

2012年2月6日の報告会「カンボジア国：国道一号線改修計画における環境社会配慮」にて、カンボジア側により「国道一号線改修計画」第1期～第3期における住民移転に関する情報収集が行われていることについて話題となった。本報告書は、その情報収集の結果がとりまとめられたもので、特に以下の観点からの総括がなされている。

- (1) 補償単価（再取得価格）の設定過程
- (2) 補償計画の実施過程
- (3) 苦情処理メカニズムの状況

今般、本報告書をJICAが公開することについてカンボジア政府より合意が得られたため、右報告会の関連資料として掲載するものである。(2012年6月4日)

KINGDOM OF CAMBODIA  
MINISTRY OF PUBLIC WORKS AND TRANSPORT

**FOLLOW-UP STUDY**  
**ON**  
**THE 2007 REPLACEMENT COST STUDY**  
**OF**  
**THE PROJECT**  
**FOR**  
**THE IMPROVEMENT OF NATIONAL ROAD NO.1**  
  
**FINAL REPORT**

March 2012

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KATAHIRA & ENGINEERS INTERNATIONAL

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## Abbreviations

ADB	Asian Development Bank
AH	Affected Household
DMS	Detailed Measurement Survey
EMR	External Monitoring Report
E/N	Exchange of Notes
F/S	Feasibility Study
GOJ	Government of Japan
GRC	Grievance Redress Committee
GRM	Grievance Redress Mechanism
IRC	Inter-Ministerial Resettlement Committee
IRC-WG	Inter-Ministerial Resettlement Committee Working Group
JICA	Japan International Cooperation Agency
MPWT	Ministry of Public Works and Transport
PAPs	Project Affected Persons
PIM	Public Information Meeting
PRW	Provisional Road Width
RAP	Resettlement Action Plan
RC	Reinforced Concrete
RCS	Replacement Cost Study
RGC	Royal Government of Cambodia
ROW	Right of Way
URAP	Updated Resettlement Action Plan
the JICA 2004 Guidelines	JICA guidelines for environmental and social considerations (April 2004)

# **1 Introduction**

## **1.1 Background and Outline of the study**

This is a follow-up study on the Replacement Cost Study (RCS) for the Stage 1 to Stage 3 of the Project for Improvement of National Road No.1 (the “NR-1 Project”) in the Kingdom of Cambodia (Cambodia), implemented under Japan’s Grant Aid.

The NR-1 Project is to improve a 56-kilometer section between Phnom Penh and Neak Loeung (the crossing point of the Mekong River) on National Road No.1 in Cambodia, by widening and raising of the road, which in turn has necessitated the acquisition of land, and involuntary resettlements.

At the planning phase of the Project, the Royal Government of Cambodia (RGC) had set out a resettlement policy and compensation rates based on the domestic law applicable at the time. However, given the changing conditions, such as the release of JICA Guidelines for Environmental and Social Considerations, and ADB’s safeguard policy, the RGC has improved its resettlement policy over the course of implementing the NR-1 Project.

The objective of the study is to review the experience of resettlement activities, specifically focusing on the following compensations related issues.

1. Process to establish the compensation rate
2. Process of implementation of compensation plan
3. Situation of Grievance Redress Mechanism

**1.2 Summary of the Project**

**1.2.1 Background of the Project**

The National Road No.1 in Cambodia is a primary national road which connects the capital city, Phnom Penh with Bavet, a border city with Vietnam. It is also an international trunk road, constituting part of the Asian Highway, which connects Ho Chi Minh, the largest commercial city of Vietnam, with Bangkok, the capital city of Thailand. Despite its regional importance, let alone its national importance, the road had long been awaiting major rehabilitation. Firstly the road condition had deteriorated by continuous civil wars following the Indochina war. Secondly the Mekong River flood of 2000 caused destruction to the embankments. Thirdly, a significant increase in traffic resulting from the rapid economic development of recent years created a high demand for the road improvement. Thus, a partial widening of the road with a minimum raise to serve as an embankment road was urgently required.

In view of this background, the Asian Development Bank (ADB) conducted a feasibility study (in 1993 and 1995) for the improvement of the national road between Ho Chi Minh and Phnom Penh. Within this route, ADB implemented a project to improve Vietnam’s National Road No. 22, and a part of National Road No.1 (from Ho Chi Minh to Moc Bai, the border city with Cambodia). In the meantime, the RGC requested Grant Aid Assistance to the Government of Japan for improvement of National Road No. 1 (from Phnom Penh to Neak Loeung), a route that also serves as an embankment road running along the Mekong River. A summary of this work is provided in Table 1.1 and Figure 1.1 below.

Table 1.1 Summary of road work carried out

Section	Cambodian National Road 1 (Phnom Penh – Neak Loeung) C-1 Section	Cambodian National Road 1 (Neak Loeung - Bavet) C-2 Section	Vietnamese National Road No.22 (Moc Bai – Ho Chi Minh)
Donor	Government of Japan (Grant Aid)	ADB (Loan)	ADB (Loan)
Distance	56km	105km	80km
Duration	2004 – on-going	1999 - 2003	

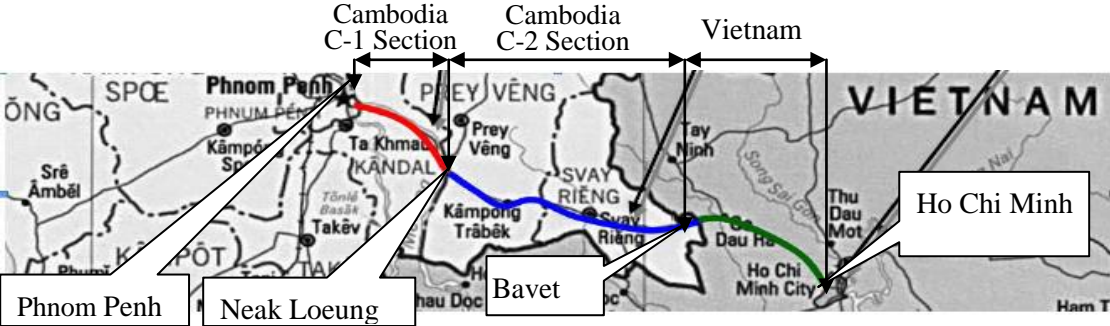


Figure 1.1 National Road No1 and sections of road work

## 1.2.2 Scope of the Project

The scope of the NR-1 Project, a grant aid project for Cambodia supported by the Government of Japan (GOJ), is the rehabilitation of the 56 km-long section of road between the Phnom Penh Capital City and Kandal Province (see Figure 1.2). The starting point (St.0km+000)<sup>1</sup> is the Monivong bridge and the terminus is the Neak Loueng ferry terminal. The target section is divided into four stages of grant aid assistance (see Table 1.2), and by the time of the study, Stages 1 to 3 have been already completed.

Table 1.2 NR-1 Project: division by Stage

Stage	Duration <sup>2</sup>	Main works
Stage 1	June 2005 - January 2007	No.2, No.3 bridge construction
Stage 2	June 2006 - February 2009	Improvement of road (St.55+980-St.13+100) Length 42.9km No.1 bridge construction
Stage 3	July 2009 - June 2011	Improvement of road (St.13+100-St.4+000) Length 9.1km
Stage 4	To be determined	Improvement of road (St.0+000-St.4+000) Length 4.0km

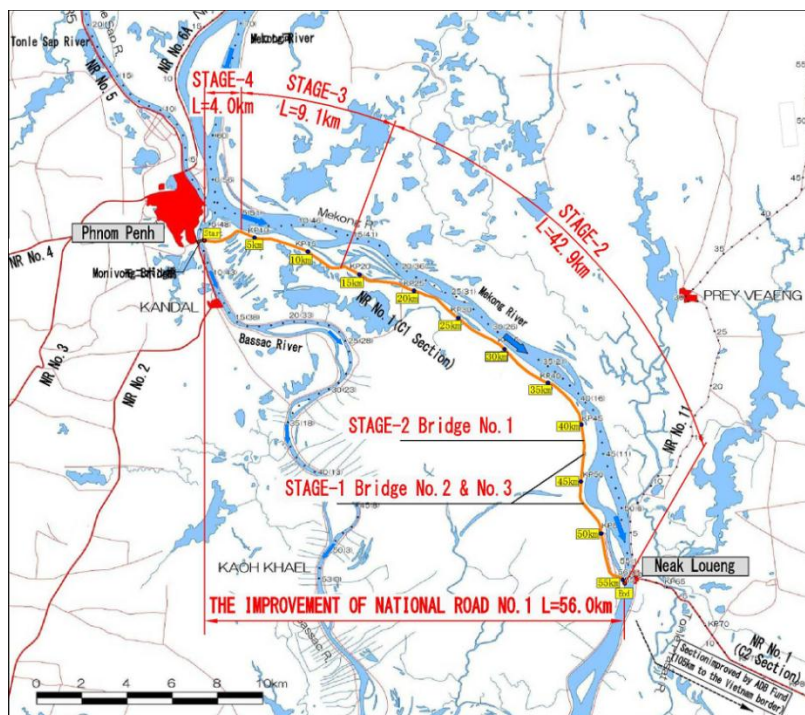


Figure 1.2 Scope of the NR-1 Project by Stage

<sup>1</sup> Positions along the road are defined using the distance, in kilometers and meters, from this starting point, using the notation 'St.\*km + \*\*\*'

<sup>2</sup> Implementation period: from the month of Exchange of Notes to the month of completion of work.



The administrative division (municipality, province and commune) of the project area is shown in Table 1.3 and Figure 1.3 below.

Table 1.3 Administrative division of NR-1 Project area (as of commencement of work of Stage 3)

Stage	Municipality, Province	District	Commune
Stage 1	Kandal Province	Kien Svay	Border between Samraong Thum and Kokir Thum
		Leuk Daek	Kampong Phnum
Leuk Daek		Preaek Tonloab	
		Kampong Phnum	
Stage 2		Kien Svay	Kokir Thum
			Samraong Thum
			Banteay Daek
			Dei Edth
			Kokir
			Phum Thum
Stage 3	Kien Svay	Kbal Kaoh	
		Preaek Aeng	
		Veal Sbov	
Stage 4	Phnom Penh Capital City	Meanchey*	-

\*Belonged to Kandal Province until implementation of Stage 2

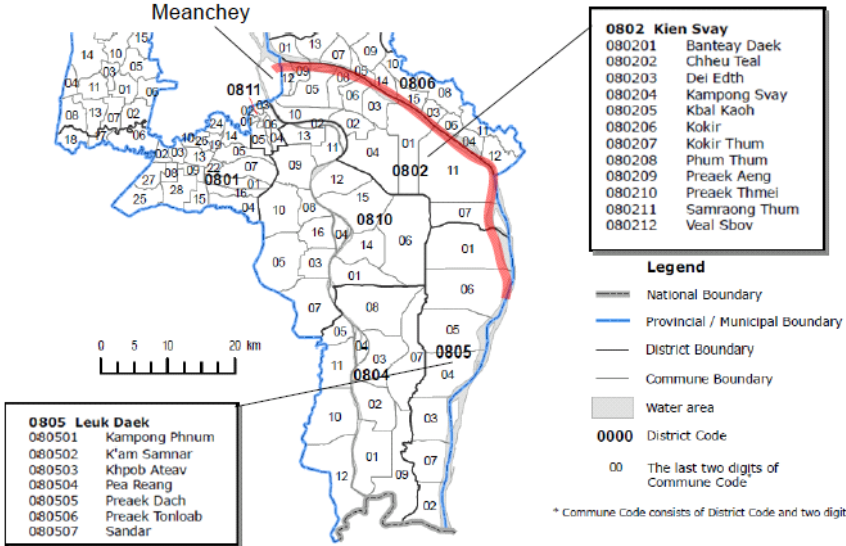


Figure 1.3 Location of districts and Communes of the project area (Kandal province)\*

\* The part of Kandal province which was merged with the Phnom Penh County expansion is not reflected in this map.

### 1.2.3 Outline of works (main work types and impact on resettlement)

#### 1) Improvement of road (raising, widening and pavement of the road)

The NR-1 Project aims to improve the existing road (improvement of road bed and pavement, etc.), and does not involve construction of additional traffic lanes except in some sections of the road. However, it was necessary to widen the road in order to raise the road level by 1 meter in those parts where the road was lower than design water level, in order to ensure its function as an embankment-road. As a result, a displacement of people, including relocation, set-back, and slicing of structures was required. (see Figure 1.4)

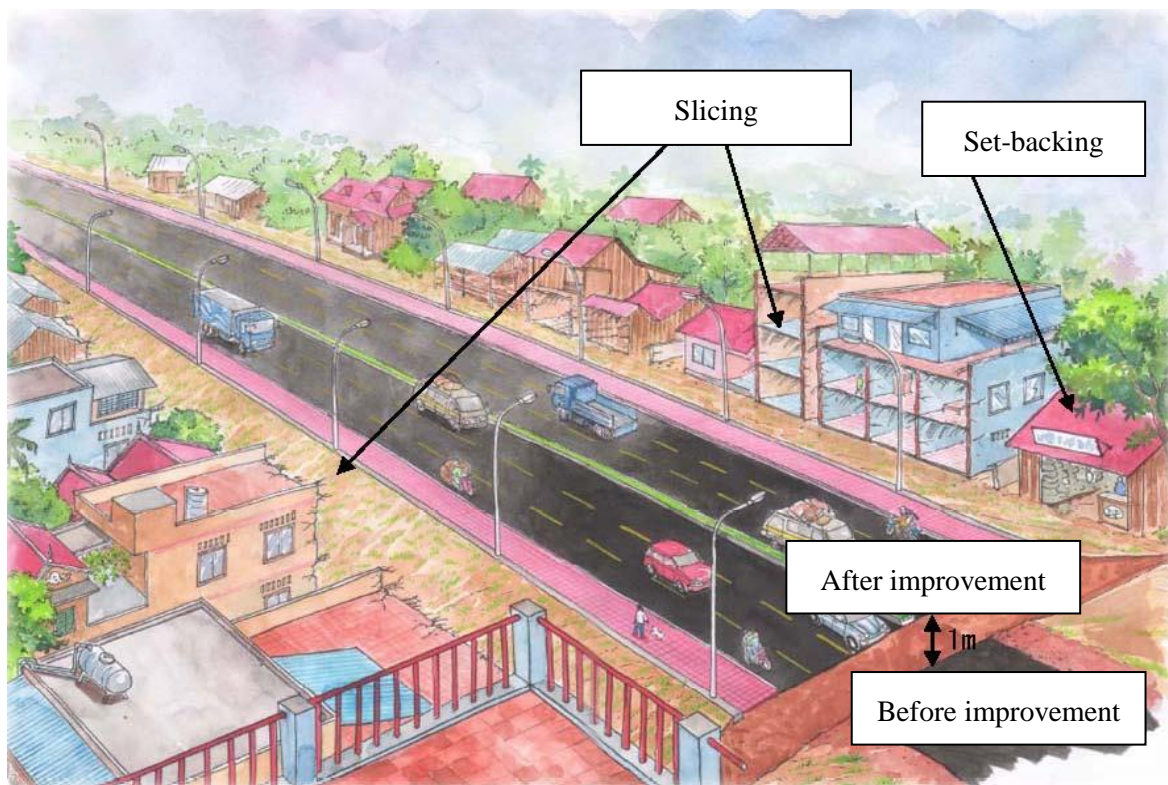


Figure 1.4 Image of road improvement (widening of road derived from the raising of road)

#### 2) Construction of bridges

Pre-stressed concrete bridges were constructed in Stage 1 (bridge no.2 and bridge no.3) and Stage 2 (bridge no.1). The dimensions of the bridges are shown in Table 1.4 and the photographs are shown in Figure 1.5. Because of necessary foot protection works and chipping around the bridges, in some cases the acquisition and lease of private land were required up to 50 meters from the center of the road, which goes beyond the Right of Way (ROW), i.e., 30m either side from the center of the road. The RGC minimized the need for land acquisition, applying the concept of the Provisional Road Width (PRW) in such cases, as is described in section 1.2.5.

