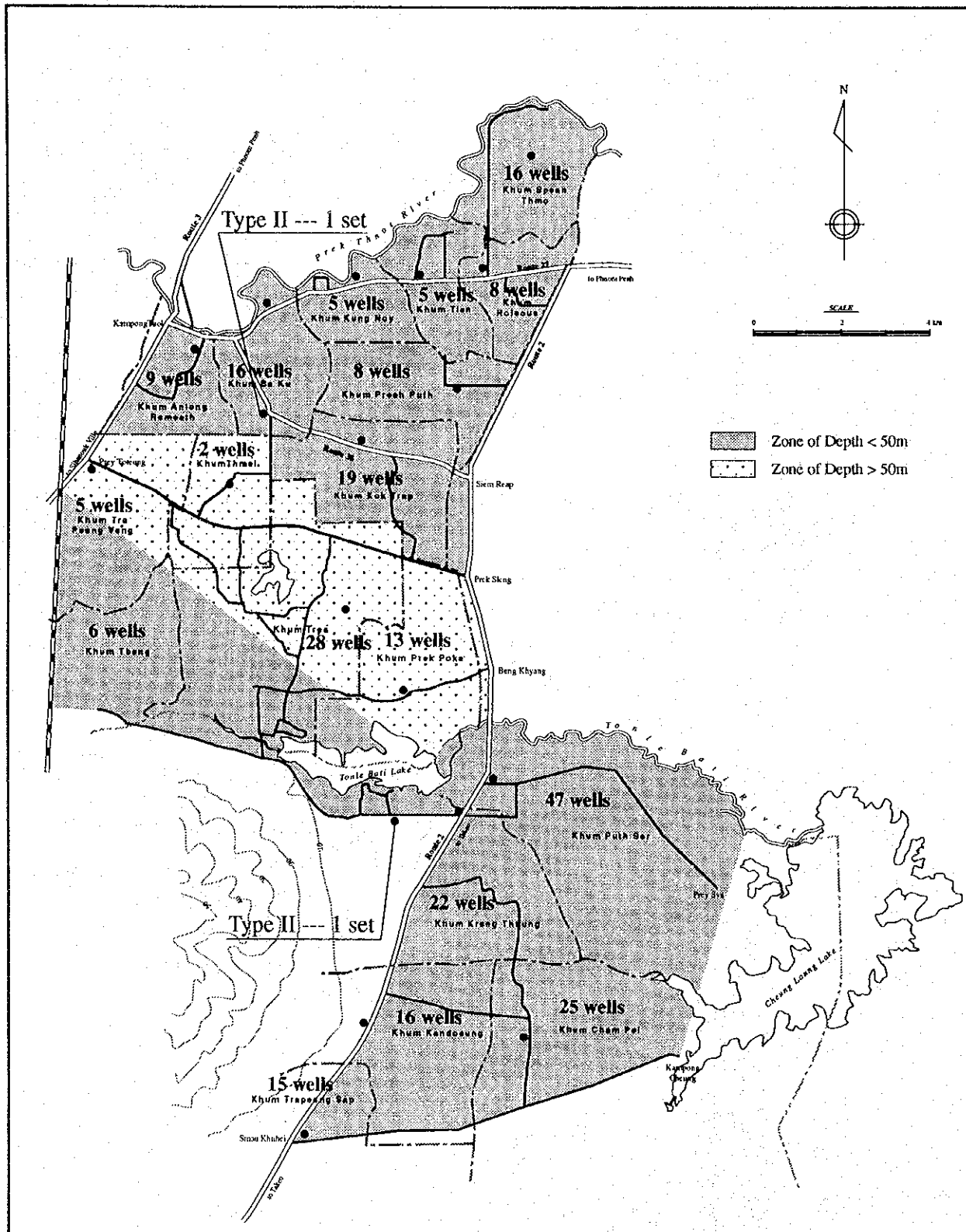



**Fig. VI-15 General Plan for Improvement of Rural Water Supply Facility**

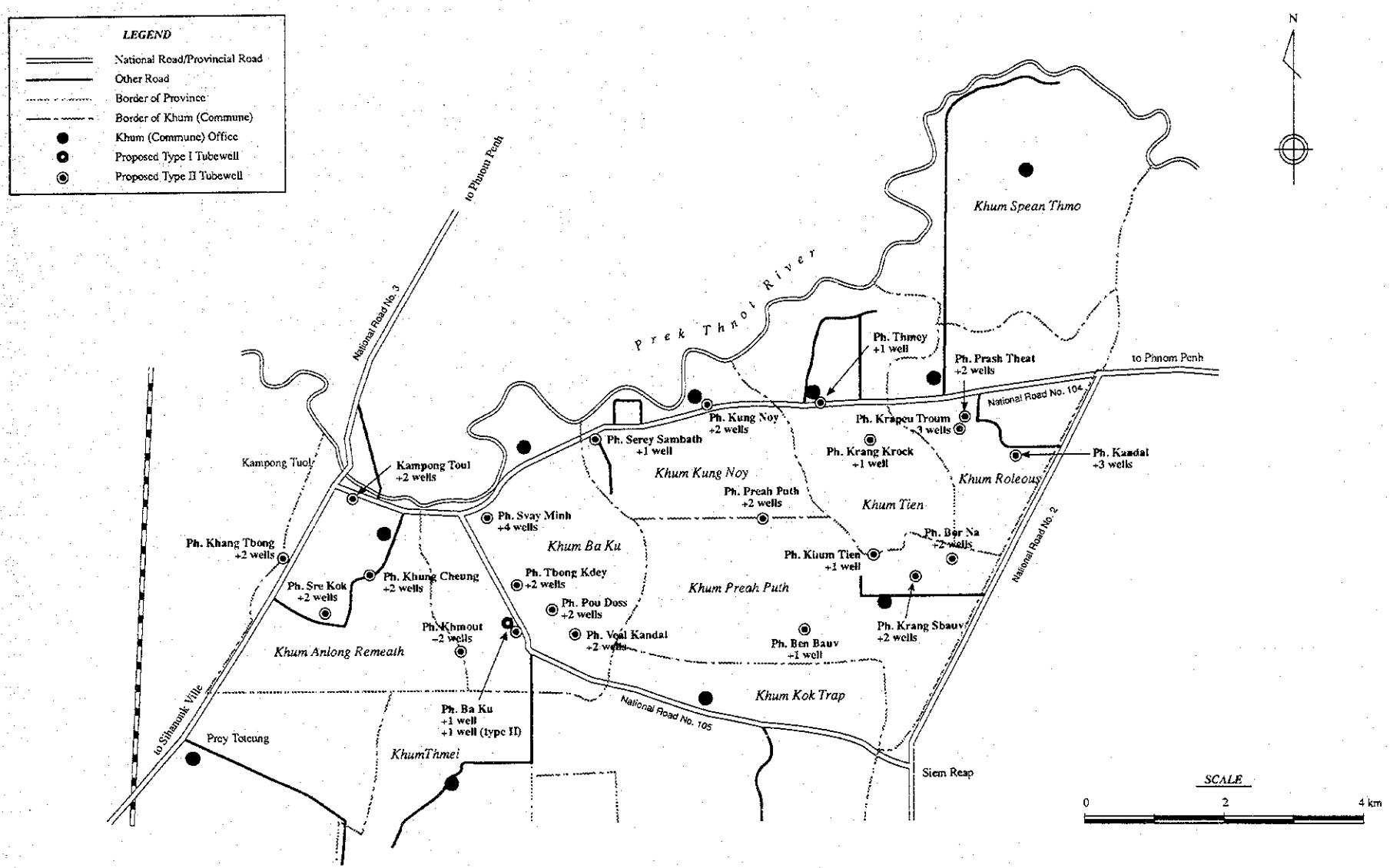



**Fig. VI-16 General Plan for Improvement of Rural Water Supply Facility in Kandal Stung Priority Development Area**

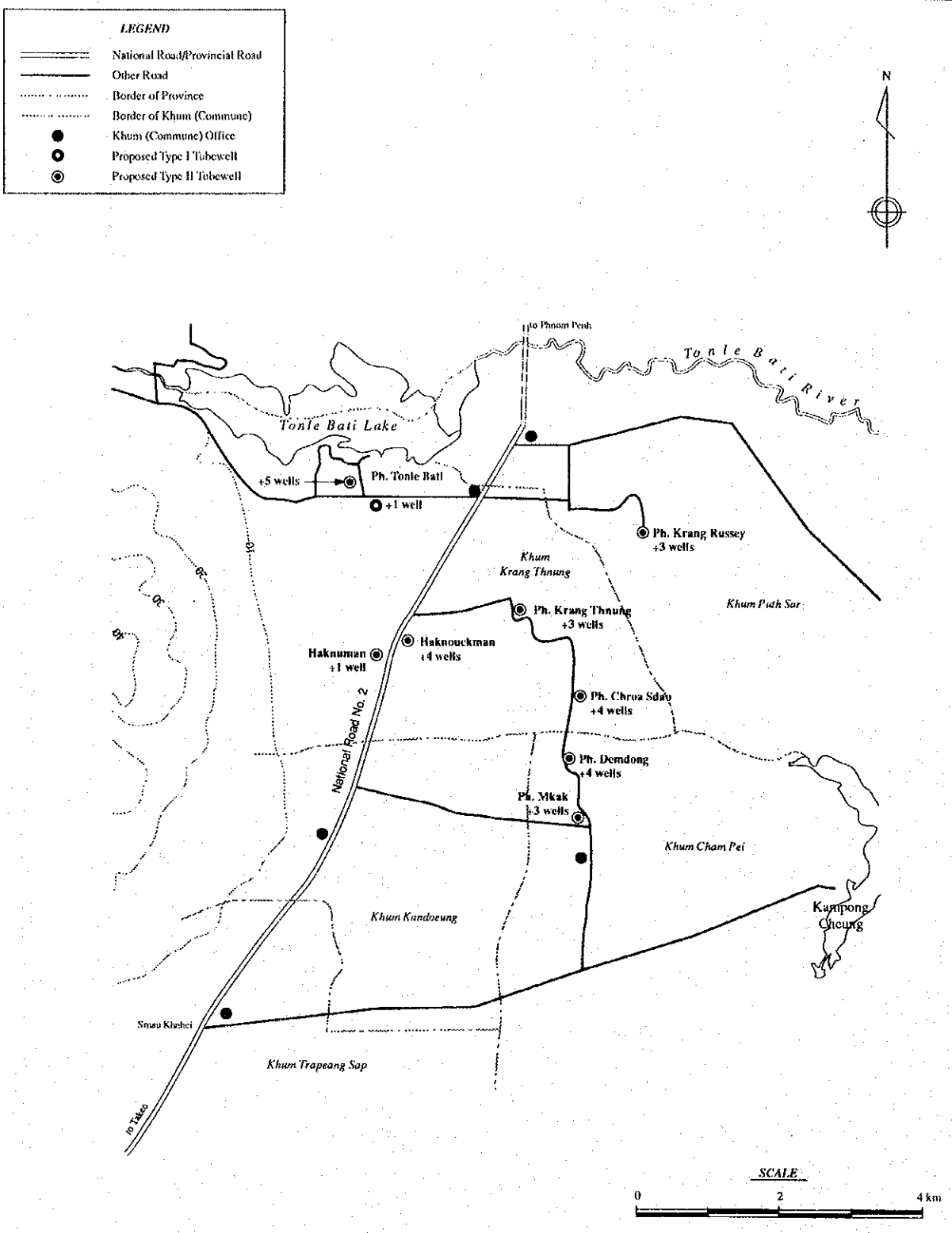



**Fig. VI-17 General Plan for Improvemtn of Rural Water Supply Facility in Tonle Bati Priority Development Area**

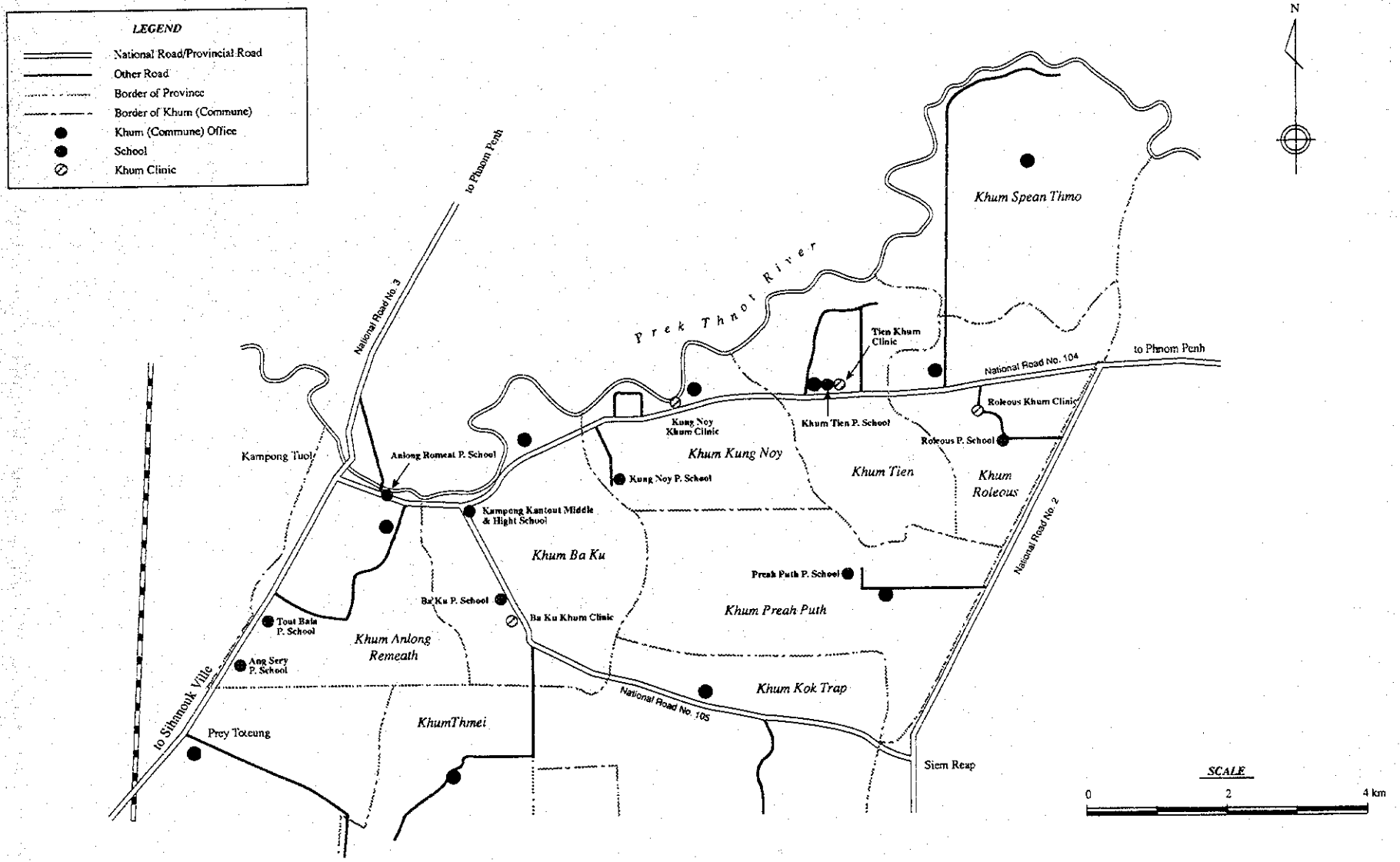



**Fig. VI-18 Location of Existing Khum Clinic and Shool in Kandal Stung Priority Development Area**

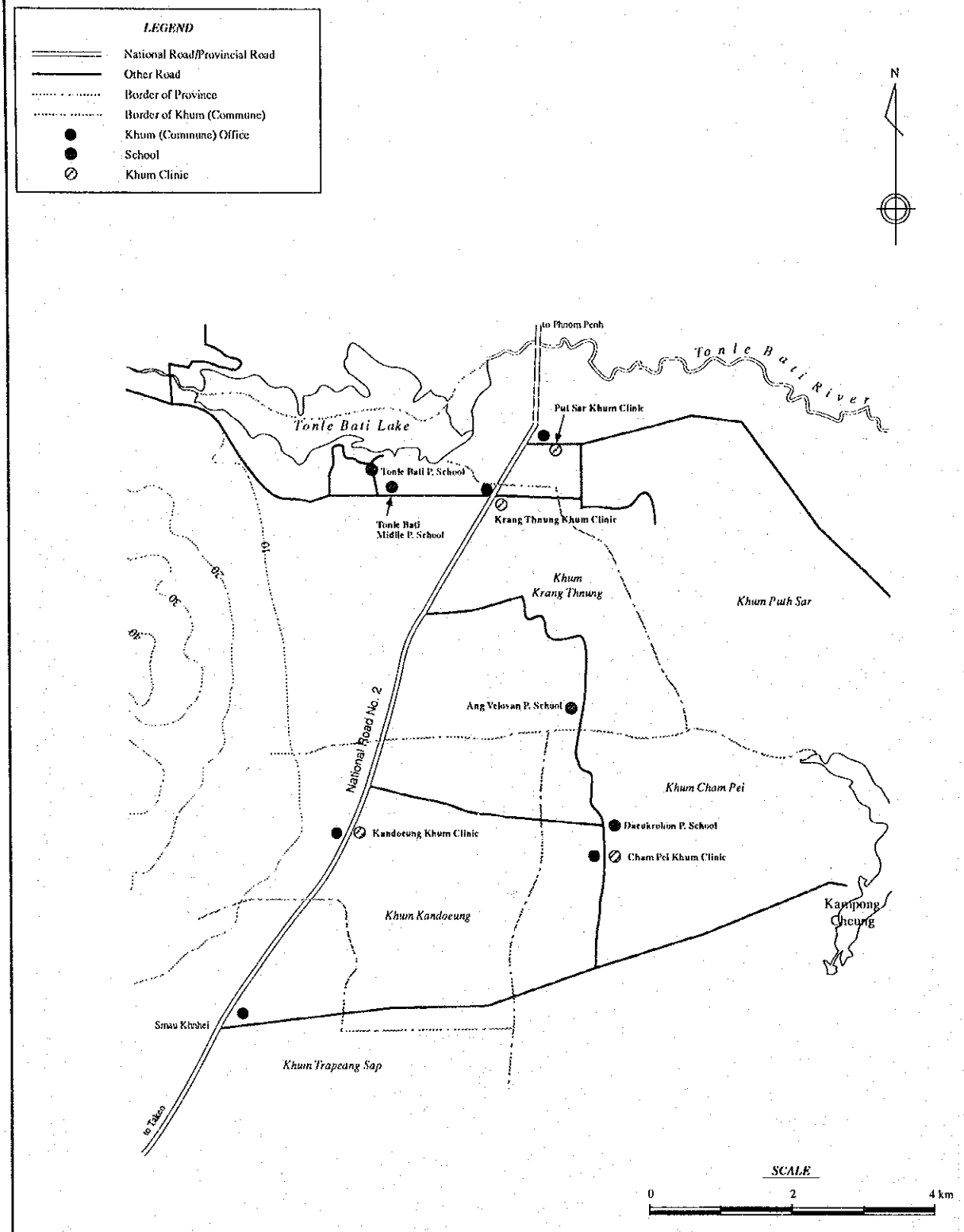



