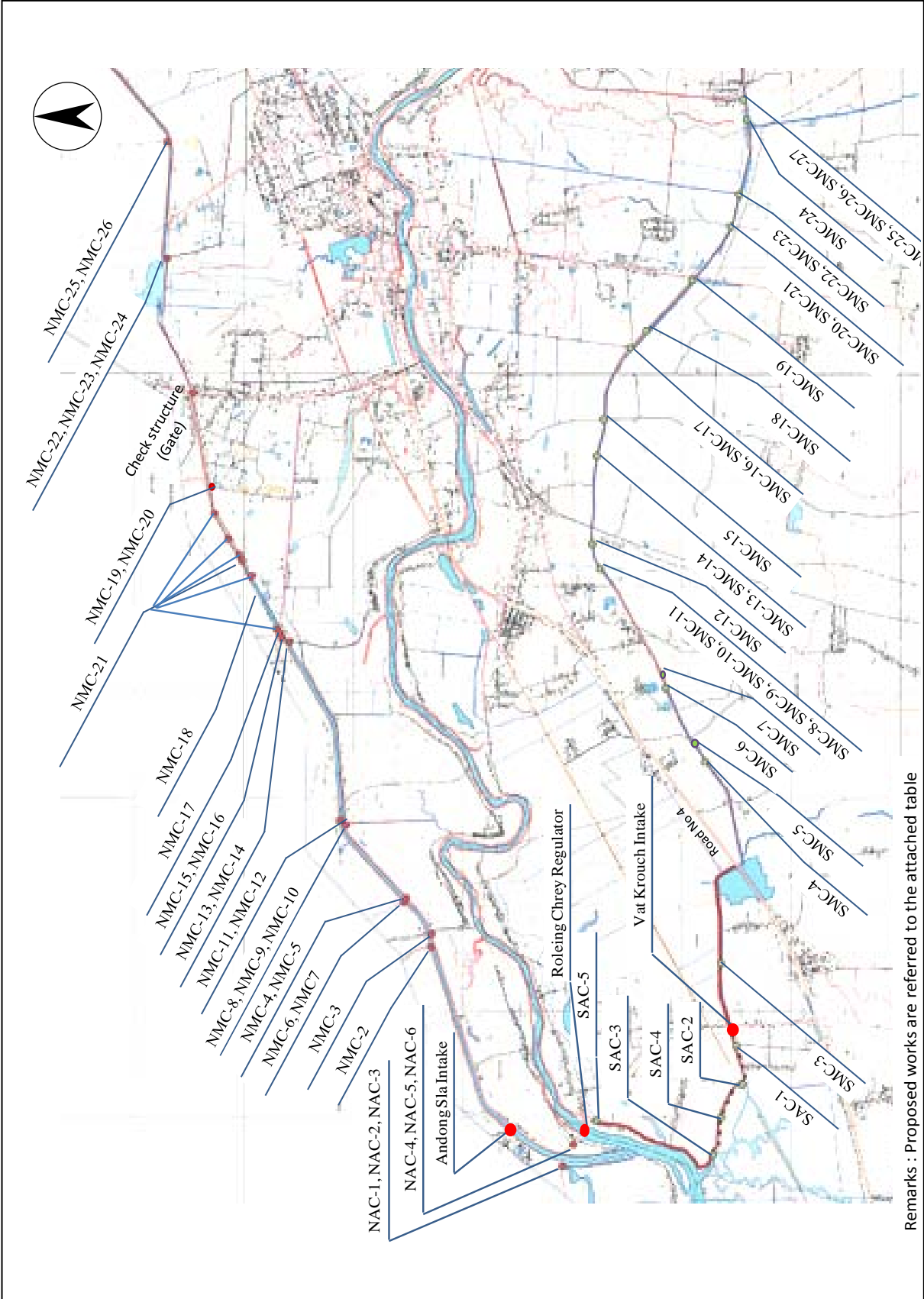
# ***ANNEX D***

## ***Attachments***

# ***ANNEX D***

## ***Attachment – 1***

*Results of Inventory Survey for  
Proposed Rehabilitation Works in  
Roleang Chrey Headworks Rehabilitation Sub-project*



PREPARATORY SURVEY FOR IRRIGATION AND DRAINAGE  
SYSTEM REHABILITATION AND IMPROVEMENT PROJECT

Japan International Cooperation Agency

Location Map of Proposed Rehabilitation Works for  
RCHRSP

## (1) North Main Canal

Map Ref. No.	Canal	Distance form Intake	Left or Right	Proposed Works	Details
<b>North Approach Channel</b>					
NAC-1	SC	0.6 km (upstream)	L	Rehabilitation of Phum Thmey Andong Sla SC with construction of structures	L = 3.1 km, (A = 300 ha) Improvement of embankment, 4 turnouts and 3 drain inlets
NAC-2	Approach Channel	0.6 km (upstream)	L	Replacement of turnout for Phum Thmey Andong Sla SC	Turnout for Phum Thmey Andong Sla SC (A =300 ha)
NAC-3	SC	0.6 km (upstream)	L	Improvement of Kraing Speu SC	Raising of canal bank of Kraing Speu SC embankment L = 1 km, W = 3 m, H = 1 m from existing
NAC-4	SC	0.68 km (upstream)	R	Rehabilitation of Andong Thor SC with construction of structures	L = 1.45 km, A = 120 ha 4 checks / diversions structures
NAC-5	Approach Channel	0.68 km (upstream)	R	Replacement of turnout for Andong Thor S.C	Replacement of concrete pipe for turnout for Andong Thor SC (A = 120 ha)
NAC-6	Approach Channel	0.68 km (upstream)	R	Repair of embankment of flood protection dike	L = 350 m, W = 6m, H = 2m (Additional)
NAC-7	Approach Channel	1.15 km ~ 0 km (upstream)	L/R	Improvement of embankment	Repair and provision of laterite pavement (both side)
<b>North Main Canal</b>					
NMC-1	NMC	0 km ~ 10 km	L/R	Laterite pavement with repair of embankment	Repair and provision of laterite pavement (both sides)
NMC-2	SC	1.95 km	L	Rehabilitation of Thmey-1 SC and construction of structures	L = 2.5 km (A = 125 ha) 3 outlets and 3 drain inlets
NMC-3	NMC	2 km	-	Improvement of concrete bridge	Replacement of abutment of bridge
NMC-4	SC	2.4 km		Rehabilitation of Phum Thmey-2 SC	L = 850 m, A = 13 ha 2 checks/diversions
NMC-5	NMC	2.4 km	R	Improvement of turnout	Provision of pipe culvert for Phum Thmey-2 SC (A = 13 ha)
NMC-6	SC	2.43 km	L	Rehabilitation of Thmey-3 SC	L = 3 km, A = 300 ha 3 checks/diversions
NMC-7	NMC	2.43 km	L	Replacement of turnout	Turnout for Thmey SC-3 (A = 300 ha)
NMC-8	SC	3.35 km	R	Rehabilitation of Kravein-1 SC with construction of structures	L = 2.45 km (A = 120 ha), 3 drainage and 8 outlet structures
NMC-9	SC	3.35 km	R	Rehabilitation of Kravein-2 SC with construction of structures	L = 810 m (A = 40 ha) 2 drain inlets and 3 turnouts
NMC-10	NMC	3.35 km	R	Repair of turnout	Turnout for Kravein SC (A = 160 ha)
NMC-11	NMC	3.45 km	L	Replacement of turnout	Turnout for Sampov-1 SC (A = 100 ha)
NMC-12	SC	3.45 km	L	Rehabilitation of Sampove SC-1 and construction of structures	L = 5 km (A =100 ha) 2 Checks/Turnout
NMC-13	NMC	5.1 km	R	Replacement of turnout	Turnout for Prey Beng SC-1 (A = 60 ha)
NMC-14	SC	5.1 km	R	Rehabilitation of Prey Beng SC-1 with construction of structures	L = 1.64 km (A = 60 ha) 6 Checks/Turnout
NMC-15	NMC	5.2 km	L	Replacement of turnout	Turnout for Sampov-2 SC (A = 100 ha)
NMC-16	SC	5.2 km	L	Rehabilitation of Sampove-2 SC and construction of structures	L = 1.2 km (A = 100 ha) 3 checks/diversions
NMC-17	NMC	5.25 km	-	Replacement of concrete bridge	
NMC-18	NMC	5.25 km ~ 7.75 km	L/R	Enlargement of canal section with improvement of both canal banks	


Map Ref. No.	Canal	Distance form Intake	Left or Right	Proposed Works	Details
NMC-19	SC	5.6 km	R	Rehabilitation of Prey Beng-2 SC with construction of structures	L = 1.8 km, (A = 70 ha) 4 checks/diversions
NMC-20	NMC	5.6 km	R	Replacement of turnout	Turnout for Prey Beng-2 SC (A=70 ha)
NMC-21	NMC	5.3 ~ 6.5 km	R/L	Provision of 6 drain inlets (Concrete pipe)	at 6.5 km, 6.25 km, 6.05 km, 6.0 km, 5.75 km, and 5.3 km points
NMC-22	NMC	8.55 km ~ 9.1 km	R	Replacement of 3 outlets for small irrigation area	Provision of concrete pipe culvert
NMC-23	NMC	8.55 km ~ 9.1 km	L/R	Construction of embankment with flood spillway	Left side : L = 1.1 km at level crossing reservoir with flood spillway structure (Siphon is proposed by PDOWRAM) Right side : Repair and provision of laterite pavement
NMC-24	NMC	8.8 km	R	Repair of turnout	Turnout for Thmat Pong SC L = 6.2 km, (A = 265 ha)
NMC-25	NMC	10 km	L	Construction of pump station with check structure	SC (5.2 km) has already been constructed (A = 300 ha)
NMC-26	NMC	10 km	R	Provision of a drain inlet	


## (2) South Main Canal


Map Ref. No.	Canal	Distance form Intake	Left or Right	Proposed Works	Details
<b>South Approach Channel</b>					
SAC-1	Approach Channel	0.2 km (upstream)	L	Construction of drain inlet and field drain	Both side : drain inlet Left side : drain canal
SAC-2	Approach Channel	0.58 km (upstream)	L	Improvement of concrete bridge	Remove bottom slab and excavate 1 m depth
SAC-3	Approach Channel	0.95 km (upstream)	L	Improvement of turnout (Concrete pipe)	Turnouts for Tompoung-1 SC (A = 10 ha) Provision of pipe culvert
SAC-4	Approach Channel	1.35 km (upstream)	L	Improvement of turnout (Concrete pipe)	Turnout for Tompoung-2 SC (A=10 ha) Provision of pipe culvert
SAC-5	SC	2.6 km (upstream)	L	Rehabilitation and Construction of structures of Kraheng SC	L = 1.75 km (A = 125 ha) 4 Checks/Turnouts
SAC-6	Approach Channel	2.6 km ~ 1.65 km	L	Laterite pavement with raising of embankment	Repair and provision of laterite pavement (both sides) H = 1 m (additional), W = 6 m
SAC-7	Approach Channel	1.65 km ~ 0 km	L	Improvement of canal section (Excavation of canal bottom)	Excavation : 1 m depth
<b>South Main Canal</b>					
SMC-1	SMC	0 km ~ 7.8 km	L	Laterite pavement with improvement of embankment	Left side : improvement of embankment (laterite pavement) H = 1 m (Additional), W = 6m
SMC-2	SMC	7.8 km ~ 9.62 km	L/R	Construction of embankment with flood spillway	Left side : Enlargement of embankment (W = 6 m) Right side : Construction of new embankment at level crossing reservoir
SMC-3	SMC	0.6 km	R	Provision of drain inlet	Diameter of pipe : 0.8 m to 1 m
SMC-4	SMC	2.7 km	L/R	Provision of drain inlet	Diameter 0.8 m to 1 m (both sides)
SMC-5	SMC	2.95 km	-	Construction of check structure	Check structure with new bridge at existing steel bridge
SMC-6	SMC	3.5 km	-	Removing check structure and construction of concrete bridge	
SMC-7	SMC	3.65 km		Construction of drain inlets	(Both side)
SMC-8	SMC	4.75 km	L/R	Replacement of turnouts	Left side : Replacement of turnout for Koh Té SC-1 (A = 80 ha)
SMC-9	SMC	4.75 km	L/R	Construction of turnouts	Right side : Construction of turnout for Koh Té SC-2 (A = 110 ha)
SMC-10	SC	4.75 km	R	Rehabilitation of Koh Té-1 SC with construction of structures	L = 1 km (A = 80 ha) 3 checks/Turnouts
SMC-11	SC	4.75 km	L	Rehabilitation of Koh Té-2 SC with construction of structures	L = 1.75 km (A = 110 ha) 3 checks/Turnouts
SMC-12	SMC	5 km	L/R	Replacement of check structure	
SMC-13	SMC	5.85 km	L/R	Replacement of turnout and drain inlet	Left side: Turnout for Thnol Bom Bek SC (A = 100 ha) Right side : Construction of drain inlet
SMC-14	SC	5.85 km	L	Rehabilitation of Thnol Bom Bek SC with construction of structures	L = 2.15 km (A = 100 ha) 6 Checks / Turnouts
SMC-15	SMC	6.2 km	-	Replacement of bridge	Removing existing steel bridge and construction of new concrete bridge
SMC-16	SMC	6.95 km	L	Construction of turnout	Turnout for Phum Rong SC (A = 80 ha)
SMC-17	SC	6.95 km	L	Rehabilitation of Phum Rong SC with construction of structures	L = 3km (A = 80 ha) 6 Checks/Turnouts

Map Ref. No.	Canal	Distance form Intake	Left or Right	Proposed Works	Details
SMC-18	SMC	7.15 km	L/R	Construction of embankment with provision of new drainage gate and improvement of spillway	Right side : Construction of embankment (L =700 m) with drainage structure (gate)
SMC-19	SMC	7.8 km	L	Replacement of turnout	Replacement of concrete pipe of Turnout for Road-110 SC, L=2.2 km (A = 20 ha)
SMC-20	SMC	8.4 km	L	Replacement of turnout	Turnout for Phum Skous-1 SC (A = 25 ha)
SMC-21	SC	8.4 km	L	Rehabilitation of Phum Skous-1 SC with construction of structures	L = 2 km (A = 25 ha) 2 Checks/Turnouts
SMC-22	SMC	8.7 km	L	Replacement of turnout	Turnout for Phum Skous-2 SC (A = 100 ha)
SMC-23	SC	8.7 km	L	Rehabilitation of Phum Skous-2 SC with construction of structures	L = 2.8 km (A =100 ha) 5 Checks/Turnouts and 2 drain inlets
SMC-24	SMC	9.4 km	L	Repair of spillway	
SMC-25	SMC	9.62 km	L	Repair of Bak Thmenh gate	Repair of Bak Thmenh gate for Bak Thmenh drainage canal for SC (A = 60 ha)
SMC-26	SC	9.62 km	L	Rehabilitation of Bak Thmenh S.C	L = 6 km (A = 60 ha)
SMC-27	SMC	9.62 km	R	Construction of embankment and spillway	Construction of embankment and spillway at level crossing reservoir

**Results of Inventory Survey for Proposed Rehabilitation Works on North Main Canal (1/12)**

Canal No.: NMC	Proposed Works	Rehabilitation of Phum Thmey Andong Sla SC with construction of structures		Remarks: L = 3.1 km, (A = 300 ha) Improvement of Phum Thmey Andong Sla SC with 4 Turnouts and 3 Drain inlets
Station: 0.00+600	Map Ref. NAC-1	Coordinate	X: 0439329 Y: 1265317	
				
Existing channel (just after turnout)		Upstream reach of existing channel		Middle reach of existing channel




Canal No.: NMC	Proposed Works	Replacement of turnout for Phum Thmey Andong Sla SC		Remarks: Turnout for Phum Thmey Andong Sla SC (A=300 ha)
Station: 0.00+600	Map Ref. NAC-2	Coordinate	X: 0439329 Y: 1265317	
				
Existing Turnout		Existing Turnout (Downstream View)		



Canal No.: NMC	Proposed Works	Improvements of Kraing Speu embankment		Remarks: Raising of Kraing Speu embankment L = 1 km, W = 3 m, H = additional 1 m
Station: 0.00+600	Map Ref. NAC-3	Coordinate	X: Y:	
				
Upstream View (Inundation area)		Existing embankment		Existing embankment



Remarks: Coordinate X, Y; Universal Transverse Mercator system





## Results of Inventory Survey for Proposed Rehabilitation Works on North Main Canal (2/12)


Canal No.: NMC	Proposed Works	Rehabilitation of Andong Thor SC with construction of structures	Remarks: L = 1.45 km (A = 120 ha) 4 checks / diversions structures
Station: 0.00+680	Map Ref. NAC-4	Coordinate X: 0439125 Y: 1265416	
  			
Upstream View		Existing canal	
			Downstream View




Canal No.: NMC	Proposed Works	Replacement of turnout for Andong Thor SC	Remarks: Replacement of concrete pipe for turnout for Andong Thor SC (A = 120 ha)
Station: 0.00+680	Map Ref. NAC-5	Coordinate X: 0439125 Y: 1265416	
 			
Upstream View		Downstream View	

Canal No.: NMC	Proposed Works	Repair of embankment for flood protection dike	Remarks: L = 350 m, W = 6m, H = 2m (Additional)
Station: 0.00+680	Map Ref. NAC-6	Coordinate X: Y:	
 			
Upstream View		Downstream View	




## Results of Inventory Survey for Proposed Rehabilitation Works on North Main Canal (3/12)




Canal No.: NMC	Proposed Works	Improvement of embankment	Remarks: Repair and provision of laterite pavement (both side)
Station: 0.00 ~1.00+150	Map Ref. NAC-7	Coordinate X: Y:	
			
Upstream View		Downstream View	



Canal No.: NMC	Proposed Works	Improvement of embankment	Remarks: Repair and provision of laterite pavement (both sides)
Station: 0.00 ~ 10.0 +0	Map Ref. NMC-1	Coordinate X: Y:	
			
General View			

Canal No.: NMC	Proposed Works	Rehabilitation of Thmey-1 SC and construction of structures	Remarks: L = 2.5 km (A = 125 ha) 3 outlets and 3 drain inlets
Station: 1.00+950	Map Ref. NMC-2	Coordinate X: 0441188 Y: 1266620	
			
Existing secondary canal		Outlet (View from downstream)	
			
Existing pump station			



## Results of Inventory Survey for Proposed Rehabilitation Works on North Main Canal (4/12)



Canal No.: NMC	Proposed Works	Improvement of bridge		Remarks: Replacement of abatement of bridge
Station: 2.00+000	Map Ref. NMC-3	Coordinate	X: 0441313 Y: 1266615	
  				
<div style="display: flex; justify-content: space-around;"> <span>Upstream View</span> <span>Downstream View</span> <span>Existing bridge</span> </div>				



Canal No.: NMC	Proposed Works	Rehabilitation of Thmey-2 SC		Remarks: L = 850 m, A = 13 ha 2 checks/diversions
Station: 2.00+400	Map Ref. NMC-4	Coordinate	X: 0441656 Y: 1266846	
  				
<div style="display: flex; justify-content: space-around;"> <span>Existing secondary canal</span> <span>Existing secondary canal</span> <span>Existing secondary canal</span> </div>				

Canal No.: NMC	Proposed Works	Improvement of turnout for Phum Thmey-2 SC		Remarks: Provision of pipe culvert for Phum Thmey-2 SC (A = 13 ha)
Station: 2.00+400	Map Ref. NMC-5	Coordinate	X: 0441656 Y: 1266846	
 				
<div style="display: flex; justify-content: space-around;"> <span>Existing turnout (Inlet)</span> <span>Existing turnout (Outlet)</span> </div>				


## Results of Inventory Survey for Proposed Rehabilitation Works on North Main Canal (5/12)

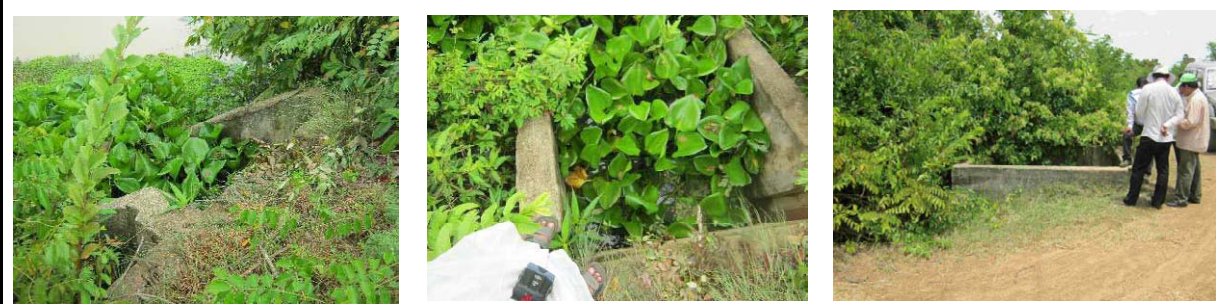
Canal No.: NMC	Proposed Works	Rehabilitation of Thmey SC-3		Remarks: L = 3 km (A = 300 ha) 3 checks/diversions
Station: 2.00+430	Map Ref. NMC-6	Coordinate	X: 0441611 Y: 1266870	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Existing secondary canal</p> </div> <div style="text-align: center;">  <p>Existing secondary canal</p> </div> </div>				


Canal No.: NMC	Proposed Works	Replacement of turnout for Thmey SC-3		Remarks: Turnout for Thmey-3 SC (A = 300 ha)
Station: 2.00+430	Map Ref. NMC-7	Coordinate	X: 0441611 Y: 1266870	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Existing turnout</p> </div> <div style="text-align: center;">  <p>Existing turnout</p> </div> </div>				

Canal No.: NMC	Proposed Works	Rehabilitation of Kravein-1 SC with construction of structures		Remarks: L = 2.45 km (A = 120 ha), 3 drainage and 8 outlet structures
Station: 3.00+350	Map Ref. NMC-8	Coordinate	X: 0442340 Y: 1267398	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Upstream View</p> </div> <div style="text-align: center;">  <p>Existing secondary canal</p> </div> </div>				


## Results of Inventory Survey for Proposed Rehabilitation Works on North Main Canal (6/12)


Canal No.: NMC	Proposed Works	Rehabilitation of Kravein-2 SC with construction of structures	Remarks: L = 810 m (A = 40 ha) 2 drain inlets and 3 turnouts
Station: 3.00+350	Map Ref. NMC-9	Coordinate X: 0442340 Y: 1267398	
			
Existing secondary canal		Existing secondary canal	


Canal No.: NMC	Proposed Works	Repair of turnout for Kravein SC	Remarks: Turnout for Kravein SC (A = 160 ha)
Station: 3.00+350	Map Ref. NMC-10	Coordinate X: 0442340 Y: 1267398	
			
Existing turnout (Inlet)		Existing turnout (Inlet)	
		Existing turnout (Outlet box)	

Canal No.: NMC	Proposed Works	Replacement of turnout for Sampove-1 SC	Remarks: Turnout for Sampove-1 SC (A = 100 ha)
Station: 3.00+450	Map Ref. NMC-11	Coordinate X: 0442385 Y: 1267452	
			
Existing turnout (Inlet box)		Existing turnout (Outlet)	



## Results of Inventory Survey for Proposed Rehabilitation Works on North Main Canal (7/12)




Canal No.: NMC	Proposed Works	Rehabilitation of Sampove-1 SC and construction of structures	Remarks L = 5 km (A =100 ha) 2 Checks/Turnout
Station 3.00+450	Map Ref. NMC-12	Coordinate X: 0442385 Y: 1267452	
			
Existing secondary canal			




Canal No.: NMC	Proposed Works	Replacement of turnout for Prey Beng-1 SC	Remarks: Turnout for Prey Beng-1 SC (A = 60 ha)
Station: 5.00+100	Map Ref. NMC-13	Coordinate X: 0444065 Y: 1267913	
			
Existing turnout (Inlet)		Existing turnout (Outlet)	

Canal No.: NMC	Proposed Works	Rehabilitation of Prey Beng-1 SC	Remarks: L = 1.64 km (A = 60 ha) 6 Checks/Turnout
Station: 5.00+100	Map Ref. NMC-14	Coordinate X: 0444065 Y: 1267913	
			
Existing turnout (Outlet)	Existing secondary canal		Existing secondary canal


## Results of Inventory Survey for Proposed Rehabilitation Works on North Main Canal (8/12)


Canal No.: NMC	Proposed Works	Replacement of turnout for Sampove-2 SC		Remarks: Turnout for Sampov-2 SC (A = 100 ha)
Station: 5.00+200	Map Ref. NMC-15	Coordinate	X: 0444100 Y: 1267986	
				
Existing turnout (Inlet)		Existing turnout (Outlet)		


Canal No.: NMC	Proposed Works	Rehabilitation of Sampove-2 SC and construction of structures		Remarks: L = 1.2 km (A = 100 ha) 3 checks/diversions	
Station: 5.00+200	Map Ref. NMC-16	Coordinate	X: 0444100 Y: 1267986		
					
Existing secondary canal			Existing secondary canal		Existing secondary canal

Canal No.: NMC	Proposed Works	Replacement of concrete bridge		Remarks:
Station: 5.00+250	Map Ref. NMC-17	Coordinate	X: 0444148 Y: 1268005	
				
Upstream View		Downstream View		Existing bridge

## Results of Inventory Survey for Proposed Rehabilitation Works on North Main Canal (9/12)


Canal No.: NMC	Proposed Works	Enlargement of canal section with improvement of both canal banks	Remarks:
Station: 5+250 ~ 7+750	Map Ref. NMC-18	Coordinate X: 0445272 Y: 1268599	
			
<div style="display: flex; justify-content: space-around;"> <span>Existing narrow section</span> <span>Existing narrow section</span> <span>Existing narrow section</span> </div>			


Canal No.: NMC	Proposed Works	Rehabilitation of Prey Beng-2 SC with construction of structures	Remarks: L = 1.8 km, (A = 70 ha) 4 checks/diversions
Station: 5.00+600	Map Ref. NMC-19	Coordinate X: 0444468 Y: 1267961	
			
<div style="display: flex; justify-content: space-around;"> <span>Existing secondary canal</span> <span>Existing secondary canal</span> <span>Road along secondary canal</span> </div>			


Canal No.: NMC	Proposed Works	Replacement of turnout for Prey Beng-2 SC	Remarks: Turnout for Prey Beng-2 SC (A=70 ha)
Station: 5.00+600	Map Ref. NMC-20	Coordinate X: 0444468 Y: 1267961	
			
<div style="display: flex; justify-content: space-around;"> <span>Existing turnout (Outlet)</span> <span>Existing turnout (Outlet)</span> </div>			





**Results of Inventory Survey for Proposed Rehabilitation Works on North Main Canal (10/12)**



Canal No.: NMC	Proposed Works	Provision of drain inlet		Remarks:
Station: 5.00+300	Map Ref. NMC-21	Coordinate	X: 0444186 Y: 1268033	
				
Existing drain inlet pipe (View form downstream)		Existing drain inlet pipe (View form upstream)		Drainage area



Canal No.: NMC	Proposed Works	Provision of drain inlet		Remarks:
Station: 6.00+000	Map Ref. NMC-21	Coordinate	X: 0444828 Y: 1268349	
				
Upstream View		Upstream View		Downstream View

Canal No.: NMC	Proposed Works	Provision of drain inlet		Remarks:
Station: 6.00+250	Map Ref. NMC-21	Coordinate	X: 0444883 Y: 1268374	
				
Drainage area		Proposed site of drain inlet		



## Results of Inventory Survey for Proposed Rehabilitation Works on North Main Canal (11/12)




Canal No.: NMC	Proposed Works	Provision of drain inlet	Remarks:
Station: 6.00+500	Map Ref. NMC-21	Coordinate X: 0445039 Y: 1268473	
			
Upstream View		Downstream View	



Canal No.: NMC	Proposed Works	Replacement of 3 outlets for small irrigated area	Remarks:
Station: 8+550 ~ 9+100	Map Ref. NMC-22	Coordinate X: 0447376 Y: 1269055	
			
Existing turnout (Inlet)		Existing turnout (Outlet)	

Canal No.: NMC	Proposed Works	Construction of embankment with flood spillway	Remarks:
Station: 8+550 ~ 9+100	Map Ref. NMC-23	Coordinate X: 0447680 Y: 1269034	L = 1.1 km at level crossing reservoir with flood spillway structure (Siphon is proposed by PDOWRAM)
			
Upstream View		Downstream View	


**Results of Inventory Survey for Proposed Rehabilitation Works on North Main Canal (12/12)**


Canal No.: NMC	Proposed Works	Repair of turnout for Thmat Pong SC		Remarks: Turnout for Thmat Pong SC L = 6.2 km, (A = 265 ha)
Station: 8.00+800	Map Ref. NMC-24	Coordinate	X: 0447680 Y: 1269034	
				
Downstream View		Existing turnout		


Canal No.: NMC	Proposed Works	Construction of New Pumping Station		Remarks : Off taking secondary canal has already been constructed
Station: 10+000(E.P.)	Map Ref. NMC-25	Coordinate	X: 0448778 Y: 1269033	
				
Proposed site of pump station		Downstream View of proposed pump station site		Existing secondary canal

Canal No.: NMC	Proposed Works	Provision of a drain inlet		Remarks:
Station: 10+00	Map Ref. NMC-26	Coordinate	X: 0448778 Y: 1269033	
				
Upstream View		Downstream View		

## Results of Inventory Survey for Proposed Rehabilitation Works on South Main Canal (1/12)



Canal No.: SMC	Proposed Works	Construction of drain inlet and field drain		Remarks: Both side : drain inlet Left side : drain canal
Station: 0+ 200 (B.P.)	Map Ref. SAC-1	Coordinate	X: 0440262 Y: 1263825	
				
Preaent condition of embankemnt		Preaent condition of embankemnt		Preaent condition of embankemnt



Canal No.: SMC	Proposed Works	Improvement of concrete bridge		Remarks: Bottom should be 1 m lower than existing level
Station: 0.00+580	Map Ref. SAC-2	Coordinate	X: 0439893 Y: 1263773	
				
Upstream View		Downstream View		Existing bridge


Canal No.: SMC	Proposed Works	Improvement of turnout (Concrete pipe)		Remarks: Turnout for Tompoung SC-1 (A = 10 ha) Provision of pipe culvert
Station: 0.00+950	Map Ref. SAC-3	Coordinate	X: 0439581 Y: 1263963	
				
Existing turnout (Upsream View)		Downstream View		

Remarks: Coordinate X, Y; Universal Transverse Mercator system



**Results of Inventory Survey for Proposed Rehabilitation Works on South Main Canal (2/12)**




Canal No.: SMC	Proposed Works	Improvement of turnout (Concrete pipe)		Remarks: Turnout for Tompoung -2 SC (A=10 ha) Provision of pipe culvert
Station: 1.00+350	Map Ref. SAC-4	Coordinate	X: 0439231 Y: 1264040	
				
Upstream View (Inlet side)		Downstream View (Tompoung -2 SC)		



Canal No.: SMC	Proposed Works	Rehabilitation and Construction of structures of Kraheng SC		Remarks: L = 1.75 km (A = 125 ha) 4 Checks/Turnouts
Station: 2.00+600	Map Ref. SAC-5	Coordinate	X: 0439553 Y: 1265107	
				
Existing Kraheng SC		Existing Kraheng SC		

Canal No.: SMC	Proposed Works	Laterite pavement with raising of embankment		Remarks: Repair and provision of laterite pavement (both sides) H = 1 m (additional), W = 6 m
Station: 1+ 650 ~ 2+600	Map Ref. SAC-6	Coordinate	X: Y:	
				
Existing embankment				



**Results of Inventory Survey for Proposed Rehabilitation Works on South Main Canal (3/12)**



Canal No.: SMC	Proposed Works	Improvement of canal section (Excavation of canal bottom)	Remarks: Excavation : 1 m depth
Station: 0.00 ~ 1+650	Map Ref. SAC-7	Coordinate X: Y:	
			
Upstream View		Downstream View	




Canal No.: SMC	Proposed Works	Laterite pavement with improvement of embankment	Remarks:
Station: 0.00 ~ 7+800	Map Ref. SMC-1	Coordinate X: Y:	
			
General View		General View	
		General View	

Canal No.: SMC	Proposed Works	Construction of embankment with flood spillway	Remarks: Left side : Enlargement of embankment (W = 6 m) Right side : new embankment at level crossing reservoir
Station: 7+800 ~ 9+620	Map Ref. SMC-2	Coordinate X: Y:	
			
Upstream View		Downstream View	




**Results of Inventory Survey for Proposed Rehabilitation Works on South Main Canal (4/12)**



Canal No.: SMC	Proposed Works	Provision of drain inlet		Remarks: Diameter of pipe : 0.8 m to 1 m
Station: 0.00+ 600	Map Ref. SMC-3	Coordinate	X: 0441034 Y: 1263964	
				
Upstream View		Downstream View		




Canal No.: SMC	Proposed Works	Provision of drain inlet		Remarks: Diameter 0.8 m to 1 m (both sides)
Station: 2.00 + 700	Map Ref. SMC-4	Coordinate	X: 0442935 Y: 1264112	
				
Existing condition (SMC right bank)		Existing condition (SMC side, zoomed in)		

Canal No.: SMC	Proposed Works	Construction of check structure		Remarks: Check structure with new bridge at existing steel bridge
Station: 2.00 + 950	Map Ref. SMC-5	Coordinate	X: 0443137 Y: 1264220	
				
Upstream View		Downstream View		

**Results of Inventory Survey for Proposed Rehabilitation Works on South Main Canal (5/12)**


Canal No.: SMC	Proposed Works	Removing check structure and construction of concrete bridge		Remarks:
Station: 3.00 + 500	Map Ref. SMC-6	Coordinate	X: 0443631 Y: 1264474	
  				
<p style="text-align: center;">Upstream View                      Downstream View                      Existing bridge</p>				


Canal No.: SMC	Proposed Works	Construction of drain inlets		Remarks: (Both side)
Station: 3.00 + 650	Map Ref. SMC-7	Coordinate	X: 0443765 Y: 1264535	
 				
<p style="text-align: center;">Right bank of SMC                      Downstream View</p>				


Canal No.: SMC	Proposed Works	Replacement of turnouts		Remarks: Left side : Replacement of turnout for Koh Té -1 SC (A = 80 ha)
Station: 4.00 + 750	Map Ref. SMC-8	Coordinate	X: 0444752 Y: 1265073	
  				
<p style="text-align: center;">Upstream View                      Existing turnout                      Existing turnout</p>				






**Results of Inventory Survey for Proposed Rehabilitation Works on South Main Canal (6/12)**




Canal No.: SMC	Proposed Works	Construction of turnouts (Right side)		Remarks: Turnout for Koh Té-2 SC (A = 110 ha)
Station: 4.00 + 750	Map Ref. SMC-9	Coordinate	X: 0444752 Y: 1265073	
				
Presentr condition (No structure)				




Canal No.: SMC	Proposed Works	Rehabilitation of Koh Té-1 SC with construction of structures		Remarks: L = 1 km (A = 80 ha) 3 checks/Turnouts
Station: 4.00 + 750	Map Ref. SMC-10	Coordinate	X: 0444752 Y: 1265073	
				
Upstream View at turnout			Upstream of Koh Té-1 secondary canal	

Canal No.: SMC	Proposed Works	Rehabilitation of Koh Té-2 SC with construction of structures		Remarks: L = 1.75 km (A = 110 ha) 3 checks/Turnouts
Station: 4.00 + 750	Map Ref. SMC-11	Coordinate	X: 0444752 Y: 1265073	
				
Presentr condition (No structure)			Downstream View	




**Results of Inventory Survey for Proposed Rehabilitation Works on South Main Canal (7/12)**




Canal No.: SMC	Proposed Works	Construction of check structure		Remarks:
Station: 5.00 + 0.00	Map Ref. SMC-12	Coordinate	X: 0444986 Y: 1265147	
  				
<p style="text-align: center;">Upstream View                      Downstream View                      Existing bridge</p>				



Canal No.: SMC	Proposed Works	Construction of turnout and drain inlet		Remarks: Left side: Turnout for Thnol Bom Bek SC (A = 100 ha) Right side : Construction of drain inlet
Station: 5.00+850	Map Ref. NMC-13	Coordinate	X: 0445815 Y: 1265104	
  				
<p style="text-align: center;">Inlet of existing turnout                      Outlet of existing turnout                      Existing turnout</p>				

Canal No.: SMC	Proposed Works	Rehabilitation of Thnol Bom Bek SC with construction of structures		Remarks: L = 2.15 km (A = 100 ha) 6 Checks / Turnouts
Station: 5.00 +850	Map Ref. NMC-14	Coordinate	X: 0445815 Y: 1265104	
  				
<p style="text-align: center;">Thnol Bom Bek SC just after turnout                      Upstream of Thnol Bom Bek SC                      Downstream View</p>				




**Results of Inventory Survey for Proposed Rehabilitation Works on South Main Canal (8/12)**




Canal No.: SMC	Proposed Works	Replacement of bridge	Remarks:
Station: 6.00 +200	Map Ref. SMC-15	Coordinate X: 0446159 Y: 1265041	Removing existing steel bridge and construction of new concrete bridge
  			
<p align="center">Upstream View                      Existing bridge                      Existing bridge</p>			




Canal No.: SMC	Proposed Works	Construction of turnout	Remarks:
Station: 6.00+950	Map Ref. SMC-16	Coordinate X: 0446835 Y: 1264797	Turnout for Phum Rong SC (A = 80 ha)
  			
<p align="center">Upsream View (Inlet side in SMC)                      Existing outlet                      Phum Rong SC at existing outlet</p>			

Canal No.: SMC	Proposed Works	Rehabilitation of Phum Rong SC with construction of structures	Remarks:
Station: 6.00+950	Map Ref. SMC-17	Coordinate X: 0446835 Y: 1264797	L = 3km (A = 80 ha) 6 Checks/Turnouts
 			
<p align="center">Existing Phum Rong SC                      Existing Phum Rong SC</p>			



**Results of Inventory Survey for Proposed Rehabilitation Works on South Main Canal (9/12)**



Canal No.: SMC	Proposed Works	Construction of embankment at level crossing reservoir		Remarks: Embankment (Right side, L = 700 m) with provision of new drainage gate and improvement of spillway
Station: 7.00+150	Map Ref. SMC-18	Coordinate	X: 0446993 Y: 1264648	
  				
<p style="text-align: center;">Level crossing reservoir                      Existing spillway                      Existing spillway (View from downstream)</p>				



Canal No.: SMC	Proposed Works	Replacement of turnout		Remarks: Replacement of Turnout for Road-110 SC (A = 20 ha)
Station: 7.00+800	Map Ref. SMC-19	Coordinate	X: 0447469 Y: 1264229	
  				
<p style="text-align: center;">Existing turnout                      View from Upstream                      View from Downstream</p>				

Canal No.: SMC	Proposed Works	Replacement of turnout for Phum Skous-1 SC		Remarks: Turnout for Phum Skous-1 SC (A = 25 ha)
Station: 8.00+400	Map Ref. SMC-20	Coordinate	X: 0447980 Y: 1263876	
  				
<p style="text-align: center;">Existing turnout                      Existing turnout (Inlet)                      Existing turnout (Outlet)</p>				


## Results of Inventory Survey for Proposed Rehabilitation Works on South Main Canal (10/12)


Canal No.: SMC	Proposed Works	Rehabilitation of Phum Skous-1 SC with construction of structures	Remarks: L = 2 km (A = 25 ha) 2 Checks/Turnouts
Station: 8.00+400	Map Ref. SMC-21	Coordinate X: 0447980 Y: 1263876	
			
Existing Phum Skous-1 SC		Existing Phum Skous-1 SC	


Canal No.: SMC	Proposed Works	Replacement of turnout for Phum Skous-2 SC	Remarks: Turnout for Phum Skous-2 SC (A = 100 ha)
Station: 8.00+700	Map Ref. SMC-22	Coordinate X: 0448274 Y: 1263799	
			
Upstream View		Downstream View	

Canal No.: SMC	Proposed Works	Rehabilitating of Phum Skous-2 SC with construction of structures	Remarks: L = 2.8 km (A = 100 ha) 5 Checks/Turnouts and 2 drain inlets
Station: 8.00+700	Map Ref. SMC-23	Coordinate X: 0448274 Y: 1263799	
			
Existing Phum Skous-2 SC (View from turnout)		Existing Phum Skous-2 SC	


**Results of Inventory Survey for Proposed Rehabilitation Works on South Main Canal (11/12)**

Canal No.: SMC	Proposed Works	Repair of spillway	Remarks:
Station: 9.00+400	Map Ref. SMC-24	Coordinate X: Y:	
			
Existing spillwat		Existing spillwat (View from inspection road)	Existing spillwat (spillout)

Canal No.: SMC	Proposed Works	Repair of Bak Thmenh gate for Bak Thmenh drainage canal	Remarks: Repair of Bak Thmenh gate for Bak Thmenh drainage cane
Station: 9.00+620	Map Ref. SMC-25	Coordinate X: 0448981 Y: 1263728	
			
Existing drainage gate		Downstream view from drainage gate	View from drainage canal

Canal No.: SMC	Proposed Works	Rehabilitation of Bak Thmenh S.C	Remarks: L = 6 km SC in downstream (A = 60 ha)
Station: 9.00+620	Map Ref. SMC-26	Coordinate X: 0448981 Y: 1263728	
			
Downstream view from drainage gate		Turnout (View form Downstream)	

**Results of Inventory Survey for Proposed Rehabilitation Works on South Main Canal (12/12)**

Canal No.: SMC	Proposed Works	Construction of embankment and spillway		Remarks: Construction of embankment and spillway at level crossing reservoir
Station: 9.00+620	Map Ref. SMC-27	Coordinate	X: 0448981 Y: 1263728	
				
Level crossing reservoir		Level crossing reservoir (Upstream view)		Level crossing reservoir (Downstream view)

# ***ANNEX D***

## ***Attachment 2***

*Report on Capability of Local Gate Manufacturer*



## Report on Capability of Local Gate Manufacturer

### 1. General

It was informed by MOWRAM that “Prak Kov manufacturer” that is only one gate manufacture in Cambodia and located in Phnom Penh and he has been experienced for manufacturing and installation of several automatic flap gates installed in MOWRAM projects. In order to check that whether he has capability for design, manufacturing and installation of hydromechanical equipment for Roleang Chrey headworks, the shop inspection was made on July 26, 2011 by JICA Survey Team. The following company profile such as shop facility, manpower and past experience was obtained from the shop inspection as shown below.