Table 1.4 Dimension of bridges

No.	Location	Length
No.1	St. 42+189	68.8m
No.2	St. 42+792	103.0m
No.3	St. 47+939	68.8m

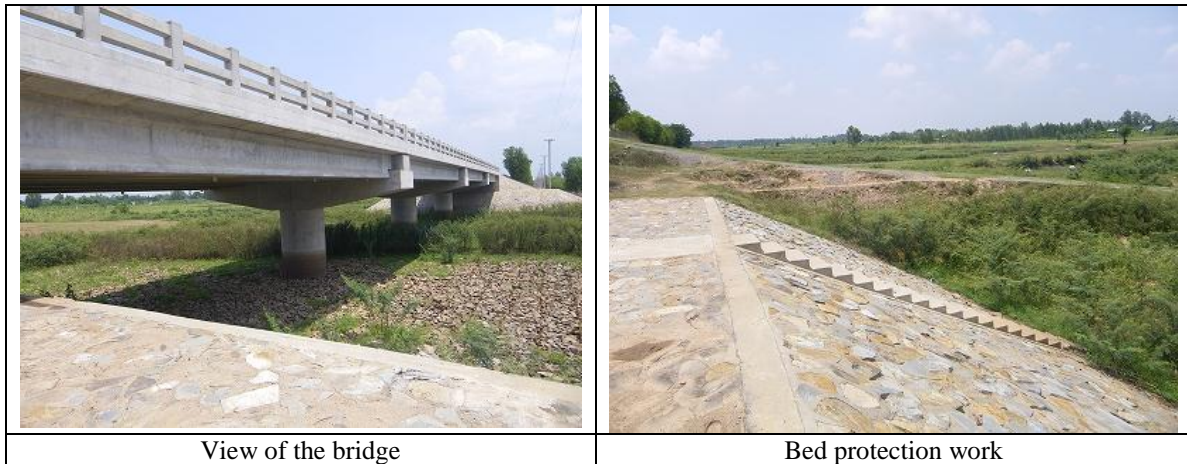


Figure 1.5 Outlook of Bridge No.2 and bed protection work

3) *Culverts and drainage*



Figure 1.6 Box Culvert

Six box culverts were constructed in order to let the flooding water flow from one side of the road to the other, underneath the road. In addition, retaining walls were constructed to prevent the water entering into the land outside the ROW, since these places were newly opened areas. Compensation was also provided for the land owners who lost approach path to the land.

Around areas of densely inhabited districts such as markets and around the Neak Loeung ferry terminal, gutters were built to facilitate drainage.

4) *Other structures (Refuge, truck scale etc.)*



Figure 1.7 Truck scale after completion

36 widened zones were created where the road passed near to public facilities, e.g. bus terminals, in front of schools and temples, refuges for livestock. Two truck scales were also constructed to discourage the overloading of vehicles.

#### **1.2.4 Environmental and social considerations**

It was from April 2002 to March 2003 when a feasibility study of JICA on the NR-1 Project was conducted, to analyze the hydraulic and other influences on the project area. The study revealed that approximately 1,800 households needed to be set back due to the widening of the road.

Since the NR-1 Project had been requested in 1999 (also in 2000 and 2001), the Project is not subject to the JICA Guidelines for Environmental and Social Considerations, which entered into force in April

2004 (hereunder referred to as “the JICA 2004 Guideline”).<sup>3</sup> Nevertheless, since the above-mentioned set-back was confirmed while the 2004 Guidelines were under review, the principles behind the 2004 Guidelines were introduced to the Project on a pilot basis. Accordingly, JICA conducted a preliminary environmental and social consideration support study in June-December 2003, before carrying out the basic design study. With the assistance of the study, the RGC conducted a Simple Survey between October 2003 and April 2004. The basic accord of 70% to 80% of the Project Affected Persons (PAPs) on the Project, which was recommended by the GOJ as a minimum requirement before going ahead with a basic design study, was confirmed. The GOJ therefore decided to implement the basic design study and, in parallel, a complementary environmental and social consideration study was carried out from 22<sup>nd</sup> January to 10<sup>th</sup> February 2005, along with an environmental baseline survey from 5<sup>th</sup> to 19<sup>th</sup> March 2005.

In the construction stage of NR-1 Project after the detailed design, the Inter-Ministerial Resettlement Committee (IRC), the implementing body of resettlement activities, has held regular meetings with JICA Cambodia Office and other stakeholders to ensure adequate environmental and social considerations during the implementation of the project.

#### **1.2.5 Outline of involuntary resettlement**

As the NR-1 Project does not entail a new route but involves only rehabilitation of the existing road, the road widening scope was limited to a 30m ROW on each side of the existing road in principle. Nonetheless, even within the ROW, the land was used as residence or occupied by other assets of the people along the road. Therefore, there was a need to compensate for these private properties (or to assist involuntary resettlement of the illegal occupants).

The RGC introduced a concept of the ‘Provisional Road Width’ (PRW), which refers to a minimized road width required for the project, in order to minimize the acquisition of land for the project, thereby reducing the impact of the project in terms of resettlement, or, in cases where resettlement cannot be avoided, to minimize that impact. In principle, the PRW is established within the ROW, although in some parts there were cases where they needed to acquire land outside the ROW due to the geographical condition and structural requirements. The concepts of PRW and ROW are illustrated in Figure 1.8 below.

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<sup>3</sup> The section 2.10 of the 2004 Guidelines reads “The guidelines come into force on April 1,2004, and project proposed in and beyond FY2004 are subject to the guidelines. Ongoing cooperation projects requested before April 1, 2004 are subject to possible items mentioned in the procedures.”



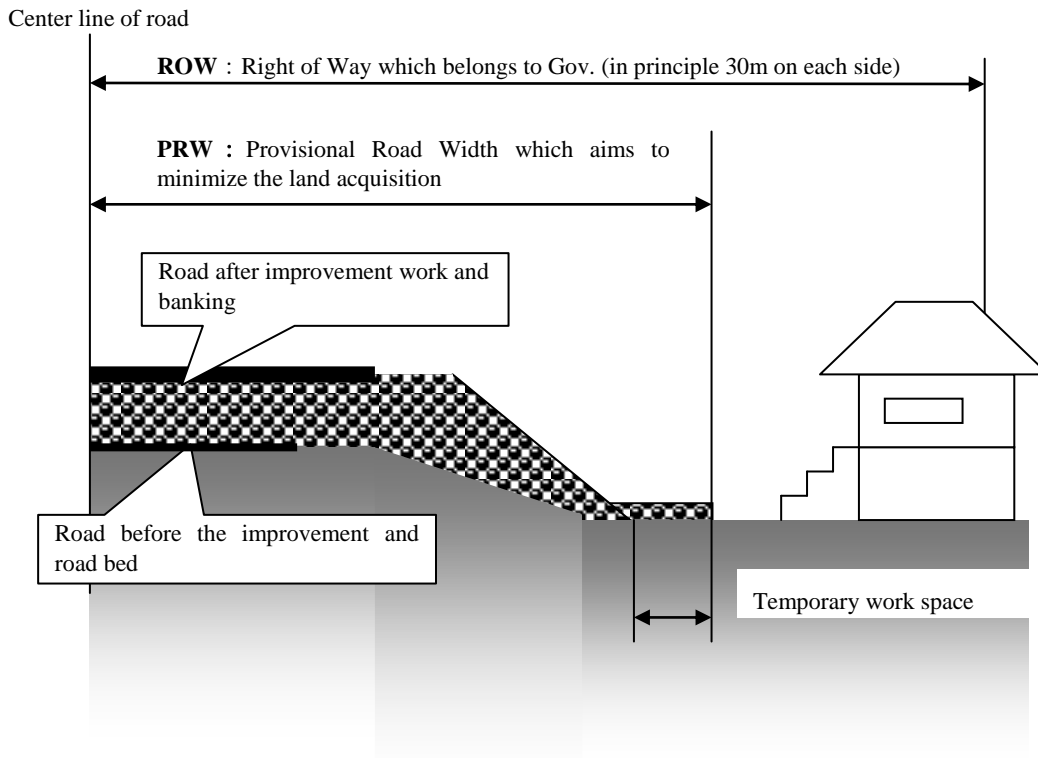


Figure 1.8 PRW and ROW

### 1.2.6 Scale of Compensation

During Stage 1 to Stage 3 of the NR-1 Project, the impact of land acquisition is as described in Table 1.5 below, and resulted in the corresponding compensation.

Table 1.5 Impact on people and scale of compensation

Items	Description	Unit	Quantity
<b>Affected Households:</b>			
Number of Affected Households <sup>4</sup>		Household	3,662
<b>Affected Assets:</b>			
Land outside ROW	Rent	m <sup>2</sup>	26,686
	Purchase	m <sup>2</sup>	24,759
Structure <sup>5</sup>	Type 1	m <sup>2</sup>	7,773
	Type 2	m <sup>2</sup>	53,695
	Type 3	m <sup>2</sup>	10,035
	Type 4	m <sup>2</sup>	857
Fence	Barbed wire	m	9,210
	Wood/Concrete	m	11,363

<sup>4</sup> It does not include public structures

<sup>5</sup> For the classification of house type 1 to 4, refer to Table 2.5.

Items	Description	Unit	Quantity
Well	Digging well	No.	16
	Pump well	No.	98
Other structure		No.	457
Public structure		No.	27
Fruit Tree / Plant	Mango	Tree	1,709
	Palm Tree	Tree	2,260
	Bamboo	Tree	255
	Others	Tree	5,342
<b>Allowances:</b>			
Allowance	Disruption allowance	No.	1,357
	Resettlement allowance	No.	961
Vulnerable Allowance	Female headed household	No.	248
	Disabled headed household	No.	32
	Households earning below \$10 per month	No.	13

Source : URAP

Among the Affected Households (AHs), those who needed physical relocation to alternative sites (Landless PAPs) were approximately 6 % of total (see Table 1.6).

Table 1.6 Number of Affected Households (Stage 1 to Stage 3)

	Stage 1	Stage 2	Stage 3	Sub-total
① Affected Households	55	2,608	999	3,662
② Landless households	1	174	49	224
③ Percentage of landless households (②/①)	2%	7%	5%	6%

Source : URAP, Information from IRC

### 1.2.7 Forms of resettlement

In general the impact of resettlement is higher for those households whose main buildings (structures used for bedrooms and dining rooms) are affected, and their burden becomes greater when the main building requires relocation or set-back.

In the NR-1 Project, out of 3,662 affected households (excluding public structures), it was in 1,357 households (37% of the total) that the main buildings were affected (partially dismantled, set back or

relocated to resettlement sites). The other 63% were affected only with respect to other structures (fences, fruit trees, etc.), as given in Table 1.7 and Figure 1.9 below. The households whose main buildings were affected were paid disruption allowance in addition to the compensation for houses, and those whose main buildings were set-back or relocated to alternative land were paid resettlement allowance. In addition, disabled-headed households (32), widow-headed households (248), and poor households (13) were entitled to respective allowances.

Table 1.7 Classification of affected households (Stages 1 - 3)

Item	No. of households
① Total affected households (②+③)	3,662
② Households whose main buildings were not affected	2,305
③ Households whose main buildings were affected	1,357
Households who relocated to resettlement site(landless)	224
Households whose houses were set back	667
Households whose houses were partially dismantled.	466



Figure 1.9 Images of forms of resettlement

<sup>6</sup> When the remaining land is less than 30m<sup>2</sup> after establishing the PRW, the structure in the area will be physically relocated.



## **2 Process of setting the compensation rate for resettlement**

The compensation rate for resettlement under the NR-1 Project has been revised during the course of the project: firstly, a government-set fixed rate was given. Secondly, compensation was adjusted to this fixed rate + price escalation. Finally the replacement cost became the compensation rate. This is described in more detail in section 2.1. Those who were affected in Stages 1 and 2 of the project, who had been paid the government-set rate, were given an additional payment as the balance between the government-set price and the replacement cost. In Stage 3, the replacement cost was paid from the beginning. The changes in compensation rates have been made in the light of the experience of other projects, and application of the safeguard policies of the development partners (especially ADB), and finally the RGC's decision, which endorsed the principle of compensation for all losses at replacement cost, in line with the JICA Guidelines for Environmental and Social Considerations (2010) and the Safeguard Policy of ADB and World Bank.

