(version 1.2)

Users' Manual for Handling Resampled Micro Data of Thailand Household Socio-Economic Survey (HSES) 2007

2015
The Institute of Statistical Mathematics (ISM)
and
Statistical Information Institute for Consulting and Analysis (SINFONICA)

History of revision of the manual

- ☐ Version 1.2 in January 2016
  - Corrected the translation mistake in the questionnaire.

- ☐ Version 1.1 in March 2015
  - Revised based on the discussion during the Fifth International Workshop on Analysis of Micro Data of Official Statistics in December 2013

- ☐ First draft version 1.0 in September 2013

CONTENTS

Chapter 1. About this Manual Page 5

Chapter 2. Outline of the survey 7

- Objective of the survey
- Coverage of the survey
- Topics covered by the survey
- Sample design
- Data collection
- Estimation
- Survey results

Chapter 3. Reorganization of micro data 10

- Origin of the micro data set
- Organization of data files and identifier of sample households
- Structure of household data files 13
- Structure of individual and occupation data files 14
- Strategy for reorganization 25
- Supplement: R scripts for reorganizing micro data files 25

Chapter 4. Data check

- Range check and off-code check 28
- Integrity check between household data files regarding expenditure 30
- Integrity check between data files regarding work status at national level 31
- Comparison of collapsed R02, R13, R14 and R15 with R01 at household level 33
- Linkage between R13 and R02 at individual and occupation level 35
- Linkage between R14 and R02 at individual and occupation level 44
- Supplement: Summary tables and frequency tables of each file 50
- Supplement: R scripts for data check 88

Chapter 5. Resampling of micro data

- Variables generated and appended to data files 109
- Strategy for resampling micro data
- How to use resampled micro data 111

Supplement

1. Sample design and identification of psu and ssu
- Describe sample design using micro data 112
- Primary sampling unit (psu) 114
- Secondary sampling unit (ssu) 116
- The combination of identification variables (ssuid): No longer unique 117
- Situation of duplicated ssuid 118

2. Reconstruction of household identifier
- Sequence check of REC01 121
- Break points of identification variables 123
- Editing of a01 (month) 125
- Verifying psu_no 129
- Generating PSU identifier 130
- Editing of psu_no 131
- Making list of psu 134
- Hidden district/sub-district level variable 139
- Generating household identifier HHID in household data files 142
- Generating HHID in individual data file 142
- Merging individual data and household data by using HHID 143

3. Example of R scripts for tabulation 145
- TABLE 16 PERCENTAGE OF HOUSEHOLDS BY MAJOR HOUSING CHARACTERISTICS AND REGION 146
- TABLE 9 NUMBER OF HOUSEHOLDS BY AVERAGE MONTHLY EXPENDITURE AND SOCIO-ECONOMIC CLASS 149
- TABLE 1 AVERAGE MONTHLY INCOME PER HOUSEHOLD BY SOURCES OF INCOME, REGION AND AREA 152
- TABLE 5 SHARE OF HOUSEHOLDS CURRENT INCOME BY DECILE GROUPS AND REGION 155
- INEQUALITY OF HOUSEHOLD INCOME 158

Attachments

a. Questionnaire forms (SES.2 and SES.3) 161

b. Data dictionary 193

c. Original data layout (Input format) 291

d. Methodology of sample design and estimation 296

e. Survey results

Executive summary 300

Table list 303

Tables 304

Chapter 1. About this Manual

1. This manual was prepared for users to use the next 80% resampled micro data sets of Thailand Socio-Economic Survey (TSES) 2007.

2. The next original micro data sets composed of all the samples were provided by Thai NSO based on the Charter for Experimental Laboratory for Research Purpose Statistical Use of Micro Data. They were reorganized and resampled at the rate of 80% by Sinfonica.

3. Some identification variables such as district/sub-district code had been deleted for the confidentiality reason by Thai NSO. Drop of these variables caused the fatal problem when merging data files, because the combination of the remaining 6 identification variables was no more unique identifier of sample households.
In this research, the new household identifier HHID was reconstructed by chance and attached to each file to enable merging files.
Also revisions of some household member identifier were proposed to enable linking files at individual and occupation level, although it was based on hypothesis and hypothesis, and remains ambiguity.

The above method was agreed with the delegates from Thailand for the Fifth International Workshop in December 2013.

4. The above resampled data sets are available through the Institute of Statistical Mathematics (ISM) both in R and CSV format. CSV files are readable by Excel as well as any statistical software.

5. This manual was first compiled in September 2013 by;
Hiroshige Furuta
Visiting Senior Research Fellow, Sinfonica

Table: List of 80% resampled micro data

80% resampled micro data				Original micro data						
R data frame	CSV data	nrow	ncol	Original file name	Unit	nrow	ncol	Contents	Questionnaire	Main variables
R01.80	R01_80.csv	34,444	89	REC_01	Household	43,055	78	Summary of household information	SES.2	A01–A52
R02.80	R02_80.csv	111,165	49	REC_02	Individual	139,003	47	Household members	SES.2	HM01–HM41
R03.80	R03_80.csv	34,444	53	REC_03	Household	43,055	51	Housing characteristics	SES.2	HH01–HH45
R04.80	R04_80.csv	34,444	32	REC_04	Household	43,055	30	Expenditure on goods and services	SES.2	EG011–EG122
R05.80	R05_80.csv	34,444	38	REC_05	Household	43,055	36	(same as above)	SES.2	EG131–EG272
R06.80	R06_80.csv	34,444	46	REC_06	Household	43,055	44	(same as above)	SES.2	EG281–EG462
R07.80	R07_80.csv	34,444	36	REC_07	Household	43,055	34	(same as above)	SES.2	EG471–EG602
R08.80	R08_80.csv	34,444	46	REC_08	Household	43,055	44	(same as above)	SES.2	EG611–EG792
R09.80	R09_80.csv	34,444	36	REC_09	Household	43,055	34	(same as above)	SES.2	EG801–EG932
R10.80	R10_80.csv	34,444	46	REC_10	Household	43,055	44	(same as above)	SES.2	EG941–EG1122
R11.80	R11_80.csv	34,444	26	REC_11	Household	43,055	24	(same as above)	SES.2	EG1131–EG1212
R12.80	R12_80.csv	34,444	42	REC_12	Household	43,055	40	Expenditure on foods	SES.2	EF011–EF172
R13.80	R13_80.csv	87,723	24	REC_13	Individual–occupation	109,809	21	Earnings from wages/earnings	SES.3	IW01–IW14
R14.80	R14_80.csv	28,164	23	REC_14	Individual–occupation	35,104	20	Income from non–farm business	SES.3	IB01–IB11
R15.80	R15_80.csv	34,444	43	REC_15	Household	43,055	41	Income from farm business	SES.3	IA01–IA29
R16.80	R16_80.csv	34,444	46	REC_16	Household	43,055	44	Income from other sources	SES.3	IO01–IO143
R17.80	R17_80.csv	34,444	34	REC_17	Household	43,055	32	Household assets and debt	SES.3	AD01–AD26
R181.80	R181_80.csv	34,444	39	REC_181	Household	43,055	37	Migration and remittance transfers	SES.3	MR01–MR13
R182.80	R182_80.csv	34,444	38	REC_182	Household	43,055	36	Remittance of the receiving members	SES.3	MP01–MP12

Chapter 2. Outline of Thailand 2007 HSES (Household Socio-Economic Survey)

☐ Objective of the survey

The primary objective of the survey is collecting information on household income and household expenditures, household consumptions, changes in assets and liabilities, the durable goods ownerships, and housing characteristics including other living conditions of households.

The first Household Socio-Economic Survey was conducted by the National Statistical Office (NSO) in 1957, known as "The Household Expenditure Survey". This name was changed to the Household Socio-Economic Survey in 1968 - 1969 and the survey was conducted every five years. Due to the rapid economic expansion and the importance of the survey in order to set the anti-poverty policy, the Ministerial Cabinet had passed an approval in 1987 for the NSO to carry out the survey **every two years**.

☐ Coverage of the survey

The survey covered **all private, non-institutional households** residing permanently in municipal areas, sanitary districts, and villages of all regions. However, it excluded that part of the population living in transient hotels and rooming houses, hostels, boarding schools, temples, military barracks, prisons, welfare institutes, hospitals and other such institutions. It also excluded households of foreign diplomats and other temporary residents.

☐ Topics covered by the survey

The survey included the following subject areas:

- Household members characteristics such as sex, age, education, occupation, etc.
- Household income
- Household expenditures
- Housing characteristics
- Ownership of household durable goods

☐ Sample design

A stratified, three-stage sample design was adopted for the survey since 1975-76 until 1986. Since 1988 onwards, a **stratified two-stage sampling** was adopted for the survey. The primary sampling units were blocks for municipal areas and were villages for non-municipal areas. The secondary sampling units were private households.

Provinces were considered to be constituted strata. There were altogether 76 strata, each stratum was

divided into two parts according to the type of local administration, namely, municipal areas, and non-municipal areas.

1) Selection of Primary Sampling Units

The sample selection of blocks/villages was performed separately and independently in each part by using PPS; probability proportional to the total number of households in that block or village.

2) Selection of Secondary Sampling Units

In this stage, private households were the ultimate sampling units. Households in every sample block and village were listed to serve as the sampling frame then the set of households was rearranged by size of household (classified by number of household members) and type of economic household (determined on the basis of the occupation type which produces the highest income in the household). Finally private sampled households were selected by using SYS; the systematic method in each type of local administration with the following sample sizes :

(a) 15 households from each of sample blocks in municipal areas

(b) 10 households from each of sample villages in non–municipal areas

The total number of private sampled households for the whole year were 51,970 households.

☐ Data collection

Face-to-face data collection method was employed.

The sample of about 52,000 households, in both municipal and non-municipal area, was divided into twelve equally representative sub-samples. Each sub-household group was interviewed for the period of one-month, from January to December 2007. The survey data was collected by an interviewing method. The interviewers were sent out to interview the household head or other household members of the sample households.

Two questionnaires were used:

- Questionnaire of Household Members and Expenditures - (SES 2)
- Questionnaire of Household Income (SES 3)

☐ Estimation

The results of the survey were presented at regional levels. A ratio estimation method was employed, using the estimated number of household based on the Population Projections for Thailand 1990-2020 as a benchmark.

The final weights with 4-decimal points for sample households were provided in the household data file (REC_01). The same weights were applied for household members.

☐ Survey results

17 summary tables were compiled by TNSO and published in “HSEC 2007 Survey Report” as well

as in the TNSO website.
(http://service.nso.go.th/nso/nso_center/project/search_center/23project-en.htm)

Chapter 3. Reorganizing micro data files

1. Origin of the micro data set

Based on the Charter, Ms. Kulluck Lerpatarapong, Senior Statistician of Statistical Forecasting Bureau, Thai NSO provided the following data files and documents to Sinfonica on the occasion of the First International Workshop on ELMD in 2010.

Data files;

19 files in SPSS format including all samples of the survey.

```
> list.files()
 [1] "REC_01.sav"  "REC_02.sav"  "REC_03.sav"  "REC_04.sav"
 [5] "REC_05.sav"  "REC_06.sav"  "REC_07.sav"  "REC_08.sav"
 [9] "REC_09.sav"  "REC_10.sav"  "REC_11.sav"  "REC_12.sav"
[13] "REC_13.sav"  "REC_14.sav"  "REC_15.sav"  "REC_16.sav"
[17] "REC_17.sav"  "REC_181.sav" "REC_182.sav"
```

Documents (See Attachments);

a. Questionnaire forms (SES.2 and SES.3)

b. Data dictionary

c. Original data layout

d. Methodology of sample design and estimation

e. Survey results

- Executive summary
- Table list
- Tables

f. other documents in local language

Remarks:

Enumerators' manual in English is not available.

2. Organization of data files and identifier of sample households

Data files in SPSS were imported into R software. The structure of data files, and the number of rows and columns of each file are shown in the previous table.

✧ Example of importing SPSS data file into R:

```
> library(foreign)
> REC_13<-read.spss("REC_13.sav", to.data.frame=TRUE)
> dim(REC_13)
[1] 109809      21
```

Each row has 6 variables; REG, CWT, AREA, PSU_NO and ENU at the beginning, which is a part of identifier of sample household. According to the original data layout (Attachment 3), the identification part consists of the 20 digits of the combination of 10 variables; REG(1 digit), CWT(2), AMPp(2), TMP(2), AREA(1), ED(3), BLK/VIL(2), PSU_NO(4), HH_NO(2) and ENU(1), as shown at the top of the questionnaire SES.2. However, the four variables; AMP, TMB, ED and BLK/VIL were deleted as the measure of confidentiality by Thai NSO, and not included in the given micro data set.

Figure: Original data layout

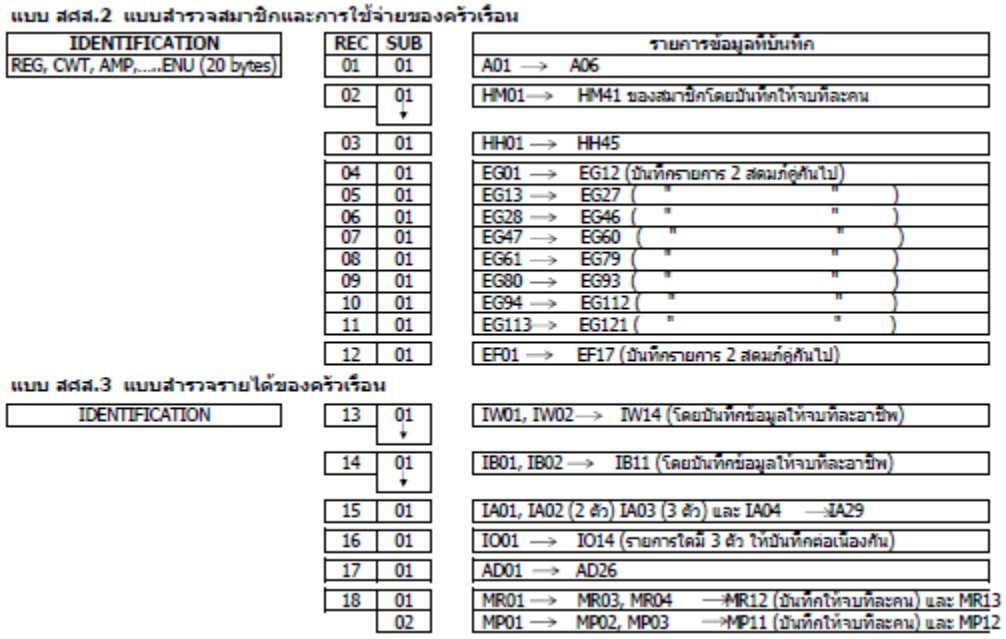
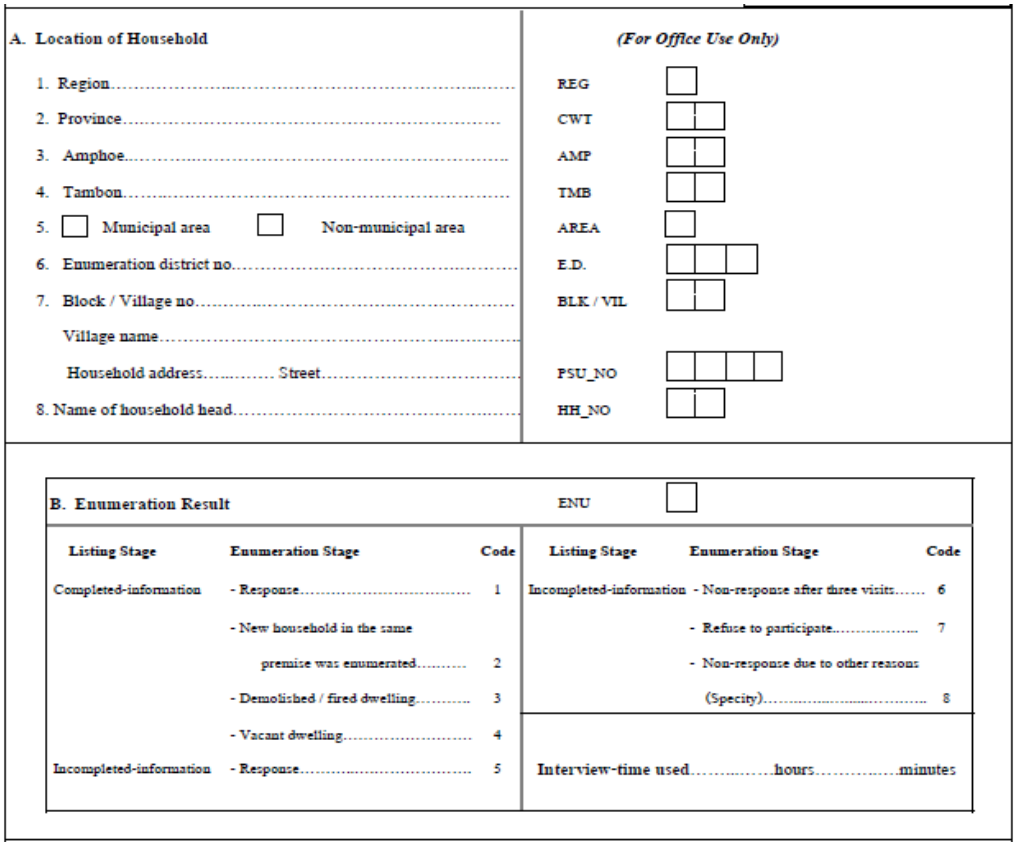


Figure: Top of the questionnaire SES.2



A. Location of Household

(For Office Use Only)

1. Region ..... REG
2. Province ..... CWT
3. Amphoe ..... AMP
4. Tambon ..... TMB
5. ☐ Municipal area ☐ Non-municipal area — AREA
6. Enumeration district no. ..... E.D.
7. Block / Village no. ..... BLK / VIL

Village name .....

Household address ..... Street ..... PSU_NO

8. Name of household head ..... HH_NO

B. Enumeration Result — ENU

Listing Stage	Enumeration Stage	Code
Completed-information	- Response	1
	- New household in the same premise was enumerated	2
	- Demolished / fired dwelling	3
	- Vacant dwelling	4
Incompleted-information	- Response	5
Incompleted-information	- Non-response after three visits	6
	- Refuse to participate	7
	- Non-response due to other reasons (Specify)	8

Interview-time used ..... hours ..... minutes

Drop of these variables caused a serious problem when matching data files, because the combination of the above 6 variables is no more unique. (See Supplement 2)

In this study, focusing on the sequence of REG, CWT, AREA, PSU_NO and HHNO in each file, the new household identifier HHID was created using the serial number of records of the household-unit files.

The variables of this household identifier HHID and weights were appended to each data file to enable merging data files.

Remarks:

According to the delegates from Thailand for the Fifth International Workshop in December 2013,

1) In the case that the data given to Sinfonica do not contain all above 8 variables to identify household, there should be one additional variable named “new_hh_n” which its value is unique.

If not so, it is very strange that TNSO provided Sinfonica with uncommon data set.

2) They agreed with the explanation in this manual and what we have done without unique identification.

3. Structure of household data files

Regarding the following 17 household-level data files, the first 6 variables; reg, cwt, area, psu_no, hhno and enu are perfectly common.

```
> file.list<-list(REC_01,REC_03,REC_04,REC_05,REC_06,REC_07,REC_08,REC_09,
+ REC_10,REC_11,REC_12,REC_15,REC_16,REC_17,REC_181,REC_182)
> names(file.list)<-list("REC_01","REC_03","REC_04","REC_05","REC_06","REC_07",
+ "REC_08","REC_09","REC_10","REC_11","REC_12","REC_15","REC_16","REC_17",
+ "REC_181","REC_182")

> for(j in 2:16){
+ df<-hh.file.list[[j]]
+ cat("The number of inconsistency elements between",names(file.list)[j],
+ "and REC_01 =",sum(REC_01[1:6]!=df[1:6]),"¥n")
+ }
The number of inconsistency elements between REC_03 and REC_01 = 0
The number of inconsistency elements between REC_04 and REC_01 = 0
The number of inconsistency elements between REC_05 and REC_01 = 0
The number of inconsistency elements between REC_06 and REC_01 = 0
The number of inconsistency elements between REC_07 and REC_01 = 0
The number of inconsistency elements between REC_08 and REC_01 = 0
The number of inconsistency elements between REC_09 and REC_01 = 0
The number of inconsistency elements between REC_10 and REC_01 = 0
The number of inconsistency elements between REC_11 and REC_01 = 0
The number of inconsistency elements between REC_12 and REC_01 = 0
The number of inconsistency elements between REC_15 and REC_01 = 0
The number of inconsistency elements between REC_16 and REC_01 = 0
The number of inconsistency elements between REC_17 and REC_01 = 0
The number of inconsistency elements between REC_181 and REC_01 = 0
The number of inconsistency elements between REC_182 and REC_01 = 0
```

Conclusion:

This implies very important fact that merging household data files simply by using cbind function is possible.

4. Structure of individual and occupation data files

REC_02: Household member

It is possible to merge REC_02 (individual data) with REC_01 (household data) using household identifier HHID.

REC_13: Income from wage

First, observed the organization mechanism of REC_13.

- REC_13 derived from "Part I Earnings from Wages and Salaries" of Questionnaire SES.3.
- The universe of the questions is the household members whose work status was an employee.

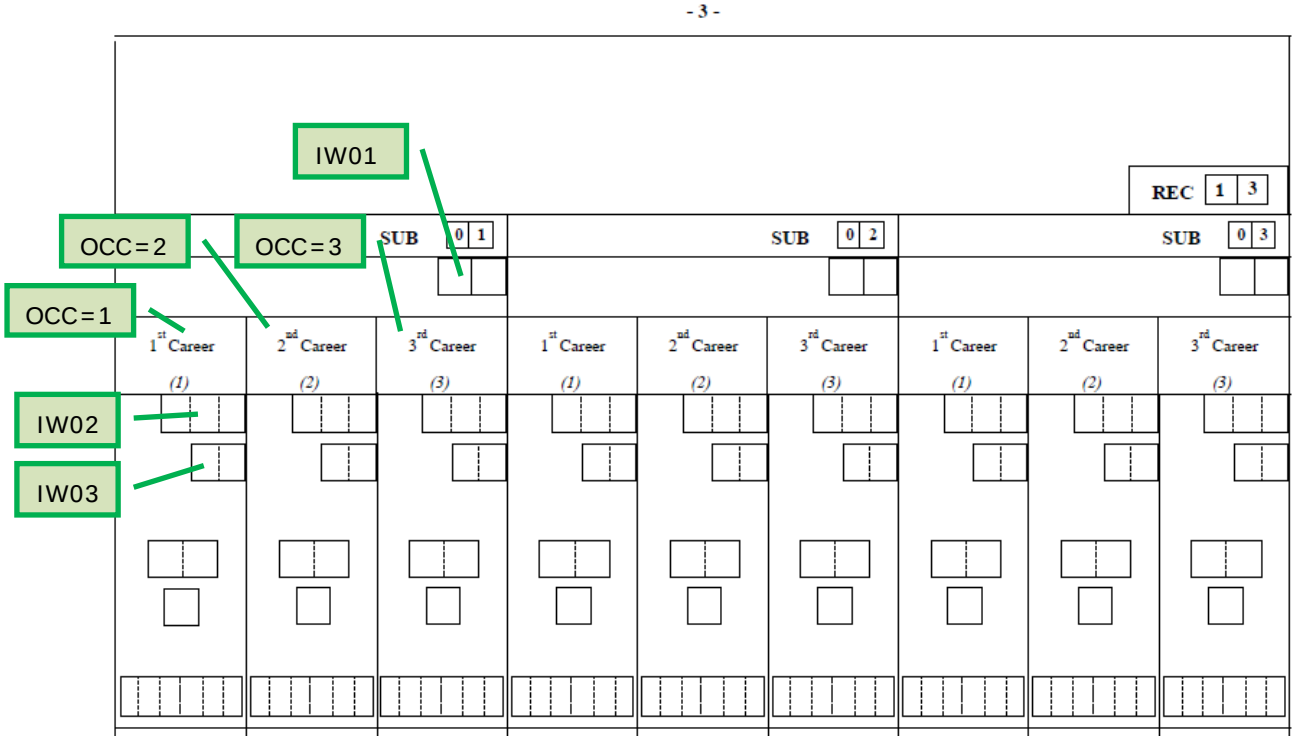
- 2 -

Part 1 Earnings from Wages and Salaries *(during the past 12 months)*

Ask only household member who reported the work status in Q.22 or Q.25, Part 1 SES.2, as government employee or state enterprise employee or private employee.

		Fieldname
1. Names and number of members in the household whose work status was anemployee		**IW 01**
(During the past 12 months)		
2. Specify occupations which household member worked as an employee	**Career code**	**IW02**
	Socio-Economic class	**IW03**
3. How long did you work/employ within the past 12 months?		**IW04**
4. How are wage payments made ?		**IW05**
per item = 1 hourly = 2 daily = 3 weekly = 4 monthly = 5 in-kind = 6 Other = 7		
5. How much did you earn from question 4 ? *(in money term)*		**IW06**

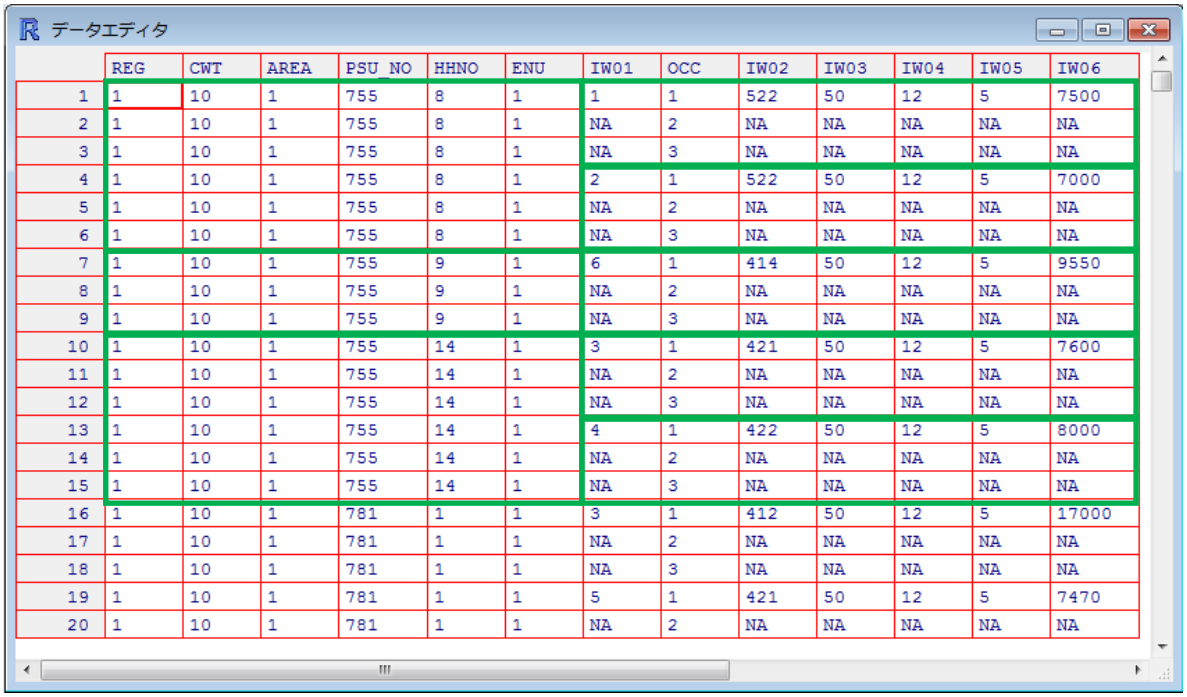
- For each member worked as an employee, the first occupation, the second occupation and the third occupation were asked in the questionnaire.



- REC_13 has the variable OCC which is not indicated in the data dictionary.
  Variable OCC seems to be categorical variable and the codes are:
  1= first occupation, 2=second occupation, 3=third occupation

```
> colnames(REC_13)
 [1] "REG"    "CWT"    "AREA"   "PSU_NO" "HHNO"   "ENU"    "IW01"   "OCC"    "IW02"
[10] "IW03"   "IW04"   "IW05"   "IW06"   "IW07"   "IW08"   "IW09"   "IW10"   "IW11"
[19] "IW12"   "IW13"   "IW14"
```

- Data structure of REC_13:
  The unit of REC_13 is occupation. Each member worked as an employee has three records. If the number of occupations is less than three, the column of IW01 (member ID) in the second record and/or the third record is filled by NA, as shown in the next table.



データエディタ

	REG	CWT	AREA	PSU_NO	HHNO	ENU	IW01	OCC	IW02	IW03	IW04	IW05	IW06
1	1	10	1	755	8	1	1	1	522	50	12	5	7500
2	1	10	1	755	8	1	NA	2	NA	NA	NA	NA	NA
3	1	10	1	755	8	1	NA	3	NA	NA	NA	NA	NA
4	1	10	1	755	8	1	2	1	522	50	12	5	7000
5	1	10	1	755	8	1	NA	2	NA	NA	NA	NA	NA
6	1	10	1	755	8	1	NA	3	NA	NA	NA	NA	NA
7	1	10	1	755	9	1	6	1	414	50	12	5	9550
8	1	10	1	755	9	1	NA	2	NA	NA	NA	NA	NA
9	1	10	1	755	9	1	NA	3	NA	NA	NA	NA	NA
10	1	10	1	755	14	1	3	1	421	50	12	5	7600
11	1	10	1	755	14	1	NA	2	NA	NA	NA	NA	NA
12	1	10	1	755	14	1	NA	3	NA	NA	NA	NA	NA
13	1	10	1	755	14	1	4	1	422	50	12	5	8000
14	1	10	1	755	14	1	NA	2	NA	NA	NA	NA	NA
15	1	10	1	755	14	1	NA	3	NA	NA	NA	NA	NA
16	1	10	1	781	1	1	3	1	412	50	12	5	17000
17	1	10	1	781	1	1	NA	2	NA	NA	NA	NA	NA
18	1	10	1	781	1	1	NA	3	NA	NA	NA	NA	NA
19	1	10	1	781	1	1	5	1	421	50	12	5	7470
20	1	10	1	781	1	1	NA	2	NA	NA	NA	NA	NA

Example: The following employees are listed in REC_13. They have only one record of the first occupation.

- ✧ Household 1-10-1-755-8-1: IW01=1 and 2
- ✧ Household 1-10-1-755-9-1: IW01=6
- ✧ Household 1-10-1-755-14-1: IW01=3 and 4

➢ The number of records in REC_13 is equal to three times as many as the sum of A05 (number of wage earners in the household) in REC_01.

```
> nrow(OCC)
[1] 109809

> sum(REC_01["a05"])
[1] 36603

> sum(REC_01["a05"])*3
[1] 109809
```

➢ Out of 36,603 wage earners in REC_13, 1,270 samples have the second occupation and 73 samples have the third occupation.

```
> addmargins(table(OCC$no.occ, is.na(OCC$ID)))
      FALSE   TRUE    Sum
  1   36603      0  36603
  2    1270  35333  36603
```

```
  3       73  36530  36603
  Sum  37946  71863 109809
```

Conclusion:

The number of effective records in REC_13 is 37,946.

- The amount of wages in REC_01 (Summary of household information) derived from REC_13. The integrity check between REC_13 and REC_01 will be discussed in Chapter 4.

- **IW01 in REC_13 corresponds to HM01 in REC_02.**

  Linkage between REC_13 and REC_02 (Household members) is possible using key: HHID-IW01 and HHID-HM01. This will be discussed in Chapter 4.

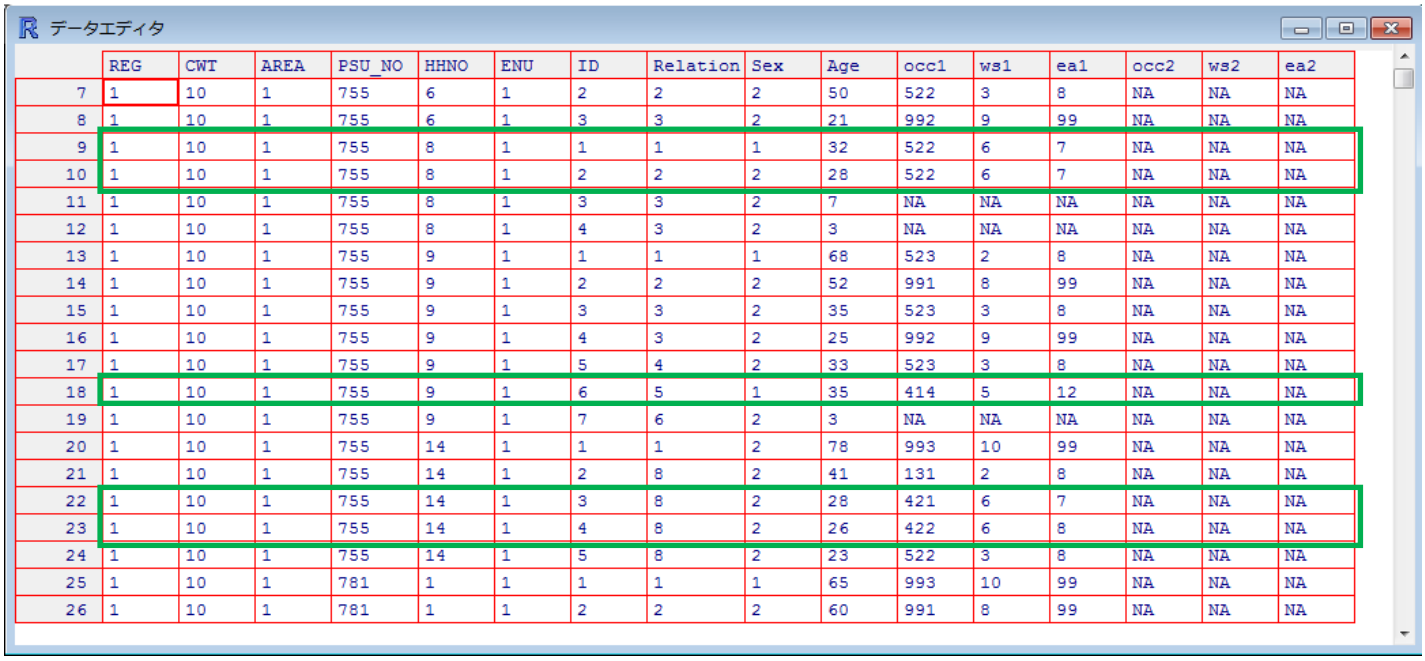
- Example: Comparison of REC_13 and REC_02

  Defined subsets of REC_13 and IND (REC_02) for comparison.

```
> OCC<-REC_13[1:10]
> colnames(OCC)
 [1] "REG"    "CWT"    "AREA"   "PSU_NO" "HHNO"   "ENU"    "IW01"   "OCC"    "IW02"
[10] "IW03"
> colnames(OCC)[7:10]<-c("ID","no.occ","occ.code","se.class")
> colnames(OCC)
 [1] "REG"      "CWT"      "AREA"     "PSU_NO"   "HHNO"     "ENU"      "ID"
 [8] "no.occ"   "occ.code" "se.class"

> WORK<-IND[c(1:10,42:49)]
> colnames(WORK)
 [1] "REG"    "CWT"    "AREA"   "PSU_NO" "HHNO"   "ENU"    "HM01"   "HM02"   "HM03"   "HM04"
[11] "HM36"   "HM37"   "HM38"   "HM39"   "HM40"   "HM41"   "HHID"   "wt"
> colnames(WORK)[7:16]<-c("ID","Relation","Sex","Age","occ1","ws1","ea1",
+ "occ2","ws2","ea2")
> colnames(WORK)
 [1] "REG"      "CWT"      "AREA"     "PSU_NO"   "HHNO"     "ENU"      "ID"       "Relation"
 [9] "Sex"      "Age"      "occ1"     "ws1"      "ea1"      "occ2"     "ws2"      "ea2"
[17] "HHID"     "wt"
```

The next table is a part of WORK (REC_02). The household members worked as employees are delineated with thick line.

Window of WORK (REC_02)



データエディタ

	REG	CWT	AREA	PSU_NO	HHNO	ENU	ID	Relation	Sex	Age	occ1	ws1	ea1	occ2	ws2	ea2
7	1	10	1	755	6	1	2	2	2	50	522	3	8	NA	NA	NA
8	1	10	1	755	6	1	3	3	2	21	992	9	99	NA	NA	NA
9	1	10	1	755	8	1	1	1	1	32	522	6	7	NA	NA	NA
10	1	10	1	755	8	1	2	2	2	28	522	6	7	NA	NA	NA
11	1	10	1	755	8	1	3	3	2	7	NA	NA	NA	NA	NA	NA
12	1	10	1	755	8	1	4	3	2	3	NA	NA	NA	NA	NA	NA
13	1	10	1	755	9	1	1	1	1	68	523	2	8	NA	NA	NA
14	1	10	1	755	9	1	2	2	2	52	991	8	99	NA	NA	NA
15	1	10	1	755	9	1	3	3	2	35	523	3	8	NA	NA	NA
16	1	10	1	755	9	1	4	3	2	25	992	9	99	NA	NA	NA
17	1	10	1	755	9	1	5	4	2	33	523	3	8	NA	NA	NA
18	1	10	1	755	9	1	6	5	1	35	414	5	12	NA	NA	NA
19	1	10	1	755	9	1	7	6	2	3	NA	NA	NA	NA	NA	NA
20	1	10	1	755	14	1	1	1	2	78	993	10	99	NA	NA	NA
21	1	10	1	755	14	1	2	8	2	41	131	2	8	NA	NA	NA
22	1	10	1	755	14	1	3	8	2	28	421	6	7	NA	NA	NA
23	1	10	1	755	14	1	4	8	2	26	422	6	8	NA	NA	NA
24	1	10	1	755	14	1	5	8	2	23	522	3	8	NA	NA	NA
25	1	10	1	781	1	1	1	1	1	65	993	10	99	NA	NA	NA
26	1	10	1	781	1	1	2	2	2	60	991	8	99	NA	NA	NA

The employees in the previous window (REC_13) are found in the window of REC_02.

- ✧ Household 1-10-1-755-8-1: IW01=1 and 2 correspond to ID(HM01)=1 and 2
- ✧ Household 1-10-1-755-9-1: IW01=6 corresponds to ID=6
- ✧ Household 1-10-1-755-14-1: IW01=3 and 4 correspond to ID=3 and 4

➢ Example of having 3 occupations

```
> have.3occ<-which(OCC["no.occ"]==3 & is.na(OCC["ID"])==FALSE)
> have.3occ
 [1]  12456  19305  19335  25794  29271  35871  35898  38307  39129  41046  45984
[12]  48528  48708  51777  51816  52533  52800  52989  53043  53073  53094  58077
[23]  59121  62766  62997  63072  63075  63117  63819  63825  63828  63945  65295
[34]  65298  65829  65838  65841  65844  73743  73746  77910  80853  82992  86433
[45]  86676  94299  94956  94995  95298  97860  97863  97866  97869  97872  97875
[56]  97878  98736  98739  98742  98745  98748  98751  98754  99036  99039  99042
[67]  99045  99048 100728 100773 100785 104091 107244


> fix(OCC)
```

Window of OCC (REC_13)

データエディタ

	REG	CWT	AREA	PSU_NO	HHNO	ENU	ID	no.occ	occ.code	se.class
12449	2	12	1	147	15	5	NA	2	NA	NA
12450	2	12	1	147	15	5	NA	3	NA	NA
12451	2	12	1	152	1	2	1	1	721	50
12452	2	12	1	152	1	2	NA	2	NA	NA
12453	2	12	1	152	1	2	NA	3	NA	NA
12454	2	12	1	152	1	2	2	1	743	60
12455	2	12	1	152	1	2	2	2	412	50
12456	2	12	1	152	1	2	2	3	414	50
12457	2	12	1	152	2	2	1	1	828	60
12458	2	12	1	152	2	2	NA	2	NA	NA
12459	2	12	1	152	2	2	NA	3	NA	NA
12460	2	12	1	152	3	1	2	1	235	32
12461	2	12	1	152	3	1	NA	2	NA	NA
12462	2	12	1	152	3	1	NA	3	NA	NA
12463	2	12	1	152	4	2	1	1	522	50

> fix(WORK)

Window of WORK (REC_02)

データエディタ

	REG	CWT	AREA	PSU_NO	HHNO	ENU	ID	Relation	Sex	Age	occ1	ws1	ea1	occ2	ws2	ea2
9698	2	12	1	147	15	5	3	3	2	17	992	9	99	NA	NA	NA
9699	2	12	1	147	15	5	4	4	1	24	323	4	14	NA	NA	NA
9700	2	12	1	147	15	5	5	5	2	21	913	4	14	NA	NA	NA
9701	2	12	1	152	1	2	1	1	1	30	721	6	7	NA	NA	NA
9702	2	12	1	152	1	2	2	2	2	27	743	6	4	412	6	7
9703	2	12	1	152	2	2	1	1	2	45	991	8	99	NA	NA	NA
9704	2	12	1	152	2	2	2	3	2	27	828	6	4	NA	NA	NA
9705	2	12	1	152	3	1	1	1	1	22	992	9	99	NA	NA	NA
9706	2	12	1	152	3	1	2	8	2	20	235	6	13	235	2	13
9707	2	12	1	152	4	2	1	1	2	37	522	6	7	NA	NA	NA
9708	2	12	1	152	5	2	1	1	1	27	123	6	4	NA	NA	NA
9709	2	12	1	152	5	2	2	2	2	44	991	8	99	NA	NA	NA
9710	2	12	1	152	5	2	3	8	1	25	832	6	9	NA	NA	NA
9711	2	12	1	152	5	2	4	8	2	21	233	4	13	NA	NA	NA
9712	2	12	1	152	6	1	1	1	1	40	832	6	7	NA	NA	NA

✧ Case 1 of Household 2-12-1-152-1:

Both ID (HM01)=1 and ID=2 in WORK (REC_02) are employees. So, they have records in OCC (REC_13) as IW01=1 and IW01=2.

ID=2 has three occupations in OCC (REC_13). Their occupation codes are 743, 412 and 414.

On the other hand, in WORK (REC_02), her primary occupation code is 743 and her secondary occupation code is 412.

OK!

```
> WORK[9701:9702,]
     REG CWT AREA PSU_NO HHNO ENU ID Relation Sex Age occ1 ws1 ea1 occ2 ws2 ea2
9701   2  12    1    152    1   2  1        1   1  30  721   6   7   NA  NA  NA
9702   2  12    1    152    1   2  2        2   2  27  743   6   4  412   6   7
```

✧ Case 2 of Household 2-12-1-152-2:

In WORK, only ID (HM01)=2 has work status of employee and her primary occupation code is 828.

On the other hand, in OCC, only ID (IW01)=1 has records and its occupation code is 828.

```
> WORK[9703:9704,]
     REG CWT AREA PSU_NO HHNO ENU ID Relation Sex Age occ1 ws1 ea1 occ2 ws2 ea2
9703   2  12    1    152    2   2  1        1   2  45  991   8  99   NA  NA  NA
9704   2  12    1    152    2   2  2        3   2  27  828   6   4   NA  NA  NA

> OCC[12457:12459,]
      REG CWT AREA PSU_NO HHNO ENU ID no.occ occ.code se.class
12457   2  12    1    152    2   2  1      1      828       60
12458   2  12    1    152    2   2 NA      2       NA       NA
12459   2  12    1    152    2   2 NA      3       NA       NA
```

In this case, ID (IW01)=1 in OCC should be read as 2.

➢ Other inconsistency between WORK and OCC will be discussed later.

REC_14: Income from non-farm business

First, observed the organization mechanism of REC_14.

- REC_14 derived from "Part 2 Income from Non-Farm Business of Questionnaire SES.3.
- The universe of the questions is the household members whose work status was employer, own-account worker or member of producers group which is not in non-farm business.

-4-

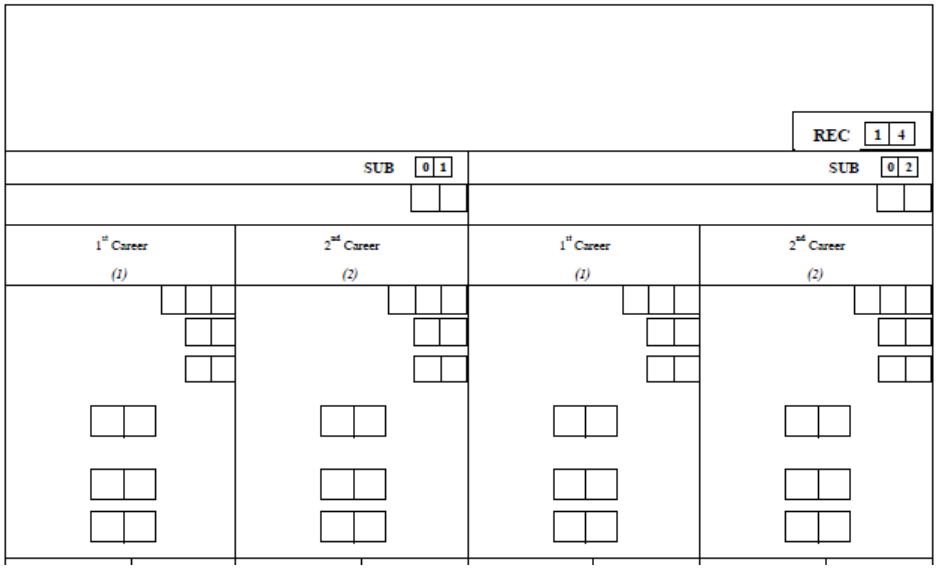
Part 2 Income from Non-Farm Business ***(During the past 12 months)***

Ask only household member who reported the work status in Q.22 or Q.25, Part 1 SES.2, as employer or own - account worker or member of producers group which is in non - farm business.

		Fieldname
1. Names and number of members in the household who operates the business		**IB01**
(During the past 12 months)	**Career code**	**IB02**
2. What kind of work did you do in the business ?	**Socio-Economic class**	**IB03**
	Type of Business	**IB04**
3. How long did you operate this enterprise within the past 12 months? *(If less than one month, record "0".)*		**IB05**
4. How many workers were usually working in this enterprise? *(including the owner, workers and unpaid workers)*		**IB06**
5. How many paid workers were working in this enterprise?		**IB07**

- For each member, the first occupation and the second occupation were asked in the questionnaire.

-5-



- Work status of HM37 and/or HM40 should be 01, 02 or 07.

22. Work status	HM37(1)	2	01- Employer 02- Own- account worker 03- Unpaid family worker 04- Employee - government 05- State enterprise employee 06- Private company employee 07- Member of co-operative group	
			Code for economically inactive 08- Housewife 09- Students 10- Children, elderly person 11- Illness, disabled person 12- Looking for a job 13- Unemployed 14- Others Blank-member < 15 yrs. and no income from working	

- Type of business should not be 01 or 02.

23. Type of business/industry	HM38(1)	2	01- Agriculture, hunting and forestry 02- Fishery 03- Mining and quarrying 04- Manufacturing 05- Electricity, gas and water supply 06- Construction 07- Wholesale and retail, repairing motor vehicles, motorcycles and personal and household good 08- Hotel and restaurant 09- Transport, storage and communications 10- Financial intermediation 11- Real estate,renting and business activities 12- Public administration and defence, compulsory social security 13- Education 14- Health and social work 15- Other community,social and personal service activities 16- Private households with employed persons 17- Extra - territorial organizations and bodies 99- Economically inactive Blank-member < 15 yrs. of age or no income from working	

- REC_14 has the variable OCC which is not in the data dictionary.
  Variable OCC seems to be categorical variable and the codes are:
  1= first occupation, 2=second occupation

```
> colnames(REC_14)
 [1] "REG"   "CWT"   "AREA"  "PSU_NO" "HHNO"  "ENU"   "IB01"  "OCC"   "IB02"  "IB03"
[11] "IB04"  "IB05"  "IB06"  "IB07"  "IB081" "IB082" "IB091" "IB092" "IB10"  "IB11"
```

- Data structure of REC_14:

The unit of REC_14 is occupation. Each member worked as an employee has two records. If the number of occupations is one, the column of IB01 (member ID) in the second record is filled by NA, as shown in the next table.

データエディタ

	REG	CWT	AREA	PSU_NO	HHNO	ENU	IB01	OCC	IB02	IB03	IB04	IB05	IB06
14159	3	55	1	74	5	1	1	1	131	21	31	12	3
14160	3	55	1	74	5	1	NA	2	NA	NA	NA	NA	NA
14161	3	55	1	74	6	1	1	1	131	21	50	6	9
14162	3	55	1	74	6	1	NA	2	NA	NA	NA	NA	NA
14163	3	55	1	74	9	1	1	1	513	22	85	12	1
14164	3	55	1	74	9	1	NA	2	NA	NA	NA	NA	NA
14165	3	55	2	61	7	1	1	1	131	22	63	12	2
14166	3	55	2	61	7	1	1	2	522	22	63	1	1
14167	3	55	2	61	8	1	2	1	742	22	39	12	1
14168	3	55	2	61	8	1	NA	2	NA	NA	NA	NA	NA
14169	3	55	2	69	10	1	1	1	131	22	63	12	2
14170	3	55	2	69	10	1	1	2	131	21	31	12	2
14171	3	55	1	86	7	1	1	1	131	21	31	12	2
14172	3	55	1	86	7	1	NA	2	NA	NA	NA	NA	NA
14173	3	55	1	86	7	1	2	1	131	22	63	12	2
14174	3	55	1	86	7	1	NA	2	NA	NA	NA	NA	NA
14175	3	55	1	98	1	1	2	1	523	22	63	12	1

- The number of records in REC_14 is 35,104 and twice as many as the sum of A06 in REC_01.

```
> dim(REC_14)
[1] 35104    20
> sum(REC_01$a06)
[1] 17552
> sum(REC_01$a06)*2
[1] 35104
```

- Out of 17,522 non-farm employers, 622 samples have the second occupation.

```
> table(REC_14$OCC, is.na(REC_14$IB01))
    FALSE  TRUE
  1 17552     0
  2   622 16930
```

Conclusion:

The number of effective records in REC_14 is 18,174.

- The amount of net profit from non-farm business in REC_01 derived from REC_14. The integrity check between REC_14 and REC_01 will be discussed in Chapter 4.

- **IB01 in REC_14 corresponds to HM01 in REC_02.**
  Linkage between REC_14 and REC_02 is possible using key: HHID-IB01 and HHID-HM01. This will be discussed in Chapter 4.

Strategy for reorganization:

- To change variable names to upper case.
- To add the variables of HHID (household identifier) and WT (weight) to each file.
- To add the variables revised and the variables recommended to be used instead of original variables.

