

MINISTRY OF WATER RESOURCES
AND METEOROLOGY,
THE KINGDOM OF CAMBODIA

PREPARATORY SURVEY
FOR
IRRIGATION AND DRAINAGE SYSTEM
REHABILITATION AND IMPROVEMENT PROJECT
IN
THE KINGDOM OF CAMBODIA

**STUDY
ON
RESETTLEMENT POLICY
FRAMEWORK**

SEPTEMBER 2012

**JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
NIPPON KOEI CO., LTD.**

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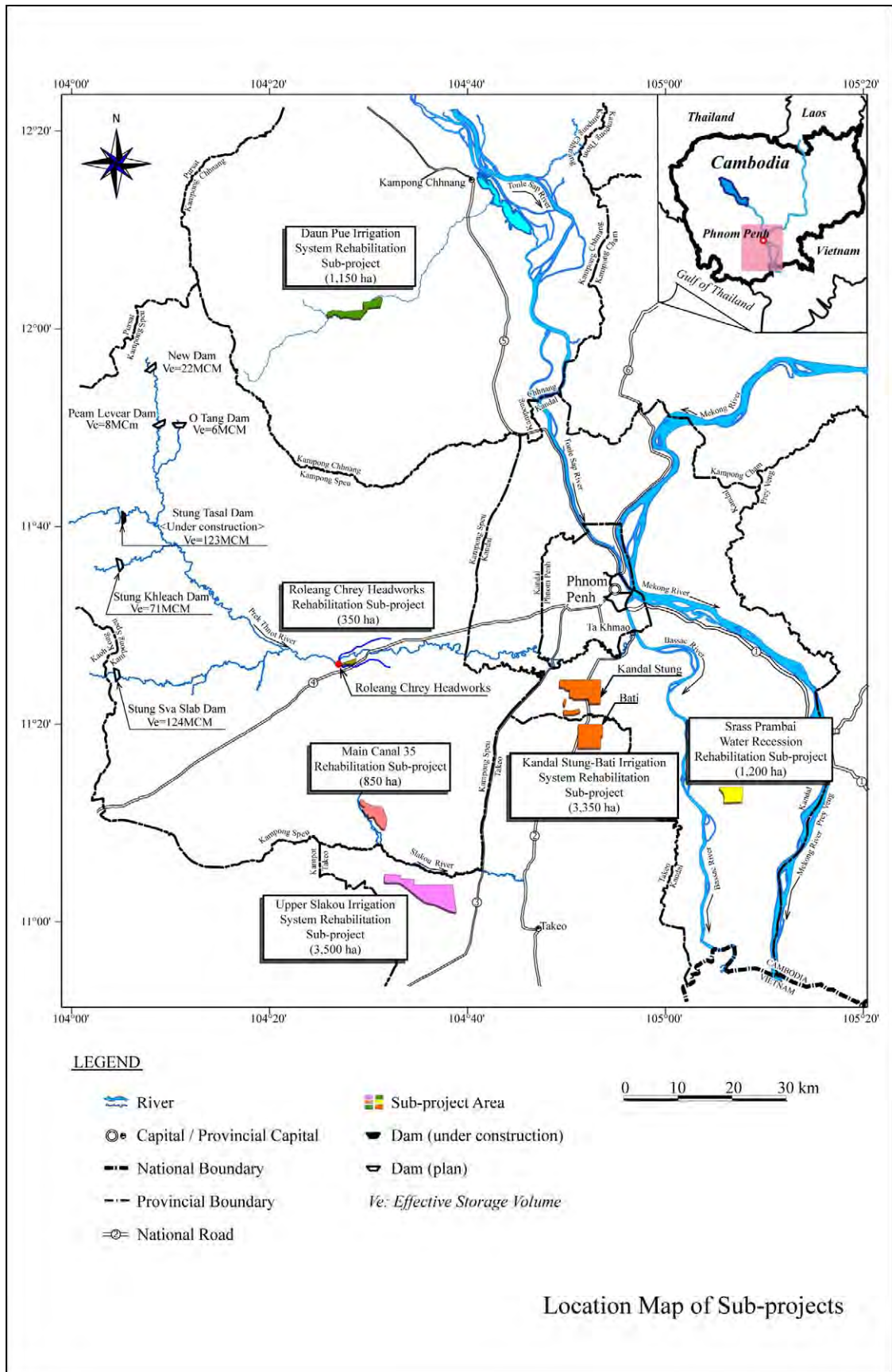
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Abbreviations

[A]	
ADB	Asian Development Bank
APs	Affected Person (s)
[C]	
COI	Corridor of Impact
[D]	
DMS	Detailed Measurement Survey
D/D	Detail Design
[G]	
GOJ	Government of Japan
GRC	Grievance Redress Committee
GRM	Grievance Redress Mechanism
[I]	
IMO	Independent Monitoring Organization
IMU	Independent Monitoring Unit
IOL	Inventory of Loss
IRC	Inter-ministerial Resettlement Committee
IRC-WG	IRC Working Group
[J]	
JICA	Japan International Cooperation Agency
[M]	
MAFF	Ministry of Agriculture, Forestry and Fisheries
MEF	Ministry of Economy and Finance
MEF-RD	MEF Resettlement Department
MLMUPC	Ministry of Land Management, Urban Planning and Construction
MOU	Minutes of Understanding
MOWRAM	Ministry of Water Resources and Meteorology
MOWRAM-RU	MOWRAM Resettlement Unit
[N]	
NGO	Non-Government Organization
[P]	
PDOWRAM	Provincial Department of Water Resources and Meteorology
PIB	Public Information Booklet
PIU	Project Implementation Unit
PMU	Project Management Unit (of MOWRAM)
PRSC	Provincial Resettlement Sub-committee
PRSC-WG	PRSC Working Group
[R]	
RAP	Resettlement Action Plan
RCS	Replacement Cost Study
RGC	Royal Government of Cambodia
ROW	Right of Way
RPF	Resettlement Policy Framework
MOWRAM-RU	Resettlement Unit
[S]	
SPPIDRIP	Southwest Phnom Penh Irrigation and Drainage Rehabilitation and Improvement Project
[W]	
WB	World Bank

Measurement Units

Extent

cm² = Square-centimeters (1.0 cm × 1.0 cm)

m² = Square-meters (1.0 m × 1.0 m)

km² = Square-kilometers (1.0 km × 1.0 km)

ha = Hectares (10,000 m²)

Length

mm = Millimeters

cm = Centimeters (cm = 10 mm)

m = Meters (m = 100 cm)

km = Kilometers (km = 1,000 m)

Time

sec = Seconds

min = Minutes

hr = Hours

Currency

US\$ 1.0 = JPY 76.8 = 4,084 Riel

US\$ = United State Dollar

JPY = Japanese Yen

R, Riel = Cambodian Riel

Volume

cm³ = Cubic-centimeters
(1.0 cm × 1.0 cm × 1.0 cm
or 1.0 m-lit.)

m³ = Cubic-meters
(1.0 m × 1.0 m × 1.0 m
or 1.0 k-lit.)

lit 1 = Liter (1,000 cm³)

MCM = Million Cubic Meter

Weight

gr = Grams

kg = Kilograms (1,000 grams)

ton = Metric ton (1,000 kg)

Others

ppm = parts per million

°C = degree centigrade

% = percent

DEFINITION OF TERMS

Resettlement Action Plan (RAP) is a time-bound action plan with budget setting out resettlement strategy, objectives, entitlement, actions, responsibilities, monitoring and evaluation.

Affected Person (AP) indicates any juridical person being as it may an individual, a household, a firm or a private or public who, on account of the execution of the Project, or any of its components or sub-projects or parts thereof would have their:

- (i) right, title or interest in any house, land (including residential, agricultural and grazing land) or any other fixed or moveable asset acquired or possessed, in full or in part, permanently or temporarily; or
- (ii) business, occupation, work, place of residence or habitat adversely affected; or
- (iii) standard of living adversely affected.

Severely Affected Person for this Project is defined as a person who will (a) lose more than 10 percent of total agriculture/aquaculture land holding, and/or (b) relocate and/or lose more than 50 percent of their main residential and/or commercial structure, and/or (c) lose more than 10 percent of total income sources due to the Project.

Land Acquisition means the process whereby a person is compelled by a public agency to alienate all or part of the land s/he owns or possesses, to the ownership and possession of that agency, for public purpose in return for fair compensation.

Replacement Cost means the cost of replacing lost assets and incomes, including cost of transactions. If land, it means the cost of buying a replacement land near the lost land with equal productive potential and same or better legal status, including transaction costs. If structures, the replacement cost is the current fair market price of building materials and required labor cost without depreciation or deductions for salvaged building material or other transaction cost. Market prices will be used for crops, trees and other commodities.

Resettlement Effects mean all negative situations directly caused by the Project/subproject, including loss of land, property, income generation opportunity, and cultural assets.

Relocation means the physical relocation of an AP from her/his pre-Project place of residence.

Rehabilitation means the process to restore income earning capacity, production levels and living standards in a longer term. Rehabilitation measures are provided in the entitlement matrix as an integral part of the entitlements.

Compensation means payment in cash or in kind to replace losses of land, housing, income and other assets caused by a project.

Significant Resettlement Effect for each project means 200 people or more will experience major impacts. "Major" impacts being physical displacement from housing and/or more than 10 percent of the household's productive (income generating) assets are lost.

Corridor of Impact means actually area needed to be land clearing for construction of the Project.

Cut-off Date means eligibility for entitlements will be the end of the detailed measurement and census survey following completion of the detailed design of the components.

Indirect Impact means the people, who are not direct impact by the project, but they will lose facilities and conditions for common living such as lose access roads, pagoda, schools, health center, traditional believing places etc...

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CHAPTER 1 INTRODUCTION

1.1 Background and Objectives

The Preparatory Survey for Irrigation and Drainage System Rehabilitation and Improvement Project (the Survey) is being implemented in accordance with the Minutes of Discussion (M/D) signed between the Japan International Cooperation Agency (JICA) and the Royal Government of Cambodia (RGC) on February 25, 2011, regarding the Survey for the South Phnom Penh Irrigation and Drainage Rehabilitation and Improvement Project (SPPIDRIP).

SPPIDRIP consists of six sub-projects, which are Roleang Chrey Headworks Rehabilitation Sub-project (RCHRSP), Upper Slakou Irrigation System Rehabilitation Sub-project (USISRSP), Kandal Stung-Bati Irrigation System Rehabilitation Sub-project (KSBSISRSP), Main Canal 35 Rehabilitation Sub-project (MC35RSP), Srass Prambai Water Recession Rehabilitation Sub-project (SPWRRSP) and Daun Pue Irrigation System Rehabilitation Sub-project (DPISRSP).

In the survey period until April, it was identified that abbreviated RAP has been necessary for only the sub-project in which resettlement will occur. Then, the abbreviated RAP for USISRSP has been prepared by MOWRAM with the support of JICA Survey Team. After April, it has also been identified that it has been necessary for the preparation of Resettlement Action Plan (RAP) or Resettlement Policy Framework (RPF) even in case of only land acquisition without resettlement, according to the reference material of JICA Guidelines for Environmental and Social Considerations such as involuntary resettlement sourcebook published by World Bank (WB). In the definition of RAP according to OP 4.12 prepared by WB, the components of RAP include the components of inventory survey for all the affected persons. To implement the inventory survey for all the Affected Persons (APs) is difficult for the following reason.

(1) No determination of Right of Way (ROW)

In this preparatory survey, the alignment of each main and secondary canal has not been determined yet and the design has not been implemented based on topographic survey. Therefore the Right of Way (ROW) has not been determined in the preparatory survey. The ROW will be determined after the design of alignment based on topographic survey to be implemented in the D/D stage. If the inventory survey with assumed ROW is carried out in this stage, inventory survey should be implemented again after final determination of ROW. It is not effective way. Therefore, the inventory survey should be implemented to prepare RAP in the D/D stage.

(2) No Cadastre in the sub-projects area

According to the Ministry of Land Management and Urban Planning and Construction (MLMUPC), cadastral map is being prepared in Cambodia and it has been prepared only in Phnom Penh city and central district in each province. In case of no cadastral map, it takes time to implement inventory survey to identify land owner in the area. In this time, inventory survey has not been implemented due to the time limitation.

In this context, RPF instead of abbreviated RAP has been prepared in this study due to no determination of detail canal alignment and ROW and time limitation for the cadastral survey.

The objectives of the study are summarized as follows;

- To prepare RPF based on the JICA Guidelines for Environmental and Social Consideration
- To share the information of future implementation of land acquisition with MOWRAM or other related agencies

1.2 Scope of the Resettlement Policy Framework

According to the JICA Guidelines for Environmental and Social Consideration (April 2010), which follows ADB' land acquisition policy or World Bank OP 4.12 or involuntary resettlement sourcebook, requires the preparation of Resettlement Action Plan (RAP) or Resettlement Policy Framework (RPF), if the sub-project includes involuntary resettlement or land acquisition. The situation of sub-projects related to land acquisition and resettlement is shown in Table 1.2.1.

Table 1.2.1 Situation of Sub-projects Related to Land Acquisition and Resettlement

Name of Sub-project	Resettlement	Land Acquisition	Information regarding land acquisition and resettlement
Roleang Chrey Headworks Rehabilitation Sub-project	Not necessary	Necessary	Temporary land acquisition during construction period is needed for transferring current canal mainly as well as the land acquisition of secondary and branch canal.
Upper Slakou Irrigation System Rehabilitation Sub-project	Necessary	Necessary	Though abbreviated RAP has been prepared, the abbreviated RAP does not cover all the sub-project area. Then, resettlement policy framework is prepared for this sub-project.
Kandal Stung-Bati Irrigation System Rehabilitation Sub-project	Not necessary	Necessary	There are five households along the sub-project area but the canal will be rehabilitated without resettlement.
Main Canal 35 Rehabilitation Sub-project	Not necessary	Necessary	Alignment of canal is tentatively planned. No resettlement will be expected according to the Preparatory Survey.
Srass Prambai Water Recession Rehabilitation Sub-project	Not necessary	Not necessary	In the planned reservoir, there is cultivated area but it is governmental land which is not area to be acquired by the sub-project.
Daun Pue Irrigation System Rehabilitation Sub-project	Not necessary	Necessary	Alignment of canal is tentatively planned. No resettlement will be expected according to the Preparatory Survey.

Source: JICA Survey Team

According to the situation of resettlement and land acquisition mentioned above, RAP or RPF should be prepared for RCHRSP, USISRSP, KSBISRSP, MC35RSP and DPISRSP.

In the Survey, the alignment of canals has not been determined, and the final canal alignment and the Right of Way (ROW) will be set based on the topographic survey to be carried out in D/D stage, due to the characteristics of SPPIDRIP, which seems to be sector loan project. In case that the alignment has not been determined yet, the preparation of resettlement action plan including Inventory of Loss (IOL) survey is not necessary but resettlement policy framework.

Then, only RPF is prepared instead of Abbreviated RAP based on the discussion of JICA and JICA Study Team with consideration of time limitation and no determination of detail canal alignment and the Right of Way (ROW).

The scope of the resettlement policy framework includes the grasp of general socio-economic condition in the target area, the questionnaire survey for the APs by the sub-project, preparation of policy framework regarding entitlement, compensation or livelihood recovery regarding resettlement or land acquisition and preparation of implementation structure including organization, schedule and consideration of procedure of public involvement.

RAPs for sub-projects will be prepared during D/D stage of SPPIDRIP that will be implemented during the first year and month for which there is a sufficient level of design to identify land acquisition impacts. These activities will be conducted by Inter-ministerial Resettlement Committee (IRC), which is organized by Ministry of Economy and Finance (MEF), MOWRAM and other related ministries.

CHAPTER 2 PROJECT DESCRIPTION

2.1 Roleang Chrey Headworks Rehabilitation Sub-project

(1) Location of the sub-project site

The regulators in RCHRSP are located on the Prek Thnot River, about 100 km upstream from its confluence with the Bassac River. The Andong Sla and Vat Krouch Intakes are respectively provided at the heads of the NMC and SMC branched off from the Prek Thnot River upstream from the regulator. The headworks are located in Tumpung Village, Kahaeng Commune, Samraong Tong District, Kampong Speu Province.

(2) Scope of the sub-project

Currently, the intakes of north and south main canals and Roleang Chrey Regulator in the irrigation system are severely damaged. If there are left, the water supply to each target area is difficult. To improve these irrigation systems for the enhancement of agricultural productivity, improvement of these facilities is needed.

Based on the above background for irrigation and drainage rehabilitation plan mentioned above, facilities to be rehabilitated and/or reconstructed under RCHRSP are shown in Table 2.1.1.

Table 2.1.1 Main Features of Rehabilitation of Roleang Chrey Headworks

No.	Description	Quantity
1)	Sub-project area	350 ha excluding 220ha to be developed by TSC-3, but influences to 16,910 ha for project evaluation
2)	Roleang Chrey Headworks	
	- Roleang Chrey Regulator	Regulator gates - Fixed wheel gates, 5 sets, 12.5 m (W) × 6.7 m (H) Civil works - Construction of the downstream river bed protection - Rehabilitation of the downstream river bank protection - Construction of river outlet structure
	- Andong Sla Intake	Intake gates - Radial gates, 2 sets, 4.0 m (W) × 2.7 m (H) Civil works - Curtain walls and operation deck, - Protection of up & downstream of intake - Rehabilitation of approach channel
	- Vat Krouch Intake	Intake gates - Radial gates, 2 sets, 4.0 m (W) × 2.7 m (H) Civil works - Upstream & downstream transitions - Gate pier and box culvert and protection of canal beds, - Rehabilitation of approach channel
	- River outlet structure	Inlet gates - Slide gates, 4 sets, 1.0 m (W) × 1.0 m (H) Outlet gates - Slide gates, 2 sets, 1.25 m (W) × 1.4 m (H)
3)	NMC and SMC	Design discharge: NMC 10.4 m ³ /sec at beginning point SMC 16.3 m ³ /sec at beginning point
	- Total length	18.9 km (NMC = 9.1 km and SMC = 9.8 km)
	- Structures to be rehabilitated/reconstructed	Check structures : 3 nos. Turnout : 18 nos. Bridge : 7 nos. Spillway : 3 nos. Drainage gate : 11 nos.
4)	Secondary canals to be rehabilitated	12 nos.
	- Total length	16.9 km
	- Structures to be rehabilitated/reconstructed	Check structures : 45 nos. Turnout : 53 nos. Culvert : 32 nos. Drain inlet : 4 nos.
5)	Branch canal system	
	- Area	350 ha (11 km)

Source: JICA Survey Team

2.2 Upper Slakou Irrigation System Rehabilitation Sub-project

(1) Location of sub-project site

The USISRSP Area (3,500 ha) is located on the right bank of the Slakou River between 104°30' to 104°40' east longitude, and 11°00' to 11°05' north latitude. The elevation of the area ranges from 15 m to 35 m with a slope of 1/200 to 1/1000 from west to east. The approximate distance to Takeo town from the area is about 15 to 35 km. The USISRSP Area administratively belongs to Basedth District of Kampong Speu and Tram Kak District of Takeo Province. Five communes and 32 villages are included in the area.

(2) Scope of sub-project

Most of the existing irrigation facilities were constructed in the mid 1970s during Pol Pot regime, and these now require significant rehabilitation to ensure stable irrigation farming. The basic policy of rehabilitation of these facilities is to make both initial construction cost and O&M cost as low as possible in due consideration of maintaining sufficient function, safety and durability. To meet these, the purpose of the plan would not be to seek for the “perfect” outcome, but to provide the minimum function required for ensuring water resources for irrigation.

Considering the above, the required rehabilitation works will be planned in the following basic concept:

- Reliability level of irrigation supply is set at 4 in 5 years or 80%
- Design flood discharge of 1-in-100-year recurrence period is adopted for rehabilitation of reservoirs
- 24-hour water conveyance will be applied for diversion, main and secondary systems
- Existing dikes of the reservoirs would be utilized as much as possible
- Existing canal section would be utilized and canal lining would not be considered in principal
- Related structures of the canal, both in terms of structure and materials, would be designed to conform with those that PDOWRAM generally design and construct in Takeo Province
- No substantial improvement is considered for drainage system

Based on the basic concept for irrigation and drainage development plan mentioned above, facilities to be rehabilitated under USISRSP are shown in Table 2.2.1.

Table 2.2.1 List of Irrigation and Drainage Facilities to be Rehabilitated under USISRSP

No.	Description	Quantity
1)	Sub-project area	3,500 ha
2)	Water resource facilities	
	- Reservoir-1	Tumnup Lok Reservoir on the Slakou River (CA=332 km ²), Ve = 1.0 MCM, Re-construction of dike, spillway, intake and maintenance facilities
	- Reservoir-2	Kpob Trobek Reservoir on the Don Phe River (CA=137 km ²), Ve = 2.6 MCM Supplemental improvement and repair of dike and spillway gates which were rehabilitated by MOWRAM in 2005
	- Diversion canal	Connecting the above two reservoirs, 9.4 km, Design discharge: 3.5 m ³ /sec
3)	Main canal system	1 no. Design discharge: 3.2 m ³ /sec
	- Length	7.3 km
	- Off-takes	6 nos.
	- Diversion structure	5 nos.
4)	Secondary canal system	7 nos.
	- Total length	44.7 km
	- Off-takes	102 nos.
	- Diversion structure	66 nos.
5)	Tertiary canal system	
	- Total length	110 km

Source: JICA Survey Team

2.3 Kandal Stung-Bati Irrigation System Rehabilitation Sub-project

(1) Location of sub- project site

The Sub-project area of 3,550 ha in total consists of 2 irrigation areas, namely Kandal Stung Area of 1,750 ha and the Bati Area of 1,600 ha. The Kandal Stung Area is situated in Kandal Stung District of Kandal Province about 20 km south of Phnom Penh. And, the Bati Area of 1,600 ha is situated in Bati District of Takeo Province about 30 km south of Phnom Penh. Water resources of irrigation development are (i) the Prek Thnot River regulated by the Stung Tasal dam under construction, (ii) original flow of the Stung Touch River, and (iii) regulated flow of the Tonle Bati River by the Lake Tonle Bati.

(2) Scope of sub-project

Most of the existing irrigation facilities were constructed in the late 1970's during Pol Pot regime, and these facilities now require significant rehabilitation and/or reconstruction to realize stable irrigation farming. The basic concept of rehabilitation of these facilities is to make both initial construction cost and O&M cost as low as possible with due consideration to maintain sufficient function, durability, and economic viability. Considering the above, the target level of the works is set as listed below.

- Reliability level of irrigation supply is set at 4 in 5 years or 80%
- Existing canals would be utilized as much as possible for irrigation and drainage purposes
- Canal lining is considered to step forward the advanced irrigation level in the country, but within the reasonable investment cost
- Water resource structures to realize efficient use of three water resources are provided, based on the assumption that basin wide water management system including the Stung Tasal Dam will be established
- Emphasis of development is put on the irrigation, but no substantial improvement of drainage system is considered

Based on the basic concept for irrigation and drainage development plan, facilities to be rehabilitated under KSBISRSP are shown in Table 2.3.1.

Table 2.3.1 List of Irrigation and Drainage Facilities to be Rehabilitated under KSBISRSP

No.	Description	Quantity
1)	Sub-project area	3,350 ha in total, consisting of 1,750 ha in the Kandal Stung and 1,600 ha in Bati Areas
2)	Water resource facilities	
	- Diversion weir on Stung Touch River	2 nos. on the Stung Touch river; (one is new headworks and the other is partial improvement of spillway)
	- Replacement of intakes on Stung Touch River	3 nos. on the Stung Touch river; (full replacement for EW-60, EW-58 and NS-82)
	- Pump Station on Lake Tonle Bati	1 no. at Lake Tonle Bati (Full replacement of the existing one, 4 sets of 45 m ³ /min each)
	- Regulator on Prek Thnot River for Stung Touch river	1 no. (Full replacement of Daeum Rues Regulator on the Prek Thnot River)
3)	Main irrigation canal	4 canals, Q= 5.88 – 0.91 m ³ /sec
	- Length	18.9 km in total, Rehabilitation of canal sections for full stretch consisting 11.3 km for Kandal Stung and 7.6 km in Bati Area
	- Off-takes	71 nos.
	- Diversion structures	17 nos.
	- Road crossing	29 nos.
4)	Secondary irrigation canals	8 canals, Q=0.45 – 0.21 m ³ /sec
	- Length	13.6 km in total, Rehabilitation of canal sections for full stretch consisting 5.0 km for Kandal Stung and 8.6 km in Bati Area
	- Off-takes	36 nos.
	- Diversion structures	9 nos.
5)	Main drainage canals	4 canals, Q=2.24 – 0.88 m ³ /sec
	- Length	18.8 km in total, Rehabilitation of canal sections for full stretch consisting 12.1 km for Kandal Stung and 6.7 km in Bati Area
	- Structures	73 nos.
6)	Other facilities	

No.	Description	Quantity
	- Connection canal	3.5 km (Upgrading of NS-82 to Lake Tonle Bati, Q=5.6 m ³ /sec)
	- Spillway of Lake Tonle Bati	1 no. (Full replacement of Kampong Daungkar spillway, Q=197 m ³ /sec)
	- Flood protection dike	Heightening of the existing dike of 2.7 km and replacement of one bridge
7)	Tertiary canal system	
	- Length	101 km in total, new construction and rehabilitation consisting 53 km for Kandal Stung and 48 km in Bati Area

Source: JICA Survey Team

2.4 Main Canal 35 Rehabilitation Sub-project

(1) Location of sub-project site

The Main Canal 35 Irrigation System is located in the upstream of the Slakou River Basin, and situated in the plateau and mountainous region, west of Phnom Penh. The irrigation command area lies in the left bank of the Stung Kat Phluk River along the provincial road, having long and narrow shape extending from west to east with gentle slope. The area is administratively situated mainly in Basedth District, Kampong Speu Province bordering to the National Road No.3, and partly extending in the western part of Takeo Province.

(2) Scope of sub-project

Khprob Krous Reservoir was recently rehabilitated and well functioning including hydro-mechanical works, and therefore no significant rehabilitation work is required. In contrast, most of the existing irrigation canal and related facilities were constructed in Pol Pot regime, and these now require significant rehabilitation and/or reconstruction to ensure stable irrigation farming.

The basic concept of rehabilitation of these facilities is to make both initial construction cost and O&M cost as low as possible in due consideration of maintaining sufficient function, safety and durability. To meet these, the purpose of the plan would not be to seek for the “perfect” outcome, but to provide the minimum function required for ensuring water resources for irrigation.

Considering the above, the required rehabilitation works will be planned in the following concepts:

- Rehabilitation of the Khprob Krous Reservoir including hydro-mechanical works is not included under MC35RSP, based on the observation and examination including the existing capacity of the spillway in this Survey.
- Irrigation facilities are planned with conditions that (i) reliability level of irrigation supply is set at 4 in 5 years or 80%, (ii) gravity irrigation systems are proposed as much as possible by raising the water level in the canals, except physically difficult (high) land, and (iii) 24-hour water conveyance will be applied for diversion, main and secondary system.
- Most of existing canal routes would be utilized and canal lining would not be considered. In case that the existing canal route is not topographically suitable for rehabilitation, the canal route would be modified based on the topographic situations.
- No construction of new drainage canal would be proposed, because land acquisition for drains is difficult and no serious drainage problem is observed
- Canal and related structures are designed preliminarily at pre-F/S level in this Survey, because no topographic map with large scale and detailed contour line are available. The facilities should be designed in detail at next stage after preparation of topographic map.

Based on the basic concept for the rehabilitation plan mentioned above, facilities to be rehabilitated and/or reconstructed under MC35RSP are shown in Table 2.4.1.

Table 2.4.1 List of Irrigation and Drainage Facilities to be Rehabilitated under MC35RSP

No.	Description	Quantity
1)	Irrigation Development Area	- 850 ha in priority area (Zone-A)
2)	Main Canal 35 and Related Structures - Main Canal 35	- Main canal Rehabilitation of existing canal section for Zone-A (12.8 km out of 25.3 km) and construction of new canal (1.2 km)
3)	- Related structures	- Related structures Check structure: 9 nos. Turnout: 16 nos. Culvert: 8 nos. Drain inlet: 10 nos. Drop: 5 nos. Cross Drain: 1 no. Road Bridge: 1 no. Footpath Bridge: 9 nos.
4)	Secondary canals and related structures	Secondary canals and related structures - Secondary canals Rehabilitation of existing secondary canals (5 nos., 9 .2 km) and construction of a new canal (1 no., 2.2 km) - Related structures Check Structure: 20 nos. Turnout: 35 nos. Culvert: 26 nos. Drop: 1 no.
5)	Drainage system	Drainage system - Construction of drain structures - Shaping of existing drain
6)	Tertiary canals	Tertiary system development : 26 km (850 ha)
7)	Construction of project office	- Office building (300 m ²) - Parking shed, gate and fencing - Well drilling and electric works, etc.