**Fig. VI-19 Location of Existing Khum Clinic and School in Tonle Bati Priority Development Area**

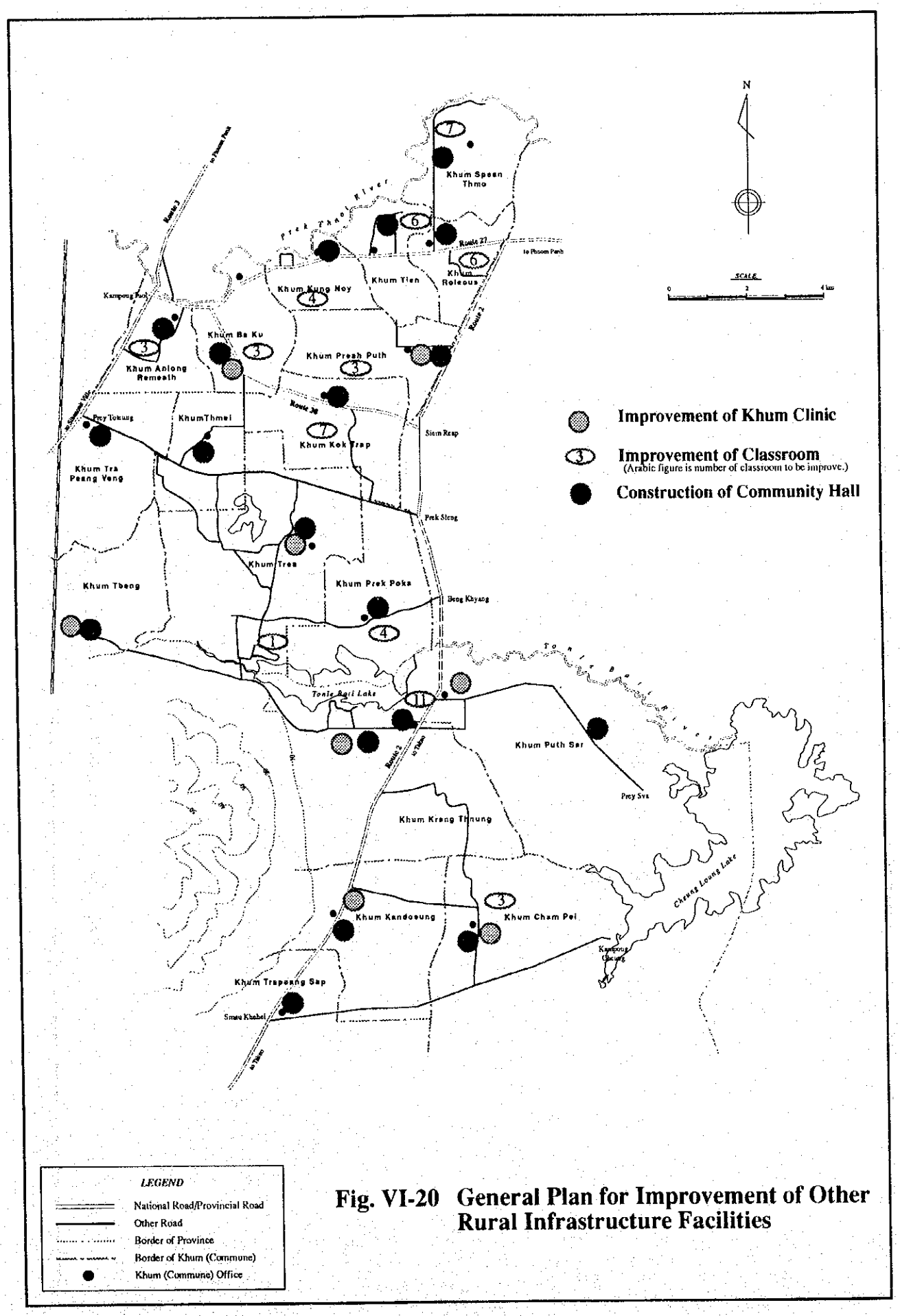
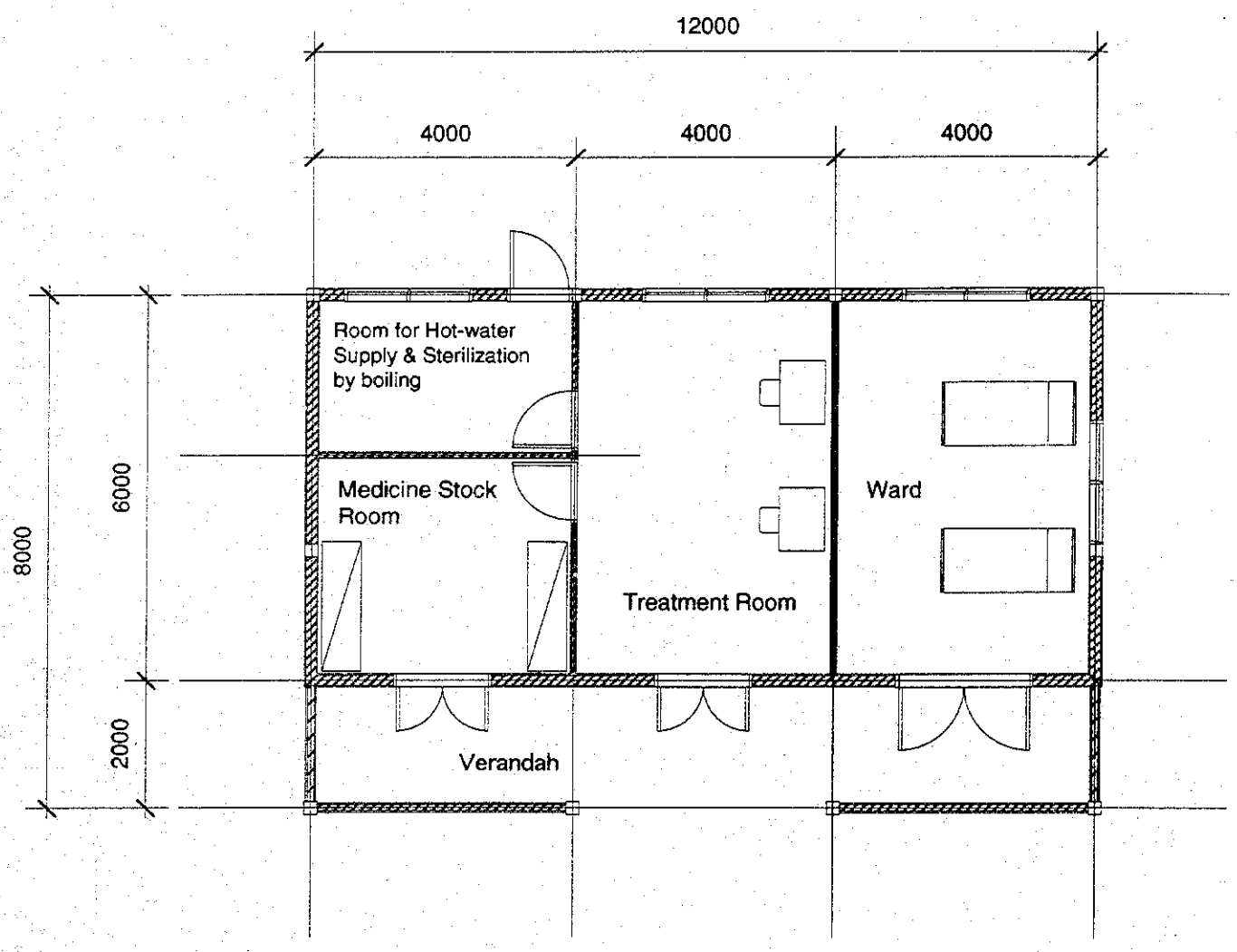
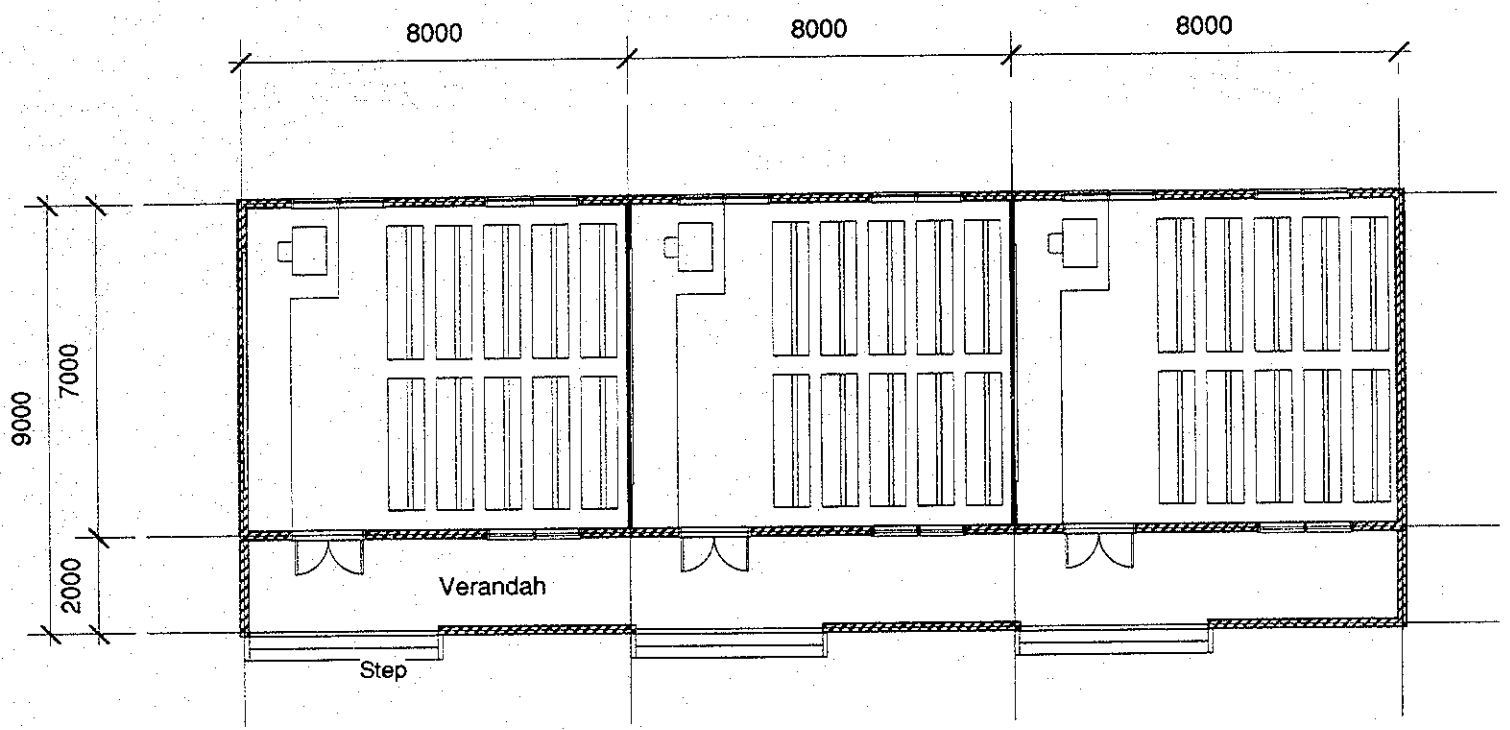



**Fig. VI-20 General Plan for Improvement of Other Rural Infrastructure Facilities**




(1 : 100)

**Fig. VI-21 General Layout Plan of Khum Clinic Building**




(1 : 100)

**Fig. VI-22 General Layout Plan of Classroom Building**

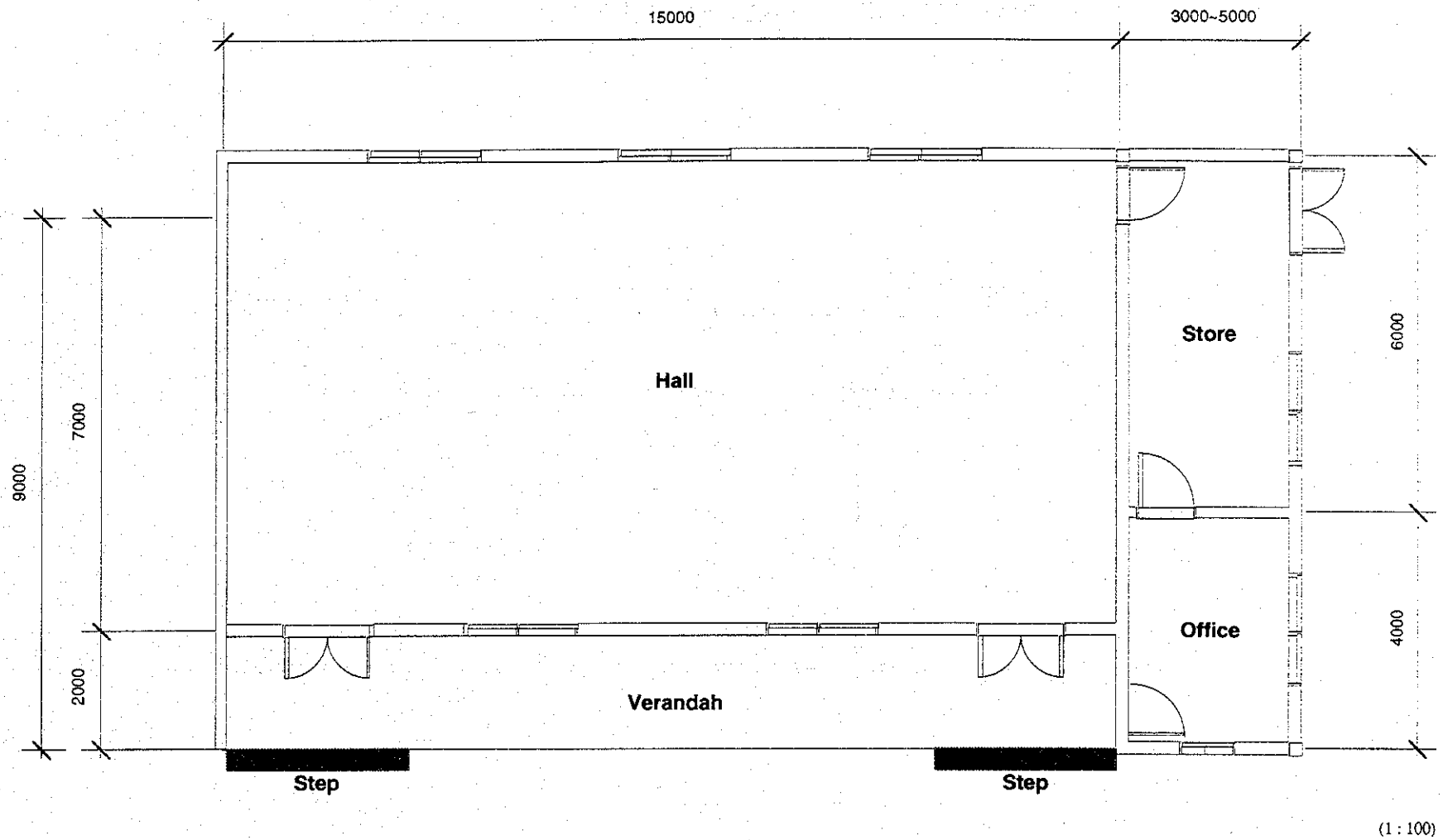



**Fig. VI-23 General Layout Plan of Community Hall**

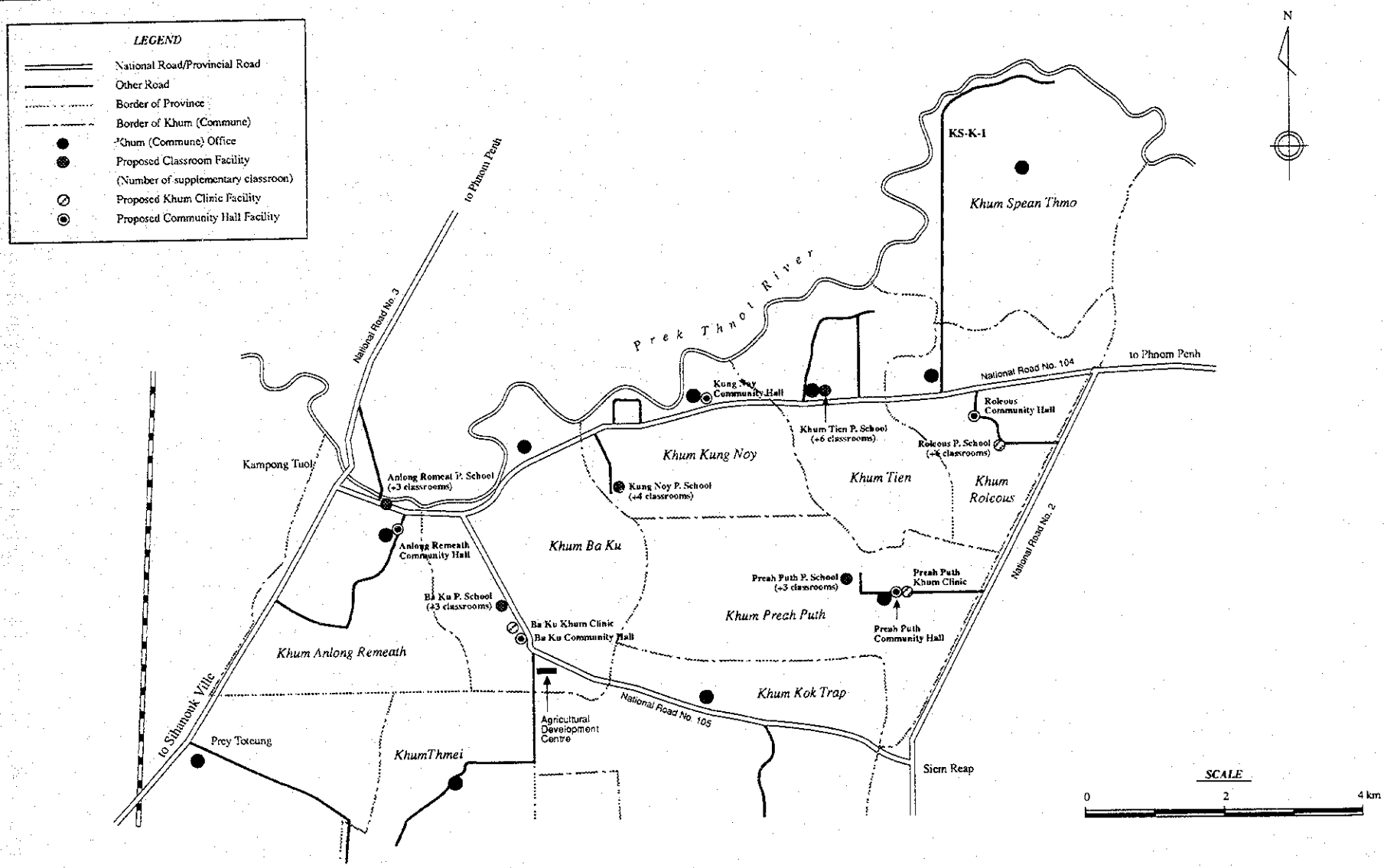



**Fig. VI-24 General Plan for Improvement of Other Rural Infrastructure Facilities in Kandal Stung Priority Development Area**