R scripts for reorganizing micro data files

Household data files; R01, R03-R12, R15-R182

```
> R01<-REC_01
> colnames(R01)<-toupper(colnames(R01))
> HHID<-1:nrow(R01)
> R01["HHID"]<-HHID
> R01["WT"]<-R01$A52
> dim(R01)
[1] 43055    80

> R03<-cbind(REC_03,R01[c("HHID","WT")])
> dim(R03)
[1] 43055    53
> R04<-cbind(REC_04,R01[c("HHID","WT")])
> dim(R04)
[1] 43055    32
> R05<-cbind(REC_05,R01[c("HHID","WT")])
> dim(R05)
[1] 43055    38
> R06<-cbind(REC_06,R01[c("HHID","WT")])
> dim(R06)
[1] 43055    46
> R07<-cbind(REC_07,R01[c("HHID","WT")])
> dim(R07)
[1] 43055    36
> R08<-cbind(REC_08,R01[c("HHID","WT")])
> dim(R08)
[1] 43055    46
> R09<-cbind(REC_09,R01[c("HHID","WT")])
> dim(R09)
[1] 43055    36
> R10<-cbind(REC_10,R01[c("HHID","WT")])
> dim(R10)
[1] 43055    46
> R11<-cbind(REC_11,R01[c("HHID","WT")])
> dim(R11)
[1] 43055    26
> R12<-cbind(REC_12,R01[c("HHID","WT")])
> dim(R12)
[1] 43055    42
> R15<-cbind(REC_15,R01[c("HHID","WT")])
```

```
> dim(R15)
[1] 43055    43
> R16<-cbind(REC_16,R01[c("HHID","WT")])
> dim(R16)
[1] 43055    46
> R17<-cbind(REC_17,R01[c("HHID","WT")])
> dim(R17)
[1] 43055    34
> R181<-cbind(REC_181,R01[c("HHID","WT")])
> dim(R181)
[1] 43055    39
> R182<-cbind(REC_182,R01[c("HHID","WT")])
> dim(R182)
[1] 43055    38
```

Individual and occupation data files

R02

```
> R02<-REC_02
> HHNO.pl<-c(0,R02$HHNO)[1:nrow(R02)]
> HHNO.b<-as.integer(R02$HHNO!=HHNO.pl)
> R02["HHID"]<-cumsum(HHNO.b)
> R02<-merge(R02,R01[c("HHID","WT")])
> R02<-R02[c(2:48,1,49)]
> colnames(R02)
 [1] "REG"    "CWT"    "AREA"   "PSU_NO" "HHNO"   "ENU"    "HM01"   "HM02"
 [9] "HM03"   "HM04"   "HM05"   "HM06"   "HM07"   "HM08"   "HM09"   "HM10"
[17] "HM11"   "HM12"   "HM13"   "HM14"   "HM15"   "HM16"   "HM17"   "HM18"
[25] "HM19"   "HM20"   "HM21"   "HM22"   "HM23"   "HM24"   "HM25"   "HM26"
[33] "HM27"   "HM28"   "HM29"   "HM30"   "HM31"   "HM32"   "HM33"   "HM34"
[41] "HM35"   "HM36"   "HM37"   "HM38"   "HM39"   "HM40"   "HM41"   "HHID"
[49] "WT"
> dim(R02)
[1] 139003     49
```

R13

```
> HHwe<-subset(R01,A05>0)[c("HHID","WT","A05")]
> HHwe["snhhwe"]<-1:nrow(HHwe)
> OCC<-REC_13
> OCC["ssuid"]<-paste(OCC[,1],OCC[,2],OCC[,3],sprintf("%4d",OCC[,4]),
+ sprintf("%2d",OCC[,5]),OCC[,6])
> OCC["snhhwe"]<-cumsum(OCC$ssuid!=c(0,OCC$ssuid)[1:nrow(OCC)])
> max(OCC$snhhwe)
> R13<-merge(OCC,HHwe)
> R13<-R13[c(2:22,24,25)]
> colnames(R13)
 [1] "REG"    "CWT"    "AREA"   "PSU_NO" "HHNO"   "ENU"    "IW01"   "OCC"
 [9] "IW02"   "IW03"   "IW04"   "IW05"   "IW06"   "IW07"   "IW08"   "IW09"
[17] "IW10"   "IW11"   "IW12"   "IW13"   "IW14"   "HHID"   "WT"
> dim(R13)
[1] 109809     23
```

R14

```
> HHwb<-subset(R01,A06>0)[c("HHID","A06","WT")]
> dim(HHwb)
[1] 15489     3
> HHwb["snhhwb"]<-1:nrow(HHwb)
> BUS<-REC_14
> BUS["ssuid"]<-paste(BUS[,1],BUS[,2],BUS[,3],sprintf("%4d",BUS[,4]),
+ sprintf("%2d",BUS[,5]),BUS[,6])
> BUS["snhhwb"]<-cumsum(BUS$ssuid!=c(0,BUS$ssuid)[1:nrow(BUS)])
> R14<-merge(BUS,HHwb)
> R14<-R14[c(2:21,23,25)]
> dim(R14)
[1] 35104    22
> colnames(R14)
 [1] "REG"    "CWT"    "AREA"   "PSU_NO" "HHNO"   "ENU"    "IB01"   "OCC"
 [9] "IB02"   "IB03"   "IB04"   "IB05"   "IB06"   "IB07"   "IB081"  "IB082"
[17] "IB091"  "IB092"  "IB10"   "IB11"   "HHID"   "WT"
```

Chapter 4. Data check

1. Range check of each file

- Summarized all variables in all data files. All variables showed summary statistics; Minimum, First quartile (Q1), Median, Mean, Third quartile (Q3) and Maximum.

- Note that the variables of money income, such as net money profit from non-farm business and/or farming includes negative values.

- As for all categorical variables, generated frequency tables and verified out-of-range codes. Next errors were found;

Variable	Contents	Number of errors
R02$HM29	Free school lunch //6:3	3
R02$HM32	Government loan for education //3:1	1
R13$IW03	Socio-economic class //31:1	1
R14$IB04	Type of enterprise //12:1, 15:1	2
R181$MR09_1	Type of industry //61:1, 71:1, 74:1	3
R181$MR09_2	Type of industry //74:1	1

Note: Notation of //x:y

x: Out-of-range code, y: Number of records with code x

- Regarding variables of educational attainment; HM15, HM17, MR07_1, MR07_2, MR07_3, MP06_1, MP06_2 and MP06_3, verified 3-digit codes of each variable and found the next errors;

Variable	Contents	Number of errors
R02$HM15	Educational attainment //112:2, 314:1, 415:2	5
R02$HM17	Level of attending school //113:2, 314:1, 315:1, 415:2, 416:2	8

- Regarding variables of occupation; HM36, HM39, IW02, IB02, MR08_1, MR08_2, MR08_3, MP07_1, MP07_2 and MP07_3, verified 3-digit codes of each variable and found the next

errors;

Variable	Contents	Number of errors
R02$HM36	Primary occupation //552:1, 998:1	2
R181$MR08_1	Primary occupation //452:1, 2 more not found	3
R181$MR08_2	Primary occupation //452:1	1

Remarks:

According to the delegates from Thailand for the Fifth International Workshop,

When making tables, according to the tabulation plan, out-of range codes are excluded from related tables.

2. Integrity check between household data files regarding expenditure

- In R01, some expenditure variables such as consumption expenditure were generated from other household variables. Conducted integrity check between household data files regarding expenditure and confirmed that there was no inconsistent record, as shown in the next table.

Table: Integrity check between household data files regarding expenditure

The below variables are consistent.

Item	Generated variable in R01	Formula	Source data frames	Original variable in R01	Number of inconsistent records
Consumption expenditure - average monthly					
in cash	R.CON_EX1	Σ(EG01∼EG112)	REC04-10	CON_EX1	0
in kind	R.CON_EX2	Σ(EG01∼EG112)	REC04-10	CON_EX2	0
Non-consumption expenditure - average monthly					
in cash	R.NCON_EX1	Σ(EG113∼EG121)	REC11	NCON_EX1	0
in kind	R.NCON_EX2	Σ(EG113∼EG121)	REC11	NCON_EX2	0
Expenditure on food and beverage - average monthly					
in cash	R.FB_EX1	Σ(EF01∼EF15)x4.3	REC12	FB_EX1	0
in kind	R.FB_EX2	Σ(EF01∼EF15)x4.3	REC12	FB_EX2	0
Expenditure on tabacco - average monthly					
in cash	R.TP_EX1	Σ(EF16+EF17)x4.3	REC12	TP_EX1	0
in kind	R.TP_EX2	Σ(EF16+EF17)x4.3	REC12	TP_EX2	0

3. Integrity check between data files regarding work status at national level

- Regarding the number of employees, non-farm employers and farmers, three sources; R01, R02 and R13-R15 were available. Conducted integrity check between data files regarding work status at national level, as shown in the next table.

Table: Integrity check between data files regarding work status at national level

Item	R01		R13 - R15		R02	
Number of employee	Sum of A05	36,603	Number of records of OCC=1 in R13	36,603	Number of members with employee status	36,718
Number of non-farm employer	Sum of A06	17,552	Number of records of OCC=1 in R14	17,552	Number of members with non-farn employer status	17,497
Number of farmer	Sum of (A02-A05-A06) (*)	24,171	Number of records with IA021≠NA plus number of records with IA022≠NA in R15	17,121	Number of members with farmer status	16,927
Number of households with employee	Number of records of A05>0	23,838	Number of household having records of OCC=1 in R13	23,838	Number of household having members with employee status	23,883
Number of households with non-farm employer	Number of records of A06>0	15,489	Number of household having records of OCC=1 in R14	15,489	Number of household having members with non-farm employer status	15,408
Number of households with farmer	Number of records having net money profit from farm business (PA2>0) (**)	12,629	Number of household having records with IA021≠NA and/or IA022≠NA in R15	14,928	Number of household having members with farmer status	14,751

Note: *: This might include earners from other sources besides farmers.

**: Farmers without net money profit from farm business might be possible.

- As for the number of employee and non-farm employer, there was no inconsistent between R01 and R13, as well as, between R01 and R14.

- The number of employees of R02 was 115 persons larger than that of R13.

Remarks:
According to the delegates from Thailand for the Fifth International Workshop,
Either non-response or missing data is the possible cause. Since a respondent can provide basic information to answer questions in record 2 for each household member, but he or she may not know details of each household member as in record 13.

- The number of non-farm employer of R02 was 55 persons smaller than that of R14.

- The number of farmer of R02 was 194 persons smaller than that of R15.

4. Comparison of collapsed R02, R13, R14 and R15 with R01 at household level

- Income data from wage, non-farm business and farming came from R13, R14 and R15. They were summarized in R01. Compared collapsed R02, R13, R14 and R15 with R01 at household level, as shown in the next table.

- R02.collapsed and R01;
  - ✧ The number of household members was consistent.
  - ✧ There were 440 inconsistent records regarding the number of household members
  - ✧ There were 321 inconsistent records regarding the number of non-farm employers.

- R13.collapsed and R01;
  - ✧ The number of employees was consistent.
  - ✧ There were 179 inconsistent records regarding the total wages received in the last month, and 180 inconsistent records regarding average per month.

- R14.collapsed and R01;
  - ✧ The number of non-farm employers was consistent.
  - ✧ There were 723 inconsistent records regarding the total net money profit from business in the last month, and 591 inconsistent records regarding average per month.

- R15.collapsed and R01;
  - ✧ The net money profit from farming was consistent both in the last month and average per month.

Table: Comparison of collapsed R02, R13, R14 and R15 with R01 at household level

Data frame collapsed by HHID	Item at household level	Generted variable in R01	Counterpart in original R01	Number of inconsistent records
R02.collapsed				
Number of households 43,055	Number of household members	R02.A04	A04	0
	Number of employees (HM37 = 4-6: 34,290) (HM37 or HM40 = 4-6: 36,718)	R02.A05	A05 (=36,603)	440
	Number of non-farm employer	R02.A06	A06	321
R13.collapsed				
Number of households 23,838	Number of members with OCC=1 (=36,603)	R13.A05	A05	0
	Total wages received - last month Σ(IW10+IW11)	R13.WS1	WS1=A17	179
	Total wages received - average per month round (Σ(IW12+IW13)/12)	R13.WS2	WS2=A18	180
R14.collapsed				
Number of households 15,489	Number of non-farm employer	R14.A06	A06	0
	Total net money profit from business - last month round (Σ(IB082-IB092)×IB11÷100)	R14.PB1	PB1=A19	723
	Total net money profit from business - average per month round (Σ(IB081-IB091)×IB11÷100)	R14.PB2	PB2=A20	591
R15				
Number of households with effective records 14,928	Number of farmers			
	Net money profit from farming in last month (IA28-IA29)	R15.PA1	PA1=A21	0
	Net money profit from farming - average per month {IA08+IA09+IA11+(IA15-IA19)+IA20-(IA25+IA26) -(IA13+IA17+IA22)}/12	R15.PA2	PA2=A22	0

5. Linkage between R13 and R02 at individual and occupation level

- Compared R13 and R02 at individual and occupation level, and stored the results as the variable of "R02.HM01" in R13.

- Regarding key variable "IW01" (member ID) in REC_13, employees are grouped as follows;

Groups in original IW01	Number of values
Total	36,603
Correct values matched with R02	35,783
Incorrect values to be replaced with R02.HM01	403
Unmatched values	417

Observing occupations in OCC.hhid and WORK

- Generated the vector "employee" of work status in WORK

  1. employee 2.other

```
> WORK<-IND[c(1:10,42:49)]
> colnames(WORK)
 [1] "REG"    "CWT"    "AREA"   "PSU_NO" "HHNO"   "ENU"    "HM01"   "HM02"   "HM03"   "HM04"
[11] "HM36"   "HM37"   "HM38"   "HM39"   "HM40"   "HM41"   "HHID"   "wt"
> colnames(WORK)[7:16]<-c("ID","Relation","Sex","Age","occ1","ws1","ea1",
+ "occ2","ws2","ea2")
> colnames(WORK)
 [1] "REG"      "CWT"      "AREA"     "PSU_NO"   "HHNO"     "ENU"      "ID"       "Relation"
 [9] "Sex"      "Age"      "occ1"     "ws1"      "ea1"      "occ2"     "ws2"      "ea2"
[17] "HHID"     "wt"
> dim(WORK)
[1] 139003     18

> wk1<-ifelse(is.na(WORK$ws1),0, WORK$ws1)
> wk2<-ifelse(is.na(WORK$ws2),0, WORK$ws2)
> WORK["employee"]<-ifelse((wk1>=4 & wk1<=6) | (wk2>=4 & wk2<=6),1,0)
> colnames(WORK)
 [1] "REG"      "CWT"      "AREA"     "PSU_NO"   "HHNO"     "ENU"      "ID"       "Relation"
 [9] "Sex"      "Age"      "occ1"     "ws1"      "ea1"      "occ2"     "ws2"      "ea2"
[17] "HHID"     "wt"       "employee"
```

- Merged OCC.hhid and WORK by using key; HHID and ID.

```
> OCC.WORK<-merge(OCC.hhid,WORK,by=c("HHID","ID"))
> dim(OCC.WORK)
[1] 37938    31
```

The number of merged records (37,938) is less than the number of effective records (37,946) in

REC_13. This means that 8 records among effective records have no corresponding members in REC_02.

- Found the reason for unmatched data.

```
# OCCe.hhid: subset of OCC.hhid with effective record
> OCCe.hhid<-subset(OCC.hhid, is.na(ID)==FALSE)
> dim(OCCe.hhid)
[1] 37946    15

# Merged OCCe.hhid with WORK
> OW<-merge(OCCe.hhid,WORK,by=c("HHID","ID"),all.x=TRUE)
> dim(OW)
[1] 37946    34

# GU: subset of OW with unmatched record of OCCe.hhid
> GU<-subset(OW,is.na(OW$wt))
> dim(GU)
[1]  8 34
> GU["G"]<-"U"
> GU<-GU[c(-15,-33,-34)]
> dim(GU)
[1]  8 32


# Household ids with unmatched record
> GUhhid<-OW[is.na(OW$wt),"HHID"]
> GUhhid
[1]  1032  2336 14720 18252 31784 39561 39583 39679

> for(j in GUhhid){
+ print("Household members in REC_02 ========================================")
+ print(WORK[WORK$HHID==j,c(17,7:16,19)])
+ print("Data in REC_13 ----------------------------------------------------")
+ print(OCCe.hhid[OCCe.hhid$HHID==j,c(14,8:11,2:7)])
+ }

[1] "Household members in REC_02 ========================================"
     HHID ID Relation Sex Age occ1 ws1 ea1 occ2 ws2 ea2 employee
3411 1032  1        1   2  45  241   4  12   NA  NA  NA        1
3412 1032  2        8   2  42  413   6   9   NA  NA  NA        1
3413 1032  3        8   2  60  996  14  99   NA  NA  NA        0
3414 1032  4        8   2  29  342   6  11   NA  NA  NA        1
[1] "Data in REC_13 ----------------------------------------------------"
     HHID ID no.occ occ.code se.class REG CWT AREA PSU_NO HHNO ENU
4102 1032  1      1      241       32   1  10    1    765   11   1
4105 1032  3      1      413       50   1  10    1    765   11   1
4108  6      1      342       32   1  10    1    765   11   1
```

ID (IW01)=6 should be read as 4.

```
[1] "Household members in REC_02 ========================================"
     HHID ID Relation Sex Age occ1 ws1 ea1 occ2 ws2 ea2 employee
```

```
7520 2336  1        1   1  43  213   5  12   NA  NA  NA        1
7521 2336  2        2   2  41  414   5  12   NA  NA  NA        1
7522 2336  3        3   2   7   NA  NA  NA   NA  NA  NA        0
[1] "Data in REC_13 ----------------------------------------------------------"
     HHID ID no.occ occ.code se.class REG CWT AREA PSU_NO HHNO ENU
9073 2336 21      1      213       32   1  10    1    727   15   1
9076 2336  2      1      414       50   1  10    1    727   15   1
```

ID (IW01)=21 should be read as 1.

```
[1] "Household members in REC_02 ========================================="
       HHID ID Relation Sex Age occ1 ws1 ea1 occ2 ws2 ea2 employee
46730 14720  1        1   2  37  611   2   1   NA  NA  NA        0
46731 14720  2        2   1  42  724   3  11   NA  NA  NA        0
46732 14720  3        3   1  13   NA  NA  NA   NA  NA  NA        0
46733 14720  4        3   1   2   NA  NA  NA   NA  NA  NA        0
[1] "Data in REC_13 ----------------------------------------------------------"
       HHID ID no.occ occ.code se.class REG CWT AREA PSU_NO HHNO ENU
47902 14720  5      1      712       50   2  77    2    128    4   1
```

ID (IW01)=5 is not found in REC_02. It should be dropped because the corresponding household has no employee.

```
[1] "Household members in REC_02 ========================================="
       HHID ID Relation Sex Age occ1 ws1 ea1 occ2 ws2 ea2 employee
57326 18252  1        1   2  62  131   2   7   NA  NA  NA        0
57327 18252  2        2   1  72  611   2   1  522   3   7        0
57328 18252  3        4   2  34  991   8  99   NA  NA  NA        0
57329 18252  4        5   1  36  915   6   8   NA  NA  NA        1
57330 18252  5        6   1  14   NA  NA  NA   NA  NA  NA        0
[1] "Data in REC_13 ----------------------------------------------------------"
       HHID ID no.occ occ.code se.class REG CWT AREA PSU_NO HHNO ENU
55954 18252  6      1      915       50   3  55    1     94   14   1
```

ID (IW01)=6 should be read as 4.

```
[1] "Household members in REC_02 ========================================="
        HHID ID Relation Sex Age occ1 ws1 ea1 occ2 ws2 ea2 employee
100973 31784  1        1   1  65  621   2   1   NA  NA  NA        0
100974 31784  2        2   2  56  621   3   1   NA  NA  NA        0
100975 31784  3        4   2  24  233   4  12   NA  NA  NA        1
100976 31784  4        4   2  21  412   4  12   NA  NA  NA        1
100977 31784  5        5   1  26  123   4  12   NA  NA  NA        1
[1] "Data in REC_13 ----------------------------------------------------------"
       HHID ID no.occ occ.code se.class REG CWT AREA PSU_NO HHNO ENU
82966 31784  3      1      233       32   4  41    1    104   11   1
82969 31784  5      1      412       50   4  41    1    104   11   1
82972 31784  6      1      123       32   4  41    1    104   11   1
```

ID (IW01)=6 should be read as 5.

```
[1] "Household members in REC_02 ========================================="
        HHID ID Relation Sex Age occ1 ws1 ea1 occ2 ws2 ea2 employee
126941 39561  1        1   2  45  223   4  14   NA  NA  NA        1
126942 39561  2        3   1  17  992   9  99   NA  NA  NA        0
[1] "Data in REC_13 ----------------------------------------------------------"
```

```
       HHID ID no.occ occ.code se.class REG CWT AREA PSU_NO HHNO ENU
100171 39561  9      1      223       32   5  86    1    101    9   1
```

ID (IW01)=9 should be read as 1.

```
[1] "Household members in REC_02 ======================================="
       HHID ID Relation Sex Age occ1 ws1 ea1 occ2 ws2 ea2 employee
127004 39583  1        1   1  37  131   1   7   NA  NA  NA        0
127005 39583  2        2   2  40  522   3   7   NA  NA  NA        0
127006 39583  3        3   2   9   NA  NA  NA   NA  NA  NA        0
127007 39583  4        3   1   7   NA  NA  NA   NA  NA  NA        0
127008 39583  5        7   2  53  131   1   4   NA  NA  NA        0
127009 39583  6        8   1  17  522   6   7   NA  NA  NA        1
[1] "Data in REC_13 ----------------------------------------------------"
       HHID ID no.occ occ.code se.class REG CWT AREA PSU_NO HHNO ENU
100213 39583  7      1      522       50   5  86    1    109    7   1
```

ID (IW01)=7 should be read as 6.

```
[1] "Household members in REC_02 ======================================="
       HHID ID Relation Sex Age occ1 ws1 ea1 occ2 ws2 ea2 employee
127303 39679  1        1   1  57  831   4   9   NA  NA  NA        1
127304 39679  2        2   2  52  991   8  99   NA  NA  NA        0
127305 39679  3        4   1  31  724   6   7   NA  NA  NA        1
127306 39679  4        5   2  32  522   6   7   NA  NA  NA        1
127307 39679  5        7   2  76  993  10  99   NA  NA  NA        0
127308 39679  6        8   1  37  931   6   6   NA  NA  NA        1
[1] "Data in REC_13 ----------------------------------------------------"
       HHID ID no.occ occ.code se.class REG CWT AREA PSU_NO HHNO ENU
100471 39679  1      1      831       50   5  86    1     98    9   1
100474 39679  3      1      724       50   5  86    1     98    9   1
100477 39679  4      1      522       50   5  86    1     98    9   1
100480 39679  8      1      931       60   5  86    1     98    9   1
```

ID (IW01)=8 should be read as 6.

Conclusion:

For each case, the code of ID (IW01) is not included in the codes of ID (HM01) of REC_02 in the corresponding household. This might be the coding error or data entry error.

- Verified the works status of household members, regarding 37,938 matched records.

```
> addmargins(table(OCC.WORK["employee"]))
    0     1   Sum
  582 37356 37938

> err.hhid<-OCC.WORK[OCC.WORK$employee==0,"HHID"]
> length(err.hhid)
[1] 582

> length(unique(err.hhid))
[1] 532
```

Conclusions:

a. Out of 37,946 effective records in REC_13, eight records are unmatched with REC_02, because of an improper code of IW01.

b. Out of 37,938 merged records, 582 corresponding records do not have an employee status in REC_02.

c. The number of household with such errors is 532!

d. The meaning of the variable “a05” (the number of members who earned from wages) in REC_01 should be interpreted;

- ✧ as the number of members who have records in REC_13,
- ✧ not as the number of members who had employee status in REC_02.

e. When analyzing occupations and wages in REC_13 by individual characteristics such as sex and age in REC_02, it is essential to conduct integrity error check regarding the merging key variable of IW01 in REC_13, in advance to merging.

➢ Examples of the first 10 errors out of 532:

Comparison of household members in REC_02 and occupation data in REC_13

```
> colnames(WORK)[7]<-"ID(HM01)"
> colnames(OCC.hhid)[8]<-"ID(IW01)"
> for(j in err.hhid[1:10]){
+ print("Household members ================================================")
+ print(WORK[WORK$HHID==j,c(17,7:16,19)])
+ print("Data in REC_13 ----------------------------------------------------")
+ print(OCC.hhid[OCC.hhid$HHID==j & is.na(OCC.hhid$ID)==FALSE,c(14,8:11,2:7)])
+ }
[1] "Household members ================================================"
   HHID ID(HM01) Relation Sex Age occ1 ws1 ea1 occ2 ws2 ea2 employee
38   10        1        1   2  62  522   2   7   NA  NA  NA        0
39   10        2        8   1  50  421   6  10   NA  NA  NA        1
[1] "Data in REC_13 ----------------------------------------------------"
   HHID ID(IW01) no.occ occ.code se.class REG CWT AREA PSU_NO HHNO ENU
25   10        1      1      421       50   1  10    1    781    6   1
```

ID(IW01)=1 should be read as 2.

```
[1] "Household members ================================================"
       HHID ID(HM01) Relation Sex Age occ1 ws1 ea1 occ2 ws2 ea2 employee
31699 10059        1        1   1  59  131   1   4  113   4  12        1
31700 10059        2        2   2  34  113   4  12  131   3   4        1
31701 10059        3        3   2  11   NA  NA  NA   NA  NA  NA        0
31702 10059        4        3   1   1   NA  NA  NA   NA  NA  NA        0
31703 10059        5        8   1  37  722   6   4   NA  NA  NA        1
[1] "Data in REC_13 ----------------------------------------------------"
       HHID ID(IW01) no.occ occ.code se.class REG CWT AREA PSU_NO HHNO ENU
```

```
34318 10059        1      1      113       32   2  25    2     68    3   5
34321 10059        2      1      113       32   2  25    2     68    3   5
34324 10059        3      1      722       60   2  25    2     68    3   5
```

ID(IW01)=3 should be read as 5.

```
 [1] "Household members ================================================="
    HHID ID(HM01) Relation Sex Age occ1 ws1 ea1 occ2 ws2 ea2 employee
3308 1007        1        1   1  57  742   6   4   NA  NA  NA        1
3309 1007        2        2   2  55  991   8  99   NA  NA  NA        0
3310 1007        3        3   2  28  412   6  10   NA  NA  NA        1
3311 1007        4        6   1  13   NA  NA  NA   NA  NA  NA        0
[1] "Data in REC_13 ---------------------------------------------------------"
    HHID ID(IW01) no.occ occ.code se.class REG CWT AREA PSU_NO HHNO ENU
3988 1007        1      1      742       50   1  10    1    843    8   1
3991 1007        2      1      412       50   1  10    1    843    8   1
```

ID(IW01)=2 should be read as 3.

```
 [1] "Household members ================================================="
      HHID ID(HM01) Relation Sex Age occ1 ws1 ea1 occ2 ws2 ea2 employee
32132 10210        1        1   2  39  991   8  99   NA  NA  NA        0
32133 10210        2        2   1  33  832   4  12   NA  NA  NA        1
32134 10210        3        3   1  21  915   6   7   NA  NA  NA        1
32135 10210        4        3   1   2   NA  NA  NA   NA  NA  NA        0
32136 10210        5        8   1  19  999  13  99   NA  NA  NA        0
[1] "Data in REC_13 ---------------------------------------------------------"
      HHID ID(IW01) no.occ occ.code se.class REG CWT AREA PSU_NO HHNO ENU
34729 10210        1      1      832       50   2  26    1     74   11   2
34732 10210        3      1      915       50   2  26    1     74   11   2
```

ID(IW01)=1 should be read as 2.

```
 [1] "Household members ================================================="
      HHID ID(HM01) Relation Sex Age occ1 ws1 ea1 occ2 ws2 ea2 employee
32206 10230        1        1   2  51  611   2   1  741   2   4        0
[1] "Data in REC_13 ---------------------------------------------------------"
      HHID ID(IW01) no.occ occ.code se.class REG CWT AREA PSU_NO HHNO ENU
34795 10230        1      1      513       50   2  26    2     85    8   1
```

ID(HM01) is own-account worker. Her primary occupation is skilled agricultural worker, and the secondary occupation is food processing worker in Manufacturing.
Existence of her data IW01 in REC_13 is doubtful.

```
> HHOLD[10230,1:14]
      reg cwt area psu_no hhno enu a01 a02 a02_1 a03 a04 a04_1 a05 a06
10230   2  26    2     85    8   1   9   1     1  50   1     1   1   1
```

The above record of HHOLD (REC_01) shows that a02(number of earners)=1, a03(socio-economic class)=50 (Farm operator), a04(household size)=1, a05(number of employee)=1 and a06(number of earner from non-farm business)=1.
Based on the record of REC_02, a05=1 should be read as 0, and a06=1 also should be read as 0.

```
 [1] "Household members ================================================="
    HHID ID(HM01) Relation Sex Age occ1 ws1 ea1 occ2 ws2 ea2 employee
```

```
3411 1032        1        1   2  45  241   4  12   NA  NA  NA        1
3412 1032        2        8   2  42  413   6   9   NA  NA  NA        1
3413 1032        3        8   2  60  996  14  99   NA  NA  NA        0
3414 1032        4        8   2  29  342   6  11   NA  NA  NA        1
[1] "Data in REC_13 ------------------------------------------------------"
     HHID ID(IW01) no.occ occ.code se.class REG CWT AREA PSU_NO HHNO ENU
4102 1032        1      1      241       32   1  10    1    765   11   1
4105 1032        3      1      413       50   1  10    1    765   11   1
4108 1032        6      1      342       32   1  10    1    765   11   1
```

ID(IW01)=3 should be read as 2.
ID(IW01)=6 should be read as 4.

```
 [1] "Household members ================================================="
      HHID ID(HM01) Relation Sex Age occ1 ws1 ea1 occ2 ws2 ea2 employee
32991 10484        1        1   2  75  993  10  99   NA  NA  NA        0
32992 10484        2        6   2  31  826   6   4  512   6   8        1
32993 10484        3        8   1  11   NA  NA  NA   NA  NA  NA        0
[1] "Data in REC_13 ------------------------------------------------------"
      HHID ID(IW01) no.occ occ.code se.class REG CWT AREA PSU_NO HHNO ENU
35431 10484        1      1      826       60   2  27    1     76    9   1
35432 10484        1      2      512       50   2  27    1     76    9   1
```

ID(IW01)=1 in two records should be read as 2.

```
 [1] "Household members ================================================="
      HHID ID(HM01) Relation Sex Age occ1 ws1 ea1 occ2 ws2 ea2 employee
32991 10484        1        1   2  75  993  10  99   NA  NA  NA        0
32992 10484        2        6   2  31  826   6   4  512   6   8        1
32993 10484        3        8   1  11   NA  NA  NA   NA  NA  NA        0
[1] "Data in REC_13 ------------------------------------------------------"
      HHID ID(IW01) no.occ occ.code se.class REG CWT AREA PSU_NO HHNO ENU
35431 10484        1      1      826       60   2  27    1     76    9   1
35432 10484        1      2      512       50   2  27    1     76    9   1
```

ID(IW01)=1 in two records should be read as 2.

```
 [1] "Household members ================================================="
      HHID ID(HM01) Relation Sex Age occ1 ws1 ea1 occ2 ws2 ea2 employee
33033 10496        1        1   1  79  515   2  15   NA  NA  NA        0
33034 10496        2        2   2  62  991   8  99   NA  NA  NA        0
33035 10496        3        3   1  33  921   6   1   NA  NA  NA        1
33036 10496        4        3   2  20  992   9  99   NA  NA  NA        0
[1] "Data in REC_13 ------------------------------------------------------"
      HHID ID(IW01) no.occ occ.code se.class REG CWT AREA PSU_NO HHNO ENU
35461 10496        1      1      921       41   2  27    1     88   12   1
```

ID(IW01)=1 should be read as 3.

```
 [1] "Household members ================================================="
      HHID ID(HM01) Relation Sex Age occ1 ws1 ea1 occ2 ws2 ea2 employee
33065 10509        1        1   2  34  713   3   6   NA  NA  NA        0
33066 10509        2        2   1  35  131   1   6  311   6   6        1
33067 10509        3        3   2   9   NA  NA  NA   NA  NA  NA        0
33068 10509        4        3   1   2   NA  NA  NA   NA  NA  NA        0
33069 10509        5        4   2  15  991   8  99   NA  NA  NA        0
```

```
33070 10509        6        5   1  17  713   3   6   NA  NA  NA        0
[1] "Data in REC_13 ----------------------------------------------------"
       HHID ID(IW01) no.occ occ.code se.class REG CWT AREA PSU_NO HHNO ENU
35497 10509        1      1      311       32   2  27    1     91   12   1
```

ID(IW01)=1 should be read as 2, and occ.code=311 might be 131.

Editing IW01

Strategy:

- First, to verify HHID – Member ID – Occupation between subset of R13 with OCC=1 and R02 by merging two data frame.
- Second, to merge the unmatched subsets of data frames using key: HHID – Occupation.

Process:

- The editing process was summarized in the next table. R scripts for editing were attached at the end of this Chapter.

Results:

- Stored the results as the variable of "R02.HM01" in R13.

- Regarding key variable "IW01" (member ID) in REC_13, employees are grouped as follows;

Groups in original IW01	Number of values
Total	36,603
Correct values matched with R02	35,783
Incorrect values to be replaced with R02.HM01	403
Unmatched values	417

Table: Linkage between R13 and R02 at individual and occupation level

Number of records	Data frame	Contents	Number of records	Data frame	Contents
109,809	R13		139,003	R02	
36,603	OCC1	subset of R13 with OCC=1 If HHID-IW01 duplicated, ID=0, else ID=IW01, added sn=1:36603	139,003	EMP	added OCC1=HM36 if HM37=4,5,6 added OCC2=HM39 if HM40=4,5,6
33,502	MATCH1	merged with EMP using key: HHID-ID-IW02 and HHID-HM01-OCC1	139,003	EMP1	added sn.x for mached records
3,101	UNMATCH1	OCC1-MATCH1			
2,276	MATCH2	merged with EMP using key: HHID-ID-IW02 and HHID-HM01-OCC2	139,003	EMP2	added sn.y for mached records
825	UNMATCH2	UNMATCH1-MATCH2	939	EMP3	subset of EMP2 with sn.x=sn.y=NA
22	UNMATCH3.dup	duplicated HHID-IW02	89	EMP3.dup	duplicated HHID-OCC1
803	UNMATCH3	UNMATCH2-UNMATCH3.dup	850	EMP3.un	
392	MATCH3	merged with EMP3.un using key: HHID-IW02 and HHID-OCC1	850	EMP4	added sn.x for mached records
			458	EMP5	
			3	EMP5.dup	duplicated HHID-OCC2
411	UNMATCH4	UNMATCH3-MATCH3	455	EMP5.un	
16	MATCH4	merged with EMP5.un using key: HHID-IW02 and HHID-OCC2	850	EMP6	added sn.y for mached records
395	UNMATCH5	UNMATCH4-MATCH4	442	EMP6.un	subset of EMP6 with sn.x=sn.y=NA
417	UNMATCH6	UNMATCH5+UNMATCH3.dup			

Note: The variable R02.HM01 in R13 indicates the linked household member number in R02.

Out of 36,603 members in R13, 417 members with NA in R02.HM01 do not have counterparts in R02.

6. Linkage between R14 and R02 at individual and occupation level

- Compared R14 and R02 at individual and occupation level, and stored the results as the variable of "R02.HM01" in R14.

- Regarding key variable "IB01" (member ID) in REC_14, non-farm employers are grouped as follows;

Groups in original IB01	Number of values
Total	17,552
Correct values matched with R02	16,913
Incorrect values to be replaced with R02.HM01	253
Unmatched values	386

Observing occupations in BUS.hhid and WORK

- Generated the vector "business" of work status in WORK

  1. businessman 2.other

```
> WORK["business"]<-business
> colnames(WORK)
 [1] "REG"      "CWT"      "AREA"     "PSU_NO"   "HHNO"     "ENU"      "ID"       "Relation"
 [9] "Sex"      "Age"      "occ1"     "ws1"      "ea1"      "occ2"     "ws2"      "ea2"
[17] "HHID"     "wt"       "employee" "business"
```

- Merged BUS.hhid and WORK by using key; HHID and ID.

```
> BUS.WORK<-merge(BUS.hhid,WORK,by.x=c("HHID","IB01"),by.y=c("HHID","ID"))
> dim(BUS.WORK)
[1] 18169    42
```

- Verified the works status of household members.

```
> table(BUS.WORK["business"])
    0     1
  454 17715

> err.hhid<-BUS.WORK[BUS.WORK$business==0,"HHID"]
> length(err.hhid)
[1] 454

> length(unique(err.hhid))
[1] 433
```

Conclusions:

a. Out of 18,169 merged records, 454 records do not have a businessman/employer status.

b. The number of household with errors is 433!

c. When analyzing occupations and incomes in REC_14 by individual characteristics such as sex and age in REC_02, it is essential to conduct integrity error check regarding the merging key variable of IB01 in REC_14, in advance to merging.

- **Examples of the first 10 errors out of 433:**

  Comparison of household members in REC_02 and occupation data in REC_14

```
> colnames(WORK)[7]<-"ID(HM01)"
> colnames(BUS.hhid)[8]<-"ID(IB01)"
> for(j in err.hhid[1:10]){
+ print("Household members ================================================")
+ print(WORK[WORK$HHID==j,c(17,7:16,20)])
+ print("Data in REC_14 ----------------------------------------------------")
+ print(BUS.hhid[BUS.hhid$HHID==j & is.na(BUS.hhid$ID)==FALSE,c(23,8:11,2:7)])
+ }

[1] "Household members ================================================"
       HHID ID(HM01) Relation Sex Age occ1 ws1 ea1 occ2 ws2 ea2 business
31663 10049        1        1   1  48  712   6   6  911   3   7        0
31664 10049        2        2   2  39  911   2   7   NA  NA  NA        1
31665 10049        3        3   1  20  829   6   4   NA  NA  NA        0
31666 10049        4        3   2  10   NA  NA  NA   NA  NA  NA        0
[1] "Data in REC_14 ----------------------------------------------------"
      HHID ID(IB01) OCC IB02 IB03 REG CWT AREA PSU_NO HHNO ENU
3733 10049        1   1  911   22   2  25    1     87    6   2
[1] "Household members ================================================"
     HHID ID(HM01) Relation Sex Age occ1 ws1 ea1 occ2 ws2 ea2 business
3339 1015        1        1   2  67  991   8  99   NA  NA  NA        0
3340 1015        2        3   2  45  523   2   8   NA  NA  NA        1
3341 1015        3        3   2  42  414   6   6   NA  NA  NA        0
3342 1015        4        3   2  32  347   6   4   NA  NA  NA        0
3343 1015        5        4   2  31  413   6   6   NA  NA  NA        0
3344 1015        6        6   2  41  422   6   9   NA  NA  NA        0
3345 1015        7        6   2  14   NA  NA  NA   NA  NA  NA        0
3346 1015        8        6   2  11   NA  NA  NA   NA  NA  NA        0
3347 1015        9        6   1  21  992   9  99   NA  NA  NA        0
[1] "Data in REC_14 ----------------------------------------------------"
    HHID ID(IB01) OCC IB02 IB03 REG CWT AREA PSU_NO HHNO ENU
455 1015        1   1  523   22   1  10    1    661    7   1
[1] "Household members ================================================"
       HHID ID(HM01) Relation Sex Age occ1 ws1 ea1 occ2 ws2 ea2 business
32219 10234        1        1   1  43  611   2   1  712   6   6        0
32220 10234        2        2   2  49  741   6   4  611   3   1        0
32221 10234        3        3   1  18  992   9  99   NA  NA  NA        0
32222 10234        4        3   1  12   NA  NA  NA   NA  NA  NA        0
```

```
[1] "Data in REC_14 ------------------------------------------------------"
     HHID ID(IB01) OCC IB02 IB03 REG CWT AREA PSU_NO HHNO ENU
3820 10234        1   1  827   22   2  26    2     76    2   1
[1] "Household members ================================================"
      HHID ID(HM01) Relation Sex Age occ1 ws1 ea1 occ2 ws2 ea2 business
32836 10431         1        1   2  57  523   6   8  916   4  12        0
32837 10431         2        2   1  47  911   2  15   NA  NA  NA        1
[1] "Data in REC_14 ------------------------------------------------------"
     HHID ID(IB01) OCC IB02 IB03 REG CWT AREA PSU_NO HHNO ENU
3905 10431        1   1  911   22   2  26    1     87   14   1
[1] "Household members ================================================"
     HHID ID(HM01) Relation Sex Age occ1 ws1 ea1 occ2 ws2 ea2 business
3453 1045         1        1   1  47  832   2   9   NA  NA  NA        1
3454 1045         2        2   2  42  991   8  99   NA  NA  NA        0
3455 1045         3        3   2  21  992   9  99   NA  NA  NA        0
3456 1045         4        3   2  18  992   9  99   NA  NA  NA        0
[1] "Data in REC_14 ------------------------------------------------------"
    HHID ID(IB01) OCC IB02 IB03 REG CWT AREA PSU_NO HHNO ENU
475 1045        2   1  832   22   1  10    1    791   13   1
[1] "Household members ================================================"
      HHID ID(HM01) Relation Sex Age occ1 ws1 ea1 occ2 ws2 ea2 business
33018 10492         1        1   1  42  131   1   1   NA  NA  NA        0
33019 10492         2        2   2  41  921   3   1   NA  NA  NA        0
33020 10492         3        3   2   4   NA  NA  NA   NA  NA  NA        0
[1] "Data in REC_14 ------------------------------------------------------"
     HHID ID(IB01) OCC IB02 IB03 REG CWT AREA PSU_NO HHNO ENU
3929 10492        1   1  131   21   2  27    1     88    3   1
[1] "Household members ================================================"
      HHID ID(HM01) Relation Sex Age occ1 ws1 ea1 occ2 ws2 ea2 business
33030 10495         1        1   1  45  131   1   1   NA  NA  NA        0
33031 10495         2        2   2  55  832   2   9   NA  NA  NA        1
33032 10495         3        3   2  19  992   9  99   NA  NA  NA        0
[1] "Data in REC_14 ------------------------------------------------------"
     HHID ID(IB01) OCC IB02 IB03 REG CWT AREA PSU_NO HHNO ENU
3933 10495        1   1  832   22   2  27    1     88   11   1
[1] "Household members ================================================"
      HHID ID(HM01) Relation Sex Age occ1 ws1 ea1 occ2 ws2 ea2 business
33065 10509         1        1   2  34  713   3   6   NA  NA  NA        0
33066 10509         2        2   1  35  131   1   6  311   6   6        1
33067 10509         3        3   2   9   NA  NA  NA   NA  NA  NA        0
33068 10509         4        3   1   2   NA  NA  NA   NA  NA  NA        0
33069 10509         5        4   2  15  991   8  99   NA  NA  NA        0
33070 10509         6        5   1  17  713   3   6   NA  NA  NA        0
[1] "Data in REC_14 ------------------------------------------------------"
     HHID ID(IB01) OCC IB02 IB03 REG CWT AREA PSU_NO HHNO ENU
3939 10509        1   1  131   21   2  27    1     91   12   1
[1] "Household members ================================================"
      HHID ID(HM01) Relation Sex Age occ1 ws1 ea1 occ2 ws2 ea2 business
33258 10568         1        1   1  46  611   2   1  712   6   6        0
33259 10568         2        2   2  45  611   3   1   NA  NA  NA        0
33260 10568         3        3   2  25  994  11  99   NA  NA  NA        0
[1] "Data in REC_14 ------------------------------------------------------"
     HHID ID(IB01) OCC IB02 IB03 REG CWT AREA PSU_NO HHNO ENU
3961 10568        1   1  723   22   2  27    2     82    3   1
[1] "Household members ================================================"
     HHID ID(HM01) Relation Sex Age occ1 ws1 ea1 occ2 ws2 ea2 business
```

```
3499 1057        1        1   1  35  131   1   1   NA  NA  NA        0
3500 1057        2        2   2  27  412   3   1   NA  NA  NA        0
3501 1057        3        3   2  13   NA  NA  NA   NA  NA  NA        0
3502 1057        4        8   1  58  512   6   1   NA  NA  NA        0
3503 1057        5        9   1  30  921   6   1   NA  NA  NA        0
3504 1057        6        9   1  19  921   6   1   NA  NA  NA        0
3505 1057        7        9   1  30  921   6   1   NA  NA  NA        0
[1] "Data in REC_14 ----------------------------------------------------"
    HHID ID(IB01) OCC IB02 IB03 REG CWT AREA PSU_NO HHNO ENU
480 1057        1   1  131   21   1  10    1    688   14   5
>
```

Editing IB01

Strategy:

- First, to verify HHID – Member ID – Occupation between subset of R14 with OCC=1 and R02 by merging two data frame.
- Second, to merge the unmatched subsets of data frames using key: HHID – Occupation.

Process:

- The editing process was summarized in the next table. R scripts for editing were attached at the end of this Chapter.

Results:

- Stored the results as the variable of "R02.HM01" in R14.

- Regarding key variable "IB01" (member ID) in REC_14, non-farm employers are grouped as follows;

Groups in original IB01	Number of values
Total	17,552
Correct values matched with R02	16,913
Incorrect values to be replaced with R02.HM01	253
Unmatched values	386

Table: Linkage between R14 and R02 at individual and occupation level

Number of records	Data frame	Contents	Number of records	Data frame	Contents
35,104	R14		139,003	R02ws	
17,552	OCC1	subset of R14 with OCC=1 (HHID-IB01: no duplicated record), added sn=1:17552	17,497	BUS	added OCC1=HM36 if HM37=1,2,7 and not HM38=1,2 added OCC2=HM39 if HM40=1,2,7 and not HM41=1,2 select records with non-farm employer status
15,220	MATCH1	merged with BUS using key: HHID-IB01-IB02 and HHID-HM01-OCC1	17,497	BUS1	added sn.x for mached records
2,332	UNMATCH1	OCC1-MATCH1			
1,693	MATCH2	merged with EMP using key: HHID-IB01-IB02 and HHID-HM01-OCC2	17,497	BUS2	added sn.y for mached records
639	UNMATCH2	UNMATCH1-MATCH2	584	BUS3	subset of BUS2 with sn.x=sn.y=NA
6	UNMATCH3.dup	duplicated HHID-IB02	7	BUS3.dup	duplicated HHID-OCC1
633	UNMATCH3	UNMATCH2-UNMATCH3.dup	577	BUS3.un	
236	MATCH3	merged with BUS3.un using key: HHID-IB02 and HHID-OCC1	577	BUS4	added sn.x for mached records
			341	BUS5	
			1	BUS5.dup	duplicated HHID-OCC2
397	UNMATCH4	UNMATCH3-MATCH3	340	BUS5.un	
17	MATCH4	merged with BUS5.un using key: HHID-IB01 and HHID-OCC2	577	BUS6	added sn.y for mached records
380	UNMATCH5	UNMATCH4-MATCH4	324	BUS6.un	subset of BUS6 with sn.x=sn.y=NA
386	UNMATCH6	UNMATCH5+UNMATCH3.dup			

Note: The variable R02.HM01 in R14 indicates the linked household member number in R02.

Out of 17,552 members in R14, 386 members with NA in R02.HM01 do not have counterparts in R02.