According to the World Bank OP4.12 Annex, the definition of the replacement cost is given as follows:

*With regard to land and structures, "replacement cost" is defined as follows: For agricultural land, it is the pre-project or pre-displacement, whichever is higher, market value of land of equal productive potential or use located in the vicinity of the affected land, plus the cost of preparing the land to levels similar to those of the affected land, plus the cost of any registration and transfer taxes. For land in urban areas, it is the pre-displacement market value of land of equal size and use, with similar or improved public infrastructure facilities and services and located in the vicinity of the affected land, plus the cost of any registration and transfer taxes. For houses and other structures, it is the market cost of the materials to build a replacement structure with an area and quality similar to or better than those of the affected structure, or to repair a partially affected structure, plus the cost of transporting building materials to the construction site, plus the cost of any labor and contractors' fees, plus the cost of any registration and transfer taxes. In determining the replacement cost, depreciation of the asset and the value of salvage materials are not taken into account, nor is the value of benefits to be derived from the project deducted from the valuation of an affected asset. Where domestic law does not meet the standard of compensation at full replacement cost, compensation under domestic law is supplemented by additional measures so as to meet the replacement cost standard. Such additional assistance is distinct from resettlement measures to be provided under other clauses in OP 4.12, para 6.*

### **2.1 Process of determining the compensation rate**

The process of determining the compensation rate is detailed in the sections below.

### **2.1.1 Government-set rate (in 2000)**

During the Feasibility Study, which was conducted with a view to seeking Japan's Grant Aid Assistance, the plan was to adopt the government-set compensation rate, as applicable at that time (in 2000).

This government-set rate was calculated as "relocation cost", presupposing the reuse of the materials from the existing structure. In those days, the salvage of materials was a common practice, and hence this method of calculation was adopted.

### **2.1.2 Government-set rate + inflation (in 2005)**

Over the course of the basic design study, the ADB projects in Cambodia (Greater Mekong Sub-region Transmission Line Project, etc.) were proposing adding an annual price escalation to the government-set rate, which the RGC then approved. The yearly 3% price increase was adopted and compounded for four years, and so 12% was added to the 2000 official rate. Payments for Stage 1 and Stage 2 of the NR-1 Project were therefore made using this enhanced compensation rate.

### **2.1.3 Replacement cost (in 2009)**

While the NR-1 project was being implemented, replacement cost was adopted in ADB projects in Cambodia as the standard means for compensation. Taking account of the underlying principles of the 2004 Guidelines, the GOJ suggested applying this replacement cost as compensation for resettlement, and the RGC agreed to it.

The RGC assigned a consultant to conduct a Replacement Cost Study (RCS) in December 2006. Based on this result, the RGC revised the Resettlement Action Plan (RAP) in March 2009 (called the 'Updated RAP', or 'URAP'), and re-established the compensation rate for the NR-1 Project. For Stage 1 and Stage 2, compensation had already been paid and adjusted to the 2005 rate, so the difference between the 2009 replacement cost and the 2005 rate was paid. With regard to Stage 3, the full replacement cost was paid from the beginning.

Transitions of compensation rates for houses are listed in Table 2.1 below.

Table 2.1 Changes in compensation rates

Type (Model house types)	2000 Government-set rate in US\$/m <sup>2</sup>	2005 Government-set rate x 112%, in US\$/m <sup>2</sup>	2009 Replacement Cost in US\$/m <sup>2</sup>
Type-1 : Wooden House (Thatch roof, thatch wall, bamboo floor)	4.5	5.0	10.8
Type-2 : Wooden House (Thatch roof, wood wall, wood floor)	12.0	13.4	25.3
Type-3 : Non-Wooden House (Concrete , Brick wall)	85.0	95.2	139.6
Type-4 : Non-Wooden House (As Type 3, but more than two stories)	140.0	156.8	227.7

## 2.2 Replacement Cost (compensation unit price)

Table 2.2 shows compensation items and the unit price that the Government of Cambodia paid in relation to the resettlements for the NR-1 Project.

Table 2.2 Compensation items and unit price (actual figures)

Item	Description	Unit	Rate
I . House	1. Structure type 1	\$/m <sup>2</sup>	10.8
	2. Structure type 2	\$/m <sup>2</sup>	25.3
	3. Structure type 3	\$/m <sup>2</sup>	139.6
	4. Structure type 4	\$/m <sup>2</sup>	227.7
II . Land	1. Purchase land out of ROW	\$/m <sup>2</sup>	2.2
	2. Rental of land out of ROW (1 year)	\$/m <sup>2</sup>	0.2
III. Other structures	1. Digging well	\$/well	100.0
	2. Pump well	\$/well	84.0
	3. Barbed wire and wooden fences	\$/m	0.9
	4. Concrete fences	\$/m	15.0
	5. Graves	\$/grave	168.0
	6. Timber bridge	\$/m <sup>2</sup>	11.0
	7. Concrete bridge	\$/m <sup>2</sup>	21.0
	8. Other assets e.g. toilet, stair, water tank etc.		Determined respectively
IV. Fruit tree	1. Mango	\$/tree	51.0
	2. Coconut	\$/tree	31.0
	3. Tamarind	\$/tree	30.5
	4. Other species of tree ( <i>more than 12 speices</i> )*	\$/number	Determined respectively
V. Allowance	1. Disruption allowance when main building affected	\$/AH	44.8
	2. Female headed households	\$/AH	22.4
	3. Disable households	\$/AH	22.4
	4. Households earning below 10\$ per month	\$/AH	22.4
	5.. Resettlement allowance	\$/AH	44.8

\*Only major fruit trees are listed in the table.

Source : URAP

## 2.3 Replacement Cost Study

The Royal Government of Cambodia (Ministry of Economy and Finance) assigned an independent consultant (local consultant) to conduct a Replacement Cost Study (RCS). The outline of the study is summarized in Table 2.3. The result of the study was set out in the Report of Replacement Cost Study, and submitted to the RGC in March 2007, and replacement cost was approved as the compensation rate for the NR-1 Project.

Table 2.3 Outline of the replacement cost study

Item	Contents
Duration	December 2006– March 2007
Institution	BN Consultant Co. Ltd.
Composition of Study Team	<ul style="list-style-type: none"> <li>▪ 1 Team Leader</li> <li>▪ 1 Assistant</li> <li>▪ Structure study team (2 enumerators, 1 Carpenter 1 Architect etc.)</li> <li>▪ Construction materials and fruit tree team (2 enumerators etc.)</li> </ul>

### 2.3.1 Study Approach

The approach taken in the 2007 Replacement Cost Study (RCS2007) was the following:

- (1) Based on the market survey of the affected assets (houses, other structures, fruit trees, etc.), the average price of each item was calculated and determined as replacement cost.
- (2) The valuation of structures and land was undertaken by a sampling survey in the project area and surrounding areas, instead of conducting individual surveys of all the affected assets. The samples were selected taking into consideration the type of assets, the geographical distribution, and type of household (affected households and non-affected households).

Table 2.4 shows the number of samples of each asset.

Table 2.4 Number of samples of Replacement Cost Study (by asset type)

	Structure					Land	Crop/Fruit tree
	Type1	Type 2	Type 3	Type 4	Retail shop of construction materials		
Number of samples	6	38	1	1	18	110	Crops: 8 Fruit trees:16

### 2.3.2 Property valuation process of Structures

#### 1) Categorization of types of structure

For the purpose of categorization, structures were classified using the categories applicable at the time of the 2000 government rate (4 types). This categorization (type) has been generally used in the resettlement activities in Cambodia. In general, structures can be divided into wooden structures (type 1 and type 2) and non-wooden structures (type 3 and type 4). The materials and structure of wooden structures vary from house to house more widely than the non-wooden structure (concrete columns and brick wall), which are relatively standardized. Each type is divided into four structural parts: “Roof”, “Wall”, “Floor”, and “Column and others”.

Table 2.5 shows the types of structures in the NR-1 Project, and Figure 2.1 shows photographs of the typical house of each type.

Table 2.5 Classification of types

Type	Roof	Wall	Floor	Column and others
<b>Wooden house</b>				
Type 1	Thatch	Thatch Water Palms	None/Bamboo	Pole
Type 2	Zinc Fibro Tile	Zinc Water Palms Wood Brick	None Bamboo Wood Tile Concrete	Pole Timber Reinforced Concrete (RC)
<b>Non wooden house</b>				
Type 3	Concrete	Brick Concrete	Tile Concrete	Reinforced Concrete (RC)
Type 4	As Type 3, but more than two stories			

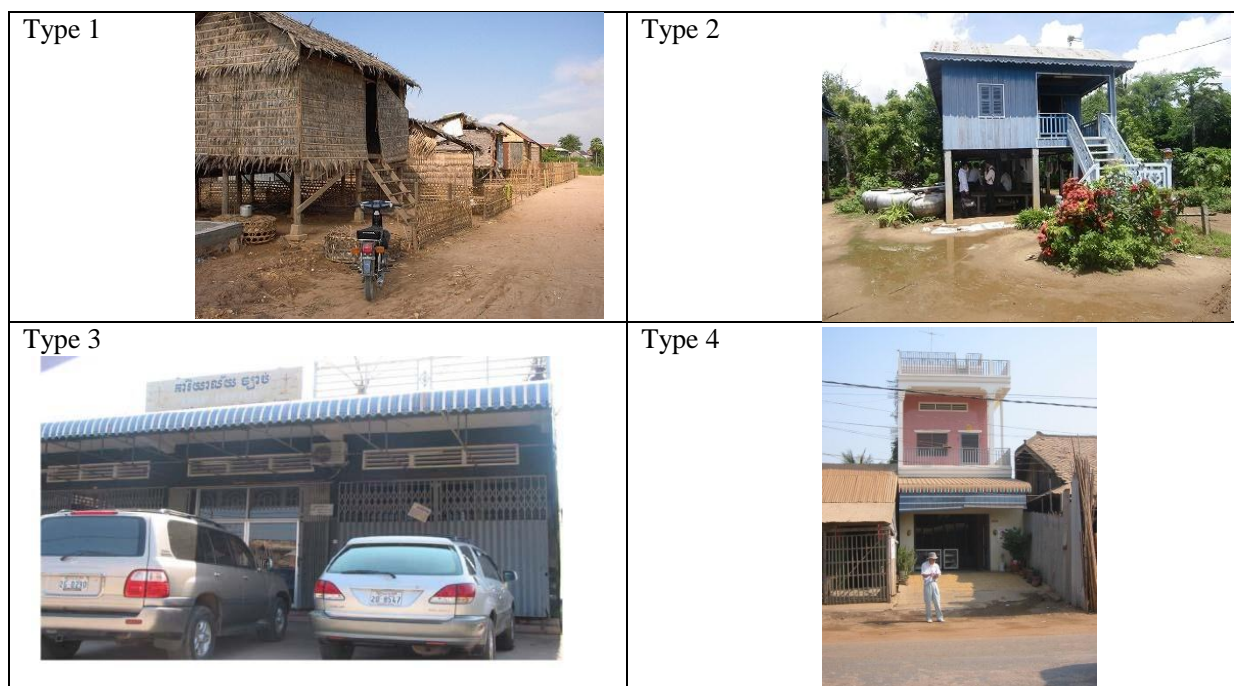


Figure 2.1 Examples of type of structure

## 2) Study procedure

The methods of calculation for wooden structures (types 1 and 2) and non-wooden structures (types 3 and 4) are different. Below is a description of each category.

### 2)-1 Wooden Structure (Type 1 and Type 2)

Replacement costs of structures as stated in the RCS was calculated in the following manner (see Figure 2.2):

1. Setting unit price of construction materials based on the result of price research (18 shops)
2. Measurement of sample structures and interviews (44 cases)
3. Calculation of unit price per square meter of a sample structure (price of construction materials plus labor cost)
4. Calculation of average unit price by type of structures

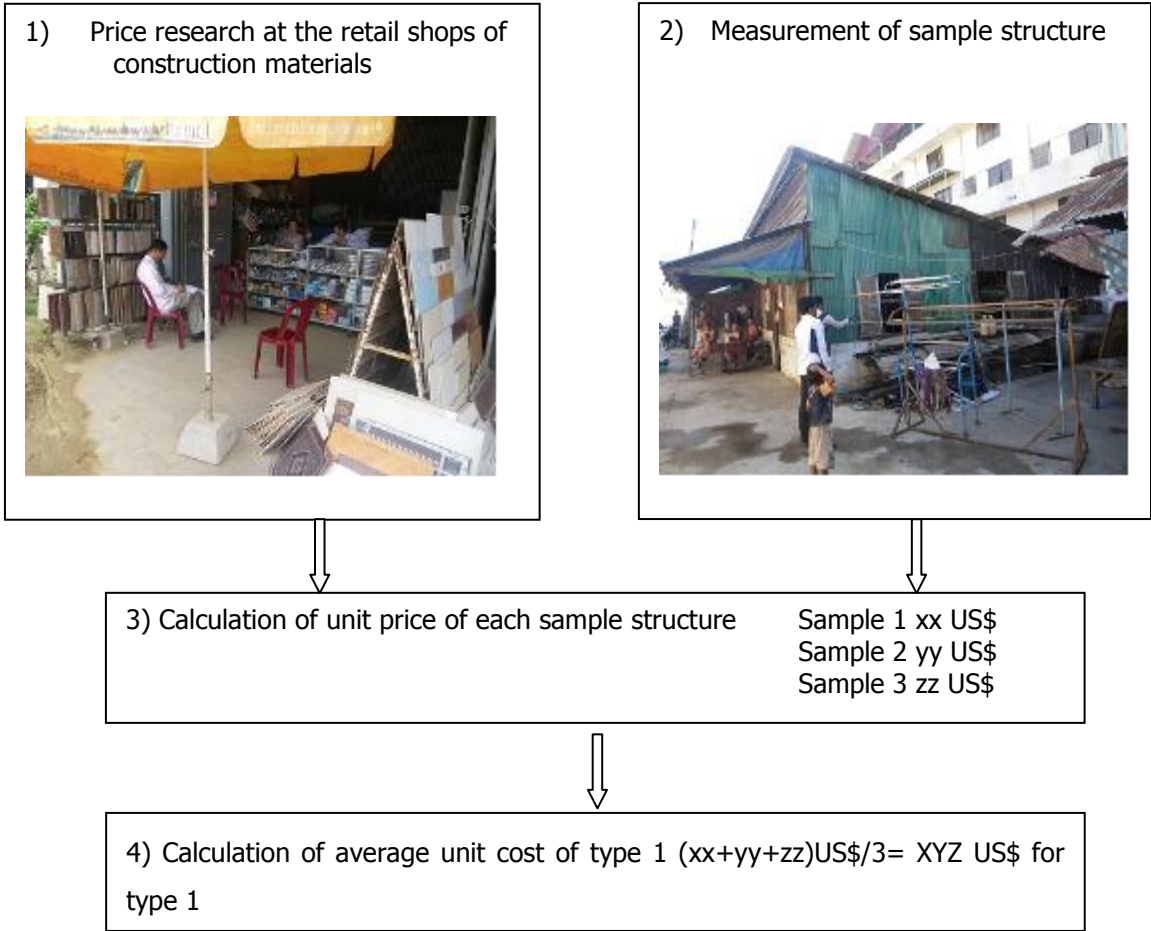


Figure 2.2 The procedure of study

*i) Price research of the construction materials*

From the price data of construction materials collected from the retail shops, necessary materials for calculation will be selected, based on materials (wood, tile, etc.) and type (specification, brand, etc.) used in the sample house. Table 2.6 lists an example of price research for construction materials (an extract).