#### 1. Main Shop Facilities

The main shop facilities are shown on Table blow.

**List of Main Shop Facilities**

No.	Equipment	Quantity	Specifications
1	Overhead travelling crane	1	Electrically driven, 10ton capacity
2	Lathe	6	Max. capacity: 630 mm in diameter x 3.0 m length
3	Welding machine	8	Max. capacity: 400A
4	Plate cutting machine	1	Shearing type Capacity: 14mm thickness, 3m in width
5	Press machine	1	Capacity: 8mm thickness, 3m in width
6	Drilling machine	5	Max. capacity: 25mm in diameter

#### 2. Manpower

The manpower is shown on Table blow.

**List of Manpower**

No.	Classification	Number
1	Owner and director	2
2	Design engineer	2
3	Welders	10
4	Mechanic	4
5	Technician	3
6	Common labor	6
7	Total	27

#### 3. Past Experience

The past experience for automatic flap gates is shown on Table blow

---



---

**List of Past Experience of Automatic Flap Gates**

No.	Gate Name	Dimension and Quantity	Completion Year
1	Spillway gates in Kpob Tobek Reservoir, Takeo Province	8.0 m wide x 2.0 m high x 6 sets	2005
2	Spillway gates in Damnak Ampil Diversion Weir, Prosin Province	10.0m wide x 4.0 m high x 7sets	2006
3	Spillway gates in Stung Stang Reservoir, Kampong Thom Province	14.0 m wide x 4.0 m high x 2 sets	2007
4	Spillway gates in Basac Reservoir, Bintam Bang Province	8.0 m wide x 3.5 m high x 7 sets	2008
5	Spillway gates in Okabear Reservoir, Kampong Speu Province	8.0m wide x 2.5m high x 2 sets	2008
6	Spillway gates in Char Rpeuk Diversion Weir, Kampong Spue Provice	10.0m widex 2.5m high x 8 sets	2009
7	Spillway gates in Kpaab Krous Reservoir, Kampong Speu	8.0m wide x 2.0m high x 4 sets	2010

Further, the small and low head type of slide gates with manually operated bevel gear type hoist were also manufactured and installed.

It was informed that he has no experience for design, manufacturing and installation of the following type of gates:

- Electrically driven wire rope type hoist
- Electrically driven spindle type hoist
- Fixed wheel gates

### 3. Others Information

- Prak Kov manufacturer area of factory: 2,520 m<sup>2</sup> (36m x 70m)
- Establishment: 1995

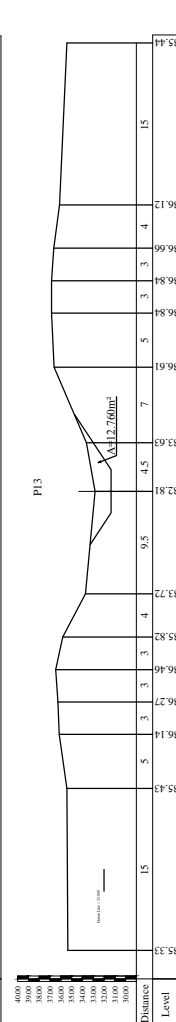
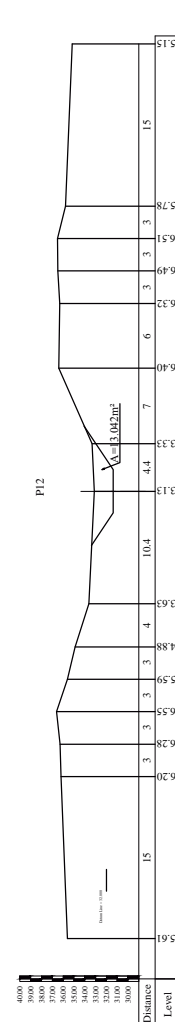
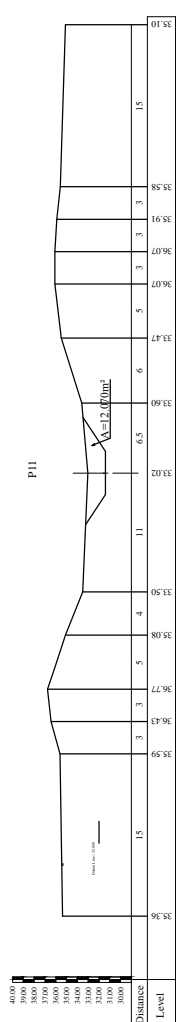
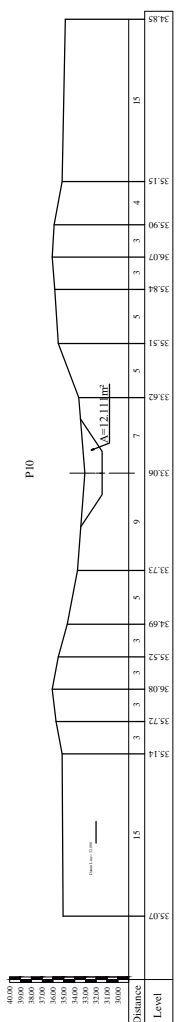
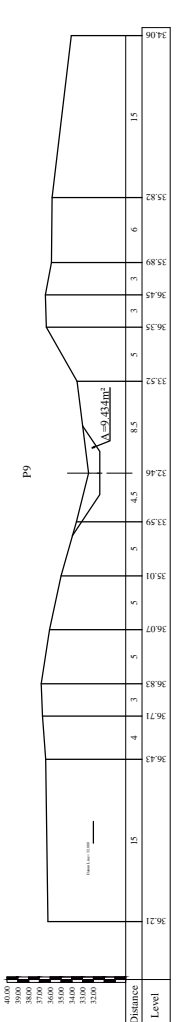
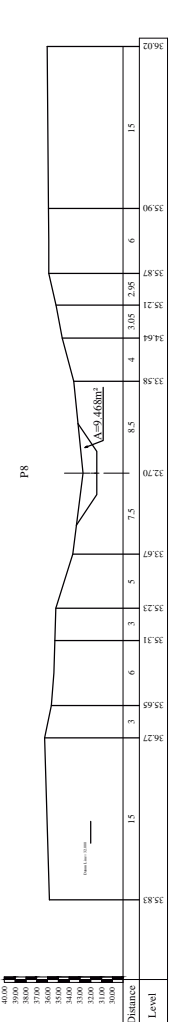
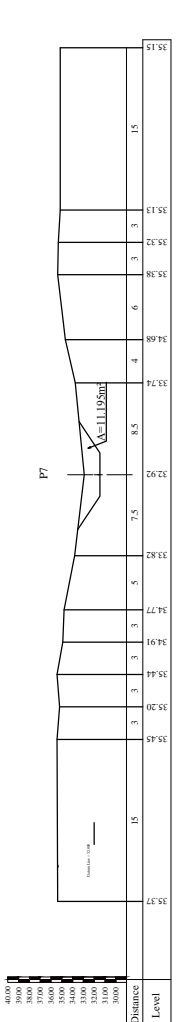
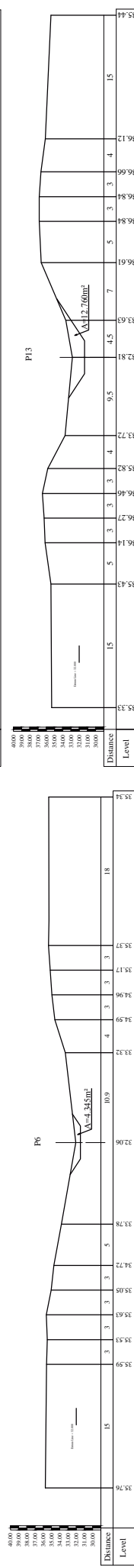
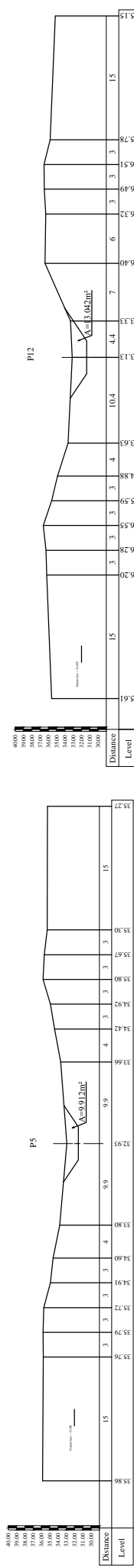
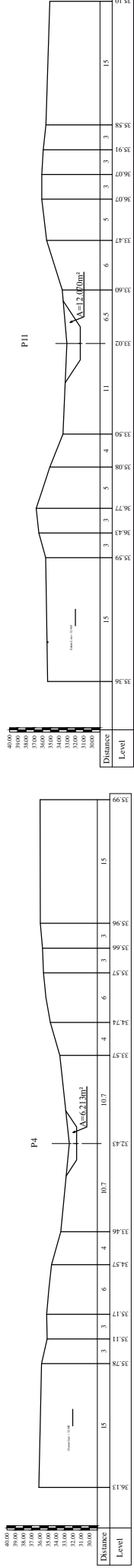
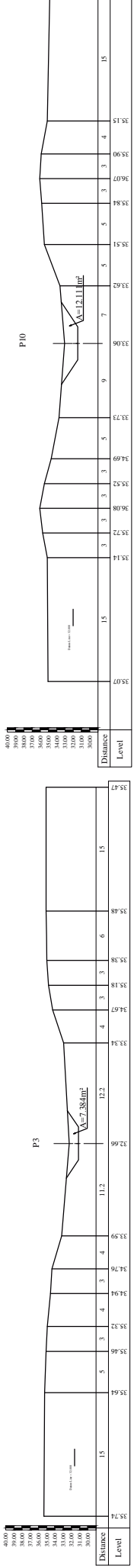
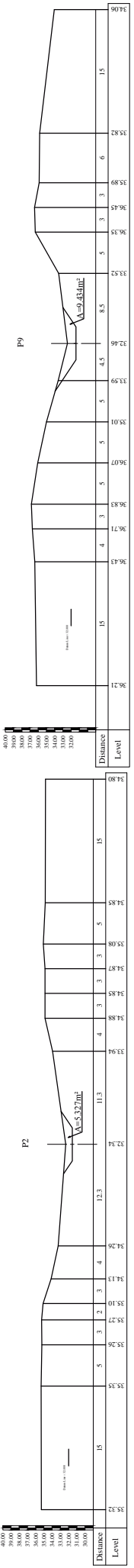
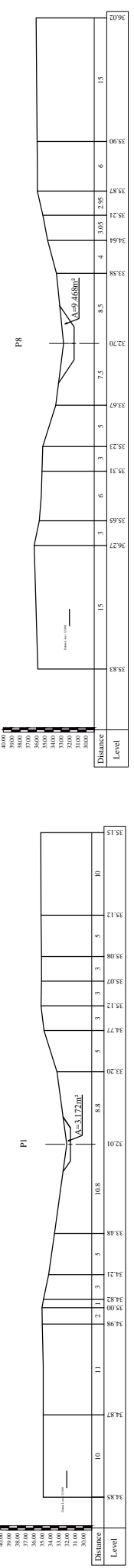
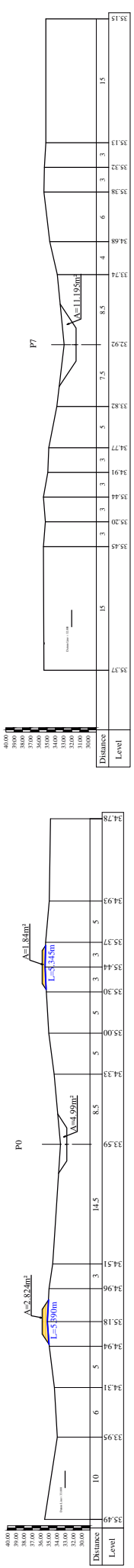
It is judged from the above information obtained from the shop inspection that Prak Kov manufacturer has no capability to perform the design, manufacturing and installation of all hydromechanical equipment for Roleang Chrey Headworks.

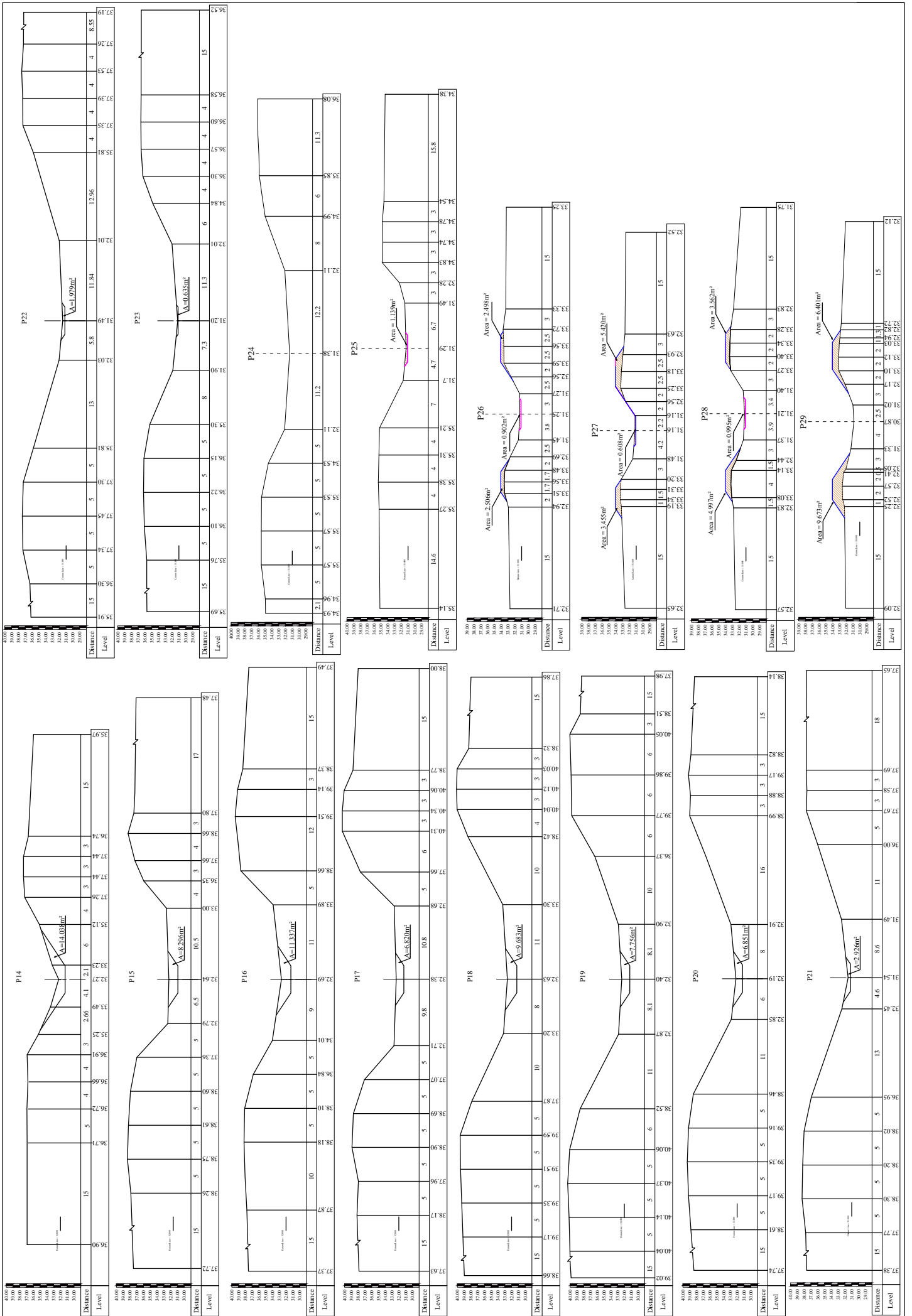
# ***ANNEX D***

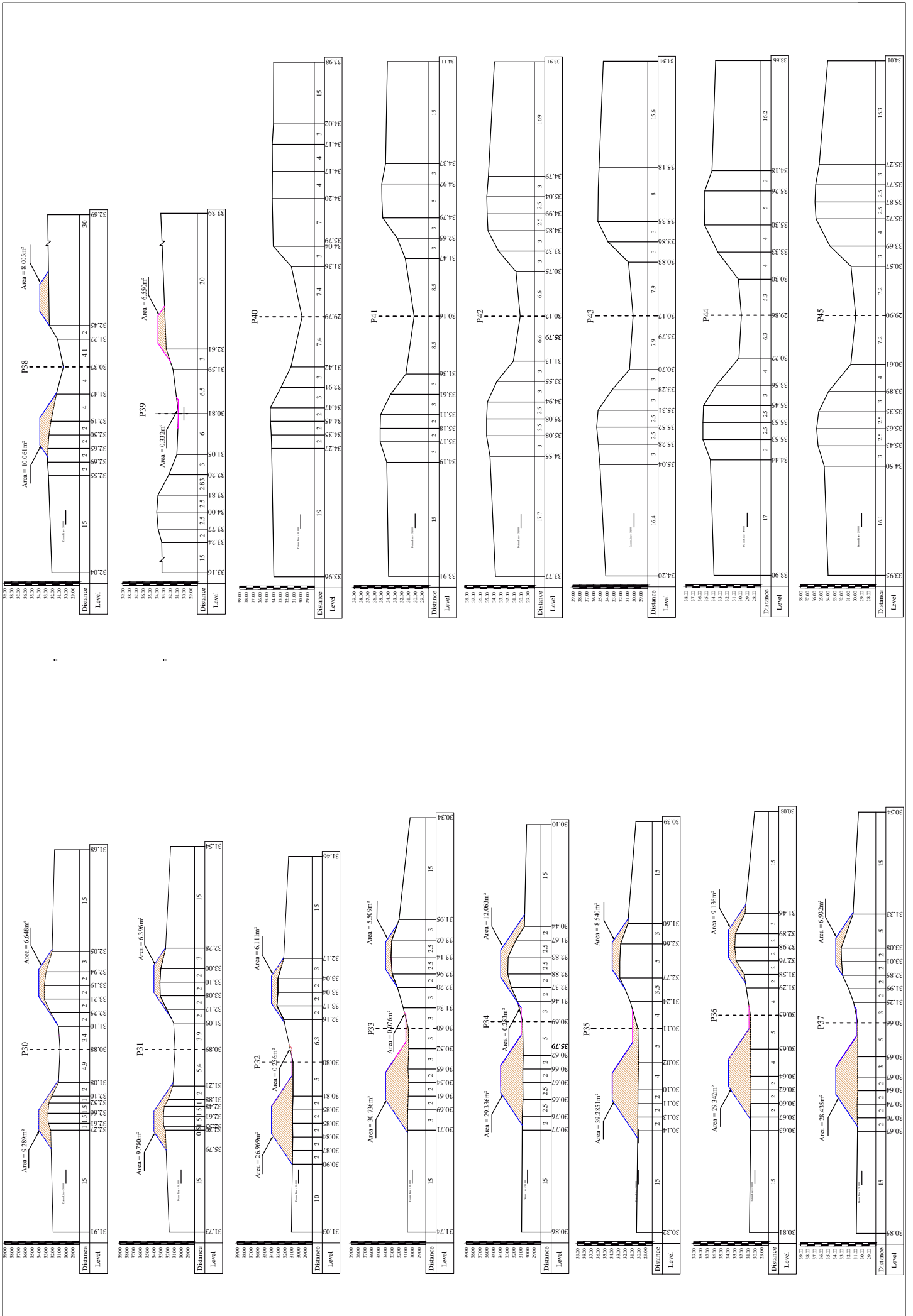
## ***Attachment – 3***

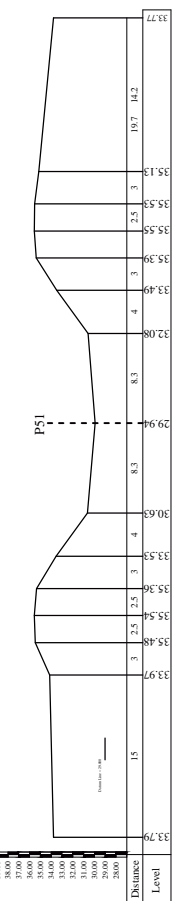
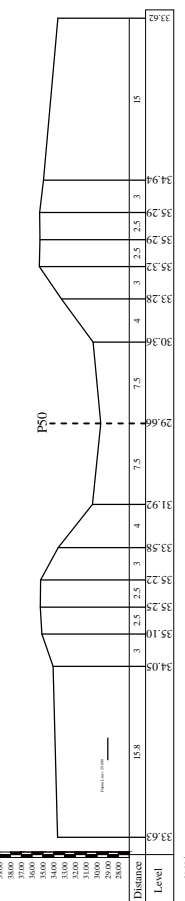
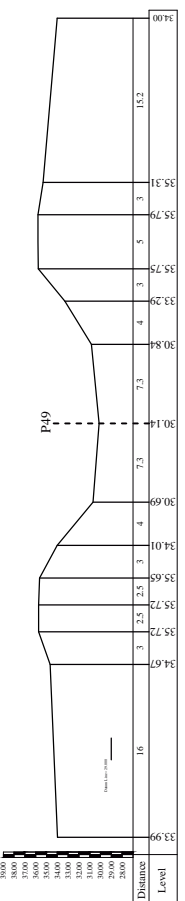
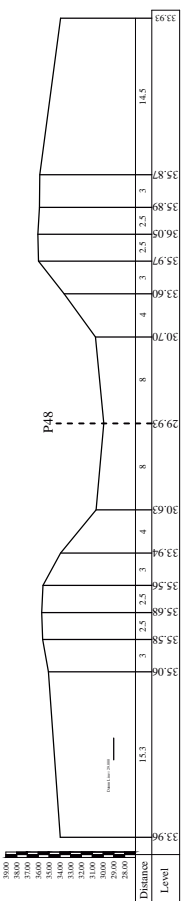
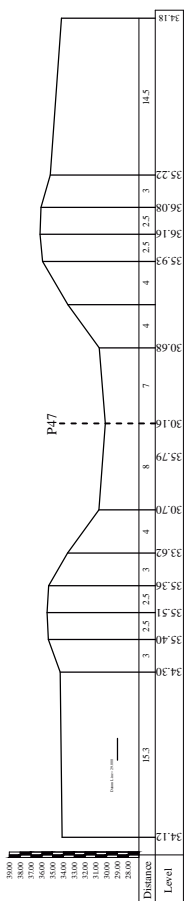
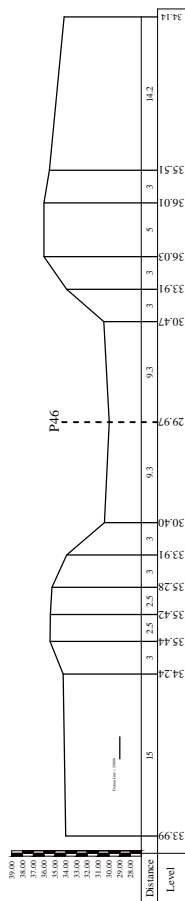
*Results of Sample Topographic Survey and Preliminary  
Design of NMC, SMC and Secondary Canals*

# North Main Canal From Prey Beung

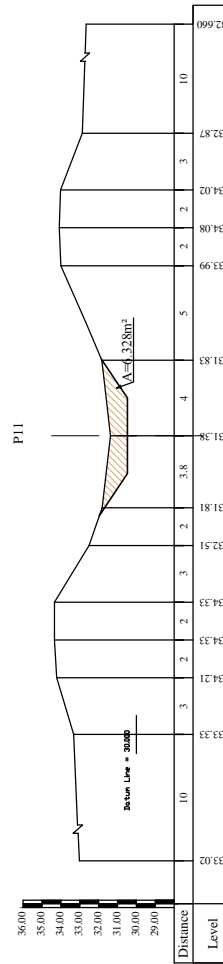
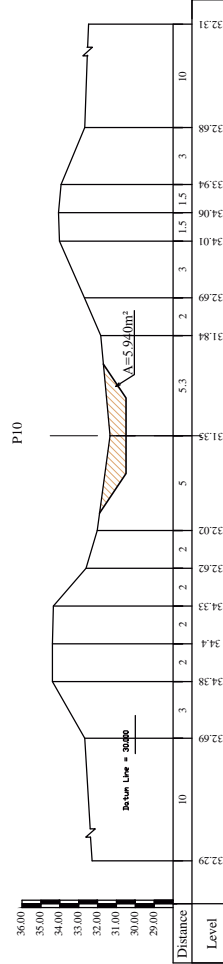
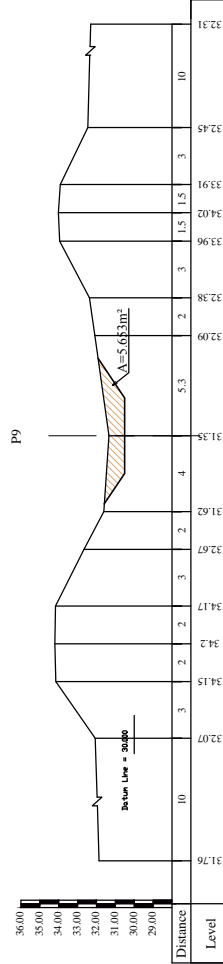
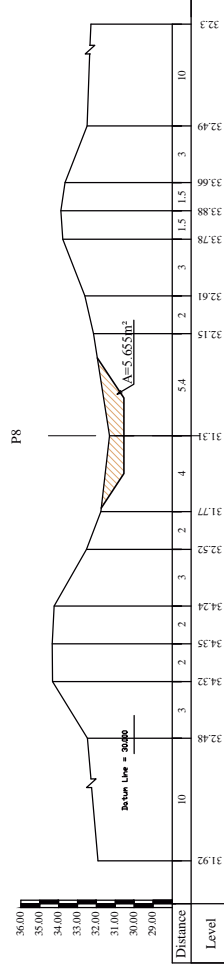
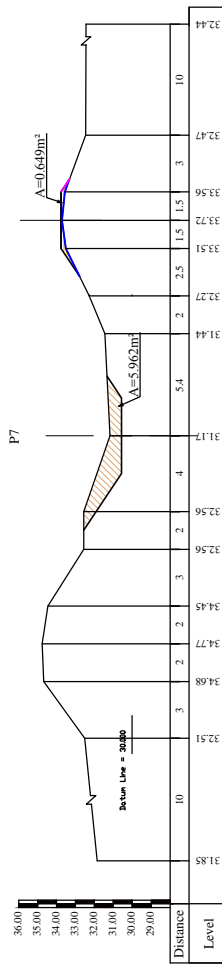
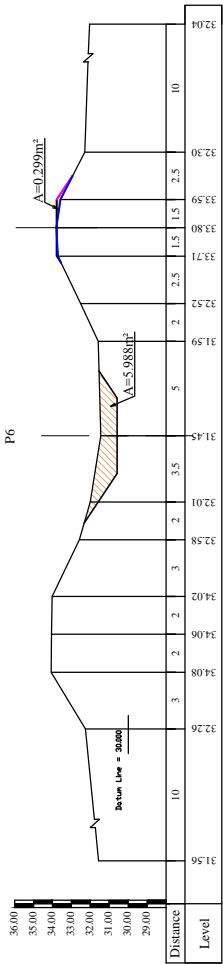
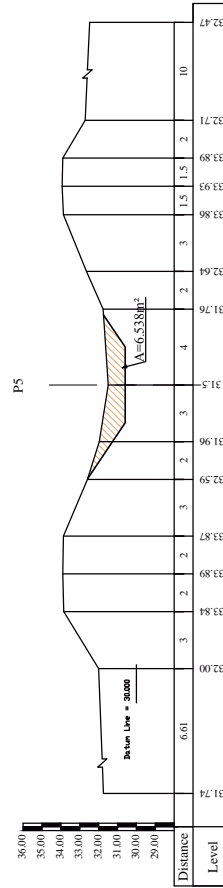
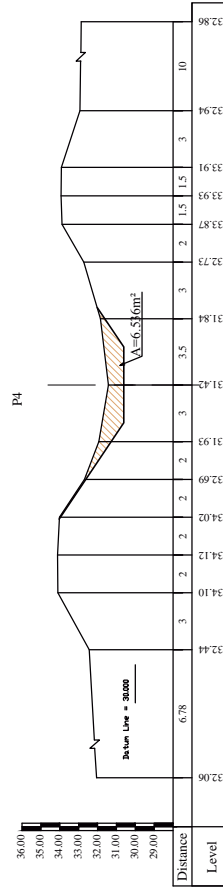
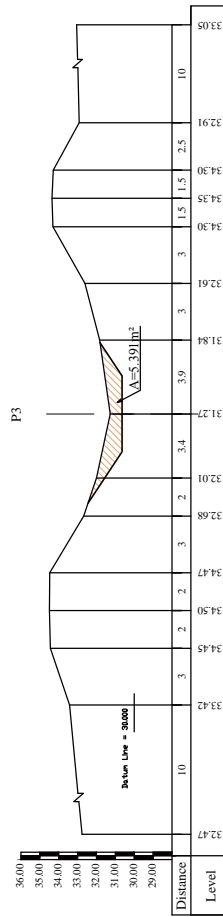
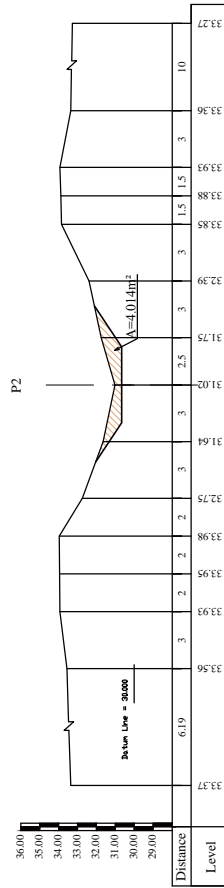
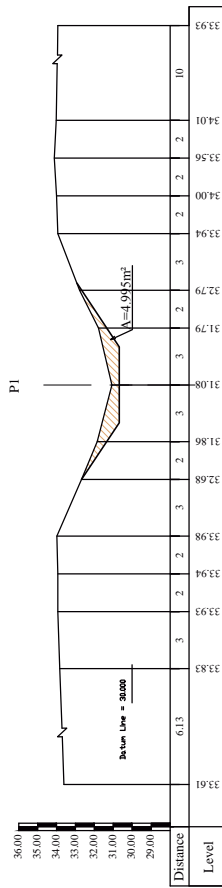
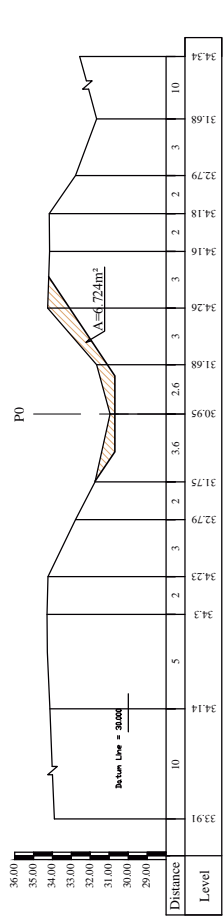




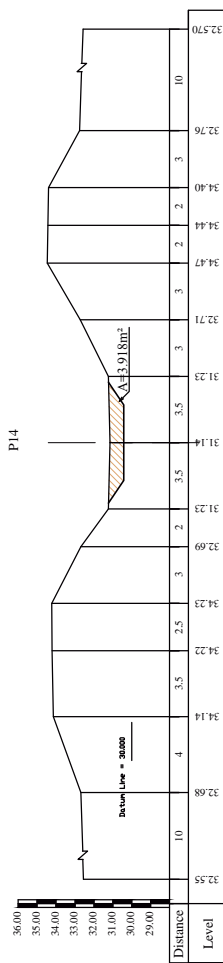
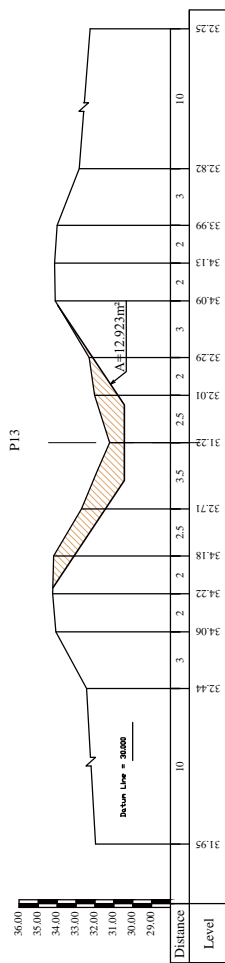
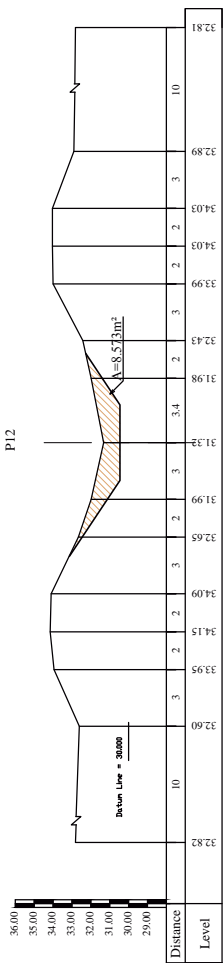




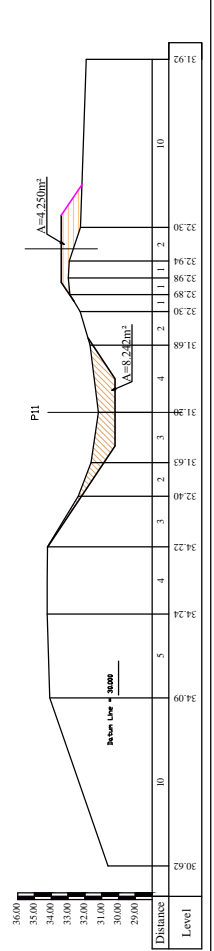
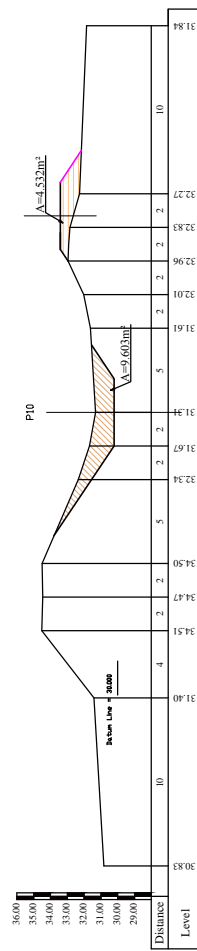
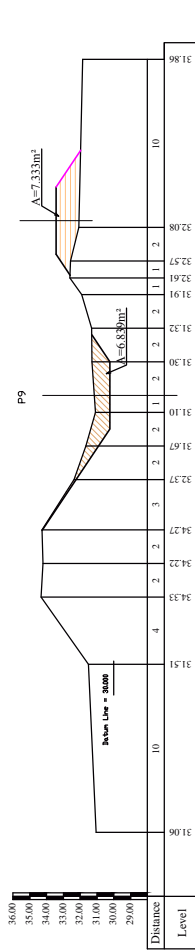
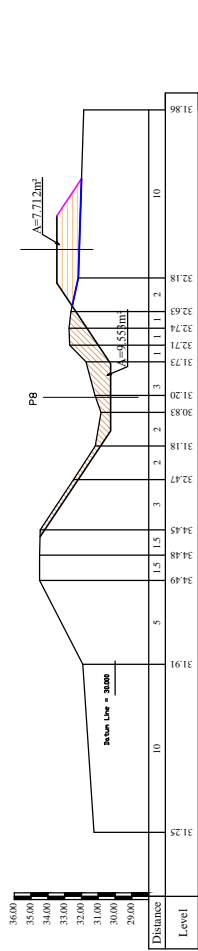
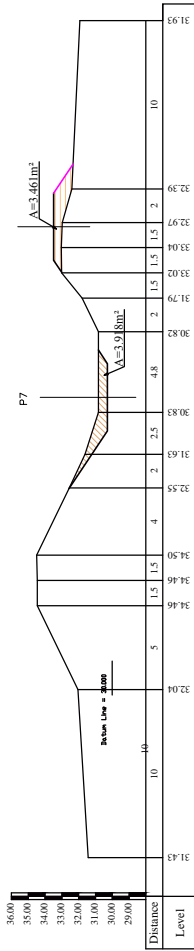
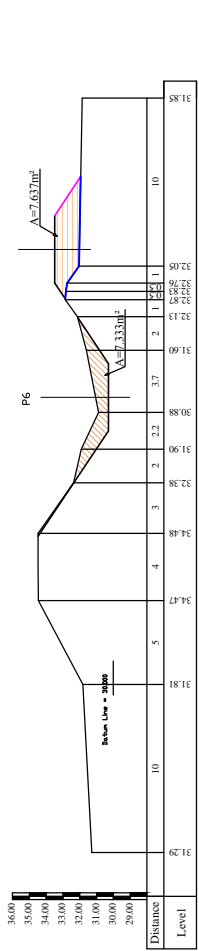
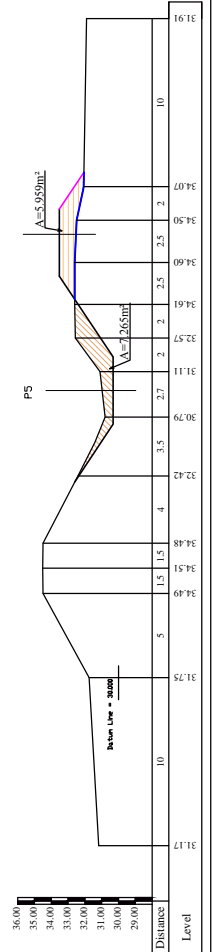
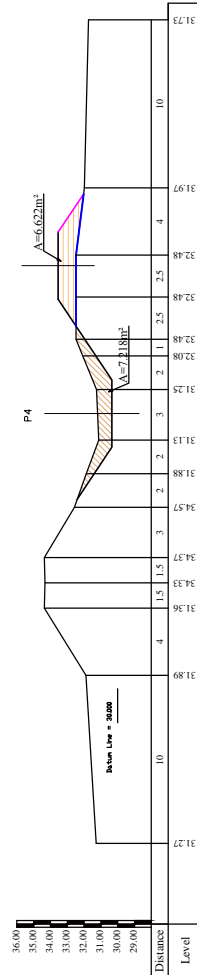
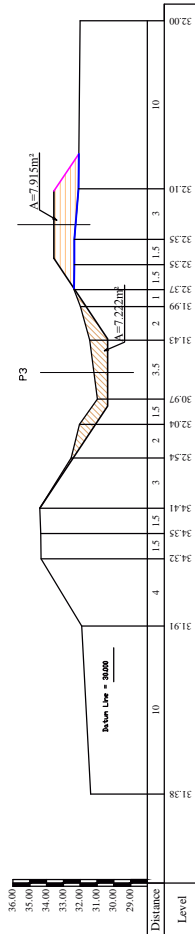
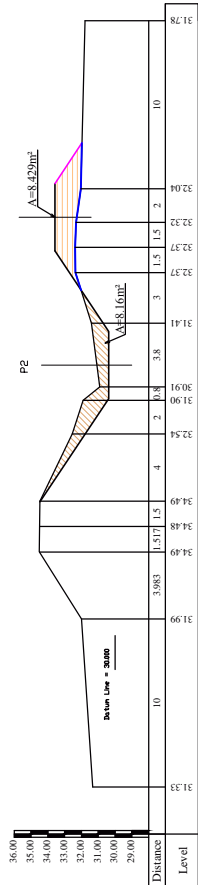
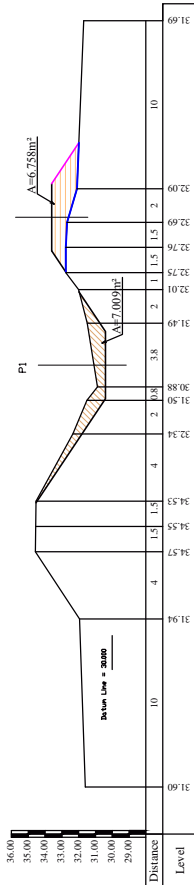
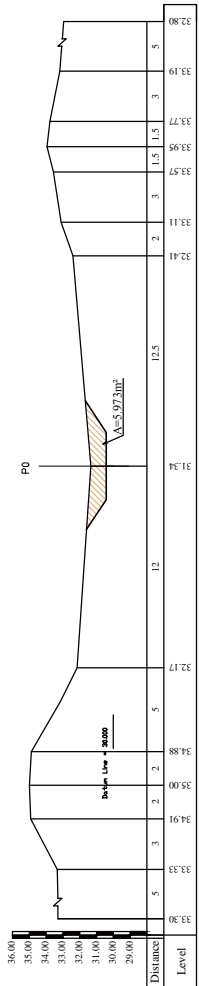
# South Main Canal Up Stream Road 110