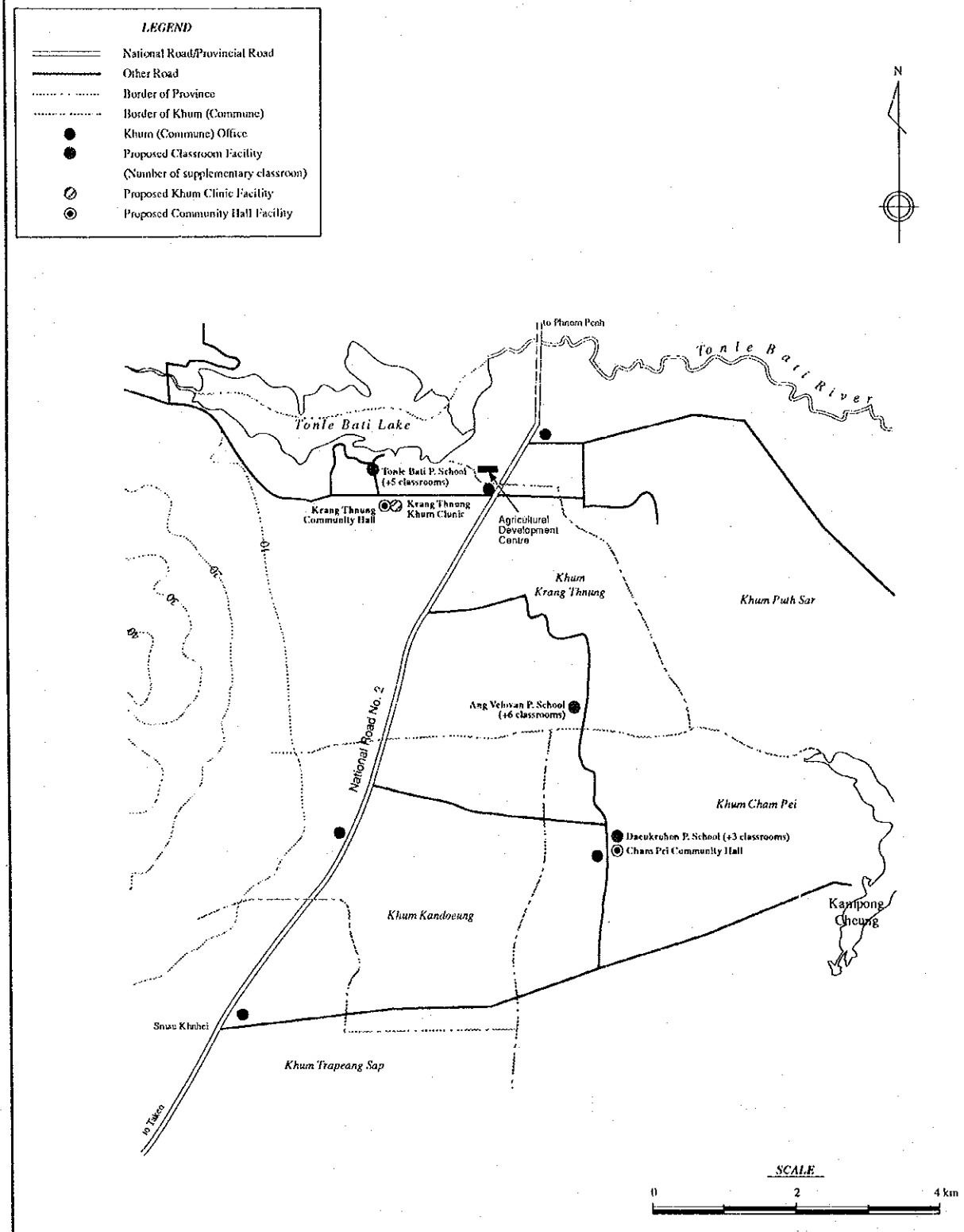



**Fig. VI-25 General Plan for Improvemtn of Other Rural Infrastructure Facilities in Tonle Bati Priority Development Area**

# *ANNEX VII*

# *SOCIO-ECONOMY AND LIFE IMPROVEMENT*

# ANNEX VII

# SOCIO-ECONOMY AND LIFE IMPROVEMENT

## Contents

## List of Appendixes

# 1. METHODOLOGY

## 1.1 Introduction

The Master Plan study was divided up in two distinct phases of fieldwork respectively home office work:

Phase I which included field work and report writing during November/December 1993 in Cambodia. The results of this phase were reported in the Progress Report (I) and the Interim Report;

Phase II which included field work in Cambodia during June/July 1994 and home office work during August/September 1994. The preliminary results of the field work have been reported in Progress Report (II) while this Annex is the socio-economic attachment to the draft Final Report.

## 1.2 Phase I Study

During Phase I information was collected through extensive field visits to government offices, NGO projects and villages in the Master Plan Study area. Furthermore, a socio-economic questionnaire survey was conducted covering 113 households in collaboration with the counterpart personnel assigned to the study team by the Department of Agronomy, the District Offices of Kandal Stung and Bati, and the Kandal Stung Development Centre sponsored by WVI. Discussions were held with several NGOs and UN agencies in their offices in Phnom Penh while the remaining time was spent on desk work, including reading basic documentation, preliminary analysis of responses, and production of the contributions to the Progress Report (I) and Interim Report.

## 1.3 Phase II Study

During Phase II of the Master Plan Study, fieldwork was undertaken for a period of 60 days in Cambodia. The fieldwork included the following subjects:

a. a household survey in the priority project areas of Bati District and Kandal Stung District;
b. field level workshops in both priority project areas;
c. co-ordination and information meetings with relevant GOs and NGOs;
d. comparative analysis of grass roots organisational structures.

### 1.3.1 Household survey

A questionnaire for the household survey in the priority project areas was developed. The questionnaire included questions related to:

a. composition of the household;
b. nutrition;
c. time allocation/division of labour;
d. household economics and assets;
e. grass root organisations;
f. water access and sanitation;

g. family and village problems;

h. health and education;

i. size and condition of the house.

The number of households covered by the priority project areas (and based on UNTAC-1993 population data) was found to be roughly 3,000 spread over 33 villages (i.e. 9 villages in the priority project area of Bati District, and 24 villages in the priority project area of Kandal Stung District). It was decided to administer 5 questionnaires in each village which means an actual coverage of about 5% of the total number of households.

Co-operation was again obtained from the District Offices to provide staff to execute the survey. A pre-test of 10 questionnaires was undertaken in two villages in the Bati District priority project area (respectively Haknuman village in Kandang commune and Tonle Bati village in Kreing Thnoung commune) which led to some revision and re-phrasing of questions. The final version was administered to 5 households in each of the remaining 31 villages in both priority project areas, thus bringing the total number of household interviews to 165. Upon completion of the field survey it appeared that only 164 questionnaires were returned, with a further two only partly filled up.

Data processing was completed in Cambodia while analysis of the data was done during home office work. The resulting information, conclusions and recommendations can be found in Chapter 3 of this Annex.

### 1.3.2 Field level workshops

Another important component of Phase II field work was the organization of field level workshops in order to stimulate the active involvement and participation of the population, district officials and NGOs in the priority project areas. One workshop was held in Tonle Bati Development Centre in Bati District on 27 June 1994 (in collaboration with the District Office and the Director of the Centre) and another one in the Kandal Stung District Office on 4 July 1994 (in collaboration with the Chief of the Agricultural Department of the District). All village leaders and commune leaders, covered by the priority project areas, were invited with the assistance of the District Offices. Furthermore, several District Officials, a representative of the Ministry of Agriculture, Forestry and Fisheries, and NGOs working in both districts were also invited. In all, about 35 people (including 4 village leaders and 3 commune leaders) participated in the Bati workshop, and over 60 (including 21 village leaders and 6 commune leaders) in the Kandal Stung workshop.

Both workshops included brief presentations of the main components of the envisaged project by members of the study team and their respective Cambodian counterparts, while a considerable amount of time was allocated for discussions and comments.

It was felt that this first presentation of the preliminary study results and the envisaged project components, as well as the discussion resulting from it, has been of great value to all concerned. In particular, village and commune leaders were keen to know in more detail the proposed project interventions in relation to rehabilitation of the irrigation system and the roads in their areas. Furthermore, suggestions were put forward in relation to rehabilitation, expansion and/or construction of schools and clinics, and improvement of domestic water supply and sanitation. Through follow up visits to some villages it transpired that the news had already spread beyond the village and commune leaders: several village people were keen to hear more details, particularly -and not surprisingly- when the project would start and if they could be incorporated.

This may be considered a good start of the process of local participation which will need to be further developed, strengthened and consolidated during the implementation phase. A strategy to promote this process is outlined in Chapter 4 of this Annex.

### 1.3.3 Meetings with GOs and NGOs

In the course of Phase II field work several meetings were held with GOs and NGOs, and NGO projects in the priority project area were visited.

#### (1) GOs

Contacts established during Phase I of the Master Plan Study in November and December 1993 with District Offices were renewed and consolidated during the current field work period. In particular, very useful meetings were held with the Chiefs of the Agricultural Departments and the Women Associations of both Districts. Discussions focused on the current situation in their respective fields, and the envisaged implementation and potential impact of the project components with emphasis on aspects of life improvement.

An official meeting was also held with Ms. Prak Chantha, Under Secretary of State, and Mrs. Ros Serey, Director of Public Relations, of the Secretariat of State for Women's Affairs to obtain their views, opinions and advise on aspects related to the role and position of women in Cambodia in general, and in relation to the envisaged project and its components in particular.

#### (2) NGOs

Similarly, several NGOs (including SAWA, JOCS, 24HRTV, WVI) contacted during Phase I of the Master Plan Study were visited again during this period. Discussions focused particularly on the situation of women and their requirements in the priority project areas, gender, and on issues of organization development at the grass roots level. In addition to the survey results and several random interviews with villagers in the priority project areas, these discussions with NGO staff yielded some useful suggestions which have been incorporated in the envisaged life improvement plan in Chapter 4 of this Annex.

Apart from the discussions with NGO staff in Phnom Penh, their projects were visited in the priority project areas. This included the Tonle Bati Development Centre in Bati District and the WVI Development Centre in Kandal Stung District with visits to villages were activities initiated and supported by both centres were observed. Furthermore, visits were made to 3 day care centres cum nursery schools in Kandal Stung District, two of which are being supported by CYK and one by WVI. In the health sector the activities in the District Hospital and khum clinics throughout Kandal Stung District were observed under the guidance of the Vice Director of Kandal Stung's District Hospital.

### 1.3.4 Grass roots organizational structures

Special attention was also paid to existing formal or informal organiszational structures at the grass roots level. A number of questions in the household questionnaire was related to this issue, while in discussions with GOs and NGOs this aspect was also covered. Analysis of this information, combined with the responses of the questionnaire has greatly contributed to the recommendations put forward (in Chapters 3 and 4 of this Annex) in relation to the establishment of suitable structures of potential beneficiaries at the grass roots level.

## 2. NATIONAL RURAL DEVELOPMENT POLICY

The national reconstruction programme for Cambodia recognizes the importance of the agricultural sector on which approx. 80-85 % of the population of 8.8 million relies. Apart from the relevant policies of the Ministry of Agriculture Forests and Fisheries (MAFF) , the Ministry of Rural Development (MRD)'s 'Programme for Rural Development' (August 1993) has been taken into account in the Master plan Study as well.

The envisaged project, resulting from the Master plan Study, intends to increase the agricultural productivity in parts of Kandal and Takeo Provinces -largely rural areas- through the introduction of a small integrated scheme which could act as a model for sustainable and self-reliant agricultural infra-structure development in other areas of the country.

This is in line with the MRD's programme to ensure the development of rural communities to become self-sufficient, and to contribute to overcoming the rural-urban disparity currently existing in the country.

The MRD's target is to achieve the same level of social and economic well-being of Cambodia's rural population as is prevalent in other countries of South East Asia by the year 2000 A.D. To this end, a number of interventions are envisaged, including the creation of pilot and model villages; the strengthening of rural credit institutions to assist the population in the rural areas to build up its production capacity; the training of a rural development cadre, and assistance to artisans for on and off-farm small scale rural industries. Constraints such as the shortage of manpower caused by the loss of so many adults, and the high proportion of widows who are now in charge of households/farms, will need to be overcome in this process.

The Master plan Study sets out the broad parameters for improvement/rehabilitation of irrigation practices and expansion of area currently being irrigated. It is assumed that, with an increase in farming output through improvement and development of irrigation, drainage and rural infrastructure, together with appropriate support services and structures, an improvement in the living conditions of the population in the area under consideration will be achieved.

# 3. PRESENT SOCIO-ECONOMIC CONDITIONS

## 3.1 General Characteristics of the Study Area

The Master plan Study area includes 13 communes or *khums* (approx 10,000 ha) in the Kandal Stung District of Kandal Province of which approximately 6 (1,800 ha) are covered by the priority project. In Bati District of Takeo Province, the Master Plan Study includes 5 communes (approx. 6,000 ha) of which 4 (approximately 1,600 ha) are partly covered by the priority project.

The study area's horizon is dominated by sugarpalms and rice fields. Most cultivable land is used for wet season rice while in some areas dry season crops are grown as well. The remaining land -most probably unsuitable for cultivation- is used for homesteads, roads, grazing cattle, and secondary vegetation such as bamboo.

The major roads in the study area (Route Nationale 2 and 3) are reasonable close to Phnom Penh, but deteriorating further away. Alongside these roads several small businesses can be observed, mainly catering for the needs of the traveller, i.e. drinks, cigarettes, and food. At some places, meat, fruits and vegetables are being offered as well. The secondary roads in the area are of poor quality and not suitable for sedans. Four wheel drive vehicles and motorcycles can pass but during the wet season this type of traffic comes to a virtual standstill as well. Alongside these roads, and particularly in settlements, some small shops occur, usually in front of the owners' house. Fruits, vegetables, cigarettes, matches and other domestic necessities are offered. Their 'service area' is largely confined to the village itself and the smaller, more remote, settlements.

## 3.2 Population in the Study Area

### 3.2.1 Population statistics of the Study Area

The population statistics used here originate from the Administrative Election Planning Unit (AEPU) of the United Nations Transitional Authority of Cambodia (UNTAC) which conducted an extensive count of the population for election purposes in May 1993. A copy of their database was obtained through the CCC (Co-ordination Committee for Cambodia) and processed with SPSS/PC+. Although UNTAC's database does not appear to be entirely free of errors (see shaded areas in table 3.2.2.), it is generally preferred to the estimates provincial and district offices provide. Statistics resulting from the socio-economic household surveys undertaken during Phase I and Phase II are also presented here and subsequently related to the population statistics derived from UNTAC's database.

UNTAC's database lists the population of all villages in Cambodia in absolute numbers by sex, number of households and in two age groups for election purposes: < 18 years of age, and ≥18 years of age. Further calculations based on these distinctions were executed to construct the percentage females in the total population as well as the average size of households in the Master Plan Study area. Table 3.2.1 and Table 3.2.2 shouw population statistics in the Master Plan Study area and the Priority Project Areas respectively.

**Table 3.2.1 Population statistics Master Plan Study Area**
(Source: calculations based on AEPU, UNTAC - 1993)

| Commune *(khum)* | Number of villages *(phum)* | Number of villages covered by Master Plan | Total populatin | % female in total population | Number of households | Average Size of households |
|---|---|---|---|---|---|---|
| Kandal Stung District, Kandal Province; Area covered: approx. 10,000 ha | | | | | | |
| Anlong Romeat | 6 | 6 | 2152 | 54.7 | 451 | 4.8 |
| Bakou | 7 | 7 | 3040 | 59.7 | 612 | 5.0 |
| Thmey | 5 | 5 | 1221 | 56.6 | 259 | 4.7 |
| Kork Trorp | 9 | 9 | 2949 | 59.1 | 716 | 4.1 |
| Korng Nory | 4 | 4 | 1003 | 53.7 | 222 | 4.5 |
| Preah Puth | 5 | 5 | 1604 | 48.8 | 356 | 4.5 |
| Prek Roka | 4 | 4 | 3069 | 53.6 | 645 | 4.8 |
| Roluos | 3 | 3 | 1386 | 56.6 | 353 | 3.9 |
| Spean Thmar | 8 | 8 | 1875 | 57.6 | 512 | 3.7 |
| Tbeng | 7 | 2 | 717 | 50.8 | 135 | 5.3 |
| Tien | 6 | 6 | 1400 | 56.0 | 345 | 4.1 |
| Trapeang Veng | 5 | 4 | 1895 | 59.8 | 354 | 5.4 |
| Trea | 9 | 9 | 3812 | 56.0 | 738 | 5.2 |
| Totals & Averages | 78 | 72 | 26123 | 56.2 | 5698 | 4.6 |
| Bati District, Takeo Province; Area covered: approx. 6,000 ha | | | | | | |
| Champey | 7 | 7 | 4249 | 52.7 | 797 | 5.3 |
| Kandang | 8 | 3 | 1140 | 52.6 | 228 | 5.0 |
| Kreing Thnoung | 8 | 3 | 2067 | 49.4 | 356 | 5.8 |
| Put Sar | 11 | 11 | 7583 | 55.9 | 1350 | 5.6 |
| Trapeang Sap | 15 | 1 | 464 | 55.8 | 97 | 4.8 |
| Totals & Averages | 49 | 25 | 15503 | 53.9 | 2828 | 5.5 |
| **Master Plan Area** | 127 | 97 | 41626 | 55.3 | 8526 | 4.9 |

Apart from the information directly available in UNTAC's database (: total population, total population 18, female population and number of households, all in absolute numbers), additional statistics for the priority project areas were generated using the database. These additional statistics include:

a. percentage females in the total population,
b. percentage of the population 18 years of age,
c. percentage females in the population 18 years of age,
d. percentage females 18 years of age in total female population, and
e. size of households.