Table 2.6 Example of construction material price survey (market price survey), extract

No	Material	Quantity	Unit	Rate (US\$/unit)						
				Shop 1	Shop 2	Shop 3	Shop 4	Shop 5	Shop 6	Average
<b>I</b>	<b>Cement</b> (11 brands in total)									
1	White elephant cement	1	ton	156		150				153.00
2	White horse cement	1	ton	148		125				136.50
	etc.									
<b>II</b>	<b>Re-bar</b> (8 brands in total)									
1	Vietnam fabricated re-bar Ø 6 or 8 mm	1	ton	510						510.00
2	China fabricated re-bar Ø 6 or 8 mm	1	ton	530	540				510	526.67
	etc.									
<b>III</b>	<b>Roof material</b> (21 materials in total)									
1	CPAC fibro plate (550×1500) mm	1	sheet	1.8		1.9				1.85
2	White zinc plate (650×3,600) mm	1	sheet	3.8		4.2				4.00
3	Thatch, 1m	1	band				0.15			0.15
4	Water palm, 1.0m	1	sheet				0.05			0.05
	etc.									
<b>IV</b>	<b>Paper and plywood</b> (6 materials in total)									
1	Plywood (2,400 ×1,200×3) mm	1	sheet			3.5				3.50
	etc.									
<b>V</b>	<b>Floor and wall</b> (9 materials in total)									
1	Chinese floor tile (400×400) mm	1	m <sup>2</sup>		2.2	2.8				2.50
	etc.									

Note: Prices of VI Paints (8 materials), VII Doors (14 materials) and VIII Others (98 materials) were also investigated.

ii) *Measurement of sample structure*

Houses were divided into four main parts, namely: roof, wall, floor and column and others. Size and amount of materials used in each component were measured. Figure 2.3 shows a conceptual image to show the breakdown of construction materials of a structure.



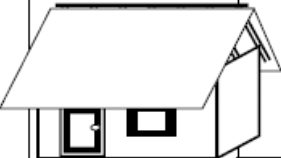



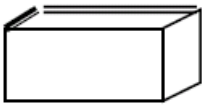
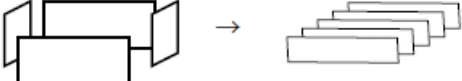
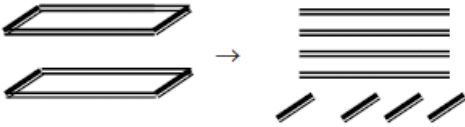

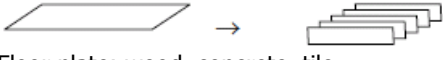




	Main parts	Components and its number
 <p>House =Roof + Wall + Floor + Column etc.</p>	 <p>Roof =Roof plate + Ridge post</p>	 <p>Roof plate: thatch, zinc, wood, vinyl, fibro floor parts = floor plate +floor beam</p>
		 <p>Ridge post: bamboo, timber</p>
	 <p>Wall = Wall materials + Horizontal beam</p>	 <p>Wall materials: thatch, water palm, zinc, wood, brick</p>
		 <p>Horizontal beam: timber, bamboo</p>
	 <p>Floor = floor plate + floor beam</p>	 <p>Floor plate: wood, concrete, tile</p>
		 <p>Floor beam: bamboo, timber</p>
	 <p>Column etc. = column + etc.</p>	 <p>Column: timber, RC</p>
		 <p>Etc.: door, window</p>

Figure 2.3 Example of composition of materials of structure

The survey of the sample structure was carried out by a study team including an architect. The size of each component of the structure and its major components were measured by tape measure, and the results from the measurement were classified into 4 parts: roof, wall, floor and column. The required amount of construction materials was calculated from these measurements. The required amount of unquantifiable materials such as nails and material below the flooring was then also calculated, using an average amount used per unit on this type of construction.

iii) *Unit cost per square meter of each sample*

The cost of each component of the house (roof, wall, floor and column and others) was calculated based on the type, amount and unit cost of the individual materials. Then the prices of each component were added up and the total cost of construction materials (a) was calculated. After that, the labor cost (b) estimated by the owner and carpenters was added and the total compensation rate (c=a+b) was calculated. This amount (c) was divided by floor area, to produce the unit price per square meter (d). Below is an example of the process of calculation.

Table 2.7 Cost estimation for construction of structure Types 1 and 2<sup>7</sup>

	Material	unit	Quantity	Rate (\$/unit)	Amount (\$)	Total (\$)
Roof	Thatch	sheet	97.71	0.15	14.66	28.09
	Horizontal bar, 4m	No.	3.00	0.54	1.62	
	Vertical bar, 4m	No.	4.00	0.75	3.00	
	Rafter 3m	No.	4.00	0.54	2.16	
	Post 1m	No.	3.00	0.15	0.45	
	Post support 4m	No.	6.00	0.38	2.28	
	Bamboo strip	Bundle	2.00	0.94	1.88	
	Nail	Kg	3.00	0.68	2.04	
Wall	Water palm	sheet	73.83	0.05	3.69	16.11
	Vertical bar 2m	No.	8.00	0.38	3.04	
	Bamboo strip	m	174.00	0.03	5.22	
	Bamboo 3m	m	48.00	0.03	1.44	
	Nail	Kg	4.00	0.68	2.72	
Floor	Bamboo strip for floor	m	190.00	0.03	5.70	15.18
	Horizontal bar ø25, ø30mm	No.	16.00	0.38	6.08	
	Nail	Kg	5.00	0.68	3.40	
Column & others	Post 4m	m	8.00	3.33	26.64	29.69
	Post 2m	m <sup>3</sup>	0.01	305.00	3.05	
	<b>(a) Total material cost</b>	<b>\$</b>				<b>89.07</b>
	(b) Labor cost	\$	(40% of material cost for Type 1)			35.63
	<b>(c) Grand total</b>	<b>\$</b>				<b>124.70</b>
	Floor area	m <sup>2</sup>				11.40

iv) *Setting the compensation rate by type*

In RCS, the cost of house type 1 (6 samples) and house type 2 (38 samples) were calculated using the above method. As a result, in type 1, the average rate of 6 samples was adopted as compensation rate. With regard to type 2, the method of calculation was the same as type 1, except that type 2 was

<sup>7</sup> Figures in the table were measured and calculated for this follow-up study in order to reproduce the calculation of the RCS and are different from the data to set the unit price per square meter of that time. However the same unit prices of materials are used as RCS.

divided into several subtypes (2A, 2B and 2C), which reflected the differences of the construction materials (see Table 2.8).

Table 2.8 Unit price and floor area of Subtypes

Sub-Type	Material	Unit price (\$/m <sup>2</sup> )	Total floor area ( m <sup>2</sup> )
2A	Zinc roof/ zinc or thatch wall	20.7	19,179.00
2B	Zinc or fibro roof/ wood or concrete wall	30.7	4,447.30
2C	Tile roof/ wood or brick wall	40.7	4,169.35
Grand total (used for averaging calculation as given below)			27,795.65

Source : URAP, modified by the study team

The price per square meter of type 2 was the weighted average of prices per square meter of sub-types by floor area, as indicated in the following formula.

$$\text{Price per square meter of type 2} = [(\text{price per square meter of sub-type 2A} \times \text{floor area of sub-type 2A}) + (\text{price per square meter of sub-type 2B} \times \text{floor area of sub-type 2B}) + (\text{price per square meter of sub-type 2C} \times \text{floor area of sub-type 2C})] \div \text{total floor area}$$

$$\text{i.e. Price per square meter of type 2} = [(20.7 \times 19,179.00) + (30.7 \times 4,447.30) + (40.7 \times 4,169.35)] \div 27,795.65 = 25.3$$

2)-2 Non-wooden structure (type 3 and type 4)

For non-wooden structures (type 3 and type 4), the method of calculating the price per square meter was generally the same as for wooden structures (type 1 and type2): a sum of the prices of components. However, instead of classifying the structure into parts such as roof, wall, etc., and adding up these parts and labor cost, the sum of costs per type of work including foundation work, were added up. While in the wooden structure labor cost was calculated separately, in the non-wooden structure the cost of labor was embedded in the cost per type of work, so the “material cost plus labor cost” was considered as a unit price. This is because of the fact that in Cambodia non-wooden structures have a standard specification used commonly, in contrast to the diversity of wooden structures. The standard specification of the non-wooden structure refers to normal practices such as “building concrete column at interval of 4 meters” and “standardization of construction materials” etc. In the RCS, the calculation of the unit price for type 3 (one story houses) and type 4 (two story houses) was made based on this standard specification, together with assessments of carpenters and contractors. Table 2.9 shows the method of calculation for type 3 and type 4.

Table 2.9 Cost estimation for construction of structure Types 3 and 4

No.	Description	Unit	Quantity	Rate (\$)	Amount (\$)
<b>A</b>	<b>Ground floor</b>				
<b>1</b>	<b>Excavation works</b>				
1.1	Footing foundation 1.50x1.50x1.00x10	m <sup>3</sup>	25.00	2.00	50.00
1.2	Foundation beam (0.50x0.50)	m <sup>3</sup>	14.50	2.00	29.00
<b>2</b>	<b>Reinforced concrete works</b>				
2.1	Compacting stones	m <sup>3</sup>	11.50	16.50	189.75
2.2	Lean concreting (5 cm)	m <sup>3</sup>	2.30	35.00	80.50
2.3	RC to footing foundation (1.20x1.20x0.20) and foundation beam (0.20x0.20)	m <sup>3</sup>	6.50	160.00	1,040.00
	etc.	—	—	—	—
<b>3</b>	<b>Masonry</b>				
3.1	Brick walls (t=10cm)	m <sup>2</sup>	176.00	8.00	1,408.00
3.2	Paving at house front	m <sup>2</sup>	17.64	6.50	114.66
	etc.	—	—	—	—
<b>4</b>	<b>Door and window</b>				
4.1	Main door: metallic (4.20x2.20x1)	m <sup>2</sup>	9.24	35.00	323.40
4.2	Back door (1.20x2.20x1)	m <sup>2</sup>	2.64	35.00	92.40
	etc.	—	—	—	—
<b>5</b>	<b>Roofing</b>				
5.1	Corrugated iron with steel frame	set	1.00	1,350.00	1,350.00
<b>6</b>	<b>Electricity work</b>	set	<b>1.00</b>	<b>180.00</b>	<b>180.00</b>
<b>7</b>	<b>Water and drainage including septic tank</b>	set	<b>1.00</b>	<b>500.00</b>	<b>500.00</b>
<b>8</b>	<b>Painting (Internal and external)</b>	set	<b>1.00</b>	<b>1,200.00</b>	<b>1,200.00</b>
	Total	\$			9,379.11
	Floor area	m <sup>2</sup>			67.2
	<b>Unit price for Type 3</b>	<b>\$/m<sup>2</sup></b>			<b>139.57</b>

Source : URAP, Annex 3, extracted by the study team

Note 1 Above table is for Type 3 only and cost of 1st floor shall be added for Type 4

Note 2 Some of the items are further sub-divided for cost estimation

### 2.3.3 Property valuation process: other structures

Apart from the compensation of structures described in section 2.3.2, other structures were compensated such as digging wells, pump wells, graves, timber bridges, concrete bridges, retaining walls and others (toilets, stairs, water tanks, etc.). Bridges and fences were compensated based on a unit cost per meter and others were compensated per unit.

Tables 2.10 Compensation prices for other structures

No.	Items	Unit	Rate (US\$)
1	Digging well (d=6m)	1	100.0
2	Concrete well (d=6m)	1	150.0
3	Pumped well	1	80.0

No.	Items	Unit	Rate (US\$)
4	Grave (earth)	1	50.0
5	Grave (concrete)	1	1250.0
6	Chedey/stupa (3.8m x 2.5m x 2.5m)	1	800
	Chedey/stupa (7.0m x 4.0m x 4.0m)	1	2000.0
	Chedey/stupa (9.2m x 5.0m x 6.0m)	1	5000.0
7	Forecourt or patio/ concrete	1m <sup>2</sup>	7.0
8	Concrete culvert (φ0.8m x 1m)	1	10.0
9	Cement culvert (φ1.0m x 1m)	1	5.0
10	Cement culvert φ0.8m x 1m)	1	4.0
	<b>Bridge</b>		
11	Bridge concrete	1m <sup>2</sup>	21.0
12	Bridge wooden	1m <sup>2</sup>	11.0
	<b>Fence</b>		
13	Timber/concrete post with barbed wire	1m	0.9
14	Brick wall	1m	15.0

Source : URAP

### 2.3.4 Property valuation process: land

The compensation for land (rent for two years and purchase) paid under the first compensation system surpassed the price of replacement cost. So additional payment for the land surveyed in the RCS has not been made, unlike other assets such as houses.

#### (1) Category of land

Land use in the area along the National Road No.1 was classified into four categories in the RCS.

- Farm land (Rice field): land for growing rice.
- Orchard land: the land used for growing non-rice crops and fruit trees.
- Residential land: the land located in the village and along the main road where people are living, including vegetable garden.
- Flooded land: the land located in a flooded area, where it is usually under water in rainy season.

#### (2) Procedure of study

In principle, based on the idea of a sales comparison approach, past sales prices of land in the target area of the NR-1 project were surveyed. A wide range of samples was selected, taking into account the distance, PAPs and landowners who are not PAPs, etc. The survey team interviewed land owners,

sales persons, and local authorities among others; however, there were limited cases where they could obtain evidence of actual transactions. Therefore, the prices of ‘Willing to Pay/Willing to Buy’ were also researched. The survey was only carried out in Kandal province because the acquisition of land occurred where the box culverts and bridges were constructed, and most of those areas are concentrated in Kandal province. The selection of the samples is summarized in Table 2.11.