1. Summary tables and frequency tables of each file

```
> file.names<-c("R01","R02","R03","R04","R05","R06","R07","R08","R09","R10",
+ "R11","R12","R13","R14","R15","R16","R17","R181","R182")
> file.list<-list(R01,R02,R03,R04,R05,R06,R07,R08,R09,R10,
+ R11,R12,R13,R14,R15,R16,R17,R181,R182)
> for(j in 1:length(file.names)){
+ cat(c("¥n¥n","######## SUMMARY OF", file.names[j],"############################"),"¥n¥n")
+ df<-file.list[[j]]
+ print(summary(df))
+ }
```

```
######## SUMMARY OF R01 ########################################

      REG             CWT             AREA          PSU_NO          HHNO            ENU
 Min.   :1.000   Min.   :10.00   Min.   :1.000   Min.   :  1.0   Min.   : 1.000   Min.   :1.00
 1st Qu.:2.000   1st Qu.:27.00   1st Qu.:1.000   1st Qu.: 78.0   1st Qu.: 4.000   1st Qu.:1.00
 Median :3.000   Median :48.00   Median :1.000   Median : 90.0   Median : 7.000   Median :1.00
 Mean   :3.144   Mean   :48.36   Mean   :1.385   Mean   :126.8   Mean   : 6.946   Mean   :1.17
 3rd Qu.:4.000   3rd Qu.:66.00   3rd Qu.:2.000   3rd Qu.:105.0   3rd Qu.:10.000   3rd Qu.:1.00
 Max.   :5.000   Max.   :96.00   Max.   :2.000   Max.   :852.0   Max.   :15.000   Max.   :5.00
      A01             A02             A02_1           A03             A04
 Min.   : 1.000   Min.   : 0.000   Min.   : 0.000   Min.   : 1.0   Min.   : 1.000
 1st Qu.: 3.000   1st Qu.: 1.000   1st Qu.: 1.000   1st Qu.:22.0   1st Qu.: 2.000
 Median : 6.000   Median : 2.000   Median : 2.000   Median :32.0   Median : 3.000
 Mean   : 6.494   Mean   : 1.819   Mean   : 1.814   Mean   :38.5   Mean   : 3.228
 3rd Qu.: 9.000   3rd Qu.: 2.000   3rd Qu.: 2.000   3rd Qu.:60.0   3rd Qu.: 4.000
 Max.   :12.000   Max.   :11.000   Max.   :11.000   Max.   :72.0   Max.   :20.000
     A04_1            A05              A06             A07             A08
 Min.   : 1.000   Min.   :0.0000   Min.   :0.0000   Min.   :   420   Min.   :   420
 1st Qu.: 2.000   1st Qu.:0.0000   1st Qu.:0.0000   1st Qu.:  7239   1st Qu.:  6573
 Median : 3.000   Median :1.0000   Median :0.0000   Median : 11460   Median : 10117
 Mean   : 3.223   Mean   :0.8501   Mean   :0.4077   Mean   : 15577   Mean   : 13530
 3rd Qu.: 4.000   3rd Qu.:1.0000   3rd Qu.:1.0000   3rd Qu.: 18798   3rd Qu.: 16254
 Max.   :20.000   Max.   :9.0000   Max.   :6.0000   Max.   :358529   Max.   :343363
      A09             A10             A11             A12             A13
 Min.   :    0   Min.   :   282   Min.   :   282   Min.   :    0   Min.   :-125861
 1st Qu.: 2941   1st Qu.:  2438   1st Qu.:  2248   1st Qu.: 1027   1st Qu.:   7346
 Median : 4279   Median :  3924   Median :  3525   Median : 1464   Median :  12987
 Mean   : 4928   Mean   :  5741   Mean   :  4893   Mean   : 1754   Mean   :  20160
 3rd Qu.: 6140   3rd Qu.:  6783   3rd Qu.:  5806   3rd Qu.: 2137   3rd Qu.:  23749
 Max.   :57766   Max.   :326766   Max.   :320254   Max.   :51050   Max.   :1579134
      A14             A15             A16             A17             A18
 Min.   :-125861   Min.   :-88216   Min.   :-88216   Min.   :    0   Min.   :    0
 1st Qu.:   7231   1st Qu.:  2545   1st Qu.:  2501   1st Qu.:    0   1st Qu.:    0
 Median :  12764   Median :  4529   Median :  4450   Median :  2500   Median :  2100
 Mean   :  19820   Mean   :  7363   Mean   :  7241   Mean   :  8396   Mean   :  8296
 3rd Qu.:  23300   3rd Qu.:  8334   3rd Qu.:  8197   3rd Qu.: 11000   3rd Qu.: 10833
 Max.   :1579134   Max.   :645625   Max.   :645625   Max.   :673000   Max.   :466667
      A19             A20             A21             A22             A23
 Min.   :-302400   Min.   :-157250   Min.   :-500000   Min.   :-128783   Min.   :     0.0
```

```
1st Qu.:       0   1st Qu.:       0   1st Qu.:       0   1st Qu.:       0   1st Qu.:       0.0
Median :       0   Median :       0   Median :       0   Median :       0   Median :       0.0
Mean   :    4796   Mean   :    4774   Mean   :    1147   Mean   :    1645   Mean   :     684.7
3rd Qu.:    4500   3rd Qu.:    4264   3rd Qu.:       0   3rd Qu.:     494   3rd Qu.:       0.0
Max.   :1622000   Max.   :1578667   Max.   : 730000   Max.   :1164499   Max.   :1900000.0
      A24                A25                A26                A27                A28
Min.   :      0.0   Min.   :      0.0   Min.   :      0.0   Min.   :      0   Min.   :      0
1st Qu.:      0.0   1st Qu.:      0.0   1st Qu.:      0.0   1st Qu.:      0   1st Qu.:      0
Median :      0.0   Median :      0.0   Median :      0.0   Median :      0   Median :      0
Mean   :    637.8   Mean   :     13.1   Mean   :     15.6   Mean   :   1240   Mean   :   1293
3rd Qu.:      0.0   3rd Qu.:      0.0   3rd Qu.:      0.0   3rd Qu.:   1000   3rd Qu.:   1000
Max.   :833333.0   Max.   :408000.0   Max.   :125000.0   Max.   :376000   Max.   :484083
      A29                A30                A31                A32                A33
Min.   :     0.00   Min.   :     0.00   Min.   :      0.0   Min.   :      0.0   Min.   :      0.0
1st Qu.:     0.00   1st Qu.:     0.00   1st Qu.:      0.0   1st Qu.:      0.0   1st Qu.:      0.0
Median :     0.00   Median :     0.00   Median :      0.0   Median :      0.0   Median :      0.0
Mean   :    67.28   Mean   :    68.82   Mean   :    177.1   Mean   :    192.1   Mean   :    171.5
3rd Qu.:     0.00   3rd Qu.:     0.00   3rd Qu.:      0.0   3rd Qu.:      0.0   3rd Qu.:      0.0
Max.   :49500.00   Max.   :29333.00   Max.   :500000.0   Max.   :300000.0   Max.   :2300000.0
      A34                A35                A36                A37                A38
Min.   :      0.0   Min.   :      0.00   Min.   :      0.00   Min.   :-483050   Min.   :-128783
1st Qu.:      0.0   1st Qu.:      0.00   1st Qu.:      0.00   1st Qu.:   4680   1st Qu.:   5221
Median :      0.0   Median :      0.00   Median :      0.00   Median :  10000   Median :  10493
Mean   :    188.7   Mean   :     20.55   Mean   :     25.89   Mean   :  16714   Mean   :  17137
3rd Qu.:      0.0   3rd Qu.:      0.00   3rd Qu.:      0.00   3rd Qu.:  20000   3rd Qu.:  20250
Max.   :590850.0   Max.   :160000.00   Max.   :160000.00   Max.   :2829760   Max.   :1578833
      A39                A40                A41                A42                A43
Min.   :     0   Min.   :      0.0   Min.   :     0.0   Min.   :     0.000   Min.   :     0.000
1st Qu.:   500   1st Qu.:      0.0   1st Qu.:     0.0   1st Qu.:     0.000   1st Qu.:     0.000
Median :  1000   Median :     90.0   Median :   323.0   Median :     0.000   Median :     0.000
Mean   :  1589   Mean   :    422.6   Mean   :   671.5   Mean   :     1.663   Mean   :     4.485
3rd Qu.:  2000   3rd Qu.:    361.0   3rd Qu.:   976.0   3rd Qu.:     0.000   3rd Qu.:     0.000
Max.   :250000   Max.   :110667.0   Max.   :43000.0   Max.   :10000.000   Max.   :6500.000
      A44                A45                A46                A47                A48
Min.   :      0.0   Min.   :      0.0   Min.   :      0.00   Min.   :     0.00   Min.   :      0
1st Qu.:      0.0   1st Qu.:      0.0   1st Qu.:      0.00   1st Qu.:     0.00   1st Qu.:      0
Median :      0.0   Median :      0.0   Median :      0.00   Median :     0.00   Median :      0
Mean   :    103.6   Mean   :    131.3   Mean   :     48.01   Mean   :    54.21   Mean   :    122
3rd Qu.:      0.0   3rd Qu.:      0.0   3rd Qu.:      0.00   3rd Qu.:     0.00   3rd Qu.:      0
Max.   :470000.0   Max.   :833333.0   Max.   :220000.00   Max.   :78333.00   Max.   :480000
      A49                A50                A51                A52               CON_EX1
Min.   :      0.0   Min.   :      0.0   Min.   :      0.0   Min.   :   7.729   Min.   :      0
1st Qu.:      0.0   1st Qu.:      0.0   1st Qu.:      0.0   1st Qu.: 101.449   1st Qu.:   1944
Median :      0.0   Median :      0.0   Median :      0.0   Median : 241.748   Median :   3905
Mean   :    149.5   Mean   :    275.3   Mean   :    339.6   Mean   : 422.210   Mean   :   6669
3rd Qu.:      0.0   3rd Qu.:      0.0   3rd Qu.:      0.0   3rd Qu.: 602.216   3rd Qu.:   7804
Max.   :416667.0   Max.   :480000.0   Max.   :833333.0   Max.   :4260.870   Max.   :335300
   CON_EX2           CON_EX3           NCON_EX1          NCON_EX2           NCON_EX3
Min.   :      0   Min.   :   139   Min.   :      0   Min.   :     0.00   Min.   :      0
1st Qu.:    800   1st Qu.:  3170   1st Qu.:    292   1st Qu.:     0.00   1st Qu.:    300
Median :   1400   Median :  5441   Median :    703   Median :     0.00   Median :    747
Mean   :   1934   Mean   :  8602   Mean   :   1972   Mean   :    74.64   Mean   :   2047
3rd Qu.:   2452   3rd Qu.: 10078   3rd Qu.:   1992   3rd Qu.:     0.00   3rd Qu.:   2132
Max.   :250000   Max.   :338740   Max.   :102017   Max.   :16667.00   Max.   :102017
    FB_EX1            FB_EX2            FB_EX3            TP_EX1            TP_EX2
Min.   :      0   Min.   :      0.0   Min.   :      0   Min.   :      0.00   Min.   :      0.000
```

```
1st Qu.: 2210   1st Qu.:    0.0   1st Qu.: 2898   1st Qu.:   0.00   1st Qu.:   0.000
Median : 3543   Median :  323.0   Median : 4197   Median :   0.00   Median :   0.000
Mean   : 4159   Mean   :  671.5   Mean   : 4831   Mean   :  94.27   Mean   :   3.037
3rd Qu.: 5384   3rd Qu.:  976.0   3rd Qu.: 6020   3rd Qu.:  43.00   3rd Qu.:   0.000
Max.   :57422   Max.   :43000.0   Max.   :57422   Max.   :5160.00   Max.   :2709.000
    TP_EX3            WS1             WS2             PB1              PB2
Min.   :   0.00   Min.   :     0   Min.   :     0   Min.   :-302400   Min.   :-157250
1st Qu.:   0.00   1st Qu.:     0   1st Qu.:     0   1st Qu.:      0   1st Qu.:      0
Median :   0.00   Median :  2500   Median :  2100   Median :      0   Median :      0
Mean   :  97.31   Mean   :  8396   Mean   :  8296   Mean   :   4796   Mean   :   4774
3rd Qu.:  43.00   3rd Qu.: 11000   3rd Qu.: 10833   3rd Qu.:   4500   3rd Qu.:   4264
Max.   :5160.00   Max.   :673000   Max.   :466667   Max.   :1622000   Max.   :1578667
     PA1              PA2             HHID             WT
Min.   :-500000   Min.   :-128783   Min.   :    1   Min.   :   7.729
1st Qu.:      0   1st Qu.:      0   1st Qu.:10764   1st Qu.: 101.449
Median :      0   Median :      0   Median :21528   Median : 241.748
Mean   :   1147   Mean   :   1645   Mean   :21528   Mean   : 422.210
3rd Qu.:      0   3rd Qu.:    494   3rd Qu.:32292   3rd Qu.: 602.216
Max.   : 730000   Max.   :1164499   Max.   :43055   Max.   :4260.870
```

Remarks:

The variables of money income, such as net money profit from non-farm business and/or farming includes negative values.

According to the delegates from Thailand for the Fifth International Workshop,

Negative values were used without any changes when making tables on average income and income distribution.

```
######## SUMMARY OF R02 ########################################

     REG             CWT             AREA            PSU_NO          HHNO            ENU
Min.   :1.000   Min.   :10.00   Min.   :1.000   Min.   :  1.0   Min.   : 1.00   Min.   :1.000
1st Qu.:2.000   1st Qu.:30.00   1st Qu.:1.000   1st Qu.: 78.0   1st Qu.: 3.00   1st Qu.:1.000
Median :3.000   Median :47.00   Median :1.000   Median : 89.0   Median : 7.00   Median :1.000
Mean   :3.175   Mean   :48.54   Mean   :1.405   Mean   :125.9   Mean   : 6.79   Mean   :1.138
3rd Qu.:4.000   3rd Qu.:67.00   3rd Qu.:2.000   3rd Qu.:104.0   3rd Qu.:10.00   3rd Qu.:1.000
Max.   :5.000   Max.   :96.00   Max.   :2.000   Max.   :852.0   Max.   :15.00   Max.   :5.000

     HM01            HM02            HM03            HM04            HM05            HM06
Min.   : 1.000   Min.   :0.000   Min.   :1.000   Min.   : 0.00   Min.   :1.000   Min.   :1.000
1st Qu.: 1.000   1st Qu.:1.000   1st Qu.:1.000   1st Qu.:16.00   1st Qu.:1.000   1st Qu.:1.000
Median : 2.000   Median :2.000   Median :2.000   Median :36.00   Median :1.000   Median :1.000
Mean   : 2.517   Mean   :2.948   Mean   :1.528   Mean   :35.46   Mean   :1.072   Mean   :1.139
3rd Qu.: 3.000   3rd Qu.:4.000   3rd Qu.:2.000   3rd Qu.:51.00   3rd Qu.:1.000   3rd Qu.:1.000
Max.   :20.000   Max.   :9.000   Max.   :2.000   Max.   :99.00   Max.   :4.000   Max.   :7.000
```

```
      HM07              HM08              HM09              HM10              HM11
Min.    :0.00000   Min.    :0.0000   Min.    :0.0000   Min.    :1.000   Min.    :1.0
1st Qu.:0.00000   1st Qu.:1.0000   1st Qu.:1.0000   1st Qu.:2.000   1st Qu.:1.0
Median :0.00000   Median :1.0000   Median :1.0000   Median :2.000   Median :1.0
Mean   :0.07617   Mean   :0.9269   Mean   :0.8561   Mean   :1.969   Mean   :1.9
3rd Qu.:0.00000   3rd Qu.:1.0000   3rd Qu.:1.0000   3rd Qu.:2.000   3rd Qu.:3.0
Max.    :6.00000   Max.    :1.0000   Max.    :2.0000   Max.    :6.000   Max.    :5.0
                                                     NA's   :31329   NA's   :107674
      HM12              HM13              HM14              HM15              HM16
Min.    : 0.00    Min.    :1.00    Min.    :0.000   Min.    :110.0   Min.    :14.00
1st Qu.: 2.00    1st Qu.:2.00    1st Qu.:2.000   1st Qu.:213.0   1st Qu.:31.00
Median : 3.00    Median :3.00    Median :3.000   Median :214.0   Median :34.00
Mean   : 4.57    Mean   :2.76    Mean   :2.595   Mean   :302.2   Mean   :39.28
3rd Qu.: 7.00    3rd Qu.:3.00    3rd Qu.:3.000   3rd Qu.:410.0   3rd Qu.:52.00
Max.    :14.00    Max.    :6.00    Max.    :3.000   Max.    :980.0   Max.    :86.00
NA's   :127731   NA's   :127730   NA's   :10478   NA's   :16603   NA's   :118294
      HM17              HM18              HM19              HM20              HM21
Min.    :110.0   Min.    :    0   Min.    :   30   Min.    :   10   Min.    :   80
1st Qu.:213.0   1st Qu.:  1500   1st Qu.:  500   1st Qu.:  500   1st Qu.: 1718
Median :216.0   Median :  3243   Median : 1000   Median : 1000   Median : 2700
Mean   :298.8   Mean   :  6809   Mean   : 1124   Mean   : 1224   Mean   : 3463
3rd Qu.:411.0   3rd Qu.:  7538   3rd Qu.: 1500   3rd Qu.: 1500   3rd Qu.: 4000
Max.    :929.0   Max.    :180000   Max.    :12000   Max.    :54000   Max.    :63640
NA's   :109458   NA's   :126463   NA's   :115931   NA's   :110247   NA's   :127251
      HM22              HM23              HM24              HM25              HM26
Min.    :0.0000   Min.    :0.0000   Min.    :0.00000   Min.    :0.00000   Min.    :0.00000
1st Qu.:0.0000   1st Qu.:0.0000   1st Qu.:0.00000   1st Qu.:0.00000   1st Qu.:0.00000
Median :0.0000   Median :1.0000   Median :0.00000   Median :0.00000   Median :0.00000
Mean   :0.1495   Mean   :0.7161   Mean   :0.09788   Mean   :0.02793   Mean   :0.00377
3rd Qu.:0.0000   3rd Qu.:1.0000   3rd Qu.:0.00000   3rd Qu.:0.00000   3rd Qu.:0.00000
Max.    :1.0000   Max.    :1.0000   Max.    :1.00000   Max.    :1.00000   Max.    :1.00000

      HM27              HM28              HM29              HM30              HM31
Min.    :0.00000   Min.    :0.00000   Min.    :0.0000   Min.    :0.000000   Min.    :0.000000
1st Qu.:0.00000   1st Qu.:0.00000   1st Qu.:0.0000   1st Qu.:0.000000   1st Qu.:0.000000
Median :0.00000   Median :0.00000   Median :0.0000   Median :0.000000   Median :0.000000
Mean   :0.07487   Mean   :0.01047   Mean   :0.3184   Mean   :0.009654   Mean   :0.002424
3rd Qu.:0.00000   3rd Qu.:0.00000   3rd Qu.:0.0000   3rd Qu.:0.000000   3rd Qu.:0.000000
Max.    :5.00000   Max.    :5.00000   Max.    :6.0000   Max.    :5.000000   Max.    :5.000000

      HM32              HM33              HM34              HM35              HM36
Min.    :0.000000   Min.    :0.000000   Min.    :0.00000   Min.    :0.000000   Min.    : 11.0
1st Qu.:0.000000   1st Qu.:0.000000   1st Qu.:0.00000   1st Qu.:0.000000   1st Qu.:522.0
Median :0.000000   Median :0.000000   Median :0.00000   Median :0.000000   Median :621.0
Mean   :0.004151   Mean   :0.002597   Mean   :0.07848   Mean   :0.005374   Mean   :687.2
3rd Qu.:0.000000   3rd Qu.:0.000000   3rd Qu.:0.00000   3rd Qu.:0.000000   3rd Qu.:991.0
Max.    :3.000000   Max.    :1.000000   Max.    :1.00000   Max.    :1.000000   Max.    :999.0
                                                                             NA's   :31284
      HM37              HM38              HM39              HM40              HM41
Min.    : 1.000   Min.    : 1.00   Min.    : 11      Min.    : 1.00   Min.    : 1.00
1st Qu.: 2.000   1st Qu.: 4.00   1st Qu.:611      1st Qu.: 2.00   1st Qu.: 1.00
Median : 5.000   Median : 7.00   Median :614      Median : 3.00   Median : 1.00
Mean   : 5.258   Mean   :31.29   Mean   :658      Mean   : 3.09   Mean   : 3.41
3rd Qu.: 8.000   3rd Qu.:99.00   3rd Qu.:832      3rd Qu.: 3.00   3rd Qu.: 6.00
Max.    :14.000   Max.    :99.00   Max.    :999      Max.    :12.00   Max.    :99.00
NA's   :31284   NA's   :31284   NA's   :123043   NA's   :123032   NA's   :123042
```

```
      HHID             WT
Min.   :    1   Min.   :   7.729
1st Qu.:11020   1st Qu.: 105.342
Median :22295   Median : 256.283
Mean   :21912   Mean   : 435.489
3rd Qu.:32712   3rd Qu.: 618.950
Max.   :43055   Max.   :4260.870
```

######## SUMMARY OF R03 ##

```
      REG             CWT             AREA          PSU_NO          HHNO            ENU
Min.   :1.000   Min.   :10.00   Min.   :1.000   Min.   :  1.0   Min.   : 1.000   Min.   :1.00
1st Qu.:2.000   1st Qu.:27.00   1st Qu.:1.000   1st Qu.: 78.0   1st Qu.: 4.000   1st Qu.:1.00
Median :3.000   Median :48.00   Median :1.000   Median : 90.0   Median : 7.000   Median :1.00
Mean   :3.144   Mean   :48.36   Mean   :1.385   Mean   :126.8   Mean   : 6.946   Mean   :1.17
3rd Qu.:4.000   3rd Qu.:66.00   3rd Qu.:2.000   3rd Qu.:105.0   3rd Qu.:10.000   3rd Qu.:1.00
Max.   :5.000   Max.   :96.00   Max.   :2.000   Max.   :852.0   Max.   :15.000   Max.   :5.00

      HH01            HH02            HH03            HH04            HH05            HH06
Min.   :1.000   Min.   :1.000   Min.   :1.000   Min.   :1.00    Min.   :   17   Min.   :0.0000
1st Qu.:1.000   1st Qu.:1.000   1st Qu.:1.000   1st Qu.:1.00    1st Qu.: 1000   1st Qu.:0.0000
Median :1.000   Median :2.000   Median :1.000   Median :1.00    Median : 1500   Median :0.0000
Mean   :1.362   Mean   :1.813   Mean   :2.224   Mean   :2.15    Mean   : 2039   Mean   :0.2138
3rd Qu.:1.000   3rd Qu.:3.000   3rd Qu.:3.000   3rd Qu.:3.00    3rd Qu.: 2500   3rd Qu.:0.0000
Max.   :7.000   Max.   :6.000   Max.   :7.000   Max.   :7.00    Max.   :250000   Max.   :1.0000
                                                NA's   :33114
      HH07            HH08            HH09            HH10            HH11            HH12
Min.   :1.000   Min.   :1.000   Min.   :0.0000   Min.   :0.000   Min.   :0.000   Min.   :1.000
1st Qu.:2.000   1st Qu.:1.000   1st Qu.:1.0000   1st Qu.:2.000   1st Qu.:0.000   1st Qu.:1.000
Median :3.000   Median :2.000   Median :1.0000   Median :4.000   Median :1.000   Median :1.000
Mean   :2.716   Mean   :1.786   Mean   :0.9971   Mean   :3.127   Mean   :2.127   Mean   :1.513
3rd Qu.:3.000   3rd Qu.:2.000   3rd Qu.:1.0000   3rd Qu.:4.000   3rd Qu.:6.000   3rd Qu.:2.000
Max.   :9.000   Max.   :9.000   Max.   :1.0000   Max.   :6.000   Max.   :7.000   Max.   :7.000

      HH13            HH14            HH15            HH16            HH17            HH18
Min.   :1.000   Min.   :1       Min.   :0.000   Min.   :0.0000   Min.   :0.000   Min.   :0.000
1st Qu.:1.000   1st Qu.:2       1st Qu.:2.000   1st Qu.:0.0000   1st Qu.:1.000   1st Qu.:0.000
Median :1.000   Median :2       Median :2.000   Median :0.0000   Median :1.000   Median :0.000
Mean   :1.408   Mean   :3       Mean   :1.929   Mean   :0.6308   Mean   :1.097   Mean   :0.135
3rd Qu.:2.000   3rd Qu.:3       3rd Qu.:2.000   3rd Qu.:1.0000   3rd Qu.:2.000   3rd Qu.:0.000
Max.   :8.000   Max.   :8       Max.   :4.000   Max.   :9.0000   Max.   :7.000   Max.   :9.000
                NA's   :39148
      HH19            HH20            HH21            HH22            HH23
Min.   :0.0000   Min.   :0.0000   Min.   :0.000000   Min.   :0.0000   Min.   :0.0000
1st Qu.:0.0000   1st Qu.:0.0000   1st Qu.:0.000000   1st Qu.:0.0000   1st Qu.:1.0000
Median :0.0000   Median :0.0000   Median :0.000000   Median :1.0000   Median :1.0000
Mean   :0.2683   Mean   :0.1177   Mean   :0.006643   Mean   :0.9579   Mean   :0.8297
3rd Qu.:0.0000   3rd Qu.:0.0000   3rd Qu.:0.000000   3rd Qu.:2.0000   3rd Qu.:1.0000
Max.   :9.0000   Max.   :9.0000   Max.   :4.000000   Max.   :9.0000   Max.   :9.0000

      HH24            HH25            HH26            HH27            HH28
Min.   :0.0000   Min.   :0.0000   Min.   :0.0000   Min.   :0.0000   Min.   :0.0000
1st Qu.:0.0000   1st Qu.:0.0000   1st Qu.:0.0000   1st Qu.:1.0000   1st Qu.:1.0000
Median :0.0000   Median :0.0000   Median :1.0000   Median :1.0000   Median :1.0000
Mean   :0.1305   Mean   :0.1613   Mean   :0.6495   Mean   :0.9318   Mean   :0.8518
3rd Qu.:0.0000   3rd Qu.:0.0000   3rd Qu.:1.0000   3rd Qu.:1.0000   3rd Qu.:1.0000
Max.   :6.0000   Max.   :3.0000   Max.   :6.0000   Max.   :8.0000   Max.   :5.0000
```

```
      HH29            HH30            HH31            HH32            HH33
Min.    :0.000   Min.    :0.000   Min.    :0.0000   Min.    :0.000   Min.    :0.0000
1st Qu.:1.000   1st Qu.:1.000   1st Qu.:0.0000   1st Qu.:1.000   1st Qu.:0.0000
Median :1.000   Median :2.000   Median :1.0000   Median :1.000   Median :1.0000
Mean   :0.963   Mean   :2.401   Mean   :0.6796   Mean   :1.291   Mean   :0.7996
3rd Qu.:1.000   3rd Qu.:3.000   3rd Qu.:1.0000   3rd Qu.:1.000   3rd Qu.:1.0000
Max.    :9.000   Max.    :9.000   Max.    :7.0000   Max.    :9.000   Max.    :9.0000

      HH34            HH35            HH36            HH37            HH38
Min.    :0.0000   Min.    :0.0000   Min.    :0.0000   Min.    :0.0000   Min.    :0.00000
1st Qu.:0.0000   1st Qu.:0.0000   1st Qu.:0.0000   1st Qu.:0.0000   1st Qu.:0.00000
Median :1.0000   Median :0.0000   Median :0.0000   Median :0.0000   Median :0.00000
Mean   :0.5686   Mean   :0.2595   Mean   :0.1799   Mean   :0.2391   Mean   :0.09748
3rd Qu.:1.0000   3rd Qu.:0.0000   3rd Qu.:0.0000   3rd Qu.:0.0000   3rd Qu.:0.00000
Max.    :9.0000   Max.    :9.0000   Max.    :9.0000   Max.    :9.0000   Max.    :9.00000

      HH39            HH40            HH41            HH42            HH43
Min.    :0.0000   Min.    :0.000   Min.    :0.00000   Min.    : 0.000   Min.    : 0.000
1st Qu.:0.0000   1st Qu.:1.000   1st Qu.:0.00000   1st Qu.: 3.000   1st Qu.: 0.000
Median :0.0000   Median :1.000   Median :0.00000   Median : 5.000   Median : 0.000
Mean   :0.3257   Mean   :1.365   Mean   :0.01463   Mean   : 5.883   Mean   : 0.316
3rd Qu.:1.0000   3rd Qu.:2.000   3rd Qu.:0.00000   3rd Qu.: 8.000   3rd Qu.: 0.000
Max.    :7.0000   Max.    :9.000   Max.    :9.00000   Max.    :30.000   Max.    :30.000

      HH44            HH45            HHID            WT
Min.    : 0.0000   Min.    : 0.0000   Min.    :    1   Min.    :   7.729
1st Qu.: 0.0000   1st Qu.: 0.0000   1st Qu.:10764   1st Qu.: 101.449
Median : 0.0000   Median : 0.0000   Median :21528   Median : 241.748
Mean   : 0.3215   Mean   : 0.4791   Mean   :21528   Mean   : 422.210
3rd Qu.: 0.0000   3rd Qu.: 1.0000   3rd Qu.:32292   3rd Qu.: 602.216
Max.    :30.0000   Max.    :11.0000   Max.    :43055   Max.    :4260.870


######## SUMMARY OF R04 ########################################

      REG             CWT             AREA            PSU_NO          HHNO            ENU
Min.    :1.000   Min.    :10.00   Min.    :1.000   Min.    :  1.0   Min.    : 1.000   Min.    :1.00
1st Qu.:2.000   1st Qu.:27.00   1st Qu.:1.000   1st Qu.: 78.0   1st Qu.: 4.000   1st Qu.:1.00
Median :3.000   Median :48.00   Median :1.000   Median : 90.0   Median : 7.000   Median :1.00
Mean   :3.144   Mean   :48.36   Mean   :1.385   Mean   :126.8   Mean   : 6.946   Mean   :1.17
3rd Qu.:4.000   3rd Qu.:66.00   3rd Qu.:2.000   3rd Qu.:105.0   3rd Qu.:10.000   3rd Qu.:1.00
Max.    :5.000   Max.    :96.00   Max.    :2.000   Max.    :852.0   Max.    :15.000   Max.    :5.00

    EG011           EG012           EG021           EG022           EG031           EG032
Min.    :    3   Min.    :    50   Min.    :    34   Min.    :   15   Min.    :    6   Min.    :   50
1st Qu.:  800   1st Qu.:  1000   1st Qu.:  1095   1st Qu.:  500   1st Qu.:  100   1st Qu.:  135
Median : 1300   Median :  1500   Median :  3500   Median : 1200   Median :  241   Median :  200
Mean   : 1442   Mean   :  1843   Mean   :  8922   Mean   : 4493   Mean   : 1005   Mean   : 2799
3rd Qu.: 2000   3rd Qu.:  2000   3rd Qu.: 10000   3rd Qu.: 4000   3rd Qu.:  800   3rd Qu.:  700
Max.    :25000   Max.    :250000   Max.    :300000   Max.    :40000   Max.    :45000   Max.    :50000
NA's    :35981   NA's    :5945   NA's    :42287   NA's    :42989   NA's    :42299   NA's    :43034
     EG041           EG042           EG051           EG052           EG061
Min.    :   10.0   Min.    :  40.0   Min.    :   10.0   Min.    :  10.0   Min.    :    8.0
1st Qu.:  100.0   1st Qu.:  95.0   1st Qu.:  100.0   1st Qu.: 105.0   1st Qu.:  150.0
Median :  200.0   Median : 225.0   Median :  200.0   Median : 200.0   Median :  250.0
```

```
Mean   :  679.3   Mean   : 494.8   Mean   :  813.5   Mean   : 403.3   Mean   :  473.2
3rd Qu.:  500.0   3rd Qu.: 525.0   3rd Qu.:  500.0   3rd Qu.: 600.0   3rd Qu.:  458.0
Max.   :15000.0   Max.   :3000.0   Max.   :13300.0   Max.   :1000.0   Max.   :25000.0
NA's   :42177     NA's   :43035    NA's   :42922     NA's   :43052    NA's   :40727
     EG062            EG071            EG072            EG081            EG082
Min.   :  17.0   Min.   :   9.0   Min.   :  21.0   Min.   :   8.00   Min.   : 15.00
1st Qu.: 150.0   1st Qu.:  58.0   1st Qu.:  50.0   1st Qu.:  49.00   1st Qu.: 42.75
Median : 267.0   Median :  113.5   Median :  91.5   Median :  67.00   Median : 55.50
Mean   : 584.7   Mean   :  207.2   Mean   : 163.4   Mean   :  95.09   Mean   : 74.47
3rd Qu.: 458.0   3rd Qu.:  233.0   3rd Qu.: 200.0   3rd Qu.: 100.00   3rd Qu.: 83.00
Max.   :8333.0   Max.   :16660.0   Max.   :1125.0   Max.   :1700.00   Max.   :325.00
NA's   :42934    NA's   :41841     NA's   :42929    NA's   :42533     NA's   :42997
     EG091            EG092            EG101            EG102            EG111
Min.   :   8.0   Min.   :  29.0   Min.   :   3.0   Min.   :  15.0   Min.   :   8.0
1st Qu.: 325.0   1st Qu.: 292.0   1st Qu.:  46.0   1st Qu.:  38.0   1st Qu.:  42.0
Median : 492.0   Median : 417.0   Median :  91.0   Median :  83.0   Median : 125.0
Mean   : 575.3   Mean   : 555.1   Mean   : 433.7   Mean   : 366.4   Mean   : 244.2
3rd Qu.: 700.0   3rd Qu.: 667.0   3rd Qu.:  508.0   3rd Qu.: 484.0   3rd Qu.: 317.0
Max.   :5000.0   Max.   :4167.0   Max.   :13750.0   Max.   :5000.0   Max.   :2667.0
NA's   :41721    NA's   :42950    NA's   :40762     NA's   :42836    NA's   :42738
     EG112            EG121            EG122            HHID             WT
Min.   : 10.0   Min.   :   3.00   Min.   :  4.00   Min.   :    1   Min.   :   7.729
1st Qu.: 29.0   1st Qu.:  25.00   1st Qu.: 33.50   1st Qu.:10764   1st Qu.: 101.449
Median : 42.0   Median :  47.00   Median : 42.00   Median :21528   Median : 241.748
Mean   :128.1   Mean   :  79.19   Mean   : 72.43   Mean   :21528   Mean   : 422.210
3rd Qu.:150.0   3rd Qu.:  92.00   3rd Qu.: 91.50   3rd Qu.:32292   3rd Qu.: 602.216
Max.   :583.0   Max.   :1833.00   Max.   :208.00   Max.   :43055   Max.   :4260.870
NA's   :43038   NA's   :42351     NA's   :43032
```

```
######## SUMMARY OF R05 ##########################################

      REG             CWT             AREA          PSU_NO          HHNO            ENU
Min.   :1.000   Min.   :10.00   Min.   :1.000   Min.   :  1.0   Min.   : 1.000   Min.   :1.00
1st Qu.:2.000   1st Qu.:27.00   1st Qu.:1.000   1st Qu.: 78.0   1st Qu.: 4.000   1st Qu.:1.00
Median :3.000   Median :48.00   Median :1.000   Median : 90.0   Median : 7.000   Median :1.00
Mean   :3.144   Mean   :48.36   Mean   :1.385   Mean   :126.8   Mean   : 6.946   Mean   :1.17
3rd Qu.:4.000   3rd Qu.:66.00   3rd Qu.:2.000   3rd Qu.:105.0   3rd Qu.:10.000   3rd Qu.:1.00
Max.   :5.000   Max.   :96.00   Max.   :2.000   Max.   :852.0   Max.   :15.000   Max.   :5.00

     EG131            EG132            EG141            EG142            EG151
Min.   :  25.0   Min.   :  35.0   Min.   :  10.0   Min.   : 35     Min.   :  10.0
1st Qu.:  200.0   1st Qu.: 150.0   1st Qu.:  62.0   1st Qu.: 50     1st Qu.:  80.0
Median :  400.0   Median : 200.0   Median :  120.0   Median :100     Median : 140.0
Mean   :  893.8   Mean   : 444.5   Mean   :  254.1   Mean   : 81     Mean   : 202.2
3rd Qu.:  992.5   3rd Qu.: 400.0   3rd Qu.:  235.0   3rd Qu.:100     3rd Qu.: 240.0
Max.   :85000.0   Max.   :5000.0   Max.   :10000.0   Max.   :120     Max.   :3000.0
NA's   :40719     NA's   :42774    NA's   :42868     NA's   :43050   NA's   :41701
     EG152            EG161            EG162            EG171            EG172
Min.   :  10.0   Min.   :   7.0   Min.   :  10.0   Min.   :   5.0   Min.   : 10.0
1st Qu.:  90.0   1st Qu.:  60.0   1st Qu.:  35.0   1st Qu.:  25.0   1st Qu.: 10.0
Median : 120.0   Median :  150.0   Median : 100.0   Median :  60.0   Median : 49.0
Mean   : 175.3   Mean   :  293.4   Mean   : 415.2   Mean   :  147.1   Mean   :115.8
3rd Qu.: 200.0   3rd Qu.:  300.0   3rd Qu.: 250.0   3rd Qu.:  150.0   3rd Qu.:155.0
Max.   :1200.0   Max.   :14000.0   Max.   :3500.0   Max.   :10000.0   Max.   :800.0
NA's   :42961    NA's   :40998     NA's   :43010    NA's   :42057     NA's   :43004
```

```
     EG181              EG182              EG191              EG192              EG201
Min.    :    1.0   Min.    :   9.0   Min.    :  10.0   Min.    : 50.0   Min.    :  5.00
1st Qu.:  180.0   1st Qu.: 100.0   1st Qu.: 260.0   1st Qu.:200.0   1st Qu.: 10.00
Median :  300.0   Median : 120.0   Median : 270.0   Median :265.0   Median : 10.00
Mean   :  436.3   Mean   : 229.6   Mean   : 260.8   Mean   :238.1   Mean   : 71.08
3rd Qu.:  500.0   3rd Qu.: 250.0   3rd Qu.: 280.0   3rd Qu.:275.0   3rd Qu.: 25.00
Max.   :13728.0   Max.   :6500.0   Max.   :2600.0   Max.   :550.0   Max.   :570.00
NA's   :1845      NA's   :41183    NA's   :32658    NA's   :42932   NA's   :42280
     EG202              EG211              EG212              EG221              EG222
Min.    :  5.00   Min.    :   5.0   Min.    :   4.0   Min.    :  5.00   Min.    : 20
1st Qu.: 10.00   1st Qu.:  50.0   1st Qu.:  50.0   1st Qu.: 15.00   1st Qu.: 50
Median : 45.00   Median : 100.0   Median : 100.0   Median : 20.00   Median : 50
Mean   : 72.64   Mean   : 124.2   Mean   : 113.8   Mean   : 42.08   Mean   : 66
3rd Qu.:112.50   3rd Qu.: 180.0   3rd Qu.: 150.0   3rd Qu.: 40.00   3rd Qu.: 60
Max.   :220.00   Max.   :2000.0   Max.   :2000.0   Max.   :400.00   Max.   :150
NA's   :43027    NA's   :39643    NA's   :35303    NA's   :42913    NA's   :43050
     EG231              EG232              EG241              EG242              EG251
Min.    :   1.00   Min.    :   2.00   Min.    :   1.0   Min.    :  5.00   Min.    :   5.00
1st Qu.:  10.00   1st Qu.:  10.00   1st Qu.:  60.0   1st Qu.: 50.00   1st Qu.:  25.00
Median :  10.00   Median :  10.00   Median : 110.0   Median : 80.00   Median :  30.00
Mean   :  32.91   Mean   :  35.07   Mean   : 148.9   Mean   : 98.18   Mean   :  48.72
3rd Qu.:  30.00   3rd Qu.:  22.00   3rd Qu.: 200.0   3rd Qu.:120.00   3rd Qu.:  50.00
Max.   :5000.00   Max.   :1500.00   Max.   :3300.0   Max.   :900.00   Max.   :2000.00
NA's   :34655     NA's   :42734     NA's   :10091    NA's   :36607    NA's   :36507
     EG252              EG261              EG262              EG271              EG272
Min.    : 10.00   Min.    :   2.0   Min.    :   5.0   Min.    :  2.00   Min.    :  5.00
1st Qu.: 25.00   1st Qu.:  60.0   1st Qu.:  50.0   1st Qu.:  20.00   1st Qu.: 20.00
Median : 30.00   Median : 105.0   Median : 100.0   Median :  38.00   Median : 29.00
Mean   : 48.08   Mean   : 135.2   Mean   : 118.3   Mean   :  55.95   Mean   : 42.74
3rd Qu.: 50.00   3rd Qu.: 180.0   3rd Qu.: 150.0   3rd Qu.:  70.00   3rd Qu.: 50.00
Max.   :500.00   Max.   :3000.0   Max.   :1130.0   Max.   :8140.00   Max.   :500.00
NA's   :42804    NA's   :5375     NA's   :40636    NA's   :11273     NA's   :41299
      HHID              WT
Min.    :    1   Min.    :   7.729
1st Qu.:10764   1st Qu.:  101.449
Median :21528   Median :  241.748
Mean   :21528   Mean   :  422.210
3rd Qu.:32292   3rd Qu.:  602.216
Max.   :43055   Max.   :4260.870
```

```
######## SUMMARY OF R06 ########################################

      REG              CWT              AREA             PSU_NO           HHNO             ENU
Min.   :1.000   Min.   :10.00   Min.   :1.000   Min.   :  1.0   Min.   : 1.000   Min.   :1.00
1st Qu.:2.000   1st Qu.:27.00   1st Qu.:1.000   1st Qu.: 78.0   1st Qu.: 4.000   1st Qu.:1.00
Median :3.000   Median :48.00   Median :1.000   Median : 90.0   Median : 7.000   Median :1.00
Mean   :3.144   Mean   :48.36   Mean   :1.385   Mean   :126.8   Mean   : 6.946   Mean   :1.17
3rd Qu.:4.000   3rd Qu.:66.00   3rd Qu.:2.000   3rd Qu.:105.0   3rd Qu.:10.000   3rd Qu.:1.00
Max.   :5.000   Max.   :96.00   Max.   :2.000   Max.   :852.0   Max.   :15.000   Max.   :5.00

     EG281            EG282            EG291            EG292            EG301
Min.    :   20   Min.    :  500   Min.    :   10   Min.    :   30   Min.    :   15.0
1st Qu.: 1500   1st Qu.: 1500   1st Qu.:  200   1st Qu.:  350   1st Qu.:  200.0
Median : 3000   Median : 3250   Median :  600   Median : 1500   Median :  400.0
```

```
Mean   : 3769   Mean   : 3400   Mean   : 1428   Mean   : 2284   Mean   :  666.2
3rd Qu.: 5000   3rd Qu.: 4500   3rd Qu.: 2000   3rd Qu.: 3000   3rd Qu.:  800.0
Max.   :17000   Max.   :10000   Max.   :24000   Max.   :10000   Max.   :37000.0
NA's   :42843   NA's   :43043   NA's   :41918   NA's   :43032   NA's   :25517
    EG302           EG311           EG312           EG321           EG322
Min.   :  20.0   Min.   :  29.0   Min.   : 80.0   Min.   :   5.0   Min.   :  20
1st Qu.: 200.0   1st Qu.: 190.0   1st Qu.:199.5   1st Qu.:  60.0   1st Qu.: 100
Median : 300.0   Median : 300.0   Median :300.0   Median : 120.0   Median : 160
Mean   : 470.2   Mean   : 407.2   Mean   :315.2   Mean   : 210.2   Mean   : 227
3rd Qu.: 500.0   3rd Qu.: 500.0   3rd Qu.:400.0   3rd Qu.: 250.0   3rd Qu.: 300
Max.   :6800.0   Max.   :3000.0   Max.   :540.0   Max.   :8000.0   Max.   :2800
NA's   :40979    NA's   :42717    NA's   :43036   NA's   :36519    NA's   :42625
    EG331           EG332           EG341           EG342           EG351
Min.   :    5.0   Min.   : 10.0   Min.   :   5.0   Min.   :  20.0   Min.   :   15.0
1st Qu.:   45.0   1st Qu.: 60.0   1st Qu.:  40.0   1st Qu.:  50.0   1st Qu.:  300.0
Median :  100.0   Median :120.0   Median :  80.0   Median :  97.5   Median :  400.0
Mean   :  244.2   Mean   :188.8   Mean   :  347.1   Mean   : 186.9   Mean   :  525.6
3rd Qu.:  200.0   3rd Qu.:200.0   3rd Qu.:  300.0   3rd Qu.: 200.0   3rd Qu.:  600.0
Max.   :29000.0   Max.   :750.0   Max.   :10000.0   Max.   :1500.0   Max.   :12000.0
NA's   :42122     NA's   :43030   NA's   :42033     NA's   :42951    NA's   :41293
    EG352           EG361           EG362           EG371           EG372
Min.   :  20.0   Min.   :    9   Min.   :  19.0   Min.   :  15.0   Min.   : 49.0
1st Qu.: 270.0   1st Qu.:   60   1st Qu.:  69.0   1st Qu.: 190.0   1st Qu.:199.0
Median : 500.0   Median :  160   Median : 170.0   Median : 250.0   Median :210.0
Mean   : 577.7   Mean   :  247   Mean   : 229.0   Mean   : 366.9   Mean   :242.0
3rd Qu.: 600.0   3rd Qu.:  280   3rd Qu.: 264.2   3rd Qu.: 398.0   3rd Qu.:284.5
Max.   :3000.0   Max.   :10000   Max.   :3000.0   Max.   :6000.0   Max.   :750.0
NA's   :42926    NA's   :29922   NA's   :42639    NA's   :42290    NA's   :43028
    EG381           EG382           EG391           EG392           EG401
Min.   :  10.00   Min.   : 30     Min.   :   5.0   Min.   :   7.0   Min.   :   2.00
1st Qu.:  40.00   1st Qu.: 60     1st Qu.: 100.0   1st Qu.:  80.0   1st Qu.:  12.00
Median :  52.50   Median : 90     Median : 190.0   Median : 140.0   Median :  25.00
Mean   :  83.23   Mean   : 90     Mean   : 229.1   Mean   : 172.5   Mean   :  41.31
3rd Qu.:  80.00   3rd Qu.:120     3rd Qu.: 300.0   3rd Qu.: 220.0   3rd Qu.:  50.00
Max.   :2000.00   Max.   :150     Max.   :3600.0   Max.   :3000.0   Max.   :2800.00
NA's   :42873     NA's   :43053   NA's   :4078     NA's   :40157    NA's   :35898
    EG402           EG411           EG412           EG421           EG422
Min.   :  3.0   Min.   :   5.0   Min.   :   9   Min.   :   5.0   Min.   :  20.0
1st Qu.: 10.0   1st Qu.:  80.0   1st Qu.:  50   1st Qu.:  100.0   1st Qu.:  125.0
Median : 18.0   Median :  177.0   Median : 113   Median :  199.0   Median :  200.0
Mean   : 25.8   Mean   :  295.1   Mean   : 270   Mean   :  493.6   Mean   :  929.9
3rd Qu.: 25.0   3rd Qu.:  300.0   3rd Qu.: 225   3rd Qu.:  350.0   3rd Qu.:  911.2
Max.   :300.0   Max.   :12000.0   Max.   :3600   Max.   :27500.0   Max.   :15500.0
NA's   :42833   NA's   :31839     NA's   :42840   NA's   :41986     NA's   :42989
    EG431           EG432           EG441           EG442           EG451
Min.   :   4.00   Min.   :   5.00   Min.   :   10.0   Min.   :  10.00   Min.   :    5.0
1st Qu.:  32.00   1st Qu.:  25.00   1st Qu.:   40.0   1st Qu.:  41.25   1st Qu.:   40.0
Median :  50.00   Median :  45.00   Median :   80.0   Median :  60.00   Median :   60.0
Mean   :  75.39   Mean   :  68.06   Mean   :  240.6   Mean   : 215.36   Mean   :  121.8
3rd Qu.:  93.00   3rd Qu.:  66.00   3rd Qu.:  160.0   3rd Qu.: 288.75   3rd Qu.:  140.0
Max.   :4000.00   Max.   :4000.00   Max.   :11250.0   Max.   :1200.00   Max.   :10000.0
NA's   :17040     NA's   :41806     NA's   :42948     NA's   :43041     NA's   :13961
    EG452           EG461           EG462           HHID            WT
Min.   :   5   Min.   :  10.0   Min.   :   30   Min.   :    1   Min.   :   7.729
1st Qu.:  40   1st Qu.:  100.0   1st Qu.:   85   1st Qu.:10764   1st Qu.: 101.449
Median :  60   Median :  200.0   Median :  275   Median :21528   Median : 241.748
```

```
Mean   : 133    Mean   :  497.1   Mean   : 1206   Mean   :21528   Mean   : 422.210
3rd Qu.: 150    3rd Qu.:  400.0   3rd Qu.:  599   3rd Qu.:32292   3rd Qu.: 602.216
Max.   :2000    Max.   :20000.0   Max.   :15000   Max.   :43055   Max.   :4260.870
NA's   :42300   NA's   :42633     NA's   :43037
```

```
######## SUMMARY OF R07 ########################################
```

```
      REG             CWT             AREA          PSU_NO          HHNO            ENU
Min.   :1.000   Min.   :10.00   Min.   :1.000   Min.   :  1.0   Min.   : 1.000   Min.   :1.00
1st Qu.:2.000   1st Qu.:27.00   1st Qu.:1.000   1st Qu.: 78.0   1st Qu.: 4.000   1st Qu.:1.00
Median :3.000   Median :48.00   Median :1.000   Median : 90.0   Median : 7.000   Median :1.00
Mean   :3.144   Mean   :48.36   Mean   :1.385   Mean   :126.8   Mean   : 6.946   Mean   :1.17
3rd Qu.:4.000   3rd Qu.:66.00   3rd Qu.:2.000   3rd Qu.:105.0   3rd Qu.:10.000   3rd Qu.:1.00
Max.   :5.000   Max.   :96.00   Max.   :2.000   Max.   :852.0   Max.   :15.000   Max.   :5.00

    EG471             EG472             EG481             EG482             EG491
Min.   :    2.00   Min.   :    2.0   Min.   :   3.0   Min.   :   3.0   Min.   :  2.00
1st Qu.:   20.00   1st Qu.:   20.0   1st Qu.:  24.0   1st Qu.:  50.0   1st Qu.: 20.00
Median :   45.00   Median :   50.0   Median :  50.0   Median : 100.0   Median : 50.00
Mean   :   85.22   Mean   :  166.3   Mean   : 189.5   Mean   : 364.4   Mean   : 67.94
3rd Qu.:  100.00   3rd Qu.:  110.0   3rd Qu.: 150.0   3rd Qu.: 300.0   3rd Qu.:100.00
Max.   :10000.00   Max.   :10000.0   Max.   :6000.0   Max.   :7500.0   Max.   :450.00
NA's   :30119      NA's   :42458     NA's   :41787    NA's   :42929    NA's   :40611
    EG492             EG501             EG502             EG511             EG512
Min.   :  5.00   Min.   :   10.0   Min.   :  20.0   Min.   :   1.00   Min.   :   2.00
1st Qu.: 15.00   1st Qu.:  100.0   1st Qu.: 150.0   1st Qu.:   5.00   1st Qu.:   5.00
Median : 20.00   Median :  278.0   Median : 300.0   Median :  10.00   Median :  20.00
Mean   : 37.41   Mean   :  631.1   Mean   : 616.5   Mean   :  87.72   Mean   :  76.37
3rd Qu.: 45.00   3rd Qu.:  700.0   3rd Qu.: 830.0   3rd Qu.:  30.00   3rd Qu.: 100.00
Max.   :300.00   Max.   :13000.0   Max.   :3840.0   Max.   :6700.00   Max.   :1000.00
NA's   :42950    NA's   :42389     NA's   :42976    NA's   :42419     NA's   :43020
    EG521             EG522             EG531             EG532             EG541
Min.   :    5.0   Min.   :   20   Min.   :   20   Min.   :   30   Min.   :   10.0
1st Qu.:   30.0   1st Qu.:  200   1st Qu.:  200   1st Qu.:  300   1st Qu.:  100.0
Median :  200.0   Median :  480   Median :  300   Median :  800   Median :  200.0
Mean   :  738.5   Mean   : 1794   Mean   :  654   Mean   : 1731   Mean   :  508.3
3rd Qu.:  600.0   3rd Qu.: 1500   3rd Qu.:  560   3rd Qu.: 2000   3rd Qu.:  400.0
Max.   :24000.0   Max.   :50000   Max.   :50000   Max.   :15000   Max.   :10000.0
NA's   :42111     NA's   :42393   NA's   :37570   NA's   :42916   NA's   :42933
    EG542             EG551             EG552             EG561             EG562
Min.   :  50.0   Min.   :   30   Min.   :  30.0   Min.   :  79.0   Min.   :  300
1st Qu.: 100.0   1st Qu.:  300   1st Qu.: 300.0   1st Qu.: 649.2   1st Qu.:  300
Median : 200.0   Median :  500   Median : 600.0   Median :1500.0   Median :  400
Mean   : 647.8   Mean   : 1126   Mean   : 956.5   Mean   :1950.8   Mean   :16725
3rd Qu.: 900.0   3rd Qu.: 1075   3rd Qu.:1200.0   3rd Qu.:2700.0   3rd Qu.:16825
Max.   :2800.0   Max.   :12000   Max.   :6000.0   Max.   :9000.0   Max.   :65800
NA's   :43046    NA's   :42776   NA's   :43026    NA's   :42979    NA's   :43051
    EG571             EG572             EG581             EG582             EG591
Min.   :   10   Min.   :   30   Min.   :    1.0   Min.   :    2.0   Min.   :    2
1st Qu.:  290   1st Qu.:  500   1st Qu.:    3.0   1st Qu.:  166.2   1st Qu.:  208
Median :  500   Median :  850   Median :   75.0   Median :  333.0   Median :  625
Mean   : 1133   Mean   : 1540   Mean   :  330.9   Mean   : 1398.5   Mean   : 1698
3rd Qu.: 1200   3rd Qu.: 2000   3rd Qu.:  292.0   3rd Qu.: 1000.0   3rd Qu.: 1667
Max.   :32000   Max.   :13120   Max.   :25000.0   Max.   :110667.0  Max.   :58333
NA's   :42868   NA's   :42959   NA's   :41430     NA's   :42465     NA's   :42282
```

```
     EG592            EG601             EG602             HHID             WT
Min.    :   21   Min.    :    2.0   Min.    :    2.0   Min.    :    1   Min.    :   7.729
1st Qu.:  335   1st Qu.:   25.0   1st Qu.:   17.0   1st Qu.:10764   1st Qu.: 101.449
Median :  792   Median :   58.0   Median :   42.0   Median :21528   Median : 241.748
Mean   : 2139   Mean   :  157.4   Mean   :  185.6   Mean   :21528   Mean   : 422.210
3rd Qu.: 1750   3rd Qu.:  167.0   3rd Qu.:  125.0   3rd Qu.:32292   3rd Qu.: 602.216
Max.    :41667   Max.    :16667.0   Max.    :12500.0   Max.    :43055   Max.    :4260.870
NA's    :42914   NA's    :38853     NA's    :42786
```

```
######## SUMMARY OF R08 ########################################

      REG             CWT             AREA           PSU_NO           HHNO             ENU
Min.    :1.000   Min.    :10.00   Min.    :1.000   Min.    :  1.0   Min.    : 1.000   Min.    :1.00
1st Qu.:2.000   1st Qu.:27.00   1st Qu.:1.000   1st Qu.: 78.0   1st Qu.: 4.000   1st Qu.:1.00
Median :3.000   Median :48.00   Median :1.000   Median : 90.0   Median : 7.000   Median :1.00
Mean   :3.144   Mean   :48.36   Mean   :1.385   Mean   :126.8   Mean   : 6.946   Mean   :1.17
3rd Qu.:4.000   3rd Qu.:66.00   3rd Qu.:2.000   3rd Qu.:105.0   3rd Qu.:10.000   3rd Qu.:1.00
Max.    :5.000   Max.    :96.00   Max.    :2.000   Max.    :852.0   Max.    :15.000   Max.    :5.00

     EG611            EG612            EG621            EG622            EG631
Min.    :     3   Min.    : 1000   Min.    :    1   Min.    :   25   Min.    :    5.0
1st Qu.:  5550   1st Qu.: 3917   1st Qu.: 1010   1st Qu.:  167   1st Qu.:  125.0
Median :  8000   Median : 8333   Median : 1500   Median : 1250   Median :  375.0
Mean   : 10778   Mean   :15883   Mean   : 1724   Mean   : 1766   Mean   :  833.9
3rd Qu.: 11767   3rd Qu.:15833   3rd Qu.: 2000   3rd Qu.: 2750   3rd Qu.:  833.0
Max.    :308333   Max.    :91667   Max.    :80000   Max.    :20000   Max.    :13530.0
NA's    :39062   NA's    :43022   NA's    :37883   NA's    :42924   NA's    :42883
     EG632            EG641            EG642            EG651            EG652
Min.    :  83   Min.    :   1.0   Min.    :   4.00   Min.    :    2.00   Min.    :   2.00
1st Qu.: 750   1st Qu.:  17.0   1st Qu.:  17.00   1st Qu.:   15.00   1st Qu.:  13.00
Median : 833   Median :  30.0   Median :  32.50   Median :   33.00   Median :  27.00
Mean   :1144   Mean   : 113.7   Mean   :  87.01   Mean   :   86.68   Mean   :  88.37
3rd Qu.:1125   3rd Qu.:  58.0   3rd Qu.:  55.75   3rd Qu.:  100.00   3rd Qu.:  80.00
Max.    :4167   Max.    :6667.0   Max.    :1500.00   Max.    :10000.00   Max.    :3600.00
NA's    :43040   NA's    :23051   NA's    :42889   NA's    :13288   NA's    :42733
     EG661            EG662            EG671            EG672            EG681
Min.    :    1.0   Min.    :   4.0   Min.    :   3.00   Min.    :   8.00   Min.    :   4.00
1st Qu.:   25.0   1st Qu.:  25.0   1st Qu.:   9.00   1st Qu.:   8.00   1st Qu.:  13.00
Median :   51.0   Median :  58.0   Median :  21.00   Median :   9.00   Median :  17.00
Mean   :  201.4   Mean   : 244.9   Mean   :  68.66   Mean   :  48.26   Mean   :  24.86
3rd Qu.:  167.0   3rd Qu.: 167.0   3rd Qu.:  92.00   3rd Qu.:  75.00   3rd Qu.:  25.00
Max.    :10000.0   Max.    :5000.0   Max.    :4242.00   Max.    :1150.00   Max.    :1350.00
NA's    :32574   NA's    :42898   NA's    :12306   NA's    :42453   NA's    :42272
     EG682            EG691            EG692            EG701            EG702
Min.    :  7.00   Min.    :   2.0   Min.    :  5.0   Min.    :    2.0   Min.    :  20.0
1st Qu.: 15.00   1st Qu.:  25.0   1st Qu.: 40.0   1st Qu.:   40.0   1st Qu.: 100.0
Median : 17.00   Median :  70.0   Median : 80.0   Median :  100.0   Median : 500.0
Mean   : 21.54   Mean   : 114.5   Mean   :129.5   Mean   :  390.6   Mean   : 564.1
3rd Qu.: 23.00   3rd Qu.: 150.0   3rd Qu.:200.0   3rd Qu.:  400.0   3rd Qu.: 800.0
Max.    :333.00   Max.    :4000.0   Max.    :600.0   Max.    :15982.0   Max.    :2500.0
NA's    :42583   NA's    :38031   NA's    :42909   NA's    :40620   NA's    :43026
     EG711            EG712            EG721            EG722            EG731
Min.    :    4.0   Min.    :  10.0   Min.    :   5.0   Min.    :   21   Min.    :  10.0
1st Qu.:  120.0   1st Qu.: 142.5   1st Qu.:  250.0   1st Qu.:  516   1st Qu.: 100.0
Median :  308.0   Median : 300.0   Median :  400.0   Median : 1000   Median : 200.0
```

```
Mean   :  566.4   Mean   : 539.0   Mean   :  527.3   Mean   : 1261   Mean   : 382.4
3rd Qu.:  700.0   3rd Qu.: 697.0   3rd Qu.:  600.0   3rd Qu.: 1548   3rd Qu.: 480.0
Max.   :14400.0   Max.   :4000.0   Max.   :12000.0   Max.   :13650   Max.   :4800.0
NA's   :35946     NA's   :42903    NA's   :40024     NA's   :41611   NA's   :40601
    EG732            EG741            EG742            EG751           EG752
Min.   :  10.0   Min.   :  16.0   Min.   :   40   Min.   :   30   Min.   :   20
1st Qu.: 100.0   1st Qu.: 300.0   1st Qu.:  300   1st Qu.:  300   1st Qu.:  400
Median : 200.0   Median : 480.0   Median :  555   Median :  500   Median :  600
Mean   : 416.8   Mean   : 689.9   Mean   : 1195   Mean   : 1030   Mean   : 1994
3rd Qu.: 500.0   3rd Qu.: 800.0   3rd Qu.: 1500   3rd Qu.: 1000   3rd Qu.: 3000
Max.   :3000.0   Max.   :14000.0  Max.   :14000   Max.   :20000   Max.   :12900
NA's   :42787    NA's   :12982    NA's   :42763   NA's   :39480   NA's   :42983
    EG761            EG762            EG771            EG772           EG781           EG782
Min.   :   30   Min.   :  80   Min.   :   70   Min.   :800   Min.   :  100   Min.   : 500
1st Qu.:  500   1st Qu.:2250   1st Qu.:  525   1st Qu.:800   1st Qu.:  900   1st Qu.:1000
Median : 1062   Median :4000   Median : 1450   Median :800   Median : 1500   Median :1000
Mean   : 1712   Mean   :3936   Mean   : 1868   Mean   :800   Mean   : 1753   Mean   :2500
3rd Qu.: 2500   3rd Qu.:5350   3rd Qu.: 2000   3rd Qu.:800   3rd Qu.: 2000   3rd Qu.:2000
Max.   :22000   Max.   :8000   Max.   :15000   Max.   :800   Max.   :11200   Max.   :8000
NA's   :41885   NA's   :43036  NA's   :43021   NA's   :43054 NA's   :42954   NA's   :43050
    EG791            EG792            HHID             WT
Min.   :   30   Min.   :   50   Min.   :    1   Min.   :   7.729
1st Qu.:  800   1st Qu.:  500   1st Qu.:10764   1st Qu.: 101.449
Median : 1300   Median : 1500   Median :21528   Median : 241.748
Mean   : 1703   Mean   : 2529   Mean   :21528   Mean   : 422.210
3rd Qu.: 2000   3rd Qu.: 3005   3rd Qu.:32292   3rd Qu.: 602.216
Max.   :22000   Max.   :20000   Max.   :43055   Max.   :4260.870
NA's   :33734   NA's   :42912
```

```
######## SUMMARY OF R09 ##########################################

     REG             CWT             AREA          PSU_NO          HHNO            ENU
Min.   :1.000   Min.   :10.00   Min.   :1.000   Min.   :  1.0   Min.   : 1.000   Min.   :1.00
1st Qu.:2.000   1st Qu.:27.00   1st Qu.:1.000   1st Qu.: 78.0   1st Qu.: 4.000   1st Qu.:1.00
Median :3.000   Median :48.00   Median :1.000   Median : 90.0   Median : 7.000   Median :1.00
Mean   :3.144   Mean   :48.36   Mean   :1.385   Mean   :126.8   Mean   : 6.946   Mean   :1.17
3rd Qu.:4.000   3rd Qu.:66.00   3rd Qu.:2.000   3rd Qu.:105.0   3rd Qu.:10.000   3rd Qu.:1.00
Max.   :5.000   Max.   :96.00   Max.   :2.000   Max.   :852.0   Max.   :15.000   Max.   :5.00

    EG801            EG802            EG811            EG812            EG821
Min.   :    3.0   Min.   :    3.0   Min.   :    2.0   Min.   :    8.0   Min.   :    3
1st Qu.:  125.0   1st Qu.:   50.0   1st Qu.:  167.0   1st Qu.:  106.2   1st Qu.:  129
Median :  250.0   Median :  133.0   Median :  333.0   Median :  250.0   Median :  417
Mean   :  484.1   Mean   :  332.1   Mean   :  739.1   Mean   :  845.2   Mean   : 1547
3rd Qu.:  500.0   3rd Qu.:  250.0   3rd Qu.:  833.0   3rd Qu.:  500.0   3rd Qu.: 1667
Max.   :41667.0   Max.   :16667.0   Max.   :25000.0   Max.   :33333.0   Max.   :33333
NA's   :29331     NA's   :42277     NA's   :39976     NA's   :42813     NA's   :42580
    EG822            EG831            EG832            EG841            EG842
Min.   :    6   Min.   :   2.0   Min.   : 17.00   Min.   :    8.0   Min.   : 167
1st Qu.:  167   1st Qu.:  42.0   1st Qu.: 42.00   1st Qu.:  125.0   1st Qu.: 167
Median :  350   Median :  83.0   Median : 50.00   Median :  333.0   Median : 917
Mean   : 1240   Mean   : 157.7   Mean   : 76.32   Mean   :  688.5   Mean   :1750
3rd Qu.:  833   3rd Qu.: 167.0   3rd Qu.:100.00   3rd Qu.:  833.0   3rd Qu.:2500
Max.   :26667   Max.   :8333.0   Max.   :208.00   Max.   :10000.0   Max.   :5000
NA's   :42905   NA's   :40053    NA's   :43008    NA's   :42799     NA's   :43051
```

```
     EG851             EG852             EG861             EG862             EG871
Min.    :    3.0   Min.    :   7.0   Min.    :    5.0   Min.    :   1.0   Min.    :  10.0
1st Qu.:  142.0   1st Qu.: 125.0   1st Qu.:  300.0   1st Qu.: 150.0   1st Qu.: 150.0
Median :  292.0   Median : 167.0   Median :  400.0   Median : 300.0   Median : 300.0
Mean   :  404.8   Mean   : 253.9   Mean   :  582.8   Mean   : 460.1   Mean   : 378.8
3rd Qu.:  525.0   3rd Qu.: 292.0   3rd Qu.:  700.0   3rd Qu.: 500.0   3rd Qu.: 590.0
Max.   :10200.0   Max.   :2000.0   Max.   :30000.0   Max.   :7250.0   Max.   :3000.0
NA's   :40719     NA's   :42782    NA's   :6796      NA's   :42454    NA's   :40172
     EG872             EG881             EG882             EG891             EG892
Min.    :  15.0   Min.    :   3.0   Min.    : 20     Min.    :    2.0   Min.    :   25.0
1st Qu.: 100.0   1st Qu.:  30.0   1st Qu.: 45     1st Qu.:  112.0   1st Qu.:  167.0
Median : 100.0   Median :  60.0   Median : 70     Median :  242.0   Median :  292.0
Mean   : 162.9   Mean   : 134.9   Mean   : 70     Mean   :  511.2   Mean   :  590.9
3rd Qu.: 200.0   3rd Qu.: 120.0   3rd Qu.: 95     3rd Qu.:  500.0   3rd Qu.:  529.0
Max.   :1540.0   Max.   :7000.0   Max.   :120     Max.   :18750.0   Max.   :12500.0
NA's   :42639    NA's   :42308    NA's   :43053   NA's   :36127     NA's   :42539
     EG901             EG902             EG911             EG912             EG921
Min.    :    4   Min.    :  17.0   Min.    :   1.0   Min.    :  4.00   Min.    :    4.0
1st Qu.:  267   1st Qu.: 325.0   1st Qu.:  67.0   1st Qu.: 40.00   1st Qu.:   83.0
Median :  583   Median : 400.0   Median : 110.0   Median : 67.00   Median :  225.0
Mean   : 1021   Mean   : 573.8   Mean   : 156.5   Mean   : 97.91   Mean   :  440.2
3rd Qu.: 1167   3rd Qu.: 702.5   3rd Qu.: 188.0   3rd Qu.:125.00   3rd Qu.:  500.0
Max.   :17333   Max.   :9167.0   Max.   :6708.0   Max.   :859.00   Max.   :10000.0
NA's   :39549   NA's   :42472    NA's   :22826    NA's   :42473    NA's   :39467
     EG922             EG931             EG932             HHID              WT
Min.    :   8.0   Min.    :    1.00   Min.    :   1    Min.    :    1   Min.    :   7.729
1st Qu.:  83.0   1st Qu.:   17.00   1st Qu.:  17    1st Qu.:10764   1st Qu.: 101.449
Median : 179.5   Median :   25.00   Median :  33    Median :21528   Median : 241.748
Mean   : 310.2   Mean   :   57.75   Mean   : 101    Mean   :21528   Mean   : 422.210
3rd Qu.: 412.5   3rd Qu.:   50.00   3rd Qu.:  83    3rd Qu.:32292   3rd Qu.: 602.216
Max.   :1800.0   Max.   :33333.00   Max.   :2500    Max.   :43055   Max.   :4260.870
NA's   :42987    NA's   :34111      NA's   :42970
```

```
######## SUMMARY OF R10 ##########################################
```

```
      REG             CWT             AREA            PSU_NO          HHNO            ENU
Min.   :1.000   Min.   :10.00   Min.   :1.000   Min.   :  1.0   Min.   : 1.000   Min.   :1.00
1st Qu.:2.000   1st Qu.:27.00   1st Qu.:1.000   1st Qu.: 78.0   1st Qu.: 4.000   1st Qu.:1.00
Median :3.000   Median :48.00   Median :1.000   Median : 90.0   Median : 7.000   Median :1.00
Mean   :3.144   Mean   :48.36   Mean   :1.385   Mean   :126.8   Mean   : 6.946   Mean   :1.17
3rd Qu.:4.000   3rd Qu.:66.00   3rd Qu.:2.000   3rd Qu.:105.0   3rd Qu.:10.000   3rd Qu.:1.00
Max.   :5.000   Max.   :96.00   Max.   :2.000   Max.   :852.0   Max.   :15.000   Max.   :5.00
```

```
     EG941             EG942             EG951             EG952             EG961
Min.    :    3   Min.    :   8.0   Min.    :  10.0   Min.    :  27.0   Min.    :   8.0
1st Qu.:  142   1st Qu.: 167.0   1st Qu.: 500.0   1st Qu.: 300.0   1st Qu.: 208.0
Median :  333   Median : 375.0   Median : 750.0   Median : 499.0   Median : 333.0
Mean   :  490   Mean   : 474.7   Mean   : 887.9   Mean   : 580.4   Mean   : 422.7
3rd Qu.:  583   3rd Qu.: 600.0   3rd Qu.:1125.0   3rd Qu.: 748.0   3rd Qu.: 500.0
Max.   :11667   Max.   :8333.0   Max.   :8333.0   Max.   :1333.0   Max.   :2333.0
NA's   :40963   NA's   :42830    NA's   :42832    NA's   :43046    NA's   :42713
     EG962             EG971             EG972             EG981             EG982
Min.    :  25.0   Min.    :   8    Min.    : 167    Min.    :   4.0   Min.    :458
1st Qu.: 105.0   1st Qu.: 833    1st Qu.:1229    1st Qu.:  21.0   1st Qu.:458
Median : 325.0   Median :1590    Median :1646    Median : 124.0   Median :458
```

```
Mean   : 388.6   Mean   :1561    Mean   :1616    Mean   : 311.1   Mean   :458
3rd Qu.: 406.5   3rd Qu.:2083    3rd Qu.:1917    3rd Qu.: 333.0   3rd Qu.:458
Max.   :1500.0   Max.   :6000    Max.   :5000    Max.   :5000.0   Max.   :458
NA's   :43037    NA's   :42568   NA's   :43031   NA's   :42910    NA's   :43054
    EG991            EG992           EG1001          EG1002          EG1011
Min.   :   2.00   Min.   :  8.0   Min.   :   1.00   Min.   :  4.00   Min.   :   1.0
1st Qu.:  27.50   1st Qu.: 42.0   1st Qu.:  25.00   1st Qu.: 25.00   1st Qu.:  54.0
Median :  50.00   Median : 58.5   Median :  42.00   Median : 42.00   Median : 167.0
Mean   :  91.81   Mean   :101.2   Mean   :  75.39   Mean   : 63.81   Mean   : 335.8
3rd Qu.: 100.00   3rd Qu.:100.0   3rd Qu.:  83.00   3rd Qu.: 83.00   3rd Qu.: 400.0
Max.   :1667.00   Max.   :308.0   Max.   :3000.00   Max.   :417.00   Max.   :7000.0
NA's   :42252     NA's   :43033   NA's   :40139     NA's   :42607    NA's   :40859
    EG1012          EG1021          EG1022          EG1031          EG1032
Min.   :   4    Min.   :  10.0   Min.   :   5.0   Min.   :   7   Min.   :  20.0
1st Qu.:  42    1st Qu.: 100.0   1st Qu.:  52.5   1st Qu.:  100   1st Qu.:  60.0
Median :  83    Median : 200.0   Median : 150.0   Median :  200   Median : 139.0
Mean   : 172    Mean   : 322.9   Mean   : 250.7   Mean   :  253   Mean   : 209.4
3rd Qu.: 208    3rd Qu.: 300.0   3rd Qu.: 300.0   3rd Qu.:  300   3rd Qu.: 250.0
Max.   :2125    Max.   :6000.0   Max.   :2000.0   Max.   :18000   Max.   :2000.0
NA's   :42898   NA's   :41612    NA's   :42989    NA's   :33583   NA's   :42787
    EG1041          EG1042          EG1051          EG1052          EG1061
Min.   :   30.0   Min.   : 69.0   Min.   :  20.0   Min.   :  20.0   Min.   :  10.0
1st Qu.:  100.0   1st Qu.: 95.0   1st Qu.: 120.0   1st Qu.:  80.0   1st Qu.:  60.0
Median :  200.0   Median :129.0   Median : 200.0   Median : 120.0   Median : 120.0
Mean   :  678.3   Mean   :195.4   Mean   : 253.2   Mean   : 295.1   Mean   : 208.7
3rd Qu.:  500.0   3rd Qu.:290.0   3rd Qu.: 300.0   3rd Qu.: 270.0   3rd Qu.: 250.0
Max.   :18000.0   Max.   :400.0   Max.   :3000.0   Max.   :4000.0   Max.   :1500.0
NA's   :42966     NA's   :43048   NA's   :41298    NA's   :43022    NA's   :42804
    EG1062          EG1071          EG1072          EG1081          EG1082
Min.   : 20.0   Min.   :   30.0   Min.   : 10     Min.   :   33.0   Min.   : NA
1st Qu.: 70.0   1st Qu.:  150.0   1st Qu.:100     1st Qu.:  127.5   1st Qu.: NA
Median :100.0   Median :  400.0   Median :300     Median :  400.0   Median : NA
Mean   :124.1   Mean   :  898.4   Mean   :230     Mean   :  957.6   Mean   :NaN
3rd Qu.:200.0   3rd Qu.: 1000.0   3rd Qu.:340     3rd Qu.: 1650.2   3rd Qu.: NA
Max.   :200.0   Max.   :15000.0   Max.   :400     Max.   :10000.0   Max.   : NA
NA's   :43038   NA's   :42899     NA's   :43050   NA's   :43001     NA's   :43055
    EG1091          EG1092          EG1101          EG1102          EG1111
Min.   :   4.0   Min.   :  15.0   Min.   :   6.0   Min.   : 10.0   Min.   :   2.0
1st Qu.:  60.0   1st Qu.: 100.0   1st Qu.:  30.0   1st Qu.: 10.0   1st Qu.:  80.0
Median : 130.0   Median : 200.0   Median :  50.0   Median : 20.0   Median :  120.0
Mean   : 183.8   Mean   : 195.4   Mean   : 109.7   Mean   : 46.4   Mean   :  228.6
3rd Qu.: 240.0   3rd Qu.: 250.0   3rd Qu.: 120.0   3rd Qu.: 42.0   3rd Qu.:  250.0
Max.   :4800.0   Max.   :1000.0   Max.   :1000.0   Max.   :150.0   Max.   :50000.0
NA's   :34437    NA's   :42974    NA's   :42820    NA's   :43050   NA's   :18944
    EG1112          EG1121          EG1122          HHID            WT
Min.   :   5.00   Min.   :    4   Min.   :    2   Min.   :    1   Min.   :   7.729
1st Qu.:  20.00   1st Qu.:   83   1st Qu.:   67   1st Qu.:10764   1st Qu.: 101.449
Median :  30.00   Median :  208   Median :  250   Median :21528   Median : 241.748
Mean   :  76.86   Mean   : 1849   Mean   : 1471   Mean   :21528   Mean   : 422.210
3rd Qu.: 100.00   3rd Qu.: 1667   3rd Qu.: 1667   3rd Qu.:32292   3rd Qu.: 602.216
Max.   :3500.00   Max.   :62500   Max.   :16667   Max.   :43055   Max.   :4260.870
NA's   :40806     NA's   :38794   NA's   :42866

######## SUMMARY OF R11 ########################################
```

```
      REG             CWT             AREA          PSU_NO          HHNO            ENU
 Min.   :1.000   Min.   :10.00   Min.   :1.000   Min.   :  1.0   Min.   : 1.000   Min.   :1.00
 1st Qu.:2.000   1st Qu.:27.00   1st Qu.:1.000   1st Qu.: 78.0   1st Qu.: 4.000   1st Qu.:1.00
 Median :3.000   Median :48.00   Median :1.000   Median : 90.0   Median : 7.000   Median :1.00
 Mean   :3.144   Mean   :48.36   Mean   :1.385   Mean   :126.8   Mean   : 6.946   Mean   :1.17
 3rd Qu.:4.000   3rd Qu.:66.00   3rd Qu.:2.000   3rd Qu.:105.0   3rd Qu.:10.000   3rd Qu.:1.00
 Max.   :5.000   Max.   :96.00   Max.   :2.000   Max.   :852.0   Max.   :15.000   Max.   :5.00

     EG1131          EG1132          EG1141          EG1142          EG1151
 Min.   :    1.0   Min.   :   1.0   Min.   :   1.0   Min.   : NA     Min.   :    3
 1st Qu.:   13.0   1st Qu.:   3.0   1st Qu.:  17.0   1st Qu.: NA     1st Qu.:  583
 Median :   28.0   Median :   6.5   Median :  83.0   Median : NA     Median : 2000
 Mean   :  352.5   Mean   : 214.6   Mean   : 452.5   Mean   :NaN     Mean   : 3158
 3rd Qu.:  167.0   3rd Qu.: 118.0   3rd Qu.: 267.0   3rd Qu.: NA     3rd Qu.: 4000
 Max.   :41667.0   Max.   :5500.0   Max.   :8000.0   Max.   : NA     Max.   :83333
 NA's   :32688     NA's   :43017    NA's   :42694    NA's   :43055   NA's   :32305
     EG1152          EG1161          EG1162          EG1171          EG1172
 Min.   :    8.00   Min.   :   1.0   Min.   :   4    Min.   :   1.0   Min.   :  8.0
 1st Qu.:   95.75   1st Qu.:  17.0   1st Qu.:  17    1st Qu.:  83.0   1st Qu.: 17.0
 Median :  356.50   Median :  33.0   Median :  25    Median :  167.0   Median : 26.0
 Mean   :  861.96   Mean   :  104.3   Mean   : 103    Mean   :  239.3   Mean   :110.6
 3rd Qu.: 1250.00   3rd Qu.:  83.0   3rd Qu.:  42    3rd Qu.:  250.0   3rd Qu.:101.8
 Max.   :16667.00   Max.   :20833.0   Max.   :1041    Max.   :20833.0   Max.   :833.0
 NA's   :42895      NA's   :33448     NA's   :43030   NA's   :3221      NA's   :42989
     EG1181          EG1182          EG1191          EG1192          EG1201
 Min.   :    2.0   Min.   :   7.0   Min.   :   2.0   Min.   :  25.0   Min.   :   1
 1st Qu.:   77.0   1st Qu.:  249.0   1st Qu.:  83.0   1st Qu.: 160.0   1st Qu.:  83
 Median :  235.0   Median :  396.5   Median :  167.0   Median : 333.0   Median :  253
 Mean   :  447.7   Mean   :  512.2   Mean   :  272.2   Mean   : 409.6   Mean   : 1003
 3rd Qu.:  514.0   3rd Qu.:  700.0   3rd Qu.:  300.0   3rd Qu.: 600.0   3rd Qu.: 1000
 Max.   :33333.0   Max.   :11400.0   Max.   :25000.0   Max.   :1200.0   Max.   :49583
 NA's   :5375      NA's   :37193     NA's   :24017     NA's   :43006    NA's   :29344
     EG1202          EG1211          EG1212          HHID            WT
 Min.   :   8.0   Min.   :   1.0   Min.   :   8.0   Min.   :   1   Min.   :   7.729
 1st Qu.: 125.0   1st Qu.:  33.0   1st Qu.:  83.0   1st Qu.:10764   1st Qu.: 101.449
 Median : 200.0   Median :  125.0   Median : 317.0   Median :21528   Median : 241.748
 Mean   : 753.9   Mean   :  898.1   Mean   : 362.1   Mean   :21528   Mean   : 422.210
 3rd Qu.: 583.0   3rd Qu.:  500.0   3rd Qu.: 317.0   3rd Qu.:32292   3rd Qu.: 602.216
 Max.   :8000.0   Max.   :50000.0   Max.   :3023.0   Max.   :43055   Max.   :4260.870
 NA's   :43022    NA's   :42149     NA's   :43027
```