**Table 3.2.2 Population Statistics Priority Project Areas**

(Source: calculations based on AEPU, UNTAC - 1993)

| Commune *(khum)* | Village *(phum)* | Total popul-ation | % female in total popul-ation | % 18 in total popul-ation | % female in 18 popul-ation | % female 18 in female popul-ation | Nr. of house holds | Size of house holds |
|---|---|---|---|---|---|---|---|---|
| Kandal Stung District, Kandal Province; Area covered: approx. 1,800 ha | | | | | | | | |
| Anlung Romeat | Kang Cheung | 347 | 55.9 | 55.9 | 58.8 | 58.8 | 76 | 4.6 |
| | Khang Tbong | 352 | 55.4 | 52.0 | 59.0 | 55.4 | 66 | 5.3 |
| | Khang Lech | 278 | 51.1 | 56.8 | 51.3 | 57.0 | 62 | 4.5 |
| | Sre Kok | 369 | 56.4 | 45.8 | 59.8 | 48.6 | 82 | 4.5 |
| | Kampong Tourl | 388 | 54.6 | 49.5 | 57.3 | 51.9 | 73 | 5.3 |
| Bakou | Bakou | 469 | 58.6 | 56.9 | 59.9 | 58.2 | 92 | 5.1 |
| | Khmout | 342 | 81.6 | 55.3 | 58.2 | 39.4 | 73 | 4.7 |
| | Veal Kandal | 309 | 54.7 | 56.3 | 61.5 | 63.3 | 72 | 4.3 |
| | Pou Doss | 324 | 58.0 | 58.0 | 65.4 | 65.4 | 74 | 4.4 |
| | Tbong Kdey | 558 | 54.5 | 48.7 | 57.4 | 51.3 | 106 | 5.3 |
| | Svay Minh | 674 | 61.4 | 49.7 | 55.2 | 44.7 | 118 | 5.7 |
| Korng Nory | Kong Noy | 402 | 52.7 | 54.2 | 54.6 | 56.1 | 99 | 4.1 |
| | Serey Sambath | 203 | 56.7 | 51.2 | 58.7 | 53.0 | 37 | 5.5 |
| | Trapaing Somret | 181 | 56.4 | 56.4 | 57.8 | 57.8 | 40 | 4.5 |
| Preah Puth | Krang Trea | 291 | 56.7 | 55.0 | 43.8 | 42.4 | 75 | 3.9 |
| | Ben Bauv | 235 | 52.8 | 51.5 | 38.8 | 37.9 | 40 | 5.9 |
| | Prah Puth | 307 | 65.2 | 48.2 | 48.6 | 36.0 | 70 | 4.4 |
| | Krang Sbauv | 405 | 29.1 | 54.6 | 62.0 | 116.1 | 104 | 3.9 |
| | Bor Na | 366 | 48.1 | 79.0 | 60.9 | 100.0 | 67 | 5.5 |
| Roluos | Krapeu Troum | 526 | 56.6 | 55.5 | 63.0 | 61.7 | 143 | 3.7 |
| | Prash Theat | 334 | 59.3 | 53.0 | 68.4 | 61.1 | 87 | 3.8 |
| | Kandal | 526 | 54.8 | 50.4 | 61.1 | 56.3 | 123 | 4.3 |
| Tien | Krang Kroch | 328 | 55.8 | 49.4 | 49.4 | 43.7 | 80 | 4.1 |
| | Thmey | 410 | 54.6 | 57.8 | 62.9 | 66.5 | 103 | 4.0 |
| Totals & Averages | 24 villages | 8924 | 55.8 | 54.2 | 57.6 | 57.6 | 1962 | 4.6 |
| Bati District, Takeo Province; Area covered: approx. 1,600 ha | | | | | | | | |
| Champey | Demdong | 648 | 41.2 | 54.8 | 61.1 | 81.3 | 126 | 5.1 |
| | Mkak | 739 | 52.6 | 58.9 | 58.4 | 65.3 | 156 | 4.7 |
| Kandang | Haknuman | 280 | 51.1 | 56.1 | 57.3 | 62.9 | 60 | 4.7 |
| Kreing Thnoung | Haknouckman | 601 | 49.4 | 42.9 | 50.8 | 44.1 | 92 | 6.5 |
| | Chroa Sdao | 704 | 46.3 | 39.9 | 54.8 | 47.2 | 118 | 6.0 |
| | Tboung Damrey | 616 | 50.3 | 45.0 | 63.5 | 56.8 | 106 | 5.8 |
| | Krang Thnoung | 747 | 51.7 | 47.1 | 58.0 | 52.8 | 132 | 5.7 |
| | Tonle Bati | 1007 | 50.1 | 44.7 | 59.6 | 53.1 | 168 | 6.0 |
| Put Sar | Krang Russey | 472 | 48.1 | 51.1 | 54.4 | 57.7 | 95 | 5.0 |
| Totals & Averages | 9 villages | 5814 | 49.0 | 48.9 | 57.5 | 57.9 | 1053 | 5.5 |
| **Totals Priority Project Areas** | **33 villages** | **1478** | **53.1** | **52.1** | **57.6** | **57.7** | **3015** | **4.9** |

During both phases of the Master Plan Study a socio-economic household survey (including some questions related to population aspects) was undertaken as part of the field work in Cambodia. The results are summarised in Table 3.2.3 and 3.2.4 respectively.

**Table 3.2.3 Population Statistics of household survey Phase I**

MASTER PLAN STUDY AREA

(Source: socio-economic survey of 113 households, December 1993)

| Master Plan Study Area | Total population | % female in total population | % 16 in total population | % female in 16 population | % female 16 in female population | Nr. of households | Size of households |
|---|---|---|---|---|---|---|---|
| KSN | 205 | 53.2 | 48.3 | 56.6 | 51.4 | 35 | 5.9 |
| KSS | 179 | 54.2 | 45.3 | 62.9 | 52.6 | 30 | 6.0 |
| BATI | 311 | 54.0 | 45.0 | 52.9 | 44.0 | 48 | 6.5 |
| Totals | 695 | 53.9 | 46.0 | 56.6 | 48.4 | 113 | 6.2 |

Notes:

KSN: Kandal Stung District, Northern Part (Study Area only)

KSS: Kandal Stung District, Southern Part (Study Area only)

BATI: Bati District (Study Area only)

**Table 3.2.4 Population Statistics of Household Survey Phase II**

PRIORITY PROJECT AREAS

(Source: socio-economic survey of 164 households, June/July 1994)

| Priority Project Areas | Total population | % female in total population | % 16 in total population | % female in 16 population | % female 16 in female population | Nr. of households | Size of households |
|---|---|---|---|---|---|---|---|
| KS | 661 | 56.6 | 50.8 | 60.7 | 54.5 | 119 | 5.6 |
| BATI | 270 | 48.9 | 49.3 | 54.1 | 54.5 | 45 | 6.0 |
| Totals | 931 | 54.4 | 50.4 | 58.8 | 54.5 | 164 | 5.7 |

Notes:

KS: Kandal Stung District, Priority Project Area only

BATI: Bati District, Priority Project Area only

## 3.2.2 Analysis of population statistics

### (1) Composition

The population, divided into two age groups, shows that the Kandal Stung district priority project area includes a larger proportion 18 years of age (54.2 %) than Bati District's priority project area (48.9 %). This is consistent with the findings of the two household surveys, although the percentages are closer to 50.

### (2) Family size

From the UNTAC data (see tables 3.2.1 and 3.2.2. it appears that the average family size in Kandal Stung District (:4.6) is generally smaller than in Bati District (5.5). Both household surveys confirm this distinction, but the figures are higher: respectively 5.9 and 5.6 for Kandal Stung Priority area and 6.5 and 6.0 for Bati Priority area.

### (3) Density

The average number of families per village in Kandal Stung District is smaller than in Bati District: 79 as against 113 in the Master Plan Study area, and respectively 82 and 117 in the priority project areas. If related to the total area of land under the Master Plan Study one

finds that, in Kandal Stung District, the average population per ha. is 2.61 (261 / $km^2$) while in Bati District this figure is 2.58 person / ha (average total study area: 2.60 / ha). The average population per ha in the priority project areas is, however, different from the Master Plan Study area: in Kandal Stung District, the average population / ha. is 4.96 as against 2.61 while in Bati District this figure is 3.63 persons / ha as against 2.58 (average total priority project areas: 4.33/ha). This indicates that, although population density in both parts of the districts covered by the Master Plan Study area is almost identical, the population in the Kandal Stung district area is more evenly spread and that the priority project areas cover the more densely populated areas of the Master Plan Study. Additional to this one should also be aware of the fact that the priority project area in Bati District is situated in the least populated part of the district while in Kandal Stung it is situated in the relatively densely populated parts of the district.

(4) Length of residence

Most people interviewed in the household surveys stated that they had been living in the area since 1979 (the end of the Khmer Rouge regime) or were born there. Only one of the 113 respondents of the first household survey had recently moved into the area from the Thai border refugee camps while all respondents in the second household survey stated that they have lived in the area for 3 years or more with 80% having lived in the area for more than 12 years.

(5) Females in the study area

At the level of the Master Plan Study area, the percentage females in the total population only slightly differs in both districts: 56.2 in Kandal Stung district as compared to 53.9 in Bati District. A further breakdown at village level and into age groups in the priority project areas and household surveys shows a more significant difference between the areas: the percentage of females in the total population in Kandal Stung remains more or less the same as at the Master Plan Study level, but Bati's percentage drops from 53.9 to 49.0. If we, however, calculate the percentage females in the adult population (based on UNTAC data), it appears that both district areas show up almost identical at 57.6 % and also if we calculate the proportion of adult females in the female population. The household surveys do confirm these trends but, again, the percentages vary. It is nevertheless clear that the current overall population figures are biased in favour of women as a result of Cambodia's recent violent history. But there are also signs that this phenomenon is gradually phasing out: the sex ratio (i.e. number of females/number of males) in the population below 18 in the priority project area of Kandal Stung District stands at 1.07 while in Bati District this figure is .71. The trends observed here are similar to those found in the total population of Cambodia where the sex ratio stands at 1.13 (i.e. 13 % more women than men) for the total population, and at 1.01 for the population <18 as shown in the following table.

**Sex ratios in Study Areas and Cambodia**

(Source: calculations based on AEPU, UNTAC - 1993)

| | Kandal Stung District | Bati District | Cambodia |
|---|---|---|---|
| < 18 years of age | 1.07 | 0.71 | 1.01 |
| total population | 1.26 | 0.96 | 1.13 |

(6) Female Headed Households (FHHs)

In most publications on this subject, as well as in discussions in the study area with several district officials and others, it is suggested that FHHs are the most vulnerable group in contemporary society.

The Office Head of the Khmer Women Association (KWA) in Kandal Stung District provided the following information, based on a district wide survey the district office had

undertaken recently. In the district there is a total of 4,698 widows spread over 3,102 families. Of these 4,698 widows, 1,988 are considered to be very poor. The KWA is concentrating on this particular group through the UNICEF supported Family Food Production programme. This programme provides a variety of assistance (for details see UNICEF-Cambodia / 1993) covering 4 villages (phums) in the district. From 1994 onwards, the FFP will be extended to 4 Phums. Apart from the FFP, 2 day care centres are in operation in Kandal Stung District, taking care of 62 children. The KWA Office Head thought that the biggest problem facing the poor widows was the lack of money, and of manpower for ploughing the fields. She suggested that vocational training for women would possibly increase their opportunities for generating more income than currently possible.

The Office Head of the KWA in Bati District did not have detailed data on the FHHs in the district. The KWA runs a small literacy programme in the district (UNICEF supported). The Office Head felt that literacy training should not be limited to women alone but include men as well. She also felt that, although the people were not very much interested in such a programme, literacy is a precondition for (further) development. In this respect she referred to the experience with the rural credit programme of the Tonle Bati Development Centre which, according to her, has great trouble in administering the programme due to the low literacy level of the population. Apart from literacy training she suggested that vocational training (for women and men) would improve their poor socio-economic position. Another problem mentioned by the Office Head facing FHHs in the district is the lack of child care centres. It is expected though that these will open up in 1994 with assistance of "Enfants du Cambodge", a Cambodian NGO affiliated with the French "Save the Children Fund".

In both socio-economic surveys special attention was paid to the results in relation to FHHs. It was found that, from the 113 households surveyed in December 1993, 20 (= 18 %) were headed by females. It needs to be noted that 18 of those were in Kandal Stung District where a total of 65 households were surveyed (equivalent to 28 %), and only 2 out of 48 households surveyed in Bati District (4 % ). A detailed analysis of these FHHs showed that 4 households (3.5 % of households surveyed) do not include any other adult, and that 5 (= 4.5 % of all households surveyed) include one or more (additional) female adult(s). The remaining 11 households (10 % of all households surveyed) all include one or more male adults (and female adults). Another interesting observation here is that, in the case of the 4 households without additional adults, the children (ranging from 6 - 15 years old) all go to school. In the 5 households with (additional) adult female members, the respondent lives either with an adult daughter or adult sister. Except in one case, all the children are ≥ 6 years of age and mostly in school. The FHHs in the 11 households with one or more adult male members usually live in with their married daughter or son. The younger children in these households are, in most cases, her grand-children. In the second household survey in June/July 1994 it appeared that 50 of the 164 households (i.e. 30.5 % ) were headed by women. Of these, 44 are widows (70 % of which were widowed >10 years ago), 4 are (recent) divorcees, 1 has remained unmarried and 1 widow stated that she remarried recently. Further analysis of the 49 single women reveals that 15 of them (including 3 divorcees) are women with dependent small children and no other adult(s) in the household. In summary, of 164 households surveyed at least 9% could be classified as having an additional problem if compared with households which include 2 or more adults.

Although it is obvious that most women who lost their husbands in the seventies and eighties had a very difficult time coping with it, these days the most problematic FHHs seem to be those who lost their husbands more recently (either through expiry or divorce) and are left alone to provide for their small children.

### 3.2.3 Population structure and FHHs

The violent history of Cambodia in the seventies and (early) eighties is reflected in the demographic data of the study area: the population is rather young (i.e. 48 % younger than 18

years of age) and the proportions of males and females over the age groups differ significantly, as is shown in the following table:

**Age Groups and Sex of Study Area**
(Source: calculations based on AEPU, UNTAC - 1993)

| Age groups Sex> | Male (%) | Female (%) | Totals (%) |
|---|---|---|---|
| 18 years | 42.4 | 57.6 | 100 |
| <18 years | 51.8 | 48.2 | 100 |
| All ages | 46.9 | 53.1 | 100 |

The discussion in relation to FHHs in the preceding paragraph has not only highlighted the historical effects. It has also indicated that, with the passing of time, the problem of single women with dependent young children to provide for single-handedly is slowly decreasing. Most women who were widowed in the seventies and (early) eighties have found ways to deal with their immense problems through relatives and, at a later stage, through their (adult) children. But the more recently widowed (or divorced) women (about 9% in the last survey) may not have those opportunities at this point in time.

## 3.3 Services in the Study Area

### 3.3.1 Health

(1) General

According to the Ministry of Health the population growth rate for Cambodia is estimated to be between 2.5 - 3 %, with the crude birth rate around 45 per 1000 and the crude death rate approx. 15-20 per 1000. Child mortality (<5 years of age) is amongst the highest in Asia ( >200 per 1000) while maternal mortality is estimated to be between 900-1,500 per 100,000 deliveries. Both child and maternal mortality are related to a lack of appropriate preventative (primary) health care systems, as well as difficulties in having deliveries supervised by adequately trained medical personnel, hard work performed by pregnant women, inadequate diets, repeated and close pregnancies, and illegal abortion.

A workshop on the 'Strengthening of District Health Services in Cambodia' in December 1993 identified the main problems related to the mal- or non-functioning of district health services, and indeed of the whole public health services delivery system, as follows:

a. limited access for the population in the service area;
b. inadequate quality of the services due to lack of financial resources and limited skills of health personnel;
c. lack of confidence of the population in the services provided, aggravated by the lack of interest of health staff for the patients;
d. inadequate and limited dialogue between the population and the public health services;
e. the complexity of responsibilities between the different departments of the health ministry and the administrative structure of the district.

To improve the public health services it is suggested that community participation is stimulated and that access to the services is increased, for which several recommendations are put forward.

(2) Observations in relation to the study area

Both districts have a similar curative public health services structure: at the top of the pyramid one finds the district hospital with (usually) 100 beds. The District Health Officer is in charge of the District Hospital, alongside his other duties related to the health services delivery system in the district as a whole. At the next level down, each khum is supposed to have an infirmary or khum clinic, staffed by a nurse and a midwife, and assisted by a khum Health Committee. At phum or village level one should find a traditional birth attendant (TBA) and health activists, supposed to provide and maintain the link with the khum level services. Public health services are free in Cambodia: no payment should be asked for treatment and medicines. The study area includes the district hospital of Kandal Stung while the Bati District Hospital is situated outside the study area, close to the District Headquarters.

The district hospitals in both districts are rather being well utilized, particulary, both have been mostly occupied by 100 % TB in-patient. In the khum clinics, daily out-patient attendance is rather low efficient due mainly to detriorated facilities and equipment. The staff of the clinics are frequently proveideing health services such as vaccinization, infant care, maternity cosultation, birth control etc. at their homes.

Public health services in both districts are supported by foreign NGOs: in Kandal Stung District 24HRTV supports the District Hospital while WVI has a Primary Health Care programme covering the whole district. In Bati District JOCS provides support to the District Hospital and has started a Primary Health Care programme in the district. In summary it can be concluded that the public health services in both districts -even with the assistance of NGOs- have got a long way to go in providing adequate services to the population.

### 3.3.2 Education

It is generally observed that the quality of education is of a low standard in the country. Agencies like UNICEF are providing assistance in this area but -as with the health services- improvement of the quality and quantity of education at all levels will take a very long time to achieve.

According to the information obtained from the Kanbal Stung District Office, out of all students, 85 % in the primary schools, 9 % in the lower secondary schools, 6 % in the higher secondary schools are enrolled in these schools respectively. In general, it appears that percentage of girl students gradually decreases in the higher grade, i.e. 45 % in the primary schools, 43 % in lower secondary and 34.5 % in higher secondary schools respectively. The building and facilities in primary schools are particulaarly deteriorated and short of school rooms. Improvement of those facilities are essential. The following table shows total number of schools and students enrolled in both the Master Plan Study area and Priority Development areas respectively.

| District | | Master Plan Area | | Priority Develop. Area | |
|---|---|---|---|---|---|
| | | Primary | L. & H. Secondary | Primary | L. & H. Secondary |
| Kandal Stung | School | 19 | 2 | 8 | 2 |
| | Student | 6,700 | 1,100 | 3,100 | 1,100 |
| Tonle Bati | School | 13 | 1 | 3 | 1 |
| | Student | 4,100 | 400 | 1,500 | 400 |

### 3.3.3 Credit and savings schemes

No data were available from the District Offices on these subjects. Apart from small credit schemes run under the Tonle Bati Development Centre, the WVI development centre in

Kandal Stung, and the FFP programme of the KWA/UNICEF, no institutions seem to exist in the area providing rural credit. No savings schemes were discovered, nor did any family state that they actually had any savings.

## 3.4 Families in the Study Area

Most of what follows below is based on the results of the socio-economic surveys undertaken as part of the Phase I and Phase II studies. In total 277 families were interviewed of the more than 8,500 families in the study area.

### 3.4.1 Main occupations

Most people interviewed as well as their family members (16 years of age) claim to be farmers, predominantly engaged in (wet season) rice cultivation. Additional to rice cultivation, livestock, small business and salary/wage labour are important activities. Apart from these main categories, a variety of other occupations have been mentioned, including growing vegetables, child care, water fetching, cook, bicycle taxi, etc. It appears that about 70 % of all families has at least one member engaged in non-farming activities to earn (extra) cash income, either on a daily, seasonal or monthly/yearly basis.

### 3.4.2 Land ownership and type of cultivation

The families in the study area own on average about 1.0 ha of land, usually spread over 3-4 different plots. Only 3 families were reported to own no land at all. All households practice wet season rice cultivation on their land but only 20 % of the households interviewed claim to grow sufficient rice to feed their families the whole year. Uppland crop land with an average acreage of .35 ha is owned by approximately 20% of the families interviewed. Apart from this, about two thirds of the families reported to have a garden around the house, but only half of them (i.e. some 30 % of the families interviewed) grow vegetables, cereals or other crops in this garden, largely for own consumption. The reasons for not growing anything in the garden around the house were stated to be the lack of water, poor soil, too small an area, or a combination of these. About 70 % of the families interviewed own trees, the majority of them sugarpalms and, occasionally, fruit trees, and mainly for own consumption.