Source JICA Survey Team

2.5 Daun Pue Irrigation System Rehabilitation Sub-project

(1) Location of sub-project site

The Daun Pue Irrigation System is located in the upstream of the Stung Chieb River Basin, about 40 km from its confluence with the Tonle Sap River. The irrigation command area lies in the left bank of the Chieb River and along the provincial road, having long and narrow shape extending from west to east as shown in the location map. Administratively, the area lies in Chieb, Khlong Porporok and Aphivath Communes in Teuk Phos District.

(2) Scope of sub-project

At present, irrigation water is diverted from the river by temporary weir without permanent facilities, which causes difficulty and low efficiency of sufficient water diversion. Therefore, new construction of headworks is indispensable for DPISRSP. In addition, most of the existing irrigation facilities were constructed in the Pol Pot regime, and they now require significant rehabilitation and/or reconstruction to ensure stable irrigation farming. The basic concept of rehabilitation of these facilities is to make both initial construction cost and O&M cost as low as possible in due consideration of maintaining sufficient function, safety and durability. To meet these, the purpose of the plan would not be to seek for the “perfect” outcome, but to provide the minimum function required for ensuring water resources for irrigation.

Considering the above, the required rehabilitation works will be planned in the following concepts:

- New construction of the headworks instead of the existing temporary weir including gated intake structure is indispensable for the Sub-project.
- Irrigation facilities is planned with conditions that (i) reliability level of irrigation supply is set at 4

in 5 years or 80%, (ii) gravity irrigation systems are proposed as much as possible by raising the water level in the canals, except physically difficult (high) land, and (iii) 24-hour water conveyance will be applied for diversion, main and secondary system.

- Most of existing canal routes would be utilized and canal lining would not be considered. In case that the existing canal route is not topographically suitable for rehabilitation, the canal route would be modified based on the topographic situations.
- No construction of new drainage canal would be proposed, because land acquisition for drains is difficult and no serious drainage problem is observed.
- Canal and related structures are designed preliminarily at pre-F/S level in this Survey, because no topographic map with large-scale and detailed contour line is available. The facilities should be designed in detail at next stage after preparation of topographic map.

Based on the basic concept for the rehabilitation plan mentioned above, facilities to be rehabilitated and/or reconstructed under DPISRSP are shown in Table 2.5.1.

Table 2.5.1 List of Irrigation and Drainage Facilities to be Rehabilitated under DPISRSP

Descriptions	Quantities
1) Project Area	(a) Sub-project Area 1,150 ha
2) Hardware Components	
- New construction of headworks	(a) River training of up and down stream of proposed headworks (b) Construction of headworks with provision of flood gates (2 m x 10 m x 4 sets) (c) Construction of intake structure
- Full rehabilitation of Daun Pue Main Canal	(a) Improvement of canal (6.2 km from BP to P6+200, raising of embankment and/or enlargement of canal section), (c) Changing route of main canal (4.9 km from P6+200 to EP, Upgrading of secondary to main canal) (d) Construction of canal inspection road (e) Replacement or new construction of canal related structures; - Check structure 14 nos. - Turnout 34 nos. - Culverts 13 nos.
- Full rehabilitation of secondary canals	(a) Improvement of canal (3.4 km in total) (b) Construction of new secondary canal from main canal to existing secondary canal (1.2 km) (c) Construction of canal inspection road (d) Replacement or new construction of canal related structures; - Check structure 9 nos. - Turnout 15 nos. - Culverts 8 nos.
- Full rehabilitation of drains	(a) Improvement and reshaping of drains
- Development of tertiary canal system	(a) Rehabilitation and improvement of tertiary irrigation canals (35 km)
- New Construction of project office	(a) Office building (300 m ²) (b) Parking shed, gate and fencing (c) Well drilling and electric works, etc.

Source: JICA Survey Team

CHAPTER 3 LEGAL AND POLICY FRAMEWORK

3.1 Cambodian Government's Legal Framework

The legal framework of RGC related to land acquisition and resettlement is currently being developed but there is no specific legislation regarding involuntary resettlement. However, there are some laws and regulations related to land acquisition and resettlement.

The Constitution of the Kingdom of Cambodia in 1993 includes provisions that are relevant to involuntary resettlement, which admits the the right to ownership of all persons, individually or collectively, but also admit the right to confiscate (land) possession from any person shall be exercised only in the public interest as provided for under the law with fair and just compensation in advance, in spite of no further suitable supporting procedures or regulatory frameworks.

The Land Law (2001) governs land and property rights in Cambodia. The law states the ownership for non-movable properties in Cambodia, which includes land, trees and structures. It is based on the provisions of the Constitution of 1993. The rights and responsibilities of RGC with respect to eminent domain are also specified in this law. RGC can acquire private lands for public purposes under the conditions of compensation and its advanced payment. The main laws and regulations related to land acquisition and resettlement are described in Table 3.3.1.

Table 3.1.1 Main law and regulations related to land acquisition and resettlement in Cambodia

Law and regulations	Main points
Constitution (1993)	The constitution admit mentions the fundamental basis to have land ownership for all persons and the right to confiscate land only in the public interest with fair and just compensation in advance.
Land Law (2001)	"No person may be deprived of his ownership unless it is in the public interest.
Expropriation Law (2010)	The law refers the mechanism and procedure of land expropriation from the legitimate land owner. In the law, the possibility of expropriation for public and national interest or the requirement for government of the purchase of parts of real property left over from expropriation is mentioned.
Decision No. 13 and Prakas No. 98 (1997)	This legislation created the IRC, which is chaired by the MEF with members coming from the MPWT; COM; MAFF; Municipality of Phnom Penh; and the governors or vice-governors of the affected provinces. IRC plays a dominant role in all resettlement activities for both the planning and implementation.
Sub-decree on Social Land Concession (2003)	This sub-decree defines the criteria, procedures, and mechanism for the granting and transferring of private state lands to the poor for residential and/or family farming purposes. This sub-decree is specifically intended for the vulnerable groups. The sub-decree not only provides land, but also includes provision of basic infrastructure and services in order to improve the living standards and livelihood of the recipient families.
Royal Government of Cambodia's Proclamation No. 6 (September 27, 1999)	This is an Order by RGC entitled "Measures to Crack Down on Anarchic Land Grabbing and Encroachment", which prohibits private ownership on state lands. In particular, it required a cessation to encroachment on public and private properties as well as State lands, including public gardens, reserved lands for roads and rail sites.

Source: JICA Survey Team based on each law and regulations

Land registration is being developed in Cambodia currently based on "Sub Decree on Sporadic Land Registration" and land was officially registered in cities or main districts in provincial or main city but there is no registered land in the sub-project area. Therefore it is difficult to identify the legal or illegal land owner and the clarification of occupants of the target land will be implemented in ILO or DMS survey.

3.2 JICA's Policy for Involuntary Resettlement and Land Acquisition

JICA requires that involuntary resettlement and loss of means of livelihood are to be avoided and minimized by exploring all viable alternatives. When, avoidance is unfeasible after such an examination, effective measures to minimize impact and to compensate for losses must be agreed upon with the people who will be affected according to JICA's policy. In addition, people who must be resettled involuntarily

and people whose means of livelihood will be hindered or lost must be sufficiently compensated and supported by the proponents of sub-projects, etc. full replacement cost of property damaged by the sub-project is required before the loss of the property. Government must make efforts to enable people affected by sub-projects and to improve their living standard, income, and production levels, or to restore these to pre-project levels at least.

Measures to achieve this may include: providing land and monetary compensation for losses (to cover land and property losses), supporting means for an alternative sustainable livelihood, and providing the expenses necessary for the relocation and re-establishment of communities at resettlement sites.

Appropriate participation by affected people and their communities must be promoted in the planning, implementation, and monitoring of resettlement action plans and measures to prevent the loss of their means of livelihood. In addition, appropriate and accessible grievance mechanisms must be established for the affected people and their communities.

3.3 Discrepancies between JICA Guidelines and Cambodian Law and Regulations

There are some discrepancies between JICA Guidelines for Environmental and Social Considerations and Cambodian regulations, in aspect of resettlement policy, compensation policy, consideration of vulnerable APs, etc. To fill the gap with consideration of the condition of area or characteristics of the sub-projects, the policy to be applied for the sub-projects is shown in Table 3.3.1.

Table 3.3.1 Discrepancy between JICA Guidelines for Environmental and Social Considerations and Cambodian law and regulations

Item	Cambodian law and regulations	JICA guidelines	Application for the sub-project
Resettlement policy	There is no formally established national policy for resettlement in Cambodia.	There is formal resettlement policy described in JICA guidelines for Environmental and Social Considerations.	JICA guidelines for environmental and social considerations including the OP 4.12 of WB will be adopted basically, because there is no resettlement policy in Cambodia.
Compensation for land acquisition	- For legal ownership, “No person shall be deprived of their ownership unless this action is for the public interest consistent with formalities and procedures provided by the law and after just and fair compensation”. Therefore, compensation is not provided for other types of losses. - Compensation should be fair and just in advance.	Compensation will be done with replacement cost according to OP4. 12 of WB on Involuntary Resettlement. This means that the compensation for lost assets must be made in full amount at fully replacement cost with tax, registration fee, etc based the current market price.	Compensation will be done with fully replacement cost for apparent legal owner, and support of land or structure for their livelihood will be considered for APs who has no apparent ownership, based on illegal with consideration of fair and just and JICA guidelines for environmental and social considerations.
Public participation in the process of planning and implementation	The participation of affected persons during planning and implementation should be promoted.	Appropriate participation by APs and their communities must be promoted in the planning, implementation, and monitoring of RAP and measures to prevent the loss of their means of livelihood.	Public participation procedure will follow the JICA guidelines and Cambodian system because there is no significant difference between both the procedures.
Provision of assistance to restore or improve living standard	The Government has no clear policy or procedure to restore the livelihoods of APs	Living standards and income opportunities, and production levels of APs should be improved or at least restored to	Livelihood restoration program will be considered to restore to their pre-project level with consideration of

Item	Cambodian law and regulations	JICA guidelines	Application for the sub-project
		their pre-project levels.	JICA guidelines for environmental and social considerations.
Consideration for vulnerable APs	The provision of social concession land for poor family is clearly mentioned in the Sub-decree on Social Land Concessions.	Particular attention should be paid to the needs of the poorest affected persons including those without legal title to assets, female-headed households and other vulnerable groups and appropriate assistance provided to help them improve their status.	Social land concession program will be applied for especially vulnerable illegal occupants, which is assistance system of vulnerable APs which do not have legal ownership as, and income and livelihood restoration program.
Provision of support for illegal occupants	Those who have occupied a ROW or public properties are not entitled to any compensation or social support, regardless of their being an AP or from a vulnerable group according to Sechkdey Prakas No. 6 issued by Ministry of Economy and Finance.	The absence of a formal legal title to land by APs should not be a bar to compensation, and that all APs should be assisted to at least restore their pre-project social and economic status, and that vulnerable APs should be assisted to improve their status.	Illegal occupants can be supported by the system of social land concession with appropriate support to improve livelihood but no official land acquisition cannot be provided for the sub-projects.

Source: JICA Survey Team

CHAPTER 4 SOCIO-ECONOMIC PROFILE OF AFFECTED PERSONS

4.1 Roleang Chrey Headworks Rehabilitation Sub-project

4.1.1 General Feature of Socio Economic Condition

(1) Geographical Location

RCHRSP area is located at the West of Phnom Penh Municipality in Kampong Speu province and about 50 km from Phnom Penh directly connected by National Road No.4. In the province the main income is agricultural activities where the government has improved this area as a irrigation system.

This RCHRSP area was divided into areas along south main canal and north main canal, delineated in accordance with the water resource availability. Therefore, in total 2 areas with 2 districts, 8 communes, 29 villages in Kampong Speu province shown in Table 4.1.1.

Table: 4.1.1 Survey Zones and Villages within Target Area

Name of Canal	Province	District	Commune	Village
South main canal	Kampong Speu	Samrong Tong	Kaheang	Tumpaung
				Voar Preng
				O Veng
				Trach
			Bos Taney	
			Roleang Chork	Bak Thmeinh
			Thmei	
			Skus	Beul
		Kok Ronggeang		
		Krong Chbar Morn	Kandol Dom	Trapeang Prah
				Kandol Dom
				Sre Thnol
			Svay Kravann	Traoh
				Thnol Bambek
				Prey Kdey
Phsa Chas				
Skus				
Dok Por				
Traoh Sala				
North main canal	Kampong Speu	Samrong Tong	Tang Krouch	Andong Sla
				Anlong Thoam
		Krong Chbar Morn	Chbar Morn	Sampov
				Khtum Krang
				Sambour
				Borei Kamkor
			Kandol Dom	Thmei
				Koh Vean
			Rokar Thom	Thmei
		Toul Thnung		
		Total:		2

Source: JICA Survey Team

(2) Demography Status

Based on General Population Census of Cambodia 2008, it is found that the total families in Kampong Speu province are 149,132 with total population of 716,517. Of the total population, women contributed 368,923 persons, the family size in the province of 4.8. Furthermore in the sub-project area, there are two districts such Samrong Tong and Chbar Morn districts including eight communes. The population in each commune in the sub-project area is shown in Table 4.1.2.

Table: 4.1.2 Population in the Sub-project Area by Communes in 2012

Province	District/ Krong	Commune/ Sangkat	Total	Family	Population		Family size
					Total	Female	
KampongSpeu	Samrong Tong	Kaheang		1513	7613	3906	5.0
		Roleang Chork		1736	8883	4335	5.1
		Skus		2116	10116	5676	4.8
		Tang Krouch		1769	8658	4526	4.9
	Krong Chbar Morn	Kandol Dom		1437	7526	3635	5.2
		Chbar Morn		1686	9175	4667	5.4
		Svay Kravann		1543	8200	4252	5.3
		Rokar Thom		2657	14093	7169	5.3
Total:				12944	66651	34260	5.1

Sources: Commune profiles 2012

In addition to the above, each commune is divided into villages which have residential land and rice field that may also be affected during construction activities. The population in each village in the study area is shown in Table 4.1.3 and Table 4.1.4.

Table: 4.1.3 Population in Each Affected Villages in South Main Canal

District	Commune	Village name (affected villages)	Total family	Population	Female	Family size
Samrong Tong	Kaheang	Tumpaung	138	713	374	5.1
		Voar Preng	120	599	314	4.9
		O Veng	107	574	311	5.3
		Trach	94	482	240	5.1
		Bos Taney	106	551	276	5.1
	Roleang Chork	Bak Thmeinh	147	906	510	6.1
		Thmei	72	206	101	2.8
	Skus	Beul	85	384	207	4.5
		Kok Rongchang	81	409	200	5.0
	Krong Chbar Morn	Kandol Dom	Trapeang Prah	119	559	291
Kandol Dom			124	659	351	5.3
Sre Thnol			90	478	254	5.3
Svay Kravann		Traoh	76	389	180	5.1
		Thnol Bambek	152	728	386	4.7
		Prey Kdey	135	700	360	5.1
		Phsa Chas	171	1036	523	6.0
		Skus	189	1019	643	5.3
		Dok Por	155	689	345	4.4
		Traoh Sala	172	855	477	4.9

Sources: Commune profiles 2012

Table: 4.1.4 Population in Each Affected Villages in North Main Canal

District	Commune	Village name (affected villages)	Total family	Population	Female	Family size
Samrong Tong	Tang Krouch	Andong Sla	133	679	332	5.1
		Anlong Thoam	106	504	224	4.7
Krong Chbar Morn	Chbar Morn	Samov	256	1257	667	4.9
		Khtum Krang	81	463	232	5.7
		Sambour	120	694	367	5.7
		Borei Kamkor	221	1126	662	5.0
	Kandol Dom	Thmei	151	796	409	5.2
		Koh Vean	184	836	417	4.5
	Rokar Thom	Thmei	310	1474	753	4.7
		Toul Thnung	166	864	458	5.2

Sources: Commune profiles 2012

(3) Ethnic, Minority and Indigenous Distribution

According to the hearing from each commune chief, ethnic, minority or indigenous group has not been identified. Through Public Consultation Meeting (PCM) or socio-economic survey after determination of the ROW, more detail will be identified.

(4) Land Use and Average Paddy Land Distribution

Paddy field per household varies from commune to another. Based on the Commune Council Members in

each commune said that in the commune there would be divided into residential land, rice field land, farm land, and other (forest, lake, and other public land). The households within this category have their own land holdings, not belonged to parents or rent from others. As a result, their residential areas are also of others. They generally do crop and rice cultivation on other land owner based on agreement from owners. The detail of land use has shown in Table 4.1.5.

Table 4.1.5 Land Use in Each Commune in Sub-project Area

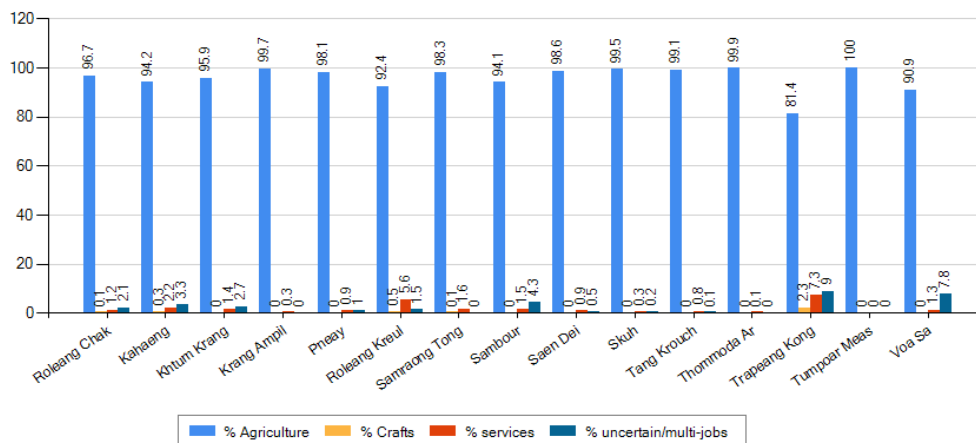
Province	District	Commune	Land Type (ha)				Total Land (ha)
			Rice Field	Farm Land	Residential Land	others	
Kampong Speu	Samrong Tong	Kaheang	703	37	223	437	1400
		Roleang Chork	740	192	225	62	1219
		Skus	2716	317,7	270,7	386,6	3628
		Tang Krouch	1572	117	164	1916	3769
	Krong Chbar Morn	Kandol Dom	561	28	68	5	662
		Chbar Morn	807	228	312	1993	3340
		Svay Kravann	518	30	120	0	668
		Rokar Thom	539	37	173	0	749

Sources: Commune Profile in each commune

(5)Major Livelihood

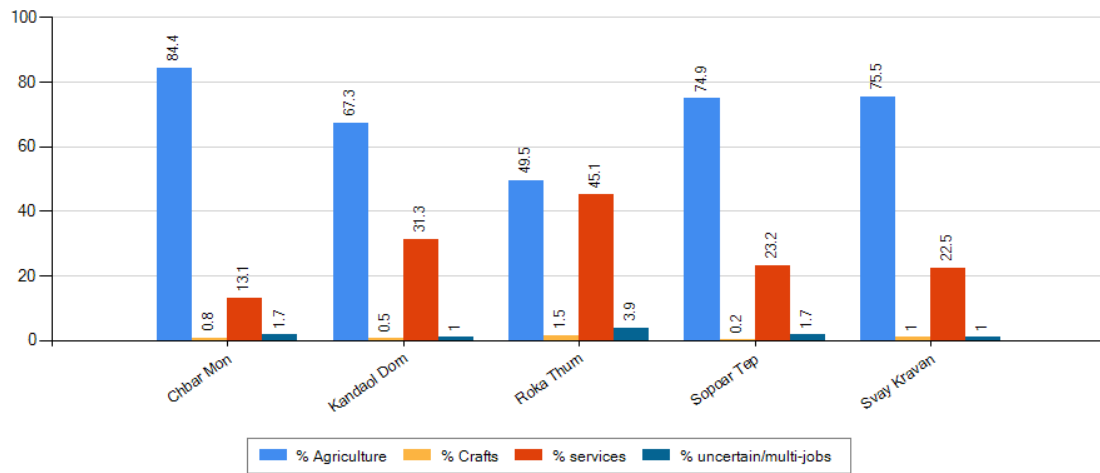
A livelihood is defined as consisting of the capabilities, assets, including material, social resources, and activities required for a means of living. The people in the sub-project area are however not different from rural areas elsewhere in the country. It means that they have traditionally engaged in agriculture, depending on a range of activities to secure food and income which include rice, and other crops both in their farm and around their home, and livestock production, fishing, wage labor, small scale traders and other income generating sources.

In the sub-project area there are 2 districts such as Samrong Tong and Chbar Morn districts as shown in Figure 4.1.1 and 4.1.2.



Sources: National Committee for Sub-national Democratic Development

Figure 4.1.1 Percentage of People per Commune in Four Major Occupations in Samrong Tong District

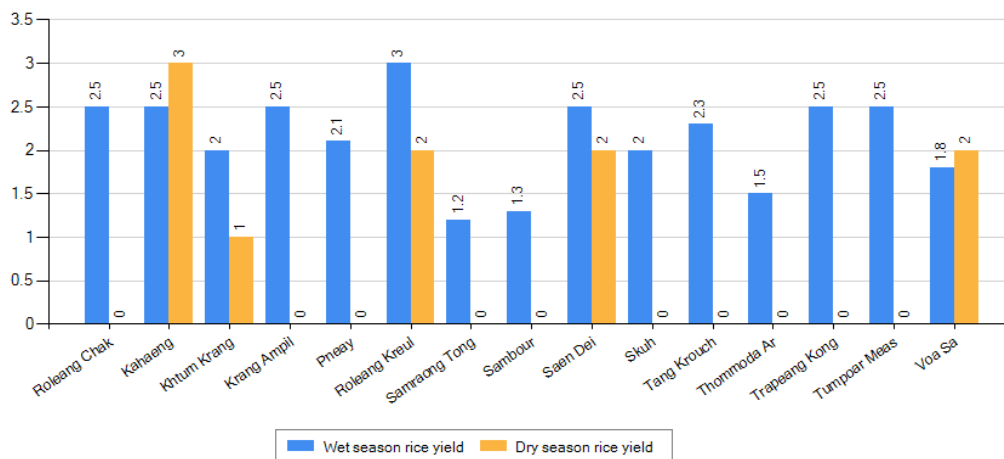


Sources: National Committee for Sub-national Democratic Development

Figure 4.1.2 Percentage of People per Sangkat in Four Major Occupations in Chbar Morn District

(6) Rice Production

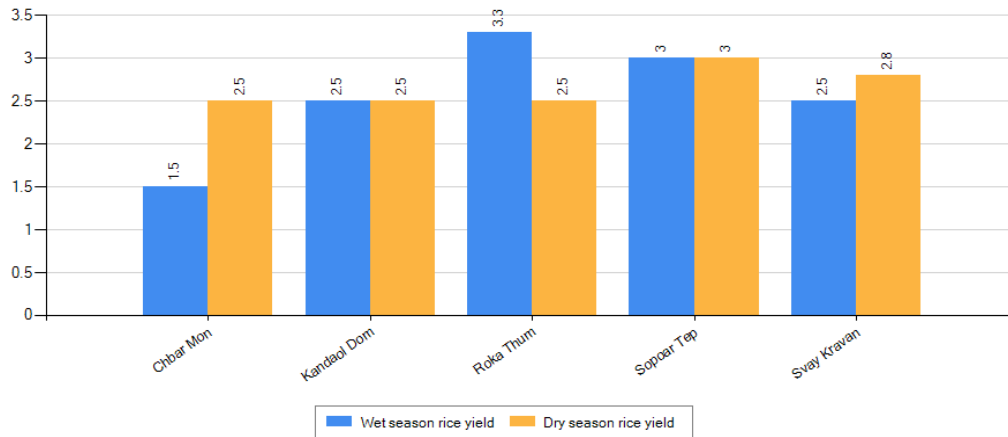
Living condition of the people who live in RCHRSP area are like as people living in other area such most of them is farmer, based on commune profile around 80-90%. Rice production of RCHRSP area, in 8 communes are around 1.5 tons to 3 tons of rice yield per ha as shown in Figure 4.1.3 and Figure 4.1.4.



Note: Average rice yield is calculated by total rice production divided by actual cultivation area, which display as tone(s) per hectare

Sources: National Committee for Sub-national Democratic Development

Figure 4.1.3 Average Rice Yield, Rainy and Dry-Season Rice by Commune in Samraong Tong District



Note: Average rice yield is calculated by total rice production divided by actual cultivation area, which display as tone(s) per hectare
Sources: National Committee for Sub-national Democratic Development

Figure 4.1.4 Average Rice Yield, Rainy and Dry-Season Rice by Sangkat in Chbar Morn District

(7) Average Land Price

Based on the discussion with each commune council member and in each village said that the land price has different cost it depend on the place and the type of the land. However, for cost estimation of the land has shown in Table 4.1.6.

Table 4.1.6 Average Land Price of RCHRSP Area

District	Commune	Cost estimation of Land in the area (US\$/m ²)								
		Rice Field			Farm Land			Residential		
		Mini	Max	Average	Mini	Max	Average	Mini	Max	Average
Samrong Tong	Kaheang	5	10	7.5	N/A	N/A	N/A	5	10	7.5
	Roleang Chork	1	2	1.5	1	3.5	2.25	1	3	2
	Skus	2	3	2.5	1	3	2	2	3	2.5
	Tang Krouch	1	3	2	N/A	N/A	N/A	6	10	8
Chbar Morn	Kandol Dom	3	25	14	N/A	N/A	N/A	30	33	31.5
	Chbar Morn	2	5	3.5	3	7	5	5	10	7.5
	Svay Kravann	2	3	2.5	N/A	N/A	N/A	7	8	7.5
	Rokar Thom	1	5	3	N/A	N/A	N/A	5	15	10

Sources: Commune Profile in each commune

4.1.2 Questionnaire Survey

(1) Objectives and Methodology

(a) Objectives

The Survey has the objectives of identification of the socio-economic profile related to land acquisition and awareness of the land acquisition or compensation at planning stage. To achieve the objectives, a questionnaire survey from APs, identified based the field survey including hearing from commune chief or village chief in the area affected by this sub-project, has been carried out.

(b) Methodology (selection procedure of sampling point, contents of questionnaire, etc)

The survey questionnaire drafted by the JICA Survey Team in English and was translated into Khmer language and after the field testing and improvement, which was applied for the field survey.

The survey questionnaire includes 9 different contents such as (i) status of APs, (ii) main income source, (iii) main expenditure for consumption and (iv) preferences of compensation as attachment.