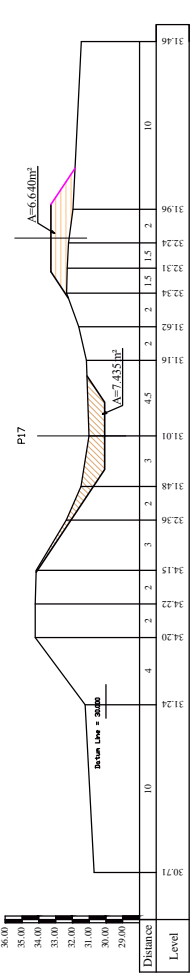
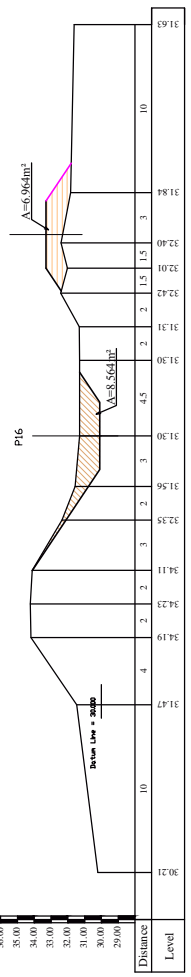
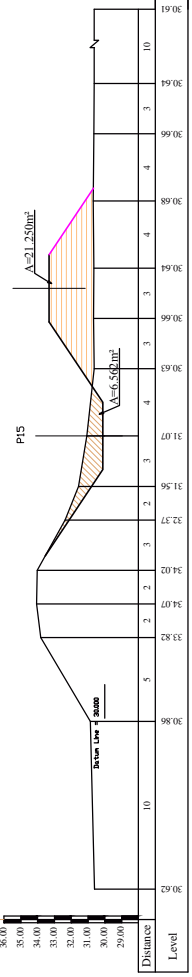
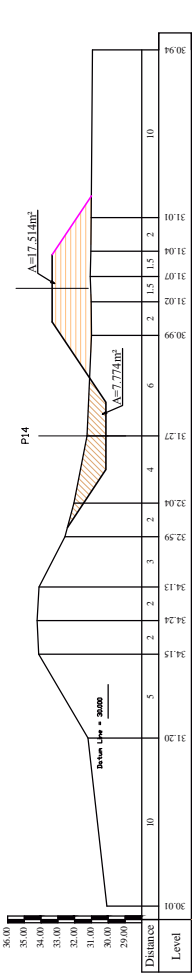
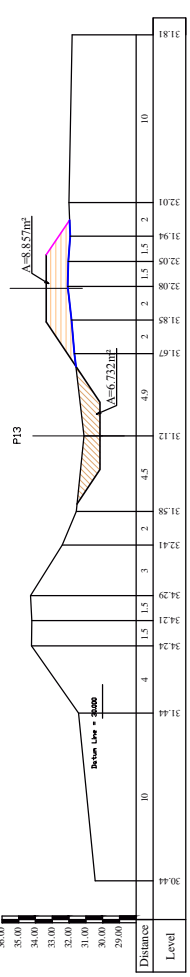
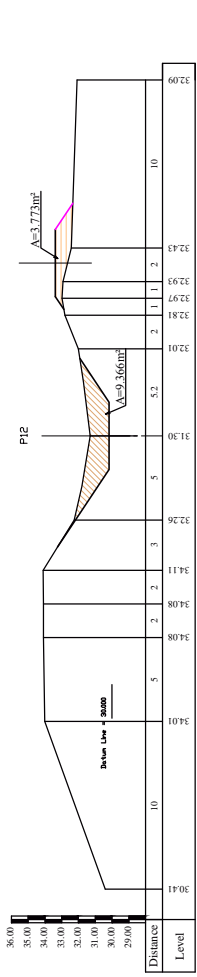
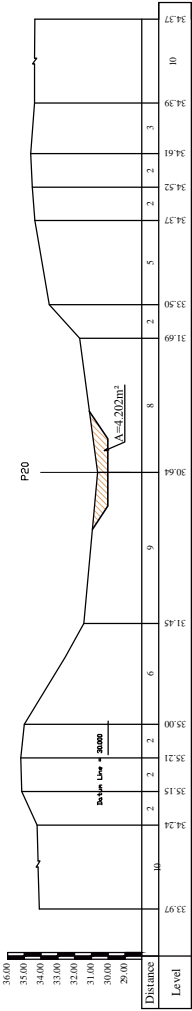
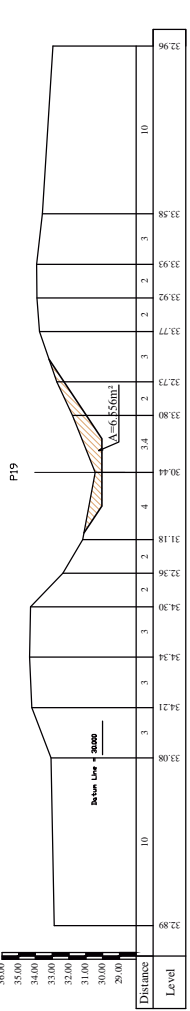
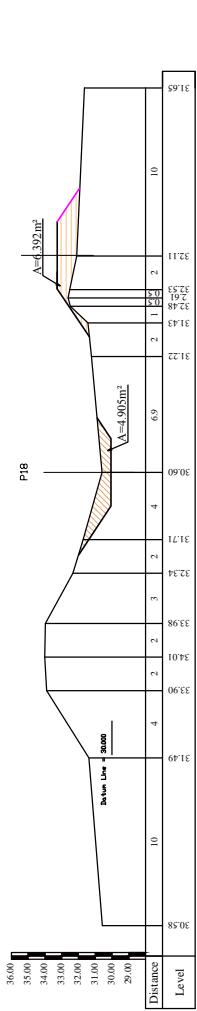




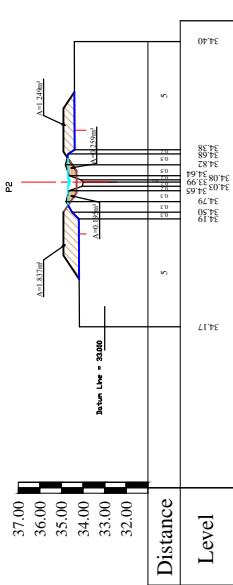
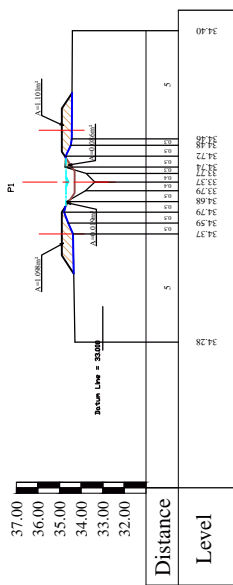
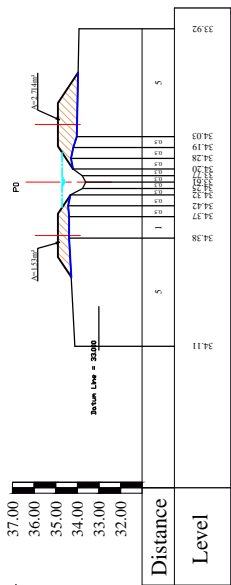


# South Main Canal Down Stream of Road 110

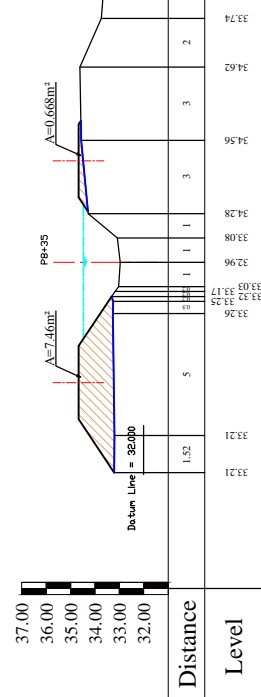
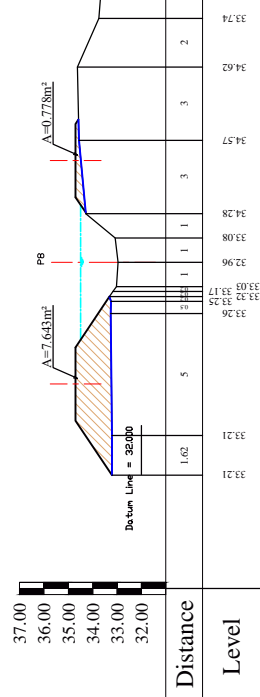
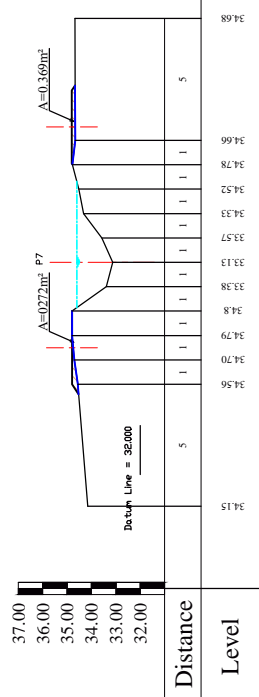
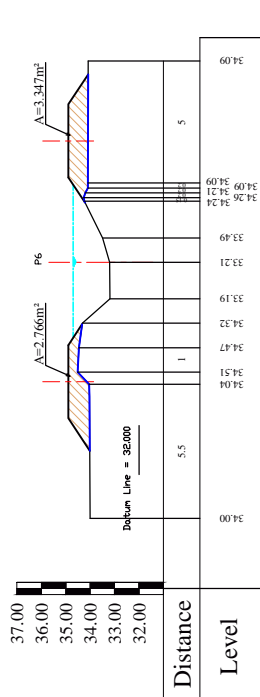
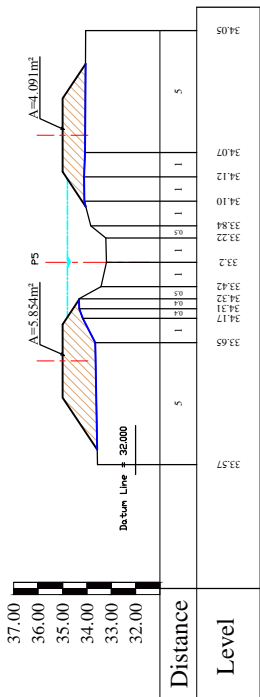
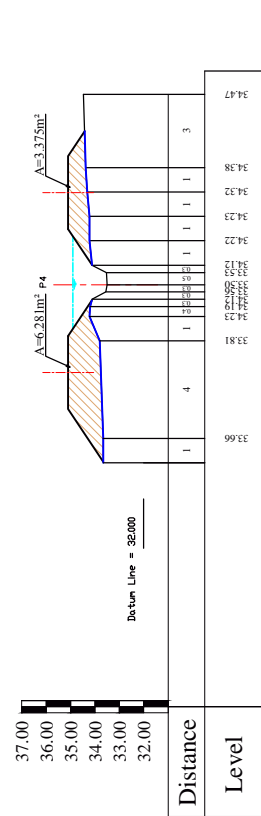
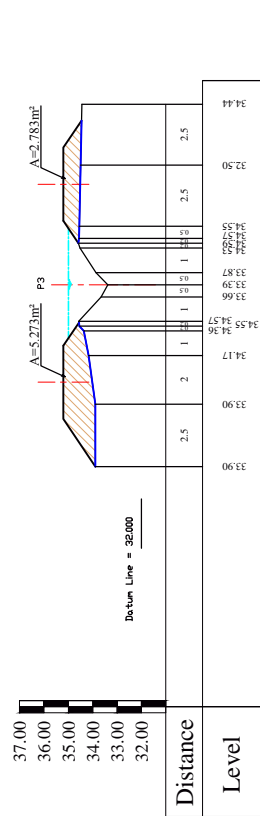
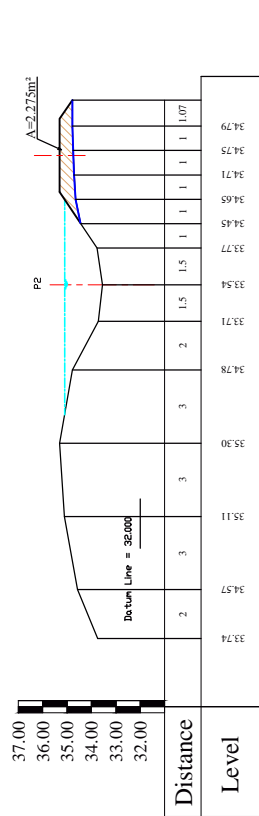
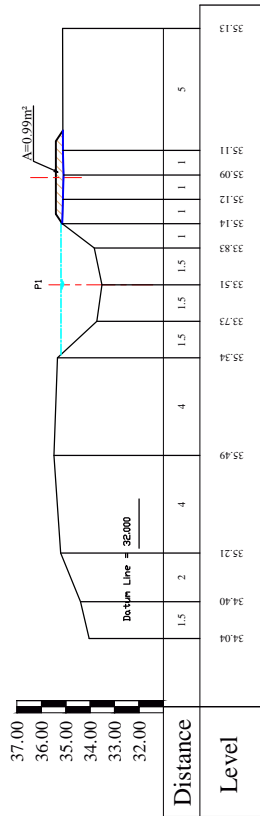
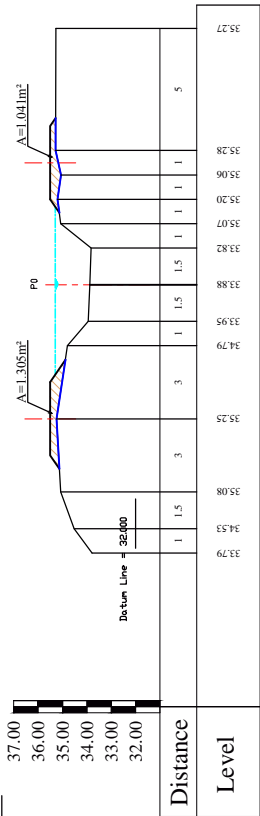




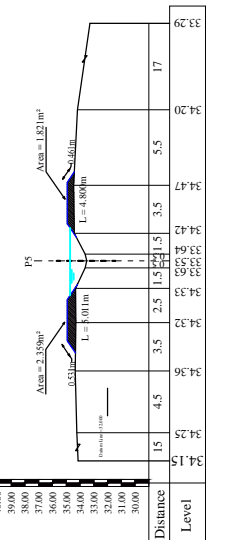
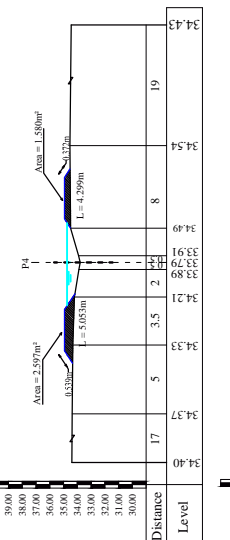
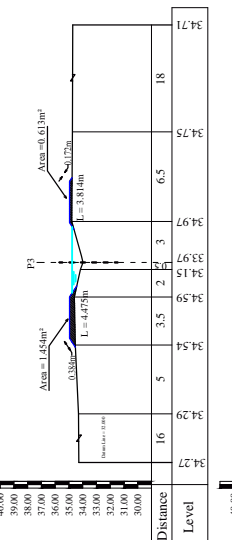
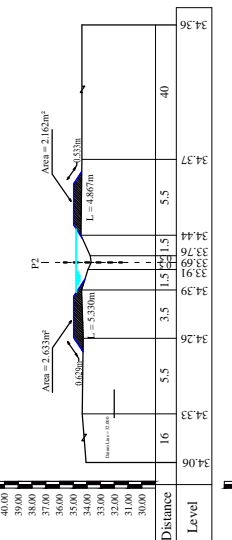
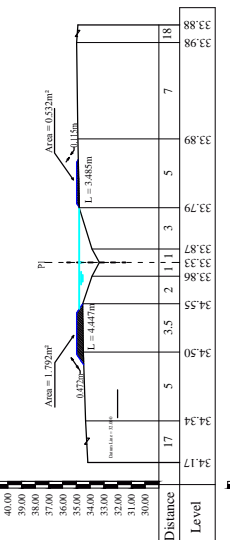
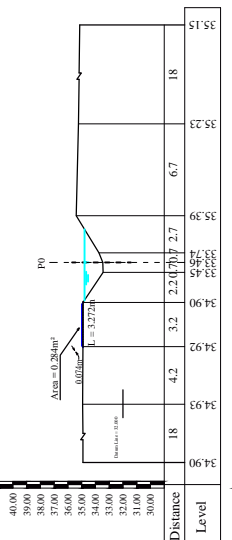
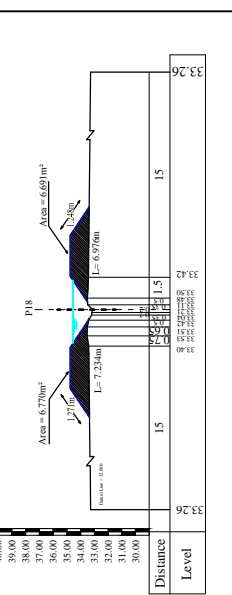
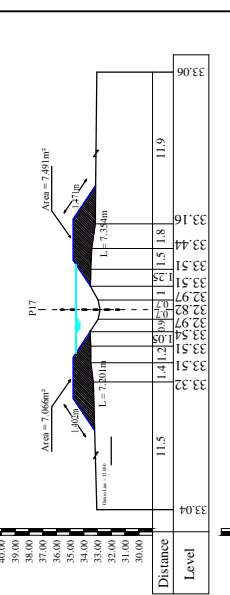
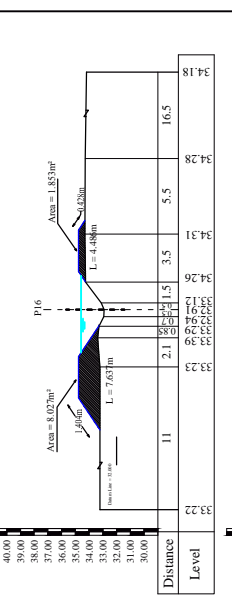
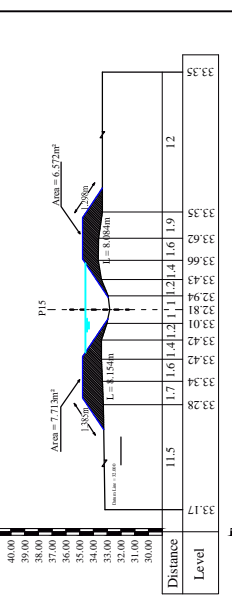
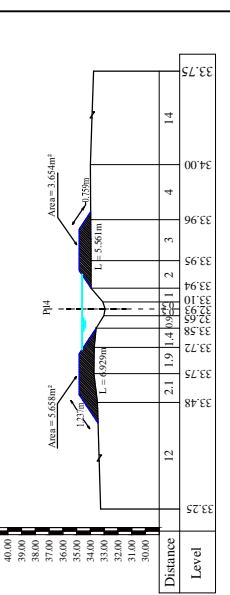
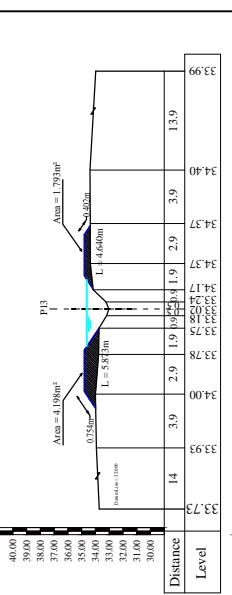
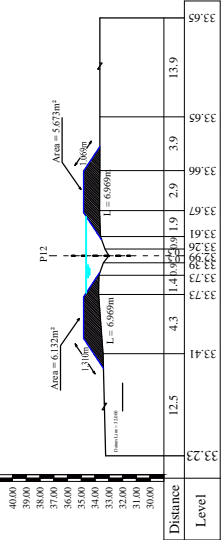
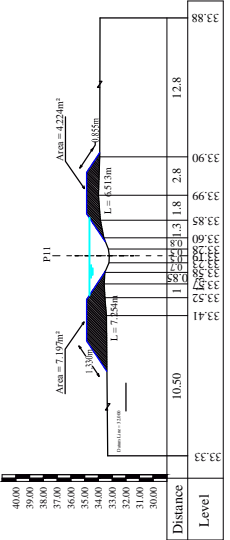
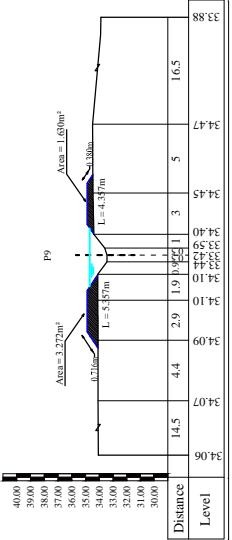
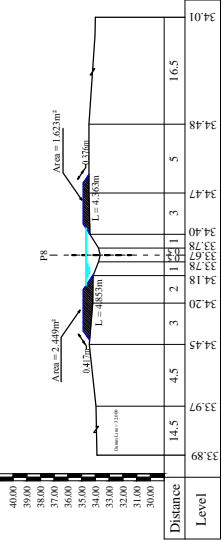
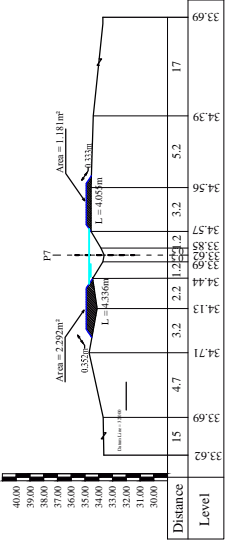
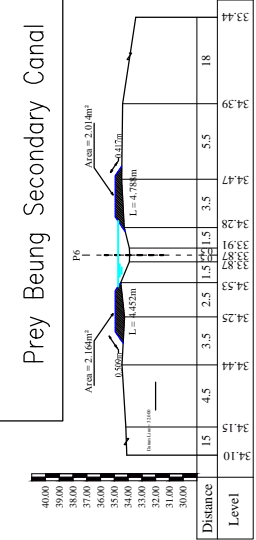
Sampove-1 SC



Sampove-2 SC



Prey Beung Secondary Canal



# ***ANNEX D***

## ***Attachment – 4***

*Results of Inventory Survey for Irrigation and Drainage  
Facilities in Upper Slakou Irrigation System  
Rehabilitation Sub-Project*

**No. or Nos. of Structures Identified through Inventory Survey**

**(Revised after PR-1)**

(Unit: nos.)

Canals	Survey length (m)	Division Structure	Culvert with grooves (Regulator)**	Public bridge/culvert	Private bridge/culvert	Buildings within ROW#	Total
Diversion canal	9,000	0	0	4	3	0	7
Main canal 33*	7,730	4	7	7	45	25	88
Secondary canals	53,840	1	21	58	212	60	352
C20	(7,930)	(0)	(2)	(9)	(28)	(3)	(42)
C20S	(990)	(0)	(0)	(1)	(8)	(1)	(10)
C21	(8,280)	(0)	(6)	(9)	(26)	(0)	(41)
C22	(9,850)	(0)	(2)	(8)	(26)	(1)	(37)
C23	(10,700)	(0)	(4)	(14)	(40)	(1)	(59)
C24	(6,050)	(1)	(0)	(6)	(12)	(0)	(19)
3U*	(1,510)	(0)	(2)	(1)	(7)	(7)	(17)
3D*	(8,530)	(0)	(5)	(10)	(65)	(47)	(127)
<b>Total</b>	<b>70,570</b>	<b>5</b>	<b>28</b>	<b>69</b>	<b>260</b>	<b>85</b>	<b>447</b>

\*: Since Main canal, 3U and 3D run along National Road 130 A, many buildings were constructed

\*\* : Grooves are provided at inlet of culverts to place planks, but no gate is placed

#: ROW: Right of Way for canal and road

Source: Inventory Survey conducted by JICA Survey Team in June and July 2011








## Inventory Survey of Existing Canals and Structures: Diversion Canal



Canal name: Diversion Canal				Survey in June-July, 2011 by JICA Survey Team			
Sta.	E	N	Structure	Condition	Evaluation	Remarks	
0	440717	1229277	B.P.				
410	440753	1229045	Canal section	Canal section is wide with more than 10 m and rain water remained	B		
1,390	440826	1228585	Canal section	Canal section is wide with more than 10 m and rain water remained	B		
2,160	440902	1227877	Road Bridge (Concrete, Tropeang Skear in 2010)	Existing bridge, 18 m span	A	Public road constructed in 2010 (New)	
2,680	441020	1227390	0				
3,180	441135	1226910	Pagoda Bridge	Canal is completely re-filled for the village road	D	Canal is malfunctioned by this embankment; Need bridge	
3,680	441475	1226554	Canal section	Canal slope is eroded and some earth and sands flowed into the canal section	C		
4,180	441816	1226194	Canal section		C		
4,580	442031	1225862	Road Bridge (National Road 130A)		B	Bridge on National Road 130A	
5,220	442509	1225476	Canal section				
5,300	442559	1225426	Bridge (Small, Private)	Wooden bridges (3 nos)	C		
5,800	442963	1225144	Canal section		C		
6,290	443378	1224915	Canal section		C		
6,950	443316	1224841	Canal section		C		
8,200	444028	1223936	Road Bridge (Built by Royal Government Social Fund in 2000)	Existing bridge	B	Public road	
9,000	445169	1223317	<u>Lan Ches Bridge</u> ( <u>May, 2007</u> )	<u>Existing bridge</u>	<u>B</u>	Public road	

Structure	Nos.	Evaluation	Regulators	Culvert/ bridge	Buildings within ROW
Regulators	0	A		1	
Bridges/ Culvert	7	B		3	
Public	4	C		3	
Concrete	4	D			
Wooden	0				
Total				7	0
Private	3	<u>Evaluation of Canal and structures</u>			
Concrete	0	Canal sections are remained for passing irrigation and drain water			
Wooden	3	Two bridges were constructed after F/S in 2002			
Total	7				
A: Fully functioning		No house on the canal route			
B: Partly deteriorated but function is maintained					
C: Deteriorated, and does not function well		Possibility of mine contamination exist according to the CMAC			
D: Completely damaged, and does not function					



### Result of Inventory Survey of Diversion Canal (1/5)



Canal No.: D.C.	Kind of structure(s): Gate	Remarks:
Station: 0.00(B.P.)	Coordinate< Northing: 1229277 Easting: 440717	Check Gate
		
Up Stream View	Down Stream View	B.P.




Canal No.: D.C.	Kind of structure(s): Canal	Remarks:
Station: 0.00+410	Coordinate< Northing: 1229045 Easting: 440753	Routine Survey
		
Up Stream View	Down Stream View	

Canal No.: D.C.	Kind of structure(s): Canal	Remarks:
Station: 1.00+390	Coordinate< Northing: 1228585 Easting: 440826	Routine Survey
		
Up Stream View	Down Stream View	



### Result of Inventory Survey of Diversion Canal (2/5)




Canal No.: D.C.	Kind of structure(s): Concrete Bridge	Remarks:
Station: 2.00+160	Coordinate< <div style="display: inline-block; vertical-align: middle; margin-left: 10px;">                     Northing: 1227877                      Easting: 440902                 </div>	Tropeang Skear Bridge (Constructed in 2010)
		
Down Stream View		Structure




Canal No.: D.C.	Kind of structure(s): Canal	Remarks:
Station: 2.00+680	Coordinate< <div style="display: inline-block; vertical-align: middle; margin-left: 10px;">                     Northing: 1227390                      Easting: 441020                 </div>	Routine Survey
		
Up Stream View		Down Stream View

Canal No.: D.C.	Kind of structure(s): Landfill Road	Remarks:
Station: 3.00+180	Coordinate< <div style="display: inline-block; vertical-align: middle; margin-left: 10px;">                     Northing: 1226910                      Easting: 441135                 </div>	Road to Pagoda
		
Up Stream View	Down Stream View	Side View (Road)



### Result of Inventory Survey of Diversion Canal (3/5)




Canal No.: D.C.	Kind of structure(s): Canal	Remarks:
Station: 3.00+680	Coordinate< <div style="display: inline-block; vertical-align: middle; margin-left: 10px;">                     Northing: 1226554                      Easting: 441475                 </div>	Routine Survey
		
Up Stream View		Down Stream View




Canal No.: D.C.	Kind of structure(s): Canal	Remarks:
Station: 4.00+180	Coordinate< <div style="display: inline-block; vertical-align: middle; margin-left: 10px;">                     Northing: 1226194                      Easting: 441816                 </div>	Inflow from right bank
		
Up Stream View	Down Stream View	Right bank

Canal No.: D.C.	Kind of structure(s): Concrete Bridge	Remarks:
Station: 4.00+580	Coordinate< <div style="display: inline-block; vertical-align: middle; margin-left: 10px;">                     Northing: 1225862                      Easting: 442031                 </div>	National Road Crossing D.C.
		
Up Stream View	Down Stream View	National Road 130A




### Result of Inventory Survey of Diversion Canal (4/5)




Canal No.: D.C.	Kind of structure(s): Canal	Remarks:
Station: 5.00+220	Coordinate< Northing: 1225476 Easting: 442509	Routine Survey
 		
<div style="display: flex; justify-content: space-around;"> <span>Up Stream View</span> <span>Down Stream View</span> </div>		




Canal No.: D.C.	Kind of structure(s): Bridge	Remarks:
Station: 5.00+300	Coordinate< Northing: 1225426 Easting: 442559	Private Bridge
  		
<div style="display: flex; justify-content: space-around;"> <span>Up Stream View</span> <span>Side View</span> <span>Structure</span> </div>		

Canal No.: D.C.	Kind of structure(s): Bridge	Remarks:
Station: 5.00+800	Coordinate< Northing: 1225144 Easting: 442963	Private Concrete Bridge under Construction
  		
<div style="display: flex; justify-content: space-around;"> <span>Up Stream View</span> <span>Down Stream View</span> <span>Concrete Bridge under Construction</span> </div>		

### Result of Inventory Survey of Diversion Canal (5/5)

Canal No.: D.C.	Kind of structure(s): Canal	Remarks:
Station: 6.00+950(EP)	Coordinate< <div style="display: inline-block; vertical-align: middle; margin-left: 10px;">                     Northing: 1224841                      Easting: 443316                 </div>	Confluence point of D.C. and Osaray stream
		
Up Stream View	Down Stream View	Confluence point

Canal No.: D.C.	Kind of structure(s): Concrete Bridge	Remarks:
Station: 8.00+200	Coordinate< <div style="display: inline-block; vertical-align: middle; margin-left: 10px;">                     Northing: 1223936                      Easting: 444028                 </div>	Constructed in 2000
		
Up Stream View	Down Stream View	Side View

Canal No.: D.C.	Kind of structure(s): Concrete Bridge	Remarks:
Station: 9.00	Coordinate< <div style="display: inline-block; vertical-align: middle; margin-left: 10px;">                     Northing: 1223317                      Easting: 445169                 </div>	Constructed in 2006 ~ 2007
		
Up Stream View	Down Stream View	Side View

## Inventory Survey of Existing Canals and Structures: Main Canal 33 (1/2)

Canal name: Main Canal 33

Survey in June-July, 2011 by JICA Survey Team

Sta.	E	N	Structure	Regulator	Bridge	Buildings	Evaluation for Regulator	Evaluation for Bridge/Culvert	Remarks (W: width of bridge)
0	0448340	1223198	B.P. (Intake & Gate Structure)						Structure of Kpob Trobek resesvoir
240	0448556	1223143	Bridge 1 (Concrete)		Concrete	Private		B	2.5m x 4 span, 1,7 m high
440	0448760	1223111	Bridge 2 (Private Wooden)		Wooden	Private		W=0.5m	
470	0448793	1223104	Bridge 3 (Private Wooden)		Wooden	Private		W=0.5m	
500	0448834	1223097	Canal Section						
520	0448854	1223088	Bridge 4 (Private Wooden)		Wooden	Private		W=1 m	
540	0448878	1223087	Bridge 5 (Private Wooden)		Wooden	Private		W=1 m	
580	0448918	1223074	Bridge 6 (Private Wooden)		Wooden	Private		W=1 m	
640	0448974	1223066	Bridge 7 (Private Wooden)		Wooden	Private		W=1 m	
740	0449071	1223069	House (Double)						
740	0449081	1223063	Bridge 8 & Groove	Regulator-1	Concrete	Public-1	C	C To be replaced	no gate, W=4 m 2 m x 1.2 m x 2 nos, flow section is not enough, Old
800	0449125	1223068	Bridge 9 (Private)		Wooden	Private			W=1 m
860	0449178	1223070	Bridge 10 (Private)		Concrete	Private		B	W=3 m 4.5 m span x 3 m high
900	0449220	1223066	Bridge 11 (Private)		Concrete	Private		B	W=2.5 m 4.5 m span x 3 m high
930	0449239	1223070	House on Bridge		Concrete	Private	Shop	B	W=8 m 2 m x 2 m x 2 nos
960	0449265	1223069	House on Bridge		Concrete	Private	Store	B	W=8 m 2 m x 2 m x 2 nos
1,000	0449313	1223076	Canal Section						Canal section remains as canal
1,130	0449407	1223077	Bridge 12 (Publici)		Concrete	Public-2		B	W=3.2 m 6 m x 2 m, Commune road, Nipa made
1,130	0449416	1223083	House				Store & Hut		
1,190	0449463	1223073	Bridge 13 (Private)		Wooden	Private			W=3 m
1,190	0449478	1223075	Bridge 14 (Private) & House		Wooden	Private	Repair shop		House is on canal dike, W=2 m
1,190	0449498	1223083	Bridge 15 (Private) & House		Wooden	Private	Shop		W=1.5 m
1,240	0449557	1223087	Bridge 16 (Private) & House		Wooden	Private	Canteen		W=0.5 m
1,260	0449591	1223090	Bridge 17 (Private) & House		Wooden	Private	Storage		Full section of canal used for storage, W= 2 m
1,500	0449835	1223100	Canal Section						Canal section is wide of more than 20 m
1,660	0449981	1223096	Bridge 18 & Groove (Ta Mek)	Regulator-2	Concrete	Public-3	C	C To be replaced	No gate W=4 m 2 m x 1.2 m x 2 nos, flow section is not enough, Old, bridge for Commune road,
2,020	0450317	1223101	Canal Section						Width of water surface is just 3 m,
2,170	0450453	1223048	Bridge 19 (Private)		Wooden	Private			W-1 m
2,180	0450465	1223052	House				Canteen		Within ROW, not on canal
2,210	0450500	1223044	House				Canteen		Within ROW, not on canal
2,260	0450558	1223026	Bridge 20 (Private) & House (Double)		Wooden	Private	Store		Nippa hut nearly broken, W=2 m
2,430	0450703	1222979	Bridge 21 (Private) & House (Double)		Concrete	Private	Store	B	W=2.5m 6 m x 1.8 m
2,530	0450792	1222950	Canal Section						Canal section has been eroded
2,610	0450852	1222922	Bridge 22 (Private)		Concrete	Private		B	W=2 m 4.5 m span x 1.8 m high
2,700	0450935	1222904	House		Nippa house	Private	Canteen		Half section of canal used for canteen W=8 m
2,700	0450953	1222896	Bridge 23 (Private) & House (Triple)		Concrete	Private		B	W=2.2 m 4.0 m span x 1.8 m high
2,730	0450995	1222884	House				Shop		Pillars are on canal section
2,730	0451005	1222873	Bridge 24 (Private) & Groove	Regulator-3	Concrete	Public-4	C	C To be replaced	No gate W=4 m 2 m x 1.3 m x 2 nos, flow section is not enough, Old, bridge for Commune road,
2,850	0451096	1222846	Bridge 25 (Private) & House (Double)		Concrete	Private	Shop & Canteen	B	W=2 m 4.5 m x 1.8 m high
3,020	0451202	1222789	Bridge 26 (Private)		Concrete	Private		B	W=2 m 4.5 m x 1.8 m high
3,070	0451247	1222769	House				Storage		Pillars are on canal section
3,090	0451262	1222758	Water Obstruction & Groove (Community)	Regulator-4 for C23				C To be replaced by new one	w/o bridge
3,530	0451590	1222535	Canal Section						
3,630	0451662	1222484	Bridge 27 (Private Wooden)		Wooden	Private			W=1 m
3,710	0451708	1222445	Bridge 28 (Private Wooden)		Wooden	Private			W=1 m
3,920	0451858	1222344	Bridge 29 (Private Wooden)		Wooden	Private			W=1.5 m
3,950	0451880	1222329	Bridge 30 (Private Wooden)		Wooden	Private			W=1.5 m
4,030	0451949	1222286	House				Temp. hut		Within ROW, not on canal
4,140	0452037	1222215	Bridge 31, Groove & Culvert (Commune)	Regulator-5	Concrete	Public-5	C	C To be replaced	W=4 m 1.8 m x 1.4 m x 2 nos, flow section is not enough, Old, for C-22 without gate,
4,250	0452134	1222150	Bridge 32 (Private)		Wooden	Private			W=0.8 m
4,300	0452164	1222119	Bridge 33 (Private Double)		Concrete	Private		C To be removed	2 nos., W=2.5 m 3 m x 1.6 m (h) x 1 span

## Inventory Survey of Existing Canals and Structures: Main Canal 33 (2/2)

Canal name: Main Canal 33




Survey in June-July, 2011 by JICA Survey Team




Sta.	E	N	Structure	Regulator	Bridge		Buildings	Evaluation for Regulator	Evaluation for Bridge/Culvert	Remarks (W: width of bridge)
4,330	0452201	1222119	House & Bridge 34 (Private)		Wooden	Private				W=4 m
4,340	0452219	1222089	House		Wooden	Private	Storage			Almost full section of
4,350	0452230	1222076	Bridge 35 (Private) & House		Concrete	Private	shop		B	W=2 m    4 m x 1.6 m (h)
4,420	0452271	1222041	Bridge 36 (Private)		Wooden	Private				W=1 m
4,510	0452330	1221998	House on Bridge (Triple)		Concrete	Private	shops; full section of canal used for scanteen		B	W=8 m,    4 m x 1.6 m (h)
4,530	0452353	1221979	Canal Section							Width of flow section become small of 1.5 m and
4,620	0452394	1221938	Bridge 37 (Private)		Wooden	Private				W=1 m
5,030	0452669	1221688	House & Bridge 38 (Private)		Concrete	Private			B	W=2.5 m    2 m x 1.8 m x 2 nos
5,090	0452712	1221637	Bridge 39 (Private)		Wooden	Private				W=1.5 m
5,560	0453056	1221337	Canal Section							
5,640	0453109	1221279	Bridge 40 (Private)		Wooden	Private				W=1 m
6,060	0453411	1220999	Canal Section							Canal section is wide of more than 30 m, and many grasses covered the section
6,200	0453494	1220918	House & Bridge 41 & Groove (Commune)	Regulator-6 for C-21	Concrete	Public-6	Bridge for commune	C Deteriorated	B	W=3.6 m    6 m x 4 m (h), flow capacity is OK
6,340	0453586	1220844	House				Barber			Almost broken, pillars are on canal
6,340	0453600	1220834	Bridge 42 (Private)		Concrete	Private			B	W=2.2 m    2.3 m x 1.6 m x 2 nos
6,390	0453636	1220807	Bridge 43 (Private)		Concrete	Private			B	W=4 m    2.3 m x 1.6 m x 2 nos
6,420	0453666	1220787	House (Double)				Canteen & store			Pillars are on canal section
6,440	0453682	1220774	Bridge 44 (Commune)		Concrete	Public-7			B	Access to commune office, W=2.5 m
6,580	0453793	1220714	Canal Section							Canal section covered by grass and width of water flow is 3 m only; gentle slope
6,680	0453871	1220663	Bridge 45 (Private)		Wooden	Private				W=1 m
6,930	0454046	1220569	Bridge 46 (In Pol Pot regime 25-05-1977)	Regulator-7 Not functional				D To be delished		Ruins constructed in Pol Pot regime.No slab on bridge
7,040	0454144	1220516	Bridge 47 (Private)		Concrete	Private			B	W=2 m    2.3 m x 2.3 m x 2 nos
7,080	0454185	1220496	Canal Section							
7,390	0454429	1220347	Bridge 48 (Private)		Wooden	Private				W=0.4 m
7,510	0454520	1220272	Bridge 49 (Private)		Concrete	Private			B	W=2 m    2 m x 1.6 m x 2 nos
7,580	0454576	1220220	Canal Section							Canal section remains as canal and in good condition
7,730	0454696	1220150	E.P.							