### 3.4.3 Food sources and food habits

Apart from what people actually grow in their gardens and fields, they were asked if they practised foraging and/or food preservation. Almost 70 % of all families do indeed collect food from rivers, wetlands, paddy fields and forest areas, in particular, fish, crabs, frogs, snails and, to a lesser extent, fruits. Only 9 % of the population preserves any food.

**Table 3.4.3.1 Food intake in percentages of families interviewed in Priority Project Areas**

PRIORITY PROJECT AREAS

(Source: socio-economic survey of 164 households, June/July 1994)

| Energy sources | % | Animal protein | % | Fruits & vegetables | % |
|---|---|---|---|---|---|
| Rice | 100 | Fresh fish | 22 | Green vegetables | 48 |
| Corn/wheat | 6 | Prahoc/preserved fish | 26 | Pumpkins/carrots | 4 |
| Cassave/potato | 4 | Beef/pork/chicken/duck | 9 | Other vegetables | 44 |
| Palm sugar/sugar cane | 69 | Eggs (chicken & duck) | 15 | Fruits | 19 |
| Mung/soya beans/sesame | 5 | Frog/crab/snail/shrimp | 38 | | |
| Lard/vegetable oil | 79 | | | | |
| No response | 2 | No response | 17 | No response | 29 |

Food intake was assessed by asking what kind of food families usually eat, and how frequently. A summary of the answers in percentages of families is given in Table 3.4.3.1 only counting those types of food which families have stated to eat at least 3 days per week or more.

From the table it appears that rice, fish and green/other vegetables constitute the diet in rural areas of Cambodia. Fish, and frogs/crabs/snails/shrimps collected from wetlands and paddy fields, are the most important sources of protein while green leafy and other vegetables are important sources of vitamins and minerals, especially vitamin A and iron. But only roughly one third of the families interviewed actually do consume these protein and vitamin sources more than 3 times a week.

### 3.4.4 Division of labour in the household

(1) relation to productive activities

Most time of most members of the household is spend on the production of (wet season) rice, alongside the routine household chores. The process to produce rice can be divided in several stages: ploughing, manuring/fertiliser, seeding, transplanting, weeding, harvesting, and treshing/pounding. In each stage, activities are either performed by males, females or both, and with or without the help of group labour (i.e. exchange of labour between families) or hired labour. Ploughing and treshing/pounding is traditionally done by men, and mostly in groups or with hired labour. Transplanting and harvesting are women's jobs, frequently in large groups and/or with hired (female) labourers. Manuring/fertiliser is mostly done by the female members of the family while seeding and weeding are activities performed by both male and female family members.

Other productive activities (such as vegetable gardening, fruit trees and sugarpalms) are predominantly activities for the male members of the household in Bati District, while most respondents in Kandal Stung District indicate that both male and female members of the household take part in these. A similar response was reported in relation to taking care of livestock.

More than 70 % of all families reports at least one family member being involved in other income generating activities, often as an additional activity, and occasionally as a full time activity; the most frequently reported activities are small businesses or shops and salary/wage labour. Apart from these main categories a variety of other occupations have been mentioned including midwife, cook at weddings, bicycle taxi, construction worker, etc.

About 65% of the households report a shortage of labour during the wet season. Most families claim to hire labour, particularly for the wet season rice cultivation (see above).

(2) In relation to domestic activities

The questionnaire included several questions related to domestic activities, such as carrying water, collecting firewood, cooking and cleaning, and taking care of children and sick family members. Both districts are largely similar in relation to the traditionally female activities such as cooking, washing the dishes, cleaning the house and going to the market for shopping. But, while water carrying, firewood collection and caring for children and ill family members are very much shared activities in Kandal Stung District, the respondents in Bati District claim that the first two activities (:water carrying and firewood) are predominantly male, and the third one (care taking) is predominantly a female activity.

### 3.4.5. Decision making in the household

It is interesting to observe though that there is no difference between the districts in relation to making decisions about the process of rice cultivation, in particular to which type

of rice should be planted, when it should be planted, when the field should be irrigated and what fertiliser should be used. All these decisions are taken in consultations between men and women. But when it comes to making decisions on buying agricultural inputs, the opinions show some variation: in Bati District this decision is slightly dominated by men while in Kandal Stung District it is largely dominated by women. The purchase of items for the household are dominated by women in the whole area although some discussion and consultation usually takes place. It is also the women (normally the wife of the -male- head of the household) who hold the family funds ( > 90 % of the households interviewed); about 80 % acknowledge to pass on all income to this person.

### 3.4.6 Income and expenditure

Cash income in the household is overwhelmingly derived from selling rice: more than 80% of all households list this as the main source of income. The main additional source of income is (the sale of) domestic livestock (poultry, eggs, pigs), followed by salary/wage labour, small business or shop and vegetables and fruits.

Expenditure figures reveal that the average family spends about 1.2 million R per year on food and 0.5 million R per year on other items. The purchase of rice (:the major income earner in the area) is mentioned as the dominant food item being bought while a considerable amount of the family's income is spent on health. To some extent this is not surprising in view of the general health condition of the population, and in particular the domestic hygiene practices observed in the area.

### 3.4.7 Credit and savings

The results of both socio-economic surveys show that there is a real need for credit and savings schemes. None of the families interviewed acknowledged to have any savings or insurances, while about 65 % of the families surveyed indicated to be indebted. Approximately 80% of the indebted families has borrowed amounts upto 500,000 R (200 US $, generally believed to be almost one year's salary of a government employee) with the remainder having borrowed >500,000 R. People mostly borrow money for buying food, for medicines/health expenses, or for both. Other less frequent reasons given are: to buy agricultural inputs or to build a house. If possible, people prefer to borrow from family or neighbours who do not normally charge interest. The next preferred option is a friend, or the projects of international NGOs while the least preferred one is the commercial money lender. Interest varies from 2 % to as much as 60 % per month depending on the money lending source: NGOs and neighbours are generally charging less than 10%. Moneylenders of course top the scale, which is the case in about 20 % of the families having a loan. It is obvious that, particularly in the case of commercial moneylenders, several families may not be able to repay (either in cash or kind) once they have taken out a loan and thus may end up in a position where land or other assets need to be sold.

### 3.4.8 Access to drinking water

The main sources of drinking water during the dry season are wells and ponds (95% of the population surveyed) while during the wet season almost all households report to harvest rainwater in addition to using wells and ponds. Almost 70 % of the households surveyed report a shortage of drinking water during the dry season. The problem in Bati District seems to be more severe than in Kandal Stung District. This may be due to the fact that in Kandal Stung District two foreign NGOs are in the process of digging or drilling wells in all villages of the district. Some of these wells are reportedly producing water with an unacceptable taste and are not being used for drinking water. This is not an unfamiliar experience in Cambodia where taste of the water is considered to be more important than whether it is safe to drink, although 64% of the families interviewed claim to boil water for drinking purposes.

The distance to the source(s) varies from less than 100 m for about half the families interviewed, with about 30 % of the families having to walk upto 500 meters and the remaining families more than 500 m.

### 3.4.9 Health

About 70 % of the households surveyed reported to have had one or more ill person(s) in the family during the last month. The main 'illness' reported is a (bad) cold or cough ( >40 %) or fever but a range of other diseases were mentioned as well. According to both District Health Officers TB is the major disease in the districts. This disease -sometimes referred to as the poor man's disease- is highly infectious. It usually reflects poor domestic and personal hygienic conditions, including a lack of clean and safe water and the virtual absence of latrines in the area.

Another important aspect of health is related to food habits and food intake: as reported above (see under 3.4.3.) proteins and vitamins generally lack in the diet of most families interviewed.

It is furthermore interesting to note that more than half the patients did not contact a public health institution or the khum nurse for advise and/or treatment. Self-medication (though dangerous) is widely spread in Cambodia ( >50 % of the population), largely due to the absence of reliable and competent medical institutions, and further compounded by a lack of awareness of the prevention of diseases.

As reported above (see paragraph 3.4.6.), a large part of the family's income is spent on health and medicines. Apparently people are willing to pay for what they perceive as 'good health services', an avenue which needs to be taken into account in improving the public health services.

### 3.4.10 Education

#### (1) Formal education

Despite a lack of school materials and, in several cases, a low quality of school buildings -or even the absence of school buildings- almost 70 % of the children (6-16 years of age) are reported to go to school. It also appears that there is no difference between boys and girls in relation to attendance. Although most households claim to spend money on education of their children, it was not mentioned as one of the major 3 items of household expenditure.

In the first socio-economic survey of December 1993 (Master Plan Study area) we found that, of the 248 children between 6-16, as many as 228 went to school, i.e. > 90 %. A breakdown of these figures showed that only 9 % of the girls and 8% of the boys in the surveyed households do not attend school. The second socio-economic survey of June/July 1994 (priority project areas) found that, of the 365 children between 6-16 included in the survey, only 67% actually goes to school. Again, there was hardly any difference in enrolment between boys and girls, but there is a significant difference between the two areas as is shown in the following table:

**Table 3.4.10.1.: School enrolment for age group 6-16.**
PRIORITY PROJECT AREAS
(Source: socio-economic survey of 164 households, June/July 1994)

| N=365 | Male | Female | Total % | Kandal St. | Bati | Total % |
|---|---|---|---|---|---|---|
| Go to school | 66 | 69 | 67 | 80 | 46 | 67 |
| Don't go to school | 34 | 31 | 33 | 20 | 54 | 33 |
| Totals | 100%=189 | 100%=176 | 100%=365 | 100%=229 | 100%=136 | 100%=365 |

In summary it appears that a high proportion of children of school going age in Kandal Stung District actually go to school but only less than half in Bati. There does not seem to be a significant difference in girls or boys attending school, although the higher secondary school enrolment figures in Kandal Stung district would suggest that there is a drop out of girls at that level.

(2) Non-formal education

Little is known about non-formal education in the study area. UNICEF and the KWA are reportedly engaged in literacy classes for females but no data could be obtained on results. Similarly, WVI and WCC to some extent provide training and run workshops but extent, coverage and subjects could not be ascertained.

### 3.4.11 Organizations & projects/programmes in the Study Area

When asked if the respondent was a member of an organization or participating in any project or programme, only 43 (= 16 %) replied that they were. Twenty of them reported to be a member of the WVI supported development centre in Kandal Stung District (outside the priority project area) where credit, vegetable seeds, animal breeding, veterinary services and agricultural inputs are advised upon, respectively made available. All members appreciate the services available at the centre but it should be noted that the interviews were conducted by a staff member of the centre. Another 20 of the 43 respondents are members of WCC/Tonle Bati Development Centre, MCC in the northern part of Kandal Stung District, or the FFP implemented by the KWA with support of UNICEF. A further 3 respondents reported to be a member of (a) *Krom Sammaki* or communal production group. It appears that this phenomenon, officially dismantled with the introduction of private land ownership in 1989 is now almost completely phased out. The KWA, implementing UNICEF's FFP programme, has also ceased to exist as a separate entity since its incorporation into the recently established State Secretariat for Women's Affairs.

### 3.4.12 Informal structures

A much more common but informal organizational structure at the grass roots level is known as 'mutual help' or *provasdaya:* (groups of) families helping each other with the production of rice on the basis of exchange of labour. In the study area about 90% of the households interviewed acknowledged to participate in this system, either indeed with exchanging labour on the principle of reciprocity or through payments on a daily basis. Several respondents and/or their family members earn additional cash income in this way. The relationships are normally established with family in-laws, neighbours and friends, and mostly between adjacent farmland. Most people state that they would be interested to undertake additional joint activities on this basis, but only 20 % of the respondents was able to identify certain activities such as the rehabilitation of roads and irrigation canals.

### 3.4.13 Family problems

In the survey the respondents were asked to mention the most important problem for their family and how they thought they could solve this. Considering the fact that there is a shortage of food in the study area, it is not surprising that this item was mentioned by 50% of the households interviewed as their main priority, usually in combination with the statement that they consider themselves to be poor. The second problem is poor health and a decent house, while all other problems mentioned are related to agricultural production including the lack of water and draft animals. When asked if the respondents knew a way to solve or alleviate these problems, the overwhelming majority could not think of any solution which would involve themselves. Rather, most of them simply stated that they needed all these things while some indicated that cultivating more crops or engaging in animal husbandry might improve their position. Others requested outside assistance to be provided, particularly in relation to irrigation, credit facilities, and rice banks.

### 3.4.14 Village problems

When asked to indicate what they thought to be the most pressing problem faced by the village approximately one third mentioned the problems in relation to (the availability of) water; other issues mentioned were: poverty, lack of roads and clinic/medicines. Most respondents could not think of any possible solution to these problems, while some requested for outside assistance.

### 3.4.15 Assets

In order to get some idea of the (relative) wealth or poverty of the population, the respondents in the second survey (N = 164) were asked if they owned any of the items listed below:

water jars and buckets; plough; oxcart; fishing tools; radio; cassette; bicycle; pump; sewing machine; motorbike; television set; video cassette player/recorder; tractor.

It appeared that none of the families interviewed owned a video cassette recorder/player or tractor while only 6 pumps, 8 fishing gear and 3 sewing machines were identified. Furthermore, almost every family owns water jars and/or buckets, and several own oxcarts and ploughs. The distribution of the more 'luxury' items is shown below:

**Table 3.4.15.1 Overview of assets**
PRIORITY PROJECT AREAS
(Source: socio-economic survey of 164 households, June/July 1994)

| Percentage of families | Assets owned |
|---|---|
| 5.5 | tv + motorbike + bicycle |
| 7.4 | tv + motorbike |
| 11.7 | tv |
| 17.2 | motorbike + bicycle |
| 23.9 | motorbike |
| 49.7 | bicycle |
| 61.3 | radio/cassette |
| 62.6 | radio |

From these percentages it is clear that the study area is a relatively poor area. Modern goods, available close by in Phnom Penh, have not yet made their way in substantial numbers and quantities into the area. Instead, oxcarts and ploughs -important assets in relation to

cultivation and production-, and bicycles and small radio/cassettes constitute the small luxuries of the average family in the area.

### 3.4.16 Houses

At the end of the interview, the interviewer was asked to describe and classify the house. It is acknowledged that this is a subjective classification only. The results indicate that most houses ( >80 %) are considered to be small and/or of a low quality; such a (small) house would typically be constructed on the ground (instead of on stilts) with walls and roofs made of palm leaves. Better and bigger houses ( < 20 %) are on stilts, have walls of bricks or wood, and roofs covered with tiles and/or corrugated iron sheets.

There appears to be no relation between land holdings, quality of the house and quantity of goods, which means that there is no reason to assume that wealth is concentrated. Rather, based on the findings of the survey, as well as observations in the field, it appears that most (if not all) households in the study area are in a similar socio-economic position.

## 3.5 Summary

i) The priority project study area includes about 3,000 families with an average family size of 4.9. Most of them have been living in the area for more than 12 years, or were born there. On the basis of the data from the household surveys and the information from the District Offices it is estimated that about 20 % of the families is headed by women. About half of those FHHs (or 10 % of the families in the study area) are considered to be in a precarious situation, in particular the more recently widowed or divorced women with dependent small children and no other adult(s) in the household.

ii) Each family owns on average one ha of land, predominantly used to produce rice which is the main source of food as well as income. Occasionally, even this one crop of (wet season) rice fails due to either shortages of water or flooding at particular times of the process. The food situation is therefore quite insecure, further aggravated by the fact that most people have to sell rice to receive cash for other necessities and, at the end of the season, usually have to buy rice again to be able to survive until the next harvest. 80 % of the families does not produce enough rice to feed the family year round. Most of them claim to have at least one member engaged in non-farming activities (either on a daily, seasonal or monthly/yearly basis) to earn extra (cash) income to supplement the rice production insufficiency as well as to pay for other important issues such as medicines.

iii) Food is considered to be equivalent to rice. Few people eat vegetables or meat but, instead, perceive vegetables and domestic livestock largely as a means to earn additional (cash) income, resulting in a certain degree of chronic malnutrition. But at the same time, only about 30% of the families grow vegetables. Many claim that home gardening is hampered by a lack of sufficient water, while raising livestock is limited due to a lack of credit facilities and appropriate veterinary services.

iV) The needs of families and villages (as expressed during the household surveys) are predominantly related to the inability to grow sufficient rice for own consumption due to a variety of reasons, such as the lack of reliable and sufficient water supply, oxen for ploughing, agricultural inputs, availability of land and/or the low quality of the available land. Simultaneously, the lack of cash to invest in agricultural inputs, vegetable seeds and livestock for commercial production purposes is felt to be the main stumbling block for fulfilling other needs such as a decent house or paying the bill for medicines. No appropriate credit facilities exist in the area while about 65 % of the families in the

household surveys report to be indebted, some of whom pay upto as much as 60% interest per month.

v) Families appear to be quite self-centred and inward looking. This is largely due to Cambodia's recent history which has led to severe disruptions in family life, a considerable fragmentation of the society and feelings of insecurity, causing a sense of mistrust to prevail. Having said that, it also appears that, rather than being organised 'from the top' (such as the krom sammakis and KWA), people do actually join hands on their own terms and conditions if the purpose and result benefits all involved in a reasonably equal way. The (wide spread) illustration of this phenomenon is the exchange of labour on the basis of reciprocity or daily wages payment observed during the process of rice production. A large majority of families stated to be part of such an arrangement.

vi) The division of labour and authority of decision making in most households is gender specific for specific events such as those related to the process of rice production, and who holds the budget in the household or does the cooking and dish washing. At the same time, a considerable number of activities are undertaken and decided jointly by men and women.

vii) Health and education services in the area (like elsewhere in Cambodia) are either weak or non-existent. There is a lack of resources (manpower, money and material), of sufficient and adequate physical structures, of knowledge, appropriate concepts and approaches, of proper planning and management, of institutional capacity in general. In the health field NGOs seem to produce reasonable results but their coverage is confined to a few villages. Inter-NGO co-ordination is limited or absent, occasionally resulting in overlaps leading to waste of resources and confusion with the population. Competition between NGOs occurs and there is a lack of clear and sound long term development concepts. In the field of education UNICEF provides some material assistance but the problem is also one of quality.

## 3.6 Conclusions

i) Socio-economic conditions for most families in the area are largely the same. FHHs with dependent small children and no other adult(s) in the household presumably face the same -or more- hardships as the poorest families. 'Poorest' and 'poor', however, appear to be only gradual differences.

ii) Most families in the area produce too little rice to feed themselves year round, and only a small proportion grows vegetables or owns livestock, resulting in an insufficient and poor diet which in turn causes a certain degree of chronic malnutrition. This, combined with deplorable domestic hygiene, sanitation and a lack of safe drinking water as well as poor health services, contributes to a high frequency of preventable diseases and, subsequently, to an unnecessary waste of human and material resources.

iii) Education services in the area are reasonably well distributed and accessible to most families. However, the quality of education leaves much room for improvement while the material and physical requirements are grossly insufficient or inadequate.

iv) The needs of families and villages in the area are predominantly defined in terms of their inability to grow enough rice for own consumption, to have limited or no access to credit facilities, and to suffer from ill health.

v) Formalised organisational structures such as the *krom sammakkis* and the *KWA* -instituted by previous regimes-have lost their momentum. It has been observed though that informal structures of *provasdaya* (mutual help) continue to exist. These structures could possibly be used as a mechanism for project and development activities.

iv) The division of labour and authority of decision making in the household warrants a careful consideration of gender specific strategies, particularly in relation to agricultural and other productive activities and, to some extent, to domestic activities, hygiene and sanitation.