Remarks:

All values of the variable EG1142 (Career membership expense in kind) are NA.

```
######## SUMMARY OF R12 ########################################

      REG             CWT             AREA          PSU_NO          HHNO            ENU
 Min.   :1.000   Min.   :10.00   Min.   :1.000   Min.   :  1.0   Min.   : 1.000   Min.   :1.00
 1st Qu.:2.000   1st Qu.:27.00   1st Qu.:1.000   1st Qu.: 78.0   1st Qu.: 4.000   1st Qu.:1.00
 Median :3.000   Median :48.00   Median :1.000   Median : 90.0   Median : 7.000   Median :1.00
 Mean   :3.144   Mean   :48.36   Mean   :1.385   Mean   :126.8   Mean   : 6.946   Mean   :1.17
 3rd Qu.:4.000   3rd Qu.:66.00   3rd Qu.:2.000   3rd Qu.:105.0   3rd Qu.:10.000   3rd Qu.:1.00
 Max.   :5.000   Max.   :96.00   Max.   :2.000   Max.   :852.0   Max.   :15.000   Max.   :5.00
```

EF011	EF012	EF021	EF022	EF031
Min. : 1.0	Min. : 1.0	Min. : 1.0	Min. : 2.00	Min. : 1.00
1st Qu.: 50.0	1st Qu.: 70.0	1st Qu.: 60.0	1st Qu.: 35.00	1st Qu.: 40.00
Median : 86.0	Median : 127.0	Median : 100.0	Median : 55.00	Median : 70.00
Mean : 105.4	Mean : 152.8	Mean : 122.7	Mean : 80.02	Mean : 96.37
3rd Qu.: 140.0	3rd Qu.: 204.0	3rd Qu.: 152.0	3rd Qu.: 100.00	3rd Qu.: 120.00
Max. :1522.0	Max. :1883.0	Max. :2000.0	Max. :1000.00	Max. :2379.00
NA's :9387	NA's :30277	NA's :6920	NA's :40477	NA's :9457

EF032	EF041	EF042	EF051	EF052
Min. : 1.00	Min. : 2.00	Min. : 2	Min. : 1.00	Min. : 1.00
1st Qu.: 20.00	1st Qu.: 25.00	1st Qu.: 25	1st Qu.: 8.00	1st Qu.: 7.00
Median : 46.00	Median : 50.00	Median : 25	Median : 12.00	Median : 10.00
Mean : 66.13	Mean : 82.48	Mean : 45	Mean : 15.05	Mean : 14.59
3rd Qu.: 92.00	3rd Qu.: 99.00	3rd Qu.: 50	3rd Qu.: 19.00	3rd Qu.: 19.00
Max. :2000.00	Max. :3200.00	Max. :2093	Max. :419.00	Max. :540.00
NA's :33954	NA's :6147	NA's :34301	NA's :6461	NA's :40219

EF061	EF062	EF071	EF072	EF081
Min. : 1.00	Min. : 1.00	Min. : 1.0	Min. : 1.00	Min. : 1.00
1st Qu.: 30.00	1st Qu.: 20.00	1st Qu.: 26.0	1st Qu.: 11.00	1st Qu.: 11.00
Median : 56.00	Median : 30.00	Median : 45.0	Median : 21.00	Median : 30.00
Mean : 81.03	Mean : 46.62	Mean : 57.1	Mean : 32.33	Mean : 45.18
3rd Qu.: 100.00	3rd Qu.: 50.00	3rd Qu.: 73.0	3rd Qu.: 40.00	3rd Qu.: 57.00
Max. :1552.00	Max. :750.00	Max. :1070.0	Max. :500.00	Max. :1055.00
NA's :7853	NA's :37838	NA's :5445	NA's :29013	NA's :4998

EF082	EF091	EF092	EF101	EF102
Min. : 1.0	Min. : 1.00	Min. : 1.00	Min. : 1.00	Min. : 1.00
1st Qu.: 5.0	1st Qu.: 12.00	1st Qu.: 6.00	1st Qu.: 17.00	1st Qu.: 14.00
Median : 14.0	Median : 20.00	Median : 14.00	Median : 23.00	Median : 22.00
Mean : 27.8	Mean : 24.24	Mean : 17.61	Mean : 31.36	Mean : 34.95
3rd Qu.: 35.0	3rd Qu.: 31.00	3rd Qu.: 25.00	3rd Qu.: 38.00	3rd Qu.: 40.00
Max. :495.0	Max. :441.00	Max. :192.00	Max. :819.00	Max. :630.00
NA's :39640	NA's :4052	NA's :39955	NA's :24028	NA's :41797

EF111	EF112	EF121	EF122	EF131
Min. : 1.00	Min. : 1.00	Min. : 1.0	Min. : 1.0	Min. : 2.0
1st Qu.: 20.00	1st Qu.: 20.00	1st Qu.: 60.0	1st Qu.: 30.0	1st Qu.: 100.0
Median : 35.00	Median : 30.00	Median : 120.0	Median : 95.0	Median : 200.0
Mean : 50.08	Mean : 49.31	Mean : 194.6	Mean : 181.9	Mean : 302.3
3rd Qu.: 62.00	3rd Qu.: 60.00	3rd Qu.: 250.0	3rd Qu.: 210.0	3rd Qu.: 394.0
Max. :1600.00	Max. :1270.00	Max. :3500.0	Max. :2350.0	Max. :10000.0
NA's :16480	NA's :40597	NA's :7775	NA's :37372	NA's :15227

EF132	EF141	EF142	EF151	EF152
Min. : 2.0	Min. : 1.0	Min. : 2.0	Min. : 2.0	Min. : 3.0
1st Qu.: 50.0	1st Qu.: 60.0	1st Qu.: 50.0	1st Qu.: 70.0	1st Qu.: 40.0
Median : 90.0	Median : 100.0	Median : 100.0	Median : 120.0	Median : 100.0
Mean : 155.9	Mean : 168.3	Mean : 177.8	Mean : 219.1	Mean : 149.7
3rd Qu.: 180.0	3rd Qu.: 200.0	3rd Qu.: 200.0	3rd Qu.: 250.0	3rd Qu.: 200.0
Max. :10000.0	Max. :5000.0	Max. :4785.0	Max. :6000.0	Max. :3000.0
NA's :35077	NA's :36293	NA's :42523	NA's :39299	NA's :42100

EF161	EF162	EF171	EF172	HHID
Min. : 1.00	Min. : 1.00	Min. : 1.00	Min. : 1.00	Min. : 1
1st Qu.: 10.00	1st Qu.: 7.00	1st Qu.: 6.00	1st Qu.: 8.75	1st Qu.:10764
Median : 33.00	Median : 20.00	Median : 12.00	Median : 10.00	Median :21528
Mean : 70.01	Mean : 56.94	Mean : 16.98	Mean : 18.17	Mean :21528
3rd Qu.: 93.00	3rd Qu.: 67.25	3rd Qu.: 20.00	3rd Qu.: 20.00	3rd Qu.:32292
Max. :1200.00	Max. :630.00	Max. :405.00	Max. :210.00	Max. :43055

```
NA's   :30018     NA's   :42621    NA's   :41245    NA's   :42743
       WT
Min.    :   7.729
1st Qu.: 101.449
Median : 241.748
Mean   : 422.210
3rd Qu.: 602.216
Max.    :4260.870


######## SUMMARY OF R13 ########################################

     REG             CWT             AREA          PSU_NO          HHNO            ENU
Min.   :1.000   Min.   :10.00   Min.   :1.000   Min.   :  1.0   Min.   : 1.000   Min.   :1.000
1st Qu.:2.000   1st Qu.:21.00   1st Qu.:1.000   1st Qu.: 79.0   1st Qu.: 4.000   1st Qu.:1.000
Median :3.000   Median :45.00   Median :1.000   Median : 91.0   Median : 7.000   Median :1.000
Mean   :2.991   Mean   :46.34   Mean   :1.352   Mean   :147.1   Mean   : 7.357   Mean   :1.242
3rd Qu.:4.000   3rd Qu.:70.00   3rd Qu.:2.000   3rd Qu.:107.0   3rd Qu.:10.000   3rd Qu.:1.000
Max.   :5.000   Max.   :96.00   Max.   :2.000   Max.   :852.0   Max.   :15.000   Max.   :5.000

     IWO1            OCC          IWO2            IWO3            IWO4            IWO5
Min.    : 1.00   Min.    :1   Min.    : 11.0   Min.    :31.00   Min.    : 0.00   Min.    :1.0
1st Qu.: 1.00   1st Qu.:1   1st Qu.:412.0   1st Qu.:41.00   1st Qu.:12.00   1st Qu.:3.0
Median : 2.00   Median :2   Median :712.0   Median :50.00   Median :12.00   Median :5.0
Mean   : 2.06   Mean   :2   Mean   :606.8   Mean   :47.61   Mean   :10.67   Mean   :4.1
3rd Qu.: 3.00   3rd Qu.:3   3rd Qu.:832.0   3rd Qu.:60.00   3rd Qu.:12.00   3rd Qu.:5.0
Max.    :21.00   Max.    :3   Max.    :993.0   Max.    :60.00   Max.    :12.00   Max.    :7.0
NA's   :71863               NA's   :71903   NA's   :71903   NA's   :71903   NA's   :71903
     IWO6            IWO7            IWO8            IWO9              IW10
Min.    :     1   Min.    : 1.00   Min.    : 1.00   Min.    :     1.00   Min.    :    50
1st Qu.:   191   1st Qu.:20.00   1st Qu.: 8.00   1st Qu.:    54.25   1st Qu.:  4000
Median :  4700   Median :25.00   Median : 8.00   Median :   140.00   Median :  5980
Mean   :  7332   Mean   :22.38   Mean   : 8.11   Mean   :  1970.36   Mean   :  9190
3rd Qu.:  9840   3rd Qu.:26.00   3rd Qu.: 8.00   3rd Qu.:   458.00   3rd Qu.: 10350
Max.    :980000   Max.    :30.00   Max.    :24.00   Max.    :300000.00   Max.    :250000
NA's   :72223   NA's   :94104   NA's   :94104   NA's   :107403      NA's   :74715
     IW11            IW12             IW13             IW14             HHID
Min.    :     3   Min.    :    180   Min.    :    120   Min.    :     30   Min.    :    4
1st Qu.:  1000   1st Qu.:  37000   1st Qu.:   6960   1st Qu.:   2000   1st Qu.: 7776
Median :  2200   Median :  62400   Median :  20000   Median :   7300   Median :17737
Mean   :  3575   Mean   : 100148   Mean   :  31139   Mean   :  13241   Mean   :19732
3rd Qu.:  3500   3rd Qu.: 116400   3rd Qu.:  42000   3rd Qu.:  18000   3rd Qu.:31603
Max.    :307500   Max.    :3870000   Max.    :2000000   Max.    : 999999   Max.    :43055
NA's   :98637   NA's   :71937    NA's   :93605    NA's   :97084
       WT
Min.    :   7.729
1st Qu.: 110.670
Median : 267.596
Mean   : 420.614
3rd Qu.: 607.259
Max.    :4260.870


######## SUMMARY OF R14 ########################################
```

```
      REG             CWT             AREA           PSU_NO          HHNO            ENU
Min.   :1.000   Min.   :10.00   Min.   :1.000   Min.   : 49.0   Min.   : 1.000   Min.   :1.000
1st Qu.:2.000   1st Qu.:31.00   1st Qu.:1.000   1st Qu.: 80.0   1st Qu.: 3.000   1st Qu.:1.000
Median :3.000   Median :50.00   Median :1.000   Median : 92.0   Median : 6.000   Median :1.000
Mean   :3.199   Mean   :49.45   Mean   :1.275   Mean   :130.5   Mean   : 6.572   Mean   :1.135
3rd Qu.:4.000   3rd Qu.:67.00   3rd Qu.:2.000   3rd Qu.:107.0   3rd Qu.: 9.000   3rd Qu.:1.000
Max.   :5.000   Max.   :96.00   Max.   :2.000   Max.   :852.0   Max.   :15.000   Max.   :5.000

      IB01             OCC            IB02           IB03           IB04           IB05
Min.   : 1.000   Min.   :1.0   Min.   :122.0   Min.   :21.00   Min.   :12.00   Min.   : 0.00
1st Qu.: 1.000   1st Qu.:1.0   1st Qu.:131.0   1st Qu.:22.00   1st Qu.:63.00   1st Qu.:12.00
Median : 1.000   Median :1.5   Median :522.0   Median :22.00   Median :67.00   Median :12.00
Mean   : 1.598   Mean   :1.5   Mean   :493.5   Mean   :21.93   Mean   :63.75   Mean   :11.01
3rd Qu.: 2.000   3rd Qu.:2.0   3rd Qu.:741.0   3rd Qu.:22.00   3rd Qu.:72.00   3rd Qu.:12.00
Max.   :10.000   Max.   :2.0   Max.   :933.0   Max.   :31.00   Max.   :85.00   Max.   :12.00
NA's   :16930                  NA's   :16943   NA's   :16943   NA's   :16943   NA's   :16943
      IB06            IB07            IB081             IB082             IB091
Min.   : 1.000   Min.   : 0.00   Min.   :      30   Min.   :     30   Min.   :      20
1st Qu.: 1.000   1st Qu.: 1.00   1st Qu.:   69696   1st Qu.:   7000   1st Qu.:   29600
Median : 1.000   Median : 2.00   Median :  200000   Median :  19500   Median :  123200
Mean   : 1.871   Mean   : 2.91   Mean   :  549637   Mean   :  49801   Mean   :  427562
3rd Qu.: 2.000   3rd Qu.: 3.00   3rd Qu.:  508800   3rd Qu.:  45000   3rd Qu.:  365700
Max.   :99.000   Max.   :99.00   Max.   :89888600   Max.   :8453200   Max.   :89290800
NA's   :16943    NA's   :32268   NA's   :16951      NA's   :17991     NA's   :17599
     IB092             IB10             IB11            HHID             WT
Min.   :      5   Min.   :    10   Min.   : 1.00   Min.   :    1   Min.   :   7.729
1st Qu.:   3000   1st Qu.:  1000   1st Qu.:33.00   1st Qu.:11829   1st Qu.:  84.152
Median :  11980   Median :  3000   Median :50.00   Median :22205   Median : 166.259
Mean   :  39138   Mean   :  7436   Mean   :41.46   Mean   :22088   Mean   : 351.166
3rd Qu.:  32040   3rd Qu.:  8000   3rd Qu.:50.00   3rd Qu.:32919   3rd Qu.: 483.619
Max.   :8403400   Max.   : 99999   Max.   :70.00   Max.   :43051   Max.   :4260.870
NA's   :18666     NA's   :24400    NA's   :34979

######## SUMMARY OF R15 ##########################################

      REG             CWT             AREA           PSU_NO          HHNO            ENU
Min.   :1.000   Min.   :10.00   Min.   :1.000   Min.   :  1.0   Min.   : 1.000   Min.   :1.00
1st Qu.:2.000   1st Qu.:27.00   1st Qu.:1.000   1st Qu.: 78.0   1st Qu.: 4.000   1st Qu.:1.00
Median :3.000   Median :48.00   Median :1.000   Median : 90.0   Median : 7.000   Median :1.00
Mean   :3.144   Mean   :48.36   Mean   :1.385   Mean   :126.8   Mean   : 6.946   Mean   :1.17
3rd Qu.:4.000   3rd Qu.:66.00   3rd Qu.:2.000   3rd Qu.:105.0   3rd Qu.:10.000   3rd Qu.:1.00
Max.   :5.000   Max.   :96.00   Max.   :2.000   Max.   :852.0   Max.   :15.000   Max.   :5.00

      IA01            IA021           IA022           IA031           IA032           IA033
Min.   : 1.000   Min.   : 1.000   Min.   : 1.0   Min.   :11.00   Min.   :11.00   Min.   :11.00
1st Qu.: 3.000   1st Qu.: 1.000   1st Qu.: 2.0   1st Qu.:11.00   1st Qu.:12.00   1st Qu.:15.00
Median : 4.000   Median : 1.000   Median : 2.0   Median :11.00   Median :14.00   Median :17.00
Mean   : 6.604   Mean   : 1.324   Mean   : 2.3   Mean   :12.56   Mean   :14.44   Mean   :16.58
3rd Qu.:11.000   3rd Qu.: 1.000   3rd Qu.: 2.0   3rd Qu.:13.00   3rd Qu.:17.00   3rd Qu.:18.00
Max.   :19.000   Max.   :19.000   Max.   :12.0   Max.   :23.00   Max.   :22.00   Max.   :22.00
NA's   :28127    NA's   :28127    NA's   :40862  NA's   :28128   NA's   :34429   NA's   :38468
      IA041           IA042           IA051           IA052           IA061
Min.   :  1.00   Min.   :  1.0   Min.   :  1.00   Min.   :  1.0   Min.   :  1.00
1st Qu.:  5.00   1st Qu.: 30.0   1st Qu.:  6.00   1st Qu.:100.0   1st Qu.:  3.00
Median : 10.00   Median :100.0   Median : 11.50   Median :200.0   Median :  5.00
Mean   : 14.89   Mean   :124.3   Mean   : 19.09   Mean   :171.2   Mean   : 10.87
3rd Qu.: 20.00   3rd Qu.:200.0   3rd Qu.: 23.00   3rd Qu.:200.0   3rd Qu.: 10.00
```

```
Max.   :500.00   Max.   :600.0   Max.   :467.00   Max.   :300.0   Max.   :600.00
NA's   :31652    NA's   :41562   NA's   :40337    NA's   :42968   NA's   :42610
     IA062            IA07             IA08              IA09             IA10
Min.   :  1.0   Min.   : 1.000   Min.   :      1   Min.   :    1   Min.   :    2
1st Qu.: 27.5   1st Qu.: 1.000   1st Qu.:   3120   1st Qu.: 2744   1st Qu.: 1800
Median :100.0   Median : 2.000   Median :   8000   Median : 12480   Median : 3500
Mean   :103.8   Mean   : 1.903   Mean   :  33207   Mean   : 34514   Mean   : 5477
3rd Qu.:200.0   3rd Qu.: 2.000   3rd Qu.:  21600   3rd Qu.: 31470   3rd Qu.: 7500
Max.   :300.0   Max.   :15.000   Max.   :32986960   Max.   :308000   Max.   :60000
NA's   :42955   NA's   :28135    NA's   :39288     NA's   :43025    NA's   :42806
     IA11             IA12             IA13             IA14             IA15
Min.   :     60   Min.   :   110   Min.   :     3   Min.   :     6   Min.   :     50
1st Qu.:  20000   1st Qu.:  14850   1st Qu.:  3920   1st Qu.:  1040   1st Qu.:  16500
Median :  44200   Median :  40000   Median :  8256   Median :  3170   Median :  37600
Mean   :  98872   Mean   : 101941   Mean   : 10318   Mean   :  9298   Mean   :  99123
3rd Qu.: 101920   3rd Qu.: 110000   3rd Qu.: 13818   3rd Qu.:  8910   3rd Qu.:  75800
Max.   :6210000   Max.   :6210000   Max.   :139400   Max.   :1756000   Max.   :16825000
NA's   :30722     NA's   :32826     NA's   :33652    NA's   :34494     NA's   :38216
     IA16             IA17             IA18             IA19             IA20
Min.   :      50   Min.   :   12   Min.   :     40   Min.   :    100   Min.   :      10
1st Qu.:    6244   1st Qu.:  270   1st Qu.:  13000   1st Qu.:  14500   1st Qu.:    1080
Median :   15000   Median :  520   Median :  30600   Median :  29300   Median :    2250
Mean   :   93010   Mean   : 1294   Mean   :  60625   Mean   :  55436   Mean   :   24864
3rd Qu.:   37350   3rd Qu.: 1000   3rd Qu.:  61000   3rd Qu.:  56000   3rd Qu.:    4230
Max.   :15070250   Max.   :60000   Max.   :4500000   Max.   :4000000   Max.   :36000000
NA's   :40969      NA's   :42279   NA's   :38360     NA's   :38750     NA's   :35042
     IA21             IA22             IA23             IA24             IA25
Min.   :      20   Min.   :    9   Min.   :    10   Min.   :      20   Min.   :       5
1st Qu.:    1000   1st Qu.:  900   1st Qu.:   200   1st Qu.:    2000   1st Qu.:    6100
Median :    4050   Median : 1820   Median :   480   Median :    5000   Median :   14549
Mean   :  116273   Mean   : 2580   Mean   :  2268   Mean   :   31553   Mean   :   56050
3rd Qu.:   34588   3rd Qu.: 3250   3rd Qu.:  1010   3rd Qu.:   12000   3rd Qu.:   39740
Max.   :36000000   Max.   :80000   Max.   :301270   Max.   : 99999998   Max.   :32486960
NA's   :41549      NA's   :35228   NA's   :41322    NA's   :30565       NA's   :29220
     IA26             IA27             IA28             IA29              HHID
Min.   :    10   Min.   :     7   Min.   :     25   Min.   :      5   Min.   :    1
1st Qu.:   750   1st Qu.:   600   1st Qu.:   2250   1st Qu.:    400   1st Qu.:10764
Median :  1940   Median :  1500   Median :   5400   Median :   1500   Median :21528
Mean   :  5071   Mean   :  3108   Mean   :  17003   Mean   :   8497   Mean   :21528
3rd Qu.:  5000   3rd Qu.:  3000   3rd Qu.:  15000   3rd Qu.:   5890   3rd Qu.:32292
Max.   :490000   Max.   :308400   Max.   :2000000   Max.   :1760000   Max.   :43055
NA's   :34697    NA's   :41746    NA's   :38121     NA's   :38996
       WT
Min.   :   7.729
1st Qu.: 101.449
Median : 241.748
Mean   : 422.210
3rd Qu.: 602.216
Max.   :4260.870



######## SUMMARY OF R16 ########################################

     REG              CWT              AREA            PSU_NO           HHNO             ENU
Min.   :1.000   Min.   :10.00   Min.   :1.000   Min.   :  1.0   Min.   : 1.000   Min.   :1.00
```

```
1st Qu.:2.000   1st Qu.:27.00   1st Qu.:1.000   1st Qu.: 78.0   1st Qu.: 4.000   1st Qu.:1.00
Median :3.000   Median :48.00   Median :1.000   Median : 90.0   Median : 7.000   Median :1.00
Mean   :3.144   Mean   :48.36   Mean   :1.385   Mean   :126.8   Mean   : 6.946   Mean   :1.17
3rd Qu.:4.000   3rd Qu.:66.00   3rd Qu.:2.000   3rd Qu.:105.0   3rd Qu.:10.000   3rd Qu.:1.00
Max.   :5.000   Max.   :96.00   Max.   :2.000   Max.   :852.0   Max.   :15.000   Max.   :5.00

     I001         I0021             I0022            I0023             I0031
Min.   :71   Min.   :    3600   Min.   :  400   Min.   :    300   Min.   :   2000
1st Qu.:71   1st Qu.:  132000   1st Qu.: 1500   1st Qu.:  11000   1st Qu.:  10000
Median :71   Median :  185490   Median : 3050   Median :  15425   Median :  22500
Mean   :71   Mean   :  233704   Mean   : 7875   Mean   :  21440   Mean   : 164486
3rd Qu.:71   3rd Qu.:  264000   3rd Qu.:10000   3rd Qu.:  21738   3rd Qu.:  96000
Max.   :71   Max.   : 9999998   Max.   :56000   Max.   :1900000   Max.   :1500000
NA's   :1    NA's   :41645      NA's   :43039   NA's   :41680     NA's   :43006
    I0032          I0033           I0041           I0042          I0043
Min.   : 1000   Min.   :   270   Min.   :    100   Min.   :    10   Min.   :    30
1st Qu.: 2000   1st Qu.:  2000   1st Qu.:  10000   1st Qu.:  1000   1st Qu.:  1500
Median : 2000   Median :  4500   Median :  24000   Median :  2800   Median :  3000
Mean   : 5400   Mean   : 47064   Mean   :  42932   Mean   :  7212   Mean   :  4354
3rd Qu.: 2000   3rd Qu.: 18000   3rd Qu.:  48000   3rd Qu.:  6200   3rd Qu.:  5000
Max.   :20000   Max.   :408000   Max.   :5809000   Max.   :832900   Max.   :376000
NA's   :43050   NA's   :43043    NA's   :27492     NA's   :32477    NA's   :30795
    I0051          I0052           I0053           I0061          I0062
Min.   :    60   Min.   :    10   Min.   :    5.0   Min.   :  200   Min.   :   70
1st Qu.:  3600   1st Qu.:   968   1st Qu.:  300.0   1st Qu.: 1000   1st Qu.: 1000
Median :  4500   Median :  1760   Median :  500.0   Median : 2000   Median : 2064
Mean   :  5923   Mean   :  2442   Mean   :  919.3   Mean   : 4807   Mean   : 7414
3rd Qu.:  6000   3rd Qu.:  2880   3rd Qu.:  800.0   3rd Qu.: 6000   3rd Qu.: 5000
Max.   :352000   Max.   :624800   Max.   :49500.0   Max.   :78000   Max.   :96000
NA's   :37052    NA's   :33828    NA's   :39904     NA's   :42573   NA's   :43000
    I0063          I007          I0081           I0082           I0083          I0091
Min.   :  200   Min.   :72   Min.   :   250   Min.   :   200   Min.   :  150   Min.   :  90
1st Qu.:  600   1st Qu.:72   1st Qu.:  7062   1st Qu.:  4065   1st Qu.: 2000   1st Qu.: 425
Median : 1100   Median :72   Median :  20000   Median :  7800   Median : 4500   Median : 4830
Mean   : 1790   Mean   :72   Mean   :  52547   Mean   : 10470   Mean   : 8530   Mean   : 7448
3rd Qu.: 2000   3rd Qu.:72   3rd Qu.:  54000   3rd Qu.: 13180   3rd Qu.: 9000   3rd Qu.:11550
Max.   :10000   Max.   :72   Max.   :3600000   Max.   :200000   Max.   :500000   Max.   :22000
NA's   :43015   NA's   :1    NA's   :41168     NA's   :41777    NA's   :42161    NA's   :43043
    I0092          I0093           I0101           I0102          I0103
Min.   : NA     Min.   : NA     Min.   :      2   Min.   :   70   Min.   :      2
1st Qu.: NA     1st Qu.: NA     1st Qu.:    230   1st Qu.:  855   1st Qu.:    191
Median : NA     Median : NA     Median :   1200   Median : 5120   Median :    500
Mean   :NaN     Mean   :NaN     Mean   :   9854   Mean   :10633   Mean   :  13576
3rd Qu.: NA     3rd Qu.: NA     3rd Qu.:   7000   3rd Qu.:11000   3rd Qu.:   3000
Max.   : NA     Max.   : NA     Max.   :7090200   Max.   :64000   Max.   :2300000
NA's   :43055   NA's   :43055   NA's   :33164     NA's   :43040   NA's   :42511
    I0111          I0112           I0113           I0121          I0122
Min.   :    37   Min.   : 1568   Min.   :    37   Min.   :    100   Min.   :    15
1st Qu.:  1500   1st Qu.: 2220   1st Qu.:   300   1st Qu.:   5000   1st Qu.:   500
Median :  3000   Median : 4920   Median :  1500   Median :  25000   Median :  1500
Mean   : 23551   Mean   : 8055   Mean   :  5113   Mean   :  58852   Mean   : 10120
3rd Qu.: 10000   3rd Qu.:12930   3rd Qu.:  5000   3rd Qu.:  59000   3rd Qu.:  4000
Max.   :1920000   Max.   :20000   Max.   :160000   Max.   :10000000   Max.   :600000
NA's   :42487    NA's   :43049   NA's   :42882    NA's   :41902     NA's   :42830
    I0123          I0131           I0132           I0133          I0141
Min.   :   100   Min.   :   121   Min.   :  300   Min.   :   200   Min.   :    38
1st Qu.:  2000   1st Qu.:  4200   1st Qu.: 2112   1st Qu.:   350   1st Qu.:  2000
```

```
Median : 10300   Median :  6950   Median : 7194   Median :   350   Median :   5000
Mean   : 37174   Mean   : 35184   Mean   : 9268   Mean   :  5079   Mean   :  16583
3rd Qu.: 50000   3rd Qu.: 22000   3rd Qu.:15000   3rd Qu.:   700   3rd Qu.:  11000
Max.   :470000   Max.   :940000   Max.   :30000   Max.   :220000   Max.   :5000000
NA's   :42935    NA's   :42259    NA's   :43027   NA's   :42648    NA's   :38396
    IO142           IO143            HHID             WT
Min.   :  250   Min.   :    30   Min.   :    1   Min.   :   7.729
1st Qu.:  600   1st Qu.:  1000   1st Qu.:10764   1st Qu.: 101.449
Median : 1450   Median :  2000   Median :21528   Median : 241.748
Mean   : 6006   Mean   :  6901   Mean   :21528   Mean   : 422.210
3rd Qu.: 5300   3rd Qu.:  4800   3rd Qu.:32292   3rd Qu.: 602.216
Max.   :38000   Max.   :480000   Max.   :43055   Max.   :4260.870
NA's   :43015   NA's   :42294
```