Structure	Nos.	Evaluation	Regulators	Intakes	Public bridge	Private Conc. Bridge	Private buildings within ROW
Regulators with drops	7	A					
Bridges	52	B	1		3	17	
Public	7	C	5	4	4	1	
Concrete	7	D	1		0	0	
Wooden	0	Total	7	4	7	19	25
Private	45	<u>Evaluation of Canal</u> Canal sections are remained for passing drain water but many piers and pillars of private bridges and buildings are obstructing flows. No control of land within right of way (ROW) and maintenance of canal section has been made by PDWRAM: The canal could be utilized with reshaping of sections as proposed in F/S and construction of regulating and intake structures Note: Main Canal 33 runs along National Road 130A All regulator has no gate, but grooves for plank stop logs are provided <u>Evaluation of Concrete Bridges</u> B: The bridge has a flow area of more than 6 sq-m (equiv to the flow capacity of 1.8 to 3.4 m3/s) C: Deteriorated, and does not function well, To be replaced It is considered that all bridges at the existing regulating structures are old and less flow section. So, replacement would be needed. On the other hand, mostof private bridges have enough flow area, except few. <u>Evaluation of Wooden Bridges</u> All bridges are C only. These bridges would be re-constructed even after removal.No analysis is made.					
Concrete	18						
Wooden	27						
Total	59						
A: Fully functioning							
B: Partly deteriorated but function is maintained							
C: Deteriorated, and does not function well							
D: Completely damaged, and does not function							






### Result of Inventory Survey of Main Canal 33 (1/26)



Canal No.: MC33	Kind of structure: Gate (Intake)	Remarks:
Station: 0.00(B.P.)	Coordinate< <div style="display: flex; flex-direction: column; margin-left: 10px;"> <span>Northing: 1223190</span> <span>Easting: 448349</span> </div>	Cross the national road
		
Up Stream View	Down Stream View	Side View




Canal No.: MC33	Kind of structure: Bridge (Private Concrete)	Remarks:
Station: 0.00+240	Coordinate< <div style="display: flex; flex-direction: column; margin-left: 10px;"> <span>Northing: 1223143</span> <span>Easting: 448556</span> </div>	Routine survey
		
Up Stream View	Down Stream View	Side View

Canal No.: MC33	Kind of structure: Bridge (Private )	Remarks:
Station: 0.00+440	Coordinate< <div style="display: flex; flex-direction: column; margin-left: 10px;"> <span>Northing: 1223111</span> <span>Easting: 448760</span> </div>	Made by wood
		
Up Stream View	Down Stream View	Side View




**Result of Inventory Survey of Main Canal 33 (2/26)**




Canal No.: MC33	Kind of structure: Bridge (Private)	Remarks:
Station: 0.00+470	Coordinate< Northing: 1223104 Easting: 448793	Made by wood
		
Up Stream View	Down Stream View	Side View




Canal No.: MC33	Kind of structure: Canal	Remarks:
Station: 0.00+500	Coordinate< Northing: 1223097 Easting: 448834	Routine survey Length: 500m
		
Up Stream View	Down Stream View	

Canal No.: MC33	Kind of structure: Bridge (Private)	Remarks:
Station: 0.00+520	Coordinate< Northing: 1223088 Easting: 448854	Made by wood
		
Up Stream View	Down Stream View	Side View




**Result of Inventory Survey of Main Canal 33 (3/26)**




Canal No.: MC33	Kind of structure: Bridge (Private)	Remarks:
Station: 0.00+540	Coordinate< Northing: 1223087 Easting: 448878	Made by wood
		
Up Stream View	Down Stream View	Side View




Canal No.: MC33	Kind of structure: Bridge (Private)	Remarks:
Station: 0.00+580	Coordinate< Northing: 1223074 Easting: 448918	Made by wood
		
Up Stream View	Down Stream View	Side View

Canal No.: MC33	Kind of structure: Bridge (Private)	Remarks:
Station: 0.00+640	Coordinate< Northing: 1223066 Easting: 448974	Made by wood
		
Up Stream View	Down Stream View	Side View




### Result of Inventory Survey of Main Canal 33 (4/26)




Canal No.: MC33	Kind of structure: House (Double)	Remarks:
Station: 0.00+740	Coordinate< Northing: 1223069 Easting: 449071	Routine survey
		
Up Stream View	Down Stream View	Side View




Canal No.: MC33	Kind of structure: Bridge (Private)	Remarks:
Station: 0.00+740	Coordinate< Northing: 1223063 Easting: 449081	There is a groove
		
Up Stream View	Down Stream View	Side View

Canal No.: MC33	Kind of structure: Bridge (Private)	Remarks:
Station: 0.00+800	Coordinate< Northing: 1223068 Easting: 449125	Routine survey
		
Up Stream View	Down Stream View	Side View




**Result of Inventory Survey of Main Canal 33 (5/26)**



Canal No.: MC33	Kind of structure: Bridge (Private)	Remarks:
Station: 0.00+860	Coordinate< Northing: 1223070 Easting: 449178	Routine survey
		
Up Stream View	Down Stream View	Side View




Canal No.: MC33	Kind of structure: Bridge (Private)	Remarks:
Station: 0.00+900	Coordinate< Northing: 1223066 Easting: 449220	Routine survey
		
Up Stream View	Down Stream View	Side View

Canal No.: MC33	Kind of structure: Bridge (Private)	Remarks:
Station: 0.00+930	Coordinate< Northing: 1223070 Easting: 449239	There is a house on the bridge
		
Up Stream View	Down Stream View	Side View




**Result of Inventory Survey of Main Canal 33 (6/26)**




Canal No.: MC33	Kind of structure: Bridge (Private)	Remarks:  There is a house on the bridge
Station: 0.00+960	Coordinate< Northing: 1223069 Easting: 449265	
		
Up Stream View	Down Stream View	Side View




Canal No.: MC33	Kind of structure: Canal	Remarks: Routine survey Length: 1000m
Station: 1.00	Coordinate< Northing: 1223076 Easting: 449313	
		
Up Stream View	Down Stream View	

Canal No.: MC33	Kind of structure: Bridge (Private)	Remarks:  Routine survey
Station: 1.00+130	Coordinate< Northing: 1223077 Easting: 449407	
		
Up Stream View	Down Stream View	Side View




**Result of Inventory Survey of Main Canal 33 (7/26)**




Canal No.: MC33	Kind of structure: House	Remarks:
Station: 1.00+130	Coordinate< Northing: 1223083 Easting: 449416	Routine survey
		
Up Stream View	Down Stream View	Structure




Canal No.: MC33	Kind of structure: Bridge (Private)	Remarks:
Station: 1.00+190	Coordinate< Northing: 1223073 Easting: 449463	Routine survey
		
Up Stream View	Down Stream View	Structure

Canal No.: MC33	Kind of structure: Bridge (Private)	Remarks:
Station: 1.00+190	Coordinate< Northing: 1223075 Easting: 449478	There is a house
		
Up Stream View	Down Stream View	Side View

**Result of Inventory Survey of Main Canal 33 (8/26)**



Canal No.: MC33	Kind of structure: Bridge (Private)	Remarks:
Station: 1.00+190	Coordinate< Northing: 1223083 Easting: 449498	There is a house
		
Up Stream View	Down Stream View	Side View




Canal No.: MC33	Kind of structure: Bridge (Private)	Remarks:
Station: 1.00+240	Coordinate< Northing: 1223087 Easting: 449557	There is a house
		
Up Stream View	Down Stream View	Side View



Canal No.: MC33	Kind of structure: Bridge (Private)	Remarks:
Station: 1.00+260	Coordinate< Northing: 1223090 Easting: 449591	There is a house
		
Up Stream View	Down Stream View	Side View






### Result of Inventory Survey of Main Canal 33 (9/26)




Canal No.: MC33	Kind of structure: Canal	Remarks: Routine survey Length: 1500m
Station: 1.00+500	Coordinate< Northing: 1223100 Easting: 449835	
<div style="display: flex; justify-content: space-around; align-items: center;">   </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <span>Up Stream View</span> <span>Down Stream View</span> </div>		




Canal No.: MC33	Kind of structure: Bridge (Ta Mek)	Remarks:  There is a groove
Station: 1.00+660	Coordinate< Northing: 1223096 Easting: 449981	
<div style="display: flex; justify-content: space-around; align-items: center;">    </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <span>Up Stream View</span> <span>Down Stream View</span> <span>Side View</span> </div>		

Canal No.: MC33	Kind of structure: Canal	Remarks: Routine survey Length: 2000m
Station: 2.00+20	Coordinate< Northing: 1223101 Easting: 450317	
<div style="display: flex; justify-content: space-around; align-items: center;">   </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <span>Up Stream View</span> <span>Down Stream View</span> </div>		




**Result of Inventory Survey of Main Canal 33 (10/26)**




Canal No.: MC33	Kind of structure: Bridge (Private)	Remarks:
Station: 2.00+170	Coordinate< Northing: 1223048 Easting: 450453	Routine survey
		
Up Stream View	Down Stream View	Side View



Canal No.: MC33	Kind of structure: House	Remarks:
Station: 2.00+180	Coordinate< Northing: 1223052 Easting: 450465	Routine survey
		
Up Stream View	Down Stream View	Side View

Canal No.: MC33	Kind of structure: House	Remarks:
Station: 2.00+210	Coordinate< Northing: 1223044 Easting: 450500	Routine survey
		
Up Stream View	Down Stream View	Side View




**Result of Inventory Survey of Main Canal 33 (11/26)**




Canal No.: MC33	Kind of structure: Bridge (Private)	Remarks:
Station: 2.00+260	Coordinate< Northing: 1223026 Easting: 450558	There are houses in double
		
Up Stream View	Down Stream View	Side View




Canal No.: MC33	Kind of structure: Bridge (Private)	Remarks:
Station: 2.00+430	Coordinate< Northing: 1222979 Easting: 450703	There are houses in double
		
Up Stream View	Down Stream View	Side View

Canal No.: MC33	Kind of structure: Canal	Remarks: Routine survey Length: 2500m
Station: 2.00+530	Coordinate< Northing: 1222950 Easting: 450792	
		
Up Stream View	Down Stream View	




### Result of Inventory Survey of Main Canal 33 (12/26)




Canal No.: MC33	Kind of structure: Bridge (Private)	Remarks:
Station: 2.00+610	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1222922</span> <span>Easting: 450852</span> </div>	Routine survey
		
Up Stream View	Down Stream View	Side View




Canal No.: MC33	Kind of structure: House	Remarks:
Station: 2.00+700	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1222904</span> <span>Easting: 450935</span> </div>	Routine survey
		
Up Stream View	Down Stream View	Side View

Canal No.: MC33	Kind of structure: Bridge (Private)	Remarks:
Station: 2.00+700	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1222896</span> <span>Easting: 450953</span> </div>	There are houses in triple
		
Up Stream View	Down Stream View	Side View




**Result of Inventory Survey of Main Canal 33 (13/26)**




Canal No.: MC33	Kind of structure: House	Remarks:
Station: 2.00+730	Coordinate< Northing: 1222884 Easting: 450995	Routine survey
		
Up Stream View	Down Stream View	Side View




Canal No.: MC33	Kind of structure: Bridge (Private)	Remarks:
Station: 2.00+ 730	Coordinate< Northing: 1222873 Easting: 451005	There is a groove
		
Up Stream View	Down Stream View	Side View

Canal No.: MC33	Kind of structure: Bridge (Private)	Remarks:
Station: 2.00+850	Coordinate< Northing: 1222846 Easting: 451096	There are houses in double
		
Up Stream View	Down Stream View	Side View



**Result of Inventory Survey of Main Canal 33 (14/26)**




Canal No.: MC33	Kind of structure: Bridge (Private)	Remarks: Routine survey Length: 3000m
Station: 3.00+20	Coordinate< Northing: 1222789 Easting: 451202	
		
Up Stream View	Down Stream View	Side View




Canal No.: MC33	Kind of structure: House	Remarks: Routine survey
Station: 3.00+70	Coordinate< Northing: 1222769 Easting: 451247	
		
Up Stream View	Down Stream View	Side View

Canal No.: MC33	Kind of structure: Water obstruction (community)	Remarks: There are 3 columns with groove to obstruct the water
Station: 3.00+90	Coordinate< Northing: 1222758 Easting: 451262	
		
Up Stream View	Down Stream View	Structure




### Result of Inventory Survey of Main Canal 33 (15/26)




Canal No.: MC33	Kind of structure: Canal	Remarks: Routine survey Length: 3500m
Station: 3.00+530	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1222535</span> <span>Easting: 451590</span> </div>	
<div style="display: flex; justify-content: space-around; align-items: center;">   </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <span>Up Stream View</span> <span>Down Stream View</span> </div>		




Canal No.: MC33	Kind of structure: Wooden Bridge (Private)	Remarks: Routine survey
Station: 3.00+630	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1222484</span> <span>Easting: 451662</span> </div>	
<div style="display: flex; justify-content: space-around; align-items: center;">    </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <span>Up Stream View</span> <span>Down Stream View</span> <span>Side View</span> </div>		

Canal No.: MC33	Kind of structure: Wooden Bridge (Private)	Remarks: Routine survey
Station: 3.00+710	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1222445</span> <span>Easting: 451708</span> </div>	
<div style="display: flex; justify-content: space-around; align-items: center;">    </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <span>Up Stream View</span> <span>Down Stream View</span> <span>Side View</span> </div>		

**Result of Inventory Survey of Main Canal 33 (16/26)**




Canal No.: MC33	Kind of structure: Wooden Bridge (Private)	Remarks:
Station: 3.00+920	Coordinate< Northing: 1222344 Easting: 451858	Routine survey
		
Up Stream View	Down Stream View	Side View




Canal No.: MC33	Kind of structure: Bridge (Private)	Remarks:
Station: 3.00+950	Coordinate< Northing: 1222329 Easting: 451880	There is a house
		
Up Stream View	Down Stream View	Side View




Canal No.: MC33	Kind of structure: House	Remarks:
Station: 4.00+30	Coordinate< Northing: 1222286 Easting: 451949	Routine survey Length: 4000m
		
Up Stream View	Down Stream View	Side View






**Result of Inventory Survey of Main Canal 33 (17/26)**




Canal No.: MC33	Kind of structure: Bridge (Commune)	Remarks:
Station: 4.00+140	Coordinate< Northing: 122215 Easting: 452037	There are groove and pipe culvert
		
Up Stream View	Down Stream View	Side View




Canal No.: MC33	Kind of structure: Bridge (Private)	Remarks:
Station: 4.00+250	Coordinate< Northing: 1222150 Easting: 452134	Routine survey
		
Up Stream View	Down Stream View	Side View

Canal No.: MC33	Kind of structure: Bridge (Private Double)	Remarks:
Station: 4.00+300	Coordinate< Northing: 1222119 Easting: 452164	Routine survey
		
Up Stream View	Down Stream View	Side View




**Result of Inventory Survey of Main Canal 33 (18/26)**




Canal No.: MC33	Kind of structure: Bridge (Private)	Remarks:
Station: 4.00+330	Coordinate< Northing: 1222099 Easting: 452201	There is a house
		
Up Stream View	Down Stream View	Side View



Canal No.: MC33	Kind of structure: House	Remarks:
Station: 4.00+340	Coordinate< Northing: 1222089 Easting: 452219	Routine survey
		
Up Stream View	Down Stream View	Side View

Canal No.: MC33	Kind of structure: Bridge (Private)	Remarks:
Station: 4.00+350	Coordinate< Northing: 1222076 Easting: 452230	There is a house
		
Up Stream View	Down Stream View	Side View




### Result of Inventory Survey of Main Canal 33 (19/26)




Canal No.: MC33	Kind of structure: Bridge (Private)	Remarks:
Station: 4.00+420	Coordinate< Northing: 1222041 Easting: 452271	Routine survey
		
Up Stream View	Down Stream View	Side View




Canal No.: MC33	Kind of structure: Bridge (Private)	Remarks:
Station: 4.00+510	Coordinate< Northing: 1221998 Easting: 452330	There are houses in triple
		
Up Stream View	Down Stream View	Side View

Canal No.: MC33	Kind of structure: Canal	Remarks:
Station: 4.00+530	Coordinate< Northing: 1221979 Easting: 452353	Routine survey Length: 4500m
		
Up Stream View	Down Stream View	



**Result of Inventory Survey of Main Canal 33 (20/26)**




Canal No.: MC33	Kind of structure: Bridge (Private)	Remarks:
Station: 4.00+620	Coordinate< Northing: 1221938 Easting: 452394	Routine survey
		
Up Stream View	Down Stream View	Side View



Canal No.: MC33	Kind of structure: Bridge (Private)	Remarks:
Station: 5.00+30	Coordinate< Northing: 1221688 Easting: 452669	Routine survey Length: 5000m
		
Up Stream View	Down Stream View	Side View

Canal No.: MC33	Kind of structure: Bridge (Private)	Remarks:
Station: 5.00+90	Coordinate< Northing: 1221637 Easting: 452712	Routine survey
		
Up Stream View	Down Stream View	Side View




### Result of Inventory Survey of Main Canal 33 (21/26)




Canal No.: MC33	Kind of structure: Canal	Remarks: Routine survey Length: 5500m
Station: 5.00+560	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1221337</span> <span>Easting: 453056</span> </div>	
		
Up Stream View		Down Stream View




Canal No.: MC33	Kind of structure: Bridge (Private)	Remarks: Routine survey
Station: 5.00+640	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1221279</span> <span>Easting: 453109</span> </div>	
		
Up Stream View		Down Stream View
		
Side View		

Canal No.: MC33	Kind of structure: Canal	Remarks: Routine survey Length: 6000m
Station: 6.00+60	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1220999</span> <span>Easting: 453411</span> </div>	
		
Up Stream View		Down Stream View




**Result of Inventory Survey of Main Canal 33 (22/26)**




Canal No.: MC33	Kind of structure: Bridge (Commune)	Remarks:
Station: 6.00+200	Coordinate< Northing: 1220918 Easting: 453494	There are a house and groove
		
Up Stream View	Down Stream View	Side View




Canal No.: MC33	Kind of structure: House	Remarks:
Station: 6.00+340	Coordinate< Northing: 1220844 Easting: 453586	Routine survey
		
Up Stream View	Down Stream View	Side View

Canal No.: MC33	Kind of structure: Bridge (Private)	Remarks:
Station: 6.00+340	Coordinate< Northing: 1220834 Easting: 453600	Routine survey
		
Up Stream View	Down Stream View	Side View



**Result of Inventory Survey of Main Canal 33 (23/26)**




Canal No.: MC33	Kind of structure: Bridge (Private)	Remarks:
Station: 6.00+390	Coordinate< Northing: 1220807 Easting: 453636	Routine survey
		
Up Stream View	Down Stream View	Side View




Canal No.: MC33	Kind of structure: House (Double)	Remarks:
Station: 6.00+420	Coordinate< Northing: 1220787 Easting: 453666	Routine survey
		
Up Stream View	Down Stream View	Side View

Canal No.: MC33	Kind of structure: Bridge (Commune)	Remarks:
Station: 6.00+440	Coordinate< Northing: 1220774 Easting: 453682	Routine survey
		
Up Stream View	Down Stream View	Side View

### Result of Inventory Survey of Main Canal 33 (24/26)




Canal No.: MC33	Kind of structure: Canal	Remarks: Routine survey Length: 6500m
Station: 6.00+580	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1220714</span> <span>Easting: 453793</span> </div>	
<div style="display: flex; justify-content: space-around; align-items: center;">   </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <span>Up Stream View</span> <span>Down Stream View</span> </div>		



Canal No.: MC33	Kind of structure: Bridge (Private)	Remarks: Routine survey
Station: 6.00+680	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1220663</span> <span>Easting: 453871</span> </div>	
<div style="display: flex; justify-content: space-around; align-items: center;">    </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <span>Up Stream View</span> <span>Down Stream View</span> <span>Side View</span> </div>		




Canal No.: MC33	Kind of structure: Bridge (in Pol Pot regime 25-05-1977)	Remarks: Routine survey
Station: 6.00+930	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1220569</span> <span>Easting: 454046</span> </div>	
<div style="display: flex; justify-content: space-around; align-items: center;">    </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <span>Up Stream View</span> <span>Down Stream View</span> <span>Structure</span> </div>		






**Result of Inventory Survey of Main Canal 33 (25/26)**



Canal No.: MC33	Kind of structure: Bridge (Private)	Remarks:
Station: 7.00+40	Coordinate< Northing: 1220516 Easting: 454144	Routine survey
		
Up Stream View	Down Stream View	Side View




Canal No.: MC33	Kind of structure: Canal	Remarks:
Station: 7.00+80	Coordinate< Northing: 1220496 Easting: 454185	Routine survey
		
Up Stream View	Down Stream View	

Canal No.: MC33	Kind of structure: Bridge (Private)	Remarks:
Station: 7.00+390	Coordinate< Northing: 1220347 Easting: 454429	Routine survey
		
Up Stream View	Down Stream View	Side View

### Result of Inventory Survey of Main Canal 33 (26/26)

Canal No.: MC33	Kind of structure: Bridge (Private)	Remarks:
Station: 7.00+510	Coordinate< <div style="display: flex; flex-direction: column; margin-left: 10px;"> <span>Northing: 1220272</span> <span>Easting: 454520</span> </div>	Routine survey
<div style="display: flex; justify-content: space-around; align-items: center;">    </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <span>Up Stream View</span> <span>Down Stream View</span> <span>Side View</span> </div>		

Canal No.: MC33	Kind of structure: Canal	Remarks:
Station: 7.00+580	Coordinate< <div style="display: flex; flex-direction: column; margin-left: 10px;"> <span>Northing: 1220220</span> <span>Easting: 454576</span> </div>	Routine survey Length: 7500m
<div style="display: flex; justify-content: space-around; align-items: center;">   </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <span>Up Stream View</span> <span>Down Stream View</span> </div>		

Canal No.: MC33	Kind of structure: Canal	Remarks:
Station: 7.00+730(EP)	Coordinate< <div style="display: flex; flex-direction: column; margin-left: 10px;"> <span>Northing: 1220129</span> <span>Easting: 454696</span> </div>	Routine survey
<div style="display: flex; justify-content: space-around; align-items: center;">    </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <span>Up Stream View</span> <span>Down Stream View</span> <span>Side View</span> </div>		

## Inventory Survey of Existing Canals and Structures: Canal 20 (1/2)

Canal name: C20							Survey in June-July, 2011 by JICA Survey Team		
Sta.	E	N	Structure	Condition	Evaluation*	Flow Capacity	Remarks		
0	454696	1220124	B.P (Bridge 1 & Groove)	Entrance of inlet on main canal is checked by earth dike to divert water, since no regulator on main canal is available	D				
70	454736	1220137	Culvert 1	Single pipe with 0.6 m dia and 4 m long	B	c	house access		
360	454996	1220136	Culvert 2	Single pipe with 0.8 m dia and 6 m long	B	c	on village road		
460	455100	1220131	Culvert 3	Single pipe with 0.6 m dia and 2 m long	B	c	house access		
500	455133	1220135	Culvert 4	Single pipe with 0.6 m dia and 4 m long	B	c	house access		
570	455209	1220134	Double Culvert 5	Two pipes with 0.2 m dia and 4 m long	D	c	house access pipe size is too small		
680	455323	1220128	Culvert 6	Single pipe with 0.6 m dia and 4 m long	B	c	farm access		
760	455408	1220125	Culvert 7	Single pipe with 0.4 m dia and 3 m long	B	c	farm access		
1,000	455642	1220117	Bridge 2 & Culvert 8 (Commune)	Bridge with 1 m span and 6 m width, and pipe with 0.4 m dia	B	c	on commune road		
1,160	455788	1220124	Culvert 9	Single pipe with 0.4 m dia and 5 m long	B	c	farm access		
1,270	455902	1220119	Culvert 10	Single pipe with 0.4 m dia and 4 m long	B	c	house access		
1,400	456009	1220119	Culvert 11	Single pipe with 0.2 m dia and 6 m long	B	c	house access		
1,480	456074	1220117	Culvert 12	Single pipe with 0.2 m dia and 2 m long	B		house access		
1,500	456085	1220116	Canal section	Canal section remains with 5 m bottom width and 1.5 m high	C				
1,610	456198	1220116	Embankment 1	Enrth banking of 1 m thick	B		access or check		
1,700	456284	1220116	Culvert 13	Single pipe with 0.2 m dia and 4 m long	B	c	house access		
1,850	456415	1220114	Culvert 14	Single pipe with 0.3 m dia and 3 m long	B	c	house access		
1,950	456497	1220078	Embankment 2	Enrth banking of 1 m thick for checking water level			house access		
2,000	456522	1220045	Canal section	Canal section remains with 5 m bottom width and 1.5 m high	C				
2,050	456555	1220021	Culvert 15	Single pipe with 0.3 m dia and 2 m long	B	c	house access		
2,120	456618	1220015	Culvert 16	Single pipe with 0.3 m dia and 5 m long	B	c	house access		
2,200	456694	1220050	Embankment 3	Enrth banking of 2m thick for checking water level	D		farm access		
2,270	456762	1220079	Culvert 17	Single pipe with 0.3 m dia and 3 m long	B	c	farm access		
2,330	456820	1220105	Culvert 18	Single pipe with 0.4 m dia and 4 m long	B	c	house access		
2,500	456982	1220096	Canal section	Canal section remains with 5 m bottom width and 1.5 m high	C				
2,520	457008	1220106	Bridge 3 & Groove	Bridge with 2 m span x 2 nos. and 4.5 m width,Goorves for stop planks are provided	C	b	on Village road Regulator		
3,000	457448	1220091	Canal section	Canal section is flat for more than 8 m	C				
3,240	457676	1220093	Bridge 4 (Private)	Wooden bridge of 1 m wide	C		Wooden bridge, house access		
3,500	457916	1220084	Canal section	Use for drainge canal?	D		may be no use for irrigation		
3,550	457939	1220093	Private Bridge 5 & Culvert 19	Wooden bridge of 1 m wide, nealy broken	D		Wooden bridge, house access		
3,640	458021	1220090	Culvert 20 (4 units)	Culvert with four (4) pipes with 0.5 m dia and 4 m long	B	b	on village road		
3,970	458322	1220090	Bridge 6 & Culvert 21 (Triple)	Bridge with 1.4 m span and 2 m width	B	c	house access		
4,010	458363	1220080	Canal section	Canal section remains with water ponding	C	-			
4,210	458544	1220083	Bridge 7 (Private)	Wooden bridge of 1 m wide	C	-	Wooden bridge, house access		
4,370	458691	1220079	Bridge 8 (Private)	Wooden bridge of 1 m wide	C	-	Wooden bridge, house access		
4,460	458775	1220080	Bridge 9 (Private)	Wooden bridge of 1 m wide	C	-	Wooden bridge, house access		
4,510	458825	1220075	0		-	-			
4,520	458838	1220073	House	Shop and canteen, pillars are on canal	-	-	House		
4,530	458844	1220083	Culvert 22 (Double)	Double pipes 0.6 m dia	B	b	on village road		
5,010	459278	1220078	Bridge 10 (Private)	Wooden bridge of 1 m wide	C	-	Wooden bridge, house access		
5,200	459461	1220070	Bridge 11 (Private)	Wooden bridge of 1 m wide	C	-	Wooden bridge, house access		
5,290	459543	1220068	Bridge 12 (Private)	Wooden bridge of 1 m wide	C	-	Wooden bridge, house access		
5,380	459637	1220071	Bridge 13 (Private)	Wooden bridge of 1 m wide	C	-	Wooden bridge, house access		
5,470	459717	1220065	Division Structure	Intake for tertiary canal	C	-			
5,510	459753	1220069	Canal section						

## Inventory Survey of Existing Canals and Structures: Canal 20 (2/2)




Canal name: C20




Survey in June-July, 2011 by JICA Survey Team




Sta.	E	N	Structure	Condition	Evaluation*	Flow Capacity	Remarks
5,760	45986	1220061	Bridge 14 (Private)	Wooden bridge of 1 m wide	C	-	Wooden bridge, house access
5,980	460183	1220060	Canal section				
6,220	460399	1220061	Bridge 15 (Village)		B	b	on village road
6,480	460652	1220058	Canal section		C		
6,670	460832	1220054	House	Shop and canteen, pillars are on canal			House
6,690	460865	1220058	Bridge 16 (Commune) L=7m, H=2m, W=3m		B	b	on commune road
6,690	460871	1220053	House	Shop and canteen, pillars are on canal			House
6,980	461151	1220052	Canal section		C		
7,220	461380	1220048	Crossing Point & Culvert 23 (Dia=1m)		B		
7,390	461541	1220049	Bridge 17 & groove (Commune)		B	b	on commune road
7,480	461625	1220048	Canal section		C		
7,720	461839	1220045	Bridge 18 (Village)		B	b	on village road
7,930	462027	1220040	Water Blockade Structure		C		Regulating structure w/o bridge

Structure	Nos.	Evaluation	Regulators	Culvert/ bridge	Buildings within ROW
Regulators	2	A			
Bridges/ Culvert	41	B	2	26	
	Public 9	C			
	Concrete 8	D			
	Wooden 1	Total	2	37	
	Private 28	<u>Evaluation of Canal and structures</u>			
Concrete 18	Canal sections are remained for passing irrigation and drain water				
Wooden 10	Regulator mentioned above is just provided grooves at the inlet of culverts to place planks, but no gate is placed				
Total 43	Many house and farm access for private use were constructed privately without permission of PDWRAM				
A: Fully functioning	Flow Area of culvers and bridges (excl. wooden bridges)				
B: Partly deteriorated but function is maintained	b: enough sectional area                      c: not enough, and to be removed/ replaced				
C: Deteriorated, and does not function well	6                                              20				
D: Completely damaged, and does not function					




### Result of Inventory Survey of Canal 20 (1/20)




Canal No.: C20	Kind of structure(s): Bridge	Remarks: - Under National Road 130A - There is a Groove
Station: 0.00(B.P.)	Coordinate< Northing: 1220130 Easting: 0454695	
		
Up Stream View	Down Stream View	Side View




Canal No.: C20	Kind of structure(s): Pipe culvert	Remarks: Routine survey Under village road
Station: 0.00+70	Coordinate< Northing: 1220137 Easting: 0454736	
		
Up Stream View	Down Stream View	Side View

Canal No.: C20	Kind of structure(s): Pipe culvert	Remarks: Routine survey Under cart road
Station: 0.00+360	Coordinate< Northing: 1220136 Easting: 454996	
		
Up Stream View	Down Stream View	Side View




### Result of Inventory Survey of Canal 20 (2/20)




Canal No.: C20	Kind of structure(s): Pipe culvert	Remarks:
Station: 0.00+460	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1220131</span> <span>Easting: 0455100</span> </div>	Routine survey
		
Up Stream View	Down Stream View	Side View




Canal No.: C20	Kind of structure(s): Pipe culvert	Remarks:
Station: 0.00+500	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1220135</span> <span>Easting: 0455133</span> </div>	Routine survey Length: 500m
		
Up Stream View	Down Stream View	Side View

Canal No.: C20	Kind of structure(s): Pipe culvert (Double)	Remarks:
Station: 0.00+570	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1220134</span> <span>Easting: 0455209</span> </div>	Routine survey
		
Up Stream View	Down Stream View	Side View




### Result of Inventory Survey of Canal 20 (3/20)




Canal No.: C20	Kind of structure(s): Pipe culvert	Remarks:
Station: 0.00+680	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1220128</span> <span>Easting: 0455323</span> </div>	Routine survey
		
Up Stream View	Down Stream View	Side View




Canal No.: C20	Kind of structure(s): Pipe culvert	Remarks:
Station: 0.00+760	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1220125</span> <span>Easting: 0455408</span> </div>	Routine survey
		
Up Stream View	Down Stream View	Side View

Canal No.: C20	Kind of structure(s): Bridge (Commune)	Remarks:
Station: 1.00	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1220117</span> <span>Easting: 0455642</span> </div>	There is a pipe culvert under the bridge Length: 1000m
		
Up Stream View	Down Stream View	Side View

### Result of Inventory Survey of Canal 20 (4/20)




Canal No.: C20	Kind of structure(s): Pipe culvert	Remarks:
Station: 1.00+160	Coordinate< <div style="display: flex; flex-direction: column; margin-left: 10px;"> <span>Northing: 1220124</span> <span>Easting: 0455788</span> </div>	Routine survey
		
Up Stream View	Down Stream View	Side View



Canal No.: C20	Kind of structure(s): Pipe culvert	Remarks:
Station: 1.00+270	Coordinate< <div style="display: flex; flex-direction: column; margin-left: 10px;"> <span>Northing: 1220119</span> <span>Easting: 0455902</span> </div>	Routine survey
		
Up Stream View	Down Stream View	Side View



Canal No.: C20	Kind of structure(s): Pipe culvert	Remarks:
Station: 1.00+400	Coordinate< <div style="display: flex; flex-direction: column; margin-left: 10px;"> <span>Northing: 1220119</span> <span>Easting: 0456009</span> </div>	Routine survey
		
Up Stream View	Down Stream View	Side View






### Result of Inventory Survey of Canal 20 (5/20)




Canal No.: C20	Kind of structure(s): Pipe culvert	Remarks:
Station: 1.00+480	Coordinate< <div style="display: flex; flex-direction: column; margin-left: 10px;"> <span>Northing: 1220117</span> <span>Easting: 0456074</span> </div>	Routine survey
<div style="display: flex; justify-content: space-around;">    </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <span>Up Stream View</span> <span>Down Stream View</span> <span>Side View</span> </div>		



Canal No.: C20	Kind of structure(s): Canal	Remarks:
Station: 1.00+500	Coordinate< <div style="display: flex; flex-direction: column; margin-left: 10px;"> <span>Northing: 1220116</span> <span>Easting: 0456085</span> </div>	Routine survey Length: 1500m
<div style="display: flex; justify-content: space-around;">   </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <span>Up Stream View</span> <span>Down Stream View</span> </div>		

Canal No.: C20	Kind of structure(s): Embankment	Remarks:
Station: 1.00+610	Coordinate< <div style="display: flex; flex-direction: column; margin-left: 10px;"> <span>Northing: 1220116</span> <span>Easting: 0456198</span> </div>	Routine survey
<div style="display: flex; justify-content: space-around;">   </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <span>Up Stream View</span> <span>Down Stream View</span> </div>		



**Result of Inventory Survey of Canal 20 (6/20)**




Canal No.: C20	Kind of structure(s): Pipe culvert	Remarks:
Station: 1.00+700	Coordinate< Northing: 1220116 Easting: 0456284	Routine survey
		
Up Stream View	Down Stream View	Side View




Canal No.: C20	Kind of structure(s): Pipe culvert	Remarks:
Station: 1.00+850	Coordinate< Northing: 1220114 Easting: 0456415	Routine survey
		
Up Stream View	Down Stream View	Side View

Canal No.: C20	Kind of structure(s): Embankment	Remarks:
Station: 1.00+950	Coordinate< Northing: 1220078 Easting: 0456497	Routine survey
		
Up Stream View	Down Stream View	




**Result of Inventory Survey of Canal 20 (7/20)**




Canal No.: C20	Kind of structure(s): Canal	Remarks: Routine survey Length: 2000m
Station: 2.00	Coordinate< Northing: 1220045 Easting: 0456522	
		
Up Stream View		Down Stream View




Canal No.: C20	Kind of structure(s): Pipe culvert	Remarks: Routine survey
Station: 2.00+50	Coordinate< Northing: 1220021 Easting: 0456555	
		
Up Stream View	Down Stream View	Side View

Canal No.: C20	Kind of structure(s): Pipe culvert	Remarks: Routine survey
Station: 2.00+120	Coordinate< Northing: 1220015 Easting: 0456618	
		
Up Stream View	Down Stream View	Side View



**Result of Inventory Survey of Canal 20 (8/20)**




Canal No.: C20	Kind of structure(s): Embankment	Remarks:
Station: 2.00+200	Coordinate< Northing: 1220050 Easting: 0456694	Routine survey
		
Up Stream View	Down Stream View	Side View



Canal No.: C20	Kind of structure(s): Pipe culvert	Remarks:
Station: 2.00+270	Coordinate< Northing: 1220079 Easting: 0456762	Routine survey
		
Up Stream View	Down Stream View	Side View

Canal No.: C20	Kind of structure(s): Pipe culvert	Remarks:
Station: 2.00+330	Coordinate< Northing: 1220105 Easting: 0456820	Routine survey
		
Up Stream View	Down Stream View	Side View




### Result of Inventory Survey of Canal 20 (9/20)



Canal No.: C20	Kind of structure(s): Canal	Remarks: Routine survey Length: 2500m
Station: 2.00+500	Coordinate< Northing: 1220096 Easting: 0456982	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> </div>		




Canal No.: C20	Kind of structure(s): Bridge (Commune)	Remarks: Routine survey There is a Groove
Station: 2.00+520	Coordinate< Northing: 1220106 Easting: 0457008	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> <div style="text-align: center;">  <p>Side View</p> </div> </div>		

Canal No.: C20	Kind of structure(s): Canal	Remarks: Routine survey Length: 3000m
Station: 3.00	Coordinate< Northing: 1220091 Easting: 0457448	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> </div>		




**Result of Inventory Survey of Canal 20 (10/20)**




Canal No.: C20	Kind of structure(s): Bridge (Private)	Remarks:
Station: 3.00+240	Coordinate< Northing: 1220093 Easting: 0457676	Routine survey
		
Up Stream View	Down Stream View	Side View



Canal No.: C20	Kind of structure(s): Canal	Remarks:
Station: 3.00+500	Coordinate< Northing: 1220084 Easting: 0457916	Routine survey Length: 3500m
		
Up Stream View	Down Stream View	

Canal No.: C20	Kind of structure(s): Bridge (Private)	Remarks:
Station: 3.00+550	Coordinate< Northing: 1220093 Easting: 0457939	There is a pipe culvert under the bridge
		
Up Stream View	Down Stream View	Side View




### Result of Inventory Survey of Canal 20 (11/20)




Canal No.: C20	Kind of structure(s): Pipe culvert (4 Units)	Remarks:
Station: 3.00+640	Coordinate< <div style="display: flex; justify-content: space-between; padding: 0 10px;"> <span>Northing: 1220090</span> <span>Easting: 0458021</span> </div>	Routine survey
<div style="display: flex; justify-content: space-around;">    </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <span>Up Stream View</span> <span>Down Stream View</span> <span>Side View</span> </div>		




Canal No.: C20	Kind of structure(s): Bridge (Private)	Remarks:
Station: 3.00+970	Coordinate< <div style="display: flex; justify-content: space-between; padding: 0 10px;"> <span>Northing: 1220090</span> <span>Easting: 0458322</span> </div>	There are 3 pipe culverts under the bridge
<div style="display: flex; justify-content: space-around;">    </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <span>Up Stream View</span> <span>Down Stream View</span> <span>Side View</span> </div>		

Canal No.: C20	Kind of structure(s): Canal	Remarks:
Station: 4.00+10	Coordinate< <div style="display: flex; justify-content: space-between; padding: 0 10px;"> <span>Northing: 0458363</span> <span>Easting: 1220080</span> </div>	Routine survey Length: 4000m
<div style="display: flex; justify-content: space-around;">   </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <span>Up Stream View</span> <span>Down Stream View</span> </div>		

### Result of Inventory Survey of Canal 20 (12/20)



Canal No.: C20	Kind of structure(s): Bridge (Private)	Remarks:
Station: 4.00+210	Coordinate< <div style="display: flex; flex-direction: column; margin-left: 10px;"> <span>Northing: 1220083</span> <span>Easting: 0458544</span> </div>	Routine survey
		
Up Stream View	Down Stream View	Side View




Canal No.: C20	Kind of structure(s): Bridge (Private)	Remarks:
Station: 4.00+370	Coordinate< <div style="display: flex; flex-direction: column; margin-left: 10px;"> <span>Northing: 1220079</span> <span>Easting: 0458691</span> </div>	Routine survey
		