# 4. RURAL LIFE IMPROVEMENT PLAN

## 4.1 General Approach

The ultimate objective of the envisaged 'Integrated Agricultural and Rural Development Project' is to achieve a substantial and sustainable improvement in the living conditions of the population in the study area, respectively priority project area. The project will therefore focus on the major issues outlined in Chapter 3. The strategy adopted to address those issues is to increase farming output in the area through improvement and development of irrigation, drainage and rural infrastructure, together with appropriate support services and structures.

Apart from studies related to such technical issues as soil and land use, water availability, irrigation potential and infrastructural and agro-economic aspects, a social development study has been undertaken as an integral part of the Master plan Study. The social development study has been guided by the following working objective to increase the viability of existing (small) farms and enterprises by increasing agricultural productivity and non-agricultural employment opportunities, and improving services and infrastructure in the study area while maximising local participation in the development process".

It is assumed that, by using -and, if possible, expanding- the land already in production more intensively, the living conditions will improve at the lowest cost. It is furthermore assumed that increased, labour-intensive, employment opportunities will lead to more stable and regular employment near the homestead while the establishment and institutionalization of support services is expected to facilitate this process.

## 4.2 Conceptual Framework

Raising the family's income in a sustainable way is usually being perceived as the (only) way to improve living conditions. Indeed, an increase in domestic income opens the door to 'a better life', however defined: for one family it would include buying a TV set, a motorcycle, or similar goods; for another family the most important thing in life may be the education of their children, while a third family might decide to buy additional plots of land or build a new house. Improvement in living conditions is very much a subjective issue.

It is generally acknowledged that raising the family's income is a necessary but not sufficient condition to improve living conditions. In particular, reference is frequently made to the fulfilment of basic needs such as food, clothing, housing, health and education, and -at a more advanced level of fulfilment- to political participation, leisure times, etc. as important aspects of a qualitatively better life.

In the envisaged project an attempt is made to balance both elements of life improvement, i.e. to investigate the potential of income generation through increasing and/or expanding agricultural and non-agricultural production and by looking at the services required to support this process; as well as implementing those interventions required to improve such basic indicators as nutrition, health status, and access to education/literacy and other training opportunities. In doing so, it is assumed that living conditions will improve in a more comprehensive way than by looking at it from the income generating perspective only.

### 4.2.1 Essential elements of life improvement

From the analysis and resulting conclusions in Chapter 3 it appears that life improvement is being perceived to include the following essential elements:

(1) Element 1: Raise the family income

In the study area several ways in which the family income can be increased, respectively supplemented, are being considered:

i) In view of the fact that most adults in the study area have farming as their main occupation and source of income it is assumed that their income will increase substantially by facilitating an increase in agricultural productivity. Increased agricultural production in the area is largely dependent on proper management of available water during the wet season: more often than not, the unpredictable rainfall regime and irregularity in the flooding phenomenon govern the success or failure of crops. In particular, the process of (successful) rice cultivation -the most dominant crop grown in the area- requires a reliable and timely availability of the right quantity of water in the right place. The proposed irrigation and drainage system (see elsewhere in this report) is designed in such a way that this can be achieved, thus optimising the conditions related to the current rice production capacity. This in itself will already have a positive impact on the family's position, particularly in relation to the uncertainties involved in rice production in the area; and, possibly, contribute to an increase or stabilisation in family income -at the lowest possible cost- since the risk of loosing valuable inputs (both in terms of labour and other resources) will be minimised.

ii) A next or simultaneous step requiring additional inputs is the introduction of improved varieties of rice (HYV: High Yielding Varieties) to increase the yield per ha of cultivated land. This intervention needs to be carefully considered and prepared since it involves a certain amount of risk-taking by the farmers. It is generally accepted that families who live on or below subsistence level (:the majority of the population in the study area) are reluctant to change existing patterns and practices unless some form of guarantee is instituted. Setting up adequate and accessible credit facilities -including some training for farmers in basic accounts- is envisaged as a possible solution.

iii) Although the population in the study area has been found to be mainly pre-occupied with increasing the production of rice, a diversification of crops (including vegetables) would not only potentially contribute to the family's income, but also help in improving the nutritional status of the population. In the situation where there is a limited quantity of water available, it is recommended to consider concentrating on other, less water-demanding, crops, particularly in the dry season and on those soils which turn out very low yields of rice. And, although several families expressed interest in this proposition, this will need considerable awareness raising in the priority project area, and relates to the issues raised under a) and b).

iv) Other income-generating activities such as pig and poultry raising, fruit trees, sugarpalms, kitchen gardening, and small businesses and rural industries (food/fruit processing, tile and brick making) will be promoted to provide additional sources of (cash) income. In particular in the situation where there is also a chronic lack of available manpower (such as in FHHs without other adult family members) this, combined with appropriate (vocational) training, credit and other facilities, might prove to be a feasible solution.

(2) Element 2 : Improve the nutritional status of the population

The nutritional status of the population in the study area (and indeed in Cambodia) is of concern to most agencies involved in this field. The FFP (Family Food Programme, sponsored by UNICEF and implemented with the assistance of the WFP and the Khmer Women Association) specifically targets poor families with children under five and FHHs. The intended priority project would benefit from a close relation and co-operation with the

relevant organisations (UNICEF/KWA, as well as WCC and WVI), in particular in reaching the most vulnerable groups. Most probably, the project could contribute to attaining food security and improved nutrition for those groups as an integral part of its activities outlined under element 1. Appropriate co-ordination of intended activities with other agencies will be pursued.

(3) Element 3: Improve the health status of the population

At the more general level of overall health status of the population in the study area it should be noted that, apart from (weak) government services through a district hospital and several khum health centres, NGOs in both districts are active in the Primary Health Care (PHC) field ( : WVI and 24 Hour TV in Kandal Stung District; JOCS in Bati District). This includes such activities as improvement of domestic water supply, sanitation, vegetable gardening, vaccination, family planning, etc. In view of the deplorable situation existing in the area, the priority project envisages to support those interventions in close co-ordination with the concerned agencies.

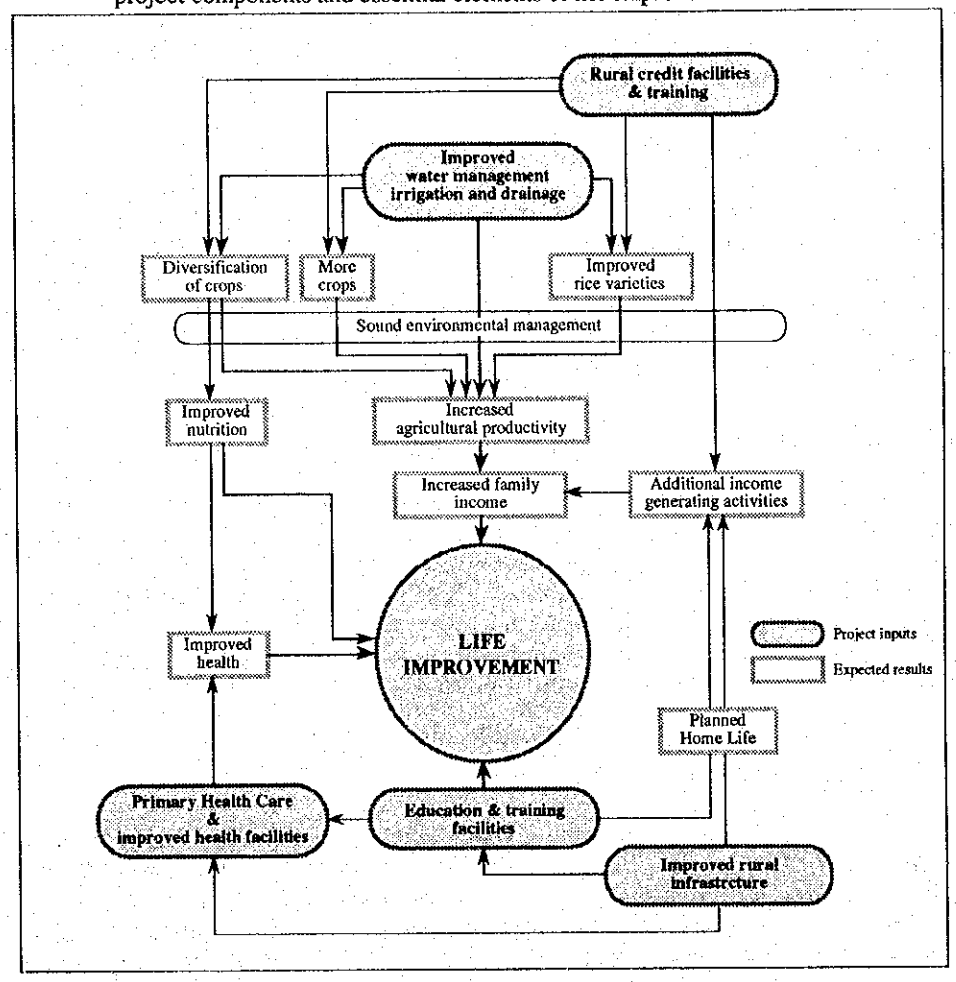
(4) Element 4: Literacy, education and vocational training

Enrolment figures suggest that a large proportion of children go to (primary) school. In the adult population illiteracy has been observed in both men and women, with a larger proportion of women than men being illiterate. However, according the KWA officer in Bati District who runs a small literacy programme for women with UNICEF support, interest in literacy training is not very high. At this point in time it is assumed that vocational training -particularly in relation to the income-generating activities envisaged in the priority project- should be the first priority.

4.2.2 Project components and their relation with essential elements of life improvement

A conceptual framework -in which the components of the envisaged project and the essential elements of life improvement are interrelated- is presented below:

Diagram 1: Conceptual framework:
project components and essential elements of life improvement




(1) Improved water management, irrigation and drainage

One of the main components of the (envisaged) project is to improve and effectively control the water situation in the priority project area to ensure that the right quantity of water is available at the right time in the right place. It is assumed that, by improving the management and control of available water for irrigation and appropriate drainage, an increase in agricultural productivity can be achieved. The current design builds on the existing irrigation and drainage system with slight modifications of the lateral and tertiary canals. In view of the fact that the command areas of the existing tertiary canals range from 30 to 100 ha it is proposed to further divide those areas into quaternary blocks to ensure equal and efficient irrigation water distribution to all parts of the fields.

(2) Credit, extension and training facilities

Effective control of the irrigation and drainage situation in the area could lead to more crops, a diversification of crops and the use of improved varieties of rice (HYV), thus contributing not only to an increase in the agricultural productivity in the area, but also affecting the nutritional status of the population. In order to promote these interventions, an important component of the (envisaged) project is to provide credit, extension and training facilities in relation to agricultural inputs and improvements.

(3) Additional income generating activities

At the same time, these support services and facilities will also be geared at additional income generating activities (such as pig and poultry raising, fruit trees, vegetable gardens, small businesses, etc.) improving the family's income situation.

(4) Environmental management

It is realised, however, that, in order to sustain the envisaged increases in agricultural and non-agricultural production, it will be necessary to carefully assess the impact on the environment. As such the (envisaged) project includes a component to safeguard (and possibly improve) environmental management in the area. Proposed measures include such issues as the arrest of land degradation and the introduction of agro-forestry models and integration of crop and livestock systems.

(5) Improvement of rural infrastructure

Apart from generating an environmentally sound and sustainable increase in production in the area, the project envisages to improve the rural infrastructure such as roads, domestic water supply, clinics, schools and community buildings. It is assumed that this component will not only facilitate the increase in productive activities through the provision of transportation and communication routes but, at the same time, also contribute to the further and overall development of the area and its population, in particular in relation to health, sanitation, education and community building.

4.2.3 Improvement in living conditions

The project aims to achieve a substantial and sustainable improvement in the living conditions of the population in the area. It is assumed that increased agricultural and non-agricultural production, supported by improvements in the rural infrastructure, will directly contribute to an increase in the family's income. In turn, an improvement in the economic position will have a direct impact on living conditions in the area. To this end, major technical interventions such as rehabilitation and (re-)construction of irrigation works and canals, as well as related agricultural and infrastructural works and support services are envisaged. However, if the population in the concerned areas is to take full advantage of the facilities and potential benefits offered by the project, and indeed if the project activities and results should be sustainable, it is vital that the population is involved in planning, implementation and maintenance of those activities.

This consideration has several consequences for the way in which the eventual project is designed and implemented. In particular, each intervention will have to be judged from the perspective of the potential beneficiaries and, to the maximum extent possible, will need to be discussed with them to incorporate their suggestions and to obtain their collaboration. For this purpose, the project includes a strong social development component which specifically aims at mobilising the population in the concerned areas to facilitate their participation and, simultaneously, act as a liaison between the population and the project to structure and articulate the suggestions of the beneficiaries until such time that sufficient confidence has developed that beneficiaries are able to express and negotiate their own suggestions. As pointed out earlier this requires an organisational structure at the grass roots level which will facilitate the process of interaction, negotiation and collaboration.

## 4.3 Participation of Beneficiaries

### 4.3.1 Starter activity: irrigation and drainage development

Without doubt the most important intervention in the envisaged project -and a condition for most other envisaged components of the project- is the improvement of the water situation in the area through rehabilitation and (re-)construction of the irrigation and drainage system. This provides a reasonably ideal opportunity for social mobilization purposes since it requires a gradual build up of a grass roots organizational structure which is not only a condition for effective, efficient and sustainable irrigation development, but is also thought to be instrumental for other developmental interventions.

(1) Procedure

a. At the very beginning of the implementation phase the social development expert and local assistants will need to undertake a detailed household survey in each village in the priority project area. Apart from the usual baseline data, and in view of the starter activity, particular attention should be paid to which plots of land are being owned by which families, and which families exchange labour.

b. The next step is to delineate units of 12 - 20 families (:the average size of a sub-village or *krom*) with adjacent plots and to reconfirm with each unit thus established their willingness to help each other and themselves (*'provasdaya'*) with improving/constructing the irrigation and drainage system for their fields. It is important that not only the heads of families -who are usually men- are contacted, but that all adult men and adult women of each family concerned are contacted and invited to take part in the deliberations. This in view of the substantial contributions of both sexes in the particular stages of the process of rice production in the area, and the need of sharing of responsibilities for appropriate water management, distribution, fee collection, operation and maintenance, etc. once the system is operational.

c. Those first rounds of discussions and negotiations should result in the final design of the tertiary and quaternary canals (in collaboration with the design engineers of the project), and the preliminary formation of groups of families. It is strongly recommended that those groups assume responsibility for the implementation of the rehabilitation and construction works of the tertiary and quaternary canals since (i): it will provide paid employment near the home stead -be it temporarily- and thus generate much needed cash income in the area; (ii): it will instil a sense of ownership in the families concerned (particularly in relation to the proposed quaternary blocks which roughly cover 7-10 ha or one sub-village each) which is important in relation to operation, maintenance and, ultimately, long term sustainability.

d. The groups should be given clear instructions what they should do, when to start, when to complete the envisaged works, and what pay they can expect. This can only be done when the whole area affected by (parts of) the scheme has been visited and organized in the way suggested. At the final stages a design engineer should be present to judge the technical feasibility of the suggestions and, if necessary, make corrections on the spot.

e. The next issues to tackle will be the management, co-ordination and control of several aspects of the actual distribution of water at the village and district levels, operation and maintenance issues, costs involved for each family, etc. It will be necessary to establish a formal working relationship between the sub-village units and the government bodies responsible for the system, particularly the district offices (for an overview of the overall O&M organization of the system see Annex V: 'Irrigation and Drainage'). While the sub-village units can (and should) be organized on the principle of direct representation, the contacts and negotiations

with the other parts of the system will have to be done on an indirect representation principle. It is suggested that each village (which on average will include 8-12 sub village units and will most probably be the size of one tertiary block) elects two members (one male and one female) from its sub-village units to represent the village, for a limited period of time (e.g. one year) and on a rotating basis so that each unit is involved from time to time in the higher level decision making processes and, in turn, is responsible to his/her own constituency. This, it is assumed, will maximize the support from the bottom of the system for decisions which can only be made at the top, such as the (fair) distribution and timing of the available water, operational procedures and guidelines, etc.

f. On the basis of the directives from the 'higher levels of the system' (described in more detail in Annex V) each tertiary and quaternary block (respectively each village and sub-village groups) should prepare distribution and operation / maintenance plans as well as contribution collection systems, in consultation with each other. This will require reasonably formalized meetings of representatives of the sub-village groups at the village level with clearly divided responsibilities for each issue.

g. The plans for the distribution of water should allow for some flexibility to suit the different actors in the operation; it will be necessary to take into account the division of labour and related working hours in the families (see also 3.4.4.), particularly in respect of women and, if necessary, to make special arrangements to enable them to fully participate in the scheme.

h. The importance of solid operation and maintenance (O&M) procedures and responsibilities cannot be over-emphasised: more often than not schemes fail and, subsequently, large investments are lost, due to a lack of O&M. Although this issue cannot possibly be dealt with in this part of the report it needs to be pointed out that the beneficiaries should be made responsible for the quaternary and tertiary canals/blocks in this respect, in collaboration with technicians of the overall structure. An appropriate O&M manual should be prepared and the family units should receive training and further guidance in using it. This issue should be introduced in the start up period when family units are being established.

i. Intimately linked to the O&M issue is the water fees issue: it seems reasonable that water fees are set as a function of plot sizes, and level and number of yields. Whether or not it is realistic to expect the investment costs of the scheme to be recovered through contributions of the beneficiaries cannot be judged at this point in time but will need to be considered in due course. In this respect a plan needs to be worked out between the government and representatives of the family units for fixing the water fees at a reasonable and affordable level, whereby the level could gradually increase over time assuming the benefits of the scheme (higher yields) will increase. An O&M fund thus established will act as a safeguard and protection of the scheme, in particular in relation to major maintenance issues which cannot be dealt with on a local basis.

(2) Training

In this concept, the family units are the core organizational entity of the scheme which, in collaboration with and supported by the government services, bear a substantial responsibility for the design, construction, operation and maintenance of the tertiary and quaternary parts of the envisaged scheme. A considerable amount of time of the project and district staff should therefore be spent on training and extension work in relation to the establishment and effective functioning of the family units to facilitate their development into self-reliant water management groups. The term *'water management groups'* rather than 'water users' is being used here to adequately reflect the responsibilities of the family units.

### 4.3.2 Agricultural production, rural credit and training/extension

It is assumed that, by improving the management and control of available water for irrigation and by improving the drainage, an increase in agricultural productivity can be achieved. The agricultural development plan emphasises the importance of (more) rice (local and HYV varieties) alongside crop diversification such as vegetables, and maize and soybean for promotion of livestock production. Farming practices will gradually need to change and improve to maximize the benefits of the improved water situation. It is suggested that some mechanization, application of fertilizers and integrated pest management is introduced on a small scale, and veterinary services are instituted. A substantial technical training/extension component -taking full account of environmental consequences- is envisaged to introduce and guide the process, and credit facilities will be made available.

From the social development perspective it will be important to carefully distinguish between families who are able to participate in these interventions forthwith, and those who cannot or dare not take even a minimum risk. Specific interventions (such as special credit support to buy farm inputs, or small pumps for those who are not well situated to profit from the irrigation facilities) may need to be drawn up and implemented with these farmers (either male or female or both) to achieve a minimum of equity and maintain a certain social balance.