At the time of the study the survey, the sampling points were randomly selected to identify the situation of the area possibly affected by the land acquisition in every affected commune. The total number of sample

is 40 with consideration of time limitation of this survey. Based on this notion, the following steps were taken to select the actual survey location and samples;

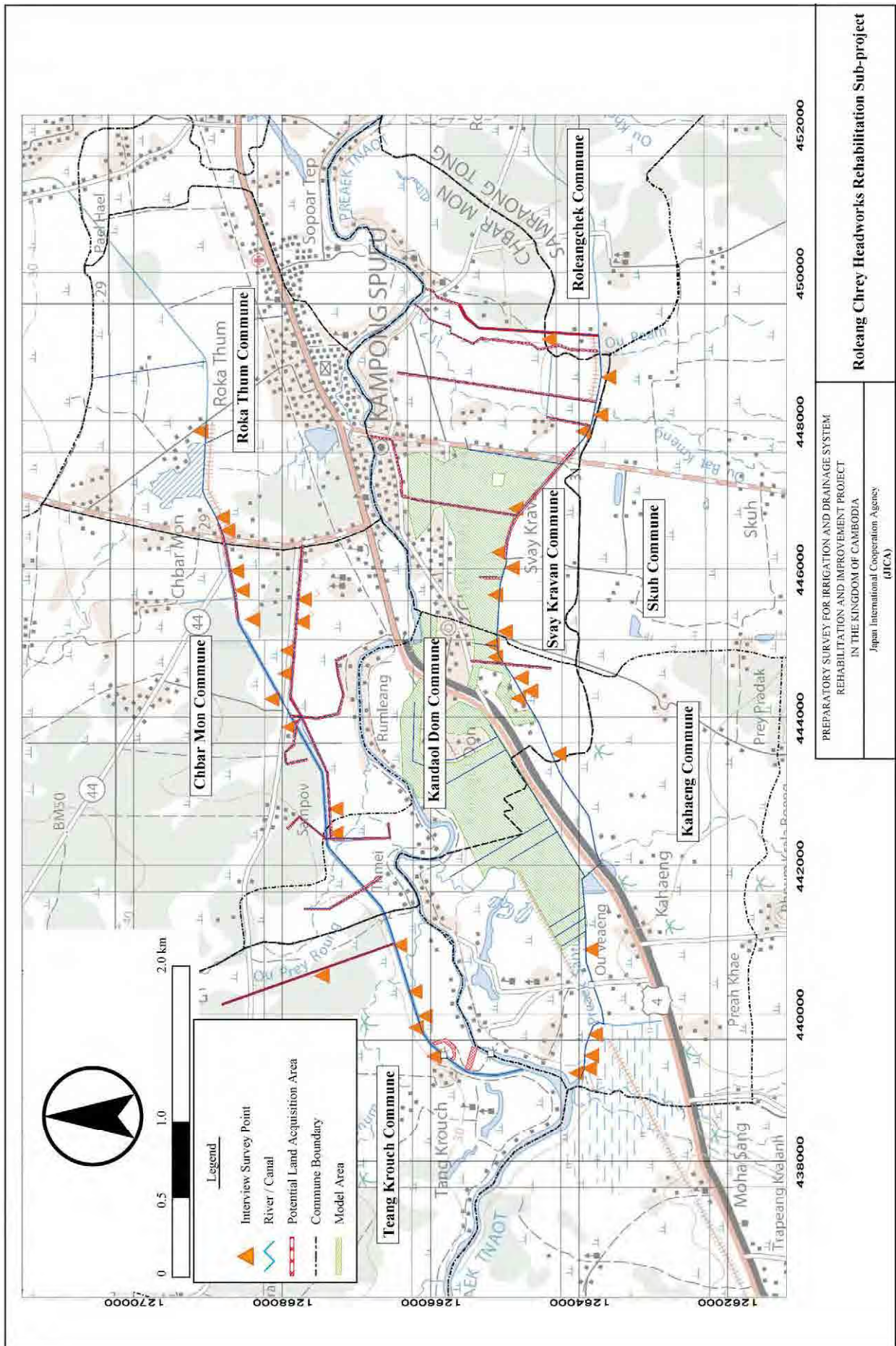
- To create a draft map which indicates the possible land acquisition areas as reference map to select the sampling points,
- To discuss with PDOWRAM officials for the relevance of previous Communes/Villages listing as against zoning, and asked them to recommend the appropriate Communes/Villages for the field survey,
- To hold consultation meeting with commune council to inform the aim and objective of this social-economic survey and allow from them to contact the village leader of affected village to collect information,
- To prepare the list of the target commune names by considering questionnaire survey,
- To prepare the list of the target village names within the communes listed is available in work plan,
- To selection of the sampling points through the field survey and implement the pre-test of this questionnaire survey,
- To commence the questionnaire survey by interviewing APs through the questionnaire sheet.

The information of administration of survey area and sample distribution of sample household in each affected villages are shown in Table 4.1.7.

Table 4.1.7 Socio-Economic Survey Sample Distributions

District	Commune	Village name (affected villages)	Total family	Population	Sample
South main canal					
Samrong Tong	Kaheang	Tumpaung	138	713	2
		Voar Preng	120	599	2
		O Veng	107	574	1
		Trach	94	482	1
		Bos Taney	106	551	1
	Roleang Chork	Bak Thmeinh	147	906	1
		Thmei	72	206	0
	Skus	Beul	85	384	1
		Kok Rongchang	81	409	1
	Krong Chbar Morn	Kandol Dom	Trapeang Prah	119	559
Kandol Dom			124	659	2
Sre Thnol			90	478	1
Svay Kravann		Traoh	76	389	1
		Thnol Bambek	152	728	1
		Prey Kdey	135	700	1
		Phsa Chas	171	1036	1
		Skus	189	1019	1
		Dok Por	155	689	0
		Traoh Sala	172	855	0
Sub-total:			2333	11936	20
North main canal					
Samrong Tong	Tang Krouch	Andong Sla	133	679	2
		Anlong Thoam	106	504	2
Krong Chbar Morn	Chbar Morn	Sampov	256	1257	2
		Khtum Krang	81	463	2
		Sambour	120	694	2
		Borei Kamkor	221	1126	3
	Kandol Dom	Thmei	151	796	2
		Koh Vean	184	836	2
	Rokar Thom	Thmei	310	1474	2
		Toul Thnung	166	864	1
Sub-total:			1728	8693	20
Total:			4061	20629	40

Source: JICA Survey Team



PREPARATORY SURVEY FOR IRRIGATION AND DRAINAGE SYSTEM
REHABILITATION AND IMPROVEMENT PROJECT
IN THE KINGDOM OF CAMBODIA

Japan International Cooperation Agency
(JICA)

Rolangchek Headworks Rehabilitation Sub-project

Figure 4.1.5 Sample Distribution for the Socio-economic Survey

(2) Survey Result and Analysis

(a) Attribution of Respondents

Respondents consist of the head of household female and male, and 2 younger sister and only 1 who is oldest son of the household. The average age of respondents is 51 years old. The rate of male and female of the respondents is 42.5% and 50% respectively as shown in Table 4.1.8.

Table 4.1.8 Male-Female Balance of Respondents

Item	Number	Rate [%]
Male head of HH	17	42.50
Female head of HH	20	50.00
Oldest son of the HH	1	2.50
Oldest daughter of the HH	0	0.00
Other (younger sister)	2	5.00
Total	40	100

Source: JICA Survey Team

(b) Family structure

1) Average Number of household member

The average number of household member is 5.48 persons in a household of the respondents.

2) Balance of male and female

The rate of male and female of the respondents is 48% and 52% respectively as shown in Table 4.1.9.

Table 4.1.9 Balance of Male and Female of the Total 40 Families

Item	Number	Rate [%]
Male	105	48.00
Female	114	52.00
Total	219	100

Source: JICA Survey Team

3) Total family member and working persons

The average number of working-age population (between >10 to < 64 yrs old) per household is 3.95 while the average of non-working is 1.53 of a family of the respondents. The number and rate working person are shown in Table 4.1.10.

Table 4.1.10 Total Family Member and Working Person

Total		Working Person		Non-working Person	
N	%	n	%	n	%
219	100	158	72.15	61	27.85

Source: JICA Survey Team

(c) Main occupation

The main income sources of the sampled household heads are predominantly from farming activity (65%) for all Zones, as shown Table 4.1.11.

Table 4.1.11 Main Occupation of Household Heads

Main Income Sources of Household Heads	Number	Rate [%]
Farmer	26	65
On-farm labor	1	3
Non-farm labor	3	8
Salary worker	0	0
Private business	5	13
Others	5	13
Total	40	100

Source: JICA Survey Team

(d) Education Level

1) Education background

The education levels of the sampled households are shown in Table 4.1.12.

Table 4.1.12 Education Levels of Sampled Household Member

Condition of education level	Number	Rate [%]
No formal education	15	6.85
Drop-out at primary school	14	6.39
Graduate from primary school	37	16.89
Drop-out at junior high school	31	14.16
Graduate from junior high school	16	7.31
Drop-out at high school	15	6.85
Graduate from high school	27	12.33
More than high school	7	3.20
Presently going to school	36	16.44
Not going to school	3	1.37
Before school age	18	8.22
Non-formal education for adults	0	0.00
Total	219	100

Source: JICA Survey Team

2) Literacy

Literacy rate of sampled household members is 78.54% for total samples, with minor variance among the 2 Zones, as shown in Table 4.1.13.

Table 4.1.13 Literacy Rate of Sampled Household Members

Literacy Condition	Number	Rate [%]
Unable to write, read, and calculate for making living	47	21.46
Able to write, read, and calculate for making living	172	78.54
Total	219	100.00

Source: JICA Survey Team

(e) Income sources

1) Income Levels

The average and median household incomes are 19,622,000 [Riel] and 13,630,000 [Riel/year]. Maximum and minimum household incomes are 81,640,000[Riel/year], and 1,163,000 [Riel/year]. The gap between “average” and “median” income per household indicates that there exist numbers of very rich households, or there are few very riches in comparison to the number of poor.

2) Proportion of income sources

For this category, the sources of income and their levels during year 2011 was inquired. Household income sources are quite diversified. In average of both zones and sample households, they earn different income sources. The distribution of single and multi income source households among 2 Zones is shown in Table 4.1.14.

Table 4.1.14 Total Proportional Income Volumes from Different Sources

No	Cash Income Sources	Rate [%]
1	Selling paddy/rice	6.8
2	Selling vegetables (red pepper/ tobacco/ water melon/ others)	1.5
3	Selling fruits (mango/ papaya, banana/ hairy fruit/ orange/ others)	0.1
4	Selling palm sugar	0.8
5	Selling livestock/ poultry products	10.9
6	Selling fishes	1.6
7	Salary from permanent job	5.2
8	Wage from temporary on-farm job	0.5
9	Wage from temporary off-farm job	2.3
10	Private business (transportation, trading, shop, etc.)	28.7
11	Remittance from family members	21.8
12	Selling firewood/charcoal	8.1
13	Selling handicraft/ cottage industry products	-
14	Selling forest vegetable/ crop	-

No	Cash Income Sources	Rate [%]
15	Others	11.6
Total		100.0

Source: JICA Survey Team

(f) Expenditure

1) Expenditure level

Average, median, minimum and maximum expenditures for samples are shown in Table 4.1.15. Average value is more than median value, which indicates that most of households does not expense so much but a few households expense much more than the other households.

Table 4.1.15 Average, Median, Minimum and Maximum Expenditure

Item	Expenditure [x1000 Riel/year]
Average/HH	6,534
Median/HH	5,750
Minimum	510
Maximum	29,608

Source: JICA Survey Team

2) Proportion of expenditure source

The result show that expense of transportation, health and medicine occupy a large portion of expenses. The expense of food including rice or other food expenses is small part of expenses. It indicates that food may be self-supported.

Table 4.1.16 Proportional Expenditure Volumes for Different Purposes

Item	Rate [%]
1 Rice	8.4
2 Other foods	0.0
3 Health/ medicine	16.5
4 Education	15.7
5 Clothes	6.6
6 Firewood/Kerosene/Electricity/Battery	6.3
7 Transportation (Motor taxi/Gasoline)	28.2
8 Tax	0.3
9 Others (Ceremony/ Wedding)	18.0
10 Total	100.0

Source: JICA Survey Team

(g) Preference of compensation type

Half of the respondents require cash compensation but 11 respondents cannot decide in this moment due to no detail information of compensation procedure. A few respondents reply the land compensation with the same condition or free contribution. Only two respondents require the compensation of job training.

Table 4.1.17 Preference of Compensation Type

Item	Number	Rate [%]
Cash	20	50
Jobs for family members	2	5
Do not know yet	11	27
Others (Free contribution, Land-to-land)	7	17
Total	40	100

Source: JICA Survey Team

(h) Assistance requirement by APs

In the respondents who require the secure of job as compensation, the type of assistance is asked to the respondents, though it is difficult to identify the type of job training due to few respondents. All the respondents require the training for job opportunity. Therefore, job training will be necessary for income

and livelihood restoration program.

Table 4.1.18 Assistant Requirement of APs

Item	Number	Rate [%]
Temporary income support until you decide job	0	0.00
Employment opportunity in construction project	0	0.00
Training opportunity for new job	2	100.00
Others	0	0.00
Total	2	100.00

Source: JICA Survey Team

(i) Requirement of job training by APs

Though it is difficult to identify the type of job training due to few respondents, farmer or driver is favorable job training. In the process of income and livelihood restoration program, suitable job training will be provided for respective APs.

Table 4.1.19 Requirement of Job Training by APs

Item	Number	Rate [%]
Salary worker	0	0.00
Farmer	1	50.00
Retailer	0	0.00
Others	1	50.00
Total	2	100.00

Source: JICA Survey Team

4.2 Upper Slakou Irrigation System Rehabilitation Sub-project

4.2.1 General Feature of Socioeconomic Condition

(1) Geographical Location

The total land area for Phong commune, Basedth district, Kampong Speu province is 1,350ha of rice land area and 100% cultivating during rainy season but at the present time there are not dry rice land have been cultivated for this year. Unfortunately, we can't identify a number of resident land area, gardening, forest land area or non-cultivating land area for this commune but the other five communes in such as Trapeang Kranhung, TrapeangThumKhangcheung, OuSaray, Cheang Tong, and Ta Phen commune as well.

(2) Demography Status

The total population represents overall numbers based on statistics from population commune councils, vital statistics registration systems, or sample surveys pertaining to the recent past as shown in Table 4.2.1.

Table 4.2.1 Total Population by Commune and Villages

No	Commune	Village	Families	Population
1	Phong	Dam Bok Khpuos	309	662
		Prey Dork Por	168	312
2	Trapeang Kranhung	Phlov Lok	193	866
3	Ou Saray	Thnaot Chum	251	1,015
		TraPeangKrasaing	223	935
		Stueng	472	2,074
		Russei Mouykum	N/A	1,787
4	Tra peang ThumkhangCherng	Peak bang Aorng	N/A	1,297
		AngkTrav	N/A	1,333
		Prey Talei	N/A	361
5	Cheang Tong	Srae Khvav	N/A	946
6	Ta Pphem	Mrum	155	769
		Ta Mom	99	538
		Mohasena	241	1,228
Total	6 communes	14 villages	2,296.00	11,669.00

Source: Commune profile, 2012

(3) Ethnic, Minority and Indigenous Distribution

There is not ethnic, minority and indigenous people found during this survey.

(4) Land Use and Average Paddy Land Distribution

The land use and average paddy rice land distribution of USISRSP area identified from the commune councils of communes in which affected by the sub-project area. Total land area and the land use of paddy field is only in rainy season or 100% of rice land by commune as shown in Table 4.2.2.

Table 4.2.2 Land Use for USISRSP Area

No	Commune	Total Land Area (ha)	Paddy field (Rainy Season)
1	Phong	1,350	1,350
2	Trapeang Kranhung	5,170	5,170
3	Ou Saray	2,636	2,636
4	Trapeang Thumkhangcherng	2,096	2,096
5	Cheang Tong	1,975	1,975
6	Ta Phem	2,921	2,921

Source: Commune profile, 2012

(5) Major Livelihood

The major livestock of USISRSP are chicken and duck. We found that 32 households or 80% are raising chicken out of 40 households, 26 households or 65% raising ducks, 14 households or 35% are raising Cattles, 10 households or 25% are raising pigs and the other is Water Buffalo etc.

Table 4.2.3 Major Livestock Raising of USISRSP Area

Livestock	Number of animal	Number of household	%
Chicken	374	32	80%
Ducks	208	26	65%
Cattle	47	14	35%
Water buffalo	33	9	23%
Pig	35	10	25%
Horse	0	0	0%
Goat	0	0	0%
Others	0	0	0%

Source: Commune profile, 2012

(6) Paddy Production

Paddy is a major crop in the USISRSP. area. Current situation of paddy cultivation in Takeo Province is shown in Table 4.2.4.

Table 4.2.4 Area, Unit Yield and Production of Paddy in Takeo Province

No.	District	Rainy Season 2010			Dry Season 2011			Total 2010-2011		
		Harvested Area (ha)	Yield (ton/ha)	Production (ton)	Harvested Area (ha)	Yield (ton/ha)	Production (ton)	Harvested Area (ha)	Yield (ton/ha)	Production (ton)
1)	Angkorborey	5,372	3.46	18,564	17,219	4.65	80,068	22,591	4.37	98,632
2)	Bati	20,120	3.16	63,601	2,257	3.90	8,802	22,377	3.24	72,403
3)	Bareychulsa	4,942	3.37	16,631	15,870	4.90	77,763	20,812	4.54	94,394
4)	Kirivong	27,971	3.23	90,391	10,590	4.60	48,714	38,561	3.61	139,105
5)	Kos Ondaet	16,137	3.13	50,476	14,921	4.70	70,129	31,058	3.88	120,605
6)	Preykabas	16,847	3.17	53,426	6,310	4.60	29,026	23,157	3.56	82,452
7)	Samraong	20,685	3.22	66,625	5,418	4.10	22,214	26,103	3.40	88,839
8)	Doun Kaev	3,568	3.32	11,861	3,169	4.20	13,310	6,737	3.74	25,171
9)	Tram Kak	39,156	3.32	129,888	35	3.20	112	39,191	3.32	130,000
10)	Treang	29,006	3.27	94,976	5,115	4.10	20,972	34,121	3.40	115,948
	Total	183,804	3.24	596,439	80,904	4.59	371,110	264,708	3.66	967,549

Note: The Survey Area is in District Tram Kak.

Source: Agricultural Statistics 2010 – 2011, Provincial Department of Agriculture, Takeo Province

(7) Average Land Price

The average land price in this area is differences from one to another commune for example land price Phong commune is 4,000USD far from road 5,000USD per hecta(rice field land) is near road access but also different from residential land price in average is 10,000USD per hecta according to the information

received from commune council reported during briefing meeting. The land price in the other communes in Tram Kak, Ta Keo province is higher than in Phong commune and the average land price is 6,000USD far from road and 7,000USD near road access (rice field land). The land price for the residential land is 12,000USD / ha except for Cheang Tong. The land price in Ta Phem commune are much higher than the other communes because it is near market area.

4.2.2 Questionnaire Survey

(1) Objectives and Methodology

(a) Objectives

The Survey has the objectives of identification of the socio-economic profile related to land acquisition and awareness of the land acquisition or compensation at planning stage. To achieve the objectives, a questionnaire survey from APs, identified based the field survey including hearing from commune chief or village chief in the area affected by this sub-project, has been carried out.

(b) Methodology (selection procedure of sampling point, contents of questionnaire, etc)

The survey questionnaire drafted by the JICA Survey Team in English and was translated into Khmer language and after the field testing and improvement, which was applied for the field survey.

The survey questionnaire includes 9 different contents such as (i) status of APs, (ii) main income source, (iii) main expenditure for consumption and (iv) preferences of compensation as attachment.

At the time of the study the survey, the sampling points were randomly selected to identify the situation of the area possibly affected by the land acquisition in every affected commune. The total number of sample is 40 with consideration of time limitation of this survey. Based on this notion, the following steps were taken to select the actual survey location and samples;

- To create a draft map which indicates the possible land acquisition areas as reference map to select the sampling points,
- To discuss with PDOWRAM officials for the relevance of previous Communes/Villages listing as against zoning, and asked them to recommend the appropriate Communes/Villages for the field survey,
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- To prepare the list of the target commune names by considering questionnaire survey,
- To prepare the list of the target village names within the communes listed is available in work plan,
- To selection of the sampling points through the field survey and implement the pre-test of this questionnaire survey,
- To commence the questionnaire survey by interviewing APs through the questionnaire sheet.

The information of administration of survey area and sample distribution of sample household in each affected villages are shown in Table 4.2.5.

Table 4.2.5 Village within the Target Area

No	Commune	Village	Number of Sample
1	Phong	Dam Bok Khpuos	3
		Prey Dork Por	3
2	Trapeang Kranhung	Phlov Lok	5
3	Ou Saray	Thnaot Chum	1
		TraPeangKrasaing	3
		Stueng	3
		Russei Mouykum	1

No	Commune	Village	Number of Sample
4	Tra peang ThumkhangCherng	Peak bang Aorng	2
		AngkTrav	1
		Prey Talei	2
5	Cheang Tong	Srae Khvav	7
6	Ta Phem	Mrum	3
		Ta Mom	3
		Mohasena	3
Total	6 communes	4 villages	40

Source: JICA Survey Team

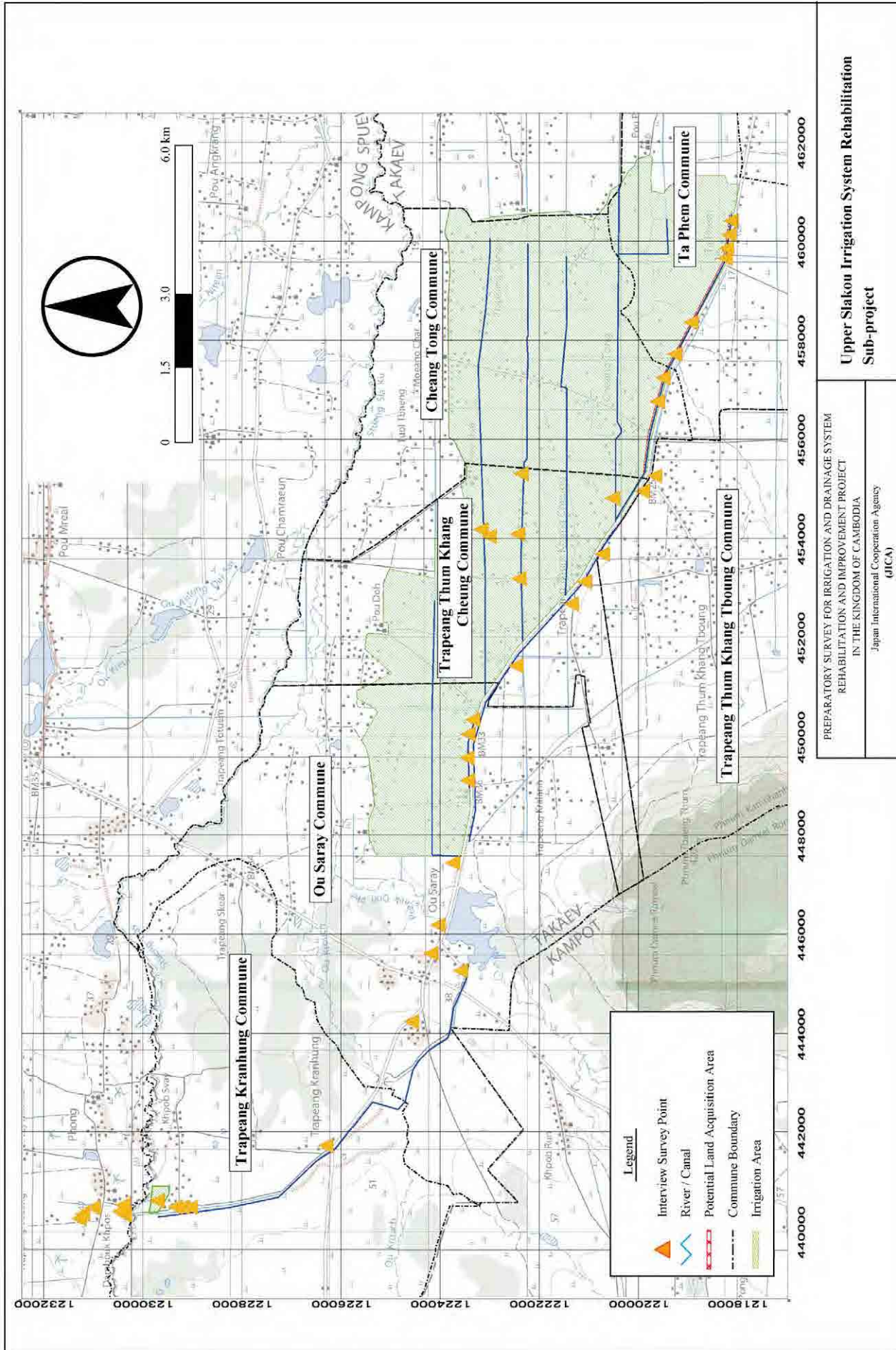


Figure 4.2.1 Sample Distribution for the Socio-economic Survey

(2) Survey Result and Analysis

(a) Attribution of Respondents

Respondents consist of the head of household female and male, and 1 younger sister. The average age of respondents is 43.5 years old. The rate of male and female of the respondents is 61.55% and 35.9% respectively as shown in Table 4.2.6.

Table 4.2.6 Male-Female Balance of Respondents

Item	Number	Rate [%]
Male head of HH	24	61.54
Female head of HH	14	35.90
Oldest son of the HH	0	0.00
Oldest daughter of the HH	0	0.00
Other (younger sister)	1	2.56
Total	39	100

Source: JICA Survey Team

(b) Family structure

1) Average number of household member

The average number of household member is 4.85 persons in a household of the respondents.

2) Balance of male and female

The rate of male and female of the respondents is 54% and 46% respectively as shown in Table 4.2.7.

Table 4.2.7 Balance of Male and Female of the Total 40 Families

Item	Number	Rate [%]
Male	105	54.00
Female	89	46.00
Total	194	100

Source: JICA Survey Team

3) Total family member and working persons

The average number of working-age population (between >10 to < 64 yrs old) per household is 3.07 while the average of non-working is 1.78 of a family of the respondents. The number and rate working person are shown in Table 4.2.8.

Table 4.2.8 Total Family Member and Working Person

Total		Working Person		Non-working Person	
N	%	n	%	n	%
194	100	123	63.40	71	36.60

Source: JICA Survey Team

(c) Main occupation

The main occupation of these sampled households mostly from farming activity is 27 out of 40 households or 68%, private business 8 households or 20%, others 4 households or 10%, and salary 1 household or 3% as shown in Table 4.2.9.

Table 4.2.9 Main Occupations of Household Heads

Item	Number	Rate [%]
Farmer	27	68.0
On-farm labor	0	0.00
Non-farm labor	0	0.00
Salary Worker	1	3.0
Private Business	8	20.0
Others	4	10.0
Total	40	100

Source: JICA Survey Team

(d) Educational level

1) Educational background

The levels of education for USISRSP area are shown in Table 4.2.10.

Table 4.2.10 Education Levels Sampled Household Members

Condition of Education Level	Number	Rate [%]
No formal education	12	6.19
Drop-out at primary school	28	14.43
Graduate from primary school	6	3.09
Drop-out at junior high school	13	6.70
Graduate from junior high school	17	8.76
Drop-out at high school	4	2.06
Graduate from high school	27	13.92
More than high school	16	8.25
Presently going to school	49	25.26
Not going to school	17	8.76
Before school age	5	2.58
Non-formal education for adults	0	0.00
Total	194	100

Source: JICA Survey Team

2) Literacy

Literacy rate of sampled household members is 81.44% for total samples as shown in Table 4.2.11.

Table 4.2.11 Literacy Rate of Sampled Household Members

Literacy Condition	Number	Rate [%]
Unable to write, read, and calculate for making living	36	18.56
Able to write, read, and calculate for making living	158	81.44
Total	194	100

Source: JICA Survey Team

(e) Income sources

1) Income levels

The average and median household incomes are 8,372,000 [Riel] and 7,275,000 [Riel/year]. Maximum and minimum household incomes are 36,400,000[Riel/year], and 940,000 [Riel/year]. The gap between “average” and “median” income per household indicates that there exist numbers of very rich households, or there are few very riches in comparison to the number of poor.

2) Proportion of income sources

Private business is most large portion of income source and “selling paddy/rice”, “Selling livestock/poultry products”, “Salary from permanent job” and “Wage from temporary off-farm job” occupy the following large portion as shown in Table 4.2.12.

Table 4.2.12 Main Income Sources of Sampled Household Heads

Item	Rate [%]
Selling paddy/rice	12.4
Selling vegetables (red pepper/ tobacco/ water melon/ others)	1.2
Selling fruits (mango/ papaya, banana/ hairy fruit/ orange/ others)	0.0
Selling palm sugar	0.0
Selling livestock/ poultry products	14.3
Selling fishes	0.0
Salary from permanent job	18.5
Wage from temporary on-farm job	0.6
Wage from temporary off-farm job	14.6
Private business (transportation, trading, shop, etc.)	30.9
Remittance from family members	6.3
Selling firewood/charcoal	0.0
Selling handicraft/ cottage industry products	0.0
Selling forest vegetable/ crop	0.0
Others	1.0
Total	100

Source: JICA Survey Team

(f) Expenditure

1) Expenditure level

Average, median, minimum and maximum expenditures for samples are as follows. Average value is more

than median value, which indicates that most of households does not expense so much but a few households expense much more than the other households.