Table 2.11 Selection of samples

District	Farm land	Orchard land	Residential land	Flooded land
Kien Svay	12	18	24	17
Leuk Daek	8	7	12	11
Total	20	25	36	28

(3) Calculation method

From the sampling survey, 100 valid responses were examined. The compensation price was calculated based on the result of sampling survey and hearing from commune members.

**2.3.5 Property valuation process: crops and fruit trees**

Compensation rates for crops and fruit trees were computed by taking the averages of prices obtained in the sampling survey (market price survey), similar to the case for house and land. Crops were compensated based on the planted area. Crops to be compensated were soy bean, munga bean, rice, potato, cassava, lotus, corn and sugar cane. The yields of these crops per square meter were surveyed, and square meterage compensation rates by crop were calculated. However, as shown in Table 1.5, compensation for crops have not been made during the Stages 1 to 3 of the project.

In the case of fruit trees, compensation was made for each tree. The trees to be compensated are more than 15 types i.e. Mango, Coconut, Jackfruit, Lemon, Custard Apple etc. The compensation rate was the price of a young tree plus the fertilizer needed for the period until the tree bears fruits (2-8 years); the price of young trees and fertilizer were determined through interviews with farmers.

### 3 Resettlement and Compensation

#### 3.1 Compensation procedure

The following steps were taken for the resettlement and compensation.

1. Simple Survey
2. Public Information Meeting (PIM)
3. Detailed Measurement Survey (DMS)
4. Preparation of resettlement site
5. Negotiation and payment of compensation
6. Completion of resettlement and commencement of construction work

The schedule of implementation of the resettlement activities is summarized in Figure 3.1 and Table 3.1 below.

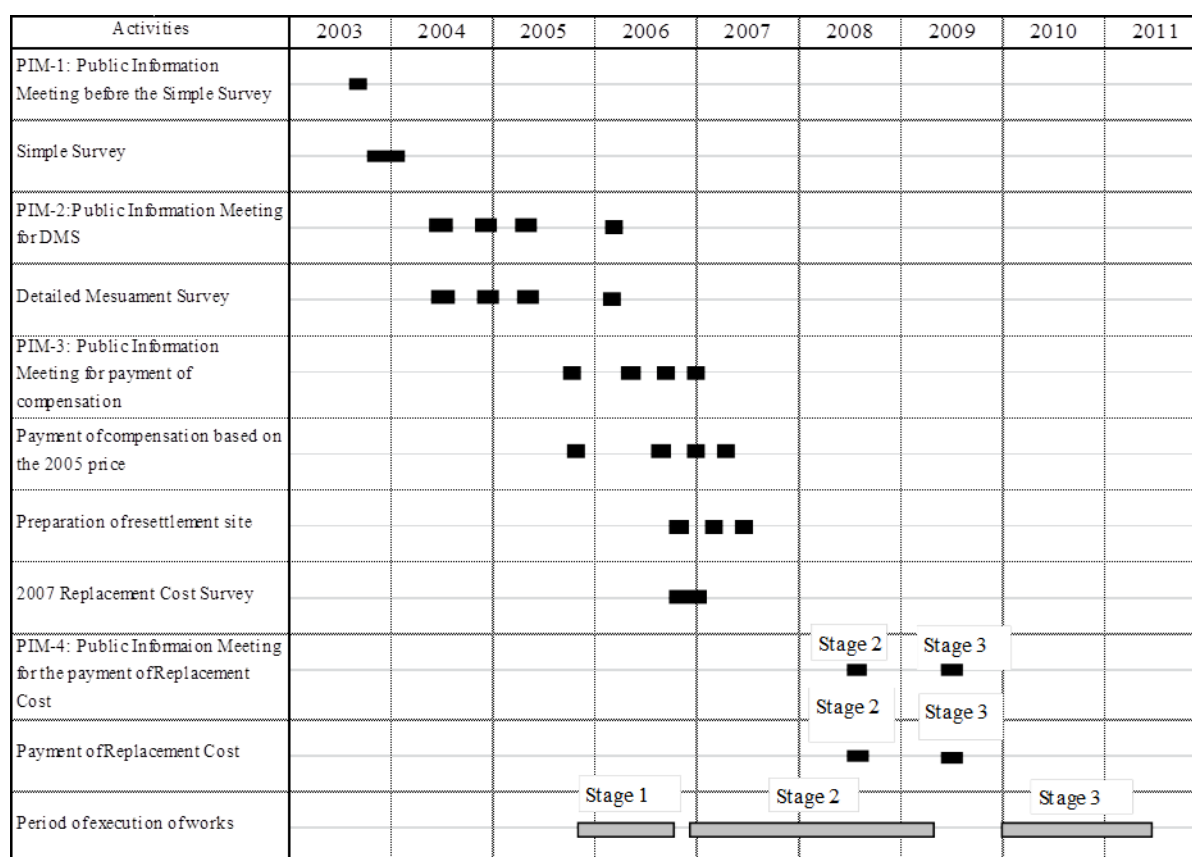


Figure 3.1 Flow of compensation

Table 3.1 Summary of resettlement activities

Stages	Stage 1	Stage 2							Stage 3				
Province	—	Kandal											
District		Leuk Daek		Kien Svay									
Commune		Preaek Tonloab	Kampong Phnum	Kokir Thum	Samraong Thum	Banteay Daek	Dei Edth	Kokir	Phum Thum	Kbal Kaoh	Preaek Aeng	Veal Sbov	
PIM -1	1st - 25 <sup>th</sup> Oct. 2003												
Simple survey	15 <sup>th</sup> Oct. 2003 - 11 <sup>th</sup> Jan. 2004												
PIM-2	July 2004 - May 2005							March 2006					
DMS	July 2004 - May 2005							March 2006					
PIM-3	19 <sup>th</sup> and 20 <sup>th</sup> Nov. 2005	July 2006 - July 2007							None				
Payment by 2005 price	22 <sup>nd</sup> – 23 <sup>rd</sup> Nov. 2005	30 <sup>th</sup> Aug. - 1 <sup>st</sup> Sept. 2006	29 <sup>th</sup> and 30 <sup>th</sup> Sept. 2006	17 <sup>th</sup> – 30 <sup>th</sup> Nov. 2006	5 <sup>th</sup> – 15 <sup>th</sup> Dec. 2006	22 <sup>nd</sup> Feb. - 1 <sup>st</sup> Mar. 2007	29 <sup>th</sup> June – 3 <sup>rd</sup> July 2007	Sept. 2009					
PIM-4	April – May 2008												
Payment by Replacement Cost	July 2008												
Relocation site and date of plot lottery	Refer foot note <sup>8</sup>	No.3 6 <sup>th</sup> Oct. 2006	No.2 6 <sup>th</sup> Oct. 2006	No.1 18 <sup>th</sup> – 19 <sup>th</sup> Dec. 2006	No.4 16 <sup>th</sup> and 17 <sup>th</sup> July 2007			No.5 4 <sup>th</sup> Dec. 2009		No.6 Jan. 2010			
Start of construction	Dec. 2005	Dec. 2006		Jan. 2007	Aug. 2007			Jan. 2010	Feb. 2010				

Source: URAP, EMR

### 3.1.1 Simple Survey (Census)

A Simple Survey was conducted from October 2003 to January 2004, targeting the population who lived near the project site and who might be PAPs. A simple survey is a kind of census and is implemented at the early stage of projects (normally at the stage of feasibility study). The survey team, consisting of Cambodian government staff, organized a PIM, visited affected households and researched the basic household information (address, name, gender, nomination of vulnerable group, situation of assets).

<sup>8</sup> Two households provisionally relocated to the nearby land of family members, and one of them remained in the place. Another household relocated to the resettlement site No.2 after completion. Therefore there is no lot-drawing to decide relocation plot.



In addition, in the NR-1 Project, the following questions were made to 6,466 households (110% of the total affected households of that time), as to:

1. Whether they will be satisfied if the NR-1 is improved
2. Whether they agree to move their properties, if the Government pays the compensation based on the policy

More than 90% of people responded that they support the project and more than 90% responded that they would cooperate if resettlement is unavoidable.

The cut-off date was established on the date of completion of the Simple Survey for identification of PAPs. Persons who encroached on the area after the cut-off date were not entitled to compensation.

### **3.1.2 Public Information Meeting (PIM)**

Public Information Meetings were held in the following stages.

1. Before the Simple Survey (PIM-1)
2. Before the commencement of DMS (PIM-2)
3. Before the payment of compensation at the 2005 price (PIM-3)
4. Before the payment of compensation at the replacement cost (PIM-4)

The Ministry of Public Works and Transport (MPWT) and Inter-Ministerial Resettlement Committee (IRC) and Commune/Provincial government organized the meetings, with occasional participation of external monitoring consultants and JICA members (JICA staff, experts and consultants).

#### *1) Public Information Meeting before the Simple Survey (PIM-1)*

Previous to the simple survey, 16 PIMs were held, from 1<sup>st</sup> to 25<sup>th</sup> October 2003 in Pagoda of target communes, gathering people in the vicinity.

#### *2) Public Information Meeting before the Detailed Measurement Survey (PIM-2)*

In conjunction with setting up the DMS, PIMs were held to explain the project, environmental impact, and compensation policy and resettlement activities. Table 3.2 below provides an outline of these meetings.

Table 3.2 Outline of PIM before DMS

	Residents location (km)	Date	Venue	Number of participants
Stages 1 and 2	St.54+700 - St.23+900	6 times between 1 <sup>st</sup> -7 <sup>th</sup> July 2004	Pagodas in respective communes	More than 200 respectively
	Opening <sup>9</sup> St.23+900 St.42+000 St.32+000 St.44+000	2 times on 3 <sup>rd</sup> and 4 <sup>th</sup> February 2005, starting 8:30 and 10:00 hours respectively, each day	4 locations of bus stops and Pagodas	About 20 respectively
	St.23+900 - St.13+100	AM and PM in 27 <sup>th</sup> April 2005	Dei Edth Pagoda	More than 500 in AM and less in PM
Stage 3	St.13+100 - St.4+000	6 times between 12 <sup>th</sup> – 18 <sup>th</sup> March 2006	Pagodas in respective communes	More than 200 respectively
		21 <sup>st</sup> March 2006	Wat Mony Sakor Pagoda	122
		21 <sup>st</sup> March 2006	Preaek Aeng Commune Office	147
		22 <sup>nd</sup> March 2006	Veal Svob Pagoda	137
		29 <sup>th</sup> March 2006	Nirod Pagoda	231

Source : URAP, JICA The 1st and 2nd Supporting Reports, JICA Minutes of meeting and EMR

The meeting covered the following issues: (1) outline of the Project, (2) environmental impact caused by the Project, and (3) compensation policy. During the meeting, a “Resettlement Policy Brochure (booklet)” was distributed. Substantial time was dedicated for questions and answers, where participants asked about road works, procedures of DMS, and compensation on their assets that might be affected.

### 3) Public Information Meeting before the payment of compensation at 2005 price (PIM-3)

Prior to the payment of compensation at the 2005 price, PIMs were held as shown in Table 3.3. The meeting covered the following issues: (1) scheduled date of payment, (2) venue of payment, (3)

<sup>9</sup> Opening indicates the location where bridges and culverts were constructed for drainage measures when raining and flooded

procedures, and (4) required documents. The PAPs raised more concrete questions as the payment date was approaching. They included confirmations regarding the scope of compensation of each case, requests to relocate to other sites, and questions about the timing of relocation, etc.

Table 3.3 Outline of PIM before 2005 price payment

	Resident location (km)	Date	Venue	Number of participants
Stage 1	Bridges No.2 and No.3	19 <sup>th</sup> and 20 <sup>th</sup> November 2005 (2 meetings)	Near the bridges	44 and 11
Stage 2	St.54+700 - St.13+100	10 meetings between 5 <sup>th</sup> - 27 <sup>th</sup> July 2006	Nearby Pagoda	More than 180
		27 <sup>th</sup> September 2006	Kokir Thum Pagoda	129
		14 <sup>th</sup> November 2006	Po Serey Daydos Pagoda	249
		5 <sup>th</sup> December 2006	Po Serey Daydos Pagoda	179
		25 <sup>th</sup> January 2007	Brachum Sakor Ksom	132
		16 <sup>th</sup> February 2007	Sdao Kenkeng Pagoda	202
		19 <sup>th</sup> March 2007	Slaket Pagoda	210
		22 <sup>nd</sup> June 2007	Sovan Taml Pagoda	117
Stage 3	St.13+100 - St. 4+000	Not applicable as the compensation was paid at the replacement cost only, not at the 2005 rate.		

Source : URAP, EMR

#### 4) Public Information Meeting before the payment of compensation at replacement cost (PIM-4)

Like the meetings held regarding payment of compensation at 2005 rate, PIMs were also held before the payment of compensation at replacement cost. The meetings touched upon the following issues: (1) about the project, (2) about replacement cost, (3) about the policy of additional payment, (4) about grievance redress mechanisms, and (5) about procedures required to receive compensation. Table 3.4 shows the outline of PIMs before the payment of compensation. The questions brought up by the PAPs concerned: compensation for newly planted fruit trees, installation of access road to the house, and concerns over further road widening in the future.

Table 3.4 Outline of PIM implemented for Replacement Cost Payment

	Resident location (km)	Commune	Date	Venue	Number of participants
Stages 1 and 2	St.54+700 - St.47+100	Preaek Tonloab Kampong Phnum	28 <sup>th</sup> April 2008	Kampong Phnum Khnong Pagoda	230
	St.47+100 - St.42+700	Kokir Thum	30 <sup>th</sup> April 2008	Kokir Thum Pagoda	79
	St.42+700 - St.36+800	Samraong Thum	2 <sup>nd</sup> May 2008	Serey Deydoh Pagoda	68
	St.36+800 - St.33+000	Samraong Thum	5 <sup>th</sup> May 2008	Stung Pagoda	139
	St.33+000 - St.29+500	Samraong Thum	7 <sup>th</sup> May 2008	Chey Mongkul Pagoda	137
	St.29+500 - St.23+900	Banteay Daek	8 <sup>th</sup> May 2008	Banteay Daek Pagoda	148
	St.23+900 - St.21+500	Banteay Daek	9 <sup>th</sup> May 2008	Ksom Pagoda	98
	St.21+500 - St.19+300	Dei Edth	21 <sup>st</sup> May 2008	Sday Kaleng Pagoda	242
	St.19+300 - St.16+700	Dei Edth	22 <sup>nd</sup> May 2008	Dei Edth Pagoda	215
	St.16+700 - St.14+300	Kokir	26 <sup>th</sup> May 2008	Sla Keth Pagoda	120
	St.14+300 - St.13+100	Kokir	27 <sup>th</sup> May 2008	Botum Setha Pagoda	106
	Stage 3	St.13+100 - St.4+000	Veal Sbov	1 <sup>st</sup> September 2009	Veal Sbov Pagoda
Preaek Aeng			Preaek Aeng Pagoda		
Kbal Kaoh			2 <sup>nd</sup> September 2009	Mony Pagoda	
Phum Thum and Kokir				4 <sup>th</sup> September 2009	Kien Scay Pagoda

Source : URAP, Report on PIM 2008 by IRC

### 3.1.3 Detailed Measurement Survey, DMS

A Detailed Measurement Survey (DMS) involves measuring all affected assets and making their inventory. After the NR-1 Project was officially approved, a task team led by the Inter-ministerial Resettlement Committee Working Group (IRC-WG) conducted a DMS.