From the health and nutrition point of view it will be important to strongly promote the diversification of the diet. This will require close collaboration of agricultural extension workers with health/nutrition workers to not only promote growing more vegetables and raising (more) livestock, but also to explain the concepts of a healthy diet and to organise short and simple training courses in relation to this issue in each village. Vehicles for these suggestions will be the family units (water management groups) established under the irrigation scheme.

### 4.3.3 Additional income generating activities

The extension/training and credit facilities envisaged to be established under the project are not only limited to support agricultural production, but also to stimulate non-agricultural income generating activities such as handicrafts, weaving, repair shops, etc. It is, however, important that the families themselves present their ideas and, together with the project staff, further develop those into feasible and implementable plans for which credit can then be made available. Those activities could be considered on an individual and on a group basis. Appropriate agreements with the borrowers need to be established covering such issues as repayment schedules, interest, responsibilities, etc.

### 4.3.4 Rural infrastructure

The rural infrastructure component of the envisaged project includes the improvement of the rural road network to facilitate transport and communications within the area and with other areas. It also includes the improvement of drinking water supply and sanitation in the villages, and rehabilitation / construction of schools, health and community facilities, as such creating conditions for further and overall development of the area.

From the social development perspective it is important that the population is involved in the planning and implementation of the proposed activities under this component. In particular the planning of roads, health, school and community facilities requires the active involvement of the population to make sure that the facilities will actually conform to the wishes of the potential users/beneficiaries: a road, clinic, school or community building which is not properly located or ill-designed will not be used or maintained. It is therefore recommended that the structure of the water management groups established under the irrigation scheme be used to discuss and finalize the plans, and also to be engaged as labour units for (unskilled) work during the inplementation phase.

In relation to the provision of drinking water it will be important that neighbourhoods sharing a well are fully engaged in the location and construction of those so as to understand the technology and to feel a sense of ownership/responsibility for its proper maintenance. It is furthermore worthwhile to consider establishing a committee for each well which should collect fees and, from these proceeds, maintain an O&M fund. Co-ordination with other agencies in the area (notably 24 HR TV and WVI in Kandal Stung District ) would be opportune to avoid duplication and to exchange experiences.

Latrines are a much more family oriented affair: although hardly any exist in the study area it has been noticed elsewhere in Cambodia that sharing of latrines between families is very uncommon. As such, a programme to promote the construction and appropriate use of latrines should be geared at families rather than neighbourhoods. Again, the water management groups may be suitable fora for awareness raising which, combined with the introduction of drinking water facilities, should adopt a more overall approach to domestic hygiene and 'healthy living' in general. This would include such topics as environmental cleanliness, drinking water handling, hygienic cooking, etc. Those topics could very well be combined with issues of nutrition (see 4.3.2) and result in a more integrated concept of healthy family life. Primary health care staff will be needed occasionally to supplement the social mobilizers and technicians for specific advise and recommended procedures.

## 4.4 Life Improvement : Summary

i) The project envisages to cover most needs identified by the families in the area: lack of water and its timely distribution; rice and food deficiency; lack of credit facilities; ill health; lack of roads, clinics, schools, etc. Gender sensitive strategies to improve these problems have been suggested here, focusing strongly on the principal actors, the people themselves: the project is there only to facilitate the process of self development.

ii) This will require a major effort of the families who wish to be involved in the development interventions: most activities presented here and elsewhere in the report will increase the workload of every single man and woman in the area. But the benefits could be substantial if one is prepared to invest one's own time and labour.

iii) Although not much difference in the socio-economic position of families has been discovered in the household surveys, some families may not be able to fully participate in (the benefits of) the project. There are indications that particularly poor families including FHHs may simply not have the time and manpower available to meet the demands of the envisaged project. It will be important to distinguish those families and establish, if necessary, special facilities for them. One solution for this problem might be to establish day care centres for small children of these families to free up time of the parent(s)/adult(s) to benefit from the project as a special arrangement on an experimental basis. Three such centres were discovered outside the priority project area but their effectiveness could not be fully assessed. At the start of the implementation phase it will be opportune to further study this phenomenon and intensify contacts with the organisation responsible for the centres (Care for Young Khmer, CYK). This could lead to intensive collaboration later on if and when the need for those centres becomes apparent in the priority project areas.

# APPENDIX VII-1
# THE RESULTS OF HOUSEHOLD SURVEY

## The Results of Household Survey

LIST OF TABLES

**Table VII-1;Population Statistics Master Plan Sutdy Area**
**(Source; calculations based on AEPU,UNTAC-1993)**

| Commnune(khum) | No. of villages (phum) | No. of villages coverd by Master Plan | Total poulation | % female in total population | No. of households | Size. of households |
|---|---|---|---|---|---|---|
| Kandal Stung District, Kandal Province; Area coverd: approx 10,000 ha | | | | | | |
| Anlong Romeat | 6 | 6 | 2,152 | 54.7 | 451 | 4.8 |
| Bakou | 7 | 7 | 3,040 | 59.7 | 612 | 5.0 |
| Thmey | 5 | 5 | 1,221 | 56.6 | 259 | 4.7 |
| Kork Trorp | 9 | 9 | 2,949 | 59.1 | 716 | 4.1 |
| Korng Nory | 4 | 4 | 1,003 | 53.7 | 222 | 4.5 |
| Preah Puth | 5 | 5 | 1,604 | 48.8 | 356 | 4.5 |
| Prek Roka | 4 | 4 | 3,069 | 53.6 | 645 | 4.8 |
| Roluos | 3 | 3 | 1,386 | 56.6 | 353 | 3.9 |
| Spean Thmar | 8 | 8 | 1,875 | 57.6 | 512 | 3.7 |
| Tbeng | 7 | 2 | 717 | 50.8 | 135 | 5.3 |
| Tien | 6 | 6 | 1,400 | 56.0 | 345 | 4.1 |
| Trapeang Veng | 5 | 4 | 1,895 | 59.8 | 354 | 5.4 |
| Trea | 9 | 9 | 3,812 | 56.0 | 738 | 5.2 |
| Totals & Averages | 78 | 72 | 26,123 | 56.2 | 5,698 | 4.6 |
| Bati District, Takeo Province; Area covered: approx 6,000 ha | | | | | | |
| Champey | 7 | 7 | 4,249 | 52.7 | 797 | 5.3 |
| Kandang | 8 | 3 | 1,140 | 52.6 | 228 | 5.0 |
| Kreing Thnoung | 8 | 3 | 2,067 | 49.4 | 356 | 5.8 |
| Put Sar | 11 | 11 | 7,583 | 55.9 | 1,350 | 5.6 |
| Trapeang Sap | 15 | 1 | 464 | 55.8 | 97 | 4.8 |
| Total & Averages | 49 | 25 | 15,503 | 53.9 | 2,828 | 5.5 |
| **Master Plan Area** | **127** | **97** | **41,626** | **55.3** | **8,526** | **4.9** |

**Table VII-2;Population Statistics Priority Project Area**
**(Source; calculations based on AEPU,UNTAC-1993)**

| Commnune(khum) villages(phum) | Total Population | % female in total population | % >=18 in total population | % female in > =18 population | % female in > =18 female population | No. of house holds | Size. of house holds |
|---|---|---|---|---|---|---|---|
| Kandal Stung District, Kandal Province; Area coverd: approx 1,800 ha | | | | | | | |
| AnlungRomeat | | | | | | | |
| Phoum Kang Cheun | 347 | 55.9 | 55.9 | 58.8 | 58.8 | 76 | 4.6 |
| Phoum Kang Tbong | 352 | 55.4 | 52.0 | 59.0 | 55.4 | 66 | 5.3 |
| Phoum Kang Lech | 278 | 51.1 | 56.8 | 51.3 | 57.0 | 62 | 4.5 |
| SreKok | 369 | 56.4 | 45.8 | 59.8 | 48.6 | 82 | 4.5 |
| KampongTourl | 388 | 54.6 | 49.5 | 57.3 | 51.9 | 73 | 5.3 |
| Bakou | | | | | | | |
| Bakou | 469 | 58.6 | 56.9 | 59.9 | 58.2 | 92 | 5.1 |
| Khmuot | 342 | 81.6 | 55.3 | 58.2 | 39.4 | 73 | 4.7 |
| Veal Kandal | 309 | 54.7 | 56.3 | 61.5 | 63.3 | 72 | 4.3 |
| Pou Doss | 324 | 58.0 | 58.0 | 65.4 | 65.4 | 74 | 4.4 |
| Tbong Kdey | 558 | 54.5 | 48.7 | 57.4 | 51.3 | 106 | 5.3 |
| Svay Minh | 674 | 61.4 | 49.7 | 55.2 | 44.7 | 118 | 5.7 |
| Kong Noy | | | | | | | |
| Kong Noy | 402 | 52.8 | 54.2 | 54.0 | 56.1 | 99 | 4.1 |
| Serey Sambath | 203 | 56.7 | 51.2 | 58.7 | 53.0 | 37 | 5.5 |
| Trapaing Somret | 181 | 56.4 | 56.4 | 57.8 | 57.8 | 40 | 4.5 |
| Prah Puth | | | | | | | |
| Krang Trea | 291 | 56.7 | 55.0 | 43.8 | 42.4 | 75 | 3.9 |
| Ben Bauv | 235 | 52.8 | 51.5 | 38.8 | 37.9 | 40 | 5.9 |
| Prah Puth | 307 | 65.2 | 48.2 | 48.6 | 36.0 | 70 | 4.4 |
| Krang Sbauv | 405 | 29.1 | 54.6 | 62.0 | 1161.0 | 104 | 3.9 |
| Bor Na | 366 | 48.1 | 79.0 | 60.9 | 100.0 | 67 | 5.5 |
| Rolus | | | | | | | |
| Krapeu Troum | 526 | 56.6 | 55.5 | 63.0 | 61.7 | 143 | 3.7 |
| Prash Theat | 334 | 59.3 | 53.0 | 68.4 | 61.1 | 87 | 3.8 |
| Kandal | 526 | 54.8 | 50.4 | 61.1 | 56.3 | 123 | 4.3 |
| Tien | | | | | | | |
| Krang Kroch | 328 | 55.8 | 49.4 | 49.4 | 43.7 | 80 | 4.1 |
| Thmey | 410 | 54.6 | 57.8 | 62.9 | 66.5 | 103 | 4.0 |
| 24 villages | 8,924 | 55.8 | 54.2 | 57.6 | 576.0 | 1,962 | 4.6 |
| Bati District, Takeo Province; Area coverd: approx 1,600 ha | | | | | | | |
| Chapey | | | | | | | |
| Demdong | 648 | 41.2 | 54.8 | 61.1 | 81.3 | 126 | 5.1 |
| Mkak | 739 | 52.6 | 58.9 | 58.4 | 65.3 | 156 | 4.7 |
| Kandang | | | | | | | |
| Haknuman | 280 | 51.1 | 56.1 | 57.3 | 62.9 | 60 | 4.7 |
| Kreing Thnoung | | | | | | | |
| Haknouckman | 601 | 49.4 | 42.9 | 50.8 | 44.1 | 92 | 6.5 |
| Chroa Sdao | 704 | 46.3 | 39.9 | 54.8 | 47.2 | 118 | 6.0 |
| Tboung Damrey | 616 | 50.3 | 45.0 | 63.5 | 56.8 | 106 | 5.8 |
| Krang Thnoung | 747 | 51.7 | 47.1 | 58.0 | 52.8 | 132 | 5.7 |
| Tonle Bati | 1,007 | 50.1 | 44.7 | 59.6 | 53.1 | 168 | 6.0 |
| Put Sar | | | | | | | |
| Krang Russey | 472 | 48.1 | 51.1 | 54.4 | 57.7 | 95 | 5.0 |
| 9 villages | 5,814 | 49.0 | 48.9 | 57.5 | 57.9 | 1,053 | 5.5 |
| **Totals** | | | | | | | |
| **33 villages** | **14,738** | **53.1** | **52.1** | **57.6** | **57.7** | **3,015** | **4.9** |

## Table VII-3: Population Statistics of Household Survey Phase I

MASTER PLAN STUDY AREA

(Source: socio-economic survey of 113 households, December 1993)

| Master Plan Study Area | Total Population | % female in total population | % ≥16n in total population | % female in ≥ 16 population | % female ≥ 16 in | No. of house holds female population | Size. of house holds |
|---|---|---|---|---|---|---|---|
| KSN | 205 | 53.2 | 48.3 | 56.6 | 51.4 | 35.0 | 5.9 |
| KSS | 179 | 54.2 | 45.3 | 62.9 | 52.6 | 30.0 | 6.0 |
| BATI | 311 | 54.0 | 45.0 | 52.9 | 44.0 | 48.0 | 6.5 |
| Totals | 695 | 53.9 | 46.0 | 56.6 | 48.4 | 113.0 | 6.2 |

Notes:

KSN: Kandal Stung District, Northern Part(study Area Only)
KSS: Kandal Stung District, Southern Part(study Area Only)
BATI: Bati District(Study Area only)

## Table VII-4: Population Statistics of Household Survey Phase II

PRIORITY PROJECT AREAS

(Source: socio-economic survey of 164 households, June/July 1994)

| Priority Project areas | Total Population | % female in total population | % > 16 in total population | % female ≥ 16 population | % female ≥16 in female population | No. of house holds | Size. of house holds |
|---|---|---|---|---|---|---|---|
| KS | 661 | 56.6 | 50.8 | 60.7 | 54.5 | 119.0 | 5.6 |
| BATI | 270 | 48.9 | 49.3 | 54.1 | 54.5 | 45.0 | 6.0 |
| Totals | 931 | 54.4 | 50.4 | 58.8 | 54.5 | 164.0 | 5.7 |

Notes:

KSN: Kandal Stung District, Priority Project Area Only
BATI: Bati District Priority Project Area only

## Table VII-5: Sex Ratios in Study Areas and Cambodia

(Source; calculations based on AEPU,UNTAC-1993)

| | Kandal Stung District | Bati District | Cambodia |
|---|---|---|---|
| < 18 years of age | 1.07 | 0.71 | 1.01 |
| total population | 1.26 | 0.96 | 1.13 |

## Table VII-6: Age Groups and Sex of Study Area

(Source; calculations based on AEPU,UNTAC-1993)

| Age groups | Male(%) | Female(%) | Totals(%) |
|---|---|---|---|
| ≥18 years | 42.4 | 57.6 | 100 |
| < 18 years | 51.8 | 48.2 | 100 |
| All ages | 46.9 | 53.1 | 100 |

## Table VII-7: Main Occupations of Respondents

PRIORITY PROJECT AREAS

(source: socio-economic Survey of 164 households, June/July 1994)

| Main Occupation | Bati (%) | Kandal Stung (%) | Total Area (%) |
|---|---|---|---|
| Farmer | 97.8 | 84.9 | 88.4 |
| (Small) Business | 0 | 4.2 | 3.1 |
| Government Official | 2.2 | 7.5 | 6.1 |
| Other | 0 | 3.4 | 2.4 |
| Totals | 100.0 | 100.0 | 100.0 |

Table VII-8: Secondary Occupations
PRIORITY PROJECT AREAS
(Source: socio-economic survey of 164 households, June/July 1994)

| Secondary Occupation | Bati (%) | Kandal Stung(%) | Total Area(%) |
|---|---|---|---|
| Live stock | 33.3 | 23.5 | 26.1 |
| Salary/Wage Labour | 15.6 | 11.8 | 13 |
| Child Care | 0 | 16 | 11.8 |
| Small Shop/Business | 2.2 | 12.1 | 8.7 |
| Other | 48.9 | 36.6 | 40.4 |
| Totals | 100.0 | 100.0 | 100.0 |

Table VII-9: Land ownership in hectares
PRIORITY PROJECT AREAS
(Source: socio-economic survey of 164 households, June/July 1994)

| Size in Hectares | Bati(%) | Kandal Stung(%) | Total Area(%) |
|---|---|---|---|
| 0 | 0 | 2.5 | 1.8 |
| >0 - 0.5ha | 13.3 | 19.3 | 17.7 |
| 0.5ha - 1.0ha | 24.4 | 37.8 | 34.2 |
| 1.0ha - 1.5ha | 37.8 | 23.5 | 27.4 |
| ≥1.5ha | 24.5 | 16.9 | 18.9 |
| Totals | 100.0 | 100.0 | 100.0 |
| Mean size per household | 1.121ha | 0.925ha | 0.979ha |

Table VII-10: Land ownership in number of plots
PRIORITY PROJECT AREAS
(Source: socio-economic survey of 164 households, June/July 1994)

| Number of Plots | Bati(%) | Kandal Stung(%) | Total Area(%) |
|---|---|---|---|
| 0 | 0 | 2.5 | 1.8 |
| 1 | 31 | 16 | 19.8 |
| 2 | 26.7 | 15.1 | 18.5 |
| 3 | 15.6 | 13.4 | 13.6 |
| 4 | 15.6 | 10.9 | 12.3 |
| 5 | 11.1 | 16 | 14.8 |
| 6 | 0 | 8.5 | 6.2 |
| 7 | 0 | 3.4 | 2.5 |
| 8 | 0 | 4.3 | 3.1 |
| 9 or more | 0 | 9.9 | 7.4 |
| Totals | 100.0 | 100.0 | 100.0 |
| Mean no. of plots per household | 2.5 | 4.1 | 3.7 |

Table VII-11: Type of Cultivation
PRIORITY PROJECT AREAS
(Source: socio-economic survey of 164 households, June/July 1994)

| Type of Cultivated Area | Bati(%) | Kandal Stung(%) | Total Area(%) |
|---|---|---|---|
| Rice field | 88.9 | 76.5 | 79.9 |
| Rice field and Upland Crop Area | 11.1 | 19.3 | 17.1 |
| Homestead only | 0 | 4.2 | 3 |
| Totals | 100.0 | 100.0 | 100.0 |
| Average size of rice field | 1.037 ha | 0.776 ha | 0.847 ha |

Table VII-12: Food intake in percentages of families
PRIORITY PROJECT AREAS
(Source: socio-economic survey of 164 households, June/July 1994)

| Energy sources | | Animal protein | | Fruits & vegetables | |
|---|---|---|---|---|---|
| Rice | 100 | Fresh fish | 22 | Green vegetables | 48 |
| Corn/wheat | 6 | Prahoc/preserved fish | 26 | Pumpkins/carrots | 4 |
| Cassava/potato | 4 | Beef/pork/chicken/duck | 9 | Other vegetables | 44 |
| Palm sugar/sugar cane | 69 | Eggs(chicken & duck) | 15 | Fruits | 19 |
| Mung/soya beans/sesame | 5 | Frog/crab/snail/shrimp | 38 | | |
| Lard/vegetable oil | 79 | | | | |
| No response | 2 | No response | 2 | No response | 29 |

Table VII-13: Most Important Source of Income
PRIORITY PROJECT AREAS
(Source: socio-economic survey of 164 households, June/July 1994)

| Source of Income | Bati(%) | Kandal Stung(%) | Kandal Stung(%) |
|---|---|---|---|
| Rice | 95.6 | 76.5 | 76.5 |
| Salary/Wage Labour | 0 | 13.4 | 13.4 |
| Handicrafts/Small Business | 0 | 6.7 | 6.7 |
| Other | 4.4 | 3.4 | 3.4 |
| Totals | 100.0 | 100.0 | 100.0 |