Up Stream View	Down Stream View	Side View




Canal No.: C20	Kind of structure(s): Bridge (Private)	Remarks:
Station: 4.00+460	Coordinate< <div style="display: flex; flex-direction: column; margin-left: 10px;"> <span>Northing: 1220080</span> <span>Easting: 0458775</span> </div>	Routine survey Made by Concrete (incomplete)
		
Up Stream View	Down Stream View	Side View






### Result of Inventory Survey of Canal 20 (13/20)




Canal No.: C20	Kind of structure(s): Canal	Remarks: Routine survey Length: 4500m
Station: 4.00+510	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1220075</span> <span>Easting: 0458825</span> </div>	
<div style="display: flex; justify-content: space-around; align-items: center;">   </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <span>Up Stream View</span> <span>Down Stream View</span> </div>		




Canal No.: C20	Kind of structure(s): House	Remarks: Routine survey
Station: 4.00+520	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1220073</span> <span>Easting: 0458838</span> </div>	
<div style="display: flex; justify-content: space-around; align-items: center;">    </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <span>Up Stream View</span> <span>Down Stream View</span> <span>Side View</span> </div>		

Canal No.: C20	Kind of structure(s): Pipe culvert (Double)	Remarks: Routine survey
Station: 4.00+530	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1220083</span> <span>Easting: 0458844</span> </div>	
<div style="display: flex; justify-content: space-around; align-items: center;">    </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <span>Up Stream View</span> <span>Down Stream View</span> <span>Side View</span> </div>		




**Result of Inventory Survey of Canal 20 (14/20)**




Canal No.: C20	Kind of structure(s): Bridge (Private)	Remarks: Routine survey Length: 5000m
Station: 5.00+10	Coordinate< Northing: 1220078 Easting: 0459278	
		
Up Stream View	Down Stream View	Side View



Canal No.: C20	Kind of structure(s): Bridge (Private)	Remarks: Routine survey
Station: 5.00+200	Coordinate< Northing: 1220070 Easting: 0459461	
		
Up Stream View	Down Stream View	Side View

Canal No.: C20	Kind of structure(s): Bridge (Private)	Remarks: Routine survey
Station: 5.00+290	Coordinate< Northing: 1220068 Easting: 0459543	
		
Up Stream View	Down Stream View	Side View




**Result of Inventory Survey of Canal 20 (15/20)**



Canal No.: C20	Kind of structure(s): Bridge (Private)	Remarks:
Station: 5.00+380	Coordinate< Northing: 1220071 Easting: 0459637	Routine survey
		
Up Stream View	Down Stream View	Side View




Canal No.: C20	Kind of structure(s): Division structure	Remarks:
Station: 5.00+470	Coordinate< Northing: 1220065 Easting: 0459717	Routine survey There a pipe culvert under the road
		
Up Stream View	Down Stream View	Side View

Canal No.: C20	Kind of structure(s): Canal	Remarks:
Station: 5.00+510	Coordinate< Northing: 1220069 Easting: 0459753	Routine survey Length: 5500m
		
Up Stream View	Down Stream View	



**Result of Inventory Survey of Canal 20 (16/20)**




Canal No.: C20	Kind of structure(s): Bridge (Private)	Remarks:
Station: 5.00+760	Coordinate< Northing: 1220061 Easting: 0459986	Routine survey
		
Up Stream View	Down Stream View	Side View




Canal No.: C20	Kind of structure(s): Canal	Remarks:
Station: 5.00+980	Coordinate< Northing: 1220060 Easting: 0460183	Routine survey Length: 6000m
		
Up Stream View	Down Stream View	

Canal No.: C20	Kind of structure(s): Bridge (Village)	Remarks:
Station: 6.00+220	Coordinate< Northing: 1220061 Easting: 0460399	Routine survey Made by wood
		
Up Stream View	Down Stream View	Side View




### Result of Inventory Survey of Canal 20 (17/20)



Canal No.: C20	Kind of structure(s): Canal	Remarks: Routine survey Length: 6500m
Station: 6.00+480	Coordinate< <div style="display: flex; flex-direction: column; margin-left: 10px;"> <span>Northing: 1220058</span> <span>Easting: 0460652</span> </div>	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> </div>		




Canal No.: C20	Kind of structure(s): House	Remarks: Routine survey
Station: 6.00+670	Coordinate< <div style="display: flex; flex-direction: column; margin-left: 10px;"> <span>Northing: 1220054</span> <span>Easting: 0460832</span> </div>	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> <div style="text-align: center;">  <p>Side View</p> </div> </div>		

Canal No.: C20	Kind of structure(s): Bridge (Community)	Remarks: Bridge: L= 7m, W= 3m, H= 2m
Station: 6.00+690	Coordinate< <div style="display: flex; flex-direction: column; margin-left: 10px;"> <span>Northing: 1220058</span> <span>Easting: 0460865</span> </div>	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> <div style="text-align: center;">  <p>Side View</p> </div> </div>		




### Result of Inventory Survey of Canal 20 (18/20)



Canal No.: C20	Kind of structure(s): House	Remarks:
Station: 6.00+690	Coordinate< <div style="display: flex; flex-direction: column; margin-left: 10px;"> <span>Northing: 1220053</span> <span>Easting: 0460871</span> </div>	Routine survey
<div style="display: flex; justify-content: space-around;">    </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <span>Up Stream View</span> <span>Down Stream View</span> <span>Side View</span> </div>		




Canal No.: C20	Kind of structure(s): Canal	Remarks:
Station: 6.00+980	Coordinate< <div style="display: flex; flex-direction: column; margin-left: 10px;"> <span>Northing: 1220052</span> <span>Easting: 0461151</span> </div>	Routine survey Length: 7000m
<div style="display: flex; justify-content: space-around;">   </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <span>Up Stream View</span> <span>Down Stream View</span> </div>		

Canal No.: C20	Kind of structure(s): Pipe culvert	Remarks:
Station: 7.00+220	Coordinate< <div style="display: flex; flex-direction: column; margin-left: 10px;"> <span>Northing: 1220048</span> <span>Easting: 0461380</span> </div>	Diameter of pipe culvert = 1 m There is a crossing point
<div style="display: flex; justify-content: space-around;">    </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <span>Up Stream View</span> <span>Down Stream View</span> <span>Side View</span> </div>		



### Result of Inventory Survey of Canal 20 (19/20)

Canal No.: C20	Kind of structure(s): Bridge (Commune)	Remarks: There is a Groove Bridge was built in Pol Pot Regime
Station: 7.00+390	Coordinate< <div style="display: flex; flex-direction: column; margin-left: 10px;"> <span>Northing: 1220049</span> <span>Easting: 0461541</span> </div>	
<div style="display: flex; justify-content: space-around; align-items: center;">    </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <span>Up Stream View</span> <span>Down Stream View</span> <span>Side View</span> </div>		

Canal No.: C20	Kind of structure(s): Canal	Remarks: Routine survey Length: 7500m
Station: 7.00+480	Coordinate< <div style="display: flex; flex-direction: column; margin-left: 10px;"> <span>Northing: 1220048</span> <span>Easting: 0461625</span> </div>	
<div style="display: flex; justify-content: space-around; align-items: center;">   </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <span>Up Stream View</span> <span>Down Stream View</span> </div>		

Canal No.: C20	Kind of structure(s): Bridge (Village)	Remarks: Routine survey
Station: 7.00+720	Coordinate< <div style="display: flex; flex-direction: column; margin-left: 10px;"> <span>Northing: 1220045</span> <span>Easting: 0461839</span> </div>	
<div style="display: flex; justify-content: space-around; align-items: center;">    </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <span>Up Stream View</span> <span>Down Stream View</span> <span>Side View</span> </div>		

**Result of Inventory Survey of Canal 20 (20/20)**

Canal No.: C20	Kind of structure(s): Water Blockade	Remarks: Routine survey Length: 8000m End point of Canal 20
Station: 7.00+930(EP)	Coordinate< Northing: 1220040 Easting: 0462027	
		
Up Stream View		Down Stream View



## Inventory Survey of Existing Canals and Structures: Canal 20S

Canal name: C20S


Survey in June-July, 2011 by JICA Survey Team

Sta.	E	N	Structure	Condition	Evaluation	Flow Capacity	Remarks
0	0460168	1219045	B.P.(Double pipe culvert)	Two pipes with 0.5m dia each and 3m long	B	b	Village road
210	0460368	1219055	Bridge (Private)	W=1.5m made by wood	D	-	House access
310	0460458	1219057	Pipe culvert 1	Single pipe with 0.5m dia and 1.5m long	B	c	House access
350	0460502	1219058	Pipe culvert 2 & Bridge	Two pipes with 0.5m dia each and 1.5m long, Bridge with width 1.5m made by wood	B	c	Farm access
390	0460554	1219061	Right Bank Pipe culvert 3	Single pipe with 0.5m dia			
480	0460637	1219066	Bridge (Private)	W=1.5m made by wood	D	-	House access
530	0460698	1219070	Pipe culvert 4	Single pipe with 0.5m dia and 1.5m long	B	c	House access
680	0460838	1219078	House	Small canteen		-	On the canal section
720	0460862	1219077	Pipe culvert 5	Single pipe with 0.5m dia and 2.5m long	B	c	Farm access
930	0461061	1219089	Pipe culvert 6 (Double)	Two pipes with 0.5m dia each and 5m long	B	b	Farm access
990	0461125	1219091	Canal section	Canal section remains as cana;	B	-	
1,010	0461150	1219094	Pipe culvert 7 (Double)	Two pipes with 0.5m dia each and 4m long	B		Farm access
1,270	0461405	1219106	Pipe culvert 8 (Double)	Two pipes with 0.5m dia each and 4m long	B		Farm access (small hill)
1,370	0461509	1219111	Pipe culvert 9	Three pipes with 0.5m dia each	B		On right bank (village road)
1,490	0461625	1219117	Canal section	Canal section remains as cana;	B		
1,880	0462012	1219138	E.P.(Right Bank Double Pipe culvert)	Two pipes with 0.5m dia each	B		On right bank (village road)


Structure	Nos.	Evaluation	Regulators	Culvert/ bridge	Buildings within ROW
Regulators	0	A			
Bridges/ Culvert	9	B	0	10	
Public	1	C			
Concrete	1	D		2	
Wooden	0	Total	0	12	1
Private	8	<u>Evaluation of Canal and structures</u>			
Concrete	5	Canal sections are remained for passing irrigation and drain water			
Wooden	3	<u>Flow Area of culverts and bridges (excl. wooden bridges)</u>			
Total		9		b: enough sectional area                      c: not enough, and to be removed/ replaced	
A: Fully functioning				2	4
B: Partly deteriorated but function is maintained					
C: Deteriorated, and does not function well					
D: Completely damaged, and does not function					

### Result of Inventory Survey of Canal 20S (1/6)


Canal No.: C20S	Kind of structure: Pipe culvert(Double)	Remarks:
Station: 0.00(B.P.)	Coordinate< <div style="display: flex; flex-direction: column; align-items: flex-start;"> <span>Northing: 1219045</span> <span>Easting: 460168</span> </div>	Along the village road



Up Stream View




Down Stream View




Side View


Canal No.: C20S	Kind of structure: Bridge (Private)	Remarks:
Station: 0.00+210	Coordinate< <div style="display: flex; flex-direction: column; align-items: flex-start;"> <span>Northing: 1219055</span> <span>Easting: 460368</span> </div>	Routine survey



Up Stream View




Down Stream View




Side View


Canal No.: C20S	Kind of structure: Pipe culvert	Remarks:
Station: 0.00+310	Coordinate< <div style="display: flex; flex-direction: column; align-items: flex-start;"> <span>Northing: 1219057</span> <span>Easting: 460458</span> </div>	Routine survey



Up Stream View








Down Stream View






Side View




### Result of Inventory Survey of Canal 20S (2/6)




Canal No.: C20S	Kind of structure: Bridge (Private)	Remarks: There is a pipe culvert under the bridge
Station: 0.00+350	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1219058</span> <span>Easting: 460502</span> </div>	
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> <div style="text-align: center;">  <p>Side View</p> </div> </div>		




Canal No.: C20S	Kind of structure: Right Bank Culvert	Remarks: Routine survey
Station: 0.00+390	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1219061</span> <span>Easting: 460554</span> </div>	
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> </div>		

Canal No.: C20S	Kind of structure: Bridge (Private)	Remarks: Routine survey Length: 500m
Station: 0.00+500	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1219066</span> <span>Easting: 460637</span> </div>	
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> <div style="text-align: center;">  <p>Side View</p> </div> </div>		




### Result of Inventory Survey of Canal 20S (3/6)



Canal No.: C20S	Kind of structure: Pipe culvert	Remarks:
Station: 0.00+550	Coordinate< <div style="display: flex; flex-direction: column; align-items: flex-start;"> <span>Northing: 1219070</span> <span>Easting: 460698</span> </div>	Routine survey
 <p>Up Stream View</p>	 <p>Down Stream View</p>	 <p>Side View</p>




Canal No.: C20S	Kind of structure: House (Cottage)	Remarks:
Station: 0.00+700	Coordinate< <div style="display: flex; flex-direction: column; align-items: flex-start;"> <span>Northing: 1219078</span> <span>Easting: 460838</span> </div>	Routine survey
 <p>Up Stream View</p>	 <p>Down Stream View</p>	 <p>Structure</p>

Canal No.: C20S	Kind of structure: Pipe culvert	Remarks:
Station: 0.00+740	Coordinate< <div style="display: flex; flex-direction: column; align-items: flex-start;"> <span>Northing: 1219077</span> <span>Easting: 460862</span> </div>	Routine survey
 <p>Up Stream View</p>	 <p>Down Stream View</p>	 <p>Side View</p>




### Result of Inventory Survey of Canal 20S (4/6)




Canal No.: C20S	Kind of structure: Pipe culvert (Double)	Remarks:
Station: 0.00+950	Coordinate Northing: 1219089 Easting: 461061	Routine survey
  		
<p>Up Stream View                      Down Stream View                      Side View</p>		



Canal No.: C20S	Kind of structure: Canal	Remarks:
Station: 1.00	Coordinate Northing: 1219091 Easting: 461125	Routine survey Length: 1000m
 		
<p>Up Stream View                      Down Stream View</p>		

Canal No.: C20S	Kind of structure: Pipe culvert (Double)	Remarks:
Station: 1.00+20	Coordinate Northing: 1219094 Easting: 461150	Routine survey
  		
<p>Up Stream View                      Down Stream View                      Side View</p>		



### Result of Inventory Survey of Canal 20S (5/6)

Canal No.: C20S	Kind of structure: Pipe culvert (Double)	Remarks:
Station: 1.00+280	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1219106</span> <span>Easting: 461405</span> </div>	Routine survey
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> <div style="text-align: center;">  <p>Structure</p> </div> </div>		

Canal No.: C20S	Kind of structure: Pipe culvert	Remarks:
Station: 1.00+380	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1219111</span> <span>Easting: 461509</span> </div>	Routine survey
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> <div style="text-align: center;">  <p>Structure</p> </div> </div>		

Canal No.: C20S	Kind of structure: Canal	Remarks:
Station: 1.00+500	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1219117</span> <span>Easting: 461625</span> </div>	Routine survey Length: 1500m
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> </div>		

### Result of Inventory Survey of Canal 20S (6/6)

Canal No.: C20S	Kind of structure: Canal	Remarks:
Station: 1.00+890(EP)	Coordinate< Northing: 1219138 Easting: 462012	Routine survey
		
Up Stream View		Down Stream View

## Inventory Surver of Existing Canals and Structures: Canal 21 (1/2)

Canal name: C21			Survey in June-July, 2011 by JICA Survey Team				
Sta.	E	N	Structure	Condtion	Evaluation	Flow Capacity	Remarks
0	453448	1220976	B.P	Just downstream of BP was encroached by people owned land nearby			To be returned land by land owner
200	453578	1221006	Culvert 1	one pipe with 60 cm dia and 1 m long without inlet and putlet, just laying pipe	C	v	Private and temporary
220	453609	1221002	Culvert 2	one pipe with 60 cm dia and 4 m long for village raod	B	c	Public access
500	453889	1221001	Canal section	Canal section with bottom width of 2 m remains, though grass are grwoing	C		Canal is not properly used because of no inflow from the main canal
510	453903	1220997	Culvert 3	Single pipe with 0.5 m dia and 3 m long		c	Farm access
570	453969	1220983	Culvert 4	Single pipe with 0.4 m dia and 1 m long		c	Farm access
710	454601	1220957	Culvert 5	Single pipe with 0.4 m dia and 4 m long		c	House access
830	454222	1220938	Culvert 6	Single pipe with 0.6 m dia and 3 m long		c	Farm access
900	454288	1220930	Culvert 7	Single pipe with 0.5 m dia and 8 m long		c	Public access, village road
940	454335	1220930	Culvert 8	Single pipe with 0.5 m dia and 3.5 m long		c	House access
970	454363	1220933	0	Canal section still remain with 2 m bottom wide	B		
1,030	454423	1220932	Culvert 9	Single pipe with 0.5 m dia and 3 m long		c	Farm access
1,080	454470	1220929	Culvert 10	Single pipe with 0.4 m dia and 3 m long		c	House access
1,080	454654	1220938	Culvert 11	Single pipe with 0.5 m dia and 3 m long		c	Farm access
1,210	454787	1220960	Culvert 12	Single pipe with 0.5 m dia and 2 m long		c	Farm access
1,280	454851	1220971	Canal section	The canal area is used as paddy field	D		Paddy is grwon by rain and draiange water from upper fields
1,400	454969	1220978	Culvert 13	Single pipe with 0.5 m dia and 3 m long		c	Farm access
1,450	455016	1220983	Tertially Crossing point	Tertiary canal was constructed			
1,610	455163	1221019	Culvert 14	Single pipe with 0.8 m dia and 3.5 m long		c	Farm access
1,780	455330	1221053	Canal section	Canal section with bottom width of 1.5 m remains, though grass are grwoing			
1,930	455472	1221080	Soil Filling Point (90m disappeared)	Road embankment occupy canal section	D		To be re-aligned the road route
2,280	455718	1221137	Bridge 1 & Groove (Commune Cheng Torng)	6 m wide and 3 m span on commune road, Grooves for planks are provided but now not used	B	b	Public access Regulating structure (not functioned now)
2,360	455790	1221133	Water Obstruction Structure & Groove	Regulating structure made by hollow bricks, 80 cm wide x 2 nos.	B		Regulating structue for controlling water level made recently, but no gate
2,580	456003	1221135	Canal section	Canal sections are remained as canal	B		
2,720	456142	1221128	Bridge 2 & Groove	4 m wide and 2 m span for village road, grooves are provided but not for use	B	b	Bridge is recently rehabilitated (plastered)
2,880	456282	1221130	Water Obstruction Structure & Groove	Regulating structue without bridge; 2 m wide x 2 nos; functional	B		No gate is installed, structure is made by bricks and concrete pillars
2,960	456350	1221130	Bridge 3 (Private)	Wooden bridge W= 1 m		b	House access
3,060	456444	1221130	Bridge 4 (Private)	Wooden bridge W= 1 m		-	House access
3,560	456914	1221129	Canal section	Canal sections are remained as canal, width of water is about 3 m	B		
3,660	457020	1221128	Bridge 5 & Groove	3 m wide and 2 m span for village road, grooves are provided but not for use	B	b	Public access Regulating structure (not functioned now)
3,870	457214	1221126	Water Obstruction Structure & Groove	Regulating structue with wooden deck; 1.2 m wide x 2 nos; functional	B	-	Functional regulating structure made by farmers, no gate
4,060	457390	1221130	Canal section	Canal sections are remained as			







## Inventory Surver of Existing Canals and Structures: Canal 21 (2/2)



Canal name: C21			Survey in June-July, 2011 by JICA Survey Team				
Sta.	E	N	Structure	Condtion	Evaluation	Flow Capacity	Remarks
4,130	457445	1221124	Double Culvert 15 (Commune)	Double pipe culvert, 0.9 m dia, for commune raod of 4 m wide; no riprap protection at inlet and outlet	B	b	Public access
4,210	457519	1221126	Bridge 6 (Private)	Wooden bridge W= 1 m		-	House access
4,220	457526	1221124	Water Obstruction Structure & Groove	Regulating structue with wooden deck; 0.7 m wide x 2 nos; functions	B		Functional regulating structure made by farmers
4,390	457704	1221124	Bridge 7 (Private)	Wooden bridge W= 1 m		-	House access
4,560	457862	1221121	Canal section	Canal section remains as canal, mainly for evacuating excess water: many grass are on the canal	B		
4,770	458044	1221124	Bridge 8	Bridge of 2.8 m wide and 2 span on village road	B	b	Public access
4,970	458230	1221123	Double Bridge 9 & Groove	Double pipe culvert, 0.9 m dia, for house access; no riprap protection at inlet and outlet	B	b	House access
#REF!	#REF!	1221126	Canal section	Groove is provided, not not used Canal section remains as canal, mainly for evacuating excess water: many grass are on the canal			
#REF!	458361	1221124	Bridge 10 (Private)	Concrete bridge of 1.8 m wide	B	b	House access
#REF!	458505	1221126	Water Blockade	Temporary Regulator with plastick sheet and planks	D	-	Tempo regulator to be replaced proper structure
#REF!	458642	1221126	Embankment	Earth filling to divert water to paddy field	D	-	To be removed
#REF!	458682	1221124	Bridge 11 (Private )	Wooden bridge W= 1 m		-	House access
#REF!	458771	1221124	Culvert 16 (Double)	Two pipes of 0.8 m dia each, 2 m long		b	House access
#REF!	458821	1221127	Canal section	Canal section remains as canal	C		
#REF!	459034	1221124	Bridge 12 & Groove	Bridge of 2.5 m wide and 1.6 span on village road; groove is provide for diverting water to tertiary canal	B	b	Public access
#REF!	459119	1221125	Bridge 13 (Private)	Concrete bridge of 2 m wide		b	House access
#REF!	459304	1221127	Canal section	Canal section remains as canal			
#REF!	459521	1221124	Private Bridge 14 (Pol Pot regime)	Concrete bridge of 2.5 m wide	C	b	
#REF!	459733	1221123	Bridge 15 (Brasac Organization)	Bridge of 3.6 m wide and 1.6 span on village road	B	b	Canal is not properly used because of no inflow from the main canal
#REF!	459809	1221126	Canal section	Canal section remains as canal			
#REF!	460214	1221116	Bridge 16 & Division private Structure	Wooden bridge W= 1 m	C		Private bridge (wooden)
#REF!	460308	1221121	Canal section	Canal section remains as canal			
#REF!	460746	1221120	Wooden Bridge 17 (Private)	Wooden bridge W= 1 m		-	Private bridge (wooden)
#REF!	460790	1221119	Canal section	Canal section remains as canal, mainly for evacuating excess water: many grass are on the canal	C		No use for irrigation
#REF!	461020	1221115	Bridge 18 (Commune)	Bridge of 3.6 m wide and 2.0 span on commune road	B	b	Public access
#REF!	461166	1221117	Bridge 19 (Private)	Wooden bridge W= 1 m		-	
#REF!	461284	1221114	Canal section	Canal section remains as canal			
#REF!	461500	1221112	E.P				

Structure	Nos.	Evaluation	Regulators	Culvert/ bridge	Buildings within ROW
Regulators	6	A			
Bridges/ Culvert	35	B	5	15	
Public	9	C	1	20	
Concrete	9	D			
Wooden	0	Total	6	35	0
Private	26	<u>Evaluation of Canal and structures</u>			
Concrete	18	Canal sections are remained for passing irrigation and drain water			
Wooden	8	Four (4) regulators are constructed foly for checking the water, and others are using grooves just on culverts and bridge but no gate is placed			
Total	41	Many house and farm access for private use were constructed privately without permissiono of PDWRAM			
A: Fully functioning		<u>Flow Area of culvers and bridges (excl. wooden bridges)</u>			
B: Partly deteriorated but function is maintained		b: enough sectional area			c: not enough, and to be removed/ replaced
C: Deteriorated, and does not function well		13	14		Total
D: Completely damaged, and does not function					27



### Result of Inventory Survey of Canal 21 (1/20)



Canal No.: C21	Kind of structure: Pipe culvert	Remarks:  - Cross the national road N° 2
Station: 0.00(B.P.)	Coordinate< <div style="display: inline-block; vertical-align: middle; margin-left: 10px;">                     Northing: 1220976                      Easting: 0453448                 </div>	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> </div>		



Canal No.: C21	Kind of structure: Pipe culvert	Remarks:  Routine survey
Station: 0.00+200	Coordinate< <div style="display: inline-block; vertical-align: middle; margin-left: 10px;">                     Northing: 1221006                      Easting: 0453578                 </div>	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> </div>		

Canal No.: C21	Kind of structure: Pipe culvert	Remarks:  Under commune road
Station: 0.00+220	Coordinate< <div style="display: inline-block; vertical-align: middle; margin-left: 10px;">                     Northing: 1221002                      Easting: 0453609                 </div>	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> </div>		




**Result of Inventory Survey of Canal 21 (2/20)**



Canal No.: C21	Kind of structure: Canal	Remarks: Routine survey Length: 500m
Station: 0.00+500	Coordinate< Northing: 1221001 Easting: 0453889	
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> </div>		



Canal No.: C21	Kind of structure: Pipe culvert	Remarks: Routine survey
Station: 0.00+510	Coordinate< Northing: 1220997 Easting: 0453903	
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> </div>		

Canal No.: C21	Kind of structure: Pipe culvert	Remarks: Routine survey
Station: 0.00+570	Coordinate< Northing: 1220983 Easting: 0453969	
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> </div>		




### Result of Inventory Survey of Canal 21 (3/20)



Canal No.: C21	Kind of structure: Pipe culvert	Remarks:
Station: 0.00+710	Coordinate Northing: 1220957 Easting: 0454106	Routine survey
  		
Up Stream View	Down Stream View	Side View



Canal No.: C21	Kind of structure: Pipe culvert	Remarks:
Station: 0.00+830	Coordinate Northing: 1220938 Easting: 0454222	Routine survey
 		
Up Stream View	Down Stream View	

Canal No.: C21	Kind of structure: Pipe culvert	Remarks:
Station: 0.00+900	Coordinate Northing: 1220930 Easting: 0454288	Routine survey
 		
Up Stream View	Down Stream View	




### Result of Inventory Survey of Canal 21 (4/20)




Canal No.: C21	Kind of structure: Pipe culvert	Remarks:  Under house entrance road
Station: 0.00+940	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1220930</span> <span>Easting: 0454335</span> </div>	
<div style="display: flex; justify-content: space-around;">    </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <span>Up Stream View</span> <span>Down Stream View</span> <span>Side View</span> </div>		



Canal No.: C21	Kind of structure: Canal	Remarks: Routine survey Length: 1000m
Station: 0.00+970	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1220933</span> <span>Easting: 0454363</span> </div>	
<div style="display: flex; justify-content: space-around;">   </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <span>Up Stream View</span> <span>Down Stream View</span> </div>		

Canal No.: C21	Kind of structure: Pipe culvert	Remarks:  Routine survey
Station: 1.00+30	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1220932</span> <span>Easting: 0454423</span> </div>	
<div style="display: flex; justify-content: space-around;">   </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <span>Up Stream View</span> <span>Down Stream View</span> </div>		



**Result of Inventory Survey of Canal 21 (5/20)**




Canal No.: C21	Kind of structure: Pipe culvert	Remarks: Routine survey Under house entrance road
Station: 1.00+80	Coordinate< Northing: 1220929 Easting: 0454470	
  		
Up Stream View	Down Stream View	Structure



Canal No.: C21	Kind of structure: Pipe culvert	Remarks: Routine survey Under small carte road
Station: 1.00+80	Coordinate< Northing: 1220938 Easting: 0454654	
  		
Up Stream View	Down Stream View	Structure

Canal No.: C21	Kind of structure: Pipe culvert	Remarks: Routine survey
Station: 1.00+210	Coordinate< Northing: 1220960 Easting: 0454787	
 		
Up Stream View	Down Stream View	



### Result of Inventory Survey of Canal 21 (6/20)



Canal No.: C21	Kind of structure: Canal	Remarks: Routine survey Length: 1500m
Station: 1.00+280	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1220971</span> <span>Easting: 0454851</span> </div>	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> </div>		




Canal No.: C21	Kind of structure: Pipe culvert	Remarks: Routine survey Under a hill
Station: 1.00+400	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1220978</span> <span>Easting: 0454969</span> </div>	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> <div style="text-align: center;">  <p>Structure</p> </div> </div>		

Canal No.: C21	Kind of structure: Canal	Remarks: Routine survey
Station: 1.00+450	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1220983</span> <span>Easting: 0455016</span> </div>	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> </div>		

### Result of Inventory Survey of Canal 21 (7/20)

Canal No.: C21	Kind of structure: Pipe culvert	Remarks: Routine survey
Station: 1.00+610	Coordinate< Northing: 1221019 Easting: 0455163	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> </div>		


Canal No.: C21	Kind of structure: Canal	Remarks: Routine survey Length: 2000m
Station: 1.00+780	Coordinate< Northing: 1221053 Easting: 0455330	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> </div>		

Canal No.: C21	Kind of structure: Pipe culvert	Remarks: - Routine survey - Canal is filled by road soil
Station: 1.00+930	Coordinate< Northing: 1221080 Easting: 0455472	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> <div style="text-align: center;">  <p>Side View</p> </div> </div>		




### Result of Inventory Survey of Canal 21 (8/20)


Canal No.: C21	Kind of structure: Bridge	Remarks: - Under commune road - There is a groove
Station: 2.00+280	Coordinate< Northing: 1221137 Easting: 0455718	



Up Stream View




Down Stream View




Side View


Canal No.: C21	Kind of structure: Check structure	Remarks: - Concrete column used for obstruction of water
Station: 2.00+360	Coordinate< Northing: 1221133 Easting: 0455790	



Up Stream View




Down Stream View




Structure

Canal No.: C21	Kind of structure: Canal	Remarks: Routine survey Length: 2500m
Station: 2.00+580	Coordinate< Northing: 1221135 Easting: 0456003	









Up Stream View





Down Stream View



### Result of Inventory Survey of Canal 21 (9/20)



Canal No.: C21	Kind of structure: Bridge (Box culvert)	Remarks: - Under a village road - There is a groove
Station: 2.00+720	Coordinate< Northing: 1221128 Easting: 0456142	
		
Up Stream View	Down Stream View	Side View




Canal No.: C21	Kind of structure: Water obstruction	Remarks: - Concrete column - Wood and plastic - There are grooves
Station: 2.00+880	Coordinate< Northing: 1221130 Easting: 0456282	
		
Up Stream View	Down Stream View	Side View

Canal No.: C21	Kind of structure: Wooden Bridge (Private)	Remarks: Routine survey
Station: 2.00+960	Coordinate< Northing: 1221130 Easting: 0456350	
		
Up Stream View	Down Stream View	




### Result of Inventory Survey of Canal 21 (10/20)



Canal No.: C21	Kind of structure: Wooden Bridge (Private)	Remarks: Routine survey Length: 3000m
Station: 3.00+60	Coordinate< Northing: 1221130 Easting: 0456444	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> </div>		




Canal No.: C21	Kind of structure: Canal	Remarks: Routine survey Length: 3500m
Station: 3.00+560	Coordinate< Northing: 1221129 Easting: 0456914	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> </div>		

Canal No.: C21	Kind of structure: Bridge	Remarks: There is a groove which is box culvert
Station: 3.00+660	Coordinate< Northing: 1221128 Easting: 0457020	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> <div style="text-align: center;">  <p>Side View</p> </div> </div>		




### Result of Inventory Survey of Canal 21 (11/20)



Canal No.: C21	Kind of structure: Check structure (Water obstruction)	Remarks:
Station: 3.00+870	Coordinate< Northing: 1221126 Easting: 0457214	Totally broken
		
Up Stream View	Down Stream View	Structure




Canal No.: C21	Kind of structure: Canal	Remarks:
Station: 4.00+60	Coordinate< Northing: 1221130 Easting: 0457390	Routine survey Length: 4000m
		
Up Stream View	Down Stream View	

Canal No.: C21	Kind of structure: Pipe culvert (Double)	Remarks:
Station: 4.00+130	Coordinate< Northing: 1221124 Easting: 0457445	Routine survey Under commune road
		
Up Stream View	Down Stream View	Side View



### Result of Inventory Survey of Canal 21 (12/20)




Canal No.: C21	Kind of structure: Wooden Bridge (Private)	Remarks:
Station: 4.00+210	Coordinate< Northing: 1221126 Easting: 0457519	Routine survey
		
Up Stream View	Down Stream View	Side View




Canal No.: C21	Kind of structure: Water obstruction structure	Remarks:
Station: 4.00+220	Coordinate< Northing: 1221124 Easting: 0457526	Routine survey
		
Up Stream View	Down Stream View	

Canal No.: C21	Kind of structure: Wooden Bridge (Private)	Remarks:
Station: 4.00+390	Coordinate< Northing: 1221124 Easting: 0457704	Routine survey
		
Up Stream View	Down Stream View	Structure



### Result of Inventory Survey of Canal 21 (13/20)




Canal No.: C21	Kind of structure: Canal	Remarks: Routine survey Length: 4500m
Station: 4.00+560	Coordinate< Northing: 1221121 Easting: 0457862	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> </div>		



Canal No.: C21	Kind of structure: Bridge	Remarks: - Routine survey - Under a village road
Station: 4.00+770	Coordinate< Northing: 1221124 Easting: 0458044	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> <div style="text-align: center;">  <p>Structure</p> </div> </div>		

Canal No.: C21	Kind of structure: Bridge (Double culvert)	Remarks: Under house entrance road
Station: 4.00+970	Coordinate< Northing: 1221123 Easting: 0458230	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> <div style="text-align: center;">  <p>Structure</p> </div> </div>		




### Result of Inventory Survey of Canal 21 (14/20)




Canal No.: C21	Kind of structure: Canal	Remarks: Routine survey Length: 5000m
Station: 5.00+60	Coordinate< Northing: 1221126 Easting: 0458339	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  Up Stream View         </div> <div style="text-align: center;">  Down Stream View         </div> </div>		




Canal No.: C21	Kind of structure: Bridge (Private)	Remarks: Routine survey
Station: 5.00+80	Coordinate< Northing: 1221124 Easting: 0458361	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  Up Stream View         </div> <div style="text-align: center;">  Down Stream View         </div> <div style="text-align: center;">  Side View         </div> </div>		

Canal No.: C21	Kind of structure: Water blockade	Remarks: - Concrete column with plastic
Station: 5.00+230	Coordinate< Northing: 1221126 Easting: 0458505	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  Up Stream View         </div> <div style="text-align: center;">  Down Stream View         </div> </div>		

### Result of Inventory Survey of Canal 21 (15/20)




Canal No.: C21	Kind of structure: Embankment	Remarks:
Station: 5.00+380	Coordinate< <div style="display: flex; flex-direction: column; align-items: flex-start;"> <span>Northing: 1221126</span> <span>Easting: 0458642</span> </div>	- Embankment is soil
 <p>Up Stream View</p>	 <p>Down Stream View</p>	 <p>Side View</p>




Canal No.: C21	Kind of structure: Wooden Bridge (Private)	Remarks:
Station: 5.00+420	Coordinate< <div style="display: flex; flex-direction: column; align-items: flex-start;"> <span>Northing: 1221124</span> <span>Easting: 0458682</span> </div>	Routine survey
 <p>Up Stream View</p>	 <p>Down Stream View</p>	 <p>Side View</p>




Canal No.: C21	Kind of structure: Pipe culvert (Double)	Remarks:
Station: 5.00+500	Coordinate< <div style="display: flex; flex-direction: column; align-items: flex-start;"> <span>Northing: 1221124</span> <span>Easting: 0458771</span> </div>	<ul style="list-style-type: none"> <li>- Routine survey</li> <li>- Under a village road</li> </ul>
 <p>Up Stream View</p>	 <p>Down Stream View</p>	 <p>Side View</p>





### Result of Inventory Survey of Canal 21 (16/20)




Canal No.: C21	Kind of structure: Canal	Remarks: - A groove takes water to fields - Length: 5500m
Station: 5.00+560	Coordinate< Northing: 1221127 Easting: 0458821	
		
Up Stream View	Down Stream View	Side View




Canal No.: C21	Kind of structure: Bridge	Remarks: - Under a village road - There is a groove
Station: 5.00+780	Coordinate< Northing: 1221124 Easting: 0459034	
		
Up Stream View	Down Stream View	Structure

Canal No.: C21	Kind of structure: Bridge (Private)	Remarks:  Under a carte road
Station: 5.00+870	Coordinate< Northing: 1221125 Easting: 0459119	
		
Up Stream View	Down Stream View	Structure



### Result of Inventory Survey of Canal 21 (17/20)




Canal No.: C21	Kind of structure: Canal	Remarks: Routine survey Length: 6000m
Station: 6.00+60	Coordinate< Northing: 1221127 Easting: 0459304	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> </div>		



Canal No.: C21	Kind of structure: Bridge (Private)	Remarks: Routine survey
Station: 6.00+280	Coordinate< Northing: 1221124 Easting: 0459521	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> <div style="text-align: center;">  <p>Side View</p> </div> </div>		

Canal No.: C21	Kind of structure: Bridge (Brasac Organization)	Remarks: Under a village road
Station: 6.00+490	Coordinate< Northing: 1221123 Easting: 0459733	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> <div style="text-align: center;">  <p>Side View</p> </div> </div>		




### Result of Inventory Survey of Canal 21 (18/20)



Canal No.: C21	Kind of structure: Canal	Remarks: Routine survey Length: 6500m
Station: 6.00+560	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1221126</span> <span>Easting: 0459809</span> </div>	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> </div>		




Canal No.: C21	Kind of structure: Wooden Bridge (Private)	Remarks: - Routine survey - There is a secondary canal
Station: 6.00+970	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1221116</span> <span>Easting: 0460214</span> </div>	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> <div style="text-align: center;">  <p>Side View</p> </div> </div>		

Canal No.: C21	Kind of structure: Canal	Remarks: Routine survey Length: 7000m
Station: 7.00+70	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1221121</span> <span>Easting: 0460308</span> </div>	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> </div>		




### Result of Inventory Survey of Canal 21 (19/20)



Canal No.: C21	Kind of structure: Wooden Bridge (Private)	Remarks:
Station: 7.00+530	Coordinate< Northing: 1221120 Easting: 0460746	Under house entrance road
		
Up Stream View	Down Stream View	Structure



Canal No.: C21	Kind of structure: Canal	Remarks:
Station: 7.00+570	Coordinate< Northing: 1221119 Easting: 0460790	Routine survey Length: 7500m
		
Up Stream View	Down Stream View	

Canal No.: C21	Kind of structure: Bridge (Commune)	Remarks:
Station: 7.00+810	Coordinate< Northing: 1221115 Easting: 0461020	Under a village road
		
Up Stream View	Down Stream View	Structure

### Result of Inventory Survey of Canal 21 (20/20)

Canal No.: C21	Kind of structure: Wooden Bridge (Private)	Remarks:
Station: 7.00+950	Coordinate< Northing: 1221117 Easting: 0461166	Under house entrance road
 <p>Up Stream View</p>	 <p>Down Stream View</p>	 <p>Structure</p>

Canal No.: C21	Kind of structure: Canal	Remarks:
Station: 8.00+70	Coordinate< Northing: 1221114 Easting: 0461284	Routine survey Length: 8000m
 <p>Up Stream View</p>	 <p>Down Stream View</p>	

Canal No.: C21	Kind of structure: Canal	Remarks:
Station: 8+280(E.P)	Coordinate< Northing: 1221112 Easting: 0461500	Routine survey
 <p>Up Stream View</p>	 <p>Down Stream View</p>	