Table 4.2.13 Average, Median, Minimum and Maximum Expenditure

Item	Expenditure [x10 ³ Riel/year]
Average/HH ('000 Riel)	8,745
Median/HH ('000 Riel)	5,618
Minimum	1,202
Maximum	47,870

Source: JICA Survey Team

2) Proportion of expenditure source

The expense of other foods except rice occupies a large portion as well as transportation and education as shown in Table 4.2.14. It indicates that food except rice is difficult to self-support.

Table 4.2.14 Proportional Expenditure Volumes for Different Purposes

Item	Rate [%]
Rice	1.6
Other foods	29.4
Health/ medicine	7.0
Education	17.2
Clothes	4.3
Firewood/Kerosene/Electricity/Battery	5.2
Transportation (Motor taxi/Gasoline)	21.1
Tax	0.5
Others (Ceremony/ Wedding)	13.6
Total	100.0

Source: JICA Survey Team

(g) Preference of compensation type

A total of 18 out of 40 respondents are requested for the compensation by cash and 22 out of 40 respondents are not requested for any compensation from the government because they are pleased to implementation this sub-project especially they needed water for their dry season rice and gardening as mentioned as shown in Table 4.2.15.

Table 4.2.15 Preference of Compensation Type

Item	Number	Rate [%]
Cash	18	45.00
Jobs for family members	0	0.00
Do not know yet	0	0.00
Others (Free contribution, Land-to-land)	22	55.00
Total	40	100.00

Source: JICA Survey Team

(h) Assistance requirement by APs

It is differences from one to another APs required during the field survey, some of them are very happy to hear that the USISRSP will be rehabilitation and or reconstruction but some of them did not happy to get this sub-project because it may affected to their houses, land, and other properties near the scheme. About 60% of these APs does not required compensation from the government but about 40% of APs that living near Market place they did not want to take this sub-project as well as they do not want to remove their house from the sub-project site. For example in Cheang Tong commune they suggested that, the government or donor should be rehabilitation at the existing canal on the other side of road it have more benefits or less money than the new construction canal and not needs for compensation to the APs as well.

(i) Requirement of job training for APs

There are not any APs who requested job training during the field survey and most of APs prefer to cash compensation.

4.3 Kandal Stung-Bati Irrigation System Rehabilitation Sub-project

4.3.1 General Feature of Socioeconomic Condition

(1) Geographical Location

KSBSRSP area in this study extensively covers 2 districts, 16 communes, and 55 villages of 2 provinces namely Kandal Province and Takeo Province.

Name of affected communes and villages are listed in Table 4.3.1.

Table 4.3.1 Affected Communes and Villages of Kandal Stung-Bati Area

Affected Areas of KSBSRSP					
Province	District	Commune	Village	Commune	Village
Kandal	Kandal Steung	Bakou	Kmot	Ampeov Prey	Ampeov Prey 1
			Bakou		Ampeov Prey 2
		Kouk Troap	Svay Lech		Ampeov Prey 3
			Svay Kert		Tadoul Ti 1
			Leak		Cherng Prey
			Kouk Troap		Prek Sleng
			Char	Pon Char	
		Thmey	Kouk Pring	Prek Roka	
			Thmey	Beoung Khaeak	
			Tonlea	Chambok Troap	
		Siem Reap	Siem Reap	Koh Khnol	
			Cheychomnaes	Kandouk	
			Real Dorb	Tek Nim	
			Rean Thmor	Beoung Kchang	
			Prek Angkunh	Beoung Kchang	
			Chambok	Pralay	
		Trea	Roung Kou	Trapeang Veng	
			Troh	Provang	
			Trea	Damnak Trabek	
			Trapeang Sva	Trapeang Bakou	
Trapeang Kok	Sleng				
Takeo	Bati	Krang Thnong	Tonle Bati	Champey	Derm Dong
			Krang Thnong		Makak
			Hanoukman	Kandeong	Trapeang Lerk
			Chroung Sdao		O Phea Sang
			Thbong Domrei		Preah Mlob
		Khlang Sambath	Hanoukman		
		Tang Russey			
		Pot Sor	Khvan Meas		

Source: Commune Profile, 2012

(2) Demography Status

The 16 affected communes have total 112 villages, 20,950 households, 94,867 people, and 48,967 female. The total number of household, population, and female status by affected communes has figured in Table 2 (Commune Profile, 2012). The number of migration to other countries is less than 30 people in each commune. The purpose of migration is mostly for occupations in some preferable countries such as Korea, Thailand, and Malaysia.

Table 4.3.2 Household Number, Population, Female Number by Affected Commune, 2012

Province	District	Commune	Number of Village	Total Family	Population	
					Total	Female
Kandal	Kandal Steung	Bakou	7	1,152	5,217	2,830
		Kouk Troap	9	1,068	4,619	2,458
		Siem Reap	6	1,059	4,759	2,503
		Kandouk	7	1,443	6,229	3,244

Province	District	Commune	Number of Village	Total Family	Population	
					Total	Female
		Thmey	5	528	2,282	1,337
		Trea	9	1,339	5,804	3,101
		Ompeov Prey	9	1,414	6,207	3,347
		Prek Sleng	4	937	4,206	2,131
		Prek Roka	4	1,150	4,809	2,415
		Beoung Kchang	6	1,547	6,580	3,166
		Tbaeng	7	940	4,255	2,216
		Trapeang Veng	5	853	3,917	2,002
		Takeo	Bati	Krang Thnong	8	1,999
Pot Sor	11			2,402	11,849	5,943
Champeï	7			1,376	6,251	3,094
Kandeong	8			1,743	8,111	4,196
Total			112	20,950	94,867	48,967

Source: Commune Profile, 2012

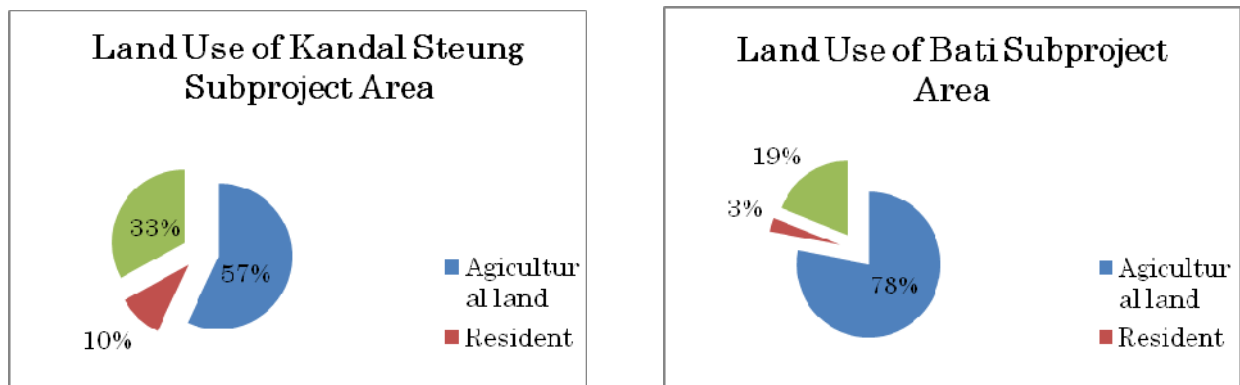
(3) Ethnic, Minority and Indigenous Distribution

None of ethnic, minority and indigenous distribution has indentified in Kandal Steung-Bati area. Through Public Consultation Meeting (PCM) or socio-economic survey after determination of the ROW, more detail will be identified.

(4) Land Use and Average Agricultural Land Distribution

Over 50% of total land has been occupied for agricultural activities, followed by residential land and other including infrastructure, streams, forest etc.

Figure 4.3.1 shows percentage of land use categorized by agriculture, resident, and other of Kandal Stung and Bati area.

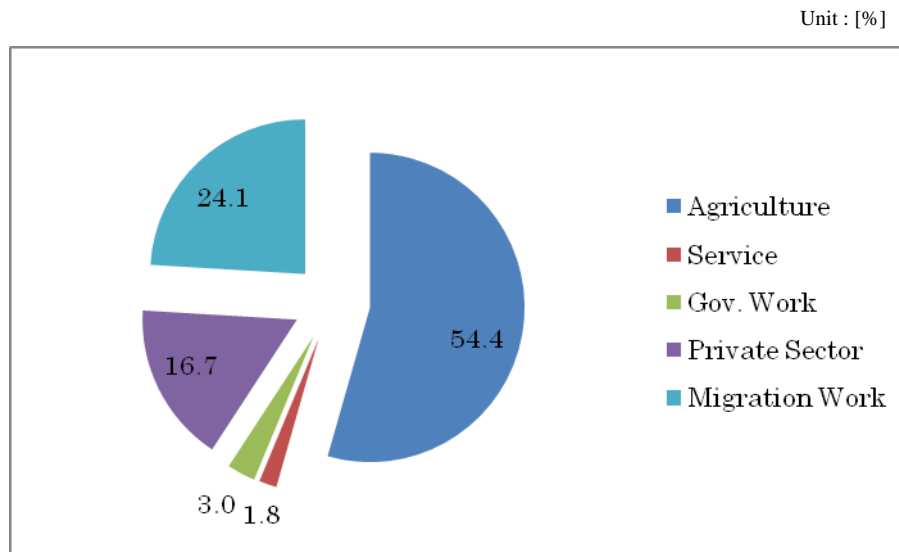


Source: Commune Profile, 2012

Figure4.3.1 Percentage of Land Use of KSBISRSP Area

(5) Major Livelihood

Main occupation in KSBISRSP area is based on agricultural production which shared 54.4% followed by migration work 24.1%, private sector 16.7%, government work 3% and service 1.8% as Figure 4.3.2. Figure 4.3.2 illustrates the number of families per district by occupations' types in Kandal Steung and Bati district.



Source: NCDD, 2011

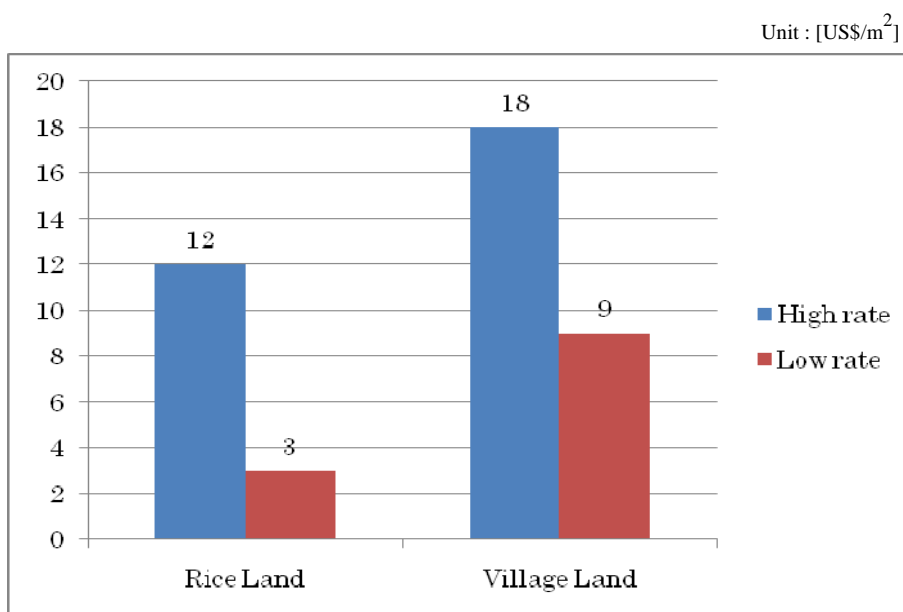
Figure 4.3.2 Summary Number of Family per District per Occupation of KSBISRSP Area

(6) Rice Production

Average of rice production in KSBISRSP area is 2.7 tons per hectare. In some places people can produce rice more than two times annually due to geographical condition of rice field nearby stream or irrigated canal.

(7) Average Land Price

Regarding to land price, there is different value from place to place based on its particular location and type of land. The land price in this paper was generally estimated accordance with the geographical location. The average value for agricultural land that is located nearby national or village road is 12USD/m² and 3USD/m² for the reverse location. Village land price varies from 18USD/m² and 9USD/m² based on the two type of location as mentioned above.



Source: NCDD, 2011

Figure 4.3.3 Average High and Low Rate of Rice Land and Village Land in KSBISRSP Area (US\$/m²)

4.3.2 Questionnaire Survey

(1) Objectives and methodology

(a) Objectives

The Survey has the objectives of identification of the socio-economic profile related to land acquisition and awareness of the land acquisition or compensation at planning stage. To achieve the objectives, a questionnaire survey from APs, identified based the field survey including hearing from commune chief or village chief in the area affected by this sub-project, has been carried out.

(b) Methodology (selection procedure of sampling point, contents of questionnaire, etc)

The survey questionnaire drafted by the JICA Survey Team in English and was translated into Khmer language and after the field testing and improvement, which was applied for the field survey.

The survey questionnaire includes 9 different contents such as (i) status of APs, (ii) main income source, (iii) main expenditure for consumption and (iv) preferences of compensation as attachment.

At the time of the study the survey, the sampling points were randomly selected to identify the situation of the area possibly affected by the land acquisition in every affected commune. The total number of sample is 40 with consideration of time limitation of this survey. Based on this notion, the following steps were taken to select the actual survey location and samples;

- To create a draft map which indicates the possible land acquisition areas as reference map to select the sampling points,
- To discuss with PDOWRAM officials for the relevance of previous Communes/Villages listing as against zoning, and asked them to recommend the appropriate Communes/Villages for the field survey,
- To hold consultation meeting with commune council to inform the aim and objective of this social-economic survey and allow from them to contact the village leader of affected village to collect information,
- To prepare the list of the target commune names by considering questionnaire survey,
- To prepare the list of the target village names within the communes listed is available in work plan,
- To selection of the sampling points through the field survey and implement the pre-test of this questionnaire survey,
- To commence the questionnaire survey by interviewing APs through the questionnaire sheet.

The information of administration of survey area and sample distribution of sample household in each affected villages are shown in Table 4.3.3.

Table 4.3.3 Socio-Economic Survey Sample Distribution

No.	Kandal Stung District, Kandal Province		
	Affect areas		Sample Number
	Commune	Village	-
1	Bakou	Kmot	-
		Bakou	1
2	Kouk Troap	Svay Lech	1
		Svay Kert	1
		Leak	1
		Kouk Troap	-
		Char	1
		Kouk Pring	-
3	Thmey	Thmey	1
		Tonlea	-
4	Siem Reap	Siem Reap	2
		Cheychnaes	1
		Real Dorb	-

Kandal Stung District, Kandal Province				
No.	Affect areas		Sample Number	
		Rean Thmor		-
		Prek Angkunh		-
		Chambok		1
5	Trea	Roung Kou	3	-
		Troh		2
		Trea		-
		Trapeang Sva		1
		Trapeang Kok		-
6	Ampeov Prey	Ampeov Prey 1	2	-
		Ampeov Prey 2		1
		Ampeov Prey 3		1
		Tadoul Ti 1		-
		Cherng Prey		-
7	Prek Sleng	Prek Sleng	2	1
		Pon Char		1
8	Prek Roka	Prek Roka	3	2
		Beoung Khaeak		-
		Chambok Troap		-
		Koh Khnol		1
9	Kandouk	Kandouk	2	1
		Tek Nim		1
10	Beoung Kchang	Beoung Kchang	1	-
		Pralay		1
11	Trapeang Veng	Trapeang Bakou	2	1
		Sleng		1
		Proveng		-
		Damnak Trabek		-
12	Tbeng	Kouk Til	2	2
Bati District, Takeo Province				
13	Krang Thnong	Tonle Bati	5	2
		Krang Thnong		1
		Hanoukman		-
		Chroung Sdao		1
		Thbong Domrei		1
14	Pot Sor	Khlang Sambath	3	1
		Tang Russey		1
		Khvan Meas		1
15	Champey	Derm Dong	2	2
		Makak		-
16	Kandeong	Trapeang Lerk	3	-
		O Phea Sang		1
		Preah Mlob		1
		Hanoukman		1
Total	16	55	40	40

Source: JICA Survey Team

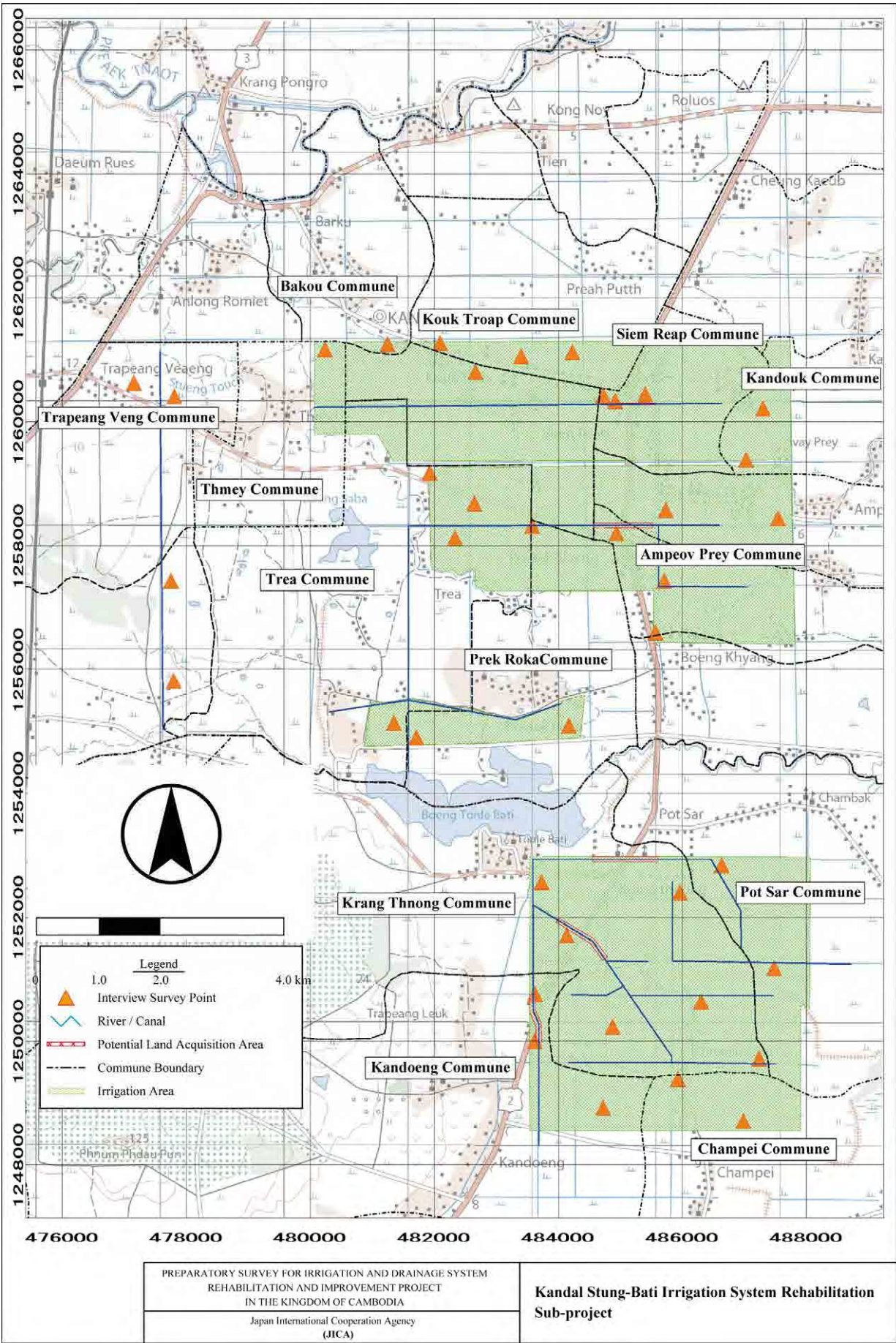


Figure 4.3.4 Sample Distribution for the Socio-economic Survey

(2) Survey Result and Analysis

(a) Attribution of Respondents

The survey respondents are mostly the male heads of households which is 65%, follow by the female heads of households which is 35% with their average age 54 years old. The average household member population is 4.93 persons per household for all samples of Kandal Steung-Bati Area.

Table 4.3.4 Attribution of Male and Female Balance of Respondents

Item	Number	Rate [%]
Male head of HH	26	65.00
Female head of HH	14	35.00
Oldest son of the HH	0	0.00
Oldest daughter of the HH	0	0.00
Other (younger sister)	0	0.00
Total	40	100

Source: JICA Survey Team

This is almost gender balance among interviewed household members as shown in Table4. The average household member population is 4.93 persons per household for all samples of Kandal Stung-Bati Area.

(b) Family structure

1) Average number of household member

The average number of household member is 5.925 persons in a household of the respondents.

2) Balance of male and female

The balance of male and female is shown in Table 4.3.5.

Table 4.3.5 Male and Female Balance of Household Members

Item	Number	Rate [%]
Male	98	49.75
Female	99	50.25
Total	197	100

Source: JICA Survey Team

3) Total family member and working persons

The average number of working-age population (between >10 to < 64 yrs old) per household is 3.15 while the average of non-working is 1.78 of a family of the respondents. The number and rate working person are shown in Table 4.3.6.

Table 4.3.6 Total Family Member and Working Person

Total		Working Person		Non-working Person	
N	%	n	%	n	%
197	100	126	63.96	71	36.04

Source: JICA Survey Team

(c) Main occupation

The main income sources of the sampled household heads are predominantly from farming activities (87.5%) for this Category Area as shown in Table 4.3.7.

Table 4.3.7 Main Occupations of Household Heads

Item	Number	Rate [%]
Farmer	35	87.5
On-farm labor	0	0.0
Non-farm labor	0	0.0
Salary worker	0	0.0
Private business	5	12.5
Others	0	0.0

Item	Number	Rate [%]
Total	40	100

Source: JICA Survey Team

(d) Education level

1) Educational background

The education levels of the sampled households are shown in Table 4.3.8.

Table 4.3.8 Education Levels of Sampled Household Members

Item	Number	Rate [%]
(1) No formal education	19	9.64
(2) Drop-out at primary school	58	29.44
(3) Graduate from primary school	1	0.51
(4) Drop-out at junior high school	28	14.21
(5) Graduate from junior high school	15	7.61
(6) Drop-out at high school	5	2.54
(7) Graduate from high school	9	4.57
(8) More than high school	4	2.03
(9) Presently going to school	45	22.84
(10) Not going to school	2	1.02
(11) Before school age	11	5.58
(12) Non-formal education for adults	0	0.00
Total	197	100.00

Source: JICA Survey Team

2) Literacy

Literacy rate of sampled household members in Kandal Stung-Bati Area is shown in Table 4.3.9.

Table 4.3.9 Literacy Rate of Sampled Household Members

Literacy Condition	Number	Rate [%]
Unable to write, read, and calculate for making living	152	77.16
Able to write, read, and calculate for making living	45	22.84
Total	197	100.00

Source: JICA Survey Team

(e) Income Sources

1) Income level

The average and median household incomes are 23,813,000 [Riel] and 12,695,000 [Riel/year]. Maximum and minimum household incomes are 44,000,000[Riel/year], and 1,380,000 [Riel/year]. The gap between “average” and “median” income per household indicates that there exist numbers of very rich households, or there are few very rich in comparison to the number of poor.

2) Proportion of income sources

The proportional cash income volumes from various income sources are calculated for each source of Kandal Stung-Bati Area as shown in Table 4.3.10.

Table 4.3.10 Proportional Cash Income Volumes from Different Sources (%)

No	Cash Income Sources	Proportion
1	Selling paddy/rice	7.2
2	Selling vegetables (red pepper/ tobacco/ water melon/ others)	1.3
3	Selling fruits (mango/ papaya, banana/ hairy fruit/ orange/ others)	0.9
4	Selling palm sugar	-
5	Selling livestock/ poultry products	4.0
6	Selling fishes	-
7	Salary from permanent job	13.8
8	Wage from temporary on-farm job	-
9	Wage from temporary off-farm job	2.7
10	Private business (transportation, trading, shop, etc.)	57.4

No	Cash Income Sources	Proportion
11	Remittance from family members	11.2
12	Selling firewood/charcoal	-
13	Selling handicraft/ cottage industry products	-
14	Selling forest vegetable/ crop	-
15	Others	1.5
16	Total	100.0

Source: JICA Survey Team

From above Table, Agricultural cash incomes consist approximately 13% of total cash incomes earned by sampled households. It is less proportion in comparing to non-agricultural cash incomes which involve approximately 87%. Mainly, agricultural products including rice paddy, vegetables, fruits, and livestock which were allocated for subsistent food are just enough for families' consumption in year round. Among agricultural income source, the "selling paddy/rice" is the highest cash income source, followed by the "selling livestock/poultry products". The purposes of selling these products are to earn cash for specifically for particular consumption such as educational payment, health problem, and some other expensive properties. Among non-agricultural cash income source, the "private business" is the most viable cash income source which holds 57.4%. The sorts of private business that earn high income volume are rice mill business, agricultural machinery renting, small food shop, and others. The next proportion after the "private business" is the "salary from permanent job" which is 13.8%. The third highest proportion of non-agricultural cash income source is remittance (11.2%) from family members. Mostly, the sampled households are partly supported by family members monthly who are factory workers at the other province or city.

(f) Expenditure

1) Expenditure level

Average, median, minimum and maximum expenditures for samples are shown in Table 4.3.11.

Table 4.3.11 Expenditure Level

Item	Expenditure [x 10 ³ riel]
N	40
Average/HH	10,964
Median/HH	9,689
Minimum	1,362
Maximum	45,686

Source: JICA Survey Team

2) Proportion of expenditure source

Expenditure on food shares the highest proportion, follow by education, transportation, wedding/ceremony, health/medicine and others. The proportional expenditure for consumption volumes are calculated as shown in Table 4.3.12.

Table 4.3.12 Proportional Expenditure for Consumption Volume

No	Item	Rate [%]
1	Rice	2.1
2	Other foods	34.7
3	Health/ medicine	10.4
4	Education	19.0
5	Clothes	2.5
6	Firewood/Kerosene/Electricity/Battery	3.3
7	Transportation (Motor taxi/Gasoline)	16.7
8	Tax	0.1
9	Others (Ceremony/ Wedding)	11.2
10	Total	100.0

Source: JICA Survey Team

(g) Preference of Compensation Type

39 respondents among 40 answered “Cash” to the question “If your land is acquired for the sub-project what kind of compensation do you prefer”. There is only one respondent chose the answer “Jobs for family members”.

(h) Assistance Requirement by APs

Respondent who chose the answer “No.2” from question “Q-59” answered “Training opportunity for new job” to the question “What kind of assistance you need”.

(i) Requirement of Job Training by APs

Respondent who chose the answer “No.3” from question “Q60” answered “Farmer” to the question “What do you want to get job training for”.

4.4 Main Canal 35 Rehabilitation Sub-project

4.4.1 General Feature of Socioeconomic Condition

(1) Geographical Location

MC35ESP area is located at the Southwest of Phnom Penh in Basedth district, Kampong Speu province. The system covers with 22 villages of 5 communes in Basedth district, Kampong Speu Province.

(2) Demography Status

Basedth District is a District in Kampong Speu Province of Cambodia. It subdivided into 15 respective communes. According to Basedth District Data Book in 2009, the demography status of the district was revealed from 2008 data record, with 132,388 persons in total of 26,226 households and 4,302 woman-headed households.

Population distribution by commune in MC35ESP area is summarized in Table 4.4.1.

Table 4.4.1 Population in the Sub-project Area by Communes in 2012

Province	District	Commune	Total Family	Population		Family Size
				Total	Female	
Kampong Speu	Basedth	Phiri Meanchey	1,762	8,869	4,534	5.03
		Basedth	2,681	12,345	6,401	4.60
		Preh Khae	1,366	6,582	3,352	4.82
		Pou Mreal	2,187	10,703	5,623	4.89
		Kak	1,284	6,261	3,253	4.87

Source: Commune Profile, 2012

(3) Ethnic, Minority and Indigenous Distribution

It is not expected that this sub-project has specific impacts on ethnic, minority and indigenous group’s distribution of MC35ESP area and with this condition the preparation of an ethnic, minority and indigenous development plan does not require. However, activity plan require including specific actions to mitigate adverse impacts or safeguard action and enhance the other vulnerable groups to benefit from the sub-project interventions.