Table VII-14: Second Most Important Source of Income
PRIORITY PROJECT AREAS
(Source: socio-economic survey of 164 households, June/July 1994)

| Source of Income | Bati(%) | Kandal Stung(%) | Total Area(%) |
|---|---|---|---|
| Live stock | 42.2 | 23.5 | 28.4 |
| Salary/Wage Labour | 17.8 | 17.6 | 17.6 |
| Vegetables/Fruits | 13.3 | 14.3 | 13.9 |
| Handicrafts/Small Business | 17.8 | 11.8 | 13.3 |
| Other | 8.9 | 32.8 | 26.8 |
| Totals | 100.0 | 100.0 | 100.0 |

Table VII-15: Most Important Category of Expenditure
PRIORITY PROJECT AREAS
(Source: socio-economic survey of 164 households, June/July 1994)

| Category | Bati(%) | Kandal Stung(%) | Total Area(%) |
|---|---|---|---|
| Rice/Food | 53.3 | 62.7 | 59.5 |
| Medicines/Health | 6.7 | 13.6 | 11.7 |
| Live stock | 2.2 | 10.1 | 8 |
| Other | 37.8 | 13.6 | 20.8 |
| Totals | 100.0 | 100.0 | 100.0 |

Table VII-16: Second Most Important Category of Expenditure
PRIORITY PROJECT AREAS
(Source: socio-economic survey of 164 households, June/July 1994)

| Category | Bati(%) | Kandal Stung(%) | Total Area(%) |
|---|---|---|---|
| Medicines/Health | 6.6 | 36.1 | 28 |
| Live stock | 26.7 | 11.8 | 15.9 |
| Fish/Eggs | 26.7 | 9.2 | 14 |
| Rice/Other Food | 20 | 4.2 | 8.5 |
| Other | 20 | 38.7 | 33.6 |
| Totals | 100.0 | 100.0 | 100.0 |

Table VII-17: Expenditure on Food per Year (In Millions of Riels)
PRIORITY PROJECT AREAS

(Source: socio-economic survey of 164 households, June/July 1994, N=152)

| Food Expenditure | Bati(%) | Kandal Stung(%) | Total Area(%) |
|---|---|---|---|
| 0.0 - 0.5 | 0 | 21.1 | 15.1 |
| 0.5 - 1.0 | 6.7 | 37.6 | 29 |
| 1.0 - 1.5 | 33.3 | 31.2 | 31.6 |
| 1.5 - 2.0 | 31.1 | 7.3 | 13.8 |
| ≥2 | 28.9 | 2.8 | 10.5 |
| Totals | 100.0 | 100.0 | 100.0 |
| Mean per household per annum | 1.787 million Riels | 0.936 million Riles | 1.177 million Riels |

Table VII-18: Expenditure on Non Food per Year (In Millions of Riels)
PRIORITY PROJECT AREAS

(Source: socio-economic survey of 164 households, June/July 1994, N=153)

| Non Food Expenditure | Bati(%) | Kandal Stung(%) | Total Area(%) |
|---|---|---|---|
| 0.0 - 0.5 | 22.2 | 72.7 | 58.8 |
| 0.5 - 1.0 | 64.4 | 21.8 | 33.4 |
| 1.0 - 1.5 | 8.9 | 4.6 | 5.8 |
| 1.5 - 2.0 | 4.5 | 0 | 1.3 |
| ≥2 | 0 | 0.9 | 0.7 |
| Totals | 100.0 | 100.0 | 100.0 |
| Mean per household per annum | 0.704 million Riels | 0.415 million Riels | 0.496 million Riels |

Table VII-19: Debts
PRIORITY PROJECT AREAS
(Source: socio-economic survey of 164 households, June/July 1994)

| | Bati | Kandal Stung | Total Area |
|---|---|---|---|
| Indebted Families(%) | 64.4 | 68.1 | 67.1(=110 families) |

Table VII-20: Source of Loan
PRIORITY PROJECT AREAS
(Source: socio-economic survey of 164 households, June/July 1994, N=110)

| Source | Bati(%) | Kandal Stung(%) | Total Area(%) |
|---|---|---|---|
| Family/In Laws | 58.6 | 37.2 | 42.7 |
| Neighbours | 24.1 | 30.9 | 29.1 |
| Friends | 3.5 | 14.8 | 11.8 |
| Others | 13.8 | 17.1 | 16.4 |
| Totals | 100.0 | 100.0 | 100.0 |

Table VII-21: Purpose of Loan
PRIORITY PROJECT AREAS
(Source: socio-economic survey of 164 households June/July 1994, N=110)

| Source | Bati(%) | Kandal Stung(%) | Total Area(%) |
|---|---|---|---|
| Food | 27.6 | 42 | 38.2 |
| Medicines/Health | 3.4 | 16.2 | 12.8 |
| Agricultural Inputs | 10.3 | 13.6 | 12.8 |
| Build a House | 3.4 | 13.6 | 10.7 |
| Others | 55.3 | 14.6 | 25.5 |
| Totals | 100.0 | 100.0 | 100.0 |

Table VII-22: Amount of Loan
PRIORITY PROJECT AREAS
(Source: socio-economic survey of 164 households, June/July 1994, N=109)

| Amount in Millions of Riels | Bati(%) | Kandal Stung(%) | Total Area(%) |
|---|---|---|---|
| ≤0.25 | 32.1 | 53.1 | 47.7 |
| 0.25 - 0.50 | 39.3 | 30.9 | 33 |
| 0.50 - 1.00 | 25 | 9.8 | 13.7 |
| ≥1 | 3.6 | 6.2 | 5.6 |
| Totals | 100.0 | 100.0 | 100.0 |

Table VII-23: Interest per Month on Loan
PRIORITY PROJECT AREAS
(Source: socio-economic survey of 164 households, Jun/July 1994, N=109)

| Interest per Month in % | Bati(%) | Kandal Stung(%) | Total Area(%) |
|---|---|---|---|
| 0 | 92.9 | 49.4 | 60.9 |
| 2 | 0 | 16 | 11.8 |
| 2 - 10 | 0 | 9.8 | 7.2 |
| 10 - 20 | 3.6 | 9.8 | 8.2 |
| ≥20 | 3.5 | 15 | 11.9 |
| Totals | 100.0 | 100.0 | 100.0 |

Table VII-24: Dry Season Drinking Water Sources
PRIORITY PROJECT AREAS
(Source: socio-economic survey of 164 households, June/July 1994)

| Source | Bati(%) | Kandal Stung(%) | Total Area(%) |
|---|---|---|---|
| Well | 31.1 | 84 | 69.5 |
| Pond | 55.6 | 6.7 | 20.1 |
| Well + Pond | 8.9 | 1.7 | 3.7 |
| River | 0 | 2.5 | 1.8 |
| Other Sources or Combination | 4.4 | 5.1 | 4.9 |
| Totals | 100.0 | 100.0 | 100.0 |

Table VII-25: Wet Season Drinking Water Sources
PRIORITY PROJECT AREAS
(Source: socio-economic survey of 164 households, June/July 1994)

| Source | Bati(%) | Kandal Stung(%) | Total Area(%) |
|---|---|---|---|
| Rain | 86.7 | 2.5 | 25.6 |
| Rain + Well | 0 | 80.7 | 58.5 |
| Rain + Pond | 0 | 8.4 | 6.1 |
| Other Sources or Combination | 13.3 | 8.4 | 9.8 |
| Totals | 100.0 | 100.0 | 100.0 |

Table VII-26: Distance to Dry Season Drinking Water Sources
PRIORITY PROJECT AREAS
(Source: socio-economic survey of 164 households, June/July 1994)

| Distance in metres | Bati(%) | Kandal Stung(%) | Total Area(%) |
|---|---|---|---|
| < 10 | 17.7 | 15.9 | 16 |
| 10 - 50 | 8.9 | 25.2 | 20.7 |
| 50 - 100 | 6.7 | 16.8 | 14 |
| 100 - 500 | 15.6 | 36.2 | 30.6 |
| ≥ 500 | 51.1 | 5.9 | 18.7 |
| Totals | 100.0 | 100.0 | 100.0 |

Table VII-27: School Enrolment for Age Group 6-16
PRIORITY PROJECT AREAS
(Source: socio-economic survey of 164 households, June/July 1994)

| N=365 | Male | Female | Total % | Kandal St. | Bati |
|---|---|---|---|---|---|
| Go to school | 66 | 69 | 67 | 80 | 46 |
| Don't go to school | 34 | 31 | 33 | 20 | 54 |
| Totals | 100%=189 | 100%=176 | 100%=365 | 100%=229 | 100%=136 |

Table VII-28: Participation in Mutual Help Schemes
PRIORITY PROJECT AREAS
(Source: socio-economic survey of 164 households, June/July 1994)

| | Bati | Kandal Stung | Total Area |
|---|---|---|---|
| Participating Families in % | 95.6 | 88.2 | 90.2(=148 families) |

Table VII-29: Type of Mutual Help Activities
PRIORITY PROJECT AREAS
(Source: socio-economic survey of 164 households, June/July 1994, N=148)

| Activities | Bati(%) | Kandal Stung(%) | Total Area(%) |
|---|---|---|---|
| Ploughing+Planting+ Harvesting+Processing | 57.8 | 45.7 | 50 |
| Ploughing+Planting+Harvesting | 0 | 2.9 | 2 |
| Planting+Harvesting+Processing | 18.6 | 17.1 | 17.6 |
| Planting+Harvesting | 2.3 | 7.6 | 6.1 |
| Planting+Ploughing | 0 | 2.9 | 2 |
| Planting | 0 | 5.7 | 4.1 |
| Other | 21.3 | 18.1 | 18.2 |
| Totals | 100.0 | 100.0 | 100.0 |

Table VII-30: Mutual Help Preferences
PRIORITY PROJECT AREAS
(Source: socio-economic survey of 164 households, June/July 1994, N=148)

| Preferences | Bati(%) | Kandal Stung(%) | Total Area(%) |
|---|---|---|---|
| Family/Neighbour/Adjacent Plot Owner | 7 | 13.3 | 11.5 |
| Neighbour/Adjacent Plot Owner | 0 | 8.6 | 6.1 |
| Combination of all | 83.7 | 72.4 | 75.7 |
| Other | 9.3 | 5.7 | 6.7 |
| Totals | 100.0 | 100.0 | 100.0 |

Table VII-31: Overview of Family Problems
PRIORITY PROJECT AREAS
(Source: socio-economic survey of 164 households, June/July 1994)

| Problems mentioned | Bati(%) | Kandal Stung(%) | Total Area(%) |
|---|---|---|---|
| Poor | 8.9 | 6.7 | 7.3 |
| Lack of Food | 26.7 | 38.6 | 35.4 |
| Poor+Lack of Food | 17.8 | 16 | 16.5 |
| Poor+Health | 4.4 | 5.1 | 4.9 |
| Health | 0 | 1.7 | 1.2 |
| Lack of Draft Animal | 0 | 8.4 | 6.1 |
| No answer | 42.2 | 23.5 | 28.6 |
| Totals | 100.0 | 100.0 | 100.0 |

Table VII-32: Overview of Village Problems
PRIORITY PROJECT AREAS
(Source: socio-economic survey of 164 households, June/July 1994)

| Problems mentioned | Bati(%) | Kandal Stung(%) | Total Area(%) |
|---|---|---|---|
| Water Shortage | 28.9 | 14.3 | 18.3 |
| No roads | 0 | 19.3 | 14 |
| Water Shortage+No Roads | 2.2 | 13.4 | 10.4 |
| Lack of Clinic, Medicines+No Roads | 28.9 | 0 | 7.9 |
| Irrigation Canals Need Repair | 6.7 | 14.2 | 12.3 |
| No Schools | 26.7 | 0 | 7.3 |
| Other problems | 2.2 | 16.1 | 12.1 |
| No answer | 4.4 | 22.7 | 17.7 |
| Totals | 100.0 | 100.0 | 100.0 |

Table VII-33: Overview of assets
PRIORITY PROJECT AREAS
(Source: socio-economic survey of 164 households, June/July 1994)

| % of families in Bati | % of families in Kandal Stung | % of families in total area | Owns |
|---|---|---|---|
| 2.2 | 6.8 | 5.5 | tv+motorbike+bicycle |
| 4.4 | 9.3 | 7.4 | tv+motorbike |
| 11.1 | 13.6 | 11.7 | tv |
| 11.1 | 20.3 | 17.2 | motorbike+bicycle |
| 22.2 | 24.6 | 23.9 | motorbike |
| 44.4 | 52.5 | 49.7 | bicycle |
| 82.2 | 53.4 | 61.3 | radio/cassette |
| 84.4 | 55.1 | 62.6 | radio |

# APPENDIX VII-2
# INTERNATIONAL ORGANIZATIONS IN THE MASTER PLAN STUDY AREA

# INTERNATIONAL ORGANIZATIONS IN THE MASTER PLAN STUDY AREA

## 2.1 NGOs in Cambodia

NGOs have played and are playing an important and dominant role in the reconstruction and rehabilitation of post-war Cambodia. At a time when no regular bi-lateral or multi-lateral aid was extended to Cambodia a large number of NGOs (including several consortia) stepped in with considerable funds. Today there are over 100 NGOs spread all over the country engaged in a large variety of projects, including providing support to all levels of the government (i.e. at national, provincial and district level).

Many NGOs, however, seem to be doing 'their own thing in their own, adopted area' without bothering much about co-ordinating their activities with the government or, indeed, with other NGOs working in the same fields and geographical areas. Additional to that, several NGOs have gone way beyond their capacity and professional capabilities (admittedly forced by the situation), resulting in failures and abrupt changes in strategies. Having said that, it needs to be stressed that there are several NGOs who do co-ordinate their activities with the government and other NGOs, who bring in professional staff and a variety of experience, and who have gained substantial and valuable experience in post-war Cambodia.

## 2.2 Overview

### 2.2.1 Kandal Stung District

Two major NGOs are operational in this area: World Vision International (WVI) and 24Hour Television.

(1)World Vision International (WVI)

WVI is a non-profit Christian humanitarian international NGO with its headquarters in California, USA. It has programmes in about 85 countries in the world. WVI entered Cambodia for the first time in 1970 and was amongst the first agencies to return after the 1975-1979 Khmer Rouge period. Its programme currently includes a variety of activities, two of which are relevant for the Master plan Study:

i) The Kandal Rural Health and Development Project

This programme aims "....to reduce mortality and morbidity among children under 5 and of women between 15-44 years of age in Kandal Stung district, by assisting the Provincial and District health authorities in developing appropriate health policies and programmes, strengthening the capability of public and private sector players to maintain effective health service provision at the grass roots level, and supporting community efforts in the making of a healthy living environment and in promoting a healthy and responsible family life." (WVI-Project Documentation, 1993)

The activities particularly relevant for the study area include the following:

-water and sanitation programme;
-village health volunteer organising; and
-support for community development activities.

The water and sanitation component consists of building/repairing wells, rainwater catchment tanks, latrines and village drainage systems, eventually covering the whole district. However, early this year '24Hour TV' (Japanese NGO, see below) also started

with a pump well provision, providing each village of the district with a hand pump and well. This intervention affected the well repairing programme of WVI considerably with the result that requests for repairs from villages sharply decreased. The latrine programme seems more successful while the drainage programme has not yet started.

The village health volunteer programme has only recently started and includes the training of 2 volunteers in each village, in collaboration with the khum clinics and khum leaders. Their main activities are in the field of preventive healthcare which includes growth monitoring and nutrition, immunisation, oral rehydration therapy, first aid, etc. The village health volunteers are also engaged in the community development activities which, apart from a revolving loan scheme, include elements of community organisation for communal activities such as road repairs.

ii) Kandal Agriculture Development Project

This project, operating from a centre in Trapeang Veng khum on Route No. 31, covers 12 villages in 3 khums in Kandal Stung district where 'Farmers Clubs' have been set up through which assistance is being channelled. A large variety of activities is being initiated through these clubs, including rice banks, credit schemes, livestock raising, home gardening, agro-forestry, introduction of different varieties of rice, etc. Workshops are held regularly on such issues as 'sustainable agriculture', 'accounting', 'people's participation', etc. The centre includes a demonstration area where vegetables and other agricultural produce is being grown. Currently there are 18 clubs with 375 families and 1760 members (Information based on discussions with WVI staff and project documentation).

(2) 24Hour Television (24HRTV)

This NGO -with headquarters in Japan- is a non-political, non-religious and non-profit organisation providing relief and development assistance to several countries in the Third World. Its first activity in Cambodia was to install printing equipment and to second engineers to the Ministry of Education. In 1988 24HRTV started to provide technical assistance including medical equipment to the District Hospital of Kandal Stung District, and early this year a Primary Health Care programme in khum Deumrous, adjacent to the study area, was conceived. Apart from these activities, 24HRTV has a drilling rig in the district providing villages with wells and hand pumps.

The main elements included in the PHC programme are: vaccination, family planning, ante natal care, deliveries, post natal care, growth monitoring, nutrition education, health education and treatment of simple and common diseases. Surveys are currently being done in all the villages in order to start the programme. (Information based on discussions with 24HRTV staff and project documentation)

2.2.2 Bati District

In Bati District two international NGOs are operational in the fields of agriculture/integrated rural development and Primary Health Care.

(1) World Council of Churches (WCC)

The WCC (headquartered in Switzerland) is a consortium of churches providing relief and development assistance to Third World countries. Its Cambodia programme started in 1979 with emergency relief assistance. In 1981 a long term programme was developed including agriculture and health training. Of interest to the Master plan Study is the Tonle Bati Agricultural Development Centre which was established in 1986 in collaboration with the Ministry of Agriculture. Since last year the focus of this centre has moved from

agricultural extension work in 7 khums of the district to integrated rural development, currently covering 4 villages of which two are in the Master plan Study area. Activities include: road repairs, agriculture, well digging, credit union and adult education. The centre operates in close collaboration with the District Offices through a District Development Committee in which both centre staff and government staff are represented. Apart from the assistance to the 4 villages, the centre increasingly functions as a training centre for development workers, local village key persons, primary school teachers, community health, etc. Shortly, WCC will pull out of direct implementation and current activities will be taken over by HEKS, a Switzerland-based organisation. (Information based on discussions with WCC staff and project documentation)

(2) Japan Overseas Christian Medical Co-operative Service (JOCS)

JOCS (with its headquarters in Japan) is active in about 10 countries in Asia. In 1989, JOCS started its Cambodia programme by providing medical supplies to the District Hospital in Bati District and, simultaneously, starting a village health programme. This village health programme did not come off the ground due to a lack of health system support structures at khum and district level. JOCS has changed its strategy recently. It is now trying to enhance the functioning of the District Hospital but the difficulties encountered are numerous (such as the lack of planning and management skills, budget, etc.). Through the TB patients admitted to the hospital (:TB is the major disease in the district) JOCS follows up their families and communities who they believe are amongst the poorest of the district. JOCS plans to continue its support to the District health services during the next 5-10 years. Current staff includes one nurse, one medical doctor, and one (administrative) representative, all expatriates. (Information based on discussions with JOCS staff)