Remarks:

All values of the variable IO092 (License and copyright in kind during the past 12 months) and IO093 (License and copyright in cash during the last month) are NA.

```
######## SUMMARY OF R17 ########################################

     REG             CWT             AREA          PSU_NO          HHNO            ENU
Min.   :1.000   Min.   :10.00   Min.   :1.000   Min.   :  1.0   Min.   : 1.000   Min.   :1.00
1st Qu.:2.000   1st Qu.:27.00   1st Qu.:1.000   1st Qu.: 78.0   1st Qu.: 4.000   1st Qu.:1.00
Median :3.000   Median :48.00   Median :1.000   Median : 90.0   Median : 7.000   Median :1.00
Mean   :3.144   Mean   :48.36   Mean   :1.385   Mean   :126.8   Mean   : 6.946   Mean   :1.17
3rd Qu.:4.000   3rd Qu.:66.00   3rd Qu.:2.000   3rd Qu.:105.0   3rd Qu.:10.000   3rd Qu.:1.00
Max.   :5.000   Max.   :96.00   Max.   :2.000   Max.   :852.0   Max.   :15.000   Max.   :5.00

     AD01               AD02               AD03               AD04          AD05
Min.   :       500   Min.   :       100   Min.   :      100   Min.   :1.000   Min.   :0.00000
1st Qu.:    150000   1st Qu.:    100000   1st Qu.:    20000   1st Qu.:1.000   1st Qu.:0.00000
Median :    300000   Median :    250000   Median :    43000   Median :2.000   Median :0.00000
Mean   :    675939   Mean   :    664133   Mean   :   194035   Mean   :2.582   Mean   :0.08382
3rd Qu.:    700000   3rd Qu.:    600000   3rd Qu.:   260000   3rd Qu.:4.000   3rd Qu.:0.00000
Max.   :300000000   Max.   :300000000   Max.   :22000000   Max.   :9.000   Max.   :2.00000
NA's   :8783        NA's   :26658       NA's   :7465       NA's   :98
     AD06          AD07          AD08          AD09          AD10
Min.   :0.000   Min.   :0.000   Min.   :0.0000   Min.   :1.000   Min.   :1.00
1st Qu.:2.000   1st Qu.:2.000   1st Qu.:0.0000   1st Qu.:2.000   1st Qu.:4.00
Median :2.000   Median :2.000   Median :1.0000   Median :4.000   Median :6.00
Mean   :4.145   Mean   :3.882   Mean   :0.6008   Mean   :3.999   Mean   :5.17
3rd Qu.:9.000   3rd Qu.:9.000   3rd Qu.:1.0000   3rd Qu.:6.000   3rd Qu.:6.00
Max.   :9.000   Max.   :9.000   Max.   :1.0000   Max.   :7.000   Max.   :7.00
                                                 NA's   :17188   NA's   :32522
     AD11               AD12               AD13              AD14              AD15
Min.   :      60   Min.   :    1500   Min.   :    500   Min.   :    200   Min.   :     680
1st Qu.:   20000   1st Qu.:  130000   1st Qu.:  20000   1st Qu.:  14000   1st Qu.:   20000
Median :   60000   Median :  350000   Median :  50000   Median :  30500   Median :   46500
Mean   :  249530   Mean   :  538096   Mean   : 124107   Mean   : 132081   Mean   :  285342
3rd Qu.:  240000   3rd Qu.:  700000   3rd Qu.: 150000   3rd Qu.: 140000   3rd Qu.:  170000
Max.   :30000000   Max.   :20000000   Max.   :1800000   Max.   :3720000   Max.   :20000000
```

```
NA's   :17188      NA's   :38949      NA's   :41498      NA's   :28149      NA's   :39473
     AD16               AD17               AD18               AD19               AD20
Min.   :     500   Min.   :    1250   Min.   :    200   Min.   :   500   Min.   :     60
1st Qu.:   20000   1st Qu.:   23500   1st Qu.:  25000   1st Qu.:  8000   1st Qu.:   4575
Median :   40000   Median :   70000   Median :  70000   Median : 20000   Median :  10000
Mean   :   84773   Mean   :  203467   Mean   : 166467   Mean   : 31672   Mean   :  32697
3rd Qu.:   80000   3rd Qu.:  200000   3rd Qu.: 187500   3rd Qu.: 40000   3rd Qu.:  30000
Max.   :15000000   Max.   :15000000   Max.   :3467000   Max.   :300000   Max.   :1100000
NA's   :36433      NA's   :42427      NA's   :42749     NA's   :42883    NA's   :39827
     AD21               AD22               AD23               AD24               AD25
Min.   :     300   Min.   :     500   Min.   :    300   Min.   :     85   Min.   :     85
1st Qu.:   10000   1st Qu.:   10000   1st Qu.:  12349   1st Qu.:   2000   1st Qu.:   2500
Median :   30000   Median :   20000   Median :  50000   Median :   5000   Median :   8000
Mean   :  165496   Mean   :  100432   Mean   : 125558   Mean   :  34852   Mean   :  54000
3rd Qu.:   80000   3rd Qu.:   60000   3rd Qu.: 122500   3rd Qu.:  15000   3rd Qu.:  20000
Max.   :28000000   Max.   :15000000   Max.   :1700000   Max.   :3000000   Max.   :3000000
NA's   :42219      NA's   :42597      NA's   :42851     NA's   :41197     NA's   :42050
     AD26              HHID              WT
Min.   :   100   Min.   :    1   Min.   :   7.729
1st Qu.:  1400   1st Qu.:10764   1st Qu.: 101.449
Median :  3000   Median :21528   Median : 241.748
Mean   : 11741   Mean   :21528   Mean   : 422.210
3rd Qu.: 10000   3rd Qu.:32292   3rd Qu.: 602.216
Max.   :700000   Max.   :43055   Max.   :4260.870
NA's   :42162
```

```
######## SUMMARY OF R181 ########################################

     REG              CWT              AREA           PSU_NO           HHNO             ENU
Min.   :1.000   Min.   :10.00   Min.   :1.000   Min.   :  1.0   Min.   : 1.000   Min.   :1.00
1st Qu.:2.000   1st Qu.:27.00   1st Qu.:1.000   1st Qu.: 78.0   1st Qu.: 4.000   1st Qu.:1.00
Median :3.000   Median :48.00   Median :1.000   Median : 90.0   Median : 7.000   Median :1.00
Mean   :3.144   Mean   :48.36   Mean   :1.385   Mean   :126.8   Mean   : 6.946   Mean   :1.17
3rd Qu.:4.000   3rd Qu.:66.00   3rd Qu.:2.000   3rd Qu.:105.0   3rd Qu.:10.000   3rd Qu.:1.00
Max.   :5.000   Max.   :96.00   Max.   :2.000   Max.   :852.0   Max.   :15.000   Max.   :5.00

     MR01             MR02             MR03          MR04_1          MR04_2
Min.   : 0.0000   Min.   : 0.000   Min.   :0.000   Min.   :1.00   Min.   :1.00
1st Qu.: 0.0000   1st Qu.: 0.000   1st Qu.:0.000   1st Qu.:1.00   1st Qu.:1.00
Median : 0.0000   Median : 0.000   Median :0.000   Median :1.00   Median :2.00
Mean   : 0.6401   Mean   : 0.631   Mean   :0.614   Mean   :1.48   Mean   :1.55
3rd Qu.: 1.0000   3rd Qu.: 1.000   3rd Qu.:1.000   3rd Qu.:2.00   3rd Qu.:2.00
Max.   :13.0000   Max.   :10.000   Max.   :8.000   Max.   :2.00   Max.   :2.00
NA's   :16        NA's   :27014    NA's   :27014   NA's   :35177  NA's   :41404
    MR04_3          MR05_1          MR05_2          MR05_3          MR06_1          MR06_2
Min.   :1.00   Min.   :14.00   Min.   :14.00   Min.   :16.00   Min.   :2.00   Min.   :2.00
1st Qu.:1.00   1st Qu.:27.00   1st Qu.:25.00   1st Qu.:25.00   1st Qu.:3.00   1st Qu.:3.00
Median :2.00   Median :32.00   Median :29.00   Median :30.00   Median :4.00   Median :4.00
Mean   :1.57   Mean   :33.83   Mean   :30.64   Mean   :30.91   Mean   :3.75   Mean   :3.91
3rd Qu.:2.00   3rd Qu.:40.00   3rd Qu.:36.00   3rd Qu.:36.00   3rd Qu.:4.00   3rd Qu.:4.00
Max.   :2.00   Max.   :78.00   Max.   :67.00   Max.   :67.00   Max.   :8.00   Max.   :8.00
NA's   :42769  NA's   :35177   NA's   :41404   NA's   :42769   NA's   :35177  NA's   :41404
    MR06_3          MR07_1          MR07_2          MR07_3          MR08_1          MR08_2
Min.   :2.00   Min.   :  0.0   Min.   :  0.0   Min.   :  0.0   Min.   : 10.0   Min.   : 11.0
1st Qu.:3.00   1st Qu.:214.0   1st Qu.:214.0   1st Qu.:210.0   1st Qu.:413.0   1st Qu.:414.0
```

```
Median :4.00    Median :310.0   Median :312.0   Median :310.0   Median :613.5   Median :621.0
Mean   :3.87    Mean   :371.5   Mean   :379.1   Mean   :367.9   Mean   :609.2   Mean   :613.9
3rd Qu.:4.00    3rd Qu.:520.0   3rd Qu.:520.0   3rd Qu.:517.5   3rd Qu.:828.0   3rd Qu.:828.0
Max.   :8.00    Max.   :980.0   Max.   :710.0   Max.   :710.0   Max.   :999.0   Max.   :999.0
NA's   :42769   NA's   :35177   NA's   :41404   NA's   :42769   NA's   :35177   NA's   :41404
    MR08_3          MR09_1          MR09_2          MR09_3          MR10_1          MR10_2
Min.   : 11.0   Min.   : 1.00   Min.   : 1.00   Min.   : 1.00   Min.   :1.00    Min.   :1.00
1st Qu.:512.0   1st Qu.: 4.00   1st Qu.: 4.00   1st Qu.: 4.00   1st Qu.:2.00    1st Qu.:1.00
Median :712.0   Median : 7.00   Median : 7.00   Median : 7.00   Median :2.00    Median :2.00
Mean   :640.1   Mean   :11.76   Mean   :11.37   Mean   :12.99   Mean   :1.83    Mean   :1.74
3rd Qu.:832.0   3rd Qu.:10.00   3rd Qu.: 9.00   3rd Qu.:10.75   3rd Qu.:2.00    3rd Qu.:2.00
Max.   :999.0   Max.   :99.00   Max.   :99.00   Max.   :99.00   Max.   :5.00    Max.   :5.00
NA's   :42769   NA's   :35177   NA's   :41404   NA's   :42769   NA's   :35177   NA's   :41404
    MR10_3          MR11_1          MR11_2          MR11_3          MR12_1
Min.   :1.0     Min.   :1.00    Min.   :1.00    Min.   :1.0     Min.   :   200
1st Qu.:1.0     1st Qu.:5.00    1st Qu.:5.00    1st Qu.:5.0     1st Qu.: 12000
Median :2.0     Median :5.00    Median :5.00    Median :5.0     Median : 24000
Mean   :1.7     Mean   :5.38    Mean   :5.43    Mean   :5.3     Mean   : 37095
3rd Qu.:2.0     3rd Qu.:7.00    3rd Qu.:7.00    3rd Qu.:7.0     3rd Qu.: 37845
Max.   :5.0     Max.   :8.00    Max.   :8.00    Max.   :8.0     Max.   :1200000
NA's   :42769   NA's   :35177   NA's   :41404   NA's   :42769   NA's   :35177
    MR12_2          MR12_3          MR13            HHID            WT
Min.   :   200   Min.   :   300   Min.   :      0   Min.   :    1   Min.   :   7.729
1st Qu.:  6800   1st Qu.:  6000   1st Qu.:      0   1st Qu.:10764   1st Qu.: 101.449
Median : 12000   Median : 12000   Median :  10000   Median :21528   Median : 241.748
Mean   : 22075   Mean   : 17354   Mean   :  28178   Mean   :21528   Mean   : 422.210
3rd Qu.: 24000   3rd Qu.: 24000   3rd Qu.:  36000   3rd Qu.:32292   3rd Qu.: 602.216
Max.   :530000   Max.   :170000   Max.   :5200000   Max.   :43055   Max.   :4260.870
NA's   :41404    NA's   :42769    NA's   :32097
```

```
######## SUMMARY OF R182 ##########################################

     REG             CWT             AREA          PSU_NO          HHNO            ENU
Min.   :1.000   Min.   :10.00   Min.   :1.000   Min.   :  1.0   Min.   : 1.000   Min.   :1.00
1st Qu.:2.000   1st Qu.:27.00   1st Qu.:1.000   1st Qu.: 78.0   1st Qu.: 4.000   1st Qu.:1.00
Median :3.000   Median :48.00   Median :1.000   Median : 90.0   Median : 7.000   Median :1.00
Mean   :3.144   Mean   :48.36   Mean   :1.385   Mean   :126.8   Mean   : 6.946   Mean   :1.17
3rd Qu.:4.000   3rd Qu.:66.00   3rd Qu.:2.000   3rd Qu.:105.0   3rd Qu.:10.000   3rd Qu.:1.00
Max.   :5.000   Max.   :96.00   Max.   :2.000   Max.   :852.0   Max.   :15.000   Max.   :5.00

     MP01            MP02            MP03_1          MP03_2          MP03_3          MP04_1
Min.   :0.000   Min.   :0.000   Min.   :1.00    Min.   :1.00    Min.   :1.0     Min.   : 0.0
1st Qu.:0.000   1st Qu.:0.000   1st Qu.:1.00    1st Qu.:1.00    1st Qu.:1.0     1st Qu.:18.0
Median :0.000   Median :0.000   Median :2.00    Median :2.00    Median :1.5     Median :21.0
Mean   :0.245   Mean   :0.242   Mean   :1.53    Mean   :1.55    Mean   :1.5     Mean   :23.4
3rd Qu.:0.000   3rd Qu.:0.000   3rd Qu.:2.00    3rd Qu.:2.00    3rd Qu.:2.0     3rd Qu.:23.0
Max.   :4.000   Max.   :3.000   Max.   :2.00    Max.   :2.00    Max.   :2.0     Max.   :94.0
NA's   :25118   NA's   :25118   NA's   :39437   NA's   :42407   NA's   :42979   NA's   :39437
    MP04_2          MP04_3          MP05_1          MP05_2          MP05_3          MP06_1
Min.   : 1.00   Min.   : 0.00   Min.   :2.00    Min.   :2.00    Min.   :3.00    Min.   :  0.0
1st Qu.:16.00   1st Qu.:13.00   1st Qu.:3.00    1st Qu.:3.00    1st Qu.:3.00    1st Qu.:410.0
Median :19.00   Median :17.00   Median :3.00    Median :3.00    Median :3.00    Median :520.0
Mean   :20.61   Mean   :20.67   Mean   :3.48    Mean   :3.45    Mean   :3.74    Mean   :470.9
3rd Qu.:22.00   3rd Qu.:20.00   3rd Qu.:3.00    3rd Qu.:3.00    3rd Qu.:3.00    3rd Qu.:612.0
Max.   :87.00   Max.   :81.00   Max.   :8.00    Max.   :8.00    Max.   :8.00    Max.   :921.0
```

```
NA's   :42407   NA's   :42979   NA's   :39437   NA's   :42407   NA's   :42979   NA's   :39437
    MP06_2          MP06_3          MP07_1          MP07_2          MP07_3          MP08_1
Min.   :  0.0   Min.   :  0.0   Min.   : 11.0   Min.   : 11.0   Min.   :242.0   Min.   : 1.00
1st Qu.:311.0   1st Qu.:214.0   1st Qu.:992.0   1st Qu.:992.0   1st Qu.:992.0   1st Qu.:99.00
Median :412.0   Median :311.5   Median :992.0   Median :992.0   Median :992.0   Median :99.00
Mean   :436.3   Mean   :344.4   Mean   :933.1   Mean   :954.6   Mean   :967.5   Mean   :87.79
3rd Qu.:611.0   3rd Qu.:412.0   3rd Qu.:992.0   3rd Qu.:992.0   3rd Qu.:992.0   3rd Qu.:99.00
Max.   :712.0   Max.   :613.0   Max.   :999.0   Max.   :999.0   Max.   :999.0   Max.   :99.00
NA's   :42407   NA's   :42979   NA's   :39437   NA's   :42407   NA's   :42979   NA's   :39437
    MP08_2          MP08_3          MP09_1          MP09_2          MP09_3          MP10_1
Min.   : 1.00   Min.   : 7.00   Min.   :1.00   Min.   :1.00   Min.   :1.00   Min.   :1.0
1st Qu.:99.00   1st Qu.:99.00   1st Qu.:3.00   1st Qu.:3.00   1st Qu.:3.00   1st Qu.:4.0
Median :99.00   Median :99.00   Median :3.00   Median :3.00   Median :3.00   Median :5.0
Mean   :92.23   Mean   :95.45   Mean   :2.93   Mean   :2.98   Mean   :3.11   Mean   :5.2
3rd Qu.:99.00   3rd Qu.:99.00   3rd Qu.:3.00   3rd Qu.:3.00   3rd Qu.:3.00   3rd Qu.:6.0
Max.   :99.00   Max.   :99.00   Max.   :5.00   Max.   :5.00   Max.   :5.00   Max.   :8.0
NA's   :42407   NA's   :42979   NA's   :39437   NA's   :42407   NA's   :42979   NA's   :39437
    MP10_2          MP10_3          MP11_1          MP11_2          MP11_3
Min.   :1.00    Min.   :1.00    Min.   :   200   Min.   :   200   Min.   :  1600
1st Qu.:4.00    1st Qu.:4.00    1st Qu.: 18000   1st Qu.: 16000   1st Qu.: 14250
Median :5.00    Median :5.00    Median : 37000   Median : 40000   Median : 30000
Mean   :5.19    Mean   :4.97    Mean   : 50324   Mean   : 50737   Mean   : 44156
3rd Qu.:6.00    3rd Qu.:6.00    3rd Qu.: 66000   3rd Qu.: 72000   3rd Qu.: 53875
Max.   :8.00    Max.   :7.00    Max.   :800000   Max.   :700000   Max.   :268000
NA's   :42407   NA's   :42979   NA's   :39437   NA's   :42407   NA's   :42979
     MP12             HHID             WT
Min.   :      0   Min.   :    1   Min.   :   7.729
1st Qu.:      0   1st Qu.:10764   1st Qu.: 101.449
Median :   6000   Median :21528   Median : 241.748
Mean   :  18952   Mean   :21528   Mean   : 422.210
3rd Qu.:  24000   3rd Qu.:32292   3rd Qu.: 602.216
Max.   :1000000   Max.   :43055   Max.   :4260.870
NA's   :33512
```

Frequency tables of categorical variables

```
> file.names<-c("R01","R02","R03","R13","R14","R15","R17","R181","R182")
> file.list<-list(R01,R02,R03,R13,R14,R15,R17,R181,R182)
> R01no<-7:14
> R02no<-c(7:9,11:20,22,28:41,43,44,46,47)
> R03no<-c(7:10,12:47,51)
> R13no<-c(7,10:12)
> R14no<-c(7,10,11)
> R15no<-c(7:12,19)
> R17no<-c(10:16)
> R181no<-c(7:12,16:18,25:33)
> R182no<-c(7:11,15:17,24:32)
> check.list<-list(R01no,R02no,R03no,R13no,R14no,R15no,R17no,R181no,R182no)
> for(j in 1:length(file.names)){
+   cat(c("¥n¥n","#### FREQUENCY OF VARIABLES IN", file.names[j],
+   "###################################################"),"¥n¥n")
+   for(k in check.list[[j]]){
+   variable.name<-colnames(file.list[[j]])[k]
+   cat(c("-----",variable.name,"----------------------------------------------------------"))
+   print(table(file.list[[j]][k],useNA="ifany"))
+   }
+ }


 #### FREQUENCY OF VARIABLES IN R01 ##################################################

----- A01 ---------------------------------------------------------------
   1    2    3    4    5    6    7    8    9   10   11   12
3602 3604 3620 3550 3569 3600 3633 3561 3565 3558 3616 3577
----- A02 ---------------------------------------------------------------
    0     1     2     3     4     5     6     7     8     9    10    11
 3820 11869 19251  5363  2115   482   116    25     8     1     3     2
----- A02_1 -------------------------------------------------------------
    0     1     2     3     4     5     6     7     8     9    10    11
 3855 11900 19270  5310  2093   477   112    24     8     1     3     2
----- A03 ---------------------------------------------------------------
   1    2    3    4    5    6   11   12   13   19   21   22   31   32   41   42
 217  489 1004 1476 1276  570  180  469  625  820 2020 8065   57 5296 1171  387
  50   60   71   72
6708 4789 7023  413
----- A04 ---------------------------------------------------------------
    1     2     3     4     5     6     7     8     9    10    11    12    13
 5647 10276 10181  8634  4600  2291   905   283   120    61    33     8     7
   14    15    16    17    20
    4     1     2     1     1
----- A04_1 -------------------------------------------------------------
    1     2     3     4     5     6     7     8     9    10    11    12    13
 5677 10295 10181  8633  4584  2277   891   282   118    60    33     8     7
   14    15    16    17    20
    4     1     2     1     1
----- A05 ---------------------------------------------------------------
    0     1     2     3     4     5     6     7     8     9
19217 13756  7974  1672   340    65    23     5     2     1
----- A06 ---------------------------------------------------------------
```

```
    0     1     2     3     4     5     6
27566 13533  1869    70    15     1     1


 #### FREQUENCY OF VARIABLES IN R02 ##############################################

----- HM01 ---------------------------------------------------------------------
    1     2     3     4     5     6     7     8     9    10    11    12    13
43055 37408 27132 16951  8317  3717  1426   521   238   118    57    24    16
   14    15    16    17    18    19    20
    9     5     4     2     1     1     1
----- HM02 ---------------------------------------------------------------------
    0     1     2     3     4     5     6     7     8     9
  234 43055 27515 32104  7150  4676 14007  3236  6546   480
----- HM03 ---------------------------------------------------------------------
    1     2
65639 73364
----- HM05 ---------------------------------------------------------------------
     1      2      3      4
130202   7640   1104     57
----- HM06 ---------------------------------------------------------------------
     1      2      3      4      5      6      7
131807   3735     99    504   1141    936    781
----- HM07 ---------------------------------------------------------------------
     0      1      2      3      4      5      6
135583   1000    255    107   1613    365     80
----- HM08 ---------------------------------------------------------------------
     0      1
 10165 128838
----- HM09 ---------------------------------------------------------------------
     0      1      2
 19999 119003      1
----- HM10 ---------------------------------------------------------------------
    1     2     3     4     5     6  <NA>
23875 69839  9688  2015  2238    19 31329
----- HM11 ---------------------------------------------------------------------
     1      2      3      4      5   <NA>
 20057    806   4171   6206     89 107674
----- HM12 ---------------------------------------------------------------------
     0      1      2      3      4      5      6      7      8      9     10
   887   1717   1657   1384    911   1071    607    584    459    367    608
    11     12     13     14   <NA>
   308    303    228    181 127731
----- HM13 ---------------------------------------------------------------------
     1      2      3      4      5      6   <NA>
   981   3562   5438    435    214    643 127730
----- HM14 ---------------------------------------------------------------------
    0     1     2     3  <NA>
 6125  4190 25355 92855 10478
----- HM16 ---------------------------------------------------------------------
    14     21     22     31     32     34     38     42     44     46     48
  3177    544    371   1151    114   6797    554    288    143     85    952
    52     54     58     62     64     72     76     81     84     85     86
  3529    248    566    513     41    890     42    399     14     15    276
  <NA>
118294
```

```
------ HM22 ------------------------------------------------------------------
     0       1
118223   20780
------ HM23 ------------------------------------------------------------------
    0      1
39469 99534
------ HM24 ------------------------------------------------------------------
     0       1
125397   13606
------ HM25 ------------------------------------------------------------------
     0       1
135120    3883
------ HM26 ------------------------------------------------------------------
     0       1
138479     524
------ HM27 ------------------------------------------------------------------
     0       1       2       3       4       5
133912    2580    1182     509     164     656
------ HM28 ------------------------------------------------------------------
     0       1       2       3       4       5
138340     343     117      59      18     126
------ HM29 ------------------------------------------------------------------
     0       1       2       3       4       5       6
125285    2335    2402    2706    2373    3899       3
------ HM30 ------------------------------------------------------------------
     0       1       2       3       4       5
138204     480     182      81      25      31
------ HM31 ------------------------------------------------------------------
     0       1       2       3       4       5
138757     188      41       6       6       5
------ HM32 ------------------------------------------------------------------
     0       1       3
138428     574       1
------ HM33 ------------------------------------------------------------------
     0       1
138642     361
------ HM34 ------------------------------------------------------------------
     0       1
128094   10909
------ HM35 ------------------------------------------------------------------
     0       1
138256     747
------ HM37 ------------------------------------------------------------------
    1     2     3     4     5     6     7     8     9    10    11    12    13
 3923 25349 14723  9337   693 24260    41  8159  7780  8670  1972   648   794
   14  <NA>
 1370 31284
------ HM38 ------------------------------------------------------------------
    1     2     3     4     5     6     7     8     9    10    11    12    13
24294   775    86 10768   313  4146 14176  6576  2329   876  1242  4467  3507
   14    15    16    17    99  <NA>
 1704  2427   624    16 29393 31284
------ HM40 ------------------------------------------------------------------
     1       2       3       4       5       6       7      12   <NA>
   615    7199    4667     285       6    3189       9       1 123032
------ HM41 ------------------------------------------------------------------
```

```
    1     2     3     4     5     6     7     8     9    10    11
 9952   185    24  1011    12  1342  1527   647   256    42   128
   12    13    14    15    16    17    99  <NA>
  223    83    73   365    82     7     2 123042

 #### FREQUENCY OF VARIABLES IN R03 ##############################################

----- HH01 ---------------------------------------------------------------
    1     2     3     4     5     6     7
32448  7546  1719   936   254   133    19
----- HH02 ---------------------------------------------------------------
    1     2     3     4     5     6
20245 11649 10488   456    66   151
----- HH03 ---------------------------------------------------------------
    1     2     3     4     5     6     7
30164  1351   947   601  5967   373  3652
----- HH04 ---------------------------------------------------------------
    1     2     3     4     5     6     7  <NA>
 5886  1494   835     2   509  1062   153 33114
----- HH06 -------------------------------------------------------
    0     1
33851  9204
----- HH07 -------------------------------------------------------
    1     2     3     4     5     6     7     8     9
 8001 12336 12142  6651  2737   890   200    74    24
----- HH08 -------------------------------------------------------
    1     2     3     4     5     6     7     8     9
18847 16536  6092  1287   217    64    10     1     1
----- HH09 -------------------------------------------------------
    0     1
  124 42931
----- HH10 -------------------------------------------------------
    0     1     2     3     4     5     6
 3038  5489  5248    68 27684  1473    55
----- HH11 -------------------------------------------------------
    0     1     2     3     4     5     6     7
17355  9550  2678   479  1345   285 11119   244
----- HH12 -------------------------------------------------------
    1     2     3     4     5     6     7
30861  7693   940  2356   789   190   226
----- HH13 -------------------------------------------------------
    1     2     3     4     5     6     7     8
29565 12549   171     1    15    29   592   133
----- HH14 -------------------------------------------------------
    1     2     3     4     5     6     7     8  <NA>
  190  2188   848    23    47    42   506    63 39148
----- HH15 -------------------------------------------------------
    0     1     2     3     4
  335  4092 36958  1627    43
----- HH16 -------------------------------------------------------
    0     1     2     3     4     5     6     7     8     9
23020 14511  4289   965   200    55     9     3     2     1
----- HH17 -------------------------------------------------------
    0     1     2     3     4     5     6     7
10393 20963  9357  1903   359    60    18     2
```

------ HH18 --
    0   1   2   3   4   5   6   8   9
38009 4425   515   80   21   1   2   1   1
------ HH19 --
    0   1   2   3   4   5   6   7   8   9
32814 9163   920   117   21   11   6   1   1   1
------ HH20 --
    0   1   2   3   4   5   6   7   9
38532 4095   356   47   15   4   4   1   1
------ HH21 --
    0   1   2   3   4
42802   227   21   3   2
------ HH22 --
    0   1   2   3   4   5   6   7   8   9
18909 12439 7629 3076   770   170   52   6   2   2
------ HH23 --
    0   1   2   3   4   5   6   7   9
 8616 33408   862   113   42   8   3   1   2
------ HH24 --
    0   1   2   3   6
37556 5395   90   13   1
------ HH25 --
    0   1   2   3
36179 6811   61   4
------ HH26 --
    0   1   2   3   4   5   6
15587 27028   400   29   8   2   1
------ HH27 --
    0   1   2   3   4   5   6   7   8
 5626 35098 2040   240   41   7   1   1   1
------ HH28 --
    0   1   2   3   4   5
 7683 34231   993   136   10   2
------ HH29 --
    0   1   2   3   4   5   6   7   8   9
 4619 35816 2302   266   37   7   2   2   2   2
------ HH30 --
    0   1   2   3   4   5   6   7   8   9
 1313 10614 14162 9336 4230 1941   845   296   191   127
------ HH31 --
    0   1   2   3   4   5   6   7
16535 24322 1785   317   69   21   5   1
------ HH32 --
    0   1   2   3   4   5   6   7   8   9
 1835 30506 7967 2073   512   119   31   6   4   2
------ HH33 --
    0   1   2   3   4   5   6   7   9
12203 27895 2485   362   83   21   4   1   1
------ HH34 --
    0   1   2   3   4   5   6   9
19386 22977   600   75   10   5   1   1
------ HH35 --
    0   1   2   3   4   5   6   7   8   9
35717 4788 1697   581   171   63   23   9   5   1
------ HH36 --
    0   1   2   3   4   5   6   9

```
36144  6215   589    83    20     2     1     1
----- HH37 ----------------------------------------------------------
    0     1     2     3     4     5     6     7     8     9
33877  8391   599   129    29     9     6     5     5     5
----- HH38 ----------------------------------------------------------
    0     1     2     3     4     5     6     7     9
39205  3624   169    33    10     4     2     4     4
----- HH39 ----------------------------------------------------------
    0     1     2     3     4     5     7
29620 12923   454    45    10     2     1
----- HH40 ----------------------------------------------------------
    0     1     2     3     4     5     6     7     8     9
 8217 18700 10791  3606  1240   352    96    30    22     1
----- HH41 ----------------------------------------------------------
    0     1     2     3     4     5     6     7     9
42496   536     8     1     5     3     4     1     1
----- HH45 ----------------------------------------------------------
    0     1     2     3     4     5     6     7     8    11
29129  9069  3520   941   315    57    21     1     1     1
```

FREQUENCY OF VARIABLES IN R13

```
----- IW01 ----------------------------------------------------------------
    1     2     3     4     5     6     7     8     9    10    11    12    13
16464 11032  5809  2733  1059   472   207    78    45    17    12     6     4
   14    15    16    17    21 <NA>
    3     1     2     1     1 71863
----- IW03 ----------------------------------------------------------------
   31    32    41    42    50    60 <NA>
    1  8889  3305  1046 13906 10759 71903
----- IW04 ----------------------------------------------------------------
    0     1     2     3     4     5     6     7     8     9    10    11    12
  102   529   810   931   700   603  1022   560   936   678   955   338 29742
<NA>
71903
----- IW05 ----------------------------------------------------------------
    1     2     3     4     5     6     7 <NA>
 2406   148 12455   135 22201    21   540 71903
```

FREQUENCY OF VARIABLES IN R14

```
----- IB01 ----------------------------------------------------------------
    1     2     3     4     5     6     7     8     9    10 <NA>
10826  5238  1271   515   185    72    44    16     4     3 16930
----- IB03 ----------------------------------------------------------------
   21    22    31 <NA>
 2700 15306   155 16943
----- IB04 ----------------------------------------------------------------
   12    15    24    25    31    32    33    34    35    36    37    38    39
    1     1     9     9   545   762    22   506    10    23    30   202   279
   40    50    61    62    63    64    65    66    67    68    69    71    72
   18  1189   666    52  3675   490    48   158  1032    96  1502    31  3081
   73    74    75    76    77    78    79    80    81    82    83    84    85
  222   295   891    72    19    44   163   456   615   297    54   386   210
```

```
 <NA>
16943


 #### FREQUENCY OF VARIABLES IN R15 ################################################

----- IA01 ---------------------------------------------------------------------
    1     2     3     4     5     6    11    12    13    19  <NA>
 1041  1646  2452  2967  2063   795   418   949   898  1699 28127
----- IA021 --------------------------------------------------------------------
    1     2     3     4     5     6     7     8     9    11    18    19  <NA>
11624  2260   718   241    59    14     4     3     1     2     1     1 28127
----- IA022 --------------------------------------------------------------------
    1     2     3     4     5     6     7     8    11    12  <NA>
  167  1517   311   130    40    18     7     1     1     1 40862
----- IA031 --------------------------------------------------------------------
   11    12    13    14    15    16    17    18    19    20    21    22    23
 7681  1945  2525   983    85    20   163  1113    81    88    50   177    16
 <NA>
28128
----- IA032 --------------------------------------------------------------------
   11    12    13    14    15    16    17    18    19    20    21    22  <NA>
 1143  1577   457  2422   193    13  1248  1114   395    50     5     9 34429
----- IA033 --------------------------------------------------------------------
   11    12    13    14    15    16    17    18    19    20    22  <NA>
  151   235   155   475   153    17  1713   905   735    47     1 38468
----- IA07 ---------------------------------------------------------------------
    1     2     3     4     5     6     7     8    10    12    15  <NA>
 4739  7785  1678   592    98    20     3     1     2     1     1 28135


 #### FREQUENCY OF VARIABLES IN R17 ################################################

----- AD04 ---------------------------------------------------------------------
    1     2     3     4     5     6     7     8     9  <NA>
14662 10304  6003  5374  4533  1316   597   122    46    98
----- AD05 ---------------------------------------------------------------------
    0     1     2
39849  2803   403
----- AD06 ---------------------------------------------------------------------
    0     1     2     9
 2263  5449 20726 14617
----- AD07 ---------------------------------------------------------------------
    0     1     2     9
 1982  5793 22312 12968
----- AD08 ---------------------------------------------------------------------
    0     1
17188 25867
----- AD09 ---------------------------------------------------------------------
    1     2     3     4     5     6     7  <NA>
 2001  6468  2058  4920  2834  4609  2977 17188
----- AD10 ---------------------------------------------------------------------
    1     2     3     4     5     6     7  <NA>
  326   626   600  1690   837  5022  1432 32522
```

```
#### FREQUENCY OF VARIABLES IN R181 ##################################################

----- MR01 ----------------------------------------------------------------------
    0     1     2     3     4     5     6     7     8     9    10    13  <NA>
26997  8935  4502  1625   563   207   112    50    25     8    13     2    16
----- MR02 ----------------------------------------------------------------------
    0     1     2     3     4     5     6     7     8     9    10  <NA>
 8090  6195  1422   285    33     7     3     2     2     1     1 27014
----- MR03 ----------------------------------------------------------------------
    0     1     2     3     4     5     6     7     8  <NA>
 8163  6228  1364   261    19     3     1     1     1 27014
----- MR04_1 --------------------------------------------------------------------
    1     2  <NA>
 4081  3797 35177
----- MR04_2 --------------------------------------------------------------------
    1     2  <NA>
  751   900 41404
----- MR04_3 --------------------------------------------------------------------
    1     2  <NA>
  122   164 42769
----- MR06_1 --------------------------------------------------------------------
    2     3     4     5     6     7     8  <NA>
 1094  1936  3981   312   118   158   279 35177
----- MR06_2 --------------------------------------------------------------------
    2     3     4     5     6     7     8  <NA>
   14   541   917    72    33    21    53 41404
----- MR06_3 --------------------------------------------------------------------
    2     3     4     5     6     8  <NA>
    3    81   179    11     4     8 42769
----- MR09_1 --------------------------------------------------------------------
    1     2     3     4     5     6     7     8     9    10    11    12    13
  467    45    20  2052    42   931  1395   549   338   126   134   499   307
   14    15    16    61    71    74    99  <NA>
  255   189   127     1     1     1   399 35177
----- MR09_2 --------------------------------------------------------------------
    1     2     4     5     6     7     8     9    10    11    12    13    14
   97     2   499    10   156   304   119    69    25    26    81    65    50
   15    16    74    99  <NA>
   54    14     1    79 41404
----- MR09_3 --------------------------------------------------------------------
    1     3     4     6     7     8     9    10    11    12    13    14    15
   26     1    79    24    44    25    12     3     3    20    10     8     8
   16    99  <NA>
    4    19 42769
----- MR10_1 --------------------------------------------------------------------
    1     2     3     4     5  <NA>
 1853  5789    75    40   121 35177
----- MR10_2 --------------------------------------------------------------------
    1     2     3     4     5  <NA>
  473  1152    13     5     8 41404
----- MR10_3 --------------------------------------------------------------------
    1     2     3     5  <NA>
  101   177     5     3 42769
----- MR11_1 --------------------------------------------------------------------
    1     2     3     4     5     6     7     8  <NA>
  373   150   328   873  2554  1225  1858   517 35177
```

```
----- MR11_2 ------------------------------------------------------------------
    1     2     3     4     5     6     7     8  <NA>
   65    28    64   170   569   241   433    81 41404
----- MR11_3 ------------------------------------------------------------------
    1     2     3     4     5     6     7     8  <NA>
   18     6     9    26   103    39    73    12 42769


 #### FREQUENCY OF VARIABLES IN R182 ##############################################

----- MP01 --------------------------------------------------------------------
    0     1     2     3     4  <NA>
14301  2959   595    81     1 25118
----- MP02 --------------------------------------------------------------------
    0     1     2     3  <NA>
14319  2970   572    76 25118
----- MP03_1 ------------------------------------------------------------------
    1     2  <NA>
 1699  1919 39437
----- MP03_2 ------------------------------------------------------------------
    1     2  <NA>
  289   359 42407
----- MP03_3 ------------------------------------------------------------------
    1     2  <NA>
   38    38 42979
----- MP05_1 ------------------------------------------------------------------
    2     3     4     5     6     7     8  <NA>
   98  2898   183     8   149   204    78 39437
----- MP05_2 ------------------------------------------------------------------
    2     3     4     5     6     7     8  <NA>
    5   555    12     5    27    25    19 42407
----- MP05_3 ------------------------------------------------------------------
    3     6     7     8  <NA>
   62     5     4     5 42979
----- MP08_1 ------------------------------------------------------------------
    1     2     3     4     5     6     7     8     9    10    11    12    13
   64     2     2    72     2    18    81    33    17    14    17    47    34
   14    15    16    99  <NA>
   24    15     2  3174 39437
----- MP08_2 ------------------------------------------------------------------
    1     4     6     7     8     9    10    11    12    13    14    15    99
    8     9     1     9     2     1     1     2     7     2     4     2   600
 <NA>
42407
----- MP08_3 ------------------------------------------------------------------
    7     8    12    99  <NA>
    1     1     1    73 42979
----- MP09_1 ------------------------------------------------------------------
    1     2     3     4     5  <NA>
  248   310  2788     9   263 39437
----- MP09_2 ------------------------------------------------------------------
    1     2     3     4     5  <NA>
   28    37   543     1    39 42407
----- MP09_3 ------------------------------------------------------------------
    1     2     3     5  <NA>
    5     2    59    10 42979
```

```
------ MP10_1 ------------------------------------------------------------------
    1     2     3     4     5     6     7     8  <NA>
   97    53    93   760   952  1130   511    22 39437
------ MP10_2 ------------------------------------------------------------------
    1     2     3     4     5     6     7     8  <NA>
   16    12    15   143   161   214    81     6 42407
------ MP10_3 ------------------------------------------------------------------
    1     2     3     4     5     6     7  <NA>
    4     2     2    15    21    25     7 42979
```

Out-of-range code check for educational attainment and occupation

Educational attainment

R02$HM15

```
> edu.codes<-c(110,111,210:216,219,240:243,249:256,259,
+ 310:313,319,330:333,339,350:353,359,340:342,349,320:323,329,
+ 410:413,419,430:433,439,450:453,459,440:443,449,420:423,429,460:462,
+ 510:512,519:523,529,
+ 610:616,619,630:634,639,650:654,659,640:643,649,660,661,
+ 710:712,719,730:732,739,750:752,759:761,
+ 810:813,819,830:833,839,850:853,859,860,861,870:875,879,
+ 911,912,919,921,929,980)
> length(edu.codes)
[1] 155

> R02.1<-subset(R02,R02$HM04>=6&R02$HM14!=0)[c("HHID","HM01","HM15")]
> addmargins(table(is.element(R02.1$HM15,edu.codes),useNA="ifany"))

 FALSE   TRUE    Sum
     5 122395 122400

> R02.1[!is.element(R02.1$HM15,edu.codes),]
        HHID HM01 HM15
22385   7115    4  112
53115  16909    3  415
90646  28748    3  112
106057 33233    3  314
124139 38678    2  415
```

R02$HM17

```
> R02.2<-subset(R02,HM04>=6&HM14!=0&!is.na(HM17))[c("HHID","HM01","HM17")]
> dim(R02.2)
[1] 29545     3
> addmargins(table(is.element(R02.2$HM17,edu.codes),useNA="ifany"))

FALSE  TRUE   Sum
    8 29537 29545

> R02.2[!is.element(R02.2$HM17,edu.codes),]
        HHID HM01 HM17
20293   6431    3  415
22385   7115    4  113
39447  12456    4  314
39547  12499    3  415
53115  16909    3  416
90646  28748    3  113
106057 33233    3  315
124139 38678    2  416
```

R181$MR07_1 – MR07_3

```
> x1<-ifelse(is.na(R181$MR07_1),NA,is.element(R181$MR07_1,c(edu.codes,0)))
> addmargins(table(x1,useNA="ifany"))
x1
 TRUE  <NA>   Sum
 7878 35177 43055

> x2<-ifelse(is.na(R181$MR07_2),NA,is.element(R181$MR07_2,c(edu.codes,0)))
> addmargins(table(x2,useNA="ifany"))
x2
 TRUE  <NA>   Sum
 1651 41404 43055

> x3<-ifelse(is.na(R181$MR07_3),NA,is.element(R181$MR07_3,c(edu.codes,0)))
> addmargins(table(x3,useNA="ifany"))
x3
 TRUE  <NA>   Sum
  286 42769 43055
```

R182$MP06_1 – MP06_3

```
> x1<-ifelse(is.na(R182$MP06_1),NA,is.element(R182$MP06_1,c(edu.codes,0)))
> addmargins(table(x1,useNA="ifany"))
x1
 TRUE  <NA>   Sum
 3618 39437 43055
> x2<-ifelse(is.na(R182$MP06_2),NA,is.element(R182$MP06_2,c(edu.codes,0)))
> addmargins(table(x2,useNA="ifany"))
x2
 TRUE  <NA>   Sum
  648 42407 43055
> x3<-ifelse(is.na(R182$MP06_3),NA,is.element(R182$MP06_3,c(edu.codes,0)))
> addmargins(table(x3,useNA="ifany"))
x3
 TRUE  <NA>   Sum
   76 42979 43055
```

Occupation

```
> occ.codes<-c(111:114,121:123,131,211:214,221:223,231:235,241:246,
+ 311:315,321:324,331:334,341:348,411:414,419,421,422,
+ 511:516,521:523,611:615,621,711:714,721:724,731:734,741:744,
+ 811:817,821:829,831:834,911:916,921,931:933,
+ 011,991:997,999)
> length(occ.codes)
[1] 124
```

R02$HM36

```
> y<-ifelse(is.na(R02$HM36),NA,is.element(R02$HM36,occ.codes))
> addmargins(table(y,useNA="ifany"))
y
 FALSE   TRUE   <NA>    Sum
     2 107717  31284 139003

> R02.3<- R02[c("HHID","HM01","HM36")]
> R02.3[!is.na(R02.3$HM36)&!is.element(R02.3$HM36,occ.codes),]
        HHID HM01 HM36
53452  17011    1  998
104621 32823    2  552
```

R02$HM39

```
> y<-ifelse(is.na(R02$HM39),NA,is.element(R02$HM39,occ.codes))
> addmargins(table(y,useNA="ifany"))
y
  TRUE   <NA>    Sum
 15960 123043 139003
```

R13$IW02

```
> y<-ifelse(is.na(R13$IW02),NA,is.element(R13$IW02,occ.codes))
> addmargins(table(y,useNA="ifany"))
y
  TRUE   <NA>    Sum
 37906  71903 109809
```

R14$IB02

```
> y<-ifelse(is.na(R14$IB02),NA,is.element(R14$IB02,occ.codes))
> addmargins(table(y,useNA="ifany"))
y
 TRUE  <NA>   Sum
18161 16943 35104
```

R181$MR08_1 – MR08_3

```
> x1<-ifelse(is.na(R181$MR08_1),NA,is.element(R181$MR08_1,c(occ.codes,0)))
> addmargins(table(x1,useNA="ifany"))
x1
FALSE  TRUE  <NA>   Sum
    3  7875 35177 43055

> R181[!is.na(R181$MR08_1)&!is.element(R181$MR08_1,occ.codes), c("HHID","MR01","MR08_1")]
       HHID MR01 MR08_1
16994 16994    1    998
31616 31616    1     10
32028 32028    2    452


> x2<-ifelse(is.na(R181$MR08_2),NA,is.element(R181$MR08_2,c(occ.codes,0)))
> addmargins(table(x2,useNA="ifany"))
x2
FALSE  TRUE  <NA>   Sum
    1  1650 41404 43055

> R181[!is.na(R181$MR08_2)&!is.element(R181$MR08_2,occ.codes), c("HHID","MR01","MR08_2")]
       HHID MR01 MR08_2
32028 32028    2    452


> x3<-ifelse(is.na(R181$MR08_3),NA,is.element(R181$MR08_3,c(occ.codes,0)))
> addmargins(table(x3,useNA="ifany"))
x3
 TRUE  <NA>   Sum
  286 42769 43055
```

R182$MP07_1 – MR07_3

```
> x1<-ifelse(is.na(R182$MP07_1),NA,is.element(R182$MP07_1,c(occ.codes,0)))
> addmargins(table(x1,useNA="ifany"))
x1
 TRUE  <NA>   Sum
 3618 39437 43055
> x2<-ifelse(is.na(R182$MP07_2),NA,is.element(R182$MP07_2,c(occ.codes,0)))
> addmargins(table(x2,useNA="ifany"))
x2
 TRUE  <NA>   Sum
  648 42407 43055
> x3<-ifelse(is.na(R182$MP07_3),NA,is.element(R182$MP07_3,c(occ.codes,0)))
> addmargins(table(x3,useNA="ifany"))
x3
 TRUE  <NA>   Sum
   76 42979 43055
```