(4) Land Use and Average Paddy Land Distribution

Land use is categorized within each commune of MC35ESP area seen as rice field, farmland, residential land, shrub-land, and others. The following table shows land use size by commune with average paddy land owned per household.

Table 4.4.2 Land Use Distribution by Commune

Province	District	Commune	Land Use			Total Land
			Paddy Land	Residential	Other	
Kampong Speu	Basedth	Pheari Meanchey	876	220	154	1,250
		Basedth	1,860	9	30	1,899
		Preh Khae	1,250	215	2,335	3,800
		Pou Mreal	1,552	208	219	1,979
		Kak	902	35	98	1,035

Source: Commune Profile, 2012

The average paddy land owned per household in MC35ESP area is less than 1 ha, it varies from 0.50 ha to 0.90 ha by calculating. In fact there some households possesses with more than these figures in their commune as well as having extra in others' while some are less than that size revealed.

(5) Major Livelihood

Major livelihood of MC35ESP area is relied much upon the agriculture based occupation. More than 80% of households in the area especially in the five target communes earn a living from this sector. Some portions of income generation are contributed from other sectors followed by salary work and private.

(6) Rice Production of MC35ESP Area

Rice production within the five target communes ranges between 1.5t/ha-2.5/ha and much based on water accessibility. Majority of the communes are rainy season based rice cultivation practices.

(7) Average Land Price

Only some communes amongst the five are available with the land price. The price varies from one location to another dependence upon some variations such geographical location, type or quality of land, water access, economic trend, living standard and so on. In MC35ESP area, particularly in three communes, Preh Khae, Kak and Pou Mreal, the paddy land value ranges from US\$0.20-US\$1.00 while for residential land is between US\$0.60-US\$6.00, and land along main road rates between US\$0.50-US\$12.00. Table 4.4.3 summarizes the land price by commune with several types based on three dimensions, minimum, maximum and average.

Table 4.4.3 Estimate of Land Price (US\$/m²)

Commune	Rice Field		Farm Land		Residential Land		Land along Main Road	
	Min	Max	Min	Max	Min	Max	Min	Max
PreahKhe	0.5	1	0.6	1.2	1	5	5	12
Kak	0.2	0.8	0.2	0.8	0.6	1	1	3
Basedth	0.35	0.55	0.4	0.6	2	6	2	4
Pheari Meanchey	0.3	0.7	0.3	0.7	1.2	1.8	0.5	2
Pou Mreal	0.5	1	0.6	1	1	3	1	3

Source: JICA Survey Team

4.4.2 Questionnaire Survey

(1) Objectives and methodology

(a) Objectives

The Survey has the objectives of identification of the socio-economic profile related to land acquisition and awareness of the land acquisition or compensation at planning stage. To achieve the objectives, a questionnaire survey from APs, identified based the field survey including hearing from commune chief or village chief in the area affected by this sub-project, has been carried out.

(b) Methodology (selection procedure of sampling point, contents of questionnaire, etc)

The survey questionnaire drafted by the JICA Survey Team in English and was translated into Khmer language and after the field testing and improvement, which was applied for the field survey.

The survey questionnaire includes 9 different contents such as (i) status of APs, (ii) main income source,

(iii) main expenditure for consumption and (iv) preferences of compensation as attachment.

At the time of the study the survey, the sampling points were randomly selected to identify the situation of the area possibly affected by the land acquisition in every affected commune. The total number of sample is 40 with consideration of time limitation of this survey. Based on this notion, the following steps were taken to select the actual survey location and samples;

- To create a draft map which indicates the possible land acquisition areas as reference map to select the sampling points,
- To discuss with PDOWRAM officials for the relevance of previous Communes/Villages listing as against zoning, and asked them to recommend the appropriate Communes/Villages for the field survey,
- To hold consultation meeting with commune council to inform the aim and objective of this social-economic survey and allow from them to contact the village leader of affected village to collect information,
- To prepare the list of the target commune names by considering questionnaire survey,
- To prepare the list of the target village names within the communes listed is available in work plan,
- To selection of the sampling points through the field survey and implement the pre-test of this questionnaire survey,
- To commence the questionnaire survey by interviewing APs through the questionnaire sheet.

The information of administration of survey area and sample distribution of sample household in each affected villages are shown in Table 4.4.4.

Table 4.4.4 Sample Selection

Province	District	Commune	Village	Sample
Kampong Speu	Basedth	PreahKhe (Larger irrigated areas)	Prey Bakrong	2
			TrapeangVeng	2
			Thnall	3
			KhnangPhum	2
			ThnalDach	2
			Khlaok	1
			Boeung	2
		Kak	TeuopMareak	3
			KrangTraok	2
			Tareach	2
		Basedth	TrapeangPhong	1
			SreTraok	2
			ThmartLeng	2
			Prey Kok Trap	3
			BoeungSangke	1
			Prey Chheu Teal	2
		Pheari Meanchey	TrapeangPhlong	1
			Prey Ngoung	1
		Pou Mreal	AngDekKandal	2
			SreKhgne	1
			Chambak Ron Cheung	1
			MarealThnort Cheung	2
Total		5 communes	22 villages	40

Source: JICA Survey Team

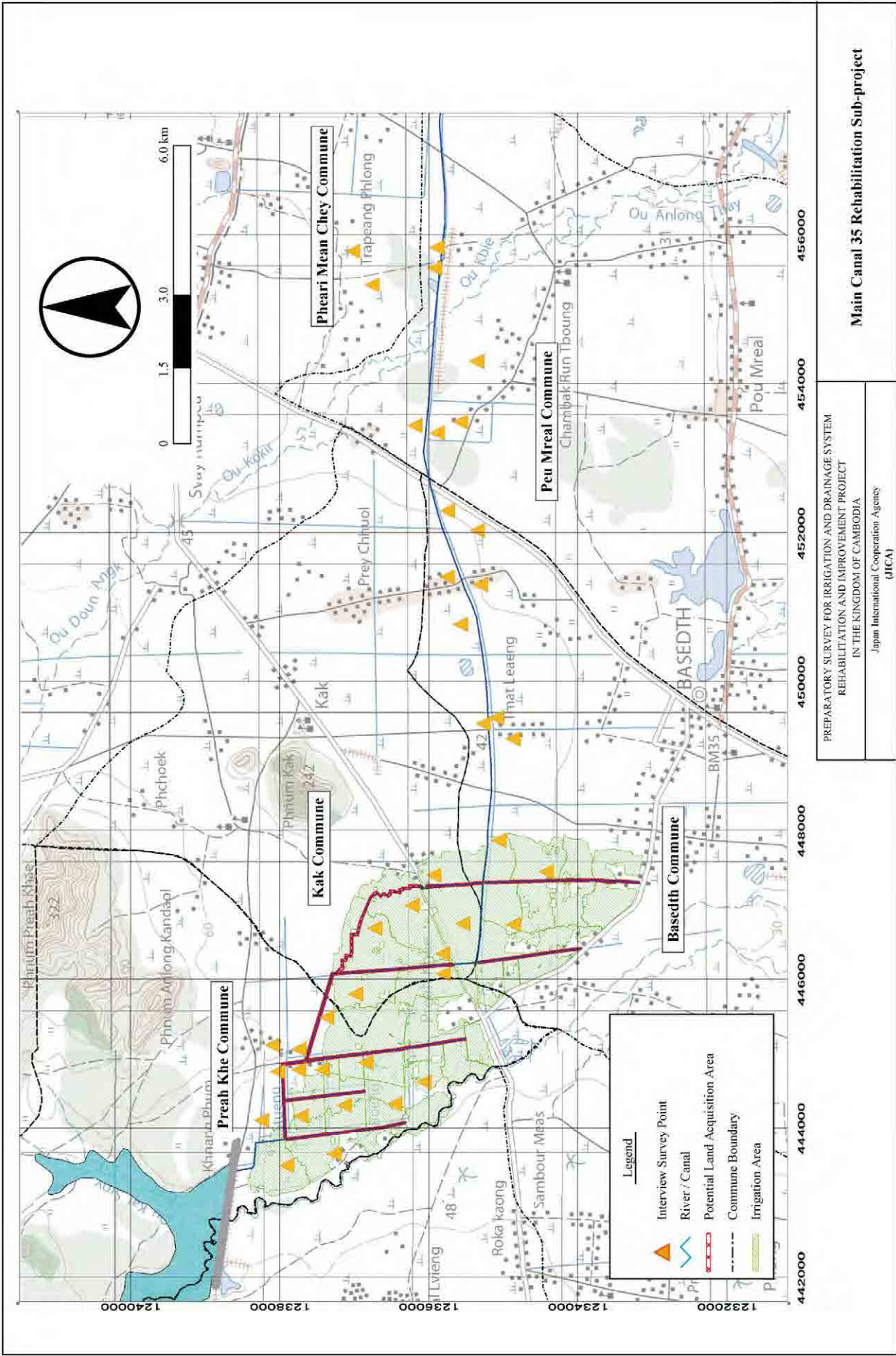


Figure 4.4.1 Sample Distribution for the Socio-economic Survey

(2) Survey Result and Analysis

(a) Attribution of Respondents

Respondents consist of the head of household female and male, and first daughter. The average age of respondents is 42 years old. The rate of male and female adults of the respondents is 47.5 and 50% respectively as shown in Table 4.4.5.

Table 4.4.5 Male-Female Balance of Respondents

Item	Number	Rate [%]
Male head of HH	19	47.50
Female head of HH	20	50.00
Oldest son of the HH	0	0.00
Oldest daughter of the HH	1	2.50
Other (younger sister)	0	0.00
Total	40	100

Source: JICA Survey Team

(b) Family structure

1) Average Number of household member

The average number of household member is 5.22 persons in a household of the respondents.

2) Balance of male and female

Among members of sampled households, the percentage of female is higher than male, that is 56 % and 44% respectively. Table 4.4.6 explains the balance of male and female.

Table 4.4.6 Balance of Male and Female of the Total 40 families

Item	Number	Rate [%]
Male	91	44.00
Female	118	56.00
Total	209	100

Source: JICA Survey Team

3) Total family member and working persons

Average working members per household is 4.275 persons, while average of non-working member is only 0.95 person. Working persons are equal to 82%(171 persons) of all household members, while not working persons are 18%(38 persons) as shown in Table 4.4.7.

Table 4.4.7 Total and Working Person of 40 samples

Total		Working Person		No Working Person	
n	%	n	%	n	%
209	100	171	82	38	18

Source: JICA Survey Team

(c) Main occupation

Household head who get main income from agriculture activities or farmers occupies 85.0%, and the head of only a few households earn from the other occupation. Main occupation of each household head is shown in Table 4.4.8.

Table 4.4.8 Main Occupation of All Household Members of 40 Samples Families

Item	Number	Rate [%]
Farmer	34	85.0
On-farm labor	0	0.0
Non-farm labor	1	2.5
Salary worker	0	0.0
Private business	2	5.0
Others	3	7.5
Total	40	100

Source: JICA Survey Team

(d) Education Level

1) Educational background

Educational background of each household member is important for reflexing the living style. In Cambodia, generally education level of rural people is very low. Table below describe the proportion of all 209 household members in each education level. The education levels of the sampled households are shown in Table 4.4.9.

Table 4.4.9 Education Levels of Sampled Household Members

Item	Number	Rate [%]
No formal education	1	0.48
Drop-out at primary school	60	28.71
Graduate from primary school	19	9.09
Drop-out at junior high school	23	11.00
Graduate from junior high school	9	4.31
Drop-out at high school	8	3.83
Graduate from high school	1	0.48
More than high school	7	3.35
Presently going to school	38	18.18
Not going to school	28	13.40
Before school age	15	7.18
Non-formal education for adults	0	0.00
Total	209	100.00

Source: JICA Survey Team

The highest percentage, 28.71%, of household members drops out at primary school, followed by 11% drop-out at junior high school, while 13% did not go to school. This figure indicates the low education of MC35ESP area, reflecting to the low knowledge to support their living standard. Lack of time and support for member going to school are the results of this higher percentage of low education members. No non-formal education system in MC35ESP area results in 1% of non-formal education member.

2) Literacy

Literacy rate of sampled household members is 78% as shown in Table 4.4.10. It is necessary to consider the literacy condition for the consultation process with APs.

Table 4.4.10 Literacy Status of Sampled Household Members

Literacy Condition	Number	Rate [%]
Unable to write, read, and calculate for making living	47	22
Able to write, read, and calculate for making living	162	78
Total	209	100

Source: JICA Survey Team

(e) Income sources

1) Income levels

The average and median household incomes are 4,792,513 [Riel] and 4,075,000 [Riel/year]. Maximum and minimum household incomes are 29,900,000 [Riel/year], and 2,150,000 [Riel/year]. The gap between “average” and “median” income per household indicates that there exist numbers of very rich households, or there are few riches in comparison to the number of poor.

2) Proportion of income sources

There are two kinds of income sources for famer living in rural of Cambodia that is income from agriculture activities and from non-agriculture activities. Table 4.4.11 shows the proportion of those income volumes of 40 samples households.

Table 4.4.11 Total Proportional Income Volumes from Different Sources

No	Cash Income Sources	Rate [%]
1	Selling paddy/rice	9.71
2	Selling vegetables (red pepper/ tobacco/ water melon/ others)	0.10
3	Selling fruits (mango/ papaya, banana/fruit/ orange/ others)	0.00
4	Selling palm sugar	0.39
5	Selling livestock/ poultry products	24.86
6	Selling fishes	0.00
7	Salary from permanent job	3.20
8	Wage from temporary on-farm job	0.31
9	Wage from temporary off-farm job	7.27
10	Private business (transportation, trading, shop, etc.)	4.48
11	Remittance from family members	49.21
12	Selling firewood/charcoal	0.20
13	Selling handicraft/ cottage industry products	0.00
14	Selling forest vegetable/ crop	0.02
15	Others	0.26
	Total	100.00

Source: JICA Survey Team

The income from remittance from family members occupies very high portion (49.21%), which includes salary worker of garment or shoe factories in Phnom Penh or the other province. The income from selling livestock or poultry products also occupies high portion, as well as agriculture of rice. On the other hand, private business or salary from permanent job is less in this area. It indicates that only agriculture in this area contributes to the livelihood of the residents in this area.

(f) Expenditure

1) Expenditure levels

Average, median, minimum and maximum expenditures for samples are as Table 4.4.12.

Table 4.4.12 Average and Median Household Expenditure per Category Area and Total Samples

Item	Expenditure [x1000 Riel/year]
Average/HH	3,726
Median/HH	3,560
Minimum	2,410
Maximum	7,200

Source: JICA Survey Team

2) Proportion of expenditure source

The result indicates that expense mostly for daily food(48%), then other expense (ceremony/ wedding/ buy some agriculture input supplies) (20%), follow by health/medicine (14%), follow by rice(5%), then education(4%), then cloth(3%) and Electricity/Battery(3%) as shown in Table 4.4.12. It should be noted that all sampled families use battery for electric supplies, and no expense for firewood for cooking. The farmers do not have any expense on tax.

Table 4.4.13 Proportional Expenditure Volumes for Different Purposes

Item	Rate [%]
Rice	5
Other foods	48
Health/ medicine	14
Education	4
Clothes	3
Firewood/Kerosene/Electricity/Battery	3
Transportation (Motor taxi/Gasoline)	4
Tax	0
Others (Ceremony/ Wedding)	20
Total	100

Source: JICA Survey Team

In average, household expenses 513, 525 riel yearly for health check and medicine. It should be noted that with this amount is for the case of simple health problem only, such as catch cold, or fever. In case that serious disease, the expense on health is absolutely higher.

This health expense can indicate the poor health of each family household due to poor nutrition intake and less understanding about health care.

(g) Preference of compensation type

Some part of MC 35 irrigation structure affect through the residential and rice land of the farmers. Below table explain the answers of 40 samples families about what kind of compensation in case that construction of main canal and secondary canal affect to their properties, such as rice land and residential. The 40 samples of families selected include the families who have rice land and/or residential located nearby canal as Table 4.4.14.

Table 4.4.14 Preference of Compensation Type

Compensation preference	n	%
Cash	40	100
Jobs for family members	0	0
Do not know yet	0	0
Others	0	0

Source: JICA Survey Team

100% of respondents prefer cash as the compensation type that means, if constructions have any affect to their land and/or residential, they want the sub-projects provide them money in any appropriate amount. In case that this sub-project cannot/have no policy of compensate in cash, the second choice is the replace or changes of their affected land and/or residential to anywhere appropriated.

(h) Assistance requirement by APs

All respondents do not want jobs for their family members, as the compensation type.

(i) Requirement of job training by APs

The same case to job requirement as the compensation preference, all respondents do not prefer job training. That is because probably job or job training are not the basic needs for their living, while their income is very low.

4.5 Daun Pue Irrigation System Rehabilitation Sub-project

4.5.1 General Feature of Socioeconomic Condition

(1) Geographical Location

Kampong Chhnang is located at the heartland of Cambodia. Most parts of the province contain fertile soil reservoirs with abundant fish and rice paddies. In the Southwestern part of the province the landscape consists of hills and forests. The Krâvanh Mountains lie along the provincial border with Kampong Speu. Kampong Chhnang province is subdivided into a city/ (Krong in khmer) and 7 districts.

The district shares a border with Pursat and Kampong Speu provinces to the west. The National Railway line from Phnom Penh to Sisophon runs through the district entering in the south and exiting in the North West and the eastern side of the railway line crossing the district has access to significant road infrastructure and is quite well populated in the past but at present is un-active. To the west of the railway there are few settlements and the foothills of Phnom Aural rise in the North West, although the peak itself is just over the border in Pursat Province. The northwestern edge of the district forms part of the Phnom Aural Wildlife Sanctuary.

National Road 53 from Kampong Chhnang town to Romeas terminates in the district as does National Road 138 from Kampong Tralach to Cheab commune. National Road 142 begins at Tuek Phos town and

runs south west to Spean Dach in Kampong Speu province. Numerous smaller tertiary roads run from the national railway line to the National highway

Tuek Phos is one of the district lies in the west of the province of Kompong Chhnang in which the Daun Pue dike/Dam is located about 45 kilometers south west of the provincial capital of Kampong Chhnang by road. The Survey Zones and Villages within the Target Area are shown.

(2) Demography Status

According to the 2011 of district profile, the population of the district was 61,368 persons in 13,686 households in 2011. This population consisted of 29,785 males (48.53%) and 31, 583 females (51.47%). The average household size in Tuek Phos is 4.51 persons per household, which is lower than the rural average for Cambodia 5.2 persons. The population in each Commune in the study area is shown in Table 4.5.1.

Table: 4.5.1 Population in the Sub-project Area by Communes in 2012

Province	District	Commune	Total Family	Population		Family size
				Total	Female	
Kampong Chhnang	Teuk Phos	Chieb	1,656	7,914	3,655	4.78
		Khlong Popok	1,353	5,711	2,994	4.22
		Akphivoadth	2,058	9,690	4,945	4.71
Total/ Average			5,067	22,595	11,594	4.57

Sources: Commune profiles 2012

In additional to the above, there are also residential land such as fence, access from road to home, shop and rice field out site the villages that also be affected during the implementation or construction activities of the sub-project. The Population in each village is shown in Table 4.5.2.

Table: 4.5.2 Population in the Sub-project Area Affected by Daun Pue Canal

District	Commune	Village Name Affected	Total family	population	Type of Affected and Number of Family		
					Resident Land	Rice Field	Shop
Teuk Phos	Chieb	Koh Kandal	101	515	0	18	0
		Tang Thnong	75	390	0	17	0
		Boeng Steng	91	482	0	40	0
		Chi Prong	170	867	0	45	0
	KhlongPopk	Boeng Steng	141	705	19	30	6
		Kroy Wath	264	1,372	40	5	0
		Trapang Krobao	308	1,509	30	20	0
		Ta Kab	123	547	20	0	0
	Akphivoadth	Trapang Chhrey	193	860	20	50	0
		Sre Tachhey	858	3,988	0	80	0

Sources: Field survey with commune and village leaders Jul 2012

Daun Pue dam start up from the Chieb commune territory with the flow of water source from the mountain near by for whole years. There are number of people who have rice field land near by or around the main start up point of the canal have developed the water spillway to get water from the canal to irrigate their rice field during the small dry season as well as in dry season. Number of families grown their rice two time per year for those whom their rice field is located near by or next to main canal and they irrigated by water spillway.

(3) Ethnic, Minority and Indigenous Distribution

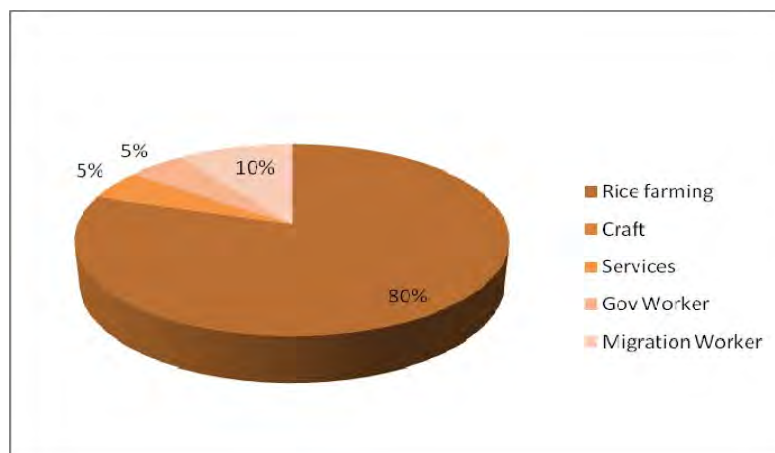
It is not expected that this sub-project has specific impacts on ethnic, minority and indigenous group's distribution of DPISRSP area because there is no ethnic, minority and indigenous people found in this study.

(4) Land Use

Paddy field per household varies from commune to another. In general for the 3 communes that affected by the Daun Pue dam/dike in Teuk Phos district, it is found that people around 90% percent have own paddy rice field up to 1.55ha per family on the average basis and this is excluded the up land rice field or farming farm that they owned somewhere else. Based on the Commune Council Members in each commune said that in the commune there would be divided into residential land, rice field land, farm land, and other (forest, lake, and other public land). The households within this category have their own land holdings, not belonged to parents or rent from others.

(5) Major Livelihood

The people in 3 communes affected by the Daun Pue dam/dike make a living by different ways but in general they can earn income from the following sources such as 80% make a living from agriculture production, 10% from migration worker to work in country and out country with duration from 6 months up, 5% depending on salary from Government such as teacher, police, soldier and another 5% is from services in the villages as mention in Figure 4.5.1.

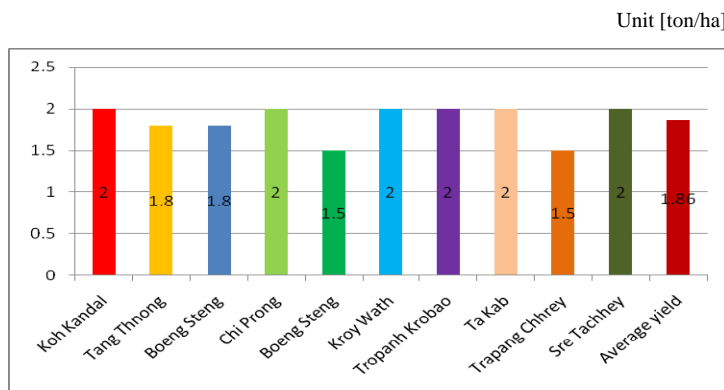


Sources: ncdd.cdb. 2011

Figure 4.5.1 Summary of Number of Family per Occupation Sources

(6) Rice Production

Rice is the staple cereal food crop of rural Cambodians. The rice area cultivated per rural household was higher than the national level and the rice paddy yield per hectare was lower than the national level. Rice production is still limited mainly to the rainy season. This limitation imposed through dependency on rain-fed cultivation is clearly contributing to shortages in food availability. The average rice yield for the rainy season rice production from last year is 1.86 tone per hectares and the detail for each village is mention/ shown by each village affected by Daun Pue dike/Dam as in Figure 4.5.2.

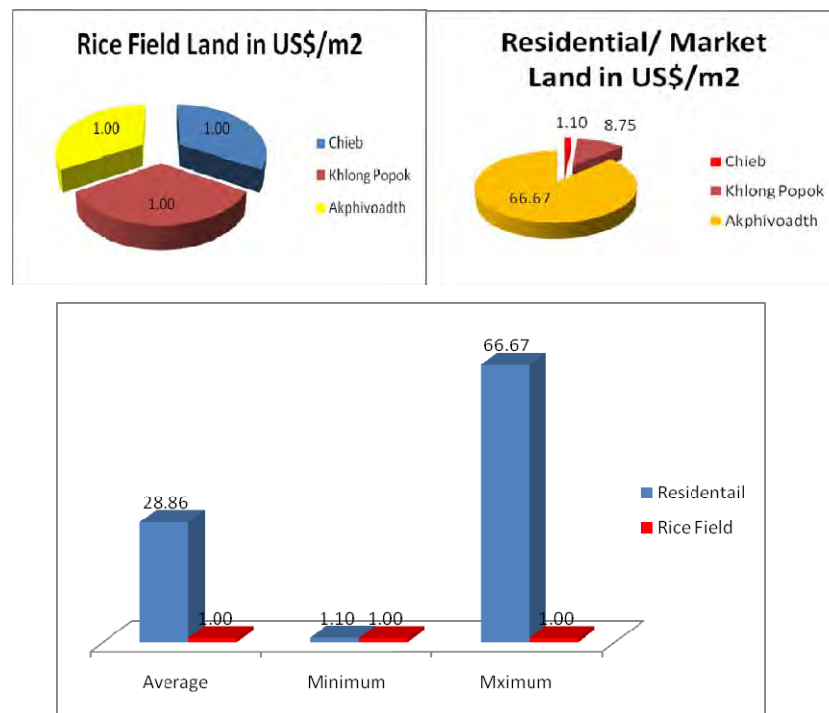


Sources: Field survey data Jul 2012

Figure 4.5.2 Rice Yield in Rainy Season by village in Daun Pue area

(7) Land Price

The land price in each commune is different from commune to commune and this is depend on the location of each commune and the flow of economic way (near to market, road or developing areas) the calculation of selling land is also different, some commune sell by plot of land with approximately 40 x 100 m, some commune sell by calculate into square meter. The price of land is shown in Figure 4.5.3 by each commune.



Sources :Hearing from commune and village leader Jul 2012

Figure 4.5.3 Price of Rice Field, Up Land and Residential Land by Commune

4.5.2 Questionnaire Survey

(1) Objectives and methodology

(a) Objectives

The Survey has the objectives of identification of the socio-economic profile related to land acquisition and awareness of the land acquisition or compensation at planning stage. To achieve the objectives, a questionnaire survey from APs, identified based the field survey including hearing from commune chief or village chief in the area affected by this sub-project, has been carried out.

(b) Methodology (selection procedure of sampling point, contents of questionnaire, etc)

The survey questionnaire drafted by the JICA Survey Team in English and was translated into Khmer language and after the field testing and improvement, which was applied for the field survey.

The survey questionnaire includes 9 different contents such as (i) status of APs, (ii) main income source, (iii) main expenditure for consumption and (iv) preferences of compensation as attachment.

At the time of the study the survey, the sampling points were randomly selected to identify the situation of the area possibly affected by the land acquisition in every affected commune. The total number of sample is 40 with consideration of time limitation of this survey. Based on this notion, the following steps were taken to select the actual survey location and samples;

-To create a draft map which indicates the possible land acquisition areas as reference map to select the sampling points,

- To discuss with PDOWRAM officials for the relevance of previous Communes/Villages listing as against zoning, and asked them to recommend the appropriate Communes/Villages for the field survey,
- To hold consultation meeting with commune council to inform the aim and objective of this social-economic survey and allow from them to contact the village leader of affected village to collect information,
- To prepare the list of the target commune names by considering questionnaire survey,
- To prepare the list of the target village names within the communes listed is available in work plan,
- To selection of the sampling points through the field survey and implement the pre-test of this questionnaire survey,
- To commence the questionnaire survey by interviewing APs through the questionnaire sheet.