The IRC-WG made demarcations in the project affected area, measured the assets (houses, other structures, fruit trees, wells, etc.) within the affected area, and made an inventory of assets per

Affected Household (AH). At the same time a socio-economic survey, which confirmed AH's status for various allowances, was conducted (e.g. female-headed household, household earning below \$10 per month, etc.).

#### **3.1.4 Negotiation for compensation**

The External Monitoring Report (EMR) reported the process of negotiation for compensation, where many questions and requests by PAPs were documented. These include questions and concerns regarding the measurement of assets and calculation of compensation, especially from those who would become landless as well as other PAPs, at the time of concluding the contract. The EMR also reported that the IRC-WG responded one by one to all these questions and requests. The responses from the IRC-WG to the questions and requests received during the DMS which was conducted from August 2005 to May 2006 can be verified in the EMR (See Annex 1).

It was confirmed that in responding to requests and questions from PAPs, IRC-WG based its responses on the compensation policy. Moreover, the IRC-WG treated some severe cases with more care, considering the situation of the PAPs, with a view to minimizing any adverse impact on the PAPs. For example, in the case where a street shop was destroyed by fire and rebuilt after the cut-off date, the IRC decided to compensate it. In other cases, PAPs were allowed to stay on the remaining land of less than 30m<sup>2</sup> upon their request.

Over the course of the negotiations for compensation, complaints, petitions and claims were brought to the Communes, the IRC, JICA Cambodia Office and in some cases to the court. They were handled in accordance with the proclamation of the governor of Kandal province, whose process was simpler than that of the guideline referred in 4.3. Besides, questions and concerns were responded to sincerely, as mentioned above.

With regard to the contract of compensation, Table 3.5 shows the number of households who disagreed at the beginning of the negotiation and their reasons. It was confirmed by EMR that the IRC-WG repeatedly negotiated with the disagreeing households and finally came to a peaceful solution. Furthermore, it was confirmed that in the case where the land owners were absent and could not be contacted by any means, the IRC-WG obtained approval from the near relatives and made payment of compensation to them. In the case where a household did not appear to receive compensation, a public notice was posted for a certain period, and only after this process the money was returned to the national treasury.

Table 3.5 The numbers and reasons of disagreement at the beginning of negotiation

Households investigated: 2,559<sup>10</sup>

Number	Description
15	Compensation is too low
2	Presently the house is on the first floor and I request free land for the stairs to be provided for the new house.
1	I want compensation for the land I occupied inside ROW
7	Unknown (no description of reasons)

### 3.1.5 Preparation of resettlement site

In order to provide landless PAPs with a resettlement site, the IRC selected resettlement sites and developed basic infrastructures. For details please see section 3.3.

### 3.1.6 Payment of compensation

In Stage 1 and Stage 2, at first the 2005 price was paid, using the 2000 government set rate plus 12% for price escalation (3% x 4 years). After that, it was decided that replacement cost shall be applied, and additional payments of the balance (between 2005 rate and replacement cost) were made. In Stage 3, when the exchange of notes for the project was officially made by GOJ and RGC in July 2009, the application of replacement cost had already been decided, so the compensation at replacement cost was made from the beginning.

As mentioned in 3.1.2, the RGC held PIMs prior to the payment of compensation and explained the compensation scheme and notified PAPs on important matters such as the timeframe for payment of compensation and relocation. At the same time the RGC encouraged PAPs to utilize the Grievance Redress Committee (GRC) if they had complaints regarding compensation. For the households who disagreed on the entitlement, the IRC made door to door visits and negotiated with them. When the negotiations reached settlement, payments of compensation were made in public facilities such as pagodas.

In this follow-up study, the status of payment at 2005 rate and 2007 replacement cost were examined

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<sup>10</sup> Numbers of households who were able to be traced by EMR.

through an external monitoring report and through a random survey of records of payment. Out of 3,662 households who received payment, a sample of 482 households were selected which is equivalent of 13% of the total, and their record of payment and contractual agreements were revisited. It was found that the amounts described in the contractual agreement and the paid amounts coincided in all cases. The sample size of 482 is bigger than the 384 which is necessary to provide a 95% confidence level in the results, with 5 % of error. The sample rate is 100% and the calculation error is 0% . Please refer to the Annex 2 for details of the survey.

### 3.1.7 Completion of relocation and commencement of work

The time of completion of relocation varied from house to house, but in general it was completed within one month from the payment of compensation. Roadwork started after the completion of payment and resettlement. (See Table 3.1)

## 3.2 External monitoring

In the NR-1 project, external monitoring by a local consultant was introduced in order to monitor the processes of resettlement and compensation from a neutral and independent perspective. The monitoring was intended to verify progress or identify any delay in achieving set goals, and to provide recommendations for improvement. Table 3.6 describes the outline of the external monitoring. The external monitoring consultant visited the sites and undertook counting, monitoring and interviewing, and provided detailed External Monitoring Reports (EMRs).

Table 3.6 Outline of the external monitoring

Duration	Implemented by	Major items of monitoring
September – December 2004	SBK Research and Development	(Stage 1) Demarcation, PIM and DMS
July – October 2005	ALPHA Consulting International Corp.	(Stage 1) DMS and payment
March 2006 – December 2007	Pisnoka International Corp.	(Stage 2) DMS, payment and the situation of relocated residents (Stage 3) DMS and contracting* (Stage 4**) DMS (asset survey only) *

*\*The activities carried out after 2008 such as payment of compensation for Stage 3 were not covered by external monitoring.*

*\*\* In December 2007, St.13+100 - St.1+900 was categorized in Stage 3. At present, however, St.13+100 - St.4+000 is categorized as Stage 3, and St.4+000 - St.0+000 as Stage 4.*

### **3.2.1 Items for monitoring**

The activities of external monitoring were reported in monthly reports (EMR) and submitted to the IRC and JICA Cambodia Office, covering the following details:

1. List of IRC-WG members
2. Implementation status of DMS by IRC-WG (whether there is a deviation from the standard DMS procedures or not)
3. Number of affected assets
4. Number of affected households
5. Number of vulnerable households
6. Number and name of landless PAPs
7. Number of contracts
8. Number of cases that did not reach contract stage. Names of disagreeing PAPs and the reasons for disagreement and response by the IRC-WG.
9. Summary and number of inquiries, concerns and requests by PAPs during the DMS (including the measurement of assets, calculation and contract negotiation) and responses by the IRC.
10. Payment status of compensation (name of household and the person who received the compensation, amount received, date of receipt)
11. Topics covered in PIMs and other consultations with PAPs
12. Situation of lot drawing (name of PAPs and number of lot)
13. Handling status of PAPs who did not come to receive compensation



### 3.2.2 Contents of Monitoring

The Table 3.7 describes the contents of EMR elaborated and submitted.

Table 3.7 Contents of the External Monitoring Report (EMR)

Date	Items of monitoring
October 2004	Negotiation with 635 households residing between St.23+900 - St.55+980
November 2004	DMS implemented for 840 households residing between St.23+900 - St.55+980 by door to door interview
August 2005	Negotiation with 672 households residing between St.23+900 - St.13+100 including listing of complaints/ dissatisfactions, replies from the IRC and names of disagreeing households with their reasons
September 2005	Negotiation with 442 households residing between St.17+400 - St.14+030
October 2005	Negotiation with 121 households around KoKir Market
November 2005	Summarization of EMR in August and September 2005
March 2006	PIM for the residents in the Stage 3 Negotiation with 169 households residing between St.13+100 - St.0+000
April 2006	Negotiation with 492 households residing between St.11+900 - St.5+805
May 2006	Negotiation with 419 households residing between St.5+805 - St.3+340
June 2006	Negotiation with 558 households residing between St.3+333 - St.0+820
July 2006	Negotiation with 443 households residing between St.1+100 - St.0+254 Negotiation with 23 households residing at St.54+878 and St.35+640
August 2006	Negotiation with 39 households residing between St.35+800 - St.22+777 Negotiation with 62 households residing between St.55+980 - St.13+100 for the land purchase outside ROW due to the expansion of design width
September 2006	PIM for the construction timeline 2005 price payment to 129 households in Kokir Thum Commune
October 2006	Plot lotteries for Relocation Sites No.2 and No.3
November 2006	2005 price payment to 697 households in Samroang Thom Commune
December 2006	2005 price payment to 265 households in Banteay Daek Commune Plot lottery for Relocation Site No.1
January 2007	PIM for the land purchase outside ROW due to the expansion of design width
February 2007	2005 price payment to 603 households in Dei Edth Commune
March 2007	2005 price payment to 293 households in Siab Ta Village
April 2007	Negotiation with 291 households residing between St.10+015 - St.13+100
May 2007	Negotiation with 275 households residing between St.10+178 - St.6+414
June 2007	Negotiation with 359 households residing between St.6+570 - St.3+725 2005 price payment to 242 households residing in Korki Commune
July 2007	Negotiation with 95 households residing between St.4+640 - St.3+340 Plot lottery for Relocation Site No. 4
August 2007	The 2nd negotiation with those who initially disagreed, residing between St.13+100 - St.3+240

### **3.3 Relocation site**

#### **3.3.1 The right of possession in Cambodia**

In Cambodia before the French colonial rule, the traditional right of possession (de-facto land ownership by occupying the land) had been recognized as a conventional right, and the evidence of occupying the land by cultivating, clearing, and fencing the land meant a de facto status of possession. Such ownership, based on the traditional right of possession, had not been legally recognized through title of land, for example, so whenever the ruling government changed, the right of possession was compromised. During the Democratic Kampuchea administration (Pol Pot regime 1975 - 1979) all private property rights were abolished, and all registrations of land, including the right of possession, were nullified and destroyed. After the collapse of the Pol Pot regime, the constitution was amended (1989) and ownership of residential land and house and right of possession over farm land were laid out in the constitution with conditions attached. After that, the Land Law (1992) entered into force, and land ownership from before the civil war was cancelled. Furthermore, the new Land Law of 2001 does not recognize the right of land ownership based on new occupancy.

#### **3.3.2 Legal framework**

The RGC provided landless PAPs with relocation lots of 7m x 15m (105m<sup>2</sup>), based on the Sub-Decree of the Social Land Concession and safeguard policy of development partners. Landless PAPs (whose houses cannot be set-back, or whose remaining land will be less than 30m<sup>2</sup>) can be considered as illegal occupants since they live in the land within ROW. The Sub-Decree stipulates that the social concession program is a mechanism to transfer social land-use right in “State Private Land”, which is not “State Public Land” nor “Private Land”, for social purposes to the poor families, families suffering from natural disaster, and families who have been displaced resulting from public infrastructure development. After correctly complying with the criteria of the social land concession program for five years a recipient of such target land has the right to ownership of the land, of possessing the land, and can apply for land ownership. However, so far no household has been given the right of land ownership. In the case of the NR-1 project, land ownership will be given, but at the time of the study, because the required five years have not yet passed since any resettlement, there is no family yet eligible to land titles.

### 3.3.3 Selection of relocation site

The RGC selected relocation sites in places relatively close to the community of origin, and as near to the National Road No.1 as possible (see Figure 3.2). At the same time the RGC checked the access to public facilities such as schools, hospitals and markets, and tried to avoid or mitigate the negative impact on livelihood and social convenience after resettlement. In fact, when access time for such public facilities were investigated in the relocation site nos. 1, 2 and 3, it was confirmed that there had been no significant change in access time from their relocation sites to district centers, hospitals, health clinics and large and small local markets. In those relocation sites located in the flood plain, the RGC took measures to raise the ground level to be above the water level of the biggest flooding, the flood of 2000 (see Figure 3.2).