## Inventory Survey of Existing Canals and Structures: Canal 22 (1/2)

Canal name: C22								Survey in June-July, 2011 by JICA Survey Team
Sta.	E	N	Structure	Condition	Evaluation*	Flow Capacity	Remarks	
0	452306	1222016	B.P (Culvert 1 & Groove)	Inlet of culvert is closed by planks, Single pipe of 0.8 m dia. 6 m long on NR-130A			This structure is counted as one on main canal	
50	452367	1222025	Bridge 1	4 m span and 2 m wide	B	b	House access	
230	452534	1222032	Culvert 2	Broken Sigle pipe of 0.8 m dia.	D	-	farm access	
340	452635	1222036	Bridge 2	4 m span and 3 m wide	C	b	on village road	
620	452758	1222030	Canal section	3 m water width	C			
650	452793	1222036	Crossing Pipe	Wooden aqueduct cross over C-22				
720	452860	1222036	Crossing Pipe	Wooden aqueduct cross over C-22				
990	453118	1222050	Future Bridge	Pillars are on the canal				
1,120	453240	1222049	Canal section	Canal section remain with bottom width of 2 m	C			
1,240	453366	1222051	Tertially Crossing Point					
1,500	453598	1222045	Bridge 3 (Double)	Two pipes of 1 m dia each and 3.5 m long	C	b	on village road	
1,630	453717	1222046	Canal section	Canal section remain with bottom width of 2 m	C			
2,140	454183	1222039	Canal section	Canal section remain with water surface width of 3 m	C			
2,420	454450	1222026	Blockade & Groove (Obstruct water to sub-canal)	Regulating structure constructed recently	C		Regulator-1	
2,510	454530	1222024	Bridge 4 (Private)	Wooden bridge of 1 m wide	D	-	Wooden bridge, house access	
2,650	454677	1222023	Bridge 5	2.5 m span and 2 m wide	C	b	house access	
2,900	454916	1222015	Bridge 6 (Private)	Wooden bridge of 0.5 m wide	D	-	Wooden bridge, house access	
3,150	455077	1222009	Canal section	Canal section remain with bottom width of 3 m	C			
3,680	455524	1221989	Canal section	Canal section remain with bottom width of 2 m	C			
3,950	455782	1221982	Culvert 3 (Commune)	Single pipe of 0.8 m dia and 6 m long	B	b	on commune road	
4,190	455996	1221961	Canal section	Canal section remain as canal	C			
4,500	456299	1221938	Bridge 7 & Groove	1.4 m span and 2 m wide	C	b	house access	
4,570	456361	1221939	Culvert 4 (Double)	Two pipes of 0.9 m dia each and 1 m long	C	b	house access	
4,690	456457	1221960	Culvert 5 (Double)	Two pipes of 0.8 m dia each and 1 m long	C	b	house access	
5,190	456913	1221946	Canal section	Canal section remain with bottom width of 2 m	C			
5,320	457033	1221935	Bridge 8 & Groove	Regulator	C	c	Regulator-2, Old structure	
5,690	457373	1221924	Canal section	Canal section remain with bottom				
5,990	457652	1221914	Culvert 6 & Groove (Commune)	1.6 m span and 3 m wide with grooves for planks	C	b	on commune road	
5,990	457658	1221911	House	nipa hut on canal			House-1	
6,090	457755	1221908	Culvert 7 (Double)	Newly constructed culvert Two pipes of 0.9 m dia each and 1.8 m long	C	b	House access	
6,170	457838	1221908	Bridge 9 (Private)	Wooden bridge (logs) of 1 m wide	D	-	Wooden bridge, house access	
6,210	457878	1221906	Bridge 10 (Double)	2 m span and 1.5 m wide	C	b	House access	
6,320	457985	1221898	Bridge 11 (Double)	3 m span and 2.2 m wide	C	b	House access	
6,370	458040	1221883	Turning Point Division Structure	Canal route turn to left direcion			Embankment is deviated the canal route	
6,670	458295	1221907	Canal section	Canal section remain with bottom width of 2 m	C			
7,050	458644	1221887	Culvert 8 (Double)	Two pipes of 0.5 m dia each and 3 m long	C	-	House access	
7,170	458759	1221889	Canal section		C			
7,200	458803	1221887	Bridge 13 & Groove	1.6 m span and 3 m wide with grooves for planks	C	b	on village road	
7,440	459033	1221887	Bridge 14 (Private)	1.6 m span and 3 m wide with grooves for planks	C	b	House access	
7,680	459254	1221890	Bridge 15 (Private)	2.5 m span and 3 m wide with grooves for planks	C	b	House access	
7,730	459301	1221886	Bridge 16 (Private)	2.2 m span and 2.5 m wide with grooves for planks	C	b	House access	
7,930	459590	1221886	Bridge 17 (Private)	1.6 m span and 3 m wide with grooves for planks	C	b	House access	
8,200	459754	1221887	Canal section	Canal section remain with bottom width of 1.5 m	C			
8,210	459852	1221887	Culvert 9 (Triple)	Three pipes of 0.5 m dia each, 3 m long	C	c	Farm access	
8,360	459998	1221891	Culvert 10 (Private)	Wooden bridge of 1 m wide	D	-	Wooden bridge, house access	
8,610	460221	1221889	Bridge 18 & Groove	1.6 m span and 2.8 m wide with grooves for planks	C	b	on village road	
8,810	460405	1221889	Culvert 11 (Private)	Wooden bridge of 1 m wide	D	-	Wooden bridge, house access	

## Inventory Survey of Existing Canals and Structures: Canal 22 (2/2)

Canal name: C22


Survey in June-July, 2011 by JICA Survey Team

Sta.	E	N	Structure	Condition	Evaluation*	Flow Capacity	Remarks
9,010	460591	1221880	Culvert 11 (Triple)	Three pipes of 0.5 m dia each, 3 m long	C	c	on village road
9,110	460679	1221893	Canal section	Canal section remain with bottom width of 2 m	C		
9,180	460749	1221891	Culvert 12 (Private)	Wooden bridge of 2 m wide	D	-	House access
9,250	460822	1221893	Tertially Crossing Point				
9,410	460976	1221892	Culvert 13 (Double)	Two pipes of 0.7 m dia each and 2.8 m long	C	b	on village road
9,550	461114	1221898	Bridge 19 (private)	Wooden bridge of 1 m wide	D	-	Wooden bridge, house access
9,650	461199	1221897	Culvert-14 (private)	2 m span and 2.5 m wide with grooves for planks	B	b	House access
9,690	461237	1221900	Canal section	Canal section remain with bottom width of 2 m	B		
9,980	461517	1221900	E.P (Bridge 19)	1.8 m span and 3 m wide with grooves for planks	B		House access


Structure	Nos.	Evaluation	Regulators	Culvert/ bridge	Buildings within ROW
Regulators	2	A			
Bridges/ Culvert	34	B	2	4	
Public	8	C		23	
Concrete	8	D		7	
Wooden	0	Total	2	34	1
Private	26	<u>Evaluation of Canal and structures</u>			
Concrete	19	Canal sections are remained for passing irrigation and drain water			
Wooden	7	Regulator mentioned above is just provided grooves at the inlet of culverts to place planks, but no gate is placed			
Total	36	Many house and farm access for private use were constructed privately without permission of PDWRAM			
A: Fully functioning		No buidling on the canal			
B: Partly deteriorated but function is maintained					
C: Deteriorated, and does not function well					
D: Completely damaged, and does not function					
		<u>Flow Area of culvers and bridges (excl. wooden bridges)</u>			
		b: enough sectional area	c: not enough, and to be removed/ replaced	Total	
		21	6	27	

### Result of Inventory Survey of Canal 22(1/19)


Canal No.: C22	Kind of structure(s): Pipe culvert	Remarks: - Groove - Under national road N0 2
Station: 0.00(B.P.)	Coordinate< Northing: 1222016 Easting: 0452306	



Up Stream View




Down Stream View




Side View


Canal No.: C22	Kind of structure(s): Bridge (Concrete)	Remarks: Under house entrance road
Station: 0.00+50	Coordinate< Northing: 1222025 Easting: 0452367	



Up Stream View




Down Stream View




Side View


Canal No.: C22	Kind of structure(s): Pipe culvert	Remarks: - Totally broken - Water flows out of culvert
Station: 0.00+230	Coordinate< Northing: 1222032 Easting: 0452534	



Up Stream View






Down Stream View







Side View





### Result of Inventory Survey of Canal 22(2/19)



Canal No.: C22	Kind of structure(s): Concrete bridge	Remarks: Under commune road
Station: 0.00+340	Coordinate< Northing: 1222036 Easting: 0452635	
		
Up Stream View	Down Stream View	Side View



Canal No.: C22	Kind of structure(s): Canal	Remarks: Routine survey Length: 500m
Station: 0.00+620	Coordinate< Northing: 1222030 Easting: 0452758	
		
Up Stream View	Down Stream View	

Canal No.: C22	Kind of structure(s): Crossing pipe	Remarks: Routine survey
Station: 0.00+650	Coordinate< Northing: 1222036 Easting: 0452793	
		
Up Stream View	Down Stream View	



**Result of Inventory Survey of Canal 22(3/19)**




Canal No.: C22	Kind of structure(s): Crossing Pipe	Remarks: - Made by wood (palm tree)
Station: 0.00+720	Coordinate< Northing: 1222036 Easting: 0452860	
 		
<p>Up Stream View</p> <p>Down Stream View</p>		



Canal No.: C22	Kind of structure(s): Future bridge	Remarks: - Routine survey - Concrete column
Station: 0.00+990	Coordinate< Northing: 1222050 Easting: 0453118	
 		
<p>Up Stream View</p> <p>Down Stream View</p>		

Canal No.: C22	Kind of structure(s): Canal	Remarks: Routine survey Length: 1000m
Station: 1.00+120	Coordinate< Northing: 1222049 Easting: 0453240	
 		
<p>Up Stream View</p> <p>Down Stream View</p>		



### Result of Inventory Survey of Canal 22(4/19)




Canal No.: C22	Kind of structure(s): Tertiary crossing point	Remarks:
Station: 1.00+240	Coordinate< Northing: 1222051 Easting: 0453366	Routine survey
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> </div>		



Canal No.: C22	Kind of structure(s): Pipe culvert (Double)	Remarks:
Station: 1.00+500	Coordinate< Northing: 1222045 Easting: 0453598	Under commune road
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> <div style="text-align: center;">  <p>Side View</p> </div> </div>		

Canal No.: C22	Kind of structure(s): Canal	Remarks:
Station: 1.00+630	Coordinate< Northing: 1222046 Easting: 0453717	Routine survey Length: 1500m
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> </div>		




### Result of Inventory Survey of Canal 22(5/19)



Canal No.: C22	Kind of structure(s): Canal	Remarks: Routine survey Length: 2000m
Station: 2.00+140	Coordinate< Northing: 1222039 Easting: 0454183	
<div style="display: flex; justify-content: space-around; align-items: center;">   </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <span>Up Stream View</span> <span>Down Stream View</span> </div>		



Canal No.: C22	Kind of structure(s): Blockade	Remarks: - Groove takes water into secondary canal
Station: 2.00+420	Coordinate< Northing: 1222026 Easting: 0454450	
<div style="display: flex; justify-content: space-around; align-items: center;">    </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <span>Up Stream View</span> <span>Down Stream View</span> <span>Structure</span> </div>		

Canal No.: C22	Kind of structure(s): Wooden Bridge	Remarks: - Made by wood
Station: 2.00+510	Coordinate< Northing: 1222024 Easting: 0454530	
<div style="display: flex; justify-content: space-around; align-items: center;">   </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <span>Up Stream View</span> <span>Down Stream View</span> </div>		



### Result of Inventory Survey of Canal 22(6/19)




Canal No.: C22	Kind of structure(s): Concrete Bridge	Remarks: - Under village road - Length: 2500m
Station: 2.00+650	Coordinate< Northing: 1222023 Easting: 0454677	
		
Up Stream View	Down Stream View	Side View



Canal No.: C22	Kind of structure(s): Bridge (Wooden)	Remarks: - Made by wood
Station: 2.00+900	Coordinate< Northing: 1222015 Easting: 0454916	
		
Up Stream View	Down Stream View	

Canal No.: C22	Kind of structure(s): Canal	Remarks: Routine survey Length: 3000m
Station: 3.00+150	Coordinate< Northing: 1222009 Easting: 0455077	
		
Up Stream View	Down Stream View	




### Result of Inventory Survey of Canal 22(7/19)



Canal No.: C22	Kind of structure(s): Canal	Remarks: Routine survey Length: 3500m
Station: 3.00+680	Coordinate< Northing: 1221989 Easting: 0455524	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> </div>		



Canal No.: C22	Kind of structure(s): Pipe culvert (Commune)	Remarks: - Under commune road
Station: 3.00+950	Coordinate< Northing: 1221982 Easting: 0455782	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> <div style="text-align: center;">  <p>Side View</p> </div> </div>		

Canal No.: C22	Kind of structure(s): Canal	Remarks: Routine survey Length: 4000m
Station: 4.00+190	Coordinate< Northing: 1221961 Easting: 0455996	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> </div>		



### Result of Inventory Survey of Canal 22(8/19)




Canal No.: C22	Kind of structure(s): Bridge	Remarks: - Under house entrance road - There is a groove
Station: 4.00+500	Coordinate< Northing: 1221938 Easting: 0456299	
  		
<span style="margin-right: 150px;">Up Stream View</span> <span style="margin-right: 150px;">Down Stream View</span> <span>Side View</span>		



Canal No.: C22	Kind of structure(s): Pipe culvert (Double)	Remarks: Routine survey
Station: 4.00+570	Coordinate< Northing: 1221939 Easting: 0456361	
 		
<span style="margin-right: 150px;">Up Stream View</span> <span>Down Stream View</span>		

Canal No.: C22	Kind of structure(s): Pipe culvert (Double)	Remarks: Routine survey Length: 4500m
Station: 4.00+690	Coordinate< Northing: 1221960 Easting: 0456457	
 		
<span style="margin-right: 150px;">Up Stream View</span> <span>Down Stream View</span>		

### Result of Inventory Survey of Canal 22(9/19)




Canal No.: C22	Kind of structure(s): Canal	Remarks: Routine survey Length: 5000m
Station: 5.00+190	Coordinate< Northing: 1221946 Easting: 0456913	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  Up Stream View         </div> <div style="text-align: center;">  Down Stream View         </div> </div>		



Canal No.: C22	Kind of structure(s): Concrete Bridge	Remarks: - Groove (Double pipe culvert)
Station: 5.00+320	Coordinate< Northing: 1221935 Easting: 0457033	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  Up Stream View         </div> <div style="text-align: center;">  Down Stream View         </div> <div style="text-align: center;">  Side View         </div> </div>		




Canal No.: C22	Kind of structure(s): Canal	Remarks: Routine survey Length: 5500m
Station: 5.00+690	Coordinate< Northing: 1221924 Easting: 0457373	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  Up Stream View         </div> <div style="text-align: center;">  Down Stream View         </div> </div>		






### Result of Inventory Survey of Canal 22(10/19)




Canal No.: C22	Kind of structure(s): Pipe culvert (Double)	Remarks: Routine survey Under commune road
Station: 5.00+990	Coordinate< Northing: 1221914 Easting: 0457652	
		
Up Stream View	Down Stream View	Side View




Canal No.: C22	Kind of structure(s): House (Cottage)	Remarks: Routine survey
Station: 5.00+990	Coordinate< Northing: 1221911 Easting: 0457658	
		
Up Stream View	Down Stream View	

Canal No.: C22	Kind of structure(s): Pipe culvert (Double)	Remarks: - Under village road
Station: 6.00+90	Coordinate< Northing: 1221908 Easting: 0457755	
		
Up Stream View	Down Stream View	Side View



### Result of Inventory Survey of Canal 22(11/19)



Canal No.: C22	Kind of structure(s): Wooden Bridge	Remarks: - Under a small bicycle road - Length: 6000m
Station: 6.00+170	Coordinate< Northing: 1221908 Easting: 0457838	
		
Up Stream View	Down Stream View	Side View




Canal No.: C22	Kind of structure(s): Bridge	Remarks: Under house entrance road
Station: 6.00+210	Coordinate< Northing: 1221906 Easting: 0457878	
		
Up Stream View	Down Stream View	Side View

Canal No.: C22	Kind of structure(s): Bridge (Private)	Remarks: Under small bicycle road
Station: 6.00+320	Coordinate< Northing: 1221898 Easting: 0457985	
		
Up Stream View	Down Stream View	Side View



### Result of Inventory Survey of Canal 22(12/19)




Canal No.: C22	Kind of structure(s): Turning point	Remarks: Routine survey
Station: 6.00+370	Coordinate< Northing: 1221883 Easting: 0458040	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> </div>		




Canal No.: C22	Kind of structure(s): Canal	Remarks: Routine survey Length: 6500m
Station: 6.00+670	Coordinate< Northing: 1221907 Easting: 0458295	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> </div>		

Canal No.: C22	Kind of structure(s): Pipe culvert (Double)	Remarks: Under a village road
Station: 7.00+50	Coordinate< Northing: 1221887 Easting: 0458644	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> <div style="text-align: center;">  <p>Side View</p> </div> </div>		




### Result of Inventory Survey of Canal 22(13/19)




Canal No.: C22	Kind of structure(s): Canal	Remarks: Routine survey Length: 7000m
Station: 7.00+170	Coordinate< Northing: 1221889 Easting: 0458759	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> </div>		




Canal No.: C22	Kind of structure(s): Bridge	Remarks: - Box culvert - Under a small road
Station: 7.00+200	Coordinate< Northing: 1221887 Easting: 0458803	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> <div style="text-align: center;">  <p>Side View</p> </div> </div>		

Canal No.: C22	Kind of structure(s): Bridge	Remarks: - Under a village road - Groove (pipe culvert) take water to secondary canal
Station: 7.00+440	Coordinate< Northing: 1221887 Easting: 0459033	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> <div style="text-align: center;">  <p>Side View</p> </div> </div>		



### Result of Inventory Survey of Canal 22(14/19)




Canal No.: C22	Kind of structure(s): Bridge	Remarks: Under village road Length: 7500m
Station: 7.00+680	Coordinate< Northing: 1221890 Easting: 0459254	
		
Up Stream View	Down Stream View	Side View



Canal No.: C22	Kind of structure(s): Bridge (Private)	Remarks: Under small village road
Station: 7.00+730	Coordinate< Northing: 1221886 Easting: 0459301	
		
Up Stream View	Down Stream View	Side View

Canal No.: C22	Kind of structure(s): Bridge (Village)	Remarks: Under small village road
Station: 7.00+930	Coordinate< Northing: 1221886 Easting: 0459490	
		
Up Stream View	Down Stream View	Side View




### Result of Inventory Survey of Canal 22(15/19)




Canal No.: C22	Kind of structure(s): Canal	Remarks: Routine survey Length: 8000m
Station: 8.00+200	Coordinate< Northing: 1221887 Easting: 0459754	
 		
<div style="display: flex; justify-content: space-around;"> <span>Up Stream View</span> <span>Down Stream View</span> </div>		




Canal No.: C22	Kind of structure(s): Pipe culvert (Triple)	Remarks: Under a small carte road
Station: 8.00+210	Coordinate< Northing: 1221887 Easting: 0459852	
  		
<div style="display: flex; justify-content: space-around;"> <span>Up Stream View</span> <span>Down Stream View</span> <span>Side View</span> </div>		

Canal No.: C22	Kind of structure(s): Wooden Bridge (Private)	Remarks: Routine survey
Station: 8.00+360	Coordinate< Northing: 1221891 Easting: 0459998	
 		
<div style="display: flex; justify-content: space-around;"> <span>Up Stream View</span> <span>Down Stream View</span> </div>		



### Result of Inventory Survey of Canal 22(16/19)




Canal No.: C22	Kind of structure(s): Bridge (Private)	Remarks: Under small bicycle road Length: 8500m
Station: 8.00+610	Coordinate< Northing: 1221889 Easting: 0460221	
		
Up Stream View	Down Stream View	Side View




Canal No.: C22	Kind of structure(s): Bridge (Private)	Remarks: Routine survey
Station: 8.00+810	Coordinate< Northing: 1221889 Easting: 0460405	
		
Up Stream View	Down Stream View	Side View

Canal No.: C22	Kind of structure(s): Pipe culvert (Triple)	Remarks: Under a village road
Station: 9.00+10	Coordinate< Northing: 1221880 Easting: 0460591	
		
Up Stream View	Down Stream View	Side View

### Result of Inventory Survey of Canal 22(17/19)

Canal No.: C22	Kind of structure(s): Canal	Remarks: Routine survey Length: 9000m
Station: 9.00+110	Coordinate< Northing: 1221893 Easting: 0460679	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> </div>		


Canal No.: C22	Kind of structure(s): Bridge (Private)	Remarks: - Routine survey - Under house entrance road
Station: 9.00+180	Coordinate< Northing: 1221891 Easting: 0460749	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> <div style="text-align: center;">  <p>Side View</p> </div> </div>		

Canal No.: C22	Kind of structure(s): Pipe culvert	Remarks: Routine survey Tertiary crossing
Station: 9.00+250	Coordinate< Northing: 1221893 Easting: 0460822	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> <div style="text-align: center;">  <p>Tertiary crossing</p> </div> </div>		




### Result of Inventory Survey of Canal 22(18/19)


Canal No.: C22	Kind of structure(s): Pipe culvert (Double)	Remarks: Under commune road
Station: 9.00+410	Coordinate< Northing: 1221892 Easting: 0460976	



Up Stream View




Down Stream View




Side View


Canal No.: C22	Kind of structure(s): Bridge (Private)	Remarks: - Routine survey - Made by wood
Station: 9.00+550	Coordinate< Northing: 1221898 Easting: 0461114	



Up Stream View




Down Stream View




Side View


Canal No.: C22	Kind of structure(s): Bridge (Private)	Remarks: Routine survey
Station: 9.00+650	Coordinate< Northing: 1221897 Easting: 0461199	



Up Stream View









Down Stream View



Side View

### Result of Inventory Survey of Canal 22(19/19)

Canal No.: C22	Kind of structure(s): Check structure	Remarks: - Totally broken - Groove takes water into secondary canal, Length: 9500m
Station: 9.00+690	Coordinate< Northing: 1221900 Easting: 0461237	
 <p>Up Stream View</p>	 <p>Down Stream View</p>	 <p>Structure(s)</p>

Canal No.: C22	Kind of structure(s): Bridge	Remarks: Under small village road (E.P.)
Station: 9.00+980(EP)	Coordinate< Northing: 1221900 Easting: 0461517	
 <p>Up Stream View</p>	 <p>Down Stream View</p>	 <p>Side View</p>

## Inventory Survey of Existing Canals and Structures: Canal 23 (1/4)

Canal name: C23

Survey in June-July, 2011 by JICA Survey Team

Sta.	E	N	Structure	Condition	Evaluation*	Flow Capacity	Remarks
0	451262	1222762	B.P	Canal section was narrowed by land owner for expanding his garden	D		To be removed the encroachment
40	451274	1222801	Culvert 1 groove	Division structure, No gate but two grooves were provided to control the water level.	B	c	Concrete dia is 0.7 m.
290	451513	1222792	Culvert 2	Culvert of 50 cm dia with 2.5 m long for crossing village road; condition is rather good.	B	c	Vilalge road access
400	451614	1222783	Culvert 3	Temporary check made by earth; concrete pipe of 15-20 cm dia was installed	D	c	To be removed
500	451715	1222779	Canal section	Canal section is flat and not function	D		
520	451738	1222781	Culvert 4	Culvert of 50 cm dia with 2.5 m long for farm access, condition is rather in good condition	B	c	Private farm access
600	451821	1222780	Culvert 5	Culvert of 50 cm dia with 2.6 m long for house access, condition is rather in good condition	D	c	Private house access
640	451859	1222776	Culvert 6	Culvert of 50 cm dia with 3.6 m long for house access, condition is rather in good condition	C	c	Private house access
670	451902	1222774	Culvert 7	Culvert of 50 cm dia with 3.6 m long for house access, condition is rather in good condition	B	c	Private house access
740	451948	1222809	Culvert 8	Culvert of 50 cm dia with 3 m long for house access, condition is rather in good condition	C	c	Private house access
770	451974	1222813	Culvert 9	Culvert of 50 cm dia with 3.6 m long for house access, condition is rather in good condition	C	c	Private house access
780	451992	1222814	Culvert 10	Culvert of 50 cm dia with 2.5 m long for house access, condition is rather in good condition	C	c	Private house access
850	452056	1222811	Culvert 11	Culvert of 30 cm dia with 2.5 m long for house access, condition is rather in good condition	D	c	Private house access
930	452108	1222774	Earth Check	Canal section is obstructed by earth embankment	D		Temporary measure
970	452164	1222774	Culvert 12	Culvert of 20 cm dia with 0.5 m long for farm access	D	c	Temporary measure
1,000	452190	1222770	Canal section	Canal section with bottom width of 2 m remains, though grass are grwoing	B		Canal section
1,100	452237	1222777	Culvert 13	Culvert of 20 cm dia with 0.5 m long for farm access	C	c	Temporary measure
1,420	452538	1222780	Culvert 14	Culvert of 50 cm dia with 4 m long for village road, no inlet and outlet structure	B	c	Culvert on village road
1,470	452649	1222777	Culvert 15	Culvert of 40 cm dia with 2 m long for farm access; canal section is rather in good condtion	B	c	Private farm access Road portion is newly embanked by laterite
1,500	452759	1222773	0	Canal section with bottom width of 2 m remains, though grass are grwoing	B		Canal section
1,580	452830	1222774	Embankment	Embankment with slit for flowing water; road embankment is newly constructed	B		Canal section is rather in good condtion
2,010	453242	1222779	0	Secion is obstructed by many dampy soils and holes	D		Hardly use as canal
2,130	453350	1222806	Culvert 16	New culvert with 0.8 m dia	A	c	New road is constructed??
2,460	453610	1222792	Bridge 1	Private wooden bridge with 30 cm wide	C	-	Private wooden footpath bridge
2,490	453619	1222818	Culvert 17	Double pipe culvert, 1 m dia, for crossing commune road: no riprap protection	B	b	Pipe culvert for public road crossing
2,590	453714	1222805	Wooden Bridge 2	Private wooden bridge with 30 cm wide and 2.5 m long	B	-	Private wooden footpath bridge
2,990	454081	1222794	Canal section	Canal section remains as canal	B		

## Inventory Survey of Existing Canals and Structures: Canal 23 (2/4)

Canal name: C23

Survey in June-July, 2011 by JICA Survey Team

Sta.	E	N	Structure	Condition	Evaluation*	Flow Capacity	Remarks
3,260	454357	1222806	Culvert 18 (Double)	Double pipe culvert, 0.4 m dia, for house access; no riprap protection at inlet and outlet	B	c	Private house access
3,290	454375	1222806	Culvert 19	Culvert of 60 cm dia with 2 m long for house access, no protection for inlet and outlet	B	c	Private house access
3,300	454395	1222806	Culvert 20 (Double)	Double pipe culvert, 0.4 m dia, for house access; no riprap protection at inlet and outlet	B	c	Private house access
3,510	454595	1222811	Canal section	Canal section remains as canal, but not used, bottom width is 4 m and canal height is 1 m	B		
3,940	455011	1222822	Culvert 21	Culvert of 60 cm dia with 4 m long for village road, no inlet and outlet structure	B	c	Culvert on public road
4,010	455089	1222824	Canal section	Canal section remains as canal: rain water is ponded	B		
4,140	455214	1222828	Culvert (22)	Culvert of 50 cm dia with 2 m long for house access, no protection for inlet and outlet	B	c	Private house access Road along the canal seems be well maintained and functional
4,440	455529	1222834	Canal section	Canal section remains as canal, mainly for evacuating excess water: bottom width is about 2 m	B		Road is used for motor cycles
4,780	455851	1222842	Bridge 3 (Commune)	Box culvert with 1 m wide and 1 m high, and 6 m long on the commune road	A	b	for Public access Temporaty hut was constructed on the canal near the bridge
5,000	456002	1222845	Canal section	Canal section remains as canal, mainly for evacuating excess water: bottom width is about 2 m	B		
5,160	456172	1222851	Culvert 23 (Double)	Two pipes with 50 cm dia, 1 m long for farm access	B	c	Private farm access
5,330	456326	1222857	Culvert 24 (Double)	Two pipes with 50 cm dia, 3.5 m long for vilage road	B	c	for Public access
5,400	456398	122853	Canal section	Canal section remains as canal, mainly for evacuating excess water: bottom width is about 2 m	B		
5,590	456577	1222860	Culvert 25 (Double)	Two pipes with 50 cm dia, 1.8 m long for house access	B	c	Private house access
5,820	456806	1222865	Culvert 26 (Double)	Two pipes with 50 cm dia, 2 m long for farm access	B	c	Private farm access
5,910	456891	1222867	Canal section	Canal section remains as canal, mainly for evacuating excess water: bottom width is about 2 m	B		
6,070	457046	1222872	Bridge 4 and Groove	Cpncrete bridge on village road, 2 m long and 2.5 wide, two grooves are provided for checking water level	B		for Public access Regulating structure
6,410	457373	1222882	Canal section	Canal section remains as canal, mainly for evacuating excess water: bottom width is about 2 m	B		Rain water ponded
6,910	457857	1222899	Canal section	Canal section remains as canal, mainly for evacuating excess water: bottom width is about 2 m	C		Tne sectionis not used for long time
6,940	457883	1222898	Bridge 5 and Groove (Commune)	Pipe culvert on commune raod, with 80 cm dia, 5 m long, no protection for both inlet aned outlet, two grooves are provided for cheking water level	B	b	for Public access Regulating structure
7,150	458052	1222873	Bridge 7 & Groove	Bridge of 3.8 m wide and 1.8 m span for private access Intake structure for tertiary canal exists		b	Private access Regulating structure with turnout
7,440	4583309	1222832	Canal section	Canal section remains as canal, mainly for evacuating excess water: bottom width is about 2 m	B		No road for cart is found along the canal
7,570	458429	1222816	Culvert 27	Culvert of 60 cm dia with 1.6 m long for house access, no protection for inlet and outlet	C	c	Private house access
7,590	458449	1222812	Culvert 28 (Double)	Two pipes with 50 cm dia, 2.8 m long for house access, no protection for inlet and outlet; wingwall is made by bricks	B	c	Private house access

## Inventory Survey of Existing Canals and Structures: Canal 23 (3/4)

Canal name: C23

Survey in June-July, 2011 by JICA Survey Team

Sta.	E	N	Structure	Condition	Evaluation*	Flow Capacity	Remarks
7,660	458508	1222798	Culvert 29 (Double)	Two pipes with 50 cm dia, 2.8 m long for house access, no protection for inlet and outlet; wingwall is made by bricks	B	c	Private house access The canal is used as draiange canal
7,720	458569	1222784	Culvert 30 (Double)	Two pipes with 50 cm dia, 2.8 m long for house access, no protection for inlet and outlet; wingwall is made by bricks	B	c	Private house access The canal is used as draiange canal
7,820	458652	1222774	Bridge 8 (Private)	Bridge of 2.5 m wide and 1.6 m span for private access	B	b	Private house access
7,970	458778	1222774	Culvert 31 (Dia.=1m)	Culvert of 80 cm dia with 2.8 m long for house access, no inlet and outlet are made by hollow bricks	B	b	Private house access
8,020	458829	1222769	Culvert 32 (Double)	Two pipes with 50 cm dia, 2.6 m long for house access, no protection for inlet and outlet	B	c	Private house access
8,100	458904	1222760	Culvert 33 (Double)	Two pipes with 50 cm dia, 2.8 m long for farm access, no protection for inlet and outlet	B	c	Private farm access
8,180	458978	1222758	Culvert 34 (Double)	Two pipes with 50 cm dia, 3 m long for farm access, no protection for inlet and outlet	B	c	Private house access
8,250	459038	1222753	Bridge 9 (Private)	Bridge of 2.5 m wide and 1.6 m span for private access	B	b	Private house access
8,320	459115	1222743	Canal section	Canal section remains as canal, mainly for evacuating excess water: bottom width is about 2 m	B		
8,540	459315	1222728	Culvert 35 (Double)	Two pipes with 50 cm dia, 3 m long for house access, no protection for inlet and outlet, inlet is protected by sand bags	B	c	Private house access
8,630	459392	1222721	Culvert 36 (Double)	Two pipes with 50 cm dia, 3 m long for house access, no protection for inlet and outlet, inlet is protected by sand bags	B	c	Private house access
8,820	459565	1222705	Canal section	Canal section remains as canal, mainly for evacuating excess water: bottom width is about 2 m	B		
9,070	459794	1222684	Canal section	Canal section remains as canal, mainly for evacuating excess water: bottom width is about 2 m	B		
9,220	459943	1222677	Culvert 37	Culvert of 80 cm dia with 4 m long for Village Road, inlet and outlet are reapried recently	B	b	for Public access
9,370	460093	1222667	Canal section	Canal section remains as canal, mainly for evacuating excess water: bottom width is about 2 m	B		
9,510	460239	1222667	Culvert 38	Culvert of 80 cm dia with 2.5 m long for Village Road, inlet and outlet are reapried recently	B	b	for Public access
9,630	460350	1222659	Canal section	Canal section remains as canal, mainly for evacuating excess water: bottom width is about 2 m	B		
9,760	460486	1222660	Bridge 10 & Groove	Old bridge with 2.5 m wide and 1.6 m wide, grooves are provided to check water level	D	d	No function at all as regulator and bridge
9,830	460563	1222666	Culvert 39 (Double)	Two pipes with 30 cm dia, 2 m long for house access, no protection for inlet and outlet; wingwall is made by sand bags	C	c	Private house access
9,930	460650	1222666	Culvert 40	Culvert of 50 cm dia with 2.5 m long for farm access, upstream wall is made by brick but no protection for inlet and outlet	D	c	Broken
9,970	460677	1222663	Culvert 41	Culvert of 40 cm dia with 2 m long for farm access, upstream wall is made by brick but no protection for inlet and outlet	C	c	Nealy broken
10,140	460854	1222668	Culvert 42 (Double)	Two pipes with 50 cm dia, 3.6 m long for village road, no protection for inlet and outlet; wingwall is made by hollow blocks with plastering	B	c	Public access
10,200	460921	1222667	House	Nipa hut on the canal, meeting space (?)	D		To be removed

# Inventory Survey of Existing Canals and Structures: Canal 23 (4/4)

Canal name: C23



Survey in June-July, 2011 by JICA Survey Team




Sta.	E	N	Structure	Condition	Evaluation*	Flow Capacity	Remarks
10,300	461009	1222671	Culvert 43 (Double)	Two pipes with 50 cm dia, 4.5 m long for village road, no protection for inlet and outlet; wingwall is made by hollow blocks with plastering		c	Public access
10,470	461176	1222674	Canal section	Canal section remains as canal, mainly for evacuating excess water: bottom width is about 2 m	B		
10,670	461373	1222680	Culvert 44	Culvert of 50 cm dia with 2.5 m long for farm access, upstream wall is made by brick but no protection for inlet and outlet	B	c	House access
10,700	461409	1222680	Double Culvert 45	Two pipes with 60 cm dia, 1.5 m long	B	c	Public access
10,830	461544	1222682	EP				




Structure	Nos.	Evaluation	Regulators	Culvert/ bridge	Buildings within ROW
Regulators		A		1	
Bridges/ Culvert		B		41	
	Public	C	3	8	
	Concrete	D	1	4	
	Wooden	Total	7	54	1
Private		<b>Evaluation of Canal and structures</b>			
	Concrete	Canal sections are remained for passing irrigation and drain water			
	Wooden	Regulator mentioned above is just provided grooves at the inlet of culverts to place planks, but no gate is placed			
Total		Many house and farm access for private use were constructed privately without permission of PDWRAM			
		<b>Flow Area of culvers and bridges (excl. wooden bridges)</b> b: enough sectional area                                      c: not enough, and to be removed/ replaced 12                                                              40			

- A: Fully functioning
- B: Partly deteriorated but function is maintained
- C: Deteriorated, and does not function well
- D: Completely damaged, and does not function



### Result of Inventory Survey of Canal 23 (1/27)


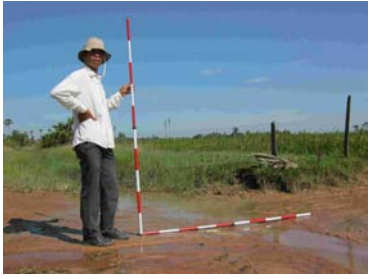
Canal No.: C23	Kind of structure: Pipe culvert	Remarks: Under National Road 130A
Station: 0.00(B.P.)	Coordinate< <div style="display: flex; justify-content: space-between; padding: 0 5px;"> <span>Northing: 1222762</span> <span>Easting: 451255</span> </div>	
<div style="display: flex; justify-content: space-around; align-items: center;">   </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <span>Up Stream View</span> <span>Down Stream View</span> </div>		




Canal No.: C23	Kind of structure: Pipe culvert	Remarks: Under house entrance road
Station: 0.00+40	Coordinate< <div style="display: flex; justify-content: space-between; padding: 0 5px;"> <span>Northing: 1222801</span> <span>Easting: 451274</span> </div>	
<div style="display: flex; justify-content: space-around; align-items: center;">    </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <span>Up Stream View</span> <span>Down Stream View</span> <span>Structure</span> </div>		

Canal No.: C23	Kind of structure: Pipe culvert	Remarks: Pipe culvert under carte road
Station: 0.00+290	Coordinate< <div style="display: flex; justify-content: space-between; padding: 0 5px;"> <span>Northing: 1222792</span> <span>Easting: 451513</span> </div>	
<div style="display: flex; justify-content: space-around; align-items: center;">    </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <span>Up Stream View</span> <span>Down Stream View</span> <span>Side View</span> </div>		

### Result of Inventory Survey of Canal 23 (2/27)




Canal No.: C23	Kind of structure: Pipe culvert	Remarks: Routine survey
Station: 0.00+400	Coordinate< <div style="display: inline-block; vertical-align: middle; margin-left: 10px;">                     Northing: 1222783                      Easting: 451614                 </div>	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> </div>		




Canal No.: C23	Kind of structure: Dry canal	Remarks: Dry canal Length: 500m
Station: 0.00+500	Coordinate< <div style="display: inline-block; vertical-align: middle; margin-left: 10px;">                     Northing: 1222779                      Easting: 451715                 </div>	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> </div>		




Canal No.: C23	Kind of structure: Pipe culvert	Remarks: Routine survey
Station: 0.00+520	Coordinate< <div style="display: inline-block; vertical-align: middle; margin-left: 10px;">                     Northing: 1222781                      Easting: 451738                 </div>	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> <div style="text-align: center;">  <p>Side View</p> </div> </div>		






### Result of Inventory Survey of Canal 23 (3/27)




Canal No.: C23	Kind of structure: Pipe culvert	Remarks:
Station: 0.00+600	Coordinate< <div style="display: flex; flex-direction: column; align-items: flex-start;"> <span>Northing: 1222780</span> <span>Easting: 451821</span> </div>	Routine survey Under house entrance road
		
Up Stream View	Down Stream View	Side View



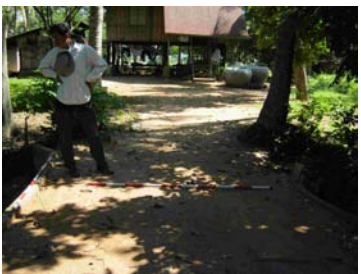
Canal No.: C23	Kind of structure: Pipe culvert	Remarks:
Station: 0.00+640	Coordinate< <div style="display: flex; flex-direction: column; align-items: flex-start;"> <span>Northing: 1222776</span> <span>Easting: 451859</span> </div>	Under house entrance road
		
Up Stream View	Down Stream View	Side View

Canal No.: C23	Kind of structure: Pipe culvert	Remarks:
Station: 0.00+670	Coordinate< <div style="display: flex; flex-direction: column; align-items: flex-start;"> <span>Northing: 1222774</span> <span>Easting: 451902</span> </div>	Under house entrance road
		
Up Stream View	Down Stream View	Side View




### Result of Inventory Survey of Canal 23 (4/27)



Canal No.: C23	Kind of structure: Pipe culvert	Remarks:
Station: 0.00+740	Coordinate< Northing: 1222809 Easting: 451948	Routine survey
		
Up Stream View	Down Stream View	Side View



Canal No.: C23	Kind of structure: Pipe culvert	Remarks:
Station: 0.00+770	Coordinate< Northing: 1222813 Easting: 451974	Under house entrance road
		
Up Stream View	Down Stream View	Side View

Canal No.: C23	Kind of structure: Pipe culvert	Remarks:
Station: 0.00+780	Coordinate< Northing: 1222814 Easting: 451992	Under house entrance road
		
Up Stream View	Down Stream View	Side View



### Result of Inventory Survey of Canal 23 (5/27)



Canal No.: C23	Kind of structure: Pipe culvert	Remarks: Under house entrance road
Station: 0.00+850	Coordinate< <div style="display: flex; justify-content: space-between; padding: 0 5px;"> <span>Northing: 1222811</span> <span>Easting: 452056</span> </div>	
		
Up Stream View	Down Stream View	Side View




Canal No.: C23	Kind of structure: Earth Check	Remarks: Earth check cross C23
Station: 0.00+930	Coordinate< <div style="display: flex; justify-content: space-between; padding: 0 5px;"> <span>Northing: 1222774</span> <span>Easting: 452108</span> </div>	
		
Up Stream View	Down Stream View	

Canal No.: C23	Kind of structure: Pipe culvert	Remarks: Routine check
Station: 0.00+970	Coordinate< <div style="display: flex; justify-content: space-between; padding: 0 5px;"> <span>Northing: 1222774</span> <span>Easting: 452164</span> </div>	
		