R scripts for data check

2. Integrity check between household files regarding expenditure

Consumption expenditure

```
> colnames(R04)
 [1] "REG"    "CWT"    "AREA"   "PSU_NO" "HHNO"   "ENU"    "EG011"  "EG012"
 [9] "EG021"  "EG022"  "EG031"  "EG032"  "EG041"  "EG042"  "EG051"  "EG052"
[17] "EG061"  "EG062"  "EG071"  "EG072"  "EG081"  "EG082"  "EG091"  "EG092"
[25] "EG101"  "EG102"  "EG111"  "EG112"  "EG121"  "EG122"  "HHID"   "WT"
> R.CON_EX1<-rowSums(R04[seq(7,29,by=2)],na.rm=T)
> colnames(R05)
 [1] "REG"    "CWT"    "AREA"   "PSU_NO" "HHNO"   "ENU"    "EG131"  "EG132"
 [9] "EG141"  "EG142"  "EG151"  "EG152"  "EG161"  "EG162"  "EG171"  "EG172"
[17] "EG181"  "EG182"  "EG191"  "EG192"  "EG201"  "EG202"  "EG211"  "EG212"
[25] "EG221"  "EG222"  "EG231"  "EG232"  "EG241"  "EG242"  "EG251"  "EG252"
[33] "EG261"  "EG262"  "EG271"  "EG272"  "HHID"   "WT"
> R.CON_EX1<-R.CON_EX1+rowSums(R05[seq(7,35,by=2)],na.rm=T)
> colnames(R06)
 [1] "REG"    "CWT"    "AREA"   "PSU_NO" "HHNO"   "ENU"    "EG281"  "EG282"
 [9] "EG291"  "EG292"  "EG301"  "EG302"  "EG311"  "EG312"  "EG321"  "EG322"
[17] "EG331"  "EG332"  "EG341"  "EG342"  "EG351"  "EG352"  "EG361"  "EG362"
[25] "EG371"  "EG372"  "EG381"  "EG382"  "EG391"  "EG392"  "EG401"  "EG402"
[33] "EG411"  "EG412"  "EG421"  "EG422"  "EG431"  "EG432"  "EG441"  "EG442"
[41] "EG451"  "EG452"  "EG461"  "EG462"  "HHID"   "WT"
> R.CON_EX1<-R.CON_EX1+rowSums(R06[seq(7,43,by=2)],na.rm=T)
> colnames(R07)
 [1] "REG"    "CWT"    "AREA"   "PSU_NO" "HHNO"   "ENU"    "EG471"  "EG472"
 [9] "EG481"  "EG482"  "EG491"  "EG492"  "EG501"  "EG502"  "EG511"  "EG512"
[17] "EG521"  "EG522"  "EG531"  "EG532"  "EG541"  "EG542"  "EG551"  "EG552"
[25] "EG561"  "EG562"  "EG571"  "EG572"  "EG581"  "EG582"  "EG591"  "EG592"
[33] "EG601"  "EG602"  "HHID"   "WT"
> R.CON_EX1<-R.CON_EX1+rowSums(R07[seq(7,33,by=2)],na.rm=T)
> colnames(R08)
 [1] "REG"    "CWT"    "AREA"   "PSU_NO" "HHNO"   "ENU"    "EG611"  "EG612"
 [9] "EG621"  "EG622"  "EG631"  "EG632"  "EG641"  "EG642"  "EG651"  "EG652"
[17] "EG661"  "EG662"  "EG671"  "EG672"  "EG681"  "EG682"  "EG691"  "EG692"
[25] "EG701"  "EG702"  "EG711"  "EG712"  "EG721"  "EG722"  "EG731"  "EG732"
[33] "EG741"  "EG742"  "EG751"  "EG752"  "EG761"  "EG762"  "EG771"  "EG772"
[41] "EG781"  "EG782"  "EG791"  "EG792"  "HHID"   "WT"
> R.CON_EX1<-R.CON_EX1+rowSums(R08[seq(7,43,by=2)],na.rm=T)
> colnames(R09)
 [1] "REG"    "CWT"    "AREA"   "PSU_NO" "HHNO"   "ENU"    "EG801"  "EG802"
 [9] "EG811"  "EG812"  "EG821"  "EG822"  "EG831"  "EG832"  "EG841"  "EG842"
[17] "EG851"  "EG852"  "EG861"  "EG862"  "EG871"  "EG872"  "EG881"  "EG882"
[25] "EG891"  "EG892"  "EG901"  "EG902"  "EG911"  "EG912"  "EG921"  "EG922"
[33] "EG931"  "EG932"  "HHID"   "WT"
> R.CON_EX1<-R.CON_EX1+rowSums(R09[seq(7,33,by=2)],na.rm=T)
> colnames(R10)
 [1] "REG"    "CWT"    "AREA"   "PSU_NO" "HHNO"   "ENU"    "EG941"  "EG942"
 [9] "EG951"  "EG952"  "EG961"  "EG962"  "EG971"  "EG972"  "EG981"  "EG982"
[17] "EG991"  "EG992"  "EG1001" "EG1002" "EG1011" "EG1012" "EG1021" "EG1022"
[25] "EG1031" "EG1032" "EG1041" "EG1042" "EG1051" "EG1052" "EG1061" "EG1062"
```

```
[33] "EG1071" "EG1072" "EG1081" "EG1082" "EG1091" "EG1092" "EG1101" "EG1102"
[41] "EG1111" "EG1112" "EG1121" "EG1122" "HHID"   "WT"
> R.CON_EX1<-R.CON_EX1+rowSums(R10[seq(7,43,by=2)],na.rm=T)
> addmargins(table(R.CON_EX1==R01$CON_EX1,useNA="ifany"))
 TRUE   Sum
43055 43055

> R.CON_EX2<-rowSums(R04[seq(8,30,by=2)],na.rm=T)
> R.CON_EX2<-R.CON_EX2+rowSums(R05[seq(8,36,by=2)],na.rm=T)
> R.CON_EX2<-R.CON_EX2+rowSums(R06[seq(8,44,by=2)],na.rm=T)
> R.CON_EX2<-R.CON_EX2+rowSums(R07[seq(8,34,by=2)],na.rm=T)
> R.CON_EX2<-R.CON_EX2+rowSums(R08[seq(8,44,by=2)],na.rm=T)
> R.CON_EX2<-R.CON_EX2+rowSums(R09[seq(8,34,by=2)],na.rm=T)
> R.CON_EX2<-R.CON_EX2+rowSums(R10[seq(8,44,by=2)],na.rm=T)
> addmargins(table(R.CON_EX2==R01$CON_EX2,useNA="ifany"))
TRUE   Sum
43055 43055
```

Non-consumption expenditure

```
> colnames(R11)
 [1] "REG"    "CWT"    "AREA"   "PSU_NO" "HHNO"   "ENU"    "EG1131" "EG1132"
 [9] "EG1141" "EG1142" "EG1151" "EG1152" "EG1161" "EG1162" "EG1171" "EG1172"
[17] "EG1181" "EG1182" "EG1191" "EG1192" "EG1201" "EG1202" "EG1211" "EG1212"
[25] "HHID"   "WT"
> R.NCON_EX1<-rowSums(R11[seq(7,23,by=2)],na.rm=T)
> addmargins(table(R.NCON_EX1==R01$NCON_EX1,useNA="ifany"))
 TRUE   Sum
43055 43055
> R.NCON_EX2<-rowSums(R11[seq(8,24,by=2)],na.rm=T)
> addmargins(table(R.NCON_EX2==R01$NCON_EX2,useNA="ifany"))
 TRUE   Sum
43055 43055
```

Expenditure on food and beverage

```
> colnames(R12)
 [1] "REG"    "CWT"    "AREA"   "PSU_NO" "HHNO"   "ENU"    "EF011"  "EF012"
 [9] "EF021"  "EF022"  "EF031"  "EF032"  "EF041"  "EF042"  "EF051"  "EF052"
[17] "EF061"  "EF062"  "EF071"  "EF072"  "EF081"  "EF082"  "EF091"  "EF092"
[25] "EF101"  "EF102"  "EF111"  "EF112"  "EF121"  "EF122"  "EF131"  "EF132"
[33] "EF141"  "EF142"  "EF151"  "EF152"  "EF161"  "EF162"  "EF171"  "EF172"
[41] "HHID"   "WT"
> R.FB_EX1<-rowSums(R12[seq(7,35,by=2)],na.rm=T)*4.3
> addmargins(table(abs(R.FB_EX1-R01$FB_EX1)<2,useNA="ifany"))
 TRUE   Sum
43055 43055
> R.FB_EX2<-rowSums(R12[seq(8,36,by=2)],na.rm=T)*4.3
> addmargins(table(abs(R.FB_EX2-R01$FB_EX2)<2,useNA="ifany"))
 TRUE   Sum
43055 43055
```

Expenditure on tabacco

```
> R.TP_EX1<-rowSums(R12[c(37,39)],na.rm=T)*4.3
> addmargins(table(abs(R.TP_EX1-R01$TP_EX1)<2,useNA="ifany"))
 TRUE   Sum
43055 43055
> R.TP_EX2<-rowSums(R12[c(38,40)],na.rm=T)*4.3
> addmargins(table(abs(R.TP_EX2-R01$TP_EX2)<2,useNA="ifany"))
 TRUE   Sum
43055 43055
```

3. Integrity check between data files regarding work status at national level

R01

```
> sum(R01$A05)
[1] 36603
> sum(R01$A06)
[1] 17552
# Sum of (A02-A05-A06)
> sum(R01$A02)
[1] 78326
> 78326-36603-17552
[1] 24171

> dim(subset(R01,A05>0))
[1] 23838    80
> dim(subset(R01,A06>0))
[1] 15489    80
> addmargins(table(R01$PA2>0))
FALSE  TRUE   Sum
30426 12629 43055
```

R13, R14, R15

```
> dim(subset(R13,OCC==1))
[1] 36603    23
> dim(subset(R14,OCC==1))
[1] 17552    22
> dim(subset(R15,!is.na(IA021)))+dim(subset(R15,!is.na(IA022)))
[1] 17121    86

> length(unique(subset(R13,OCC==1)$HHID))
[1] 23838
> length(unique(subset(R14,OCC==1)$HHID))
[1] 15489
> dim(subset(R15,!is.na(IA021)|!is.na(IA022)))
[1] 14928    43
```

R02

```
# Replaced NA in HM37 (Work status of primary occupation) and HM40 (Work status of secondary
occupation) with 0
> wk1<-ifelse(is.na(R02$HM37),0,R02$HM37)
> wk2<-ifelse(is.na(R02$HM40),0,R02$HM40)

# Defined the variable “employee”.
#        1. employee  0. other
> employee<-ifelse((wk1>=4 & wk1<=6) | (wk2>=4 & wk2<=6),1,0)
> R02ws<-R02
> R02ws["employee"]<-employee
> addmargins(table(R02ws["employee"]))
     0      1    Sum
```

```
102285  36718 139003

# Defined the variable “business”.
#        1. non-farm employer  0. other
> business<-ifelse(((wk1==1|wk1==2|wk1==7) & RO2$HM38!=1 & RO2$HM38!=2) |
+ ((wk2==1|wk2==2|wk2==7) & RO2$HM41!=1 & RO2$HM41!=2),1,0)
> length(business)
[1] 139003
> table(business,useNA="ifany")
business
     0      1   <NA>
121499  17497      7
> RO2ws["business"]<-business

# Defined the variable “farmer” (farm employer).
#        1. farmer  0. other
> farmer<-ifelse(((wk1==1|wk1==2|wk1==7) & (RO2$HM38==1 | RO2$HM38==2)) |
+ ((wk2==1|wk2==2|wk2==7) & (RO2$HM41==1 | RO2$HM41==2)),1,0)
> length(farmer)
[1] 139003
> table(farmer,useNA="ifany")
farmer
     0      1   <NA>
122074  16927      2
> RO2ws["farmer"]<-farmer

> table(employee+business+farmer)
    0     1     2
73682 59493  5821


> RO2ws.collapsed<-aggregate(RO2ws[c("employee","business","farmer")],
+ by=list(RO2ws$HHID),FUN=sum)
> dim(subset(RO2ws.collapsed,employee>0))
[1] 23883     4
> dim(subset(RO2ws.collapsed,business>0))
[1] 15408     4
> dim(subset(RO2ws.collapsed,farmer>0))
[1] 14751     4
```

4. Comparison of collapsed R02, R13, R14 and R15 with R01 at household level

R02 vs R01

```
> R02.A04<-as.vector(tapply(R02$HHID,R02$HHID,FUN=length))
> table(R02.A04==R01$A04)
 TRUE
43055

> R02.A05<-R02ws.collapsed$employee
> addmargins(table(R02.A05==R01$A05))
FALSE  TRUE   Sum
  440 42615 43055

> R02.A06<-R02ws.collapsed$business
> addmargins(table(R02.A06==R01$A06))
FALSE  TRUE   Sum
  321 42727 43048
```

R13 vs R01

```
> HHID<-1:nrow(R01)
> hhid<-data.frame(HHID)
> R13.collapsed<-aggregate(R13[c("IW10","IW11","IW12","IW13")],
+ by=list(R13$HHID),FUN=sum,na.rm=T)
> dim(R13.collapsed)
[1] 23838     5

> R13.collapsed["WS1"]<-R13.collapsed$IW10+R13.collapsed$IW11
> R13.collapsed["WS2"]<-round((R13.collapsed$IW12+R13.collapsed$IW13)/12)

> OCC1<-subset(R13,OCC==1)
> R13.collapsed["R13.A05"]<-as.vector(tapply(OCC1$HHID,OCC1$HHID,FUN=length))
> colnames(R13.collapsed)[1]<-"HHID"

> R13.hhid<-merge(R13.collapsed,hhid,all=T)
> dim(R13.hhid)
[1] 43055     8
> R13.A05<-R13.hhid$R13.A05
> R13.WS1<-R13.hhid$WS1
> R13.WS2<-R13.hhid$WS2

> addmargins(table(R13.A05==R01$A05))
 TRUE   Sum
23838 23838

> addmargins(table(R13.WS1==R01$WS1))
FALSE  TRUE   Sum
  179 23659 23838

> addmargins(table(R13.WS2==R01$WS2))
FALSE  TRUE   Sum
  578 23260 23838

> addmargins(table(abs(R13.WS2-R01$WS2)<2))
```

```
FALSE  TRUE   Sum
  180 23658 23838
```

R14 vs R01

```
> PB1<-R14$IB082-R14$IB092
> PB1<-ifelse(is.na(R14$IB11),PB1,PB1*R14$IB11/100)
> PB2<-(R14$IB081-R14$IB091)/12
> PB2<-ifelse(is.na(R14$IB11),PB2,PB2*R14$IB11/100)
> R14["PB1"]<-PB1
> R14["PB2"]<-PB2

> R14.collapsed<-aggregate(R14[c("PB1","PB2")],by=list(R14$HHID),FUN=sum,na.rm=T)
> dim(R14.collapsed)
[1] 15489     3
> colnames(R14.collapsed)
[1] "Group.1" "PB1"     "PB2"
> colnames(R14.collapsed)[1]<-"HHID"
> OCC1<-subset(R14,OCC==1)
> R14.collapsed["R14.A06"]<-as.vector(tapply(OCC1$HHID,OCC1$HHID,FUN=length))

> R14.hhid<-merge(R14.collapsed,hhid,all=T)
> dim(R14.hhid)
[1] 43055     4
> colnames(R14.hhid)
[1] "HHID"    "PB1"     "PB2"     "R14.A06"
> R14.A06<-R14.hhid$R14.A06
> R14.PB1<-R14.hhid$PB1
> R14.PB2<-R14.hhid$PB2

> addmargins(table(R14.A06==R01$A06))
 TRUE   Sum
15489 15489

> addmargins(table(abs(R14.PB1-R01$PB1)<2))
FALSE  TRUE   Sum
  723 14766 15489

> addmargins(table(abs(R14.PB2-R01$PB2)<2))
FALSE  TRUE   Sum
  591 14898 15489
>
```

R15 vs R01

```
> R15.PA1<-R15$IA28-R15$IA29
> addmargins(table(R15.PA1==R01$PA1,useNA="ifany"))
 TRUE  <NA>   Sum
 2972 40083 43055

> AGR<-R15
> AGR["IA08"]<-ifelse(is.na(R15$IA08),0,R15$IA08)
> fix(AGR)
> AGR["IA09"]<-ifelse(is.na(R15$IA09),0,R15$IA09)
```

```
> AGR["IA11"]<-ifelse(is.na(R15$IA11),0,R15$IA11)
> AGR["IA13"]<-ifelse(is.na(R15$IA13),0,R15$IA13)
> AGR["IA15"]<-ifelse(is.na(R15$IA15),0,R15$IA15)
> AGR["IA17"]<-ifelse(is.na(R15$IA17),0,R15$IA17)
> AGR["IA19"]<-ifelse(is.na(R15$IA19),0,R15$IA19)
> AGR["IA20"]<-ifelse(is.na(R15$IA20),0,R15$IA20)
> AGR["IA22"]<-ifelse(is.na(R15$IA22),0,R15$IA22)
> AGR["IA25"]<-ifelse(is.na(R15$IA25),0,R15$IA25)
> AGR["IA26"]<-ifelse(is.na(R15$IA26),0,R15$IA26)
> AGR["IA28"]<-ifelse(is.na(R15$IA28),0,R15$IA28)
> AGR["IA29"]<-ifelse(is.na(R15$IA29),0,R15$IA29)

> R15.PA1<-AGR$IA28-AGR$IA29
> addmargins(table(R15.PA1==R01$PA1,useNA="ifany"))
 TRUE   Sum
43055 43055


> attach(AGR)
> R15.PA2<-(IA08+IA09+IA11+(IA15-IA19)+IA20-(IA25+IA26)-(IA13+IA17+IA22))/12
> detacch()
> addmargins(table(abs(R15.PA2-R01$PA2)<2,useNA="ifany"))
 TRUE   Sum
43055 43055
```

5. Linkage between R13 and R02 at individual and occupation level

```
# Created data frame EMP: subset of R02
# Defined variables of OCC1 and OCC2
> EMP<-R02
> EMP["OCC1"]<-ifelse(EMP$HM37==4|EMP$HM37==5|EMP$HM37==6,EMP$HM36,NA)
> EMP["OCC2"]<-ifelse(EMP$HM40==4|EMP$HM40==5|EMP$HM40==6,EMP$HM39,NA)
> EMP<-EMP[c("HHID","HM01","OCC1","OCC2")]
> colnames(EMP)
[1] "HHID" "HM01" "OCC1" "OCC2"
> dim(EMP)
[1] 139003      4

# no duplication of HHID-HM01
> dim(unique(EMP[1:2]))
[1] 139003      2

# Created data frame OCC1: subset of R13 with OCC=1
# Defined variable  “sn” (serial number)
> OCC1<-subset(R13,OCC==1)
> colnames(OCC1)
 [1] "REG"    "CWT"    "AREA"   "PSU_NO" "HHNO"   "ENU"    "IW01"   "OCC"    "IW02"   "IW03"
"IW04"   "IW05"   "IW06"   "IW07"   "IW08"   "IW09"   "IW10"
[18] "IW11"   "IW12"   "IW13"   "IW14"   "HHID"   "WT"
> dim(OCC1)
[1] 36603    23
> OCC1["sn"]<-1:nrow(OCC1)
> OCC1<-OCC1[c("HHID","IW01","IW02","sn")]
> dim(OCC1)
[1] 36603     4
> colnames(OCC1)
[1] "HHID" "IW01" "IW02" "sn"

# Defined variable ID
# ID=0 if HHID-IW duplicated, else ID=IW01
> dim(unique(OCC1[c("HHID","IW01")]))
[1] 36595     2
> OCC1["ID"]<-ifelse(duplicated(OCC1[c("HHID","IW01")]),0,OCC1$IW01)

# Merged OCC1 and EMP using key: HHID-ID-IW02 and HHID-HM01-OCC1.
> MATCH1<-merge(OCC1,EMP,by.x=c("HHID","ID","IW02"),by.y=c("HHID","HM01","OCC1"))
> sn.match1<-MATCH1$sn
> length(sn.match1)
[1] 33502
> length(unique(sn.match1))
[1] 33502

# Create data frame UNMATCH1
> sn.unmatch1<-setdiff(1:nrow(OCC1),sn.match1)
> length(sn.unmatch1)
[1] 3101
> UNMATCH1<-OCC1[sn.unmatch1,]
> dim(UNMATCH1)
[1] 3101    5

# Merged UNMATCH1 and EMP using key: HHID-ID-IW02 and HHID-HM01-OCC2.
```

```
> MATCH2<-merge(UNMATCH1,EMP,by.x=c("HHID","ID","IWO2"),by.y=c("HHID","HMO1","OCC2"))
> dim(MATCH2)
[1] 2276    6
> sn.match2<-MATCH2$sn
> length(sn.match2)
[1] 2276
> length(unique(sn.match2))
[1] 2276

# Created data frame UNMATCH2
> sn.unmatch2<-setdiff(sn.unmatch1,sn.match2)
> length(sn.unmatch2)
[1] 825
> UNMATCH2<-OCC1[sn.unmatch2,]
> dim(unique(UNMATCH2[c("HHID","IWO2")]))
[1] 803   2

# Created data frame UNMATCH3 which records were unique regarding HHID-IWO2.
> sn.un3.dup<-UNMATCH2[duplicated(UNMATCH2[c("HHID","IWO2")]),"sn"]
> length(sn.un3.dup)
[1] 22
> length(unique(sn.un3.dup))
[1] 22
> sn.un3<-UNMATCH2[!duplicated(UNMATCH2[c("HHID","IWO2")]),"sn"]
> UNMATCH3<-UNMATCH2[!duplicated(UNMATCH2[c("HHID","IWO2")]),]
> dim(UNMATCH3)
[1] 803   5

# Added  “sn” (sn.x) to matched records of EMP regarding MATCH1.
> EMP1<-merge(EMP,MATCH1[c("HHID","ID","sn")],by.x=c("HHID","HMO1"),
+ by.y=c("HHID","ID"),all.x=T)
> dim(EMP1)
[1] 139003      5

# Added  “sn” (sn.y) to matched records of EMP1 regarding MATCH2.
> EMP2<-merge(EMP1,MATCH2[c("HHID","ID","sn")],by.x=c("HHID","HMO1"),
+ by.y=c("HHID","ID"),all.x=T)
> dim(EMP2)
[1] 139003      6
> colnames(EMP2)
[1] "HHID" "HMO1" "OCC1" "OCC2" "sn.x" "sn.y"
> table(is.na(EMP2$sn.x))
 FALSE   TRUE
 33502 105501
> table(is.na(EMP2$sn.y))
 FALSE   TRUE
  2276 136727

# Created data frame EMP3: subset of EMP2, that is, unmatched employees in RO2
> EMP3<-subset(subset(EMP2,is.na(OCC1)==F|is.na(OCC2)==F),is.na(sn.x) & is.na(sn.y))
> dim(EMP3)
[1] 939   6
> colnames(EMP3)
[1] "HHID" "HMO1" "OCC1" "OCC2" "sn.x" "sn.y"

# Checked duplication of HHID-OCC1 in EMP3.
```

```
> dim(unique(EMP3[c("HHID","OCC1")]))
[1] 850   2

# Created data frame EMP3.un which records were unique regarding HHID-OCC1.
> EMP3.dup<-EMP3[duplicated(EMP3[c("HHID","OCC1")]),]
> dim(EMP3.dup)
[1] 89  6
> EMP3.un<-EMP3[!duplicated(EMP3[c("HHID","OCC1")]),]
> dim(EMP3.un)
[1] 850   6
> colnames(EMP3.un)
[1] "HHID" "HMO1" "OCC1" "OCC2" "sn.x" "sn.y"
> EMP3.un["sn.x"]<-NULL
> EMP3.un["sn.y"]<-NULL

# Merged UNMATCH3 and EMP3.un using key: HHID-IWO2 and HHID-OCC1.
> MATCH3<-merge(UNMATCH3,EMP3.un,by.x=c("HHID","IWO2"),by.y=c("HHID","OCC1"))
> dim(MATCH3)
[1] 392   9
> sn.ma3<-MATCH3$sn

# Created data frame UNMATCH4, unmatched records among UNMATCH3.
> sn.un4<-setdiff(sn.un3,sn.ma3)
> length(sn.un4)
[1] 411
> UNMATCH4<-UNMATCH3[is.element(UNMATCH3$sn,sn.un4),]
> dim(UNMATCH4)
[1] 411   5

# Added  “sn” (sn.x) to matched records of EMP3.un regarding MATCH3
> EMP4<-merge(EMP3.un,MATCH3[c("HHID","HMO1","sn")],all.x=T)
> dim(EMP4)
[1] 850   5
> colnames(EMP4)
[1] "HHID" "HMO1" "OCC1" "OCC2" "sn"
> dim(subset(EMP4,is.na(sn)))
[1] 458   5
> dim(subset(EMP4,!is.na(sn)))
[1] 392   5

# Defined data frame EMP5, subset of unmatched records among EMP4
> EMP5<-subset(EMP4,is.na(sn))
> dim(EMP5)
[1] 458   5

# Checked duplication of HHID-OCC2 in EMP5.
> EMP5.dup<-EMP5[duplicated(EMP5[c("HHID","OCC2")]),]
> dim(EMP5.dup)
[1] 3 5

# Created data frame EMP5.un which records were unique regarding HHID-OCC2.
> EMP5.un<-EMP5[!duplicated(EMP5[c("HHID","OCC2")]),]
> dim(EMP5.un)
[1] 455   5

# Checked duplication of HHID-IWO2 in UNMATCH4
```

```
> sn.un4.dup<-UNMATCH4[duplicated(UNMATCH4[c("HHID","IWO2")]),"SN"]
> length(sn.un4.dup)
[1] 0

# Merged UNMATCH4 and EMP5.un using key: HHID-IWO2 and HHID-OCC2.
> EMP5.un["sn"]<-NULL
> MATCH4<-merge(UNMATCH4,EMP5.un,by.x=c("HHID","IWO2"),by.y=c("HHID","OCC2"))
> dim(MATCH4)
[1] 16  7
> colnames(MATCH4)
[1] "HHID" "IWO2" "IWO1" "sn"   "ID"   "HMO1" "OCC1"
> sn.ma4<-MATCH4$sn
> length(sn.ma4)
[1] 16
> sn.un5<-setdiff(sn.un4,sn.ma4)
> length(sn.un5)
[1] 395

# Added  “sn” (sn.y) to matched records of EMP4 regarding MATCH4
> EMP6<-merge(EMP4,MATCH4[c("HHID","HMO1","sn")],by.x=c("HHID","HMO1"),
+ by.y=c("HHID","HMO1"),all.x=T)
> dim(EMP6)
[1] 850   6
> colnames(EMP6)
[1] "HHID" "HMO1" "OCC1" "OCC2" "sn.x" "sn.y"
> dim(subset(EMP6,is.na(sn.x)&is.na(sn.y)))
[1] 442   6

# Generated variable  “RO2.HMO1”  in OCC1.
> colnames(OCC1)
[1] "HHID" "IWO1" "IWO2" "sn"   "ID"
> OCC1["RO2.HMO1"]<-NA
> dim(MATCH1)
[1] 33502     6
> sum(MATCH1$ID!=MATCH1$IWO1)
[1] 0
> OCC1[sn.match1,"RO2.HMO1"]<-MATCH1["IWO1"]
> sum(OCC1$IWO1==OCC1$RO2.HMO1,na.rm=T)
[1] 33502
> OCC1[sn.match2,"RO2.HMO1"]<-MATCH2["IWO1"]
> sum(OCC1$IWO1==OCC1$RO2.HMO1,na.rm=T)
[1] 35778
> colnames(OCC1)
[1] "HHID"     "IWO1"     "IWO2"     "sn"       "ID"       "RO2.HMO1"
> sn.ma3<-MATCH3$sn
> OCC1[sn.ma3,"RO2.HMO1"]<-MATCH3["HMO1"]
> sn.ma4<-MATCH4$sn
> OCC1[sn.ma4,"RO2.HMO1"]<-MATCH4["HMO1"]

### SUMMARY ###
# 35,783 correct values in original IWO1
# 403 incorrect values in original IWO1 should be replaced with RO2.HMO1
# 417 unmatched values in original IWO1
#
> table(OCC1$IWO1==OCC1$RO2.HMO1,useNA="ifany")
FALSE  TRUE  <NA>
```

```
  403 35783   417

# Added variable  “R02.HM01”  to R13.
> R13.1<-R13
> R13.1["SN"]<-1:nrow(R13)
> colnames(OCC1)
[1] "HHID"     "IW01"     "IW02"     "sn"       "ID"       "R02.HM01"
> R13.2<-merge(R13.1,OCC1[c("HHID","IW01","R02.HM01")],all.x=T)
> colnames(R13.2)
 [1] "IW01"     "HHID"     "REG"      "CWT"      "AREA"     "PSU_NO"   "HHNO"
 [8] "ENU"      "OCC"      "IW02"     "IW03"     "IW04"     "IW05"     "IW06"
[15] "IW07"     "IW08"     "IW09"     "IW10"     "IW11"     "IW12"     "IW13"
[22] "IW14"     "WT"       "SN"       "R02.HM01"
> R13.3<-R13.2[c(3:8,1,9:22,2,23:25)]
> colnames(R13.3)
 [1] "REG"      "CWT"      "AREA"     "PSU_NO"   "HHNO"     "ENU"      "IW01"
 [8] "OCC"      "IW02"     "IW03"     "IW04"     "IW05"     "IW06"     "IW07"
[15] "IW08"     "IW09"     "IW10"     "IW11"     "IW12"     "IW13"     "IW14"
[22] "HHID"     "WT"       "SN"       "R02.HM01"
> R13.4<-R13.3[order(R13.3$SN),]
> R13.5<-R13.4[-24]
> row.names(R13.5)<-NULL
> R13rev<-R13.5
> dim(R13rev)
[1] 109825     24
> save(R13rev,file="R13rev.RData")


# Example of unmatched cases
> hhid.err<-OCC1[is.na(OCC1$R02.HM01),"HHID"]
> length(hhid.err)
[1] 417
> hhid.err<-unique(hhid.err)
> length(hhid.err)
[1] 389

> colnames(R02ws)
 [1] "REG"      "CWT"      "AREA"     "PSU_NO"   "HHNO"     "ENU"
 [7] "HM01"     "HM02"     "HM03"     "HM04"     "HM05"     "HM06"
[13] "HM07"     "HM08"     "HM09"     "HM10"     "HM11"     "HM12"
[19] "HM13"     "HM14"     "HM15"     "HM16"     "HM17"     "HM18"
[25] "HM19"     "HM20"     "HM21"     "HM22"     "HM23"     "HM24"
[31] "HM25"     "HM26"     "HM27"     "HM28"     "HM29"     "HM30"
[37] "HM31"     "HM32"     "HM33"     "HM34"     "HM35"     "HM36"
[43] "HM37"     "HM38"     "HM39"     "HM40"     "HM41"     "HHID"
[49] "WT"       "employee" "business" "farmer"
> R02m<-R02ws[c(48,7:10,42:47,50)]
> colnames(R02m)
 [1] "HHID"     "HM01"     "HM02"     "HM03"     "HM04"     "HM36"
 [7] "HM37"     "HM38"     "HM39"     "HM40"     "HM41"     "employee"
> colnames(R02m)[3:5]<-c("Relation","Sex","Age")
> colnames(R02m)
 [1] "HHID"     "HM01"     "Relation" "Sex"      "Age"      "HM36"
 [7] "HM37"     "HM38"     "HM39"     "HM40"     "HM41"     "employee"

> for(j in hhid.err[1:10]){
```

```
+ print("Household members in REC_02 ========================================")
+ print(RO2m[RO2m$HHID==j,])
+ print("Data in REC_13 ----------------------------------------------------")
+ print(OCC1[OCC1$HHID==j,c(1:3,5,6)])
+ }
```

 # LIST OF UNMATCHED RECORDS (first ten cases)

```
[1] "Household members in REC_02 ========================================"
   HHID HMO1 Relation Sex Age HM36 HM37 HM38 HM39 HM40 HM41 employee
83   26    1        1   1  49  994   11   99   NA   NA   NA        0
84   26    2        2   2  50  712    6    6   NA   NA   NA        1
[1] "Data in REC_13 ----------------------------------------------------"
   HHID IWO1 IWO2 ID RO2.HMO1
58   26    2  713  2       NA
[1] "Household members in REC_02 ========================================"
    HHID HMO1 Relation Sex Age HM36 HM37 HM38 HM39 HM40 HM41 employee
955  317    1        1   1  45  832    6    9   NA   NA   NA        1
956  317    2        2   2  39  931    6    6   NA   NA   NA        1
957  317    3        3   2  20  826    6    4   NA   NA   NA        1
958  317    4        3   2  15  992    9   99   NA   NA   NA        0
[1] "Data in REC_13 ----------------------------------------------------"
     HHID IWO1 IWO2 ID RO2.HMO1
1138  317    1  832  1        1
1141  317    2  913  2       NA
1144  317    3  826  3        3
[1] "Household members in REC_02 ========================================"
     HHID HMO1 Relation Sex Age HM36 HM37 HM38 HM39 HM40 HM41 employee
1503  491    1        1   1  31  832    6    9   NA   NA   NA        1
1504  491    2        2   2  30  826    2    4   NA   NA   NA        0
[1] "Data in REC_13 ----------------------------------------------------"
     HHID IWO1 IWO2 ID RO2.HMO1
1813  491    1  832  1        1
1816  491    2  826  2       NA
[1] "Household members in REC_02 ========================================"
     HHID HMO1 Relation Sex Age HM36 HM37 HM38 HM39 HM40 HM41 employee
2331  718    1        1   2  49  235    2   12   NA   NA   NA        0
2332  718    2        7   2  74  991    8   99   NA   NA   NA        0
2333  718    3        8   2  39  232    6   13   NA   NA   NA        1
[1] "Data in REC_13 ----------------------------------------------------"
     HHID IWO1 IWO2 ID RO2.HMO1
2791  718    1  235  1       NA
2794  718    3  232  3        3
[1] "Household members in REC_02 ========================================"
     HHID HMO1 Relation Sex Age HM36 HM37 HM38 HM39 HM40 HM41 employee
3126  948    1        1   1  57  832    2    9   NA   NA   NA        0
3127  948    2        2   2  55  991    8   99   NA   NA   NA        0
3128  948    3        3   1  23  996   14   99   NA   NA   NA        0
3129  948    4        4   1  30  412    6    4   NA   NA   NA        1
3130  948    5        5   2  31  743    6    4   NA   NA   NA        1
[1] "Data in REC_13 ----------------------------------------------------"
     HHID IWO1 IWO2 ID RO2.HMO1
3754  948    4  412  4        4
3757  948    5  743  5        5
3760  948    3   11  3       NA
[1] "Household members in REC_02 ========================================"
```

```
     HHID HM01 Relation Sex Age HM36 HM37 HM38 HM39 HM40 HM41 employee
3578 1077    1        1   2  22  235    6   16   NA   NA   NA        1
3579 1077    2        9   2  22  235    6   16   NA   NA   NA        1
[1] "Data in REC_13 ----------------------------------------------------"
     HHID IW01 IW02 ID R02.HM01
4306 1077    1  233  1       NA
4309 1077    2  233  2       NA
[1] "Household members in REC_02 ========================================"
     HHID HM01 Relation Sex Age HM36 HM37 HM38 HM39 HM40 HM41 employee
4211 1289    1        1   1  59  241    5    9   NA   NA   NA        1
4212 1289    2        2   2  55  991    8   99   NA   NA   NA        0
4213 1289    3        3   2  26  341    6   15   NA   NA   NA        1
4214 1289    4        3   1  25  992    9   99   NA   NA   NA        0
4215 1289    5        3   2  15  992    9   99   NA   NA   NA        0
[1] "Data in REC_13 ----------------------------------------------------"
     HHID IW01 IW02 ID R02.HM01
5089 1289    1  241  1        1
5092 1289    3  347  3       NA
[1] "Household members in REC_02 ========================================"
     HHID HM01 Relation Sex Age HM36 HM37 HM38 HM39 HM40 HM41 employee
4808 1469    1        1   1  32  411    6    6   NA   NA   NA        1
[1] "Data in REC_13 ----------------------------------------------------"
     HHID IW01 IW02 ID R02.HM01
5869 1469    1  414  1       NA
[1] "Household members in REC_02 ========================================"
     HHID HM01 Relation Sex Age HM36 HM37 HM38 HM39 HM40 HM41 employee
5323 1647    1        1   2  53  913    6   11   NA   NA   NA        1
5324 1647    2        3   1  33  832    6    7   NA   NA   NA        1
5325 1647    3        3   1  31  413    6    7   NA   NA   NA        1
5326 1647    4        7   2  80  993   10   99   NA   NA   NA        0
[1] "Data in REC_13 ----------------------------------------------------"
     HHID IW01 IW02 ID R02.HM01
6457 1647    1  913  1        1
6460 1647    2  832  2        2
6463 1647    3  414  3       NA
[1] "Household members in REC_02 ========================================"
     HHID HM01 Relation Sex Age HM36 HM37 HM38 HM39 HM40 HM41 employee
5664 1750    1        1   2  66  991    8   99   NA   NA   NA        0
5665 1750    2        2   1  73  993   10   99   NA   NA   NA        0
5666 1750    3        4   1  42  214    4   12   NA   NA   NA        1
5667 1750    4        5   2  39  411    6   14   NA   NA   NA        1
5668 1750    5        6   1   9   NA   NA   NA   NA   NA   NA        0
5669 1750    6        6   1   7   NA   NA   NA   NA   NA   NA        0
[1] "Data in REC_13 ----------------------------------------------------"
     HHID IW01 IW02 ID R02.HM01
6835 1750    3  214  3        3
6838 1750    4  414  4       NA
>
```

In some cases, there might be coding errors of occupation which seemed to block linkage between R13 and R02.

6. Linkage between R14 and R02 at individual and occupation level

```
# Created data frame BUS: subset of R02
# Defined variables of OCC1 and OCC2
> BUS<-subset(R02ws,business==1)
> dim(BUS)
[1] 17497    52
> BUS["OCC1"]<-ifelse(((BUS$HM37==1|BUS$HM37==2|BUS$HM37==7)&
+ BUS$HM38!=1&BUS$HM38!=2),BUS$HM36,NA)
> BUS["OCC2"]<-ifelse(((BUS$HM40==1|BUS$HM40==2|BUS$HM40==7)&
+ BUS$HM41!=1&BUS$HM41!=2),BUS$HM39,NA)
> dim(BUS)
[1] 17497    54

# Created data frame OCC1: subset of R13 with OCC=1
# Defined variable  “sn” (serial number)
> OCC1<-subset(R14,OCC==1)
> OCC1<-OCC1[c(21,7,9)]
> OCC1["sn"]<-1:nrow(OCC1)
> dim(OCC1)
[1] 17552     4
> colnames(OCC1)
[1] "HHID" "IB01" "IB02" "sn"
> dim(unique(OCC1[c("HHID","IB01")]))
[1] 17552     2
> dim(unique(BUS[c("HHID","HM01")]))
[1] 17497     2

# Merged OCC1 and BUS using key: HHID-IB01-IB02 and HHID-HM01-OCC1.
> MATCH1<-merge(OCC1,BUS,by.x=c("HHID","IB01","IB02"),
+ by.y=c("HHID","HM01","OCC1"))
> dim(MATCH1)
[1] 15220    55

# Create data frame UNMATCH1
> sn.match1<-MATCH1$sn
> sn.unmatch1<-setdiff(1:nrow(OCC1),sn.match1)
> length(sn.unmatch1)
[1] 2332
> UNMATCH1<-OCC1[sn.unmatch1,]
> dim(UNMATCH1)
[1] 2332    4

# Merged UNMATCH1 and BUS using key: HHID-IB01-IB02 and HHID-HM01-OCC2.
> MATCH2<-merge(UNMATCH1,BUS,by.x=c("HHID","IB01","IB02"),
+ by.y=c("HHID","HM01","OCC2"))
> dim(MATCH2)
[1] 1693   55
> sn.match2<-MATCH2$sn

# Created data frame UNMATCH2
> sn.unmatch2<-setdiff(sn.unmatch1,sn.match2)
> length(sn.unmatch2)
[1] 639
> UNMATCH2<-OCC1[sn.unmatch2,]
> dim(unique(UNMATCH2[c("HHID","IB02")]))
```

```
[1] 633   2

# Created data frame UNMATCH3 which records were unique regarding HHID-IWO2.
> sn.un3.dup<-UNMATCH2[duplicated(UNMATCH2[c("HHID","IBO2")]),"sn"]
> length(sn.un3.dup)
[1] 6
> sn.un3<-UNMATCH2[!duplicated(UNMATCH2[c("HHID","IBO2")]),"sn"]
> UNMATCH3<-UNMATCH2[!duplicated(UNMATCH2[c("HHID","IBO2")]),]
> dim(UNMATCH3)
[1] 633   4

# Added  “sn” (sn.x) to matched records of BUS regarding MATCH1.
> BUS1<-merge(BUS,MATCH1[c("HHID","IBO1","sn")],
+ by.x=c("HHID","HMO1"),by.y=c("HHID","IBO1"),all.x=T)
> dim(BUS1)
[1] 17497    55

# Added  “sn” (sn.y) to matched records of BUS1 regarding MATCH2.
> BUS2<-merge(BUS1,MATCH2[c("HHID","IBO1","sn")],
+ by.x=c("HHID","HMO1"),by.y=c("HHID","IBO1"),all.x=T)
> dim(BUS2)
[1] 17497    56

# Created data frame BUS3: subset of BUS2, that is, unmatched non-farm employer in RO2
> BUS3<-subset(BUS2,is.na(sn.x)&is.na(sn.y))
> dim(BUS3)
[1] 584  56

# Checked duplication of HHID-OCC1 in BUS3.
> dim(unique(BUS3[c("HHID","OCC1")]))
[1] 577   2

# Created data frame BUS3.un which records were unique regarding HHID-OCC1.
> BUS3.dup<-BUS3[duplicated(BUS3[c("HHID","OCC1")]),]
> dim(BUS3.dup)
[1]  7 56
> BUS3.un<-BUS3[!duplicated(BUS3[c("HHID","OCC1")]),]
> dim(BUS3.un)
[1] 577  56

# Merged UNMATCH3 and BUS3.un using key: HHID-IBO2 and HHID-OCC1.
> MATCH3<-merge(UNMATCH3,BUS3.un,by.x=c("HHID","IBO2"),by.y=c("HHID","OCC1"))
> dim(MATCH3)
[1] 236  58
> sn.un3<-UNMATCH3$sn
> length(sn.un3)
[1] 633
> sn.ma3<-MATCH3$sn
> length(sn.ma3)
[1] 236

# Created data frame UNMATCH4, unmatched records among UNMATCH3.
> sn.un4<-setdiff(sn.un3,sn.ma3)
> length(sn.un4)
[1] 397
> UNMATCH4<-UNMATCH3[is.element(UNMATCH3$sn,sn.un4),]
```

```
> dim(UNMATCH4)
[1] 397   4
> table(is.na(BUS3.un$sn.x))
TRUE
 577
> table(is.na(BUS3.un$sn.y))
TRUE
 577
> BUS3.un["sn.x"]<-NULL
> BUS3.un["sn.y"]<-NULL
> dim(BUS3.un)
[1] 577  54
> dim(unique(BUS3.un[c("HHID","OCC1")]))
[1] 577   2
> MATCH3["sn.x"]<-NULL
> MATCH3["sn.y"]<-NULL

# Added  “sn” (sn.x) to matched records of BUS3.un regarding MATCH3
> BUS4<-merge(BUS3.un,MATCH3[c("HHID","HMO1","sn")],all.x=T)
> dim(BUS4)
[1] 577  55
> dim(subset(BUS4,is.na(sn)))
[1] 341  55
> dim(subset(BUS4,!is.na(sn)))
[1] 236  55

# Defined data frame BUS5, subset of unmatched records among BUS4
> BUS5<-subset(BUS4,is.na(sn))
> dim(BUS5)
[1] 341  55

# Checked duplication of HHID-OCC2 in EMP5.
> BUS5.dup<-BUS5[duplicated(BUS5[c("HHID","OCC2")]),]
> dim(BUS5.dup)
[1]  1 55

# Created data frame BUS5.un which records were unique regarding HHID-OCC2.
> BUS5.un<-BUS5[!duplicated(BUS5[c("HHID","OCC2")]),]
> dim(BUS5.un)
[1] 340  55

# Checked duplication of HHID-IWO2 in UNMATCH4
> sn.un4.dup<-UNMATCH4[duplicated(UNMATCH4[c("HHID","IBO2")]),"sn"]
> length(sn.un4.dup)
[1] 0
> table(is.na(BUS5.un$sn))
TRUE
 340

# Merged UNMATCH4 and BUS5.un using key: HHID-IBO2 and HHID-OCC2.
> BUS5.un["sn"]<-NULL
> MATCH4<-merge(UNMATCH4,BUS5.un,by.x=c("HHID","IBO2"),by.y=c("HHID","OCC2"))
> dim(MATCH4)
[1] 17 56
> sn.ma4<-MATCH4$sn
> length(sn.ma4)
```

```
[1] 17
> sn.un5<-setdiff(sn.un4,sn.ma4)
> length(sn.un5)
[1] 380

# Added  “sn” (sn.y) to matched records of EMP4 regarding MATCH4
> BUS6<-merge(BUS4,MATCH4[c("HHID","HM01","sn")],by.x=c("HHID","HM01"),
+ by.y=c("HHID","HM01"),all.x=T)
> dim(BUS6)
[1] 577  56
> dim(subset(BUS6,is.na(sn.x)&is.na(sn.y)))
[1] 324  56

# Generated variable  “R02.HM01”  in OCC1.
> colnames(OCC1)
[1] "HHID" "IB01" "IB02" "sn"
> OCC1["R02.HM01"]<-NA
> OCC1[sn.match1,"R02.HM01"]<-MATCH1["IB01"]
> OCC1[sn.match2,"R02.HM01"]<-MATCH2["IB01"]
> OCC1[sn.ma3,"R02.HM01"]<-MATCH3["HM01"]
> OCC1[sn.ma4,"R02.HM01"]<-MATCH4["HM01"]

### SUMMARY ###
# 16,913 correct values in original IB01
# 253 incorrect values in original IB01 should be replaced with R02.HM01
# 386 unmatched values in original IB01
#
> table(OCC1$IB01==OCC1$R02.HM01,useNA="ifany")
FALSE  TRUE  <NA>
  253 16913   386

# Added variable  “R02.HM01”  to R14.
> R14.1<-R14
> R14.1["SN"]<-1:nrow(R14)
> R14.2<-merge(R14.1,OCC1[c("HHID","IB01","R02.HM01")],all.x=T)
> colnames(R14.2)
 [1] "IB01"     "HHID"     "REG"      "CWT"      "AREA"     "PSU_NO"
 [7] "HHNO"     "ENU"      "OCC"      "IB02"     "IB03"     "IB04"
[13] "IB05"     "IB06"     "IB07"     "IB081"    "IB082"    "IB091"
[19] "IB092"    "IB10"     "IB11"     "WT"       "SN"       "R02.HM01"
> R14.3<-R14.2[c(3:8,1,9:21,2,22:24)]
> R14.4<-R14.3[order(R14.3$SN),]
> colnames(R14.4)
 [1] "REG"      "CWT"      "AREA"     "PSU_NO"   "HHNO"     "ENU"
 [7] "IB01"     "OCC"      "IB02"     "IB03"     "IB04"     "IB05"
[13] "IB06"     "IB07"     "IB081"    "IB082"    "IB091"    "IB092"
[19] "IB10"     "IB11"     "HHID"     "WT"       "SN"       "R02.HM01"
> R14.5<-R14.4[-23]
> dim(R14.5)
[1] 35104    23
> row.names(R14.5)<-NULL
> R14rev<-R14.5
> save(R14rev,file="R14rev.RData")


# Example of unmatched cases
```

```
> hhid.err<-OCC1[is.na(OCC1$RO2.HM01),"HHID"]
> length(hhid.err)
[1] 386
> RO2m<-RO2ws[c(48,7:10,42:47,51)]
> colnames(RO2m)[3:5]<-c("Relation","Sex","Age")

> for(j in hhid.err[1:10]){
+ print("Household members in REC_02 ========================================")
+ print(RO2m[RO2m$HHID==j,])
+ print("Data in REC_14 ----------------------------------------------------")
+ print(OCC1[OCC1$HHID==j,c(1:3,5)])
+ }
```

 # LIST OF UNMATCHED RECORDS (first ten cases)

```
[1] "Household members in REC_02 ========================================"
   HHID HM01 Relation Sex Age HM36 HM37 HM38 HM39 HM40 HM41 business
96   31    1        1   1  48  743    6    4   NA   NA   NA        0
97   31    2        2   2  43  522    2    8   NA   NA   NA        1
98   31    3        3   2  10   NA   NA   NA   NA   NA   NA        0
[1] "Data in REC_14 ----------------------------------------------------"
   HHID IB01 IB02 RO2.HM01
35   31    2  131       NA
[1] "Household members in REC_02 ========================================"
     HHID HM01 Relation Sex Age HM36 HM37 HM38 HM39 HM40 HM41 business
1808  575    1        1   1  38  522    3    7   NA   NA   NA        0
1809  575    2        2   2  27  514    6   15  512    6    8        0
[1] "Data in REC_14 ----------------------------------------------------"
    HHID IB01 IB02 RO2.HM01
443  575    1  522       NA
[1] "Household members in REC_02 ========================================"
     HHID HM01 Relation Sex Age HM36 HM37 HM38 HM39 HM40 HM41 business
2587  782    1        1   1  66  996   14   99   NA   NA   NA        0
2588  782    2        2   2  58  131    2    7   NA   NA   NA        1
2589  782    3        3   2  36  413    6    7   NA   NA   NA        0
2590  782    4        8   2  42  522    3    7   NA   NA   NA        0
2591  782    5        8   1  53  341    2    7   NA   NA   NA        1
2592  782    6        8   2  23  992    9   99   NA   NA   NA        0
[1] "Data in REC_14 ----------------------------------------------------"
    HHID IB01 IB02 RO2.HM01
675  782    2  522       NA
677  782    5  341        5
[1] "Household members in REC_02 ========================================"
     HHID HM01 Relation Sex Age HM36 HM37 HM38 HM39 HM40 HM41 business
2614  792    1        1   1  25  731    6    4   NA   NA   NA        0
2615  792    2        2   2  20  731    6    4   NA   NA   NA        0
[1] "Data in REC_14 ----------------------------------------------------"
    HHID IB01 IB02 RO2.HM01
687  792    1  731       NA
[1] "Household members in REC_02 ========================================"
     HHID HM01 Relation Sex Age HM36 HM37 HM38 HM39 HM40 HM41 business
3031  919    1        1   2  54  131    3    7   NA   NA   NA        0
3032  919    2        2   1  55  742    3    7   NA   NA   NA        0
3033  919    3        4   1  28  724    4   12   NA   NA   NA        0
3034  919    4        5   2  20  732    2    4   NA   NA   NA        1
3035  919    5        6   2   2   NA   NA   NA   NA   NA   NA        0
```

```
[1] "Data in REC_14 ------------------------------------------------------"
    HHID IB01 IB02 R02.HM01
787  919    1  131       NA
789  919    4  732        4
[1] "Household members in REC_02 ======================================="
     HHID HM01 Relation Sex Age HM36 HM37 HM38 HM39 HM40 HM41 business
3461 1047    1        1   1  54  522    3    8   NA   NA   NA        0
3462 1047    2        2   2  44  131    2    8   NA   NA   NA        1
[1] "Data in REC_14 ------------------------------------------------------"
    HHID IB01 IB02 R02.HM01
935 1047    2  522       NA
[1] "Household members in REC_02 ======================================="
     HHID HM01 Relation Sex Age HM36 HM37 HM38 HM39 HM40 HM41 business
3499 1057    1        1   1  35  131    1    1   NA   NA   NA        0
3500 1057    2        2   2  27  412    3    1   NA   NA   NA        0
3501 1057    3        3   2  13   NA   NA   NA   NA   NA   NA        0
3502 1057    4        8   1  58  512    6    1   NA   NA   NA        0
3503 1057    5        9   1  30  921    6    1   NA   NA   NA        0
3504 1057    6        9   1  19  921    6    1   NA   NA   NA        0
3505 1057    7        9   1  30  921    6    1   NA   NA   NA        0
[1] "Data in REC_14 ------------------------------------------------------"
    HHID IB01 IB02 R02.HM01
941 1057    1  131       NA
[1] "Household members in REC_02 ======================================="
     HHID HM01 Relation Sex Age HM36 HM37 HM38 HM39 HM40 HM41 business
4220 1292    1        1   1  38  523    2    7   NA   NA   NA        1
4221 1292    2        2   2  34  523    3    7   NA   NA   NA        0
4222 1292    3        3   2  19  992    9   99   NA   NA   NA        0
4223 1292    4        3   1  17  992    9   99   NA   NA   NA        0
4224 1292    5        3   1   5   NA   NA   NA   NA   NA   NA        0
[1] "Data in REC_14 ------------------------------------------------------"
     HHID IB01 IB02 R02.HM01
1139 1292    1  522       NA
[1] "Household members in REC_02 ======================================="
     HHID HM01 Relation Sex Age HM36 HM37 HM38 HM39 HM40 HM41 business
4515 1381    1        1   2  51  341    6   10   NA   NA   NA        0
4516 1381    2        3   2  30  991    8   99   NA   NA   NA        0
4517 1381    3        3   2  12   NA   NA   NA   NA   NA   NA        0
4518 1381    4        3   1  10   NA   NA   NA   NA   NA   NA        0
[1] "Data in REC_14 ------------------------------------------------------"
     HHID IB01 IB02 R02.HM01
1223 1381    1  341       NA
[1] "Household members in REC_02 ======================================="
     HHID HM01 Relation Sex Age HM36 HM37 HM38 HM39 HM40 HM41 business
7108 2199    1        1   1  53  522    6    4   NA   NA   NA        0
7109 2199    2        2   2  48  522    2    7   NA   NA   NA        1
7110 2199    3        3   1  21  992    9   99   NA   NA   NA        0
7111 2199    4        3   1  16  992    9   99   NA   NA   NA        0
[1] "Data in REC_14 ------------------------------------------------------"
     HHID IB01 IB02 R02.HM01
1941 2199    2  131       NA
```

Chapter 5. Resampling of micro data

☐ The following variables were appended to data files.