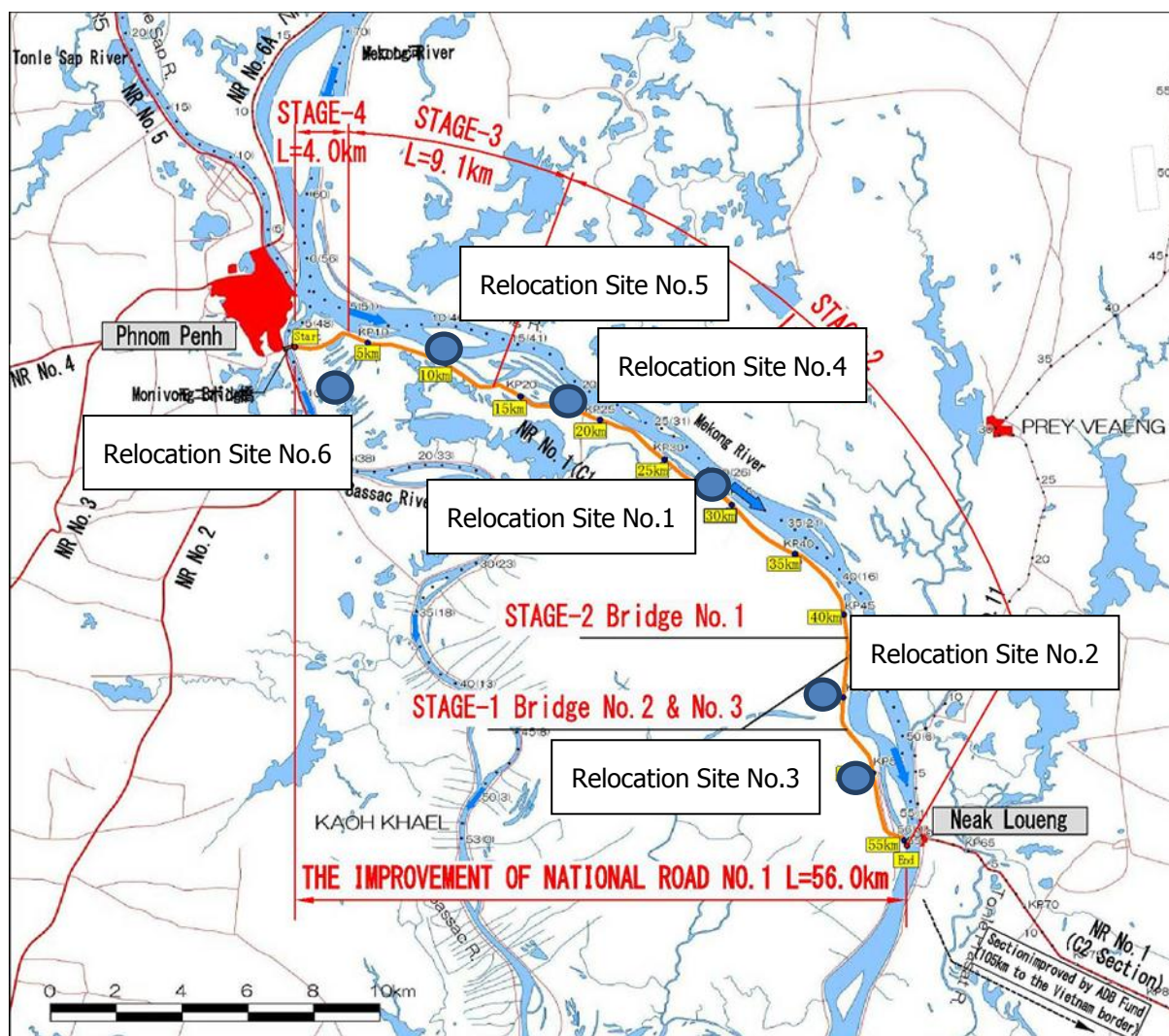


Figure 3.2 Location of Relocation Sites

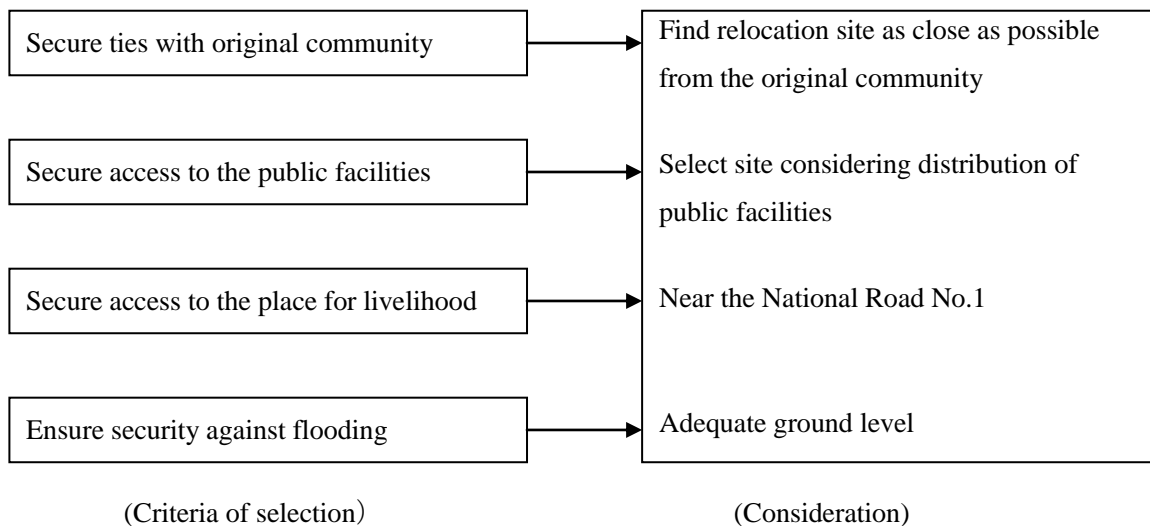


Figure 3.3 Selection criteria of relocation site

Table 3.8 shows dimensions of 6 relocation sites developed by the NR-1 Project:

Table 3.8 Outline of relocation sites

Relocation site	No.1	No.2	No.3	No.4	No.5	No.6
Province	Kandal					Phnom Penh
District	Kien Svay		Leuk Daek	Kien Svay	Meanchey	
Commune	Samraong Thum	Kokir Thum	Kampong Phnum	Dei Edth	Phnom Thom	Niroth
Distance from Phnom Phenh	33.20km	45.04km	50.60km	19.33km	11.33km	About 1km
Distance to NR-1	0m	0m	0m	500m	150m	1,200m
Area (m <sup>2</sup> )	20,150	3,999	7,368	10,016	5,921	8,000
Number of plots	108	28	45	72	39	74
Moved distance (the maximum distance from previous commune to the relocation site)	11.7km	2.3km	4.1km	10.2km	5.4km	1.5km
Date of plot lottery	December 2006	October 2006		July 2007	December 2009	January 2010
Pipeline water	—	—	—	—	Available	Available
Pump well number	8	2	4	4	0	0
Dug well number	4	2	2	4	1	0
Drainage system	Available	None	None	Available	Available	Available

### **3.3.4 Preparation of relocation site**

After the RGC (Ministry of Economy and Finance) purchased the land for relocation, a contractor who contracted with the IRC prepared the resettlement site, carrying out banking, leveling the ground, and construction of small infrastructure. The Affected Households were provided with a lot of 7m width x 15m depth (105m<sup>2</sup>), and an infiltration toilet was installed in each lot. The allocation of plots in the relocation site was decided by drawing lots by AHs. In the public space, a pump well was installed. In some relocation sites, additional shallow wells were installed. Besides these structures, depending on the scale and characteristics of the relocation sites, a drainage system and access road to National Road No.1 were developed.

As a result, house facilities generally improved for relocated PAPs. For example, almost 50% of the relocated PAPs in the relocation site Nos.1, 2 and 3 who originally did not have toilet facility before the project have obtained one at home. Furthermore, many PAPs upgraded their houses after relocation. It was found that almost 50% of PAPs in the relocation site No.1 have upgraded their house type (e.g. from Type 1 to 2, 2 to 3, etc.) after resettlement. Furthermore, landless PAPs are entitled to have legitimate land ownership at the relocation site after 5 years of stay.

### **3.3.5 Relocation to resettlement site**

Relocation of landless AHs to resettlement site, in principle, took the following steps:

1. Payment of compensation
2. Completion of preparation of resettlement site (decide plot for each AH by drawing lots)
3. AHs are to relocate within one month after they receive compensation
4. Relocation to resettlement site
5. Commencement of road construction work

To the PAPs who needed to be relocated, compensation had been paid at latest by several months before the commencement of road construction work, and the resettlement site had also been developed before the start of road construction work. The obligation of relocating within one month (No.3 above) was put in practice with a certain flexibility to facilitate the PAPs in the best possible way.

## **4 Grievance Redress Mechanism**

### **4.1 Outline of GRM**

According to the Safeguard Policy of the World Bank (WB), the Grievance Redress Mechanism (GRM) refers to procedures to settle disputes between PAPs and the government, and is defined as follows.

*Grievance procedures:<sup>11</sup> Affordable and accessible procedures for third-party settlement of disputes arising from resettlement; such grievance mechanisms should take into account the availability of judicial recourse and community and traditional dispute settlement mechanisms.*

ADB adopts a similar interpretation.<sup>12</sup>

### **4.2 Establishment of Grievance Redress Committee (GRC)**

The RGC established a GRC as its grievance redress mechanism. During the implementation of DMS of Stage 1 and 2, an official letter was sent by the IRC chairman to the deputy governor of Kandal province on 17<sup>th</sup> March 2005, requesting him to set up a GRC in Kandal province to deal with the complaints from PAPs. In response to this request, the governor of Kandal province made a proclamation on 23<sup>rd</sup> March 2005, by which a Grievance Redress Committee was established for the NR-1 Project. This proclamation specifies the committee members and their responsibilities, and was sent to the concerned parties including committee members.

### **4.3 Guidelines on Grievance Redress**

The Ministry of Economy and Finance developed “Guidelines on the Functioning and Duties of Grievance Committee under Development Projects (No.004 S.H.V., IRC)” in June 2006, and issued under the name of the IRC chairman. A comparison between the proclamation of Kandal province and the guideline is shown in Table 4.1.

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<sup>11</sup> World Bank, OP4.12 Annex A, para 17, 2001.

<sup>12</sup> ADB, Resettlement handbook, Page 74, 1998

Table 4.1 Comparison of Grievance Redress Committee

	Proclamation from Kandal Province Governor dated 23 <sup>rd</sup> March 2005	Guideline on the functioning and duties of the grievance committee under the development project, dated 28 <sup>th</sup> June 2006
Committee members	<ul style="list-style-type: none"> <li>a. Chairman: First provincial governor</li> <li>b. Vice chairman: Second provincial governor</li> <li>c. Member: Director of water resources and meteorology department</li> <li>d. Member: Director of land management, urbanization and construction department</li> <li>e. Member: Director of economic and finance department</li> <li>f. Member: District governor of Kien Svay</li> <li>g. Member: District governor of Leak Daek</li> <li>h. Member: Relevant commune chief and village chief</li> <li>i. Member: Mr. XXX, Affected people representative</li> </ul>	<ul style="list-style-type: none"> <li>a. Chairman: Provincial governor</li> <li>b. Vice chairman: First deputy provincial governor</li> <li>c. Vice chairman: Director/ deputy director of relevant provincial department</li> <li>d. Member: Chief/ deputy chief of state property office of MEF</li> <li>e. Member: Chief/ deputy chief of light criminal office of the relevant provincial commissariat</li> <li>f. Member: Chief/ deputy chief of the relevant military police headquarter</li> <li>g. Member: Relevant district governor</li> <li>h. Member: Commune and village chief</li> <li>i. Representative of NGO</li> </ul>
Duties and mandates of GRC	<ul style="list-style-type: none"> <li>- Assist affected people in relocation planning, addressing and setting time frame for this process</li> <li>- Provide support to affected people in relocation for all issues that may happen in order to be fair for them in new situation</li> <li>- Note all complaints from affected people and priority of grievance that necessary resolve by the committee</li> <li>- Assist all relevant affected people and decision making of the committee. The committee shall give authority to address all the complaints but prioritize severe grievance</li> <li>- Report all new development to people who complain hearing of those complaints. The decision of grievance redress committee shall not argue with other forum except legal court.</li> </ul>	<ul style="list-style-type: none"> <li>- Make all PAPs aware of the process of Resettlement Action Plan and entitlement policy of the timetable for implementation</li> <li>- Advise and explain PAPs to be aware of the policy and their rights of receiving compensation</li> <li>- Advise and explain to PAPs to be aware of the essence of the grievance in accordance with the Resettlement Action Plan prepared by the resettlement consultant</li> <li>- Receive complaints from PAPs and settle them in the duration as determined in No.2 and No.3 of this guideline.</li> <li>- Take note of complaints from PAPs and then prioritize them to be solved.</li> <li>- Report every two weeks on the implementation of the Grievance Committee in relation to the real situation of PAPs even though the affected persons don't file their complaints.</li> <li>- Receive complaints of PAPs from the first week until the fourth week after finishing the compensation to PAPs.</li> </ul>

*\*In the grievance redressing guidelines, "Affected People representative" has been replaced by "representative of NGO".*

According to the Guidelines on Grievance Redress, basically grievances will be presented to one of the following institutions:

1. the IRC-WG (Inter-ministerial Resettlement Committee-Working Group)

2. Commune organization on resettlement
3. Village organization on resettlement
4. NGO

If the case is not resolved within 15 days of receiving the grievance in the above-mentioned institutions (the first level), then grievance will be filed to the District/Khan Office as the second level. In the same way, if the case is not resolved within 15 days of receiving the grievance, then the grievance will be presented to the Provincial Grievance Committee as the third level. Then if the case is not resolved within 30 days, and if the petitioner wants, the case will be brought to the court for judicial decision.

The grievance redress flow adopted in the NR-1 Project is simpler in comparison to the above mentioned flow.

- (1) When grievances are filed to the IRC-WG: IRC-WG will negotiate with the petitioner and if the case is not resolved within 15 days after the receipt, it will be forwarded to the Grievance Redress Committee via the commune/district office. After the Grievance Redress Committee receives grievances, the procedures are the same as (2) below.
  
- (2) When grievances are filed to the Commune/District: The Grievance Redress Committee will propose a solution and negotiate. If the case is not resolved within 30 days of receipt of petition, it will be brought to the court for a judicial decision.

In the NR-1 Project, grievances are handled in accordance with the proclamation of the governor of Kandal province.

#### **4.4 Operational experience of Grievance Redress Committee**

The complaints raised by PAPs had been resolved through explanation and negotiation, before filing to the GRC. Therefore, the GRC has not been convened until now.



## 5 Conclusion

This follow-up study was conducted with the aim of reviewing the process and the actual conditions of involuntary resettlement of 3,662 households who have been affected by Stage 1 to Stage 3 of the Project for the Improvement for National Road No.1 implemented under Japan's grant aid.

The compensation rates for losses such as houses, other structures, land, fruit trees and crops have been established for each item as replacement cost, based on the results of market survey in the project area. The study reviewed the method of calculation and confirmed that they were duly calculated.

The resettlement and compensation activities were carried out through adequate procedures in each step namely: a Simple Survey conducted in 2003 targeting the PAPs and people living in the neighboring area, consultation meetings, Detailed Measurement Survey, negotiation for compensation, and conclusion of contract. Before proceeding to each step, Public Information Meetings were held in each district, gathering all relevant communes to gain understanding of the PAPs. The IRC-WG responded, in principle, to all inquiries, concerns and requests from PAPs, one by one. As a result, all the PAPs agreed to sign the contract, and compensation for affected assets and relocation were carried out swiftly except those who could not be contacted till the end. External Monitoring Reports confirmed that procedures of resettlement were undertaken with due care, paying attention to the requests from socially vulnerable groups and poor families.

In the NR-1 Project, a Grievance Redress Committee was set up in Kandal province in March 2005. The Committee was chaired by the Provincial Governor, and paved the way to establish a grievance redress mechanism to settle complaints from PAPs. The follow-up study confirmed all complaints were resolved at the stage of explanation and negotiation by the IRC-WG, and no formal grievance was filed to the Grievance Redress Committee so far.