Up Stream View	Down Stream View	




### Result of Inventory Survey of Canal 23 (6/27)



Canal No.: C23	Kind of structure: Secondary Canal	Remarks:
Station: 1.00	Coordinate< <div style="display: inline-block; vertical-align: middle; margin-left: 10px;">                     Northing: 1222770                      Easting: 452190                 </div>	Routine survey Length : 1000m
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> </div>		



Canal No.: C23	Kind of structure: Pipe culvert	Remarks:
Station: 1.00+100	Coordinate< <div style="display: inline-block; vertical-align: middle; margin-left: 10px;">                     Northing: 1222777                      Easting: 452237                 </div>	Routine survey
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> </div>		

Canal No.: C23	Kind of structure: Pipe culvert	Remarks:
Station: 1.00+420	Coordinate< <div style="display: inline-block; vertical-align: middle; margin-left: 10px;">                     Northing: 1222780                      Easting: 452538                 </div>	Under commune road (laterite road)
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> <div style="text-align: center;">  <p>Side View</p> </div> </div>		

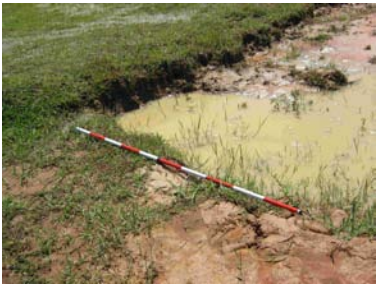

### Result of Inventory Survey of Canal 23 (7/27)




Canal No.: C23	Kind of structure: Pipe culvert	Remarks:
Station: 1.00+470	Coordinate< <div style="display: flex; justify-content: space-between; padding: 0 5px;"> <span>Northing: 1222777</span> <span>Easting: 452649</span> </div>	Along commune road
		
Up Stream View	Down Stream View	Side View



Canal No.: C23	Kind of structure: Canal	Remarks:
Station: 1.00+500	Coordinate< <div style="display: flex; justify-content: space-between; padding: 0 5px;"> <span>Northing: 1222773</span> <span>Easting: 452749</span> </div>	Big erosion Length : 1500m
		
Up Stream View	Down Stream View	

Canal No.: C23	Kind of structure: Embankment	Remarks:
Station: 1.00+580	Coordinate< <div style="display: flex; justify-content: space-between; padding: 0 5px;"> <span>Northing: 1222774</span> <span>Easting: 452830</span> </div>	Routine survey
		
Up Stream View	Down Stream View	




### Result of Inventory Survey of Canal 23 (8/27)



Canal No.: C23	Kind of structure: Canal	Remarks:
Station: 2.00+10	Coordinate< <div style="display: inline-block; vertical-align: middle; margin-left: 10px;">                     Northing: 1222779                      Easting: 453242                 </div>	Routine survey Length: 2000m
		
Up Stream View		Down Stream View



Canal No.: C23	Kind of structure: Pipe culvert	Remarks:
Station: 2.00+130	Coordinate< <div style="display: inline-block; vertical-align: middle; margin-left: 10px;">                     Northing: 1222806                      Easting: 453350                 </div>	Under commune road
		
Up Stream View	Down Stream View	Side View

Canal No.: C23	Kind of structure: Bridge	Remarks:
Station: 2.00+460	Coordinate< <div style="display: inline-block; vertical-align: middle; margin-left: 10px;">                     Northing: 1222792                      Easting: 453610                 </div>	Routine survey Wooden bridge
		
Up Stream View	Down Stream View	




### Result of Inventory Survey of Canal 23 (9/27)




Canal No.: C23	Kind of structure: Pipe culvert (Double)	Remarks:
Station: 2.00+490	Coordinate< <div style="display: flex; justify-content: space-between; padding: 0 5px;"> <span>Northing: 1222818</span> <span>Easting: 453619</span> </div>	Under commune road
		
Up Stream View	Down Stream View	Side View




Canal No.: C23	Kind of structure: Wooden Bridge	Remarks:
Station: 2.00+590	Coordinate< <div style="display: flex; justify-content: space-between; padding: 0 5px;"> <span>Northing: 1222805</span> <span>Easting: 453714</span> </div>	Routine survey
		
Up Stream View	Down Stream View	

Canal No.: C23	Kind of structure: Canal	Remarks:
Station: 2.00+990	Coordinate< <div style="display: flex; justify-content: space-between; padding: 0 5px;"> <span>Northing: 1222794</span> <span>Easting: 454081</span> </div>	Routine survey Length: 3000m
		
Up Stream View	Down Stream View	

### Result of Inventory Survey of Canal 23 (10/27)


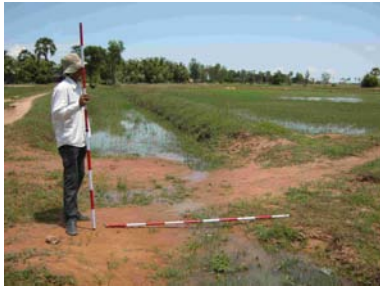
Canal No.: C23	Kind of structure: Pipe culvert (Double)	Remarks: Under house entrance road
Station: 3.00+260	Coordinate< Northing: 1222806 Easting: 454357	
		
Up Stream View	Down Stream View	Side View




Canal No.: C23	Kind of structure: Pipe culvert	Remarks: Under house entrance road
Station: 3.00+290	Coordinate< Northing: 1222806 Easting: 454375	
		
Up Stream View	Down Stream View	Side View



Canal No.: C23	Kind of structure: Pipe culvert (Double)	Remarks: Under house entrance road
Station: 3.00+300	Coordinate< Northing: 1222806 Easting: 454395	
		
Up Stream View	Down Stream View	Side View





### Result of Inventory Survey of Canal 23 (11/27)



Canal No.: C23	Kind of structure: Pipe culvert	Remarks: Under small village road
Station: 3.00+510	Coordinate< <div style="display: flex; justify-content: space-between; padding: 0 10px;"> <span>Northing: 1222811</span> <span>Easting: 454595</span> </div>	
		
Up Stream View		Down Stream View




Canal No.: C23	Kind of structure: Pipe culvert	Remarks: Routine survey	
Station: 3.00+940	Coordinate< <div style="display: flex; justify-content: space-between; padding: 0 10px;"> <span>Northing: 1222822</span> <span>Easting: 455011</span> </div>		
			
Up Stream View		Down Stream View	Side View

Canal No.: C23	Kind of structure: Canal	Remarks: Routine survey Length: 4000m
Station: 4.00+10	Coordinate< <div style="display: flex; justify-content: space-between; padding: 0 10px;"> <span>Northing: 1222824</span> <span>Easting: 455089</span> </div>	
		
Up Stream View		Down Stream View



### Result of Inventory Survey of Canal 23 (12/27)



Canal No.: C23	Kind of structure: Bridge (Commune)	Remarks: Under commune road
Station: 4.00+140	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1222828</span> <span>Easting: 455214</span> </div>	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> </div>		




Canal No.: C23	Kind of structure: Canal	Remarks: Routine survey Length : 4500m
Station: 4.00+440	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1222834</span> <span>Easting: 455529</span> </div>	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> </div>		

Canal No.: C23	Kind of structure: Bridge (Commune)	Remarks: Under commune road
Station: 4.00+780	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1222842</span> <span>Easting: 455851</span> </div>	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> <div style="text-align: center;">  <p>Side View</p> </div> </div>		



### Result of Inventory Survey of Canal 23 (13/27)




Canal No.: C23	Kind of structure: Canal	Remarks: Routine survey Length : 5000m
Station: 5.00	Coordinate< Northing: 1222845 Easting: 456002	
		
Up Stream View		Down Stream View




Canal No.: C23	Kind of structure: Pipe culvert (Double)	Remarks: Routine survey
Station: 5.00+160	Coordinate< Northing: 1222851 Easting: 456172	
		
Up Stream View		Down Stream View

Canal No.: C23	Kind of structure: Pipe culvert (Double)	Remarks: Under village road
Station: 5.00+330	Coordinate< Northing: 1222857 Easting: 456326	
		
Up Stream View	Down Stream View	Side View



### Result of Inventory Survey of Canal 23 (14/27)




Canal No.: C23	Kind of structure: Canal	Remarks: Length : 5500m
Station: 5.00+400	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1222853</span> <span>Easting: 456398</span> </div>	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> </div>		



Canal No.: C23	Kind of structure: Pipe culvert (Double)	Remarks: Under house entrance road
Station: 5.00+590	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1222860</span> <span>Easting: 456577</span> </div>	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> <div style="text-align: center;">  <p>Side View</p> </div> </div>		

Canal No.: C23	Kind of structure: Pipe culvert (Double)	Remarks: Routine survey
Station: 5.00+820	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1222865</span> <span>Easting: 456806</span> </div>	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> <div style="text-align: center;">  <p>Side View</p> </div> </div>		




### Result of Inventory Survey of Canal 23 (15/27)




Canal No.: C23	Kind of structure: Canal	Remarks:
Station: 5.00+910	Coordinate< <div style="display: inline-block; vertical-align: middle; margin-left: 10px;">                     Northing: 1222867                      Easting: 456891                 </div>	Routine survey
		
Up Stream View		Down Stream View




Canal No.: C23	Kind of structure: Bridge & groove	Remarks:
Station: 6.00+70	Coordinate< <div style="display: inline-block; vertical-align: middle; margin-left: 10px;">                     Northing: 1222872                      Easting: 457046                 </div>	Bridge is under village road
		
Up Stream View	Down Stream View	Groove

Canal No.: C23	Kind of structure: Canal	Remarks:
Station: 6.00+410	Coordinate< <div style="display: inline-block; vertical-align: middle; margin-left: 10px;">                     Northing: 1222882                      Easting: 457373                 </div>	Length of canal : 6500m
		
Up Stream View		Down Stream View



### Result of Inventory Survey of Canal 23 (16/27)




Canal No.: C23	Kind of structure: Canal	Remarks: Length : 7000m
Station: 6.00+910	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1222899</span> <span>Easting: 457857</span> </div>	
		
Up Stream View	Down Stream View	Side View




Canal No.: C23	Kind of structure: Bridge	Remarks: Under commune road
Station: 6.00+940	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1222898</span> <span>Easting: 457883</span> </div>	
		
Up Stream View	Down Stream View	Side View

Canal No.: C23	Kind of structure: Bridge & groove	Remarks: Under house entrance road Groove : water flow into pond
Station: 7.00+150	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1222873</span> <span>Easting: 458052</span> </div>	
		
Up Stream View	Down Stream View	Structure




### Result of Inventory Survey of Canal 23 (17/27)




Canal No.: C23	Kind of structure: Canal	Remarks:
Station: 7.00+440	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1222832</span> <span>Easting: 458309</span> </div>	Routine survey Length : 7500m
		
Up Stream View		Down Stream View




Canal No.: C23	Kind of structure: Pipe Culvert	Remarks:
Station: 7.00+570	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1222816</span> <span>Easting: 458429</span> </div>	Under house entrance road
		
Up Stream View		Down Stream View
		
Side View		

Canal No.: C23	Kind of structure: Pipe Culvert (Double)	Remarks:
Station: 7.00+590	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1222812</span> <span>Easting: 458449</span> </div>	Under house entrance road
		
Up Stream View		Down Stream View
		
Side View		

### Result of Inventory Survey of Canal 23 (18/27)




Canal No.: C23	Kind of structure: Pipe Culvert (Double)	Remarks: Under house entrance road
Station: 7.00+660	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1222798</span> <span>Easting: 458508</span> </div>	
		
Up Stream View	Down Stream View	Side View




Canal No.: C23	Kind of structure: Pipe Culvert (Double)	Remarks: Routine survey Under house entrance road
Station: 7.00+720	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1222784</span> <span>Easting: 458569</span> </div>	
		
Up Stream View	Down Stream View	Side View




Canal No.: C23	Kind of structure: Bridge (Box culvert)	Remarks: Under house entrance road
Station: 7.00+820	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1222774</span> <span>Easting: 458652</span> </div>	
		
Up Stream View	Down Stream View	Side View






### Result of Inventory Survey of Canal 23 (19/27)




Canal No.: C23	Kind of structure: Pipe culvert	Remarks:
Station: 7.00+970	Coordinate< <div style="display: flex; justify-content: space-between; padding: 0 5px;"> <span>Northing: 1222774</span> <span>Easting: 458778</span> </div>	Under house entrance road Diameter of pipe : 1m
		
Up Stream View	Down Stream View	Side View



Canal No.: C23	Kind of structure: Pipe culvert (Double)	Remarks:
Station: 8.00+20	Coordinate< <div style="display: flex; justify-content: space-between; padding: 0 5px;"> <span>Northing: 1222769</span> <span>Easting: 458829</span> </div>	Under house entrance road
		
Up Stream View	Down Stream View	Side View

Canal No.: C23	Kind of structure: Pipe culvert (Double)	Remarks:
Station: 8.00+100	Coordinate< <div style="display: flex; justify-content: space-between; padding: 0 5px;"> <span>Northing: 1222760</span> <span>Easting: 458904</span> </div>	Under small bicycle road There is a groove (to pond)
		
Up Stream View	Down Stream View	Side View




### Result of Inventory Survey of Canal 23 (20/27)




Canal No.: C23	Kind of structure: Pipe culvert (Double)	Remarks: Under house entrance road
Station: 8.00+180	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1222758</span> <span>Easting: 458978</span> </div>	
<div style="display: flex; justify-content: space-around;">    </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <span>Up Stream View</span> <span>Down Stream View</span> <span>Side View</span> </div>		



Canal No.: C23	Kind of structure: Bridge (Private)	Remarks: Under house entrance road A groove (to secondary canal)
Station: 8.00+250	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1222753</span> <span>Easting: 459038</span> </div>	
<div style="display: flex; justify-content: space-around;">    </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <span>Up Stream View</span> <span>Down Stream View</span> <span>Structure</span> </div>		

Canal No.: C23	Kind of structure: Canal	Remarks: Length : 8500m
Station: 8.00+320	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1222743</span> <span>Easting: 459115</span> </div>	
<div style="display: flex; justify-content: space-around;">   </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <span>Up Stream View</span> <span>Down Stream View</span> </div>		



### Result of Inventory Survey of Canal 23 (21/27)




Canal No.: C23	Kind of structure: Pipe culvert (Double)	Remarks: Under village road
Station: 8.00+540	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1222728</span> <span>Easting: 459315</span> </div>	
		
Up Stream View	Down Stream View	Side View



Canal No.: C23	Kind of structure: Pipe culvert (Double)	Remarks: Under house entrance road
Station: 8.00+630	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1222721</span> <span>Easting: 459392</span> </div>	
		
Up Stream View	Down Stream View	Side View

Canal No.: C23	Kind of structure: Canal	Remarks: Routine survey Length : 9000m
Station: 8.00+820	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1222705</span> <span>Easting: 459565</span> </div>	
		
Up Stream View	Down Stream View	




### Result of Inventory Survey of Canal 23 (22/27)



Canal No.: C23	Kind of structure: Canal	Remarks:
Station: 9.00+70	Coordinate< <div style="display: flex; justify-content: space-between; padding: 0 10px;"> <span>Northing: 1222684</span> <span>Easting: 459794</span> </div>	Routine survey Length : 9250m
		
Up Stream View		Down Stream View



Canal No.: C23	Kind of structure: Pipe culvert	Remarks:
Station: 9.00+220	Coordinate< <div style="display: flex; justify-content: space-between; padding: 0 10px;"> <span>Northing: 1222677</span> <span>Easting: 459943</span> </div>	Under bicycle road
		
Up Stream View	Down Stream View	Side View

Canal No.: C23	Kind of structure: Canal	Remarks:
Station: 9.00+370	Coordinate< <div style="display: flex; justify-content: space-between; padding: 0 10px;"> <span>Northing: 1222667</span> <span>Easting: 460093</span> </div>	Routine survey Length :9750m
		
Up Stream View		Down Stream View




### Result of Inventory Survey of Canal 23 (23/27)



Canal No.: C23	Kind of structure: Pipe culvert	Remarks:
Station: 9.00+510	Coordinate< <div style="display: flex; justify-content: space-between; padding: 0 10px;"> <span>Northing: 1222667</span> <span>Easting: 460239</span> </div>	Routine survey Pipe for Pumping up
		
Up Stream View	Down Stream View	Pumping Pipe




Canal No.: C23	Kind of structure: Canal	Remarks:
Station: 9.00+630	Coordinate< <div style="display: flex; justify-content: space-between; padding: 0 10px;"> <span>Northing: 1222659</span> <span>Easting: 460350</span> </div>	Routine survey Length : 10,000m
		
Up Stream View	Down Stream View	

Canal No.: C23	Kind of structure: Bridge (Unused)	Remarks:
Station: 9.00+760	Coordinate< <div style="display: flex; justify-content: space-between; padding: 0 10px;"> <span>Northing: 1222660</span> <span>Easting: 460486</span> </div>	There is a groove
		
Up Stream View	Down Stream View	




### Result of Inventory Survey of Canal 23 (24/27)



Canal No.: C23	Kind of structure: Pipe culvert (Double)	Remarks: Under house entrance road
Station: 9.00+830	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1222666</span> <span>Easting: 460563</span> </div>	
		
Up Stream View	Down Stream View	Structure




Canal No.: C23	Kind of structure: Pipe culvert	Remarks: Routine survey
Station: 9.00+930	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1222666</span> <span>Easting: 460650</span> </div>	
		
Up Stream View	Down Stream View	

Canal No.: C23	Kind of structure: Pipe culvert	Remarks: Under house entrance road
Station: 9.00+970	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1222663</span> <span>Easting: 460677</span> </div>	
		
Up Stream View	Down Stream View	Structure



### Result of Inventory Survey of Canal 23 (25/27)



Canal No.: C23	Kind of structure: Pipe culvert (Double)	Remarks: Under village road
Station: 10.00+140	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1222668</span> <span>Easting: 460854</span> </div>	
		
Up Stream View	Down Stream View	Structure



Canal No.: C23	Kind of structure: House	Remarks: House is under canal
Station: 10.00+200	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1222667</span> <span>Easting: 460921</span> </div>	
		
Up Stream View	Down Stream View	

Canal No.: C23	Kind of structure: Pipe culvert (Double)	Remarks: Routine survey Under village road
Station: 10.00+300	Coordinate< <div style="display: flex; flex-direction: column; gap: 5px;"> <span>Northing: 1222671</span> <span>Easting: 461009</span> </div>	
		
Up Stream View	Down Stream View	Structure

### Result of Inventory Survey of Canal 23 (26/27)



Canal No.: C23	Kind of structure: Canal	Remarks: Routine survey Length : 10,500m
Station: 10.00+470	Coordinate< <div style="display: flex; justify-content: space-between; padding: 0 10px;"> <span>Northing: 1222674</span> <span>Easting: 461176</span> </div>	
		
Up Stream View		Down Stream View

Canal No.: C23	Kind of structure: Pipe culvert	Remarks: All pipe culverts are broken
Station: 10.00+670	Coordinate< <div style="display: flex; justify-content: space-between; padding: 0 10px;"> <span>Northing: 1222680</span> <span>Easting: 461373</span> </div>	
		
Up Stream View		Down Stream View

Canal No.: C23	Kind of structure: Pipe culvert (Double)	Remarks: Under village road
Station: 10.00+700	Coordinate< <div style="display: flex; justify-content: space-between; padding: 0 10px;"> <span>Northing: 1222680</span> <span>Easting: 461409</span> </div>	
		
Up Stream View		Down Stream View



**Result of Inventory Survey of Canal 23 (27/27)**

Canal No.: C23	Kind of structure: Canal	Remarks:
Station: 10.00+830 (EP)	Coordinate< Northing: 1222682 Easting: 461544	Routine survey End Point of canal
		
Up Stream View		Down Stream View

## Inventory Survey of Existing Canals and Structures: Canal 24 (1/2)

Canal name: C24

Survey in June-July, 2011 by JICA Survey Team

Sta.	E	N	Structure	Condition	Evaluation	Flow Capacity	Remarks
0	447987	1223268	B.P.		A		On the reservoir
50	447998	1223308	Division Structure with gate	Gates are functional, outlet is eroded a little	A		Constructed under Urgent rehabilitation work by MOWRAM in 2005
250	448003	1223436	Pipe Culvert 1	Single pipe of 0.9 m dia and 3 m long	B	c	Hosue access
340	448011	1223508	Pipe Culvert 2	Single pipe of 0.9 m dia and 3 m long	B	c	Hosue access
420	448015	1223581	Pipe Culvert 3 & Groove	Division structure for two canals, culvert of 0.9 m dia and 3 m long, inlet of culvert has grooves	D	c	Division structure and CV on village road
500	448015	1223667	Canal section	Canal section is well maintained; water surface width is about 2 m	B		
810	448029	1223888	Pipe Culvert 4	Single pipe of 0.7 m dia and 2.2 m long	D	c	on inspection road
1,000	448240	1223883	Pipe Culvert 5 & Groove	Single pipe of 0.6 m dia and 4 m long, grooves on the inlet	C	c	Farm access
1,110	448344	1223886	Pipe Culvert 6	Single pipe of 0.5 m dia and 2 m long	C	c	Farm access
1,500	448702	1223890	Canal section	Canal section is remained, but not maintained due to no irrigation water ; bottom width is about 2 m	C		
1,590	448783	1223886	Pipe Culvert 7 & Groove	Division structure for two canals with grooves Single pipe of 0.8 m dia and 2.5 m long, but inlet portion is buried by 0.4 m.	B	c	CV with check groove on village road
1,730	448897	1223889	Pipe Culvert 8	Single pipe of 0.6 m dia and 1 m long	C	c	Farm access
1,940	449073	1223931	Pipe Culvert 9	Single pipe of 1.0 m dia and 4 m long	B	b	on vilalge road
2,000	449157	1223949	Canal section	Canal section is remained, but not maintained due to no irrigation water ; bottom width is about 2 m	C		
2,160	449327	1223949	Interesting Point	Canal is bended to left			
2,500	449578	1223889	Canal section	Canal section is remained, but not maintained due to no irrigation water ; bottom width is about 2 m	C		
2,740	449803	1223892	Embankment	The canal is obstructed by earth to check up water level and divert water			To be removed
2,960	449989	1223888	Pipe Culvert 10	Single pipe of 0.6 m dia and 3.2 m long, constructed with assistance of WFP in 1999		c	on vilalge road irrigation water is supplied by main canal from north to south canal, but not from C24
3,000	450052	1223886	Canal section	Canal section is remained, but not maintained, irrigation water is supplied by main canal; bottom width is about 2 m	C		
3,060	450102	1223887	Tertially Canal Crossing Point				
3,190	450205	1223880	Pipe Culvert 11	Double pipes on village road, 0.4 m dia x 2 nos.		c	on vilalge road
3,500	450494	1223879	Canal section	Canal section is remained, but many grasses in the canal			
3,520	450503	1223880	Earth Check	The canal is obstructed by earth to divert the water to tertiary canal			
4,000	451021	1223859	Division Structure	Ruins; no function at present	D		No function
4,420	451415	1223849	Pipe Culvert 12 (Private)	Single pipe of 0.5 m dia and 2 m long	B	c	Farm access
4,500	451562	1223847	Pipe Culvert 13 (Private)	Single pipe of 0.5 m dia and 2 m long		c	Farm access
4,710	451727	1223848	Pipe Culvert 14 (Private)	Single pipe of 0.5 m dia and 1 m long		c	Farm access
4,830	451821	1223842	Bridge (Culvert-15) on commune road	1.6 m span and 0,6 m high, 5 m long	B	b	On commune road
5,000	451979	1223843	Canal section	Canal section is remained, but many grasses in the canal	C		
5,500	452484	1223827	Pipe Culvert 16	Single pipe of 0.6 m dia and 4 m long	B	c	on vilalge road
5,720	452701	1223822	Pipe Culvert 17 (Private)	Single pipe of 0.5 m dia and 3 m long	C	c	Farm access
6,000	453002	1223820	Pipe Culvert 18 (Double Unit)	Two pipes of 0.5 m dia each and 2 m long	C	c	Farm access

## Inventory Survey of Existing Canals and Structures: Canal 24 (2/2)




Canal name: C24




Survey in June-July, 2011 by JICA Survey Team




Sta.	E	N	Structure	Condition	Evaluation	Flow Capacity	Remarks
6,050	453058	1223818	E.P.	Canal section is remained, but no irrigation water reached to this point	C		

Structure	Nos.	Evaluation	Regulators	Culvert/ bridge	Buildings within ROW
Division structure with gates	1	A	1		
Regulators	0	B		16	
Bridges/ Culvert	18	C			
Public	6	D		2	
Concrete	5				
Wooden	0				
Private	12				
Concrete	12				
Wooden	0				
<b>Total</b>	<b>19</b>	<b>Total</b>	<b>1</b>	<b>18</b>	<b>0</b>
<u>Evaluation of Canal and structures</u>					
Canal sections are remained for passing irrigation and drain water					
One gated division structure is available at BP; constructed in 2005-6					
1.5 km from BP is rather in good condition with flow section					
A: Fully functioning		<u>Flow Area of culvers and bridges</u> b: enough sectional area                      c: not enough, and to be removed			
B: Partly deteriorated but function is maintained					
C: Deteriorated, and does not function well					
D: Completely damaged, and does not function					
Private culverts were constructed by using available pipes, irrespective of flow capacity; size of downstream pipe is bigger than one upstream					




### Result of Inventory Survey of Canal 24 (1/11)




Canal No.: C24	Kind of structure(s): Gate	Remarks: Intake Gate
Station: 0.00(B.P.)	Coordinate< Northing: 1223268 Easting: 447987	
		
Up Stream View	Down Stream View	B.P.



Canal No.: C24	Kind of structure(s): Gate	Remarks: Inflow from Left(westward) Gate
Station: 0.00+50	Coordinate< Northing: 1223308 Easting: 447998	
		
Up Stream View	Down Stream View	Inflow Gate

Canal No.: C24	Kind of structure(s): Pipe Culvert	Remarks:
Station: 0.00+250	Coordinate< Northing: 1223436 Easting: 448003	
		
Up Stream View	Down Stream View	Side View

### Result of Inventory Survey of Canal 24 (2/11)




Canal No.: C24	Kind of structure(s): Pipe Culvert	Remarks:
Station: 0.00+340	Coordinate< Northing: 1223508 Easting: 448011	
		
Up Stream View	Down Stream View	Side View




Canal No.: C24	Kind of structure(s): Pipe Culvert	Remarks: In/Out-flow from both bank
Station: 0.00+420	Coordinate< Northing: 1223581 Easting: 448015	
		
Up Stream View	Down Stream View	Groove (Right Bank)




Canal No.: C24	Kind of structure(s): Canal	Remarks: Routine survey (every 500m)
Station: 0.00+500	Coordinate< Northing: 1223677 Easting: 448015	
		
Up Stream View	Down Stream View	

### Result of Inventory Survey of Canal 24 (3/11)



+




Canal No.: C24	Kind of structure(s): Pipe Culvert	Remarks: Canal turning point (Direction change from North to East)
Station: 0.00+810	Coordinate< Northing: 1223888 Easting: 448029	
		
Up Stream View	Down Stream View	Northward Pipe Culvert



Canal No.: C24	Kind of structure(s): Pipe Culvert	Remarks: - Pipe culvert with groove - Routine survey
Station: 1.00	Coordinate< Northing: 1223883 Easting: 448015	
		
Up Stream View	Down Stream View	Side View

Canal No.: C24	Kind of structure(s): Pipe Culvert	Remarks:
Station: 1.00 + 110	Coordinate< Northing: 1223886 Easting: 448344	
		
Up Stream View	Down Stream View	Structure(s)




**Result of Inventory Survey of Canal 24 (4/11)**



Canal No.: C24	Kind of structure(s): Canal	Remarks: - Routine survey
Station: 1.00+ 500	Coordinate< Northing: 1223890 Easting: 448702	
		
Up Stream View	Down Stream View	




Canal No.: C24	Kind of structure(s): Pipe Culver	Remarks: - Pipe culvert with groove - In/Out flow from/to left bank
Station: 1.00 + 590	Coordinate< Northing: 1223886 Easting: 448783	
		
Up Stream View	Down Stream View	Side View

Canal No.: C24	Kind of structure(s): Pipe Culver	Remarks:
Station: 1.00 + 730	Coordinate< Northing: 1223889 Easting: 448897	
		
Up Stream View	Down Stream View	

### Result of Inventory Survey of Canal 24 (5/11)



Canal No.: C24	Kind of structure(s): Pipe Culver	Remarks: Pipe culvert under commune road
Station: 1.00 + 940	Coordinate< Northing: 1223931 Easting: 449073	
		
Up Stream View	Down Stream View	Side View




Canal No.: C24	Kind of structure(s): Canal	Remarks: Routine survey
Station: 2.00	Coordinate< Northing: 1223949 Easting: 449157	
		
Up Stream View	Down Stream View	




Canal No.: C24	Kind of structure(s): Canal	Remarks: Turning point to the right(southward)
Station: 2.00+160	Coordinate< Northing: 1223949 Easting: 449327	
		
Up Stream View	Turning point (rightward)	Turning point(leftward)





### Result of Inventory Survey of Canal 24 (6/11)



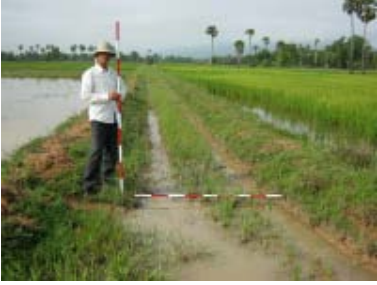
Canal No.: C24	Kind of structure(s): Canal	Remarks: Routine survey
Station: 2.00+500	Coordinate< Northing: 1223889 Easting: 449578	
		
Up Stream View		Down Stream View




Canal No.: C24	Kind of structure(s): Embankment	Remarks: Embankment across C24 canal
Station: 2.00 +740	Coordinate< Northing: 1223892 Easting: 449803	
		
Up Stream View		Down Stream View
		
Tertiary Canal		

Canal No.: C24	Kind of structure(s): Pipe culvert	Remarks: Pipe culvert under commune road
Station: 2.00+960	Coordinate< Northing: 1223888 Easting: 449989	
		
Up Stream View		Down Stream View
		
Commune Road over C24		



### Result of Inventory Survey of Canal 24 (7/11)



Canal No.: C24	Kind of structure(s): Embankment	Remarks:
Station: 3.00	Coordinate< Northing: 1223886 Easting: 450052	Routine survey
		
Up Stream View		Down Stream View




Canal No.: C24	Kind of structure(s): Tertiary canal	Remarks:
Station: 3.00+60	Coordinate< Northing: 1223887 Easting: 450102	Tertiary canal crossing point
		
Up Stream View		Down Stream View
		
Tertiary Canal		

Canal No.: C24	Kind of structure(s): Pipe culvert	Remarks:
Station: 3.00+190	Coordinate< Northing: 1223880 Easting: 450205	Village Road Crossing
		
Up Stream View		Down Stream View
		
Side View (Village Road)		




### Result of Inventory Survey of Canal 24 (8/11)




Canal No.: C24	Kind of structure(s): Embankment	Remarks: Routine survey
Station: 3.00+500	Coordinate< Northing: 1223879 Easting: 450494	
		
Up Stream View		Down Stream View



Canal No.: C24	Kind of structure(s): Embankment	Remarks: Embankment across C24 canal
Station: 3.00+ 520	Coordinate< Northing: 1223880 Easting: 450503	
		
Up Stream View		Down Stream View

Canal No.: C24	Kind of structure(s): Division structure	Remarks: Routine survey Structure without almost function
Station: 4.00	Coordinate< Northing: 1223859 Easting: 451021	
		
Up Stream View	Down Stream View	Structure




### Result of Inventory Survey of Canal 24 (9/11)



Canal No.: C24	Kind of structure(s): Pipe Culvert	Remarks:
Station: 4.00+420	Coordinate< Northing: 1223849 Easting: 451415	
		
Up Stream View	Down Stream View	Side View




Canal No.: C24	Kind of structure(s): Canal	Remarks: Routine Survey
Station: 4.00 +500	Coordinate< Northing: 1223847 Easting: 451562	
		
Up Stream View	Down Stream View	Side View

Canal No.: C24	Kind of structure(s): Pipe Culvert	Remarks: Private Road
Station: 4 +710	Coordinate< Northing: 1223848 Easting: 451727	
		
Up Stream View	Down Stream View	




### Result of Inventory Survey of Canal 24 (10/11)



Canal No.: C24	Kind of structure(s): Culvert	Remarks: Commune Road Crossing C24 Canal
Station: 4.00 +830	Coordinate< Northing: 1223842 Easting: 451821	
		
Up Stream View	Down Stream View	Side View (Commune Road)



Canal No.: C24	Kind of structure(s): Canal	Remarks: Routine survey
Station: 5.00	Coordinate< Northing: 1223843 Easting: 451979	
		
Up Stream View	Down Stream View	

Canal No.: C24	Kind of structure(s): Pipe Culvert	Remarks: Routine survey
Station: 5.00+500	Coordinate< Northing: 1223827 Easting: 452484	
		
Up Stream View	Down Stream View	Side View (Crossover Road)

**Result of Inventory Survey of Canal 24 (11/11)**

Canal No.: C24	Kind of structure(s): Pipe Culvert	Remarks:
Station: 5.00+720	Coordinate< Northing: 1223822 Easting: 452701	
		
Up Stream View	Down Stream View	Side View

Canal No.: C24	Kind of structure(s): Pipe Culvert	Remarks: Double Pipe culvert
Station: 6.00	Coordinate< Northing: 1223820 Easting: 453002	
		
Up Stream View	Down Stream View	

Canal No.: C24	Kind of structure(s): Canal	Remarks: E.P.
Station: 6.00+50(EP)	Coordinate< Northing: 1223818 Easting: 453058	
		
Up Stream View	Down Stream View	

## Inventory Survey of Existing Canals and Structures: Canal 3D (1/3)

Canal name: 3D				Survey in June-July, 2011 by JICA Survey Team			
Sta.	E	N	Structure	Condition	Evaluation	Flow Capacity	Remarks
0	0454726	1220131	B.P.				
90	0454803	1220081	Embankment	Use of village road			Village road
150	0454848	1220047	Pipe Culvert 1	Single pipe with 0.1m dia and 2.5m long	B		House access
220	0454906	1220008	Pipe Culvert 2	More than 20 m	B		House access (use as house yard)
280	0454952	1219976	Pipe Culvert 3	Single pipe with 0.1m dia and 2.5m long	B		House access
350	0455016	1219937	Pipe Culvert 4	Single pipe with 0.1m dia and 2.5m long	B		Farm access
470	0455114	1219876	Pipe Culvert 5	Single pipe with 0.2m dia and 4.5m long	B		House access
490	0455126	1219867	Pipe Culvert 6	Single pipe with 0.2m dia and 4.5m long	B		House access
540	0455168	1219841	Pipe Culvert 7	Single pipe with 0.1m dia and 2.5m long	B		House access
630	0455247	1219796	Pipe Culvert 8	Single pipe with 0.3m dia and 2.5m long	B		House access
660	0455274	1219777	Pipe Culvert 9	Single pipe with 0.1m dia and 1m long	B		Farm access
700	0455309	1219752	House-1	Parmanent house with brick fence & Repair shop for bike			Shop
780	0455374	1219711	Shops/Houses (B.P.1)	Shop on canal			(B.P.1) :up to Sta. 1,690
1,270	0455810	1219485	Canal section	No canal section remains			
1,690	0456227	1219418	Shops/Houses (E.P.1)	House on Row			(E.P.1) :23 Shops/Houses
1,750	0456291	1219409	Canal section	No canal section remains			
2,000	0456538	1219363	B.P.	Canal section remains with 2 m bottom width			
2,100	0456630	1219337	Embankment	Canal section is under re-filling for housing			House yard
2,180	0456704	1219322	Pipe Culvert 10	Single pipe with 0.2m dia and 3m long	B		House access
2,260	0456778	1219306	Pipe Culvert 11 (Small)	Single pipe with 0.1m dia and 3m long	B		House access
2,310	0456821	1219291	House-2/ Pipe Culvert 12	Canteen/ Culvert on village road, single pipe with 0.1m and 3m long	B		House is fully occupied the canal area/ <b>Public access</b>
2,390	0456903	1219274	Pipe Culvert 13	Single pipe with 0.2m dia and 3m long	B		Farm access
2,420	0456929	1219264	Pipe Culvert 14	Single pipe with 0.3m dia and 2.5m long	B		Farm access
2,440	0456948	1219264	House-3	Nipa hat			House
2,450	0456956	1219259	Pipe Culvert 15	Single pipe with 0.3m dia and 4m long	B		Farm access
2,470	0456975	1219273	House-4	Wood and Galvanized House			House
2,500	0456995	1219245	Pipe Culvert 16	Single pipe with 0.2m dia and 4m long	B		Farm access
2,520	0457017	1219244	Pipe Culvert 17	Single pipe with 0.1m dia and 4.5m long	B		Farm access
2,600	0457092	1219229	Embankment	Embankmen for housing			Canal area is fully re-filled
2,660	0457151	1219208	Embankment	Embankmen for housing			Canal area is fully re-filled
2,670	0457160	1219209	Embankment	Embankmen for housing			Canal area is fully re-filled
2,790	0457278	1219176	Embankment	Embankmen for housing			Canal area is fully re-filled
2,880	0457367	1219154	Pipe Culvert 18	Single pipe with 0.1m dia and 4m long	B		Farm access
2,950	0457438	1219135	Pipe Culvert 19	Single pipe with 0.4m dia and 10m long	B		House access
3,020	0457503	1219122	Pipe Culvert 20	Single pipe with 0.3m dia and 8m long	B		House access
3,060	0457543	1219109	House-5	Hut is no longer used			House
3,090	0457568	1219103	Pipe Culvert 21	Single pipe with 0.3m dia and 3m long	B		House access
3,160	0457635	1219086	Pipe Culvert 22	Single pipe with 0.3m dia and 3m long	B		House access
3,190	0457664	1219079	Embankment	More than 20 m			House yard
3,260	0457727	1219062	Pipe Culvert 23	Single pipe with 0.4m dia and 3m long	B		House access
3,270	0457738	1219062	Pipe Culvert 24	Single pipe with 0.1m dia and 2.5m long	B		Village road
3,570	0457996	1218917	Shops/Houses (B.P.2)	Nipa hut Shop on canal			(B.P.2):up to Sta. 5,880
3,580	0457998	1218929	Bridge-1 & Groove	1.4m span and 2.5m wide with grooves for planks	B/D		House access
3,680	0458083	1218880	Embankment				House yard
3,710	0458112	1218872	Pipe Culvert 25	Single pipe with 0.5m dia and 3m long	B		House access
3,770	0458162	1218845	Pipe Culvert 26	Single pipe with 0.5m dia and 2m long	B		House access
3,820	0458203	1218819	Pipe Culvert 27	Single pipe with 0.5m dia and 2.5m long	B		House access