Table: Variables generated and appended to data files

Data frame	Variable	Contents	Refer to
R01	X	Hidden district/subdistrict-level variable	Supplement 2
	PSU_NO.rev	Revised PSU_NO	Supplement 2
	A01.rev	Revised A01	Supplement 2
	R02.A05	A05 computed from R02 in this research	Chapter 4
	R02.A06	A06 computed from R02 in this research	Chapter 4
	R13.WS1	WS1 computed from R13 in this research	Chapter 4
	R13.WS2	WS2 computed from R13 in this research	Chapter 4
	R14.A06	A06 computed from R14 in this research	Chapter 4
	R14.PB1	PB1 computed from R14 in this research	Chapter 4
	R14.PB2	PB2 computed from R14 in this research	Chapter 4
R13	R02.HM01	Member ID linked to R02	Chapter 4
R14	R02.HM01	Member ID linked to R02	Chapter 4

```
> R01<-cbind(R01,X,PSU_NO.rev,A01.rev,R02.A05,R02.A06,R13.WS1,R13.WS2,R14.PB1,R14.PB2)
```

☐ Strategy for resampling micro data

- To select HHID at the rate of 80 % using SYS;
  Interval=5, Random start number=5
- To select records in each data file which belong to the selected HHID.

```
# Selected HHID at the rate of 80%
> HHID<-1:nrow(R01)
> HHID.selected<-HHID[HHID%%5!=0]
> length(HHID.selected)/length(HHID)
[1] 0.8

# Generated 80% resampled micro data files
# Example
> R01.80<-subset(R01,is.element(HHID,HHID.selected))
```

```
> dim(R01.80)
[1] 34444        89
> nrow(R01.80)/nrow(R01)
[1] 0.8

> R02.80<-subset(R02,is.element(HHID,HHID.selected))
> dim(R02.80)
[1] 111165          49
> nrow(R02.80)/nrow(R02)
[1] 0.7997309

> R13.80<-subset(R13,is.element(HHID,HHID.selected))
> dim(R13.80)
[1] 87723        24
> nrow(R13.80)/nrow(R13)
[1] 0.7988689
```

Exported the resampled data in CSV format

```
# Example
> write.table(R01.80,file="R01_80.csv",sep=",",row.names=F)
```

- Exported CSV is readable by Excel

☐ How to use resampled micro data

1. Micro data is available both in R format and CSV format. R file is favorable because it can save memory.

2. It is recommended to reduce variables needed for study purpose at the first stage.

3. Steps to load data set in R (Windows)

- Open R software.
- Click “File” – “Change dir”, and change working directory to the folder where the desired R workspace locates.
- Click “File” – “Load workspace”, and select the next R workspace;
  “80% Resampled TSES2007.RData”.
- Type in “ls()” in R console window. Then all resampled data frames of R will appear.

4. CSV file is readable for any statistical software, for instance, MS Excel;

- Click “File” – “Open” in Excel, and select the folder.
- Change file type (extension) to “Text (*.prn;*.txt;*.csv).
- Select the desired csv file, for example, “R01_80.csv”.
- The next sheet will appear;

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	REG	CWT	AREA	PSU_NO	HHNO	ENU	A01	A02	A02_1	A03	A04	A04_1	A05	A06	A07
2	1	10	1	755	3	1	7	2	2	22	2	2	0	1	11520
3	1	10	1	755	4	1	7	1	1	22	3	3	0	1	11566
4	1	10	1	755	6	1	7	2	2	22	3	3	0	1	16509
5	1	10	1	755	8	1	7	2	2	50	4	4	2	0	14126
6	1	10	1	755	14	1	7	4	4	50	5	5	2	1	25336
7	1	10	1	781	1	1	9	2	2	50	8	8	2	0	37282
8	1	10	1	781	4	1	9	1	1	22	1	1	0	1	15399
9	1	10	1	781	5	5	9	1	1	32	4	4	1	0	49530
10	1	10	1	781	8	5	9	1	1	32	1	1	1	0	11158
11	1	10	1	781	9	1	9	5	5	22	7	7	2	2	34381
12	1	10	1	781	10	1	9	0	0	71	1	1	0	0	14355
13	1	10	1	781	14	1	9	2	2	22	4	4	0	1	33062
14	1	10	1	677	1	1	3	1	1	21	1	1	0	1	17036
15	1	10	1	677	2	1	3	2	2	60	3	3	2	0	15959
16	1	10	1	677	4	5	3	2	2	32	5	5	1	1	48178
17	1	10	1	677	6	1	3	0	0	71	2	2	0	0	18220
18	1	10	1	677	8	1	3	2	2	60	2	2	2	0	11333
19	1	10	1	677	9	1	3	0	0	71	2	2	0	0	9786
20	1	10	1	677	10	1	3	1	1	32	4	4	1	0	21029
21	1	10	1	677	11	2	3	1	1	22	3	3	0	1	24912
22	1	10	1	677	14	1	3	1	1	60	2	2	1	0	6943
23	1	10	1	677	15	2	3	1	1	22	4	4	0	1	13735
24	1	10	1	703	2	1	5	1	1	22	1	1	0	1	5058
25	1	10	1	703	3	1	5	2	2	41	3	3	2	0	12669

Supplement 1

Sample design and identification of psu and ssu

☐ Describe sample design using micro data

Reviewed the sample design of Thailand HSES 2007 by using sample household data file REC01.

Thailand is divided into 5 regions; 1=Bangkok Metropolis, 2=Central, 3=North, 4=Northeast and 5=South.

The next table shows the number of sample households by region.

```
> table(REC01["reg"])
   1    2    3    4    5
2451 12421 10734 11365  6084
```

Map: Five Regions in Thailand

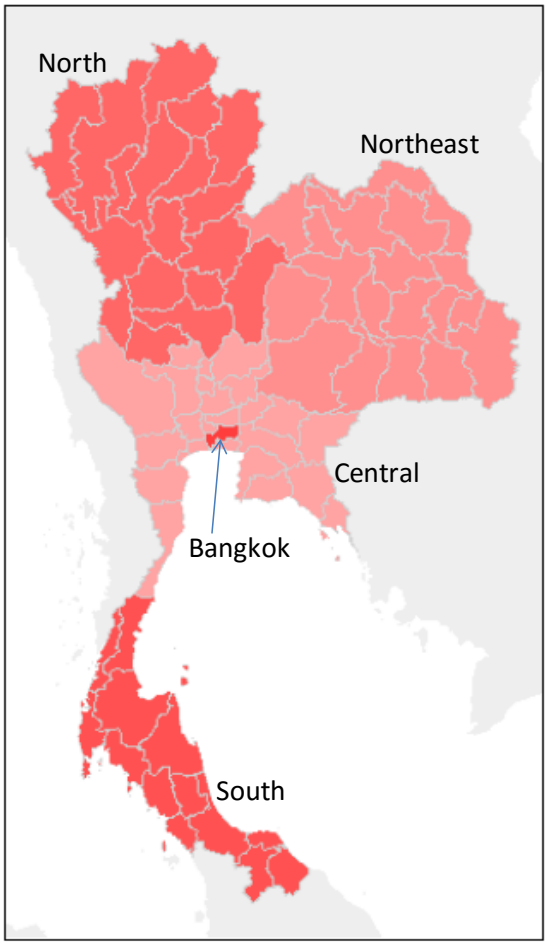
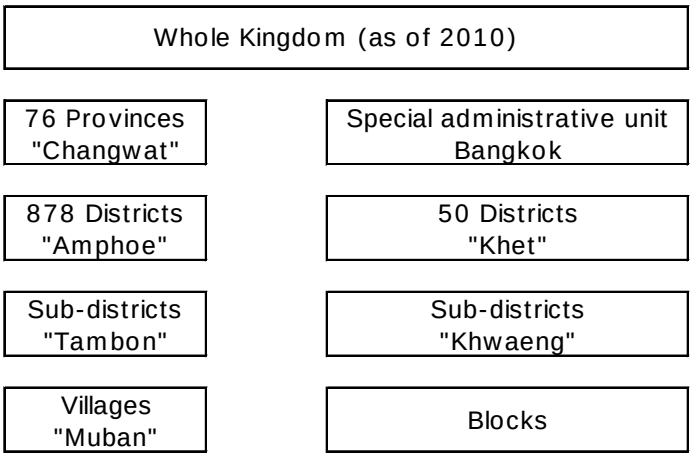


Figure: Administrative divisions of Thailand



Hierarchical structure of Thailand local administration is province (“changwat” in Thai), district (“amphoe”), sub-district (“tambon”) and village (“muban”).

There are 76 provinces including Bangkok (10). The next table shows the number of sample households by province.

```
> table(REC01["cwt"])
  10   11   12   13   14   15   16   17   18   19   20   21   22   23   24   25   26   27   30   31
2451  493  805  576  367  525  556  481  467  480  505  473  500  605  423  359  375  446  595  704
  32   33   34   35   36   37   39   40   41   42   43   44   45   46   47   48   49   50   51   52
 664  524  607  583  683  489  496  557  578  524  653  554  784  763  713  470  424  621  595  744
  53   54   55   56   57   58   60   61   62   63   64   65   66   67   70   71   72   73   74   75
 667  713  601  773  822  698  456  620  483  703  457  765  484  532  468  528  542  568  473  323
  76   77   80   81   82   83   84   85   86   90   91   92   93   94   95   96
 575  508  431  451  357  362  686  297  352  441  365  447  592  495  406  402
```

A stratified two-stage sampling was adopted for the survey. Provinces was considered to be constituted strata. Each stratum was divided into two parts according to the type of local administration; namely, municipal areas and non-municipal areas.

Remarks: Definition of municipal area and non-municipal are
According to the delegates from Thailand for the Fifth International Workshop,
TNSO follows the classification of administrative area defined by Ministry of Interior.
According to the law, there are three levels of municipal areas.

1) Sub-district municipality (Tetsaban-Tambon): A locality where the provincial city hall is

not situated and developed enough. The municipality should also have a reasonable amount of revenue to officiate.

2) City municipality (Tetsaban-Muang): An area where the provincial city hall is situated. The number of its population is 10,000 or more and the density is not less than 3,000 population per square kilometers. The municipality should also have a reasonable amount of revenue to officiate.

3) Big city municipality (Tetsaban-Nakom): An area with population of 50,000 or more and the density is not less than 3,000 population per square kilometers. The municipality should also have a reasonable amount of revenue to officiate.

All other areas which are not satisfied the above conditions should be considered as non-municipal areas.

The next table shows the number of sample households by the type of area.

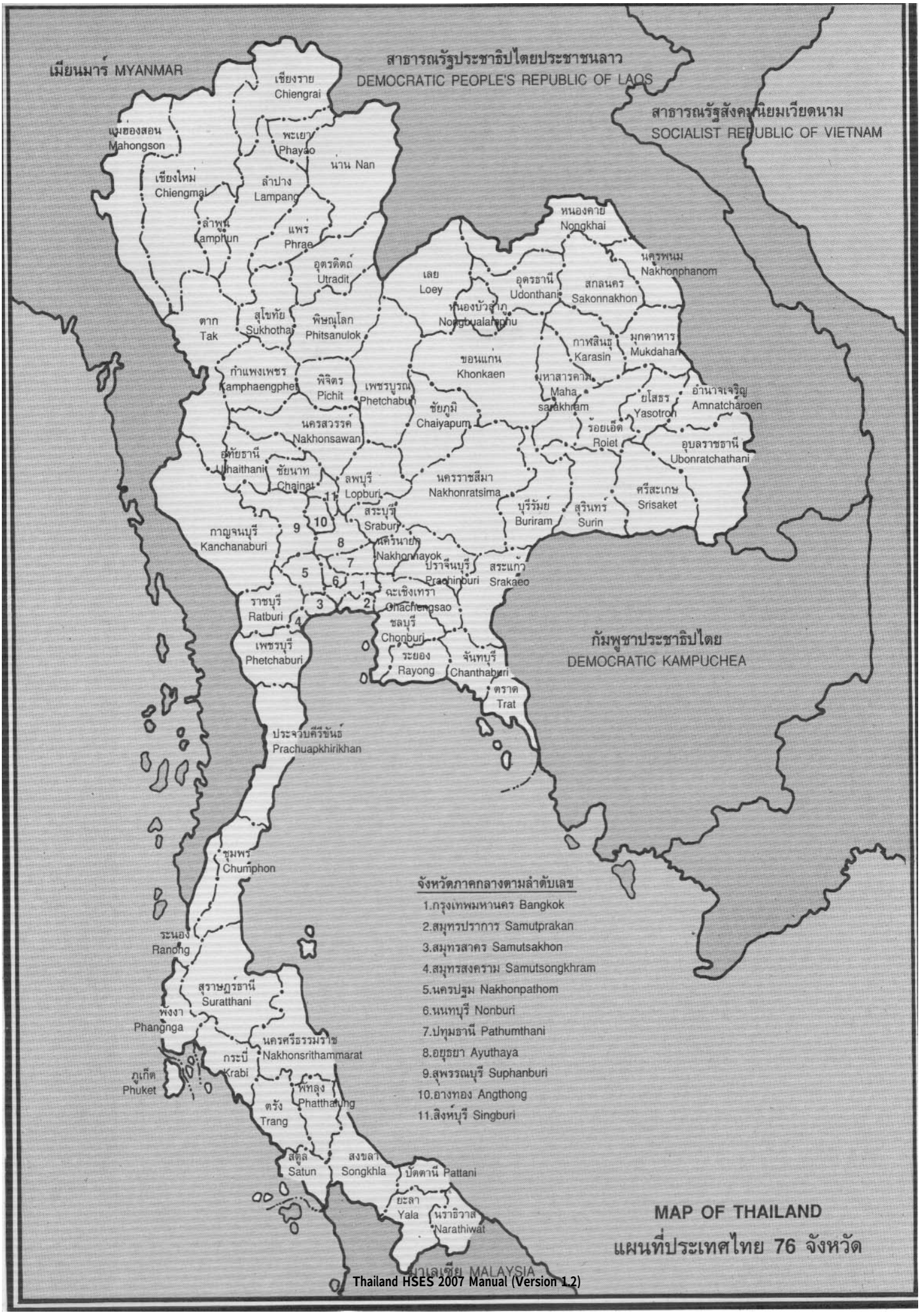
```
> table(REC01["area"])
    1     2
26494 16561
```

Note: In this Supplement, variable names in lower case was used as in the original data file REC01.

- **Primary sampling unit (PSU)** was block/village. The sample selection of PSUs was performed separately and independently in each parts by using probability proportional to the size (PPS). The size variable was the total number of households in the block or village.

So, the sampling frame might be a list of blocks/villages in the next form.

Province name/code				
Type of area		1. Municipal area 2. Non-municipal area		
District name/code (Amphoe)	*Sub-district name/code (Tambon)*	*Block/Village name/code (Muban)*	Total number of private households	Whether selected or not


เมียนมาร์ MYANMAR
สาธารณรัฐประชาธิปไตยประชาชนลาว
DEMOCRATIC PEOPLE'S REPUBLIC OF LAOS
สาธารณรัฐสังคมนิยมเวียดนาม
SOCIALIST REPUBLIC OF VIETNAM
กัมพูชาประชาธิปไตย
DEMOCRATIC KAMPUCHEA
มาเลเซีย MALAYSIA
เชียงราย Chiengrai
แม่ฮ่องสอน Mahongson
พะเยา Phayao
น่าน Nan
เชียงใหม่ Chiengmai
ลำปาง Lampang
ลำพูน Lamphun
แพร่ Phrae
อุตรดิตถ์ Utradit
ตาก Tak
สุโขทัย Sukhothai
พิษณุโลก Phitsanulok
กำแพงเพชร Kamphaengphet
พิจิตร Pichit
เพชรบูรณ์ Phetchabun
นครสวรรค์ Nakhonsawan
อุทัยธานี Uthaithani
ชัยนาท Chainat
ลพบุรี Lopburi
สระบุรี Srabur
กาญจนบุรี Kanchanaburi
นครนายก Nakhonnayok
ปราจีนบุรี Prachinburi
สระแก้ว Srakaeo
ฉะเชิงเทรา Chachoengsao
ราชบุรี Ratburi
ชลบุรี Chonburi
เพชรบุรี Phetchaburi
ระยอง Rayong
จันทบุรี Chanthaburi
ตราด Trat
ประจวบคีรีขันธ์ Prachuapkhirikhan
ชุมพร Chumphon
ระนอง Ranong
สุราษฎร์ธานี Suratthani
พังงา Phangnga
นครศรีธรรมราช Nakhonsrithammarat
กระบี่ Krabi
ภูเก็ต Phuket
พัทลุง Phatthalung
ตรัง Trang
สตูล Satun
สงขลา Songkhla
ปัตตานี Pattani
ยะลา Yala
นราธิวาส Narathiwat
หนองคาย Nongkhai
นครพนม Nakhonphanom
เลย Loey
อุดรธานี Udonthani
สกลนคร Sakonnakhon
หนองบัวลำภู Nongbualamphu
กาฬสินธุ์ Karasin
มุกดาหาร Mukdahan
ขอนแก่น Khonkaen
มหาสารคาม Maha sarakham
ยโสธร Yasotron
อำนาจเจริญ Amnatcharoen
ร้อยเอ็ด Roiet
ชัยภูมิ Chaiyapum
อุบลราชธานี Ubonratchathani
นครราชสีมา Nakhonratsima
บุรีรัมย์ Buriram
สุรินทร์ Surin
ศรีสะเกษ Srisaket
จังหวัดภาคกลางตามลำดับเลข
1.กรุงเทพมหานคร Bangkok
2.สมุทรปราการ Samutprakan
3.สมุทรสาคร Samutsakhon
4.สมุทรสงคราม Samutsongkhram
5.นครปฐม Nakhonpathom
6.นนทบุรี Nonburi
7.ปทุมธานี Pathumthani
8.อยุธยา Ayuthaya
9.สุพรรณบุรี Suphanburi
10.อ่างทอง Angthong
11.สิงห์บุรี Singburi
MAP OF THAILAND
แผนที่ประเทศไทย 76 จังหวัด

Secondary sampling unit (SSU) was private households. The frame might be a list of all private households in the selected block or village, which was created by listing households prior to the enumeration.

Province name/code	
District name/code	*(hidden in the given micro data)*
Sub-district name/code	*(hidden in the given micro data)*
Type of area	1. Municipal area 2. Non-municipal area
Selected Block/Village name/code	*(hidden in the given micro data)*
ED (Enumeration district) code	

Serial number	Address	Name of private household head	Household size	Type of economic household	Whether selected or not

Note: Items in Italic are not in the micro data set provided to Sinfonica.

Households were ordered by household size and type of economic household. Sample households were selected by using systematic sampling method (SYS) in each type of local administration with the following sample size;

(1) 15 households in municipal areas

(2) 10 households in non-municipal areas

The total number of sample households was 51,970 according to the report.

Selected households were coded as 01 to 15 in PSU of Municipality area, and coded as 01 to 10 in PSU of Non-municipality area.

```
> table(subset(REC01,area==1,hhno))
   1    2    3    4    5    6    7    8    9   10   11   12   13   14   15
1770 1869 1815 1779 1788 1798 1850 1740 1763 1733 1731 1783 1744 1672 1659

> table(subset(REC01,area==2,hhno))
   1    2    3    4    5    6    7    8    9   10
1710 1740 1686 1678 1658 1623 1654 1635 1623 1554
```

☐ **The combination of identification variables (ssuid): No longer unique**

The identification of sample household was the 20 digits of the combination of 10 variables; reg(1 digit), cwt(2), amp(2), tmb(2), area(1), ed(3), blk/vil(2), psu_no(4), hh_no(2) and enu(1). However, only the 6 variables; reg, cwt, area, psu_no, hh_no and enu were provided to Sinfonica.

Remarks:

According to the delegates from Thailand for the Fifth International Workshop,

Although the manual explains that the identification of household consists of 10 variables, but in practice only 8 variables are effectively enough, namely, reg(1 digit), cwt(2), amp(2), tmb(2), area(1), ed(3), blk/vil(2), and hh_no(2), totaling 15 digits.

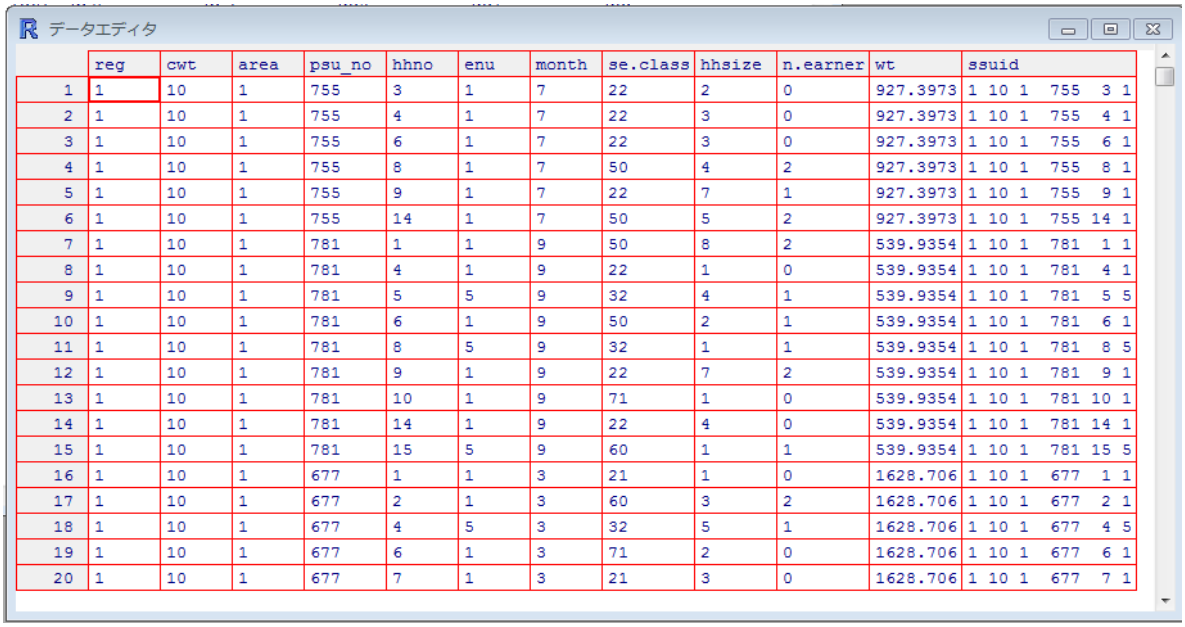
The second method is to use psu_no(4 digits) instead of both ed and blk/vil (i.e area+ed+blk = area+psu_no) But one inconsistency occurs as shown in Supplement 2.

✓ Made a new dataframe **"dfhh"**, which is a subset of REC01 including 11 variables;

reg, cwt, area, psu_no, hh_no, enu, a01(month), a03(socio-economic class), a04 (household size), a05(number of wage earners) and a52 (weight).

✓ Generated the provisional household identification variable **"ssuid"** in dfhh as the combination of the first 6 variables.

```
# dfhh: subset of REC01 includes the next variables;
# reg, cwt, area, psu_no, hh_no, enu, a01, a03, a04, a05 and a52
> dfhh<-REC01[,c(1:7,10,11,13,60)]
> dim(dfhh)
[1] 43055    11
> colnames(dfhh)
 [1] "reg"    "cwt"    "area"   "psu_no" "hhno"   "enu"    "a01"    "a03"
 [9] "a04"    "a05"    "a52"
> colnames(dfhh)[7:11]<-c("month","se.class","hhsize","n.earner","wt")
> colnames(dfhh)
 [1] "reg"      "cwt"      "area"     "psu_no"   "hhno"     "enu"
 [7] "month"    "se.class" "hhsize"   "n.earner" "wt"

# Defined ssuid in dfhh
> dfhh[,"ssuid"]<-paste(dfhh[,1],dfhh[,2],dfhh[,3],sprintf("%4d",dfhh[,4]),
+ sprintf("%2d",df[,5]),dfhh[,6])
> fix(dfhh)
```



データエディタ

	reg	cwt	area	psu_no	hhno	enu	month	se.class	hhsize	n.earner	wt	ssuid
1	1	10	1	755	3	1	7	22	2	0	927.3973	1 10 1 755 3 1
2	1	10	1	755	4	1	7	22	3	0	927.3973	1 10 1 755 4 1
3	1	10	1	755	6	1	7	22	3	0	927.3973	1 10 1 755 6 1
4	1	10	1	755	8	1	7	50	4	2	927.3973	1 10 1 755 8 1
5	1	10	1	755	9	1	7	22	7	1	927.3973	1 10 1 755 9 1
6	1	10	1	755	14	1	7	50	5	2	927.3973	1 10 1 755 14 1
7	1	10	1	781	1	1	9	50	8	2	539.9354	1 10 1 781 1 1
8	1	10	1	781	4	1	9	22	1	0	539.9354	1 10 1 781 4 1
9	1	10	1	781	5	5	9	32	4	1	539.9354	1 10 1 781 5 5
10	1	10	1	781	6	1	9	50	2	1	539.9354	1 10 1 781 6 1
11	1	10	1	781	8	5	9	32	1	1	539.9354	1 10 1 781 8 5
12	1	10	1	781	9	1	9	22	7	2	539.9354	1 10 1 781 9 1
13	1	10	1	781	10	1	9	71	1	0	539.9354	1 10 1 781 10 1
14	1	10	1	781	14	1	9	22	4	0	539.9354	1 10 1 781 14 1
15	1	10	1	781	15	5	9	60	1	1	539.9354	1 10 1 781 15 5
16	1	10	1	677	1	1	3	21	1	0	1628.706	1 10 1 677 1 1
17	1	10	1	677	2	1	3	60	3	2	1628.706	1 10 1 677 2 1
18	1	10	1	677	4	5	3	32	5	1	1628.706	1 10 1 677 4 5
19	1	10	1	677	6	1	3	71	2	0	1628.706	1 10 1 677 6 1
20	1	10	1	677	7	1	3	21	3	0	1628.706	1 10 1 677 7 1

The number of unique elements in ssuid is 42,951. It is less than the total number of sample household (43,055).

```
> length(unique(dfhh[,"ssuid"]))
[1] 42951
```

This means that **ssuid can no more take a role of sample household identifier**.
This implies that a link of household file and individual file becomes extremely difficult.
Consequently, creating an unique household identifier is crucial.

□ Situation of duplicated ssuid

In advance of creating an unique household identifier, investigated the situation of duplicated ssuid.

```
> table(duplicated(dfhh$ssuid))
FALSE  TRUE
42951   104

> which(duplicated(dfhh$ssuid))
  [1]  4017  4018  4019  4022  4023  4024  4025  5746  7994 10276 12882 13139 13388 13619 13620 13621 13689
 [18] 13691 13694 13696 15855 15856 15857 15858 15859 15860 15861 15862 15863 17003 17004 17005 17006 17007
 [35] 17009 17010 17011 17246 17451 19390 19391 19392 19393 19394 19395 19396 19397 19398 19399 19400 19401
 [52] 19402 19941 21893 25957 28550 29545 29547 31378 31379 31768 31802 32405 33562 34211 34220 34398 34399
 [69] 34400 34402 35872 35873 35874 35875 35876 35877 35879 35880 35881 37358 37359 37360 37361 37363 37364
 [86] 37365 37366 37367 37562 37720 38157 38202 38204 38205 38206 38208 38209 38210 39547 39548 39549 39550
[103] 39553 42816
```

There are 104 duplicated ssuid. Observed the 10th to 15th cases;

```
> lineno.dup.ssuid<-which(duplicated(dfhh$ssuid))[10:15]
> for(j in lineno.dup.ssuid){
+ print("--------------------------------------------------")
+ print(dfhh[dfhh$ssuid==dfhh$ssuid[j],1:12])
+ }
[1] "--------------------------------------------------"
      reg cwt area psu_no hhno enu month se.class hhsize n.earner       wt            ssuid
10195   2  26    2     83    6   1     8        32       1        1 376.0797 2 26 2   83  6 1
10276   2  26    2     83    6   1     9        60       4        3 486.4768 2 26 2   83  6 1
[1] "--------------------------------------------------"
      reg cwt area psu_no hhno enu month se.class hhsize n.earner       wt            ssuid
12766   2  73    1    102    7   1    10         3       4        0 144.8537 2 73 1  102  7 1
12882   2  73    1    102    7   1    12        50       3        2 189.6954 2 73 1  102  7 1
[1] "--------------------------------------------------"
      reg cwt area psu_no hhno enu month se.class hhsize n.earner       wt            ssuid
13095   2  74    2     95    7   1    12        50       3        1 549.2148 2 74 2   95  7 1
13139   2  74    2     95    7   1    12        60       4        4 276.0981 2 74 2   95  7 1
[1] "--------------------------------------------------"
      reg cwt area psu_no hhno enu month se.class hhsize n.earner       wt            ssuid
13351   2  74    2     87    1   1     7        22       2        1 677.5798 2 74 2   87  1 1
13388   2  74    2     87    1   1     7        32       7        1 212.4059 2 74 2   87  1 1
[1] "--------------------------------------------------"
      reg cwt area psu_no hhno enu month se.class hhsize n.earner      wt            ssuid
13611   2  75    1    102   12   1    11        50       2        1 38.4974 2 75 1  102 12 1
13619   2  75    1    102   12   1    12        50       5        3 33.6476 2 75 1  102 12 1
[1] "--------------------------------------------------"
      reg cwt area psu_no hhno enu month se.class hhsize n.earner      wt            ssuid
13612   2  75    1    102   13   1    11        71       1        0 38.4974 2 75 1  102 13 1
13620   2  75    1    102   13   1    12        71       2        0 33.6476 2 75 1  102 13 1
```

In almost cases, the values of month are different.

So, created ssuid2 as the combination of ssuid and month. However, still 31 ssuid2 are duplicated.

```
> dfhh[,"ssuid2"]<-paste(dfhh[,1],dfhh[,2],dfhh[,3],sprintf("%4d",dfhh[,4]),
+ sprintf("%2d",df[,5]),dfhh[,6],dfhh[,7])

> table(duplicated(dfhh$ssuid2))
FALSE  TRUE
43024    31
```

Even in case that the values of ssuid2 are same, the weights are different.

Created ssuid3 as the combination of ssuid, month and weight. It became unique.

```
> dfhh[,"ssuid3"]<-paste(dfhh[,1],dfhh[,2],dfhh[,3],sprintf("%4d",dfhh[,4]),
+ sprintf("%2d",df[,5]),dfhh[,6],dfhh[,7],dfhh[,11])
> table(duplicated(dfhh$ssuid3))
FALSE
43055
```

Conclusions:

- The combination of the first 6 variables of each data file is neither unique nor household identifier. It might cause a serious problem when merging data files.
- However, each sample household is unique taking into consideration the enumeration month and the weight.
- The row number of data set will be a candidate of household identifier.
- It is quite natural to state ***a hypothesis that the data set is in ascending order of the original 10 identification variables including cwt and amp.***

Remarks:

According to the delegates from Thailand for the Fifth International Workshop,

In general, this hypothesis is correct since TNSO usually sorts data set in ascending order by its identification. They were also quite sure that the data set which Sinfonica owns is also sorting in ascending order.

Supplement 2

Reconstruction of household identifier

☐ Sequence check of REC01

Confirmed the sequence of identification variables of REC01; reg, cwt, area, psu_no and hhno.

Created the dataframe R01 as a subset of REC01.

Note: 1) In this supplement, variable names in lower case was used as in the original data file REC01.

2) The data frame R01 created below was different from the reorganized data frame R01 in Chapter 3.

```
# R01: subset of REC01
> R01<-REC01[c("reg","cwt","area","psu_no","hhno","enu","a01","a03","a04","a05","a52")]
> dim(R01)
[1] 43055    11
> colnames(R01)[7:11]<-c("month","se_class","hhsize","n_employee","wt")

# Rpl: previous line of R01
> Rpl<-rbind(rep(0,ncol(R01)),R01)[1:nrow(R01),]
> dim(Rpl)
[1] 43055    11
> colnames(Rpl)
 [1] "reg"        "cwt"        "area"       "psu_no"     "hhno"       "enu"        "month"
 [8] "se_class"   "hhsize"     "n_employee" "wt"


> table(R01["reg"]>=Rpl["reg"])
 TRUE
43055

> table(R01["reg"]>Rpl["reg"] | R01["reg"]==Rpl["reg"] & R01["cwt"]>=Rpl["cwt"])
 TRUE
43055
```

It is confirmed that the variable of reg and cwt is in ascending order.

```
> table(R01["reg"]==Rpl["reg"] & R01["cwt"]==Rpl["cwt"] & R01["area"]<Rpl["area"])
FALSE  TRUE
42411   644
```

There are 644 cases that the variable of area is not in ascending order within the same reg and cwt. It suggests the existence of a hidden variable between cwt and area, which will solve the above sequence problem.

```
> table(R01["cwt"]==Rpl["cwt"] & R01["area"]==Rpl["area"] & R01["psu_no"]<Rpl["psu_no"])
FALSE  TRUE
42242   813
```

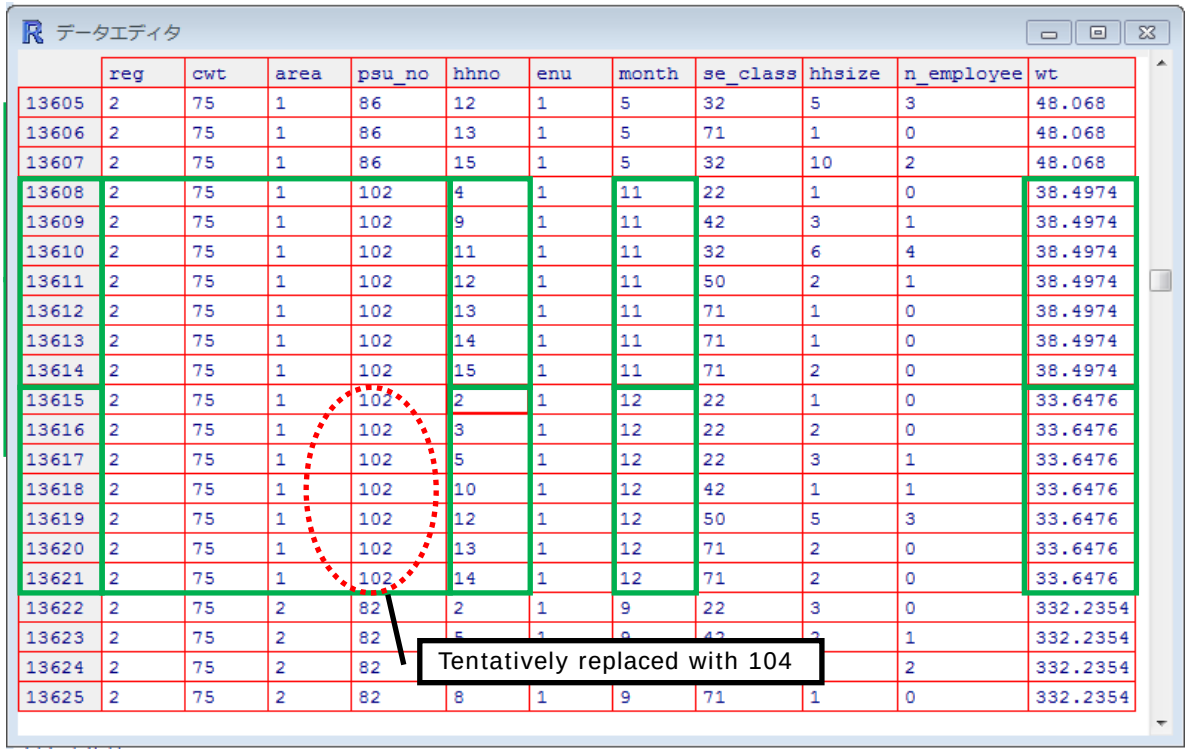
There are 813 cases that the variable of psu_no is not in ascending order within the same cwt and area.

```
> table(R01["area"]==Rpl["area"] & R01["psu_no"]==Rpl["psu_no"] & R01["hhno"]<Rpl["hhno"])
FALSE  TRUE
43054     1
```

There are one case that the variable of hhno is not in ascending order within the same area and psu_no.

```
> which(R01["area"]==Rpl["area"] & R01["psu_no"]==Rpl["psu_no"] & R01["hhno"]<Rpl["hhno"])
[1] 13615
```

The case with row number 13615 is displayed as below.



	reg	cwt	area	psu_no	hhno	enu	month	se_class	hhsize	n_employee	wt
13605	2	75	1	86	12	1	5	32	5	3	48.068
13606	2	75	1	86	13	1	5	71	1	0	48.068
13607	2	75	1	86	15	1	5	32	10	2	48.068
13608	2	75	1	102	4	1	11	22	1	0	38.4974
13609	2	75	1	102	9	1	11	42	3	1	38.4974
13610	2	75	1	102	11	1	11	32	6	4	38.4974
13611	2	75	1	102	12	1	11	50	2	1	38.4974
13612	2	75	1	102	13	1	11	71	1	0	38.4974
13613	2	75	1	102	14	1	11	71	1	0	38.4974
13614	2	75	1	102	15	1	11	71	2	0	38.4974
13615	2	75	1	102	2	1	12	22	1	0	33.6476
13616	2	75	1	102	3	1	12	22	2	0	33.6476
13617	2	75	1	102	5	1	12	22	3	1	33.6476
13618	2	75	1	102	10	1	12	42	1	1	33.6476
13619	2	75	1	102	12	1	12	50	5	3	33.6476
13620	2	75	1	102	13	1	12	71	2	0	33.6476
13621	2	75	1	102	14	1	12	71	2	0	33.6476
13622	2	75	2	82	2	1	9	22	3	0	332.2354
13623	2	75	2	82	5	1	9	42	3	1	332.2354
13624	2	75	2	82	7	1	9	71	2	2	332.2354
13625	2	75	2	82	8	1	9	71	1	0	332.2354

There are 14 sample households within the same reg, cwt, area and psu_no; 2-75-1-102. However, they might be divided into two groups; from 13608 to 13614, and from 13615 to 13621, because the variable of a01: enumeration month of the two groups is 11 and 12, respectively.

```
> table(R01["area"]==Rp["area"] & R01["psu_no"]==Rp["psu_no"] & R01["month"]==Rp["month"] &
+ R01["hhno"]<Rp["hhno"])
FALSE
43055
```

It is confirmed that within the same area and psu_no as well as month, the variable of hhno is in ascending order.

It is noted that while the value of psu_no of the first group from 13608 to 13614 is equal to that of the second group from 13615 to 13621, these two psu locate different places, because the weights of the first group (38.4974) and the second group (33.6476) are different.

Conlusion:

It is better to give different codes for the two groups. Tentatively the code of the second group might be replaced with 104.

□ Break points of identification variables

a. Defined the break points for area, psu _no and hhno, where the value of the variable is not in ascending order.

b. Defined the break points for cwt and a01(month), where the value of the variable is not equal to the previous one.

c. Set the first row of the above variables as the break points.

```
> colnames(R01)
 [1] "reg"        "cwt"        "area"       "psu_no"     "hhno"       "enu"        "month"
 [8] "se_class"   "hhsize"     "n_employee" "wt"

> R01["cwt.b"]<-as.integer(R01["cwt"]!=Rp["cwt"])
> R01["area.b"]<-as.integer(R01["area"]<Rp["area"])
> R01["psuno.b"]<-as.integer(R01["psu_no"]<Rp["psu_no"])
> R01["hhno.b"]<-as.integer(R01["hhno"]<Rp["hhno"])
> R01["month.b"]<-as.integer(R01["month"]!=Rp["month"])
> R01["wt.b"]<-as.integer(R01["wt"]!=Rp["wt"])
> R01[1,c("area.b","psuno.b","hhno.b")]<-c(1,1,1)

> sum(R01["hhno.b"])
[1] 4090
> sum(R01["month.b"])
[1] 4030
```

```
> sum(R01["wt.b"])
[1] 4087
```

The number of break points of hhno (4090) is as the number of psu.

considered

- Cases that the value of hhno is equal to that of the previous record.

None!

```
> table(R01["hhno"]==Rpl["hhno"])
FALSE
43055
```

- Cases against the rule that the month and weight should be constant within the psu.

None for weight!

```
> table(R01["hhno.b"]==0 & R01["wt.b"]==1)
FALSE
43055
```

128 cases for month!!

```
> table(R01["hhno.b"]==0 & R01["month.b"]==1)
FALSE  TRUE
42927   128
```

List of row numbers which is possible to have errors

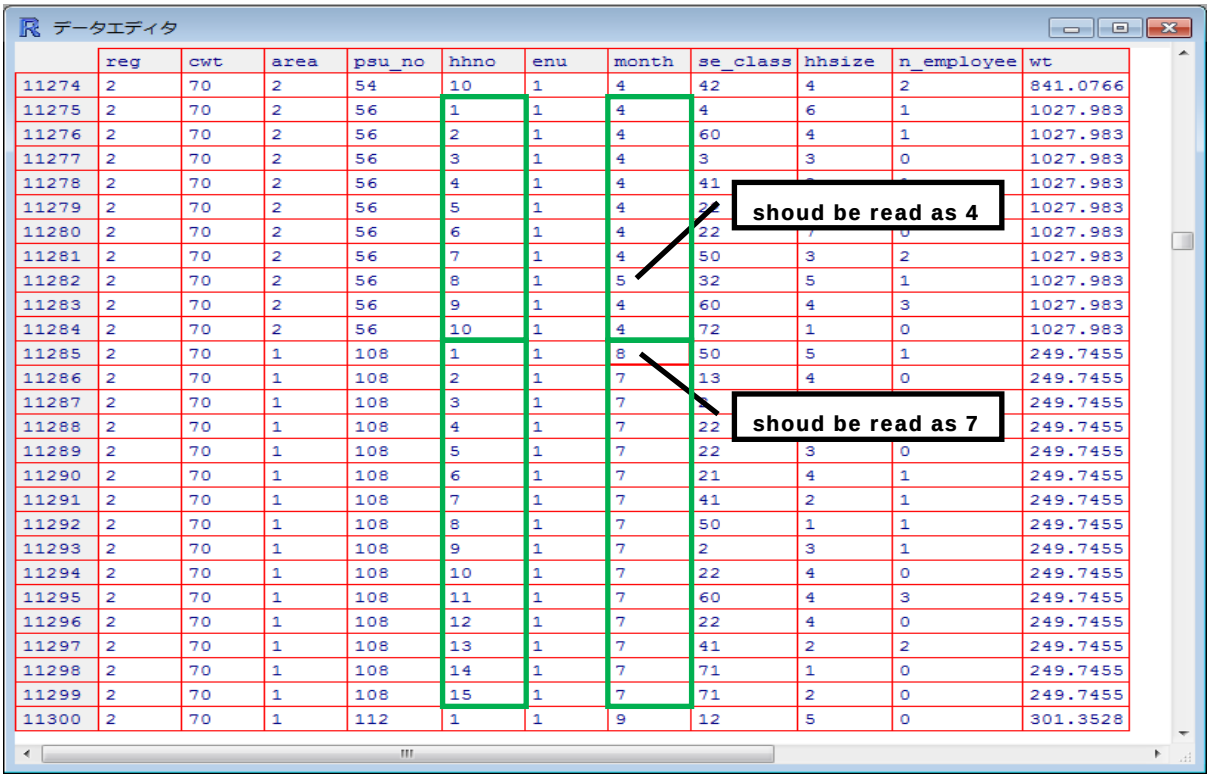
```
> which(R01["hhno.b"]==0 & R01["month.b"]==1)

  [1]   437   438   589   590   732   733  1792  1793  2192  2413  2414
 [12]  2415  2416  3673  3676  3677  3681  3682  3683  3871  4416  4417
 [23]  4906  4907  5584  6275  6276  6664  7711  7712  7900  9605  9606
 [34] 11282 11283 11286 11504 11505 11810 11811 11825 11826 13414 14181
 [45] 15244 15538 16155 16156 16636 16637 16829 16830 16968 17097 17098
 [56] 17229 17230 18062 18063 19048 19049 19522 19523 19881 19882 20196
 [67] 20197 20450 20451 21316 21318 21521 21522 22261 22427 23322 23323
 [78] 23752 27778 27982 27983 28039 28040 28645 28646 29243 29244 29657
 [89] 29658 31142 31170 31171 31229 31231 31232 31355 31356 32068 32625
[100] 32626 34384 34385 35068 35069 35466 35467 36057 36058 37204 37205
[111] 37461 37462 37473 37474 38207 38208 38402 38403 38500 40799 40800
[122] 42531 42532 42927 42928 42930 42980 42981
```

The next table shows the cases of row number 11282, 11283 and 11286.

The value 5 of month in row 11282 should be read as 4.

The value 8 of month in row 11285 should be read as 7.

This indicates that the variable a01 (month) has some inconsitency erros in connection with psu. The variable of a52 (weight) is more reliable in this point.



	reg	cwt	area	psu_no	hhno	enu	month	se_class	hhsize	n_employee	wt
11274	2	70	2	54	10	1	4	42	4	2	841.0766
11275	2	70	2	56	1	1	4	4	6	1	1027.983
11276	2	70	2	56	2	1	4	60	4	1	1027.983
11277	2	70	2	56	3	1	4	3	3	0	1027.983
11278	2	70	2	56	4	1	4	41			1027.983
11279	2	70	2	56	5	1	4	2			1027.983
11280	2	70	2	56	6	1	4	22			1027.983
11281	2	70	2	56	7	1	4	50	3	2	1027.983
11282	2	70	2	56	8	1	5	32	5	1	1027.983
11283	2	70	2	56	9	1	4	60	4	3	1027.983
11284	2	70	2	56	10	1	4	72	1	0	1027.983
11285	2	70	1	108	1	1	8	50	5	1	249.7455
11286	2	70	1	108	2	1	7	13	4	0	249.7455
11287	2	70	1	108	3	1	7				249.7455
11288	2	70	1	108	4	1	7	22			249.7455
11289	2	70	1	108	5	1	7	22	3	0	249.7455
11290	2	70	1	108	6	1	7	21	4	1	249.7455
11291	2	70	1	108	7	1	7	41	2	1	249.7455
11292	2	70	1	108	8	1	7	50	1	1	249.7455
11293	2	70	1	108	9	1	7	2	3	1	249.7455
11294	2	70	1	108	10	1	7	22	4	0	249.7455
11295	2	70	1	108	11	1	7	60	4	3	249.7455
11296	2	70	1	108	12	1	7	22	4	0	249.7455
11297	2	70	1	108	13	1	7	41	2	2	249.7455
11298	2	70	1	108	14	1	7	71	1	0	249.7455
11299	2	70	1	108	15	1	7	71	2	0	249.7455
11300	2	70	1	112	1	1	9	12	5	0	301.3528

☐ Editing of a01 (month)

The strategy for editing month is to replace the values of month within the psu where the break points of month exist with the majority of the values of month within the psu.

```
# R01: original data set
# Rev: revised data set
> Rev<-R01

# hhid: row number/ serial number from 1 to 43055
> R01["hhid"]<-1:nrow(R01)

# err.ln: numbers of hhid with break point of month
> err.ln<-which(R01["hhno.b"]==0 & R01["month.b"]==1)

> for(j in err.ln){
```

```
# same.psu.ln: the range of hhid within the same psu
+ hhid.lo<-j-R01[j,"hhno"]
+ hhid.up<-j+16-R01[j,"hhno"]
+ same.psu.ln<-which(R01["psu_no"]==R01[j,"psu_no"] &
+ R01["hhid"]>hhid.lo & R01["hhid"]<hhid.up )

# the majority of the values of month within the psu
+ psu.majority<-median(R01[same.psu.ln,"month"])

# replace the values of month within the range "same.psu.ln" with "psu.majority"
+ Rev[same.psu.ln,"month"]<-psu.majority
+ }


# Save the revised month as the vector A01.rev
> A01.rev<-Rev$month
> length(A01.rev)
[1] 43055
> table(A01.rev==REC01$a01)
FALSE  TRUE
   76 42979
> save(A01.rev,file="A01rev.RData")
```

List of revised month

```
# the lines where month was revised
> month.rev.ln<-which(Rev["month"]!=R01["month"])

# the number of revision of month
> length(month.rev.ln)
[1] 76

# subset of R01 and Rpl with revised cases
> Revision.month<-cbind(R01[month.rev.ln,1:11],Rev[month.rev.ln,"month"])
> colnames(Revision.month)[12]<-"revised month"

> Revision.month[c(1:7,12)]
      reg cwt area psu_no hhno enu month revised month
437     1  10    1    707   11   1     2             5
589     1  10    1    657    9   1     1             2
732     1  10    1    788   10   1     8             9
1792    1  10    1    695    3   2     3             4
2191    1  10    1    674    1   1     1             3
2413    1  10    1    728    5   1     1             6
2415    1  10    1    728    8   1     2             6
3672    2  12    1    130    1   1     3             4
3676    2  12    1    130    5   2     3             4
3681    2  12    1    130   13   1     3             4
3683    2  12    1    130   15   1     3             4
3870    2  13    1     88    2   1     1             6
4416    2  14    1     83    3   1     4             6
4906    2  15    1    118    4   1     3            12
5584    2  16    1    103   15   1     1             4
```

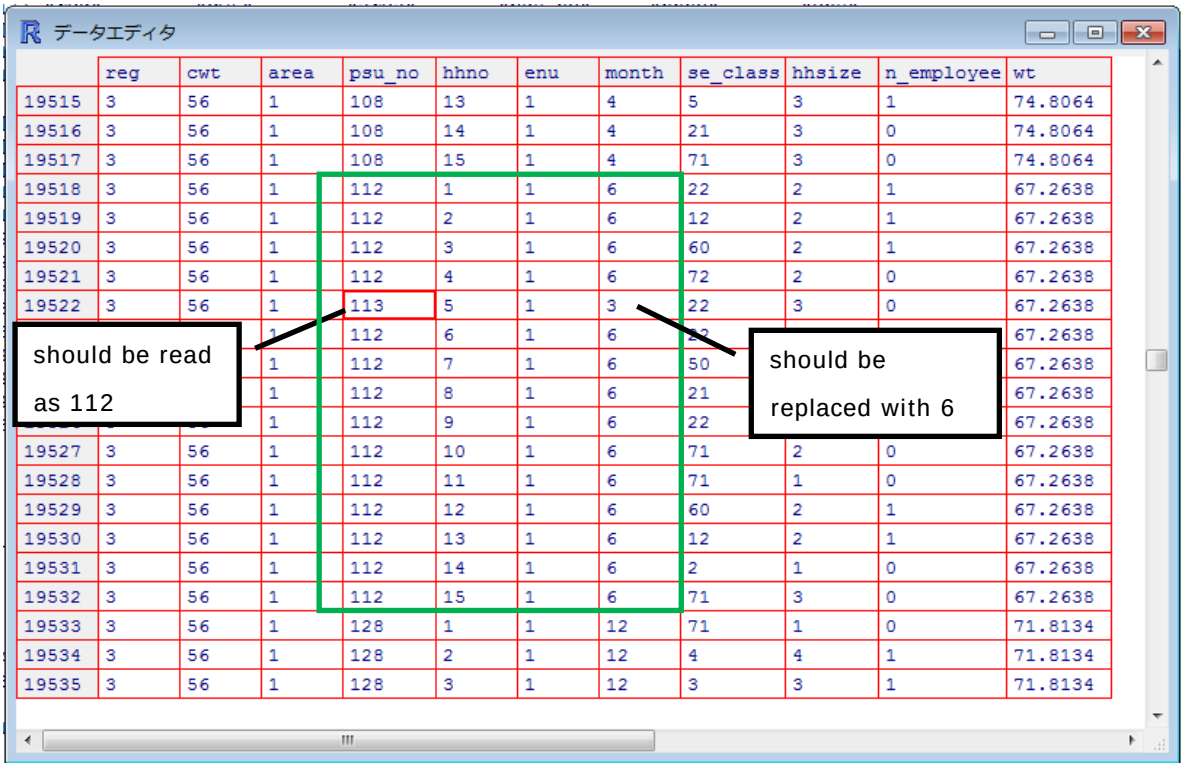
6275	2	18	1	76	10	1	1	2
6664	2	18	2	60	10	1	1	6
7711	2	21	1	105	5	2	1	6
7899	2	21	1	102	1	2	1	5
9605	2	24	2	83	8	1	3	5
11282	2	70	2	56	8	1	5	4
11285	2	70	1	108	1	1	8	7
11504	2	71	1	106	5	1	1	6
11810	2	71	1	100	4	1	1	2
11825	2	71	2	108	9	1	10	12
13413	2	74	1	100	2	1	3	2
14181	2	76	1	100	15	1	1	2
15244	3	50	2	101	10	1	8	9
15538	3	51	1	80	15	1	1	4
16155	3	52	1	76	5	1	1	2
16636	3	52	1	78	3	1	1	2
16829	3	52	2	102	7	1	3	12
16967	3	53	1	98	1	1	4	2
17097	3	53	2	76	9	1	1	2
17229	3	53	2	74	9	1	1	2
18062	3	54	1	108	14	1	8	12
19048	3	56	1	113	12	1	4	5
19881	3	57	1	138	7	1	2	12
20196	3	57	1	116	4	1	2	6
20450	3	58	1	76	7	1	1	2
21316	3	60	2	79	4	1	6	5
21317	3	60	2	79	5	1	6	5
21521	3	60	1	78	14	1	1	4
22261	3	62	1	82	15	1	3	6
22427	3	62	2	53	10	1	4	3
23322	3	63	2	60	7	1	5	6
23751	3	64	2	50	1	1	1	2
27778	4	33	1	74	14	1	6	3
27982	4	33	2	68	9	1	11	12
28039	4	33	1	102	12	1	3	12
28645	4	34	2	104	2	1	2	3
29243	4	35	1	84	12	1	5	6
29657	4	36	2	98	7	1	5	12
31142	4	40	2	82	9	1	6	5
31143	4	40	2	82	10	1	6	5
31170	4	40	1	83	5	1	2	5
31228	4	40	1	86	1	1	5	6
31231	4	40	1	86	4	1	5	6
31355	4	40	1	81	6	1	6	5
32067	4	41	2	50	1	1	1	2
32625	4	43	1	94	10	1	2	9
34384	4	45	1	108	7	2	1	4
35068	4	46	1	107	8	1	2	5
35466	4	47	1	79	3	1	1	4
36057	4	47	2	87	8	1	4	5
37204	5	80	2	83	7	1	3	5
37461	5	81	1	79	10	2	2	3
37473	5	81	1	82	10	1	3	5
38207	5	82	2	53	7	1	2	3
38402	5	83	1	80	7	1	6	4
38500	5	83	2	58	10	1	1	6

```
40799    5  92     1      98     5    1      1              2
42531    5  95     2      77     7    1      2              3
42927    5  96     1      74    12    1      1              2
42930    5  96     1      74    15    1      1              2
42980    5  96     1      81     5    1      1              6
```

After the revision of month, confirmed the inconsistency of hhno and month again.

```
> month.p12<-c(0,Rev$month)[1:nrow(Rev)]
> Rev["month.b2"]<-as.integer(Rev["month"]!=month.p12)

> table(Rev["hhno.b"]==0 & Rev["month.b2"]==1)
FALSE  TRUE
43053     2

> which(Rev["hhno.b"]==0 & Rev["month.b2"]==1)
[1] 19522 19523
```

All cases except the below two cases were solved.