Although the NR-1 Project was not subject to the JICA 2004 Guidelines, two preliminary studies on environmental and social consideration were conducted before the basic design study. In the implementation stage of resettlement, the IRC held regular meetings with JICA Cambodia Office, the Embassy of Japan and other stakeholders for sharing progress and information. In the process of compensation, replacement costs were applied instead of fixed compensation rates, in line with the principles of the JICA 2004 Guideline. Considering the fact that NR-1 Project was requested in 1999, it is highly commendable that all the possible measures of that time were taken.

## Annex 1

### Inquiries and requests of PAPs on compensation and examples of negotiation

Table A1.1 lists the inquiries and requests received during the DMS conducted from August 2005 to May 2006, and Table A 1.2 summarizes the examples of negotiation of compensation. The questions and their answers are directly cited from the External Monitoring Report.

Table A1.1 Example of responses/actions taken by the IRC-WG to the questions/requests

Example of questions/requests and responses/actions		Total No. of house-holds	Ratio
Total number of contacted AH at DMS recorded in EMR		2,315	
Questions and requests from AHs	Response/ Action by the IRC-WG	514	100.0%
Concern that relocating the house may affect daily business income.	The compensation will be paid for property affected by the project in accordance with the government policy. The measurement and calculation was made correctly to the properties that were affected by the project.	178	34.6%
Concern that there is no land for relocation due to landless.	IRC record as landless PAPs in the IRC landless list and all these landless lists will be brought to the attention of the government sooner.	81	15.8%
Concern that there is not enough budgets for rebuilding the house	The compensation is made in accordance with the principle and policy of the government	55	10.7%
Concern that there is no land for business.	The land is already within PRW, so you should find another land for future business.	40	7.8%
Concern that the land for set-back is too small in size and lower than road level to utilize.	The remaining land is usable depend on the measurement by the IRC.	30	5.8%
The compensation rates for PAP's affected properties were relatively lower than current market price.	IRC follows the compensation process in accordance with the table rate defined by the government's principle and policy.	24	4.7%
PAP requested to the government to provide budget for moving the entire house because if a part of the house is dismantled, the entire house structure will be broken.	IRC said that the house can be partly dismantled. But if PAP wants to dismantle the entire house, PAP has to cover the expense. <sup>13</sup> And if PAP still requests to dismantle the entire house, PAP can negotiate with negotiation team during the next stage.	9	1.8%

<sup>13</sup> Afterwards, the RGC revised the compensation policy and paid additional compensation at market value based on RCS.

Example of questions/requests and responses/actions		Total No. of households	Ratio
Total number of contacted AH at DMS recorded in EMR		2,315	
Questions and requests from AHs	Response/ Action by the IRC-WG	514	100.0%
Request government to reconstruct the public properties such as pagoda's fence and gate, school, public resting hall and district office fencing.	IRC will write the report and bring to the attention of the government sooner.	8	1.6%
Request government to compensate the land within ROW	Land within ROW will not be compensated.	5	1.0%
PAP requested permission not to dismantle the affected part or to move the house backward because only within 1m of the house will be affected.	IRC will discuss with technical group about PAP's request but now IRC has to record the affected house according to practical inspection.	5	1.0%
PAP claimed for the compensation of the land in accordance with the current market price.	IRC follows the compensation process in accordance with the table rate defined by the government. However IRC will report this issue to the government.	4	0.8%
PAP concerns that PAP's street shop will be affected by the road widening project. PAP wants to know how the government would compensate the affected street shop.	IRC said that the government will only provide budget for moving the street shop.	4	0.8%
PAP requested IRC to accurately record the affected properties.	IRC will record (accurately) and read out loudly the total amount of affected properties of PAP.	3	0.6%
PAP concerns that after making thumb print on the IRC's affected property list, the government might ask PAP to move the house without any compensation.	The government will compensate all the affected properties caused by the road widening project. This is the agreement between government and the donor.	3	0.6%
Request IRC to pay for compensation for the house that was built after cut-off date.	The government principle clearly laid out that every building that will be constructed after the cut-off date on January 11 <sup>th</sup> 2004 will not be eligible for compensation.	2	0.4%
Concern that there is no land for reconstructing a ladder to access the house.	IRC writes report of this issue to bring attention of the district governor on October 7 <sup>th</sup> 2005 for intervention to find out best solution of this issue.	2	0.4%
Request IRC to also compensate small tree affected.	Small tree that yield nothing yet would not be eligible for compensation.	2	0.4%
PAP requested the government to compensate those affected properties.	IRC said that the government will compensate those affected properties.	2	0.4%
PAP concerns that access path will be affected by the road widening project	IRC said that the government will compensate all the affected properties caused by the road widening project.	1	0.2%
PAP asks whether compensation is not different from other PAPs	IRC said that compensation will be made according to types of building in accordance with the government's price list.	1	0.2%
PAP requested IRC to record the street shop as a house because the street shop	IRC will record all the affected properties according to the practical inspection. The	1	0.2%

Example of questions/requests and responses/actions		Total No. of households	Ratio
Total number of contacted AH at DMS recorded in EMR		2,315	
Questions and requests from AHs	Response/ Action by the IRC-WG	514	100.0%
and the house are connected.	compensation is made according to types of affected property.		
PAP concerns that IRC will not provide compensation because the street shop is presently built. The old street shop was destroyed by fire.	IRC said that the government will compensate the new street shop because its structure is similar to the old street shop which was destroyed by fire.	1	0.2%
PAP wants to know how the government would compensate the affected street shop.	IRC said that the government will provide budget for moving the street shop. Only landless PAPs will be given the land.	1	0.2%
A part (2.6m) of PAPs house will be affected, but PAP wants IRC to record that half part of the house is affected.	Only 2.6 meter of the house will be affected, so IRC has to record the affected part of the house according to practical inspection.	1	0.2%
Concern that should not allow anyone to build a house on the land after relocation.	The land designated as PRW belongs to the government, so nobody has right to build the house on it after the road is constructed.	1	0.2%
PAP said that the remaining land (50m <sup>2</sup> ) is too small for 10 members in the family to resettle. PAP requested the government to provide new land for resettlement.	IRC asked PAP to wait for negotiation team's decision during the negotiation stage.	1	0.2%
PAP wants to resettle on the remaining land (27 square meters)	IRC said that PAP will be allowed to resettle on the remaining land if PAP wants to.	1	0.2%
Request to provide backfilling for set-back.	Basically not possible, although your request will be examined later.	1	0.2%
Demanding the government to compensate early	IRC will bring the case to the government for consideration.	1	0.2%
Request IRC to record them as landless because the usable land is far from the road.	IRC will not record as landless PAPs for these cases.	1	0.2%
Request IRC to increase the amount of compensation for rebuilding the Chinese Temple.	The compensation will be paid for property affected by the project in accordance with the government policy. The measurement and calculation are made correctly to the properties affected by the project.	1	0.2%
PAP claimed that the street shop is PAP's house, so if the street shop is affected, PAP will have no place to live. PAP requested the government to provide new land for resettlement.	IRC said that according to the practical inspection the street shop is not PAP's house. So IRC has to record the street shop as street shop. But if PAP still maintains that the street shop is PAP's house, PAP can negotiate with negotiation team during the next stage.	1	0.2%
Others	—	35	6.8%

Table A1.2 Examples of Negotiation

Time	Description
September 2005	PAPs who would become landless by the project filed complaints to the IRC. However, they withdrew the case afterward since they understood that plots would be provided within the relocation site without any cost.
October 2006	Three PAPs, who had already agreed on contract and received compensation, filed complaints for extra payment. Although the commune tried to invite them for assessment at commune office, they made no reply or no response. After observing the situation for a while, the PAPs have not made any further action.
February 2007	Commune filed complaints to the IRC in place of PAPs that the compensation price was low. However, the IRC ordered the commune that PAPs themselves should have filed the complaints by document, since the commune was the organization for examination and not for filing the case for PAPs. None of the PAPs has filed complaints by document thereafter.
September 2007	A PAP filed a suit on suspension of the road work to the court, insisting his land was partially acquired by the government. However, at the time of DMS, his daughter had been registered as PAP and had already received compensation payment. The court finally rejected this case accordingly.
July 2008	A total number of 18 APs, from Samroang Thum and KoKir Thum, visited JICA Office and submitted a petition to JICA. They were PAPs in Stage 2, who once had been compensated and relocated to the resettlement site, but went back to the previous ROW land and continued to occupy the land illegally. They insisted that they didn't get replacement cost compensation although this additional compensation had started for other PAPs. This was due to a government policy to rule out additional compensation payment for those who continued encroaching government land. JICA transferred this case to the IRC for further action. Afterward, the IRC issued the letter of this government policy to these APs and no further complaints have been filed on this case.

Source : EMR and information from JICA Office

## Annex 2

### Situation of payment of compensation

This follow-up study conducted an ex-post assessment of whether the compensation of 3,662 households was paid as agreed on the contract. A sampling survey was undertaken for checking the payment situation.

#### 1) Number of samples

The sample size was targeted initially at 400 being valid, which represent 11% of the target households (3,662) who received payment of compensation during Stage 1 to Stage 3. This sample size was determined according to Table A2.1<sup>14</sup> which shows the necessary number of samples to estimate the population proportion to 95%<sup>15</sup> confidence level and 5%<sup>16</sup> standard error. The population proportion (p) 0.5 in Table A2.1 refers to the case that half of the total households received the same amount of compensation as described in the contract. Supposing that 90% of the people received the agreed amount, 138 samples are sufficient. This time, supposing that it is not known whether they are paid or not (p=0.5) and considering the sample loss (possibility of loss of sample among the 400 data), the size of sample was increased by 20 % and a sample size of 480 was adopted.

Table A2.1 Population proportion and the required sample number

(confidence level 95%, error 5%)

Population proportion		No. of people required for sample
p	Definition	n
0.5	50% of the people receive the same amount of money as described in the contract.	384
0.25	25% "	288
0.1	10% "	138
0.05	5% "	73
0.02	2% "	30
0.01	1% "	15

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<sup>14</sup> Shigeki NISHIHARA, Toukeichousahou (Method of Statistical Survey), Baifukan, 1997

<sup>15</sup> 95% of confidence level implies that 95 times out of 100 are within the allowable limit of error.

<sup>16</sup> 5% error means when sample ratio is R, population proportion, p falls between  $R-5% < p < R+5%$ .

With regard to the distribution of sample by stage, referring to the same kind of study carried out by ADB in the past, a sample size of 20 percent on each stage was targeted. However, in Stage 2 the EMR already confirmed that the PAPs received the amount of contract at the first payment, so 10% of the sample size was adopted. See Table 2.2 for the target sample size for each stage.

Table A2.2 Target sample number per stage

Stage	Affected households	Target sample number	Ratio
Stage 1	55	11	20.0%
Stage 2	2,608	258	9.9%
Stage 3	999	211	21.1%
<b>Total</b>	<b>3,662</b>	<b>480</b>	<b>13.0%</b>

## 2) Result of the survey

The survey of payment records of 482 households was conducted in the following manner: (1) randomly selecting the sample by the IRC, and (2) checking the records of payment and receipt.

The study team received from the IRC the copy of the records of payment and receipt of compensation of 482 households and 549 structures, and checked the characteristics of influence and type of houses. The following tables provide a breakdown of selected households.

Table A2.3 Number of sample households by commune

Commune	Sample number
Kampong phum	26
Kokir Thum	15
Preaek Tonloab	4
Samroang Thum	80
Banteay Daek	50
Dei Edth	35
Kokir	85
Phum Thum	26
Kbal Kaoh	81
Preaek Aeng	40
Veal Sbov	40
<b>Total</b>	<b>482</b>

Table A2.4 Break down of sample households

	Total households	Sample No.	Ratio
Households whose buildings are affected	1,357	351	26%
Relocated households	961	231	24%
Female headed households	248	67	27%
Disabled headed households	32	4	13%
Poor households (monthly income less than 10\$)	13	2	15%

Table A 2.5 Breakdown of sample houses by type of structure

	Total affected floor area (m <sup>2</sup> )	Floor area of sample houses (m <sup>2</sup> )	Ratio
Type 1	7,773	905	12%
Type 2	53,695	18,915	35%
Type 3	10,034	2,936	29%
Type 4	857	512	60%

The households who were relocated, the vulnerable, as well as those whose houses were affected were extracted 10-30% each. With regard to the houses, type 1 to type 3 were extracted 10 to 30% each. The percentage of type 4 is relatively high, but it is because the population parameter is small (857m<sup>2</sup>).

As a result, the sample data can be considered well balanced in terms of area, type of impact and type of house, and 10 to 30% of the each category was selected from the population.

### 3) Confirmation of documents of payment

The followings are the documents that were verified:

#### **i. Statement of account of compensation at 2000 rate**

Breakdown of the 2000 compensation rate and total amount of compensation.

(DMS number, name of head of household, affected assets, structural adjustment rate, number, unit price, amount, thumbprint of head of household, signature and seal of commune chief, signature of commune witnesses, others)



**ii. Statement of account of compensation at 2005 rate**

Statement of account of all the amount of compensation at 2005 rate. (12% up from 2000 rate)

(The contents are the same as in Statement of account at 2000 rate)

**iii. Statement of account of compensation at replacement cost**

Statement of account of compensation at 2007 replacement cost. Result of calculation and balance with the amount already paid.

(DMS number, name of the head of household, affected assets, structural adjustment rate, replacement cost, balance between replacement cost and 2005 rate, thumbprint, signature and seal of commune chief, signature of other witnesses, others)

**iv. Contract**

Agreement between IRC and Commune and head of household

(House type and structural adjustment rate, floor area, compensation amount, land area, type, numbers and compensation rate of trees, type of wooden bridge, length and compensation rate, allowance for vulnerable group if applicable, total amount of compensation, IRC officer's signature, signature of representative of provincial government, signature and thumbprint of head of household, and others)

**v. Result of DMS**

Result of assets survey of PAPs after determining the road alignment

(Location of structure, name of head of household, type of affected assets, distance from the center of road, floor area of house, house type, structural adjustment rate, type of other structures besides houses, existence of socially vulnerable group, others)

The actual payment was made by (ii) and (iii) above, so the follow-up study team verified a thumbprint of head of household on every record of 482 sample data. The team also confirmed that the amount of the record of payment coincides with the amount written in the contract. The effective sample size is 482, which is more than the minimum necessary number (384) to estimate population proportion to 95% confidence level and 5% standard error. Since the sample rate is 100%, the error of calculation is 0%.