The information of administration of survey area and sample distribution of sample household in each affected villages are shown in Table 4.5.3 and Figure 4.5.4.

Table: 4.5.3 Summary of Sample Household in Each Affected Villages

Province	District	Commune	Village	Sample Number
Kompong Chhnang	Teuk Phos	Cheap	Koh Kandal	4
			Tang Thnong	3
			Boeng Steng	4
			Chi Prong	2
		Khlong Popok	Boeng Steng	5
			Kroy Wath	9
			Trapang Krobao	4
			Ta Kab	2
			Trapang Chhrey	4
			Akphivoadth	Sre Tachhey
Total		3	10	40

Source: JICA Survey Team

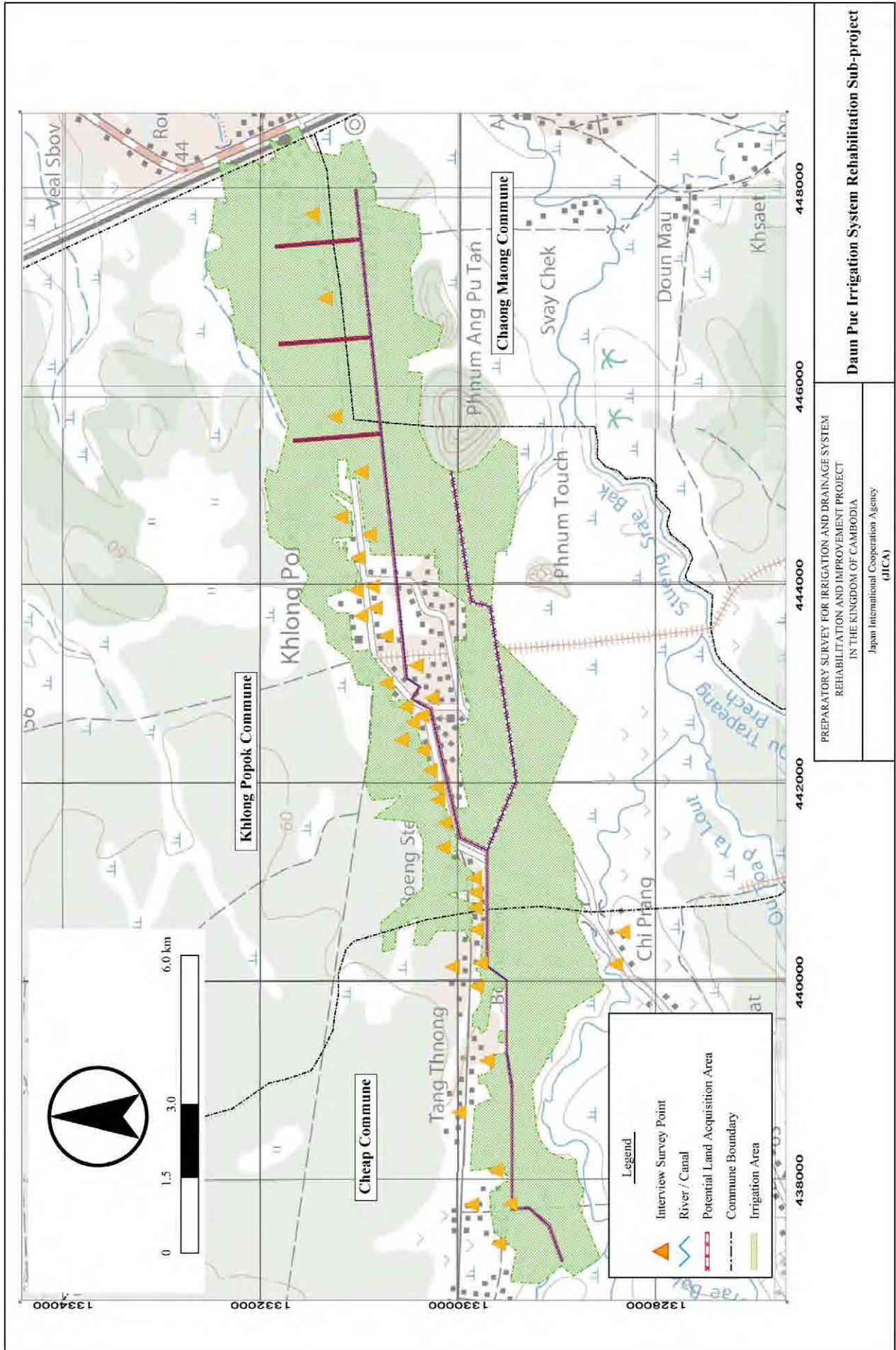


Figure 4.5.4 Sample Distribution for the Socio-economic Survey

(2) Result and Analysis

1) Attribution of respondents

The survey respondents are mostly the male and female heads of households (57.5% and 42.5% respectively) with their average age of 51.15 years old. Of these households, the average household member population is 4.5 persons per household for all samples of Daun Pue Area as shown in Table 4.5.4.

Table 4.5.4 Male-Female Balance of Respondents

Item	Number	Rate [%]
Male head of HH	23	57.50
Female head of HH	17	42.50
Oldest son of the HH	0	0.00
Oldest daughter of the HH	0	0.00
Other (younger sister)	0	0.00
Total	40	100

Source: JICA Survey Team

(b) Family structure

1) Average Number of household member

The average number of household member is 4.50 persons in a household of the respondents.

2) Balance of male and female

The balance of male and female in the affected households are shown in Table 4.5.5.

Table 4.5.5 Balance of Male and Female of the Total 40 Families

Item	Number	Rate [%]
Male	83	45.00
Female	101	55.00
Total	184	100

Source: JICA Survey Team

3) Total family member and working persons

The average number of working-age population (between >10 to < 64 yrs old) per household is 3.28 while the average of non-working is 1.23 of a family of the respondents. The number and rate working person are shown in Table 4.5.6.

Table 4.5.6 Total Family Member and Working Person

Total		Working Person		Non-working Person	
N	%	n	%	n	%
180	100	131	72.78	49	27.22

Source: JICA Survey Team

(c) Main occupation

The main income sources of the sampled household heads are predominantly from farming activities are 32 families, salary worker 3 families, private business 4 families and others 1 family as shown in Table 4.5.7.

Table 4.5.7 Main Occupation of Household Head

Item	Number	Rate [%]
Farmer	32	80.00
On-farm labor	0	0.00
Non-farm labor	0	0.00
Salary worker	3	7.50
Private business	4	10.00
Others	1	2.50
Total	40	100

Source: JICA Survey Team

(d) Education level

1) Educational Background

The education levels of the sampled households are shown in Table 4.5.8.

Table 4.5.8 Education Levels of Sampled Household Members

Item	Number	Rate [%]
No formal education	17	9.24
Drop-out at primary school	57	30.98
Graduate from primary school	30	16.30
Drop-out at junior high school	17	9.24
Graduate from junior high school	22	11.96
Drop-out at high school	2	1.09
Graduate from high school	2	1.09
More than high school	4	2.17
Presently going to school	25	13.59
Not going to school	4	2.17
Before school age	4	2.17
Non-formal education for adults	0	0.00
Total	184	100

Source: JICA Survey Team

2) Literacy

Literacy rate of sampled household members in Daun Pue areas is shown as Table 4.5.9.

Table 4.5.9 Literacy Rate of Sampled Household Members

Literacy Condition	Number	Rate [%]
Unable to write, read, and calculate for making living	21	11.41
Able to write, read, and calculate for making living	163	88.59
Total	184	100.00

Source: JICA Survey Team

(e) Income sources

1) Income levels

The average and median household incomes are 16,843,000 [Riel] and 3,800,000 [Riel/year]. Maximum and minimum household incomes are 342,546,000[Riel/year], and 500,000 [Riel/year]. The gap between “average” and “median” income per household indicates that there exist numbers of very rich households, or there are few very riches in comparison to the number of poor.

2) Proportion of income sources

The households earning only from agricultural income and from non-agricultural incomes includes sales from paddy rice, palm sugar and livestock/poultry, while non-agricultural income includes permanent based salary, on-farm labor, off-farm labor, private business, remittance, selling of firewood/charcoal and others. The proportional income volumes from various income sources are calculated for each source of Daun Pue areas is shown in Table 4.5.10.

Table 4.5.10 Total Proportional Income Volumes from Different Sources

Cash income Sources	Rate [%]
1. Selling paddy/rice	12.3
2. Selling vegetables (red pepper/ tobacco/ water melon/ others)	-
3. Selling fruits (mango/ papaya, banana/ hairy fruit/ orange/ others)	0.3
4. Selling palm sugar	1.1
5. Selling livestock/ poultry products	10.5
6. Selling fishes	-
7. Salary from permanent job	12.3
8. Wage from temporary on-farm job	0.8
9. Wage from temporary off-farm job	1.1
10. Private business (transportation, trading, shop, etc.)	30.8
11. Remittance from family members	29.9

Cash income Sources	Rate [%]
12. Selling firewood/charcoal	0.7
13. Selling handicraft/ cottage industry products	-
14. Selling forest vegetable/ crop	-
15. Others	0.2
16. Total	100.0

Source: JICA Survey Team

From the above Table, private business or remittance from family member occupy a large portion of income source. In agriculture, rice or livestock is large income sources.

(f) Expenditure

1) Expenditure Levels

Average, minimum and maximum expenditure for samples in Daun Pue Areas are shown in Table 4.5.11. The average expenditure for each member per family per day is 6,660,000 riel and the maximum is 134,509,000 riel and the minimum is 463,000 riel.

Table 4.5.11 Average and Median Household Expenditure per Category Area and Total Samples

Item	Expenditure [x10 ³ Riel/year]
Average/HH	6,660
Median/HH	2,366
Minimum	463
Maximum	134,509

Source: JICA Survey Team

2) Proportional Expenditure Volumes for Different Purposes

The proportional expenditure volumes for different purposes are shown in Table 4.5.12.

Table 4.5.12 Proportional Expenditure Volumes for Different Purpose

Item	Rate [%]
1. Rice	4.77
2. Other foods	49.26
3. Health/ medicine	1.60
4. Education	10.14
5. Clothes	3.19
6. Firewood/Kerosene/Electricity	2.70
7. Transportation	18.66
8. Tax	0.33
9. Others	9.35
Total	100.0

Source: JICA Survey Team

(g) Preference of compensation type

As shown in Table 4.5.13, 40% of the respondents is favor to take cash compensation with market price while the 37.5% agreed to accept the land compensation as they do not have other rice field to farm but the 22.5% cannot choose in this moment due to sufficient information.

Table 4.5.13 Preference of Compensation Type

Item	Number	Rate [%]
Cash	16	40.00
Jobs for family members	0	0.00
Do not know yet	9	22.50
Others (Free contribution, Land-to-land)	15	37.50
Total	40	100.00

Source: JICA Survey Team

(h) Assistance requirement by APs

As described in Table 4.5.13, no farmer chose job assistance as the compensation. Therefore, the assistance required for the work/job of the family member is not applicable.

(i) Requirement of job training by APs

As described in Table 4.5.13, no farmer chose job assistance as the compensation. Therefore, the assistance required for the work/job of the family member is not applicable.

CHAPTER 5 COMPENSATION POLICY AND ENTITLEMENT MATRIX

5.1 Compensation Policy

Fundamentally, the compensation policy of the sub-projects will follow the laws and regulations in Cambodia in compliance with JICA' policies, such as JICA Guidelines for Environmental and Social Considerations. Based on the gap analysis through the comparison of the above JICA guidelines and Cambodian law and regulations, the applied general policy has been proposed in Chapter 3.

Through the past and recent experiences of land acquisition and resettlement in Cambodia, it is necessary to consider the vulnerable persons and non apparent land owner in public land. Recently Cambodia prepares the system to adopt the policies of the international donors such as WB, ADB or JICA.

In this context, the basic principal of compensation policy is prepared to minimize the negative impacts related to involuntary resettlement or land acquisition and to assist APs in their efforts to restore or improve their former production levels, income earning capacity, and living standards.

The following principles of resettlement and compensation apply in these sub-projects:

- Acquisition of land and other assets, and resettlement of people will be minimized with the selection of suitable way in alternative considerations.
- All APs living in, working, doing business, or cultivating land, or having rights over resources within the ROW as the cut-off date as the day of the commencement of DMS survey in the sub-project area are entitled to compensation for their lost assets, incomes, jobs and businesses at replacement cost.
- Additional relocation assistance and offered support during the transition period will be provided for the APs displaced by the sub-project.
- Relocated persons should also be provided with appropriate development assistance in order to improve or at least restore their incomes and living standards to pre-project levels.
- Lack of legal rights should not impede the APs from entitlement to such compensation for his/her lost assets (improvements including structures, houses, crops, trees, etc.), businesses and incomes, and rehabilitation measures.
- Legal occupants in APs should be entitled to full compensation for the entire affected assets at replacement cost, and in the case of loss of productive assets, incomes, jobs and employment, to additional development assistance that allows them to enhance or at least maintain their standard of living.
- APs affected by partial impact on their assets i.e. partial loss of land or structures and the remaining assets remain viable for continued use, where the livelihood is not land-based, the compensation for the affected assets will be paid in cash.
- Replacement agricultural land or premise/business plot will be as close as possible to the land that was lost and/or acceptable to the APs. All replacement land for agriculture, residential and businesses will be provided with secure tenure status and without any additional cost, taxes, and surcharge to the APs at the time of transfer.
- Plans for acquisition of land and other assets and provision of rehabilitation measures will be carried out in consultation with the APs who will receive prior information of the compensation and rehabilitation options available to them.
- In case that cultural minorities or indigenous peoples are affected (though not identified in the current survey), the social and economic impact they receive would be in harmony with their cultural preferences and would be decided in consultation with affected communities.
- Particular attention shall be paid to the needs of the poorest affected people and vulnerable groups. This may include households headed by females, the elderly, or disabled, and other vulnerable groups, particularly indigenous peoples. Appropriate assistance must be provided to help them improve their socio-economic status.
- Any acquisition of, or restriction on access to resources owned or managed by APs as a common property will be mitigated by arrangements ensuring access of those APs to equivalent resources on a continuing basis.
- APs whose land or assets are temporarily taken by the works under the sub-project will be fully compensated for their net loss of income and damaged assets, the latter at replacement cost. Assets which are only temporarily affected or inoperable, will be compensated at 10% of

the replacement cost of affected assets provided that such assets or properties are required by the sub-project for a maximum of 3 months. In case the assets are required by the sub-project for periods longer than three months, the amount of compensation should be negotiated with the owner of said property.

- The previous level of community services and access to resources will be maintained or improved after resettlement.
- Financial and physical resources for resettlement and rehabilitation will be made available as and when required.
- The DRP will provide for a planned resettlement program and will include adequate institutional arrangements to ensure effective and timely design, planning, consultation and implementation of compensation, resettlement and rehabilitation measures. Project authorities will ensure effective coordination with relevant agencies for implementation of resettlement.
- Adequate arrangements will be made for the effective supervision and monitoring of resettlement, both internally by the Government and externally by an independent organization to be hired for the purpose, to ensure compliance to the resettlement policy and help ensure that APs are able to rehabilitate themselves as planned.
- For APs in the reservoir, the DMS will be concluded by IRC, and this will identify the cut-off date for eligibility.
- APs include anyone who at the cut-off date of the sub-project was located within the sub-project area or any of its component or sub-project or part thereof, and would have (i) their standard of living adversely affected, (ii) right, title or interest in any house, land (including residential, commercial, agricultural and other land), water resources, or any other movable or fixed assets acquired or possessed, in full or in part, temporarily or permanently by public sector acquisition, or (iii) business, occupation, place of work or residence or habitat adversely affected by public sector intervention.

"APs" refers to households and consists of all members residing under one roof and operating as a single economic unit, who are adversely affected by the sub-projects. For resettlement purposes, APs will be considered as members of the affected households by the sub-projects.

5.2 Entitlement Matrix

The entitlement regarding compensation and assistance of livelihood restoration shall be defined according to Cambodian regulations in compliance with donor's policies as mentioned in above policy. According to the policy, the proposed entitlement matrix is described in Table 5.2.1.

Table 5.2.1 Proposed Entitlement Matrix

No.	Application	Entitled Person	Entitlements
Application for all directly and indirectly APs			
1	All AP HHs		- For the portion or severe impact all kind of land or structure will provide one-time disruption allowance of \$ 40.
2.	All Indirect Impact people (All people that living in the surrounding sub-project area)	All people in the area	- Replacement of public facilities that lose by the construction of access roads, culvert and bridges, sewerage line
Application for Loss of Land			
3.	Agriculture Land	Owners with acceptable proof	<ul style="list-style-type: none"> - Cash compensation at full replacement cost or entire land arrangement with same productivity and accessibility for compensation - Cash compensation for affected perennials, and crop at replacement cost - If the job has to be changed due to the entire land acquisition or by the sub-projects, income and livelihood restoration program will be provided. - Assistance to look for replacement land with consideration of sufficient time to harvest crops. - If falling in one or more of the categories of vulnerability, one-time cash assistance of \$240 for the categories the APs belongs.
		APs without ownership	<ul style="list-style-type: none"> - Cash compensation for affected perennials and crop at replacement cost - APs will be given sufficient time to harvest crops on the subject property. - Assistance by governmental land arrangement such as land concession program - If falling in one or more of the categories of vulnerability, one-time cash assistance of \$240 for the categories the AP belongs.
		Tenant	<ul style="list-style-type: none"> - Cash compensation for affected perennials and crop at replacement cost - If falling in one or more of the categories of vulnerability, one-time cash assistance of \$240 for the categories the AP belongs.
4	Residential Land	Owners with acceptable proof	<ul style="list-style-type: none"> - Cash compensation at full replacement cost of land or entire land arrangement with same condition like accessibility with ensure of tenure - Assistance to look for replacement land with one time transport allowance if relocation is necessary for APs - If falling in one or more of the categories of vulnerability, one-time cash assistance of \$240 for the categories the APs belongs.
		APs without ownership	<ul style="list-style-type: none"> - Cash compensation at full replacement cost - Assistance by governmental land arrangement such as land concession program - If falling in one or more of the categories of vulnerability, one-time cash assistance of \$240 for the categories the AP belongs.
		Tenant	<ul style="list-style-type: none"> - Assistance to look for replacement land with one time transport allowance. - If falling in one or more of the categories of vulnerability, one-time cash assistance of \$240 for the categories the AP belongs.
Application for Loss of Structure			
5	Main Structures	Owners with acceptable proof	<ul style="list-style-type: none"> - Cash compensation at full replacement cost (i.e., no depreciation and no deduction for salvage materials) for the entire structure. - Assistance to look for replacement structure with one time transport allowance if relocation is necessary. - If falling in one or more of the categories of vulnerability, one-time cash assistance of \$240 for the categories the AP belongs.
		Tenant	<ul style="list-style-type: none"> - Assistance to look for replacement structure with one time transport allowance if relocation is necessary. - If falling in one or more of the categories of vulnerability, one-time cash assistance of \$240 for the categories the AP belongs.
6	Other Structures (Loss of, or damage to, affected assets, partially or entirely)	All APs	- Cash compensation at replacement cost for the affected assets.

Source: JICA Survey Team

CHAPTER 6 INCOME AND LIVELIHOOD RESTORATION PROGRAM

During this Preparatory Survey to prepare this Resettlement Policy Framework, there are some affected persons due to land acquisition though it was not identified to require the involuntary resettlement. There are people who on account of their position in society and/or their physical and economic situation are less capable of re-establishing themselves than the others and, therefore, face greater risks of impoverishment. These people are those who fall in any of the groups of vulnerable households. Consequently, compensation at replacement cost itself is not enough. Relocation assistance through different types of allowances and economic restoration plan is needed to be developed in order to make sure that the APs will not be worse or otherwise improved their livelihood and living standards at new places.

The following people will be categorized for assistance.

- Permanent Loss of Agriculture / Commercial Land and structure
- Vulnerable households to be relocated from the ROW. Eligible members of such family will be identified during planning the LIRP;
- Vulnerable households having no adult male members to shoulder household responsibility (women headed households), the women heading the household will preferably be the eligible member;
- Vulnerable households of the employees and daily wage earners of the diminished businesses or their nominated representatives;
- Vulnerable households losing access to agriculture land including sharecropper, and leaseholders ; and
- Vulnerable households losing access to commercial

The type of assistance includes provision of job opportunity, allowance, job training, etc, according to their requirement and the discussion. The draft contents of income and livelihood restoration program is shown in Table 6.1.1.

Table 6.1.1 Draft Contents of the Income and Livelihood Restoration Program

Type of program	Type of entitlement	Draft Contents of Program
Provision of the job opportunity	Vulnerable APs which cannot work during the temporary construction period	Short-term employment in the clearing of trees and related activities at the construction phase of the sub-projects, to be facilitated by the Ministry of Water Resources and Meteorology (MOWRAM), the Executing Agency (EA). The EA will request the civil works contractor to hire the APs as labors for construction process.
Provision of allowance	Vulnerable persons which require the purchase of new agricultural or commercial land for their job	Transitional allowance of \$412 per hectare of land lost in the reservoirs and other infrastructures (all affected agricultural land compensate base of rice field with the average yield of rice productivity per year of 1.5 tons per hectare at a current market value of 1100 Riel per kilogram). This transitional allowance covers for their loss of rice production, which was not able to be grown in a year.
Job training	The persons who are required to change the job.	Job training for private business or other business which APs change from original job

CHAPTER 7 GRIEVANCE REDRESS

7.1 Principal of Grievance Redress System

All APs have the right of appeal against any aspect of decisions made not in accordance with the DRP or with commitments given to them, or on which they disagree with the level or manner of compensation, including that for land losses. The main objectives of the grievance procedure are to provide a mechanism to ensure that the compensation and resettlement program have been implemented accurately and fairly, alleviating any adverse effects on APs, to mediate conflict and to avoid lengthy litigation that is unfair to APs and can delay the sub-project. It also provides people who have objections or concerns about their compensation of other assistance with an accessible and known procedure through which to raise their objections and have them resolved. The objectives of grievance redress system are shown as follows.

- (i) To provide support for the APs being relocated on problems arising out of their adjustment to their new environments;
- (ii) To record grievances of the APs and categorize and prioritize those grievances needing to be resolved by the Grievance Committee;
- (iii) To assist the APs in dealing with the decisions of the Grievance Committee (the Grievance Committee should be given the power to resolve all but the most serious of grievances);
- (iv) To report new developments to the aggrieved parties regarding the hearing of their grievances. The decisions of the Grievance Committee will not be contested in any other forum, except in the courts of law.

7.2 Function and Process of Grievance Redress System

The grievance function and process should be explained to every AP at the time of during the public consultation meetings.

As the first stage, APs will present their complaints and grievances to the Village or Commune Resettlement Sub-Committee. The Sub-Committee will be obliged to provide immediate written confirmation of receiving the complaint. At the same time, the complaint will be forwarded to the Provincial Resettlement Sub-Committee and the Provincial Grievance Committee. If the Village or Commune resettlement Sub-Committee is unable to resolve the grievance, it will refer the grievance with any relevant information or documents to the Provincial Resettlement Sub-Committee through the PIU at PDWRAM, which will advise the Provincial Grievance Committee.

At this or any subsequent stage the Village or Commune Resettlement Sub-committee may be asked by the APs or the Project Implementation Unit (PIU) and RU to carry out a survey and valuation of structures or land which is the subject of dispute and to provide this or otherwise assist in further review or arbitration.

The Provincial Grievance Committee meets with the aggrieved party and tries to resolve the situation. The Committee may ask for a review of the DMS by the external monitor. Within 21 days of the submission of the grievance the Committee must make a written decision and submit copies to PDOWRAM, the monitoring agency, and the APs.

A judgment on the complaint will be made by the Provincial Grievance Committee with the participation of the village head, Commune Chairman within 21 days of the written acknowledgement being issued. The Provincial Grievance Committee will provide the AP with its decision within 21 days of the complaint being lodged.

If the AP is not satisfied with the solution of the Provincial Grievance Committee, the case may be submitted for consideration by the legal system, however, every effort shall be made to avoid this by

resolving grievances within the framework of the provincial administration and the sub-projects.

If the decision is in favor of the aggrieved party, corrective actions must be prescribed in the letter and implemented within 14 days of the decision with interest added for any back payment of compensation.

If no decision can be agreed to and the settlement of the grievance is essential to the successful implementation of the sub-projects, MOWRAM may ask for arbitration to be undertaken by an independent agency, assisted by any survey or valuation by the EMA and with the presence of the EMA.

In the event that this procedure does not achieve an agreed resolution of the grievance, MOWRAM may take the matter to court, with the plea that an order for eviction be granted, but must advise the sub-projects of its intention to take this step one month in advance, and must in any case make payment of the full compensation costs and allowances to which the AP is entitled.

The grievance procedures do not take away the constitutional rights of any AP him or herself to lodge a complaint with the court at the municipal level. This may be followed by subsequent appeals to the court at the provincial level and national level, but the purpose of the grievance procedure is that citizens, particularly people in the municipal and Commune/village level, will not need to take their complaints to the formal legal institutions and that most complaints will be settled at the lowest level. APs will be exempted from all administrative, transfer and legal fees.

It is recognized that, in many cases, APs do not have writing skills and the possibility of being able to express grievances verbally has been considered, however, APs are encouraged to seek assistance from other local NGOs or other family members, village chiefs or community chiefs to have their grievances recorded in writing and to have access to the DMS or other documentation, and to any survey or valuation by the committee, to ensure that where disputes do occur all the details have been recorded accurately enabling all parties to be treated fairly.

Grievance Redress Committee should be set up by the provincial government with the cooperation of local authorities such as village and commune chief. The Committee is chaired by the Provincial Governor or his representative and has as members the Provincial Head of the Department of Water Resources, the Provincial Head of the Department of Economy and Finance, and Justice Department, on a co-opted basis, one or more local leaders (such as the Village Chief or Commune Chief), who are familiar with the area and the circumstances of the complaint, one of whom at least should have been nominated by the APs and briefed to represent him or her. Co-opted members may include any local NGO nominated by the APs and the External Monitor contracted by the IRC. The external monitor and any local NGO representing the APs may offer advocacy, advice or expert support.

CHAPTER 8 IMPLEMENTATION STRUCTURE

8.1 Implementation Schedule

The boundary of the land acquisition area is not unclear until the determination of ROW after completion of topographic survey in the Detail Design (D/D) stage. The land acquisition and compensation activities should be implemented after the determination of ROW and before the commencement of the construction.

The proposed implementation schedule including engineering components such as the D/D, contractor selection and construction, and land acquisition components such as IOL and socio economic survey, DMS, RCS and payment of compensation are shown in Figure 8.1.1.

8.2 Institutional arrangement

MOWRAM and MEF are two key institutions for land acquisition and resettlement. Especially, A Resettlement Unit in MOWRAM (MOWRAM-RU) and Resettlement Department under MEF (MEF-RD) are also the major actors of the two key ministries. The other relevant agencies at national level, Ministry of Interior (MOI), Ministry of Land Management, Urban Planning and Construction (MLMUPC), Ministry of Agriculture, Forestry and Fisheries (MAFF), etc. and provincial levels, departments under the said-ministries and local authorities are relevant agencies. As the collaboration among MOERAM, MEF and the other relevant organization, IRC will be formulated and assign the members of working groups and committees. Duties and responsibilities to be implemented by all above mentioned bodies are designed for driving them through their collaboration efficiently and effectively.

With request from MOWRAM as the implementing agency, MEF further makes request to the RGC in relation to the establishment of Inter-ministerial Resettlement Committee (IRC), and if this request is approved, IRC will be established. IRC after its formulation then requests line ministries to assign member for IRC-WG. MEF plays a role as chairman for the body, whereas Resettlement Department known as permanent department in MEF is the secretariat of IRC and IRC-WG.

Provincial Resettlement Sub-Committee (PRSC) and PRSC-Working Group (PRSC-WG), and Grievance Redress Committee (GRC) will be established latter accordingly within a request of IRC to provincial governor. The local authorities involved in the sub-project area are also included in these committees and subcommittee as well.

The task and relationship of the relevant organizations are shown in Figure 8.2.1.