## Inventory Survey of Existing Canals and Structures: Canal 3D (2/3)

Canal name: 3D				Survey in June-July, 2011 by JICA Survey Team			
Sta.	E	N	Structure	Condition	Evaluation	Flow Capacity	Remarks
3,840	0458220	1218806	Pipe Culvert 28	Single pipe with 0.4m dia and 6m long	B		House access
3,910	0458283	1218776	Pipe Culvert 29	Single pipe with 0.3m dia and 2.5m long	B		House access
3,990	0458351	1218739	Pipe Culvert 30 (Double)	Two pipe with 0.6m dia each and 6m long	B		Village road
4,100	0458448	1218684	Pipe Culvert 31	Single pipe with 0.3m dia and 3m long	B		House access
4,130	0458472	1218675	Pipe Culvert 32	Single pipe with 0.4m dia and 3m long	B		House access
4,170	0458506	1218657	Pipe Culvert 33	Single pipe with 0.4m dia and 2.5m long	B		House access
4,280	0458602	1218604	Pipe Culvert 34	Single pipe with 0.5m dia and 3m long	B		Farm access
4,320	0458641	1218590	Pipe Culvert 35	Single pipe with 0.3m dia and 2m long	B		Farm access
4,370	0458678	1218562	Pipe Culvert 36	Single pipe with 0.3m dia and 3m long	B		Farm access
4,480	0458772	1218513	Pipe Culvert 37	Single pipe with 0.5m dia and 2.5m long	B		Farm access
4,530	0458813	1218489	Pipe Culvert 38	Single pipe with 0.5m dia and 6m long	B		House access
4,560	0458839	1218474	Pipe Culvert 39	Single pipe with 0.2m dia and 2m long	B		House access
4,610	0458884	1218455	Pipe Culvert 40	Single pipe with 0.7m dia and 4m long	B		House access
4,620	0458889	1218453	Pipe Culvert 41	Single pipe with 0.5m dia and 3m long	B		House access
4,700	0458959	1218414	Pipe Culvert 42	Single pipe with 0.6m dia and 3m long	B		Farm access
4,740	0458991	1218396	Bridge & Groove	Regulating structure, gates was installed before? 1.3m span and 3m wide with grooves for planks	B		Village road
4,800	0459047	1218364	Pipe Culvert 43	Single pipe with 0.5m dia and 3m long	B		Farm access
4,820	0459060	1218356	Pipe Culvert 44 & Shops/Houses (E.P.2)	Single pipe with 0.5m dia and 7m long House on canal	B		(E.P.2) 4 Shops/Houses
4,930	0459161	1218306	Pipe Culvert 45	Single pipe with 0.5m dia and 3m long	B		Farm access
5,000	0459220	1218273	Embankment	Embankmen for housing			House access
5,030	0459249	1218255	Canal section		C		House yard
5,080	0459293	1218240	Pipe Culvert 46	Single pipe with 0.5m dia and 2.5m long			Village road
5,280	0459463	1218143	House-6	small hut is no longer used on canal			House
5,410	0459577	1218085	Pipe Culvert 47	Single pipe with 0.4m dia and 2m long	B		Farm access
5,430	0459594	1218078	Pipe Culvert 48	Single pipe with 0.5m dia and 3m long	B		House access
5,460	0459624	1218062	Bridge-2 (Private Wooden)	W=1.5m	B		Wooden bridge
5,540	0459692	1218024	Canal section				
5,600	0459748	1217996	Pipe Culvert 49	Single pipe with 0.5m dia and 2.5m long	B		Farm access
5,650	0459788	1217969	Pipe Culvert 50 & House-7	Single pipe with 0.6m dia and 7m long Shop on canal	B		House access
5,700	0459835	1217941	Embankment (Village Road)	Embankmen for village road			Public road access
5,790	0459911	1217886	House-8	Canteen on RoW			Canal section is fully filled for building
5,810	0459926	1217882	Embankment (Fence)	Fence (Volleyball field)			Canal section is fully filled for field
5,910	0460018	1217834	House-9	House on RoW			House
6,020	0460131	1217831	Canal section				
6,180	0460293	1217807	School	Fence on canal			Canal section is fully filled for school building
6,360	0460473	1217789	Third B.P.				
6,470	0460577	1217773	Pipe Culvert 51	Single pipe with 0.5m dia and 2.5m long	B		Farm access
6,500	0460608	1217766	Canal section	Canal section remains			
6,610	0460714	1217755	Bridge-3 (Private)	W=2.5m	B		House access
6,630	0460729	1217757	Pipe Culvert 52	Single pipe with 0.7m dia and 2.5m long	B		House access
6,660	0460760	1217748	Pipe Culvert 53/ House-10	Single pipe with 0.6m dia and 2.5m long/Shop on canal	B		Shop
6,720	0460817	1217739	Bridge-4 (Private)	W=2.5m made by concrete	B		House access
6,760	0460859	1217729	Bridge-5 (Private)	W=2m made by wood	B		House access
6,880	0460976	1217704	Pipe Culvert 54	Single pipe with 0.8m dia and 2m long	B		House access



## Inventory Survey of Existing Canals and Structures: Canal 3D (3/3)




Canal name: 3D



Survey in June-July, 2011 by JICA Survey Team




Sta.	E	N	Structure	Condition	Evaluation	Flow Capacity	Remarks
6,890	0460989	1217707	Bridge-6 (Private) & Groove	Regulating structure, 1.6m span and 4m wide with grooves for planks	B/D		Village road
6,930	0461032	1217697	Bridge-7 (Private)/ House-11	W=2.2m made by wood/ House on canal	B		House
6,970	0461067	1217685	Bridge-8 (Private)	W=1.6m made by wood	B		House access
7,000	0461093	1217683	Bridge-9 (Private)	W=2.5m made by concrete	B		House access
7,030	0461120	1217677	Pipe Culvert 55	Single pipe with 1.5m dia and 4.5m long at one side (upstream) and three pipes 0.5m dia each at other side (downstream)	B		House access
7,190	0461275	1217644	Bridge-10 (Private)	W=1.5m made by wood	B		House access
7,300	0461386	1217622	Bridge-11 (Private) & House-12	W=4m made by concrete/ Shop on canal	B		Shop
7,320	0461402	1217619	Shops/Houses (B.P.3)	Canteen & house on canal			(B.P.3):up to Sta. 7,830
7,420	0461500	1217602	Pipe Culvert 56 (Double)	Two pipes with 0.8m dia each and 3m long	B		Village road
7,500	0461575	1217581	Pipe Culvert 57 (Triple)	Three pipes with 0.5m dia each and 2.5m long	B		House access
7,670	0461741	1217551	Pipe Culvert 58 (Double) & Groove	Regulating structure, gates was installed before? Two pipes with 1m dia each and 2.5m	B/D		No use at present
7,830	0461902	1217517	Bridge-12 (Private) & Shops/Houses (E.P.3)	2m span and wide 2.5m made by concrete Shop on canal	B		(E.P.3):8 Shops/Houses
7,940	0462014	1217494	Bridge-13 (Private) & Groove	Regulating structure, 1.4m span and 4m wide with grooves for planks	B/D		Village road
7,970	0462048	1217489	Canal section	Canal section remains			
8,160	0462230	1217452	Pipe Culvert 59 (Triple) & Bridge-14 (Pol Pot Regime)	Three pipes with 0.8m dia each and 7m long	B		Under national road 130A
8,240	0462306	1217441	Pipe Culvert 60 (Double)	Two pipes with 1m dia each and 3m long	B		House access
8,430	0462491	1217411	Bridge-15 & Groove (Village)	Regulating structure, 1.4m span and 3m wide with grooves for planks	B/D		Public
8,530	0462517	1217400	E.P.	Canal section remains			

Structure	Nos.	Evaluation	Regulators	Culvert/ bridge	Buildings within ROW
Regulators	5	A			
Bridges/ Culvert	75	B		75	
Public	10	C			
Concrete	10	D	5		
Wooden	0	Total	5	75	47
Private	65	<u>Evaluation of Canal and structures</u>			
Concrete	60	Many canal sections have been filled for making house yard and house and farm accesses Regulator mentioned above is just provided grooves at the inlet of culverts to place planks, but no gate is placed			
Wooden	5	Many house and farm accesses for private use were constructed privately without permission of PDWRAM			
Total	80	<u>Removal of obstructions on canal route is to be decided by MOWRAM</u>			
A: Fully functioning		3D is rather free from flood inflow, since the Main canal 33 received the drain water from higher area			
B: Partly deteriorated but function is maintained					
C: Deteriorated, and does not function well					
D: Completely damaged, and does not function					




### Result of Inventory Survey of Canal 3D (1/35)




Canal No.: 3D	Kind of structure: Canal	Remarks: - Cross the National Road 130A
Station: 0.00(B.P.)	Coordinate< Northing: 1220131 Easting: 454726	
		
Up Stream View	Down Stream View	Structure




Canal No.: 3D	Kind of structure: Embankment	Remarks: Routine survey
Station: 0.00+80	Coordinate< Northing: 1220081 Easting: 454803	
		
Up Stream View	Down Stream View	

Canal No.: 3D	Kind of structure: Pipe culvert	Remarks: Routine survey
Station: 0.00+160	Coordinate< Northing: 1220047 Easting: 454848	
		
Up Stream View	Down Stream View	Side View




### Result of Inventory Survey of Canal 3D (2/35)




Canal No.: 3D	Kind of structure: Pipe culvert	Remarks:
Station: 0.00+240	Coordinate< Northing: 1220008 Easting: 454906	Routine survey
		
Up Stream View	Down Stream View	Side View




Canal No.: 3D	Kind of structure: Pipe culvert	Remarks:
Station: 0.00+280	Coordinate< Northing: 1219976 Easting: 454952	Routine survey
		
Up Stream View	Down Stream View	Side View

Canal No.: 3D	Kind of structure: Pipe culvert	Remarks:
Station: 0.00+360	Coordinate< Northing: 1219937 Easting: 455016	Routine survey
		
Up Stream View	Down Stream View	Side View




### Result of Inventory Survey of Canal 3D (3/35)




Canal No.: 3D	Kind of structure: Pipe culvert	Remarks:
Station: 0.00+480	Coordinate< Northing: 1219876 Easting: 455114	Routine survey
		
Up Stream View	Down Stream View	Side View




Canal No.: 3D	Kind of structure: Pipe culvert	Remarks:
Station: 0.00+500	Coordinate< Northing: 1219867 Easting: 455126	Routine survey
		
Up Stream View	Down Stream View	Side View

Canal No.: 3D	Kind of structure: Pipe culvert	Remarks:
Station: 0.00+540	Coordinate< Northing: 1219841 Easting: 455168	Routine survey
		
Up Stream View	Down Stream View	Side View

### Result of Inventory Survey of Canal 3D (4/35)




Canal No.: 3D	Kind of structure: Pipe culvert	Remarks:
Station: 0.00+640	Coordinate< Northing: 1219796 Easting: 455247	Routine survey
  		
<div style="display: flex; justify-content: space-around;"> <span>Up Stream View</span> <span>Down Stream View</span> <span>Side View</span> </div>		



Canal No.: 3D	Kind of structure: Pipe culvert	Remarks:
Station: 0.00+660	Coordinate< Northing: 1219777 Easting: 455274	Routine survey
  		
<div style="display: flex; justify-content: space-around;"> <span>Up Stream View</span> <span>Down Stream View</span> <span>Side View</span> </div>		



Canal No.: 3D	Kind of structure: House	Remarks:
Station: 0.00+700	Coordinate< Northing: 1219752 Easting: 455309	Routine survey
  		
<div style="display: flex; justify-content: space-around;"> <span>Up Stream View</span> <span>Down Stream View</span> <span>Structure</span> </div>		





### Result of Inventory Survey of Canal 3D (5/35)



Canal No.: 3D	Kind of structure: House	Remarks: Routine survey Secondary B.P.
Station: 0.00+740	Coordinate< Northing: 1219711 Easting: 455374	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> <div style="text-align: center;">  <p>Structure</p> </div> </div>		




Canal No.: 3D	Kind of structure: Canal	Remarks: Routine survey
Station: 1.00+260	Coordinate< Northing: 1219485 Easting: 455810	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> </div>		

Canal No.: 3D	Kind of structure: Canal	Remarks: Routine survey
Station: 1.00+760	Coordinate< Northing: 1219409 Easting: 456291	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> </div>		




### Result of Inventory Survey of Canal 3D (6/35)



Canal No.: 3D	Kind of structure: Canal	Remarks: Routine survey Sub B.P.
Station: 2.00+50	Coordinate< Northing: 1219363 Easting: 456538	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> </div>		




Canal No.: 3D	Kind of structure: Embankment	Remarks: Routine survey
Station: 2.00+140	Coordinate< Northing: 1219337 Easting: 456630	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> </div>		

Canal No.: 3D	Kind of structure: Pipe culvert	Remarks: Routine survey
Station: 2.00+240	Coordinate< Northing: 1219322 Easting: 456704	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> <div style="text-align: center;">  <p>Side View</p> </div> </div>		

### Result of Inventory Survey of Canal 3D (7/35)




Canal No.: 3D	Kind of structure: Pipe culvert(small)	Remarks: Routine survey
Station: 2.00+300	Coordinate< Northing: 1219306 Easting: 456778	
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> <div style="text-align: center;">  <p>Side View</p> </div> </div>		




Canal No.: 3D	Kind of structure: House	Remarks: Routine survey
Station: 2.00+330	Coordinate< Northing: 1219291 Easting: 456821	
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> </div>		




Canal No.: 3D	Kind of structure: Pipe culvert	Remarks: Routine survey
Station: 2.00+370	Coordinate< Northing: 1219282 Easting: 456865	
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> <div style="text-align: center;">  <p>Structure</p> </div> </div>		






**Result of Inventory Survey of Canal 3D (8/35)**




Canal No.: 3D	Kind of structure: Pipe culvert	Remarks: Routine survey
Station: 2.00+400	Coordinate< Northing: 1219274 Easting: 456903	
		
Up Stream View	Down Stream View	Side View




Canal No.: 3D	Kind of structure: Pipe culvert	Remarks: Routine survey
Station: 2.00+430	Coordinate< Northing: 1219264 Easting: 456929	
		
Up Stream View	Down Stream View	Side View

Canal No.: 3D	Kind of structure: Pipe culvert	Remarks: Routine survey
Station: 2.00+440	Coordinate< Northing: 1219259 Easting: 456956	
		
Up Stream View	Down Stream View	Side View




### Result of Inventory Survey of Canal 3D (9/35)




Canal No.: 3D	Kind of structure: Pipe culvert	Remarks: Routine survey
Station: 2.00+470	Coordinate< Northing: 1219245 Easting: 456995	
		
Up Stream View	Down Stream View	Side View




Canal No.: 3D	Kind of structure: Pipe culvert	Remarks: Routine survey
Station: 2.00+480	Coordinate< Northing: 1219244 Easting: 457017	
		
Up Stream View	Down Stream View	Structure

Canal No.: 3D	Kind of structure: Embankment	Remarks: Routine survey
Station: 2.00+530	Coordinate< Northing: 1219229 Easting: 457092	
		
Up Stream View	Down Stream View	Structure




### Result of Inventory Survey of Canal 3D (10/35)




Canal No.: 3D	Kind of structure: Embankment	Remarks:
Station: 2.00+590	Coordinate< Northing: 1219208 Easting: 457151	Routine survey
		
Up Stream View	Down Stream View	Side View




Canal No.: 3D	Kind of structure: Embankment	Remarks:
Station: 2.00+590	Coordinate< Northing: 1219209 Easting: 457160	Routine survey
		
Up Stream View	Down Stream View	Side View

Canal No.: 3D	Kind of structure: Embankment	Remarks:
Station: 2.00+710	Coordinate< Northing: 1219176 Easting: 457277	Routine survey
		
Up Stream View	Down Stream View	Structure




**Result of Inventory Survey of Canal 3D (11/35)**




Canal No.: 3D	Kind of structure: Pipe culvert	Remarks: Routine survey
Station: 2.00+810	Coordinate< Northing: 1219154 Easting: 457367	
		
Up Stream View	Down Stream View	Side View




Canal No.: 3D	Kind of structure: Pip culvert	Remarks: Routine survey
Station: 2.00+890	Coordinate< Northing: 1219135 Easting: 457438	
		
Up Stream View	Down Stream View	Side View

Canal No.: 3D	Kind of structure: Pipe culvert	Remarks: Routine survey
Station: 2.00+960	Coordinate< Northing: 1219122 Easting: 457503	
		
Up Stream View	Down Stream View	Side View




### Result of Inventory Survey of Canal 3D (12/35)




Canal No.: 3D	Kind of structure: House	Remarks: Routine survey
Station: 2.00+990	Coordinate< Northing: 1219109 Easting: 457543	
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> <div style="text-align: center;">  <p>Structure</p> </div> </div>		




Canal No.: 3D	Kind of structure: Pipe culvert	Remarks: Routine survey
Station: 3.00+10	Coordinate< Northing: 1219103 Easting: 457568	
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> <div style="text-align: center;">  <p>Side View</p> </div> </div>		

Canal No.: 3D	Kind of structure: Pipe culvert	Remarks: Routine survey
Station: 3.00+70	Coordinate< Northing: 1219086 Easting: 457635	
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> <div style="text-align: center;">  <p>Side View</p> </div> </div>		




**Result of Inventory Survey of Canal 3D (13/35)**




Canal No.: 3D	Kind of structure: Embankment	Remarks:
Station: 3.00+110	Coordinate< Northing: 1219079 Easting: 457664	Routine survey
		
Up Stream View	Down Stream View	Side View




Canal No.: 3D	Kind of structure: Pipe culvert	Remarks:
Station: 3.00+200	Coordinate< Northing: 1219062 Easting: 457727	Routine survey
		
Up Stream View	Down Stream View	Side View

Canal No.: 3D	Kind of structure: Pipe culvert	Remarks:
Station: 3.00+200	Coordinate< Northing: 1219062 Easting: 457738	Routine survey
		
Up Stream View	Down Stream View	Side View




**Result of Inventory Survey of Canal 3D (14/35)**




Canal No.: 3D	Kind of structure: Bridge	Remarks:
Station: 3.00+500	Coordinate< Northing: 1218929 Easting: 457998	There is a groove
		
Up Stream View	Down Stream View	Side View




Canal No.: 3D	Kind of structure: Embankment	Remarks:
Station: 3.00+610	Coordinate< Northing: 1218880 Easting: 458083	Routine survey
		
Up Stream View	Down Stream View	Side View

Canal No.: 3D	Kind of structure: Pipe culvert	Remarks:
Station: 3.00+620	Coordinate< Northing: 1218872 Easting: 458112	Routine survey
		
Up Stream View	Down Stream View	Side View

### Result of Inventory Survey of Canal 3D (15/35)




Canal No.: 3D	Kind of structure: Pipe Culvert	Remarks:
Station: 3.00+710	Coordinate< Northing: 1218845 Easting: 458162	Routine survey
		
Up Stream View	Down Stream View	Side View




Canal No.: 3D	Kind of structure: Pipe Culvert	Remarks:
Station: 3.00+770	Coordinate< Northing: 1218819 Easting: 458203	Routine survey
		
Up Stream View	Down Stream View	Side View




Canal No.: 3D	Kind of structure: Pipe culvert	Remarks:
Station: 3.00+780	Coordinate< Northing: 1218806 Easting: 458220	Routine survey
		
Up Stream View	Down Stream View	Side View






### Result of Inventory Survey of Canal 3D (16/35)




Canal No.: 3D	Kind of structure: Pipe culvert	Remarks:
Station: 3.00+870	Coordinate< Northing: 1218776 Easting: 458283	Routine survey
		
Up Stream View	Down Stream View	Side View




Canal No.: 3D	Kind of structure: Pipe culvert (Double)	Remarks:
Station: 3.00+990	Coordinate< Northing: 1218739 Easting: 458351	Routine survey
		
Up Stream View	Down Stream View	Side View

Canal No.: 3D	Kind of structure: Pipe culvert	Remarks:
Station: 4.00+100	Coordinate< Northing: 1218684 Easting: 458448	Routine survey
		
Up Stream View	Down Stream View	Side View




**Result of Inventory Survey of Canal 3D (17/35)**




Canal No.: 3D	Kind of structure: Pipe culvert	Remarks:
Station: 4.00+120	Coordinate< Northing: 1218675 Easting: 458472	Routine survey
		
Up Stream View	Down Stream View	Side View




Canal No.: 3D	Kind of structure: Pipe culvert	Remarks:
Station: 4.00+160	Coordinate< Northing: 1218657 Easting: 458506	Routine survey
		
Up Stream View	Down Stream View	Side View

Canal No.: 3D	Kind of structure: Pipe culvert	Remarks:
Station: 4.00+250	Coordinate< Northing: 1218604 Easting: 458602	Routine survey
		
Up Stream View	Down Stream View	Side View




### Result of Inventory Survey of Canal 3D (18/35)




Canal No.: 3D	Kind of structure: Pipe culvert	Remarks:
Station: 4.00+290	Coordinate< Northing: 1218590 Easting: 458641	Routine survey
		
Up Stream View	Down Stream View	Side View




Canal No.: 3D	Kind of structure: Pipe culvert	Remarks:
Station: 4.00+360	Coordinate< Northing: 1218562 Easting: 458678	Routine survey
		
Up Stream View	Down Stream View	Side View

Canal No.: 3D	Kind of structure: Pipe culvert	Remarks:
Station: 4.00+470	Coordinate< Northing: 1218513 Easting: 458772	Routine survey
		
Up Stream View	Down Stream View	Side View




### Result of Inventory Survey of Canal 3D (19/35)




Canal No.: 3D	Kind of structure: Pipe culvert	Remarks:
Station: 4.00+500	Coordinate< Northing: 1218489 Easting: 458813	Routine survey
		
Up Stream View	Down Stream View	Structure




Canal No.: 3D	Kind of structure: Pipe culvert	Remarks:
Station: 4.00+540	Coordinate< Northing: 1218474 Easting: 458839	Routine survey
		
Up Stream View	Down Stream View	Side View

Canal No.: 3D	Kind of structure: Pipe culvert	Remarks:
Station: 4.00+600	Coordinate< Northing: 1218455 Easting: 458884	Routine survey
		
Up Stream View	Down Stream View	Side View




### Result of Inventory Survey of Canal 3D (20/35)




Canal No.: 3D	Kind of structure: Pipe culvert	Remarks:
Station: 4.00+610	Coordinate< Northing: 1218453 Easting: 458889	Routine survey
		
Up Stream View	Down Stream View	Side View




Canal No.: 3D	Kind of structure: Pipe culvert	Remarks:
Station: 4.00+690	Coordinate< Northing: 1218414 Easting: 458959	Routine survey
		
Up Stream View	Down Stream View	Side View

Canal No.: 3D	Kind of structure: Bridge	Remarks:
Station: 4.00+750	Coordinate< Northing: 1218396 Easting: 458991	There is a groove
		
Up Stream View	Down Stream View	Side View




**Result of Inventory Survey of Canal 3D (21/35)**



Canal No.: 3D	Kind of structure: Pipe culvert	Remarks:
Station: 4.00+810	Coordinate< Northing: 1218364 Easting: 459047	Routine survey
		
Up Stream View	Down Stream View	Side View




Canal No.: 3D	Kind of structure: Pipe culvert	Remarks:
Station: 4.00+840	Coordinate< Northing: 1218356 Easting: 459060	There is a house
		
Up Stream View	Down Stream View	Structure

Canal No.: 3D	Kind of structure: Pipe culvert	Remarks:
Station: 4.00+940	Coordinate< Northing: 1218306 Easting: 459161	Routine survey
		
Up Stream View	Down Stream View	Side View




### Result of Inventory Survey of Canal 3D (22/35)




Canal No.: 3D	Kind of structure: Embankment	Remarks:
Station: 5.00+10	Coordinate< Northing: 1218273 Easting: 459220	Routine survey
		
Up Stream View	Down Stream View	Side View




Canal No.: 3D	Kind of structure: Canal	Remarks:
Station: 5.00+40	Coordinate< Northing: 1218255 Easting: 459249	Routine survey Length: 4000m
		
Up Stream View	Down Stream View	

Canal No.: 3D	Kind of structure: Pipe culvert	Remarks:
Station: 5.00+80	Coordinate< Northing: 1218240 Easting: 459293	Routine survey
		
Up Stream View	Down Stream View	Side View

### Result of Inventory Survey of Canal 3D (23/35)




Canal No.: 3D	Kind of structure: House	Remarks:
Station: 5.00+270	Coordinate< Northing: 1218143 Easting: 459463	Routine survey
		
Up Stream View	Down Stream View	Structure



Canal No.: 3D	Kind of structure: Pipe culvert	Remarks:
Station: 5.00+410	Coordinate< Northing: 1218085 Easting: 459577	Routine survey
		
Up Stream View	Down Stream View	Side View




Canal No.: 3D	Kind of structure: Pipe culvert	Remarks:
Station: 5.00+440	Coordinate< Northing: 1218078 Easting: 459594	Routine survey
		
Up Stream View	Down Stream View	Structure






**Result of Inventory Survey of Canal 3D (24/35)**




Canal No.: 3D	Kind of structure: Bridge(private)	Remarks:
Station: 5.00+460	Coordinate< Northing: 1218062 Easting: 459624	Made by wood
		
Up Stream View	Down Stream View	Side View




Canal No.: 3D	Kind of structure: Canal	Remarks:
Station: 5.00+550	Coordinate< Northing: 1218024 Easting: 459692	Routine survey Length: 4500m
		
Up Stream View	Down Stream View	

Canal No.: 3D	Kind of structure: Pipe culvert	Remarks:
Station: 5.00+610	Coordinate< Northing: 1217996 Easting: 459748	Routine survey
		
Up Stream View	Down Stream View	Side View




**Result of Inventory Survey of Canal 3D (25/35)**




Canal No.: 3D	Kind of structure: Pipe culvert	Remarks:
Station: 5.00+650	Coordinate< Northing: 1217969 Easting: 459788	There is a house
		
Up Stream View	Down Stream View	Structure




Canal No.: 3D	Kind of structure: Embankment	Remarks:
Station: 5.00+700	Coordinate< Northing: 1217941 Easting: 459835	There is a village road
		
Up Stream View	Down Stream View	Side View

Canal No.: 3D	Kind of structure: House	Remarks:
Station: 5.00+810	Coordinate< Northing: 1217886 Easting: 459911	Routine survey
		
Up Stream View	Down Stream View	Structure




### Result of Inventory Survey of Canal 3D (26/35)




Canal No.: 3D	Kind of structure: House	Remarks:
Station: 5.00+830	Coordinate< <div style="display: inline-block; vertical-align: middle; margin-left: 10px;">                     Northing: 1217882                      Easting: 459926                 </div>	Routine survey
		
Up Stream View	Down Stream View	Structure



Canal No.: 3D	Kind of structure: Canal	Remarks:
Station: 6.00+50	Coordinate< <div style="display: inline-block; vertical-align: middle; margin-left: 10px;">                     Northing: 1217831                      Easting: 460131                 </div>	Routine survey Length: 5000m
		
Up Stream View	Down Stream View	Side View

Canal No.: 3D	Kind of structure: School House	Remarks:
Station: 6.00+230	Coordinate< <div style="display: inline-block; vertical-align: middle; margin-left: 10px;">                     Northing: 1217807                      Easting: 460293                 </div>	Routine survey
		
Up Stream View	Down Stream View	Structure




### Result of Inventory Survey of Canal 3D (27/35)




Canal No.: 3D	Kind of structure: Canal	Remarks:
Station: 6.00+410	Coordinate< Northing: 1217789 Easting: 460473	Third B.P.
		
Up Stream View	Down Stream View	Side View




Canal No.: 3D	Kind of structure: Pipe culvert	Remarks:
Station: 6.00+520	Coordinate< Northing: 1217773 Easting: 460577	Routine survey
		
Up Stream View	Down Stream View	Side View

Canal No.: 3D	Kind of structure: Canal	Remarks:
Station: 6.00+550	Coordinate< Northing: 1217766 Easting: 460608	Routine survey Length: 5500m
		
Up Stream View	Down Stream View	




**Result of Inventory Survey of Canal 3D (28/35)**




Canal No.: 3D	Kind of structure: Bridge (private)	Remarks:
Station: 6.00+650	Coordinate< Northing: 1217755 Easting: 460714	Routine survey
		
Up Stream View	Down Stream View	Side View




Canal No.: 3D	Kind of structure: Pipe culvert	Remarks:
Station: 6.00+670	Coordinate< Northing: 1217757 Easting: 460729	Routine survey
		
Up Stream View	Down Stream View	Side View

Canal No.: 3D	Kind of structure: Pipe culvert	Remarks:
Station: 6.00+710	Coordinate< Northing: 1217748 Easting: 460760	There is a house (cottage)
		
Up Stream View	Down Stream View	Structure




**Result of Inventory Survey of Canal 3D (29/35)**




Canal No.: 3D	Kind of structure: Bridge (private)	Remarks:
Station: 6.00+750	Coordinate< Northing: 1217739 Easting: 460817	Routine survey
 <p>Up Stream View</p>	 <p>Down Stream View</p>	 <p>Side View</p>




Canal No.: 3D	Kind of structure: Bridge (private)	Remarks:
Station: 6.00+790	Coordinate< Northing: 1217729 Easting: 460859	Routine survey
 <p>Up Stream View</p>	 <p>Down Stream View</p>	 <p>Side View</p>

Canal No.: 3D	Kind of structure: Pipe culvert	Remarks:
Station: 6.00+910	Coordinate< Northing: 1217704 Easting: 460976	Routine survey
 <p>Up Stream View</p>	 <p>Down Stream View</p>	 <p>Side View</p>




**Result of Inventory Survey of Canal 3D (30/35)**




Canal No.: 3D	Kind of structure: Bridge (private)	Remarks:
Station: 6.00+920	Coordinate< Northing: 1217707 Easting: 460989	There is a groove
		
Up Stream View	Down Stream View	Side View




Canal No.: 3D	Kind of structure: Bridge (private)	Remarks:
Station: 6.00+970	Coordinate< Northing: 1217697 Easting: 461032	There is a house
		
Up Stream View	Down Stream View	Side View

Canal No.: 3D	Kind of structure: Bridge (private)	Remarks:
Station: 6.00+990	Coordinate< Northing: 1217685 Easting: 461067	Routine survey
		
Up Stream View	Down Stream View	Side View

### Result of Inventory Survey of Canal 3D (31/35)




Canal No.: 3D	Kind of structure: Bridge (private)	Remarks:
Station: 7.00+20	Coordinate< <div style="display: flex; justify-content: space-between; padding: 0 10px;"> <span>Northing: 1217683</span> <span>Easting: 461093</span> </div>	Routine survey
		
Up Stream View	Down Stream View	Side View




Canal No.: 3D	Kind of structure: Pipe culvert	Remarks:
Station: 7.00+50	Coordinate< <div style="display: flex; justify-content: space-between; padding: 0 10px;"> <span>Northing: 1217677</span> <span>Easting: 461120</span> </div>	Routine survey
		
Up Stream View	Down Stream View	Side View




Canal No.: 3D	Kind of structure: Bridge (private)	Remarks:
Station: 7.00+220	Coordinate< <div style="display: flex; justify-content: space-between; padding: 0 10px;"> <span>Northing: 1217644</span> <span>Easting: 461275</span> </div>	Routine survey
		
Up Stream View	Down Stream View	Side View






**Result of Inventory Survey of Canal 3D (32/35)**




Canal No.: 3D	Kind of structure: Bridge (private)	Remarks:
Station: 7.00+340	Coordinate< Northing: 1217622 Easting: 461386	There is a house
		
Up Stream View	Down Stream View	Structure




Canal No.: 3D	Kind of structure: House (Double)	Remarks:
Station: 7.00+360	Coordinate< Northing: 1217619 Easting: 461402	Routine survey
		
Up Stream View	Down Stream View	Structure

Canal No.: 3D	Kind of structure: Pipe culvert (Double)	Remarks:
Station: 7.00+450	Coordinate< Northing: 1217602 Easting: 461500	Routine survey
		
Up Stream View	Down Stream View	Side View




**Result of Inventory Survey of Canal 3D (33/35)**


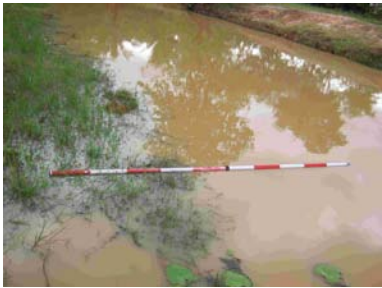
Canal No.: 3D	Kind of structure: Pipe culvert (Triple)	Remarks:
Station: 7.00+550	Coordinate< Northing: 1217581 Easting: 461575	Routine survey
		
Up Stream View	Down Stream View	Structure



Canal No.: 3D	Kind of structure: Pipe culvert (Double)	Remarks:
Station: 7.00+720	Coordinate< Northing: 1217551 Easting: 461741	There is a groove
		
Up Stream View	Down Stream View	Side View

Canal No.: 3D	Kind of structure: Bridge (private)	Remarks:
Station: 7.00+900	Coordinate< Northing: 1217517 Easting: 461902	There is a house
		
Up Stream View	Down Stream View	Side View




### Result of Inventory Survey of Canal 3D (34/35)




Canal No.: 3D	Kind of structure: Bridge (private)	Remarks: There is a groove
Station: 8.00+10	Coordinate< Northing: 1217494 Easting: 462014	
		
Up Stream View	Down Stream View	Side View



Canal No.: 3D	Kind of structure: Canal	Remarks: Routine survey Length: 7000m
Station: 8.00+50	Coordinate< Northing: 1217551 Easting: 461741	
		
Up Stream View	Down Stream View	

Canal No.: 3D	Kind of structure: Bridge (Pol Pot regime)	Remarks: There is a pipe culvert (triple)
Station: 8.00+240	Coordinate< Northing: 1217452 Easting: 462230	
		
Up Stream View	Down Stream View	

### Result of Inventory Survey of Canal 3D (35/35)

Canal No.: 3D	Kind of structure: Pipe culvert (Double)	Remarks:
Station: 8.00+320	Coordinate< <div style="display: flex; flex-direction: column; align-items: flex-start;"> <span>Northing: 1217441</span> <span>Easting: 462306</span> </div>	Routine survey
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> <div style="text-align: center;">  <p>Side View</p> </div> </div>		

Canal No.: 3D	Kind of structure: Bridge (village)	Remarks:
Station: 8.00+510	Coordinate< <div style="display: flex; flex-direction: column; align-items: flex-start;"> <span>Northing: 1217411</span> <span>Easting: 462491</span> </div>	There is a groove
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> <div style="text-align: center;">  <p>Side View</p> </div> </div>		

Canal No.: 3D	Kind of structure: Canal	Remarks:
Station: 8.00+530(EP)	Coordinate< <div style="display: flex; flex-direction: column; align-items: flex-start;"> <span>Northing: 1217400</span> <span>Easting: 462517</span> </div>	Routine survey
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> </div>		

## Inventory Survey of Existing Canals and Structures: Canal 3U



Canal name: 3U




Survey in June-July, 2011 by JICA Survey Team




Sta.	E	N	Structure	Condition	Evaluation*	Flow Capacity	Remarks
0	449634	1223101	B.P				
50	449674	1223100	House	Repair shop for bikes, Nipa house, All pillars are on canal section	D		Private nipa house
110	448731	1223103	Small Culvert 1	Dia of concrete pipe is 15 cm, canal section was backfilled for house access of 4 m wide from NR-130A	D		Private building on canal
180	449801	1223106	Intake	Intake pipe of 20 cm dia diverted from Main canal 33, no structure of both intake and luttet	D		A pipe was just installed by farmers?
230	449845	123106	Earth check	Embankment obstruct canal flow, but 20-30 cm slit is provided to evacuate excess water	D		Embankment on canal
260	449881	1223121	Culvert 2 (Double)	Double pipe of 1.9 m dia from Main Canal 33; outlet structure is provided.	B		This pipe might be provided for evacuating drainage water to the Slakou river
360	449982	1223118	Culvert 3 & Groove	Pipe culvert with 50 cm dia.; 6 m long. Excessive drainage water is diverted to north drairage canal	C		Division structure for irrigation and drain
500	450087	1223122	Canal section	No canal section remains.	D		
550	450138	1223125	Culvert 4	Pipe culvert with 40 cm dia.;4 m long. Excessive drainage water is diverted to north drairage canal	C		
600	450180	1223127	Small Culvert 5	Pipe culvert was installed but not functioned at present. Canal section was filled by earth for house access.	D		House access
620	450232	1223117	Culvert 6	Pipe culvert was installed but not functioned at present. Canal section was filled by earth for house access and dry year	D		House access
660	450272	1223114	Culvert 7	Pipe culvert was installed but not functioned at present. Canal section was filled by earth for house building	D		The house building was constructed on the canal route
710	450328	1223112	Paddy field	The canal section was changed into paddy fields	D		
790	450387	1223088	Re-starting canal section	The canal section was appeared but no water source at present.	C		
950	450511	1223046	Canal section	No canal section remains.	D		
1,030	450573	1223024	Canal section	The canal was filled for the land of building. No culvert nor canal trace is found at present.	D		House was constructed
1,100	450653	1222999	Private road	Canal section is re-filled by earth for house yard,	D		The canal area was refilled and fenced as private land
1,510	450993	1222891	Culvert 8 & EP Groove, Intake	Canal section is re-filled by earth for house access	D		House was constructed

Structure	Nos.	Evaluation	Regulators	Culvert/ bridge	Buildings
Regulators	2	A			
Bridges/ Culvert	8	B		1	
	Public	1	2	5	
		Concrete		1	2
	Wooden	0	Total	8	5
	Private	7	<u>Evaluation of Canal and structures</u>		
Concrete	5	Most of canal stretch was encroached by inhabitants			
Wooden	2				
Total	10	Canal section might be used for future rehabilitation would be Sta. 700 to Sta. 1,000 m, or 300 m only			
A: Fully functioning		Many encroachment to the public land are found. These obstructions are to be removed.			
B: Partly deteriorated but function is maintained					
C: Deteriorated, and does not function well					
D: Completely damaged, and does not function		<u>Flow Area of culvers and bridges (excl. wooden bridges)</u>			
		b: enough sectional area	c: not enough, and to be removed/ replaced		
		2	4		




### Result of Inventory Survey of Canal 3U (1/6)




Canal No.: 3U	Kind of structure: House	Remarks: - Cross the National Road 130A
Station: 0.00(B.P.)	Coordinate< Northing: 1223101 Easting: 449634	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> </div>		



Canal No.: 3U	Kind of structure: House (Cottage)	Remarks: House is under canal
Station: 0.00+50	Coordinate< Northing: 1223100 Easting: 449674	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> <div style="text-align: center;">  <p>Structure</p> </div> </div>		

Canal No.: 3U	Kind of structure: Pipe culvert (Small)	Remarks: Routine survey
Station: 0.00+110	Coordinate< Northing: 1223103 Easting: 449731	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> <div style="text-align: center;">  <p>Side View</p> </div> </div>		




### Result of Inventory Survey of Canal 3U (2/6)




Canal No.: 3U	Kind of structure: Intake	Remarks:
Station: 0.00+180	Coordinate< Northing: 1223106 Easting: 449801	Routine survey
		
Up Stream View	Down Stream View	Structures




Canal No.: 3U	Kind of structure: Earth Check	Remarks:
Station: 0.00+230	Coordinate< Northing: 1223106 Easting: 449845	Routine survey
		
Up Stream View	Down Stream View	Structure

Canal No.: 3U	Kind of structure: Pipe culvert	Remarks:
Station: 0.00+260	Coordinate< Northing: 1223121 Easting: 449881	Pipe culvert is along the National road
		
Up Stream View	Down Stream View	

### Result of Inventory Survey of Canal 3U (3/6)



Canal No.: 3U	Kind of structure: Pipe culvert	Remarks: - Under commune road - There is a groove
Station: 0.00+360	Coordinate< Northing: 1223118 Easting: 449982	
		
Up Stream View	Down Stream View	Structure



Canal No.: 3U	Kind of structure: Pipe culvert	Remarks: Routine survey
Station: 0.00+500	Coordinate< Northing: 1223122 Easting: 450087	
		
Up Stream View	Down Stream View	Side View




Canal No.: 3U	Kind of structure: Pipe culvert	Remarks: Pipe Culvert is under the land
Station: 0.00+550	Coordinate< Northing: 1223125 Easting: 450138	
		
Up Stream View	Down Stream View	Side View






### Result of Inventory Survey of Canal 3U (4/6)



Canal No.: 3U	Kind of structure: Pipe culvert (Small)	Remarks: Pipe Culvert is under the land
Station: 0.00+600	Coordinate< Northing: 1223127 Easting: 450180	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> </div>		




Canal No.: 3U	Kind of structure: Pipe Culvert	Remarks: Pipe Culvert is under the land
Station: 0.00+620	Coordinate< Northing: 1223117 Easting: 450232	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> </div>		

Canal No.: 3U	Kind of structure: Pipe culvert	Remarks: Pipe Culvert is under the land
Station: 0.00+660	Coordinate< Northing: 1223114 Easting: 450272	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> <div style="text-align: center;">  <p>Structures</p> </div> </div>		



### Result of Inventory Survey of Canal 3U (5/6)



Canal No.: 3U	Kind of structure: Structure Party	Remarks:
Station: 0.00+710	Coordinate< Northing: 1223112 Easting: 450328	Routine survey
		
Up Stream View	Down Stream View	Side View




Canal No.: 3U	Kind of structure: Canal	Remarks:
Station: 0.00+790	Coordinate< Northing: 1223088 Easting: 450387	Routine survey Second B.P.
		
Up Stream View	Down Stream View	

Canal No.: 3U	Kind of structure: Pipe culvert	Remarks:
Station: 0.00+950	Coordinate< Northing: 1223046 Easting: 450511	Routine survey
		
Up Stream View	Down Stream View	Side View

### Result of Inventory Survey of Canal 3U (6/6)

Canal No.: 3U	Kind of structure: Canal	Remarks: Routine survey House is along the canal
Station: 1.00+30	Coordinate< Northing: 1223024 Easting: 450573	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> </div>		

Canal No.: 3U	Kind of structure: Canal	Remarks: Private road is on the canal
Station: 1.00+100	Coordinate< Northing: 1222999 Easting: 450653	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> </div>		

Canal No.: 3U	Kind of structure: Pipe Culvert	Remarks: There are Groove and Intake
Station: 1.00+510(EP)	Coordinate< Northing: 1222891 Easting: 450993	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Up Stream View</p> </div> <div style="text-align: center;">  <p>Down Stream View</p> </div> <div style="text-align: center;">  <p>Side View</p> </div> </div>		