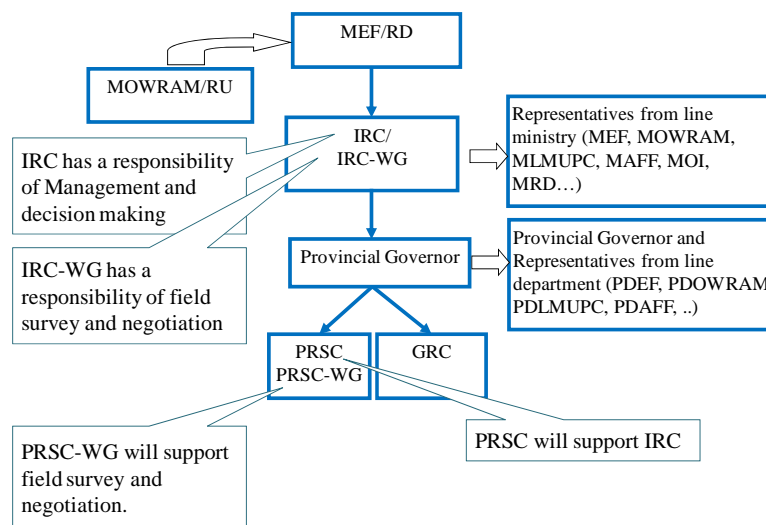


Figure 8.2.1 Relevant Organizations of Land Acquisition and Their Main Tasks

Internal Monitoring Unit (IMU) for conducting internal monitoring will be established by MOWRAM, while an external organization, which will be an NGO or other independent non-governmental agency with socioeconomic research and monitoring capability, may be selected and made contract to the IRC serving as external monitor to provide independent monitoring and evaluation of the resettlement scheme.

In addition to some circumstances that the sub-project activities or resettlement is triggered or still dissatisfy with solution, thus the ultimate action will then be come up with a court by APs' appeal.

The following guidance describes the flow of resettlement in each stage of the sub-projects:

- (1) Pre-Resettlement Implementation Stage

- (a) Resettlement planning purposes to ensure livelihood and living standard of PAPs will be better after the construction. The planning tasks include with sub-project identification, Inventory of Loss (IOL) survey and preparation of draft initial RAP.
- (b) Institutional arrangement aims to conduct effective resettlement by clarifying institutional roles and responsibilities but close coordination. Tasks of this institutional arrangement include the establishment of IRC and IRC-WG, PRSC and PRSC-WG and the formulation of GRC while preparation of respectively internal and external monitoring and evaluation agencies also pursued.

With the stage, the implementing agency has its roles and responsibilities to consider minimization and mitigation measures, to confirm the drawing from consultants, to identify the approximate number of PAPs, to conduct IOL survey for land and property, to estimate budget, to draft initial RAP prepared by Implementation Agency (IA), MOWRAM, and to submit initial RAP to MEF.

However, the contents of IOL survey conducted in the preparation process of initial RAP slightly overlaps the DMS survey conducted by MEF. Therefore, IOL survey can be included in the DMS survey through the discussion with MEF. Basically, MEF-RD has to check the approximate number of PAPs, review the initial RAP, provide comments and recommendations and submit draft RAP to the donor agency like JICA.

(2) Resettlement Implementation Stage

- (a) DMS aims at conducting IOL survey for compensation to APs. These surveys basically consisted of land demarcation, household interviews and property measurement tasks.
- (b) RCS intends to provide basis for fair and just compensation to APs for their loss based on current market value or other alternative measures. The key tasks for the study consisted of contract with independent evaluator (IE), RCS and RCS report submission.
- (c) The update of RAP and budgeting according to the updated RAP shall be implemented based on the result of DMS and RCS. After MEF approves the updated RAP, IRC submits it to Development Partners.
- (d) Relocation site preparation is to ensure that PAPs could improve their livelihoods and standards of living or at least restore them to levels prior to the beginning of sub-project implementation. There are four tasks including within this preparation, site selection, site survey and land purchase, design and construction.
- (e) Negotiation and contract (based on DMS and RCS, IRC-WG prepares contracts with PAP. IRC-WG meets each PAP after PCM had been done for negotiation. Contract is made if compensation is agreed). Tasks need to be undertaken include with preparation for negotiation and contract, public consultation meeting, negotiation and contract signed if meeting agreement and continue negotiation followed by Grievance Redress Mechanism (GRM) if disagree.
- (f) Budget disbursement and payment should be carried out by IRC/MEF-RD, based on the compensation contract signed on and agreed with APs. The tasks includes the preparation of budget disbursement, holding Public Information Meeting (PIM), date setting and notification of the date for payment and document preparation for related to the payment.
- (g) In the case of necessity of relocation, the relocation should take place only after the sites are ready with basic infrastructure and completely handed over to the community to use and maintenance, while the Corridor of Impact (COI) will be handed over to MOWRAM.

(3) Cross-Cutting Issues

- (a) PCM aims to improve the quality of decision and to ensure transparency and accountability of decision making process. This meeting will be organized several times during resettlement process such as PCM during IOL survey (if implemented), PCM during DMS (by IRC/IRC-WG, PRSC-WG), PCM during negotiation stage (by IRC/IRC-WG, PRSC-WG), and PIM during payment stage (by IRC/IRC-WG, PRSC-WG).
- (b) GRM contributes to the solution for the APs concerns, complains and grievances in a transparent and fair manner and without any costly burden for APs. There are four stages of the mechanism and every grievance will be started from first stage. At first stage, APs shall

submit his/her grievance to PRSC-WG/IRC-WG or commune. If the grievance could not be settled at 1st stage, secondly it will go to district as 2nd stage. If the grievance could not be settled at 2nd stage, it will go to provincial grievance committee as 3rd stage. If not solved there, it will be transferred to court decision finally.

- (c) Monitoring and evaluation purposes to verify the compliance to RAP and identify any issues during resettlement implementation and possible recommendation for successes as early as possible so that the implementation arrangements can be adjusted.

8.3 Monitoring

8.3.1 Internal Monitoring

The implementing agency will establish IMU to conduct and responsible for internal monitoring. The purposes of internal monitoring are to assess (i) compliance with the resettlement policy and entitlement matrix (ii) the availability of resources and efficient, effective use of these resources to implement land acquisition and resettlement activities; and, (iii) identification of problems, if any, and remedial actions.

MOWRAM will develop internal monitoring indicators, procedures and reporting requirements that require involuntary land acquisition. Internal monitoring indicators will include: (i) payment of compensation to APs according to RPF or RAP; (ii) coordination and completion of land acquisition, compensation and, as required, resettlement activities before the commencement of civil works; (iii) adherence to public information dissemination and consultation procedures, and report on activities; and, (iv) adherence to grievance redress procedures, and report of activities.

8.3.2 External Monitoring

The external monitoring agency (EMA) should be independent from the government. For sub-projects financed by a loan, the EMA could be contracted by the government under counterpart funds. The IRC will hire an Independent Monitoring Organization (IMO) to conduct external M&E of voluntary and involuntary land acquisition and resettlement for the sub-project, focusing on the social impacts of the sub-project and whether APs are able to restore, and preferably improve, their living standards, incomes and productive capacity. The IMO will be a qualified NGO or independent consultant with recognized experience in Cambodia. In addition, during the D/D, the tender assistance and contract negotiation stages, international consultant will also implement the role of external monitoring of land acquisition and resettlement process. The key indicators for external monitoring include: a) compliance with the sub-project's policies and procedures; b) the level of satisfaction of APs related to the compensation and assistance levels and grievance procedures; c) the level of income and livelihood restoration of APs; and, d) how well the MOWRAM, PDOWRAM, MEF, IRC and other stakeholders carry out their responsibilities and respect schedules.

CHAPTER 9 PRELIMINARY COST ESTIMATION AND FUNDING

9.1 Preliminary Cost Estimation

9.1.1 Land Acquisition Cost

Land acquisition cost is estimated based on the actual anticipated area for this sub-project for 1) main and secondary canal and 2) branch canal. The land acquisition cost is also divided into two categories such as (i) land acquisition for main and secondary canal with compensation and, (ii) land acquisition for branch canal. Though it is necessary to include the compensation for structure, tree and public assets, and allowance for APs and the cost of income restoration program, it cannot be estimated in this stage due to no implementation of IOL survey. In addition, according to hearing from commune chief about unit cost, the unit cost of land has wide range like location or situation of the demand and supply, etc. Though the detail cost will be determined based on Replacement Cost Study (RCS), the preliminary cost estimation is shown in Table 9.1.1.

Table 9.1.1 Preliminary Estimated Cost

Name sub-project	Component	Area (ha)	Unit cost (US\$/m ²)		Amount (US\$ x 10 ³)	
			Min	Max	Min	Max
RCHRSP	Main and secondary canal	15	1	10	150	1500
	Branch canal	4	1	10	40	400
	Sub Total	19	-	-	190	1900
USISRSP	Main and secondary canal	0.5	0.4	1.2	2	6
	Branch canal	42	0.4	1.2	168	504
	Sub Total	42.5	-	-	170	510
KSISRSP	Main and secondary canal	5.0	3	12	150	600
	Branch canal	39	3	12	1170	4680
	Sub Total	44	-	-	1320	5280
MC35ESP	Main and secondary canal	16.0	0.2	1.2	32	192
	Branch canal	9	0.2	1.2	18	108
	Sub Total	25	-	-	50	300
DPISRSP	Main and secondary canal	10.6	0.3	1.0	31.8	106
	Branch canal	13	0.3	1.0	39	130
	Sub Total	23.6	-	-	70.8	236

Source: JICA Survey Team

9.1.2 Other Costs

Except land acquisition the other expenses will be necessary such as, compensation cost for structure, tree and public assets, and allowance for APs and the cost of income restoration program as well as indirect cost of administration costs or contingency. The other direct cost including compensation cost for structure, tree and public assets, and allowance for APs and the cost of income restoration program could be possibly estimated as same as land acquisition cost based on similar project, though it should be calculated after the IOL survey. The administration cost will be estimated as 15% of the total costs as well as the consideration of the contingency. MOWRAM and IRC should ensure adequate funds for the preparation and implementation for the efficient and timely implementation of the resettlement activities.

9.2 Funding Procedures

IRC/RD takes necessary measures for budget disbursement. After the budget disbursement in the sub-project area, Public Consultation Meeting with contracted APs is held for payment.

IRC will approve budget for disbursement, while RD/MEF will verify and prepare documents for disbursement and notify to the PRSC that disbursement voucher is ready for withdrawing. IRC-WG will prepare necessary documents for payment and join in payment activity.

PRSC dispatches administration officials to Phnom Penh for withdrawing budget and receives a

check/payment voucher from RD. The body has also to set the date and venue for payment and assign administration officials for payment. Also this body needs to send payment documents to RD after payment and liquidation for the payment. PRSC-WG notifies APs the date and venue for the payment and prepares necessary documents for payment implementation.

The cost of resettlement will be calculated based on (i) the losses inventoried during the detailed measurement survey (DMS); (ii) the entitlements set out in the entitlement matrix of the RF; and, (iii) the findings of the replacement cost study and reporting to establish current market prices.

An itemized budget in the RP is required for all resettlement activities, including for land acquisition. An annual resettlement budget is prepared, showing the budget- scheduled expenditure for key items. Land acquisition and resettlement costs are reflected in the sub-project costs.

Resettlement costs, including the income restoration and livelihood development, shall be from the counterpart fund of the Royal Government of Cambodia. The Ministry of Economy and Finance will provide the budget directly to the IRC and IRC will disburse the fund to Provincial Department of Economy and Finance (PDEF) for payments of Compensation and allowances to APs. The IRC and PDEF are responsible for arranging the resettlement budget sufficiently to allow time for resettlement activities.

The sub-project budget will be based on the detailed measurement survey, application of the entitlement matrix, and application of replacement cost as a result of the replacement cost study.

The budget for land acquisition, compensation, and allowances will be financed by the RGC. Ministry of Economy and Finance (MEF) on behalf of RGC will provide the budget directly to the PRU for compensation payments via Provincial Department of Economic and Finance. With assistance of IRC/IRC-WG and PRSC/PRSC-WG funding can then be allocated for APs for their properties losses.

CHAPTER 10 PROCEDURE OF PUBLIC INVOLVEMENT

10.1 General Concept of Public Involvement

According to JICA guidelines for Environmental and Social Considerations, various stakeholders should be involved in the land acquisition and resettlement process from the early stage with consideration of convenience for participants such as meeting time or place and of appropriate atmosphere that every stakeholder easily makes a presentation of their own opinions.

The Provincial Resettlement Working Group (PRWG), assisted by PDOWRAM, carried out an information campaign including a series of public meetings at each of the effected villages before conducting IOL Survey or DMS the registration of APs.

10.2 Procedure of Public Involvement

10.2.1 Socio-economic survey

During socio-economic survey in D/D stage, questionnaire survey will be implemented for APs. During the process of interview for the questionnaire survey, the opinion of APs will be informed to implementation agencies or other stakeholders through the analysis and report by the interviewers.

10.2.2 Public Consultation Meeting

Public Consultation Meeting (PCM) is effective tool to keep the accountability and transparency in the decision making process as well as incorporate opinions of various stakeholders. PCMs should be timely held through from initial planning to implementation, monitoring stage.

The main contents of each stage, responsible organization, main participants and material to be delivered to the participants are shown in Table 10.2.1.

Table 10.2.1 Procedure of Public Consultation Meeting

Stage to be implemented	Main contents	Organizer	Main participants	Materials
IOL survey stage	Project outline Outline of inventory survey	MOWRAM	MOWRAM, MOWRAM-RU, PDOWRAM, Commune staff, APs, etc	Project Information Material
DMS survey stage	Outline of inventory survey Grievance redress mechanism	IRC/IRC-WG/PRSC-WG	MOWRAM, MOWRAM-RU, PDOWRAM, Commune staff, APs, etc	Public Information Book (PIB)
Negotiation process	Negotiation process Grievance redress mechanism	IRC/IRC-WG/PRSC-WG	MOWRAM, MOWRAM-RU, PDOWRAM, Commune staff, APs, etc	Updated PIB including compensation rate
Disbursement and payment stage	Payment process Warning regarding ROW and encroachment	IRC/IRC-WG/PRSC-WG	MOWRAM, MOWRAM-RU, PDOWRAM, Commune staff, APs, etc	Flyer or Brochures

Source: JICA Survey Team

Public Information Booklet (PIB) will disseminate during DMS Survey by IRC. The PIB contained information on the sub-project compensation policy, compensation payment procedures, and construction schedule aimed at social preparation for relocation and resettlement of the affected persons.

The contents of PIB will include the following contents shown in Table 10.2.2.

Table 10.2.2 Contents of Public Information Book

No.	Item	Main Contents
1	Brief Description of sub-Projects	-Back ground and objectives of the sub-project -Brief description of the sub-project
2	Scope of Land Acquisition and Resettlement and Entitlement of Compensation	-Consideration of minimization of the impact of the sub-project -Cut-off date of entitlement -Entitlement matrix
3	Compensation Rate	-Result of DMS -Result of RCS
4	Implementation Schedule	-Schedule of land acquisition and other compensation payment
5	Grievance Redress Mechanism	-Framework of Grievance Redress () -Grievance Redress Committee and Contract information

Source: JICA Survey Team

The public consultation meeting with the APs revolved around the following concerns:

- a. Explain the relevant details of the sub-project scope and schedule,
- b. Explain the RPF and the various degrees of sub-project impact,
- c. Provide details of the entitlements, eligibility, cutoff data under the RPF and what is required of APs in order to claim their entitlement,
- d. Explain the relocation and resettlement operations and options and enlist the agreement and support of affected people in participating in these operations,
- e. Explain the Implementation Schedule with a timetable for the delivery of entitlements,
- f. Explain the compensation process and set out compensation rates,
- g. Provide a detailed explanation of the grievance process, and
- h. Enlist the help of village leaders and other influential community officials in encouraging the participation of the APs in RPF implementation.

Public consultation should be held on each commune to explain the contents of project and to exchange the opinions among stakeholders.

CHAPTER 11 NECESSARY ACTIONS TO BE TAKEN BY MOWRAM

In consideration of overall schedule of the sub-project, the term for land acquisition is very tight as shown in Figure 8.1.1 because the land acquisition should be implemented before the commencement of construction and the final ROW will be determined after the middle of D/D stage. Therefore, MOWRAM should implement necessary actions with consideration of the schedule timely.

(1) Institutional set up

It is necessary to develop the capacity of MOWRAM-RU for smooth implementation of IOL and socio-economic surveys, planning of land acquisition and support the implementation of land acquisition to Inter-ministerial Resettlement Committee (IRC). IRC should be established through the official letter of implementation agency, MOWRAM. It should be elaborated at early stage because it takes long time for the establishment.

(2) Preparation of RAP

In this RPF, the resettlement policy and entitlement matrix has been prepared for five sub-projects. Based on the RFP, RAP should be prepared during the stage of D/D and the contractor selection by MOWRAM with cooperation of IRC should be prepared. In addition, socio-economic survey in Srass Prambai should be carried out to identify the APs to be compensated during D/D stage though the land acquisition in the area is not necessary due to its governmental land.

(3) Budget preparation

Timely budget preparation is crucial for the implementation for the planning, implementation and monitoring of land acquisition and compensation. According to the proposed implementation schedule of land acquisition, especially, MOWRAM should consider the necessary budget to prepare RAP including DMS survey or socio-economic survey including public consultation meeting (refer to Table 10.2.1) through the discussion with MEF, though the surveys will commence at the beginning of 2014 (Refer to Figure 8.1.1). However, the IOL survey may be able to be implemented within DMS through the discussion with MEF. MOWRAM should consult with MEF at early stage for the smooth implementation of land acquisition.

(4) Coordination with relevant organization

During land acquisition process, various organizations will be involved such as MOWRAM, MEF, IRC, each PDOWRAM, each commune and each village, etc. It is necessary to involve the various organizations as stakeholder, especially during the establishment of IRC. Then, MOWRAM should explain MEF and other relevant organizations including PDOWRAM of each province or each commune in the sub-project area about the sub-project including implementation schedule, organization structure and preliminary cost estimation and request the cooperation with the sub-project.

Attachment 1

Questionnaire Survey Sheet

Questionnaire regarding Socio-Economic Survey for Land Acquisition

SECTION I General Information

			Sample No. <input style="width: 50px;" type="text"/>
Date (M/D/Y):	<input style="width: 100%; height: 20px;" type="text" value=" / /"/>	Project	<input style="width: 100%; height: 20px;" type="text"/>
Enumerator:	<input style="width: 100%; height: 20px;" type="text"/>	Team Leader:	<input style="width: 100%; height: 20px;" type="text"/>
Province:	<input style="width: 100%; height: 20px;" type="text"/>	District:	<input style="width: 100%; height: 20px;" type="text"/>
Commune:	<input style="width: 100%; height: 40px;" type="text"/>	Village:	<input style="width: 100%; height: 20px;" type="text"/>
		Type of village	<input style="width: 100%; height: 20px;" type="text" value="1 Paddy (srock srae)"/> <input style="width: 100%; height: 20px;" type="text" value="2 Upland crop"/>

Sample No.: All questionnaires shall be attached sequential numbers, i.e. 001, 002, ---, 200.
 Date (M/D/Y): Data format shall be written as "06/22/11" (Month: June /Date: 22nd /Year: 2011). This item is not necessarily given in the data summary.
 Enumerator: Name of enumerator shall be written in block letters. This item is not necessarily given in the data summary.
 Team Leader: Enter name of team leader after proofreading. This item is not necessarily given in the data summary.

SECTION II Status of APs

II-1	Name and Age of interviewee	Name	<input style="width: 100%; height: 20px;" type="text"/>	Q-6
		Age	<input style="width: 100%; height: 20px;" type="text"/>	Q-7
II-2	Who is it?	1 Male head of the household	<input style="width: 100%; height: 40px;" type="text"/>	Q-8
		2 Female head of the household		
		3 Oldest son of the household		
		4 Oldest daughter of the household		
		5 Other ()		

Note
 I-1 Write interviewee's name (full name in block letters). This item is not necessarily given in the data summary.
 I-2 Circle a code number and write her/ his age.

II-3	Total number of household members	<input style="width: 100%; height: 20px;" type="text"/>	Q-9
II-4	Number of working available aged persons in the household (Older than 10, younger than 64)	<input style="width: 100%; height: 20px;" type="text"/>	Q-10
II-5	Main activity of this household (income source)	<input style="width: 100%; height: 20px;" type="text"/>	Q-11

Note: Choose main activity of this household from codes below.

Main activity	Code	Remarks
Farmer	1	Own/rented land, and agricultural income is more than other one.
On-farm labor	2	Wage for labor work on farm is more than other income.
Non-farm labor	3	Wage for labor work except on farm is more than other income.
Salary worker	4	Salary is more than other work.
Private business	5	Income from private business is more than other work.
Others	6	Specify.

II-6 Household member in the same house

	Sex	Age	Education	Main occupation	Literacy		
1	M / F	Q-12-1	Q-12-2	Q-12-3	Q-12-4	Y / N	Q-12-5
2	M / F	Q-13-1	Q-13-2	Q-13-3	Q-13-4	Y / N	Q-13-5
3	M / F	Q-14-1	Q-14-2	Q-14-3	Q-14-4	Y / N	Q-14-5
4	M / F	Q-15-1	Q-15-2	Q-15-3	Q-15-4	Y / N	Q-15-5
5	M / F	Q-16-1	Q-16-2	Q-16-3	Q-16-4	Y / N	Q-16-5
6	M / F	Q-17-1	Q-17-2	Q-17-3	Q-17-4	Y / N	Q-17-5
7	M / F	Q-18-1	Q-18-2	Q-18-3	Q-18-4	Y / N	Q-18-5
8	M / F	Q-19-1	Q-19-2	Q-19-3	Q-19-4	Y / N	Q-19-5
9	M / F	Q-20-1	Q-20-2	Q-20-3	Q-20-4	Y / N	Q-20-5
10	M / F	Q-21-1	Q-21-2	Q-21-3	Q-21-4	Y / N	Q-21-5

Note:

Sex: Choose sex of this member. "M" means male and "F" means female.

Age: Enter age of the members at present.

Education: Education background shall be chosen from codes below.

for adult (>18 yr)	Code	for children (<18 yr)	Code
No formal education	1	Presently going to school	9
Drop-out at primary school	2	Not going to school	10
Graduate from primary school	3	Before school age	11
Drop-out at junior high school	4	Non-formal education for adults	12
Graduate from junior high school	5		
Drop-out at high school	6		
Graduate from high school	7		
More than high school	8		

Main occupation: Main occupation shall be chosen from codes below.

Main occupation	Code	Main occupation	Code
Farmer	1	Housekeeping (cooking, washing, child care, etc.)	6
On-farm labor	2	No job	7
Non-farm labor	3	Student	8
Salary worker	4	Child (below school age)	9
Private business	5	Others	10

* Definition of Main Occupation: "A person who has more than 1 job, the work that most of his/ her working time is spent is regarded as a main occupation. In case, he/ she engages in only 1 job, it is regarded as a main occupation" (NIS, 1995)

Literacy: If he/she is able to write, read, and calculate for making living, choose "Y".

SECTION III INCOME AND EXPENDITURE

III-1 Cash income sources in last year (Last year: January 2011 – December 2011)

1	Selling paddy/rice	riel/Yr	Q-22	9	Wage from temporary off-farm job	riel/Yr	Q-30
2	Selling vegetables (red pepper/ tobacco/ water melon/ others)	riel/Yr	Q-23	10	Private business (transportation, trading, shop, etc.)	riel/Yr	Q-31
3	Selling fruits (mango/ papaya, banana/ hairy fruit/ orange/ others)	riel/Yr	Q-24	11	Remittance from family members	riel/Yr	Q-32
4	Selling palm sugar	riel/Yr	Q-25	12	Selling firewood/charcoal	riel/Yr	Q-33
5	Selling livestock/ poultry products	riel/Yr	Q-26	13	Selling handicraft/ cottage industry products	riel/Yr	Q-34
6	Selling fishes	riel/Yr	Q-27	14	Selling forest vegetable/ crop	riel/Yr	Q-35
7	Salary from permanent job	riel/Yr	Q-28	15	Others (Specify: Q-158)	riel/Yr	Q-36
8	Wage from temporary on-farm job	riel/Yr	Q-29	16	Total	riel/Yr	Q-37

Note: Write cash income of this household in 2010 (total of one year). If the interviewee answer in US\$, convert to riel (US\$ = 4,000 riel).

III-2 Expenditure for consumption (Last year: January 2011 – December 2011)

1	Rice	riel/Yr	Q-38kg/dayriel/kgBag/monthriel/Bag
2	Other foods	riel/Yr	Q-39	riel/day	riel/month
3	Health/ medicine	riel/Yr	Q-40	riel/day	riel/month
4	Education	riel/Yr	Q-41	riel/day	riel/month
5	Clothes	riel/Yr	Q-42	riel/day	riel/month
6	Firewood/Kerosene/Electricity/Battery	riel/Yr	Q-43	riel/day	riel/month
7	Transportation (Motor taxi/Gasoline)	riel/Yr	Q-44	riel/day	riel/month
8	Tax	riel/Yr	Q-45	riel/day	riel/month
9	Others (Ceremony/ Wedding)	riel/Yr	Q-46	riel/day	riel/month
10	Total	riel/Yr	Q-47	riel/day	riel/month

Note Write expenditure for consumption of this household. Total of expenditure should be less than total of income. If the interviewee answer in US\$, convert to riel (US\$ = 4,000 riel).

VI Awareness of the People for Land Acquisition

Q-59 If your land is acquired for the project what kind of compensation do you prefer?

1	Cash
2	Jobs for family members
3	Do not know yet
4	Others

Q-60 If you answer "No.2" in "Q-59", What kind of assistance you need

1	Temporary income support until you decide job
2	Employment opportunity in construction project
3	Training opportunity for new job
4	Others

Q-61 If you answer "No. 3" in "Q-60", what do you want to get job training for ?

1	Salary worker
2	Farmer
3	Retailer
4	Others

Attachment 2

Survey Photo



Hearing from commune chief and village chief (1)



Hearing from commune chief and village chief (2)



Socio-economic Survey along south main canal



Socio-economic Survey along north main canal



Existing south main canal



Existing north main canal

Sub-project Name:

Roleang Chrey Headworks Rehabilitation Sub-project

Preparatory Survey for Irrigation and Drainage System Rehabilitation and Improvement Project in the Kingdom of Cambodia

JICA Survey Team



Hearing from commune chief and village chief (1)



Hearing from commune chief and village chief (2)



Affected persons near Tumnup Lok Reservoir



Affected person near secondary canal



House on canal to be rehabilitated



Damaged culvert on canal

Sub-project Name:

Upper Slakou Irrigation System Rehabilitation Sub-project

Preparatory Survey for Irrigation and Drainage System Rehabilitation and Improvement Project in the Kingdom of Cambodia

JICA Survey Team



Hearing from commune chief and village chief (1)



Hearing from commune chief and village chief (2)



View of Canal EW60 in Kandal Stung



Existing main canal in Bati



Rehabilitated Canal MR1 and illegal household



View of Canal EW59 in Kandal Stung

Sub-project Name:	Kandal Stung - Bati Irrigation System Rehabilitation Sub-project	
Preparatory Survey for Irrigation and Drainage System Rehabilitation and Improvement Project in the Kingdom of Cambodia	JICA Survey Team	



Hearing from commune chief and village chief (1)



Hearing from commune chief and village chief



Interviewee of socio economic survey in Phirimeanchey commune



Interviewee of socio economic survey in Preah Khe commune



Intake of Khpob Krous Reservoir



Secondary canal in thnal village

Sub-project Name:	Main Canal 35 Rehabilitation Sub-project	
Preparatory Survey for Irrigation and Drainage System Rehabilitation and Improvement Project in the Kingdom of Cambodia		JICA Survey Team



Hearing from commune chief



Main canal in Cheap Commune



Area Affected by rehabilitation of canal (1)



Area Affected by rehabilitation of canal (2)



Temporary Weir for Daun Pue Intake made with Sand Bags and Wooden Material



Existing Secondary Canal

Sub-project Name:	Daun Pue Irrigation System Rehabilitation Sub-project	
Preparatory Survey for Irrigation and Drainage System Rehabilitation and Improvement Project in The Kingdom of Cambodia		JICA Survey Team

Attachment 3

Presentation Material in the Wrap-up Meeting




**Additional Study
regarding Land Acquisition for
the Preparatory Survey for Irrigation and Drainage
System
Rehabilitation and Improvement Project
in the Kingdom of Cambodia**

JICA Survey Team

August, 2012

1



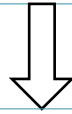
Today's Contents

- Background and necessity of this additional study regarding Land Acquisition
- Output of additional study
 - Land acquisition area
 - Socio economic survey
 - Draft policy framework and entitlement matrix
 - Implementation structure and Preliminary cost estimation
- Further actions to be taken by MOWRAM

2

Background and Necessity of This Additional Study

- Preparation of the Resettlement Policy Framework based on the JICA Guidelines for Environmental and Social Considerations as additional study
- Confirmation of the further actions to be taken in the future



- Study for the sub-projects which will require land acquisition
- The target area includes main and secondary canals and potential area where branch canal will be developed.

Situation of Sub-project

Name of Sub-project	Resettlement	Land Acquisition
Roleang Chrey Headworks Rehabilitation Sub-project	Not necessary	Necessary
Upper Slakou Irrigation System Rehabilitation Sub-project	Necessary	Necessary
Kandal Stung – Bati Irrigation System Rehabilitation Sub-Project	Not necessary	Necessary
Main Canal 35 Rehabilitation Sub-project	Not necessary	Necessary
Srass Prambai Water Recession Rehabilitation Sub-project	Not necessary	Not necessary
Daun Pue Irrigation System Rehabilitation Sub-project	Not necessary	Necessary

Cambodian Legal System	
Law and regulations	Main points
Constitution (1993)	The right to confiscate land only in the public interest with fair and just compensation in advance was mentioned.
Land Law (2001)	No person may be deprived of his ownership unless it is in the public interest.
Expropriation Law (2010)	The law refers the mechanism and procedure of land expropriation from the legitimate land owner. In the law, the possibility of expropriation for public and national interest or the requirement for government of the purchase of parts of real property left over from expropriation is mentioned.
Decision No. 13 and Prakas No. 98 (1997)	This legislation created the IRC, which is chaired by the MEF with members coming from various related ministries and provincial authorities.
Sub-decree on Social Land Concession (2003)	This sub-decree defines the criteria, procedures, and mechanism for the granting and transferring of private state lands to the poor for residential and/or family farming purposes.
Royal Government of Cambodia's Proclamation No. 6 (September 27, 1999)	This is an Order by RGC entitled "Measures to Crack Down on Anarchic Land Grabbing and Encroachment", which prohibits private ownership on state lands. In particular, it required a cessation to encroachment on public and private properties as well as State lands, including public gardens, reserved lands for roads and rail sites.

Concept of JICA Guidelines for Environmental and Social Consideration

- Involuntary resettlement and loss of means of livelihood are to be avoided and minimized by exploring all viable alternatives.
- To compensate the lost of asset sufficiently with full replacement of the damaged before the loss
- To improve their living standard, income, and production levels, or to restore these to pre-project levels at least.
- Appropriate participation by affected people and their communities must be promoted in the planning, implementation, and monitoring as well as grievance redress mechanism

Comparison between the JICA Guidelines and Cambodian Legal System

Item	Cambodia	JICA	Application for this
Resettlement policy	No formal resettlement policy	JICA guidelines describe the formal policy	Basically, JICA guidelines will be applied.
Compensation for land acquisition	Compensation for legal ownership only with fair and just manner.	Full replacement cost for legal owner and support for illegal vulnerable occupants	Full replacement cost for legal owner and support for illegal vulnerable occupants
Public participation in the process of planning and implementation	Public participation from pre-construction stage	Public participation in planning, implementation and monitoring stages.	Public participation procedure will follow the JICA guidelines and Cambodian system
Provision of assistance to restore or improve living standard	No clear policy to maintain living standard at pre-project stage	Living standards and income opportunities of APs should be restored to the pre-project levels.	According to JICA guidelines, livelihood restoration program will be considered
Consideration for vulnerable APs or illegal occupants	Illegal occupants do not have any right for compensation but necessity for vulnerable APs.	Particular attention should be paid to the needs of the poorest affected vulnerable persons including those without legal title	Illegal occupants can be appropriately to improve livelihood but no official land acquisition cannot be provided for this project.

7

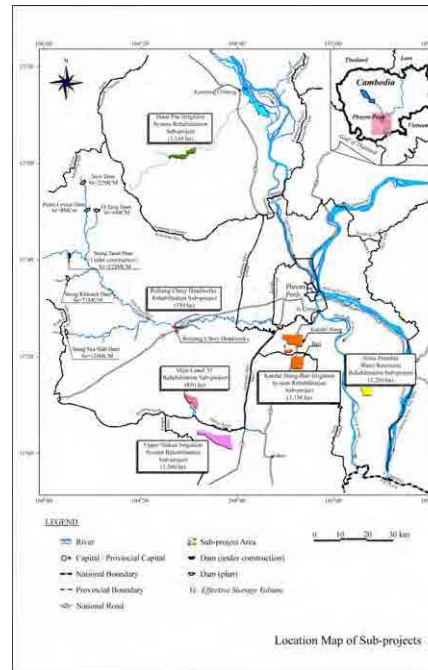
Draft Entitlement Matrix

Type of Impact	Entitled Person	Entitlements
•Agriculture Land	Owners with acceptable (recognized) proof or without acceptable of ownership	- Cash compensation at full replacement cost - Cash compensation for affected structures, perennials, and crop at replacement cost - APs will be given sufficient time to harvest crops on the subject property. - If falling in one or more of the categories of vulnerability, one-time cash assistance of \$240 for the categories the AP belongs, etc
•Residential Land	Owners with acceptable (recognized) proof or without acceptable of ownership	- Cash compensation at full replacement cost - Cash compensation for affected structures and perennials at replacement cost - If falling in one or more of the categories of vulnerability, one-time cash assistance of \$240 for the categories the AP belongs, etc
•Structure	Owners of the structures with or without acceptable proof of ownership over the land; with or without building permit	- Cash compensation at full replacement cost (i.e., no depreciation and no deduction for salvage materials) for the entire structure. - If falling in one or more of the categories of vulnerability, one-time cash assistance of \$240 for the categories the APs belongs.
•All AP HHs		For the portion or severe impact all kind of land or structure will provide one-time disruption allowance of \$ 40.

8

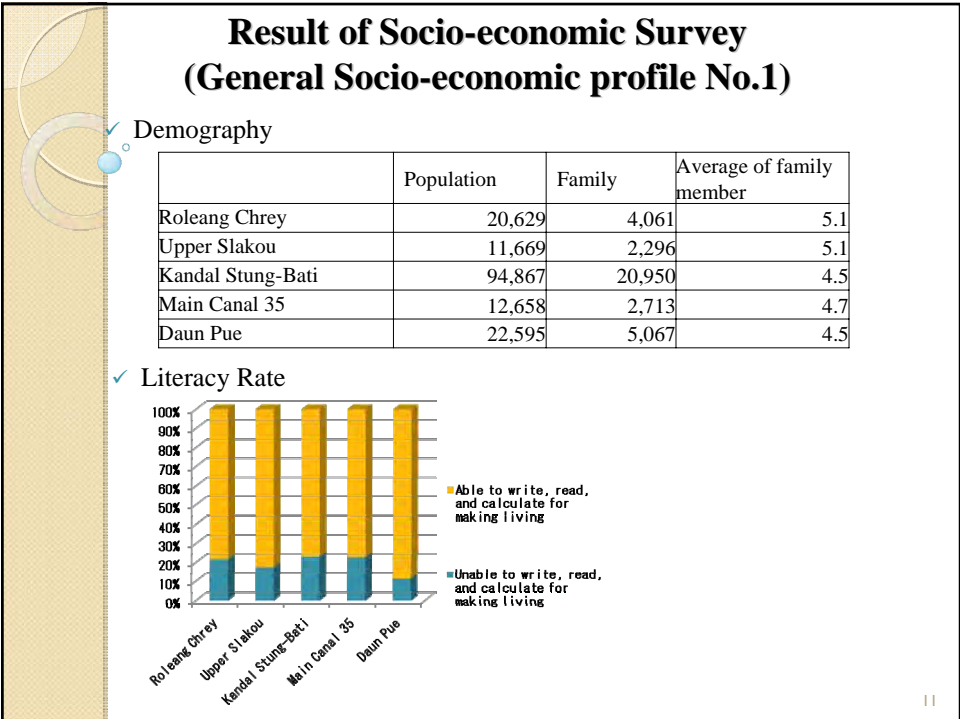
Socio-Economic Survey (Survey Area and Method)

- ✓ Hearing from commune chief of the affected area for each sub-project
- ✓ Field survey in affected area
- ✓ Questionnaire survey from potential 40 APs for each sub-project



Socio-economic Survey (Study Method)

- ✓ Survey Area
 - Along main and secondary canal and irrigation area (branch canal) ⇒ Refer to attached area map
- ✓ Study Method
 - Hearing from affected commune chief about Socio-economic profile, affected village, land cost, etc
 - Questionnaire survey
Selected a few samples from each commune and the total number of sampling is 40 APs due to time limitation. ⇒Refer to attached area map



Result of Socio-economic Survey (General Socio-economic profile No.2)

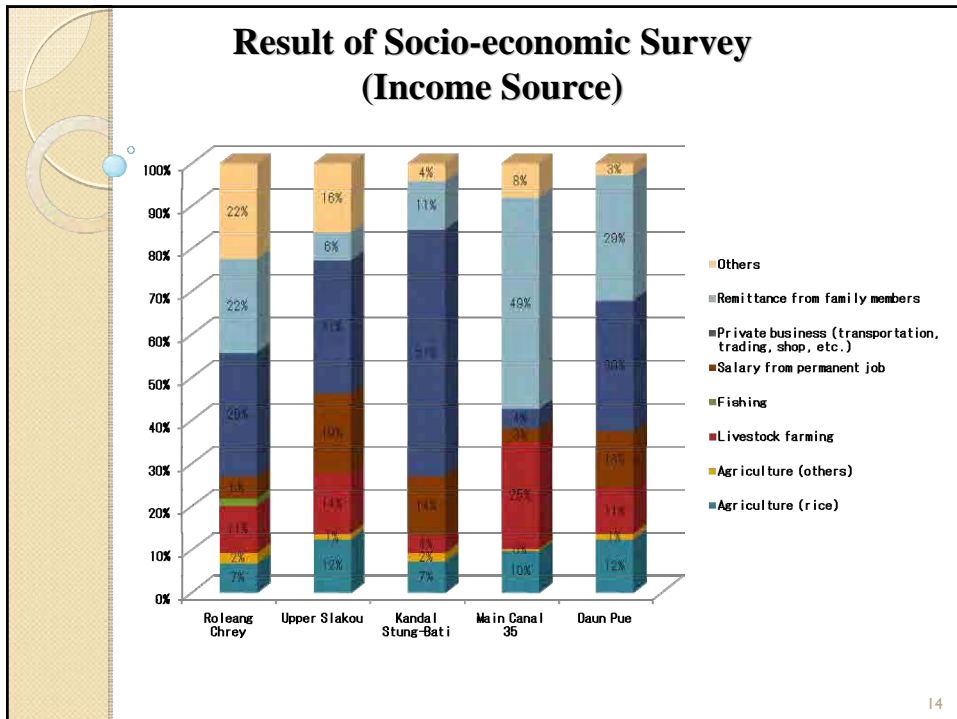
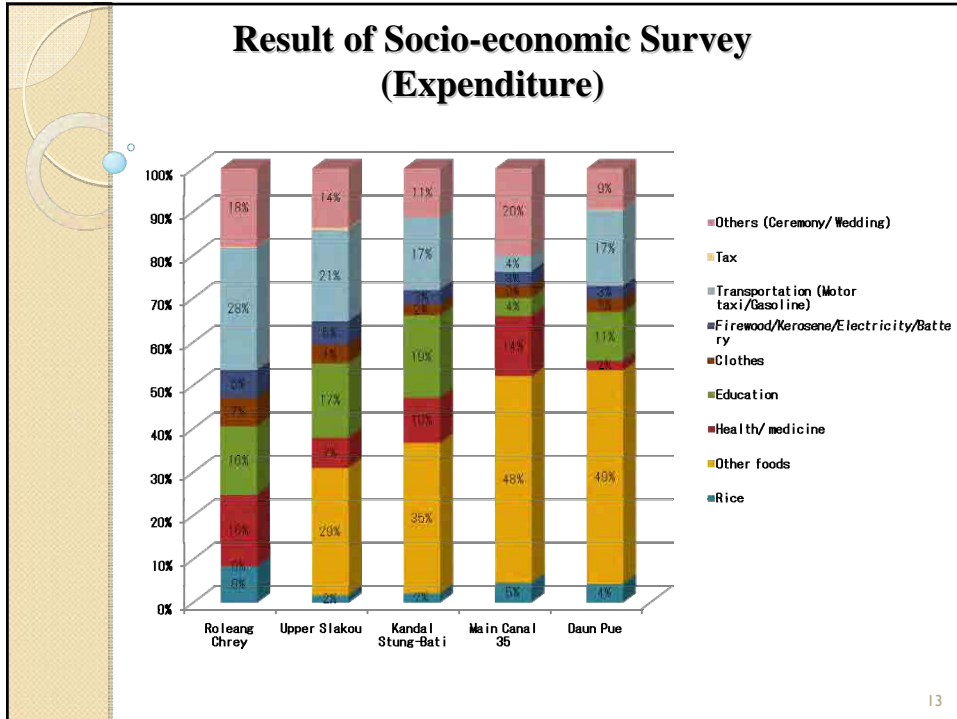
✓ Ethnic and gender issues

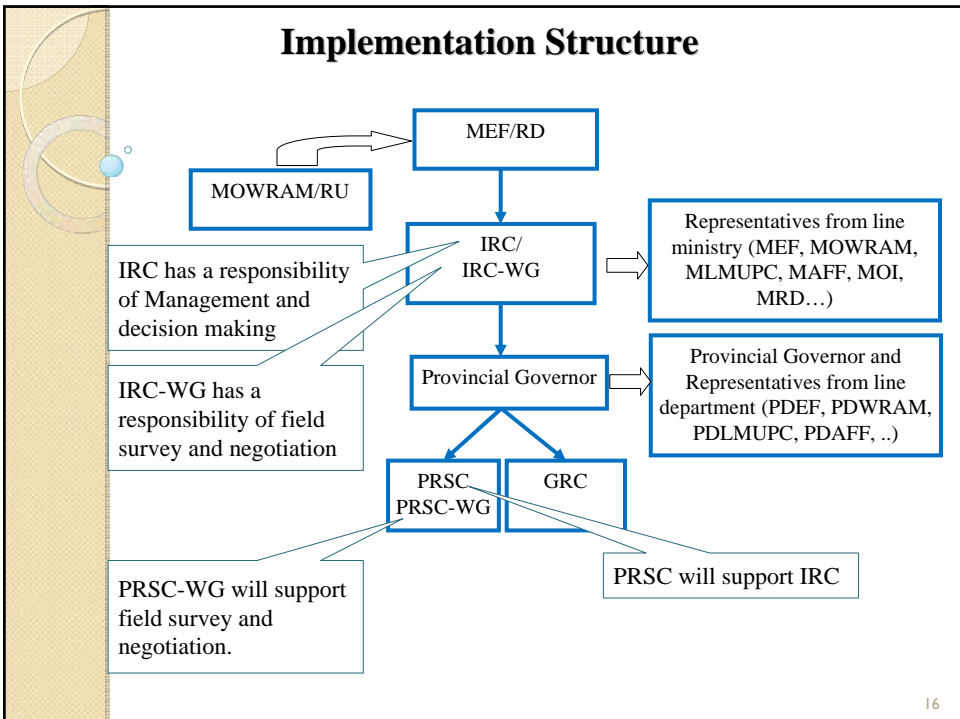
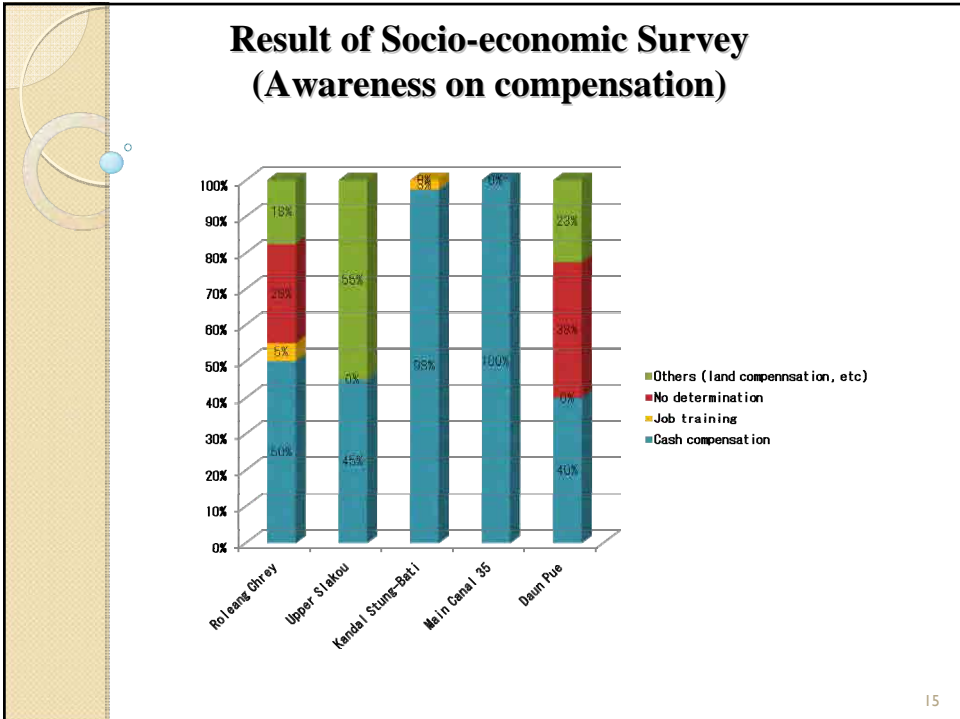
- There is no ethnic or minority people based on hearing from commune chief.
- There is no gender issues people based on hearing from commune chief.

✓ Land use

- Most of land is used as paddy field. There are some forest land are small community in the area

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Implementation Process		
Item	Contents/Remark	Organization
Preparation of Land acquisition map	Preliminary prepared without topographic information	MOWRAM with support of JICA
Preparation of Resettlement Policy Framework	Preparation before L/A	MOWRAM with support of JICA
Review and Finalization of Land acquisition map	During D/D stage, land acquisition map will be finalized.	MOWRAM
Draft RAP preparation with socio-economic and IOL survey	Implementation of IOL survey and socio-economic survey by the support of	MOWRAM
Establishment of Inter- ministerial Resettlement Committee (IRC) for the Project	Implementation agency should take a action to coordinate with MEF to establish IRC at early stage.	MEF
Holding PCM/PIM	Necessity of PCM/PIM for planning, implementation and monitoring stage	MOWRAM/PDO WRAM
Conducting of DMS and RCS and finalization of RAP	Implementation of detail measurement of affected land and structure	MEF/IRC
Establishment and management of grievance redress mechanism	Grievance redress committee will be established by the request by IRC.	IRC
Negotiation and contract	IRC-WG and PRSC-WG will implement the negotiation with APs.	IRC-WG/PRSC-WG /RD
Disbursement of budget for compensation and payment for APs	The monitoring of APs as well as payment for APs is important.	IRC-WG/PRSC-WG /RD

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Implementation Schedule		2014	2015	2016	2017	2018	2019	2020
Main and secondary canal	D/D	←→						
	Contract Negotiation		←→					
	Construction			←→				
	Survey and plan for land acquisition	←→						
	Land acquisition and compensation		←→					
Branch canal	D/D		←→					
	Contract Negotiation				←→			
	Construction				←→			
	Survey and plan for land acquisition		←→					
	Land acquisition and compensation				←→			

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Preliminary Cost Estimation (Unit Cost)

	Agricultural land (US\$/m ²)		Residential land (US\$/m ²)	
	Max	Min	Max	Min
Roleang Chrey	10	1	33	1
Upper Slakou	0.7	0.4	1.2	1
Kandal Stung-Bati	12	3	18	9
MC35	1.2	0.2	12	0.6
Daun Pue	1.0	0.3	66.67	1.1

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Preliminary Cost Estimation (Total Cost)

Sub- project area	Minimum and maximum value of unit cost	Land acquisition cost (x 1,000US\$)	Estimated other compensation cost (x 1,000US\$)		Total cost (x 1,000US\$)		
		Type of canal					
		Main and Secondary	Branch	Main and Secondary	Branch	Main and Secondary	Branch
Roleang Chrey	Min	150	40	150	40	300	80
	Max	1500	400	1500	400	3000	800
Upper Slakou	Min	2	168	2	168	4	336
	Max	6	504	6	504	12	1008
Kandal Stung-Bati	Min	150	1170	150	1170	300	2340
	Max	600	4680	600	4680	1200	9360
MC35	Min	32	18	32	18	64	36
	Max	192	108	192	108	384	216
Daun Pue	Min	31.8	39	31.8	39	63.6	78
	Max	106	130	106	130	212	260
Total	Min	365.8	1435	365.8	1435	731.6	2870
	Max	2404	5822	2404	5822	4808	11644

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Public Consultation Meeting				
Stage to be implemented	Main contents	Organizer	Main participants	Materials
Inventory survey stage	-Project outline -Outline of inventory survey -Land acquisition policy -Cut off date -Grievance redress system	MOWRAM	MOWRAM, MOWRAM-RU, PDOWRAM, Commune staff, APs, etc	Project Information Material
DMS survey stage	-Outline of DMS Survey -Explanation of land acquisition plan -Negotiation and contract process	IRC/IRC-WG/PRS C-WG	MOWRAM, MOWRAM-RU, PDOWRAM, Commune staff, APs, etc	Public Information Book (PIB)
Negotiation process	-Negotiation and contract procedure -Grievance redress system	IRC/IRC-WG/PRS C-WG	MOWRAM, MOWRAM-RU, PDOWRAM, Commune staff, APs, etc	Updated PIB including compensation rate
Disbursement and payment stage	-Payment procedure -Warning regarding ROW and encroachment -Grievance redress system	IRC/IRC-WG/PRS C-WG	MOWRAM, MOWRAM-RU, PDOWRAM, Commune staff, APs, etc	Flyer or Brochures including information of compensation rate

Action to be Taken by MOWRAM

- To prepare the budget for IOL survey and socio economic survey
- Setup the IRC during D/D stage
- Preparation of draft RAP during D/D stage

Thank you very much for your attention

Attachment 4

Minutes of Wrap-up Meeting

**Preparatory Survey for Irrigation and Drainage System
Rehabilitation and Improvement Project in the Kingdom of Cambodia**

JICA Japan International Cooperation Agency (JICA)

Address: *Ministry of Water Resources and Meteorology
#364 Monivong Boulevard Sangkat Psar Deumthkov Kan Chamkar Morn,
Phnom Penh, Cambodia*
Telephone: 0236-324684

Ref. BIMWM-61/FY2012

August 22, 2012

H.E.Mr.Pich Veasna
Deputy Director General of Administration Affairs
Ministry of Water Resources and Meteorology
Phnom Penh, Cambodia

Dear His Excellency,

Subject: Submittal of Minutes of Wrap-up Meeting of the Additional Survey regarding Land Acquisition

We are pleased to submit herewith the Minutes of Meeting held on August 21, 2012 regarding the output of the additional study regarding land acquisition for the Preparatory Survey for Irrigation and Drainage System Rehabilitation Project and Improvement Project in the Kingdom of Cambodia.

Major discussion and comments are as recorded in the minutes of meeting and summarized as follows:

- Outputs from JICA Survey Team consisting of: (i) map of land acquisition area, (ii) result of Socio-economic survey, (iii) draft policy framework and entitlement matrix, (iv) implementation structure and preliminary cost estimation
- Further actions to be taken by MOWRAM

Major comments and discussed items from the participants are listed as follows.

- Necessity of land acquisition in Sras Prambai
- Unit cost of land based on the hearing from commune chief
- Implementation schedule and budget arrangement, etc

Thank you very much for your attention and necessary actions.

Sincerely yours,



S.Higashinakagawa

JICA Survey Team

- C.C: (1) Dr.Theng Tara, Director of Department of Water Resources Management and Conservation
(2) Mr.Chea Chhun Keat, Director of Department of Planning and International Cooperation
(3) Mr.Kenichiro Kobayashi, Director, JICA Headquarters
(4) Mr.Hiroyuki Yokoi, Representative, JICA Cambodia Office
(5) File

Minutes of Meeting

1. Date : August 21, 2012
2. Time : 9:30 to 10:50
3. Place : Meeting Room of TSC
4. List of Participants : Refer to Attachment

The meeting was chaired by Mr. Uch Hing, Deputy Director of Technical Service Center for Irrigation (TSC), Ministry of Water Resource and Methodology (MOWRAM). Main agenda of the meeting consists of: (i) Background and necessity of additional study, (ii) Final output by JICA Survey Team, and (iii) Further actions to be taken by MOWRAM.

After the greeting by Mr. Uch Hing, JICA Survey Team explained the output of the additional study regarding land acquisition.

1. Presentation of the additional study

1) Background and necessity of the additional study regarding land acquisition

JICA Survey Team explained the necessity of this survey to prepare the Resettlement Policy Framework for five sub-projects.

2) Output of the additional study

JICA Survey Team explained the main outputs of this study as follow.

- (i) Description of land acquisition area
- (ii) Draft policy framework and entitlement matrix
- (iii) Socio-economic survey
- (iv) Implementation structure and preliminary cost estimation

3) Further actions to be taken by MOWRAM

JICA Survey Team explained the further actions to be taken by MOWRAM.

- (i) Preparation of the budget of IOL survey and socio economic survey
- (ii) Setup the Inter-ministerial Resettlement Committee during D/D stage
- (iii) Preparation of Draft RAP during D/D stage

2. Comments and Suggestion

- 1) MOWRAM asked about the necessity of land acquisition in Srass Prambai. JICA Survey Team replied that the land acquisition is not necessary because the project site is only in the Reservoir. However, there are some illegal occupants in the Reservoir who carry out cultivation in dry season. Then, it is necessary to support them, especially for vulnerable persons but no necessity of land acquisition.

Attachment

- 2) MOWRAM asked why the unit cost of land is various range. The JICA Survey Team replied that the unit cost is different from the location or the situation of each land such as distance from existing canal, market area or accessibility, etc. The cost estimated in this study is preliminary cost estimation to prepare the budget of land acquisition. MOWRAM should consider budget allocation. The detail cost will be determined in the Replacement Cost Survey.
- 3) JICA Cambodia Office asked what is the source of the data (e.g. 240US\$) described in the entitlement matrix. The source is based on the Abbreviated Resettlement Action Plan for Upper Slakou prepared by MOWRAM.
- 4) MOWRAM suggested that JICA Survey Team should use same source and description procedure regarding population. JICA Survey Team agreed that the source and description procedure as same as the DF/R will be used.
- 5) MOWRAM suggested that land acquisition should be completed before the construction in the implementation schedule. JICA Survey Team also suggested that the land acquisition will be implemented step by step in consideration with the time limitation of the planning period of land acquisition and resettlement though the suggestion by MORAM is understandable.
- 6) MOWRAM are concerned about the budget arrangement of IOL and socio-economic survey and asked whether those surveys can be skipped like West Tonle Sap Irrigation and Drainage Rehabilitation and Improvement Project. JICA Survey Team replied that it is not sure that the situation of this project differs from the SAPI. It can be recommended to coordinate with MEF at early stage, if necessary.

List of Participants

1. Cambodia Side

1.1 MOWRAM

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|-----|--------------------|---|
| (1) | Mr. Uch Hing | Deputy Director of Technical Service Center for Irrigation and Meteorology (TSC) |
| (2) | Mr. Prum Kanthol | Senior Technical Staff of Technical Service Center for Irrigation and Meteorology (TSC) |
| (3) | Mr. Sao Channarith | Staff of Resettlement Unit |

2. Japanese Side

2.1 JICA Cambodia Office

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| (1) | Ms. Siv Cheang | Program Officer, JICA |
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2.2 JICA Survey Team

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| (2) | Mr. Shigeya Otsuka | JICA Survey Team |
| (3) | Mr. Satoshi Higashinakagawa | JICA Survey Team |
| (4) | Mr. Kry Kirirath | JICA Survey Team |