データエディタ

	reg	cwt	area	psu_no	hhno	enu	month	se_class	hhsize	n_employee	wt
19515	3	56	1	108	13	1	4	5	3	1	74.8064
19516	3	56	1	108	14	1	4	21	3	0	74.8064
19517	3	56	1	108	15	1	4	71	3	0	74.8064
19518	3	56	1	112	1	1	6	22	2	1	67.2638
19519	3	56	1	112	2	1	6	12	2	1	67.2638
19520	3	56	1	112	3	1	6	60	2	1	67.2638
19521	3	56	1	112	4	1	6	72	2	0	67.2638
19522	3	56	1	113	5	1	3	22	3	0	67.2638
			1	112	6	1	6				67.2638
			1	112	7	1	6	50			67.2638
			1	112	8	1	6	21			67.2638
			1	112	9	1	6	22			67.2638
19527	3	56	1	112	10	1	6	71	2	0	67.2638
19528	3	56	1	112	11	1	6	71	1	0	67.2638
19529	3	56	1	112	12	1	6	60	2	1	67.2638
19530	3	56	1	112	13	1	6	12	2	1	67.2638
19531	3	56	1	112	14	1	6	2	1	0	67.2638
19532	3	56	1	112	15	1	6	71	3	0	67.2638
19533	3	56	1	128	1	1	12	71	1	0	71.8134
19534	3	56	1	128	2	1	12	4	4	1	71.8134
19535	3	56	1	128	3	1	12	3	3	1	71.8134

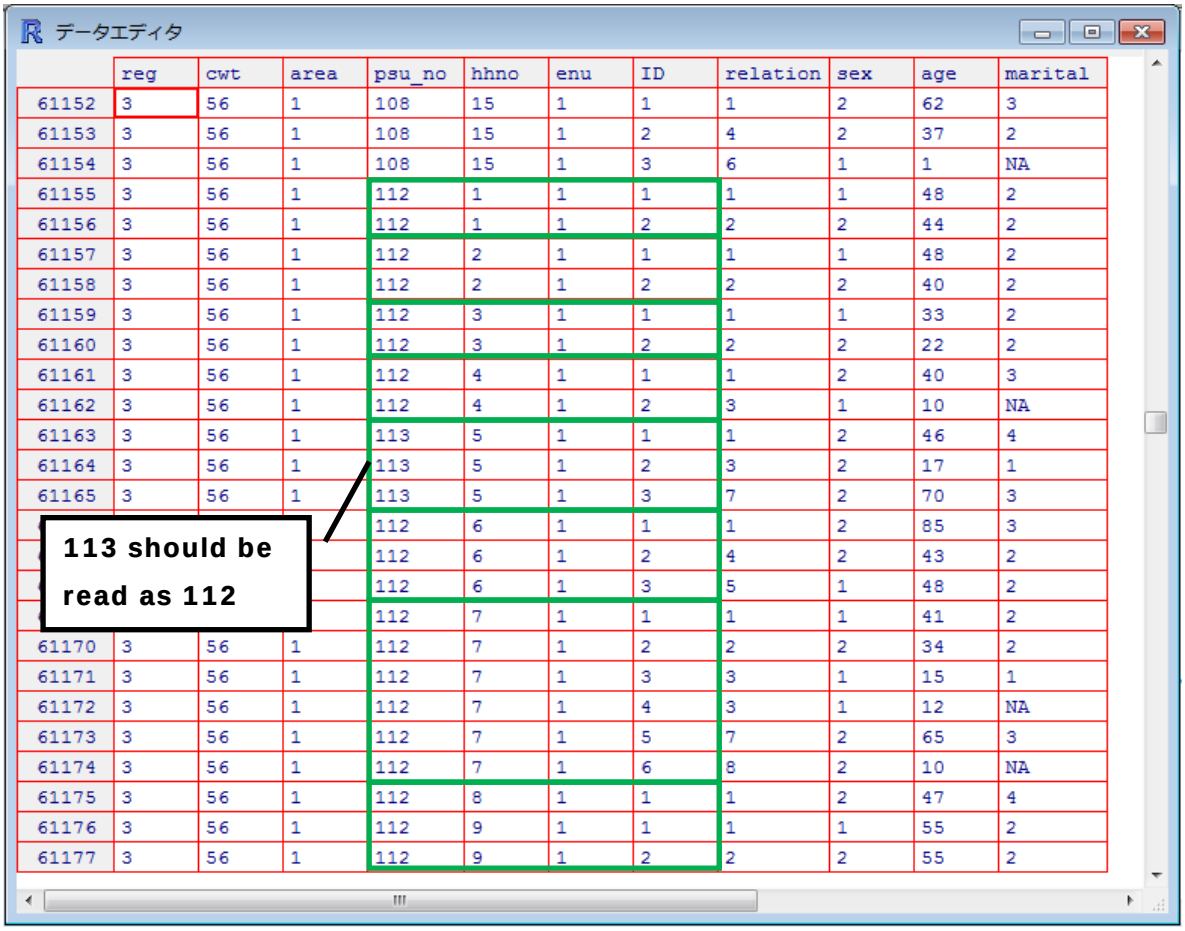
The reason why month 3 in line 19522 was not replaced is that the value of psu_no in the line is inconsistent.

It is noted that psu_no 113 in line 19522 should be read as 112, and month 3 as 6.

```
> A01.rev[19522]
[1] 3
> A01.rev[19522]<-6
> save(A01.rev,file="A01rev.RData")
```

This fact might be beyond the scope of the assumption that the data is in ascending order of the original identification variables. The supposable cause might be that the value of month was changed by some chance after the data was sorted.

Curiously or inevitably, the same situation is found in the below individual data file (REC02).



	reg	cwt	area	psu_no	hhno	enu	ID	relation	sex	age	marital
61152	3	56	1	108	15	1	1	1	2	62	3
61153	3	56	1	108	15	1	2	4	2	37	2
61154	3	56	1	108	15	1	3	6	1	1	NA
61155	3	56	1	112	1	1	1	1	1	48	2
61156	3	56	1	112	1	1	2	2	2	44	2
61157	3	56	1	112	2	1	1	1	1	48	2
61158	3	56	1	112	2	1	2	2	2	40	2
61159	3	56	1	112	3	1	1	1	1	33	2
61160	3	56	1	112	3	1	2	2	2	22	2
61161	3	56	1	112	4	1	1	1	2	40	3
61162	3	56	1	112	4	1	2	3	1	10	NA
61163	3	56	1	113	5	1	1	1	2	46	4
61164	3	56	1	113	5	1	2	3	2	17	1
61165	3	56	1	113	5	1	3	7	2	70	3
				112	6	1	1	1	2	85	3
				112	6	1	2	4	2	43	2
				112	6	1	3	5	1	48	2
				112	7	1	1	1	1	41	2
61170	3	56	1	112	7	1	2	2	2	34	2
61171	3	56	1	112	7	1	3	3	1	15	1
61172	3	56	1	112	7	1	4	3	1	12	NA
61173	3	56	1	112	7	1	5	7	2	65	3
61174	3	56	1	112	7	1	6	8	2	10	NA
61175	3	56	1	112	8	1	1	1	2	47	4
61176	3	56	1	112	9	1	1	1	1	55	2
61177	3	56	1	112	9	1	2	2	2	55	2

✧ What is the cause that psu_no is out of order within the same psu? When did it happen?

☐ **Verifying psu_no**

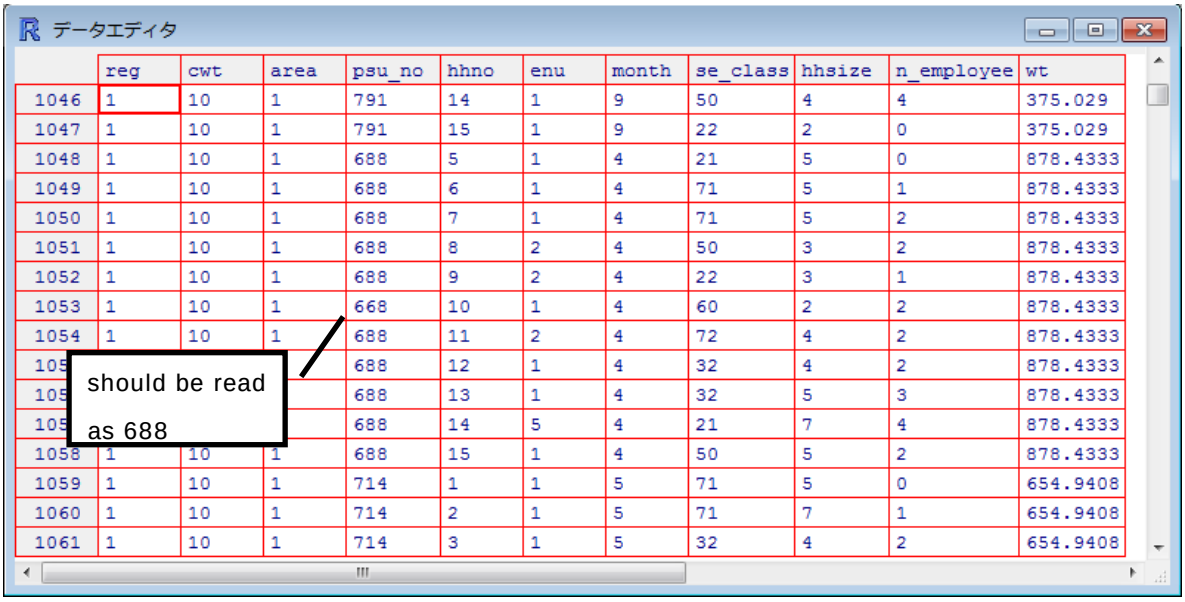
The above fact suggests an existence of other inconsistency between hhno and psu_no.

```
> table(R01["hhno.b"]==0 & R01["psuno.b"]==1)
FALSE  TRUE
43015    40
```

List of row numbers which is possible to have errors

```
> which(R01["hhno.b"]==0 & R01["psuno.b"]==1)
 [1]  1053  1287  3699  5576  7994 10196 12767 13095 15012 15106 17452 18169 18251 19523
[15] 19941 21480 21893 23479 23883 25745 25933 28353 29288 29290 31378 31769 31803 32098
[29] 32241 33422 33548 33965 34211 34220 34401 34403 37463 37528 38084 42817
```

Example of line 1053



	reg	cwt	area	psu_no	hhno	enu	month	se_class	hhsize	n_employee	wt
1046	1	10	1	791	14	1	9	50	4	4	375.029
1047	1	10	1	791	15	1	9	22	2	0	375.029
1048	1	10	1	688	5	1	4	21	5	0	878.4333
1049	1	10	1	688	6	1	4	71	5	1	878.4333
1050	1	10	1	688	7	1	4	71	5	2	878.4333
1051	1	10	1	688	8	2	4	50	3	2	878.4333
1052	1	10	1	688	9	2	4	22	3	1	878.4333
1053	1	10	1	668	10	1	4	60	2	2	878.4333
1054	1	10	1	688	11	2	4	72	4	2	878.4333
105				688	12	1	4	32	4	2	878.4333
105				688	13	1	4	32	5	3	878.4333
105				688	14	5	4	21	7	4	878.4333
1058	1	10	1	688	15	1	4	50	5	2	878.4333
1059	1	10	1	714	1	1	5	71	5	0	654.9408
1060	1	10	1	714	2	1	5	71	7	1	654.9408
1061	1	10	1	714	3	1	5	32	4	2	654.9408

Before editing psu_no, an unique and reliable psu identifier is essential.

☐ Generating PSU identifier

Created the variable PSU to be an unique psu identifier by making use of the break points of hhno (hhno.b).

```
# Cumulative sums of hhno.b
> R01["psu"]<-cumsum(R01["hhno.b"])
> max(R01["psu"])
```

```
[1] 4090
```

It seems that there are 4,090 psu in total, that is, sample blocks/ villages.

☐ Editing of psu_no

The same strategy as editing of month was applied for psu_no.

```
> err.ln<-which(R01["hhno.b"]==0 & R01["psuno.b"]==1)
> for(j in err.ln){
+ same.psu.ln<-which(R01["psu"]==R01[j,"psu"] )
+ psuno.majority<-median(R01[same.psu.ln,"psu_no"])
+ Rev[same.psu.ln,"psu_no"]<-psuno.majority
+ }

# the lines where psu_no was revised
> psuno.rev.ln<-which(Rev["psu_no"]!=R01["psu_no"])
> length(psuno.rev.ln)
[1] 44

> Revision.psuno<-cbind(R01[psuno.rev.ln,1:11],Rev[psuno.rev.ln,"psu_no"])
> colnames(Revision.psuno)[12]<-"revised psuno"
> Revision.psuno[c(1:7,12)]
```

List of revised psu_no

	reg	cwt	area	psu_no	hhno	enu	month	revised psuno
1053	1	10	1	668	10	1	4	688
1286	1	10	1	718	13	2	5	716
3699	2	12	1	135	3	2	10	155
5575	2	16	1	104	4	1	4	103
7994	2	21	1	105	7	1	8	108
10195	2	26	2	83	6	1	8	82
12766	2	73	1	102	7	1	10	95
13095	2	74	2	95	7	1	12	97
15011	3	50	2	108	2	2	12	106
15106	3	50	2	80	9	1	6	88
17451	3	53	2	106	6	1	10	102
18168	3	54	2	80	4	1	6	60
18251	3	55	1	68	12	1	10	94
19522	3	56	1	113	5	1	3	112
19941	3	57	2	51	7	1	5	57
21480	3	60	1	82	4	1	7	87
21893	3	61	1	102	3	1	3	103
23478	3	64	2	58	5	1	3	53
23882	3	65	1	83	11	1	4	82
25745	4	30	1	96	10	1	2	98
25932	4	30	2	83	4	1	4	80
28352	4	34	1	93	4	1	9	92
29288	4	36	1	80	5	1	6	88
29290	4	36	1	80	7	1	6	88

```
31378   4  40    2     85    3   1     7           86
31379   4  40    2     85    4   1     7           86
31768   4  41    1     94    4   1     8           92
31802   4  41    1     83   11   1     4           80
32096   4  42    1     75   13   1     1           73
32097   4  42    1     75   14   1     1           73
32241   4  42    1     68    7   1     8           86
33422   4  44    1     86    9   1     7           89
33548   4  44    2      1    4   1     1           51
33965   4  45    2     17    3   1    11           71
34211   4  45    1    125    2   1     9          127
34220   4  45    1    125   12   1     9          127
34398   4  45    1    122    8   1     4          112
34399   4  45    1    122    9   1     4          112
34400   4  45    1    122   10   1     4          112
34402   4  45    1    122   12   1     4          112
37463   5  81    1     77   15   1     3           79
37528   5  81    2     92    4   1    12           94
38083   5  82    2     58    8   1     7           56
42816   5  96    1     88   14   1     7           80
```

```
# Save the revised psu_no as the vector PSU_NO.rev
> PSU_NO.rev<-Rev$psu_no
> length(PSU_NO.rev)
[1] 43055
> table(PSU_NO.rev==REC01$psu_no)
FALSE  TRUE
   44 43011

# Tentatively, 102 in row number 13615 to 13621 replaced with 104
> PSU_NO.rev[13608:13621]
 [1] 102 102 102 102 102 102 102 102 102 102 102 102 102 102
> PSU_NO.rev[13615:13621]<-104
> PSU_NO.rev[13608:13621]
 [1] 102 102 102 102 102 102 102 104 104 104 104 104 104 104

> save(PSU_NO.rev,file="PSU_NOrev.RData")
```

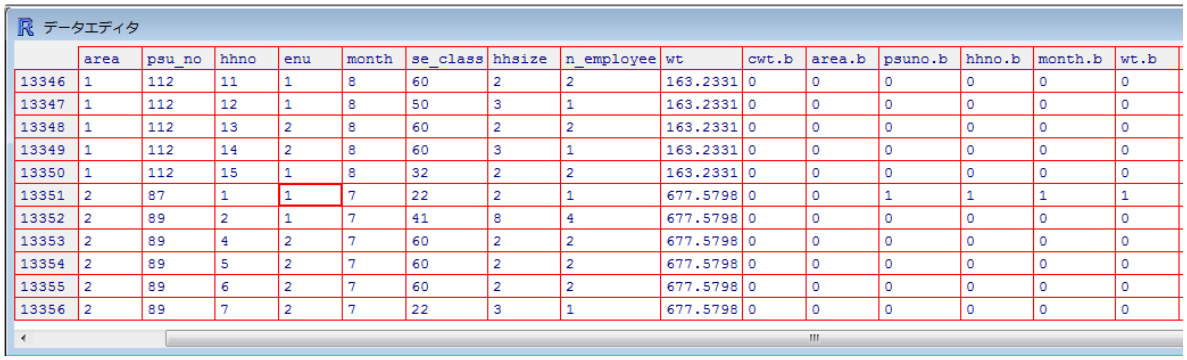
After the revision of psu_no, confirmed the inconsistency of hhno and month again.

```
> psuno.pl2<-c(0,Rev$psu_no)[1:nrow(Rev)]
> Rev["psuno.b2"]<-as.integer(Rev["psu_no"]!=psuno.pl2)
> table(Rev["hhno.b"]==0 & Rev["psuno.b2"]==1)
psu_no
FALSE  TRUE
43052     3
> which(Rev["hhno.b"]==0 & Rev["psuno.b2"]==1)
```

[1] 13352 17160 35972

Case of row number 13352:

“psu_no” 87 in line 13351 should be read as 89.

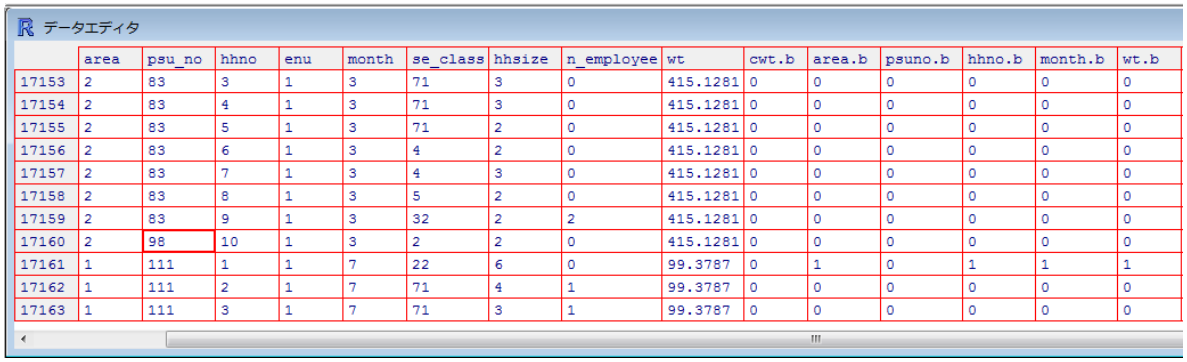


データエディタ

	area	psu_no	hhno	enu	month	se_class	hhsize	n_employee	wt	cwt.b	area.b	psuno.b	hhno.b	month.b	wt.b
13346	1	112	11	1	8	60	2	2	163.2331	0	0	0	0	0	0
13347	1	112	12	1	8	50	3	1	163.2331	0	0	0	0	0	0
13348	1	112	13	2	8	60	2	2	163.2331	0	0	0	0	0	0
13349	1	112	14	2	8	60	3	1	163.2331	0	0	0	0	0	0
13350	1	112	15	1	8	32	2	2	163.2331	0	0	0	0	0	0
13351	2	87	1	1	7	22	2	1	677.5798	0	0	1	1	1	1
13352	2	89	2	1	7	41	8	4	677.5798	0	0	0	0	0	0
13353	2	89	4	2	7	60	2	2	677.5798	0	0	0	0	0	0
13354	2	89	5	2	7	60	2	2	677.5798	0	0	0	0	0	0
13355	2	89	6	2	7	60	2	2	677.5798	0	0	0	0	0	0
13356	2	89	7	2	7	22	3	1	677.5798	0	0	0	0	0	0

Case of row number 17160:

“psu_no” 98 in line 17160 should be read as 83.

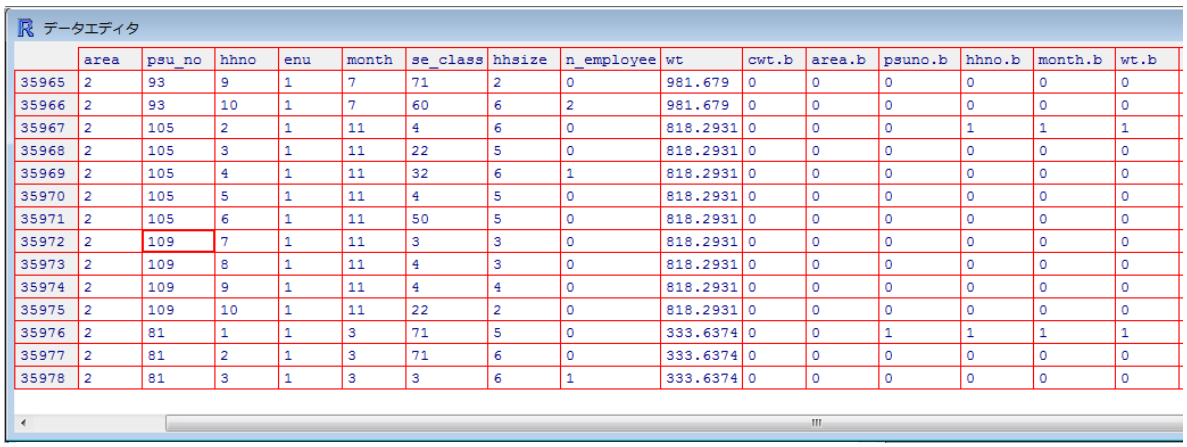


データエディタ

	area	psu_no	hhno	enu	month	se_class	hhsize	n_employee	wt	cwt.b	area.b	psuno.b	hhno.b	month.b	wt.b
17153	2	83	3	1	3	71	3	0	415.1281	0	0	0	0	0	0
17154	2	83	4	1	3	71	3	0	415.1281	0	0	0	0	0	0
17155	2	83	5	1	3	71	2	0	415.1281	0	0	0	0	0	0
17156	2	83	6	1	3	4	2	0	415.1281	0	0	0	0	0	0
17157	2	83	7	1	3	4	3	0	415.1281	0	0	0	0	0	0
17158	2	83	8	1	3	5	2	0	415.1281	0	0	0	0	0	0
17159	2	83	9	1	3	32	2	2	415.1281	0	0	0	0	0	0
17160	2	98	10	1	3	2	2	0	415.1281	0	0	0	0	0	0
17161	1	111	1	1	7	22	6	0	99.3787	0	1	0	1	1	1
17162	1	111	2	1	7	71	4	1	99.3787	0	0	0	0	0	0
17163	1	111	3	1	7	71	3	1	99.3787	0	0	0	0	0	0

Case of row number 35972:

“psu_no” 109 in line 35972 to 35975 should be read as 105.



データエディタ

	area	psu_no	hhno	enu	month	se_class	hhsize	n_employee	wt	cwt.b	area.b	psuno.b	hhno.b	month.b	wt.b
35965	2	93	9	1	7	71	2	0	981.679	0	0	0	0	0	0
35966	2	93	10	1	7	60	6	2	981.679	0	0	0	0	0	0
35967	2	105	2	1	11	4	6	0	818.2931	0	0	0	1	1	1
35968	2	105	3	1	11	22	5	0	818.2931	0	0	0	0	0	0
35969	2	105	4	1	11	32	6	1	818.2931	0	0	0	0	0	0
35970	2	105	5	1	11	4	5	0	818.2931	0	0	0	0	0	0
35971	2	105	6	1	11	50	5	0	818.2931	0	0	0	0	0	0
35972	2	109	7	1	11	3	3	0	818.2931	0	0	0	0	0	0
35973	2	109	8	1	11	4	3	0	818.2931	0	0	0	0	0	0
35974	2	109	9	1	11	4	4	0	818.2931	0	0	0	0	0	0
35975	2	109	10	1	11	22	2	0	818.2931	0	0	0	0	0	0
35976	2	81	1	1	3	71	5	0	333.6374	0	0	1	1	1	1
35977	2	81	2	1	3	71	6	0	333.6374	0	0	0	0	0	0
35978	2	81	3	1	3	3	6	1	333.6374	0	0	0	0	0	0

Note: The reason why the above three cases were not found in the first editing is that the conditions for psuno.b and psuno.b2 are different.

- psuno.b <
- psuno.b2 !=

```
> PSU_NO.rev[13351]
[1] 87
> PSU_NO.rev[13351]<-89
> PSU_NO.rev[17160]
[1] 98
> PSU_NO.rev[17160]<-83
> PSU_NO.rev[35972]
[1] 109
> PSU_NO.rev[35972]<-105
> save(PSU_NO.rev,file="PSU_NOrev.RData")
```

☐ Making data frame PSU; list of psu

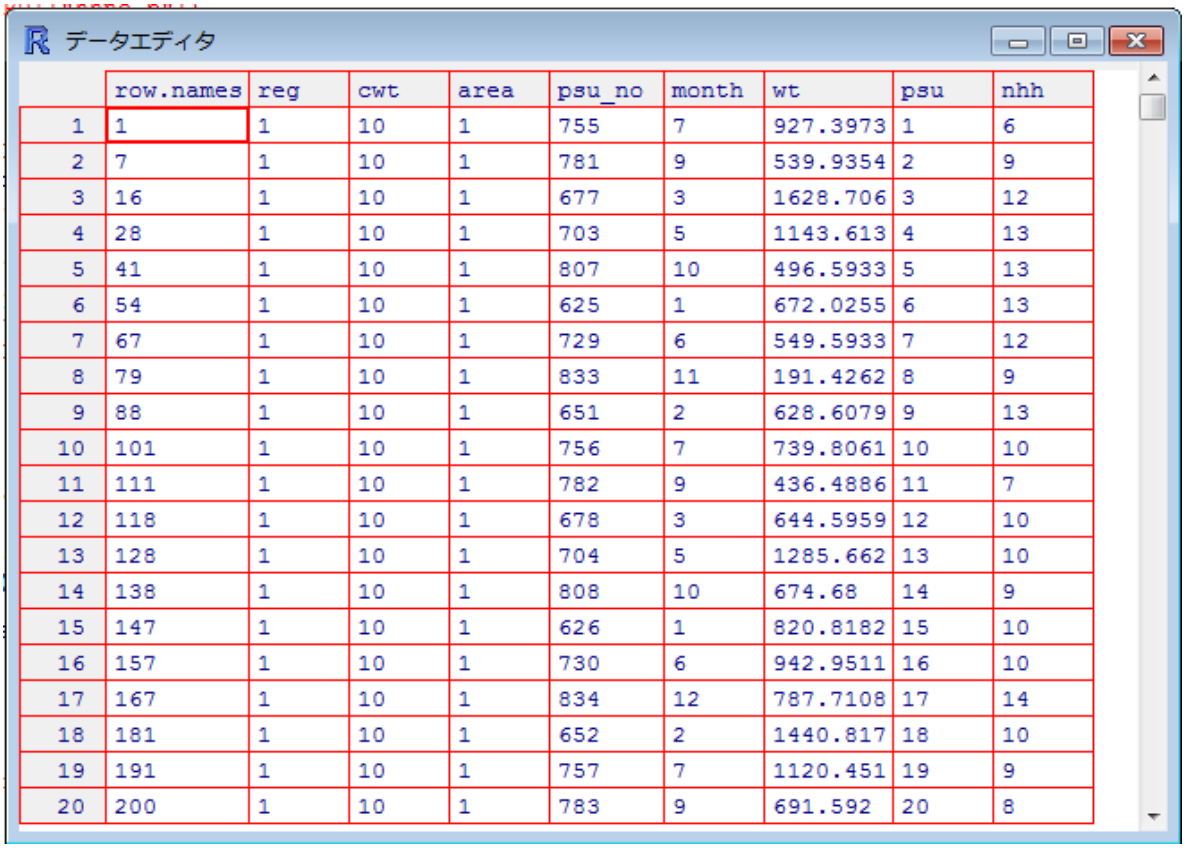
Generated the dataframe PSU as the list of psu from the revised R01 by using the vector “hhno.b”.

```
# Stored R01 as R01.original
> R01.original<-R01
> R01<-R01[1:11]
> colnames(R01)
 [1] "reg"        "cwt"        "area"       "psu_no"     "hhno"       "enu"        "month"
 [8] "se_class"   "hhsize"     "n_employee" "wt"

# Revised R01
> R01["month"]<-Rev["month"]
> R01[19522,"month"]<-6
> R01["psu_no"]<-Rev["psu_no"]
> R01[13351,"psu_no"]<-89
> R01[17160,"psu_no"]<-83
> R01[35972:35975,"psu_no"]<-105
> R01[13615:13621,"psu_no"]<-104

# Defined break points of cwt, area, pau_no and hhno again.
> R01["cwt.b"]<-Rev["cwt.b"]
> R01["area.b"]<-Rev["area.b"]
> psuno.pl<-c(0,R01[1:(nrow(R01)-1),"psu_no"])
> R01["psuno.b"]<-as.integer(R01["psu_no"]<psuno.pl)
> R01["hhno.b"]<-Rev["hhno.b"]
# Generated the variable psu in R01
> R01["psu"]<-cumsum(R01["hhno.b"])

> colnames(R01)
 [1] "reg"        "cwt"        "area"       "psu_no"     "hhno"       "enu"        "month"
```

```
 [8] "se_class"   "hhsize"     "n_employee" "wt"          "cwt.b"      "area.b"     "psuno.b"
[15] "hhno.b"     "psu"

# Created dataframe PSU
> PSU<-R01[R01["hhno.b"]==1,c(1:4,7,11,16)]
> colnames(PSU)
[1] "reg"    "cwt"    "area"   "psu_no" "month"  "wt"     "psu"
> dim(PSU)
[1] 4090    7
```

Created the variable nhh as the number of interviewed households within the psu.

```
> PSU["nhh"]<-as.vector(tapply(R01$psu,R01$psu,FUN=length))
> fix(PSU)
```



データエディタ

	row.names	reg	cwt	area	psu_no	month	wt	psu	nhh
1	1	1	10	1	755	7	927.3973	1	6
2	7	1	10	1	781	9	539.9354	2	9
3	16	1	10	1	677	3	1628.706	3	12
4	28	1	10	1	703	5	1143.613	4	13
5	41	1	10	1	807	10	496.5933	5	13
6	54	1	10	1	625	1	672.0255	6	13
7	67	1	10	1	729	6	549.5933	7	12
8	79	1	10	1	833	11	191.4262	8	9
9	88	1	10	1	651	2	628.6079	9	13
10	101	1	10	1	756	7	739.8061	10	10
11	111	1	10	1	782	9	436.4886	11	7
12	118	1	10	1	678	3	644.5959	12	10
13	128	1	10	1	704	5	1285.662	13	10
14	138	1	10	1	808	10	674.68	14	9
15	147	1	10	1	626	1	820.8182	15	10
16	157	1	10	1	730	6	942.9511	16	10
17	167	1	10	1	834	12	787.7108	17	14
18	181	1	10	1	652	2	1440.817	18	10
19	191	1	10	1	757	7	1120.451	19	9
20	200	1	10	1	783	9	691.592	20	8

Table: The number of psu by area and the number of interviewed households in the psu

```
> table(PSU$area,PSU$nhh)

↓area →nhh
      1   2   3   4   5   6   7   8   9  10  11  12  13  14  15
```

```
  1   0   0   1   3  14  25  37  59 115 243 327 409 407 343 231
  2   2   1   2   5  16  70 170 345 569 696   0   0   0   0   0
```

➢ Situation of psu with a few interviewed households?

Table: The number of psu by enumeration month, province and area

```
> table(PSU$cwt,PSU$month,PSU$area)

, ,  = 1 (Municipal area)
↓province  →month
     1  2  3  4  5  6  7  8  9 10 11 12
 10 19 19 19 19 19 19 19 19 19 19 19 19
 11  2  2  2  2  2  2  2  2  2  2  2  2
 12  4  4  3  3  4  4  3  4  4  4  3  4
 13  3  3  3  3  3  3  3  3  3  3  3  3
 14  1  2  2  2  2  1  2  1  2  2  2  1
 15  2  2  2  2  1  2  2  2  2  1  2  2
 16  2  1  2  2  2  2  2  2  1  2  2  2
 17  2  2  2  1  2  2  2  2  2  2  1  2
 18  1  2  2  2  2  1  2  2  1  2  1  2
 19  3  2  2  2  2  3  2  2  3  2  3  2
 20  2  2  2  2  2  2  2  2  2  2  2  2
 21  1  2  1  1  2  2  1  2  1  2  1  2
 22  2  3  2  2  2  2  2  2  3  2  2  2
 23  3  2  2  2  2  3  2  3  2  2  3  2
 24  2  1  2  2  1  1  2  1  2  1  2  1
 25  1  1  2  2  1  1  1  1  2  1  2  1
 26  1  2  1  1  2  2  1  2  1  2  1  2
 27  2  2  1  2  2  2  1  2  2  2  2  2
 30  2  2  2  2  2  3  2  2  2  3  2  2
 31  4  3  3  3  4  3  3  3  4  3  4  3
 32  3  3  3  3  3  3  3  3  3  3  3  3
 33  2  3  2  3  2  3  2  3  2  3  3  2
 34  2  2  2  3  2  2  2  2  2  2  2  3
 35  2  2  2  2  3  2  2  2  2  2  3  2
 36  3  2  3  2  3  3  3  2  3  3  3  2
 37  2  2  2  2  2  2  2  2  2  2  2  2
 39  2  3  3  3  2  2  3  3  2  2  2  3
 40  2  3  2  2  2  2  2  2  3  2  2  2
 41  3  3  3  3  3  3  3  3  3  3  3  3
 42  2  2  2  2  2  2  2  2  2  2  2  2
 43  3  3  2  2  2  3  3  3  2  2  2  3
 44  3  2  3  3  3  2  3  3  2  2  3  3
 45  3  4  3  4  3  3  3  3  4  3  3  4
 46  3  2  3  2  3  3  2  3  3  3  2  3
 47  3  2  3  3  2  2  3  2  3  3  2  2
 48  2  2  2  2  2  2  2  2  2  2  2  2
 49  2  2  2  1  2  2  2  2  2  2  2  1
 50  3  3  3  3  3  3  3  3  3  3  3  3
 51  2  2  2  2  2  2  2  2  2  2  2  2
```

52	3	3	3	3	3	3	3	3	3	3	3	3
53	2	2	2	2	2	2	2	2	2	2	2	2
54	3	3	3	3	3	3	3	3	3	3	3	3
55	2	2	2	3	2	2	2	2	2	2	3	2
56	3	3	3	3	3	3	3	3	3	3	3	3
57	4	4	4	4	4	4	4	4	4	4	4	4
58	3	2	3	2	3	2	3	3	2	2	3	2
60	2	2	2	2	2	2	2	2	2	2	2	2
61	2	3	2	2	2	2	3	2	2	2	2	2
62	1	2	1	2	1	2	1	2	1	2	1	2
63	3	3	3	3	2	3	3	3	3	3	2	3
64	2	1	1	1	2	2	1	1	2	2	2	1
65	3	3	3	3	3	3	3	3	3	3	3	3
66	2	2	2	2	2	2	2	2	2	2	2	2
67	2	2	2	2	2	2	2	2	2	2	2	2
70	2	2	2	2	2	1	2	2	2	1	2	2
71	2	2	2	2	2	2	2	2	2	2	2	2
72	2	1	2	2	1	2	2	1	2	2	2	1
73	2	3	3	3	3	2	3	3	2	3	2	3
74	2	2	2	2	2	2	2	2	2	2	2	2
75	3	2	2	2	3	3	3	2	2	3	2	3
76	3	2	3	3	2	2	3	2	3	2	3	2
77	1	2	2	2	2	2	2	2	1	2	2	2
80	1	2	2	2	1	2	1	2	2	2	2	1
81	2	2	2	1	2	2	2	2	2	2	1	2
82	2	1	1	2	2	1	1	2	1	2	2	1
83	2	2	2	2	1	2	2	2	2	2	2	1
84	3	4	4	4	4	4	4	4	3	4	4	4
85	1	2	2	1	2	1	1	2	2	1	1	2
86	2	1	1	2	2	1	2	1	1	2	1	2
90	2	2	1	2	1	2	1	2	2	1	2	2
91	1	1	2	2	2	1	2	1	1	2	1	2
92	2	2	2	1	2	2	2	2	2	1	2	2
93	3	2	3	2	3	3	3	2	3	3	3	2
94	1	2	2	2	2	1	1	2	2	1	2	2
95	1	2	1	2	1	1	1	1	2	1	1	2
96	2	1	1	1	1	2	2	1	1	1	2	1

, , = 2 (Non-municipal area)

↓province →month

	1	2	3	4	5	6	7	8	9	10	11	12
10	0	0	0	0	0	0	0	0	0	0	0	0
11	3	2	3	2	3	3	3	2	3	2	3	3
12	3	3	3	3	3	3	3	3	3	3	3	3
13	2	2	2	2	2	2	2	2	2	2	2	2
14	2	1	2	1	1	2	2	2	1	1	1	2
15	2	2	2	2	3	2	2	2	2	3	2	2
16	2	3	3	3	2	3	2	3	3	3	3	2
17	2	1	1	2	2	1	1	1	2	1	2	2
18	2	2	2	2	2	2	2	2	2	2	2	2
19	1	2	2	2	2	1	2	2	1	2	1	2
20	3	3	3	3	3	3	3	3	3	3	3	3
21	3	3	3	3	2	3	3	3	3	2	3	3
22	2	2	2	2	3	2	2	2	2	2	3	2
23	2	2	3	3	2	2	2	2	3	3	2	2
24	2	3	2	2	3	3	2	3	2	3	2	3

25	2	2	1	1	2	2	2	2	1	2	1	2
26	1	1	2	2	1	1	1	1	2	1	2	1
27	2	1	2	1	2	1	2	2	1	2	1	1
30	2	2	3	2	2	2	3	2	2	2	2	2
31	2	2	2	2	2	2	2	2	2	2	2	2
32	1	2	2	2	1	2	2	2	1	2	1	2
33	2	2	2	2	2	1	2	2	2	1	2	2
34	3	2	2	2	3	2	2	2	3	2	3	2
35	2	2	2	2	2	2	2	2	2	2	2	2
36	2	3	2	3	2	2	2	3	2	2	2	3
37	1	1	2	1	2	2	1	2	1	2	2	1
39	2	1	1	1	2	1	1	1	2	1	2	1
40	2	2	2	2	2	3	2	2	2	3	2	2
41	2	2	2	2	2	2	2	2	2	2	2	2
42	2	2	2	2	2	2	2	2	2	2	2	2
43	3	3	3	3	3	3	3	3	3	3	3	3
44	2	2	1	1	1	2	2	1	2	2	1	1
45	2	2	2	2	2	2	2	2	2	2	2	2
46	2	3	3	3	3	3	3	3	2	3	3	3
47	3	3	3	3	3	3	3	3	3	3	3	3
48	2	1	1	1	2	1	1	1	2	1	2	1
49	1	2	1	2	1	1	2	1	1	1	1	2
50	3	3	3	3	3	3	3	3	3	3	3	3
51	2	3	3	2	3	2	2	3	3	2	2	3
52	3	3	3	3	3	2	3	3	3	2	3	3
53	3	3	3	3	3	3	3	3	3	3	3	3
54	2	2	2	2	2	2	2	2	2	2	2	2
55	2	2	2	2	2	2	2	2	2	2	2	2
56	3	2	2	3	2	2	3	2	2	3	2	2
57	2	2	2	2	2	2	2	2	2	2	2	2
58	3	3	3	3	3	3	3	3	3	3	3	3
60	2	2	1	2	1	2	2	1	2	2	2	1
61	3	2	2	2	3	3	2	3	2	2	3	3
62	2	2	2	2	2	2	2	2	2	2	2	2
63	2	2	2	2	2	2	2	2	2	2	2	2
64	2	2	2	2	2	1	2	2	2	1	2	2
65	3	3	3	3	3	3	3	3	3	3	3	3
66	1	1	2	1	2	2	1	1	2	2	1	2
67	1	2	2	2	1	2	2	2	1	2	2	1
70	2	2	2	2	2	2	2	2	2	2	2	2
71	3	3	3	2	3	3	3	3	3	3	3	2
72	3	3	3	3	3	2	3	3	3	3	3	3
73	2	2	2	2	2	2	2	2	2	2	2	2
74	2	2	2	2	2	3	2	2	2	2	2	3
75	1	2	1	2	1	1	1	1	2	1	2	1
76	2	2	1	2	2	2	2	2	1	2	2	2
77	3	3	3	3	2	3	3	3	3	3	2	3
80	2	2	2	2	2	2	2	2	2	2	2	2
81	2	2	1	2	2	2	1	2	2	2	2	2
82	1	1	2	1	1	2	2	1	1	1	1	2
83	2	2	2	2	2	2	2	2	2	2	2	2
84	2	2	1	2	1	1	2	1	2	1	2	1
85	2	2	2	2	2	2	2	2	2	2	2	2
86	1	2	1	1	1	2	1	2	1	1	2	1
90	2	2	3	3	3	2	3	2	2	3	2	3
91	2	1	1	1	1	2	1	1	2	1	2	1

```
 92  2  1  1  2  1  1  2  1  1  2  1  1
 93  2  2  2  2  2  1  2  2  2  2  1  2
 94  3  2  3  2  3  3  3  2  3  4  2  3
 95  1  1  2  1  2  2  1  2  1  2  2  1
 96  1  2  2  2  1  1  1  2  2  1  1  2
```

☐ Hidden district/subdistrict-level variable

Assumed the variable X in the data frame PSU as the mid-level variable between cwt and area, such as a combination of district and sub-district.
Should PSU be sorted by reg, cwt, X, area and psu_no, the sequence of the sorted data might be the same as the current PSU.

The break points of X might be one of the followings;

- cwt.b
- area.b
- psu_no.b

```
> x.b<-as.integer(R01[R01["hhno.b"]==1,"cwt.b"]==1 | R01[R01["hhno.b"]==1,"area.b"]==1 |
+ R01[R01["hhno.b"]==1,"psuno.b"]==1)

> length(x.b)
[1] 4090

> table(x.b)
x.b
   0    1
2019 2071
```

Cumlative sums of x.b will become the wanted vector x.

Verifying the effectiveness and usefulness of the vector x

- Added x to PSU, and stored as PSU1.
- Sorted PSU1 by reg, cwt, x, area and psu_no, and stored as PSU2.
- Compared PSU2 with PSU1.

```
# PSU1: original PSU
> PSU1<-PSU[1:8]
> PSU1["x"]<-cumsum(x.b)
> colnames(PSU1)
[1] "reg"    "cwt"    "area"   "psu_no" "month"  "wt"     "psu"    "nhh"    "x"
> PSU1<-PSU1[c(1,2,9,3:8)]
> colnames(PSU1)
```

```
[1] "reg"    "cwt"    "x"      "area"   "psu_no" "month"  "wt"     "psu"    "nhh"

# PSU2: sorted by reg, cwt, x, area and psu_no
> PSU2<-PSU1[order(PSU1["reg"],PSU1["cwt"],PSU1["x"],PSU1["area"],PSU1["psu_no"]),]
> dim(PSU2)
[1] 4090    9

# Comparing PSU1 and PSU2
> table(PSU1["psu_no"]==PSU2["psu_no"])
TRUE
4090
> table(PSU1["wt"]==PSU2["wt"])
TRUE
4090
> table(PSU1["nhh"]==PSU2["nhh"])
TRUE
4090
```

Variable X is also effective for household data file

```
> R01x<-R01
> R01x["x.b"]<-as.integer(R01x$cwt.b==1|R01x$area.b==1|R01x$psuno.b==1)
> R01x["x"]<-cumsum(R01x$x.b)
> max(R01x$x)
[1] 2071
> R01y<-R01x[order(R01x$reg,R01x$cwt,R01x$x,R01x$area,R01x$psu_no,R01x$hhno),]
> sum(R01x!=R01y)
[1] 0

> X<-R01x$x
> length(X)
[1] 43055
> max(X)
[1] 2071
> save(X,file=" X.RData")
```

The conclusions from the above are;

a. Even if the micro data is disordered, it will again become in the original sequence by sorting it by reg, cwt, x, area and psu_no.

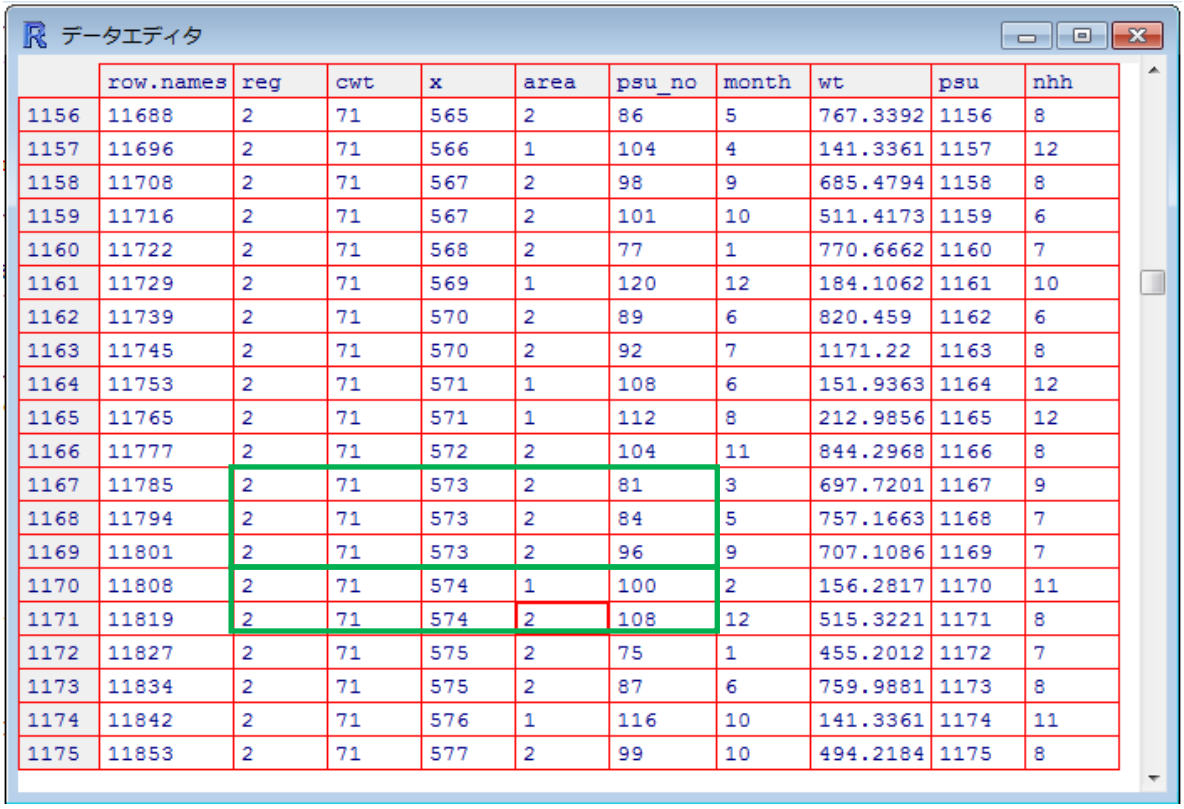
b. The combination of the above variables including x is equivalent to the original identification variables, with regard to the sequence.

c. The number of X is at least 2071.

```
> max(PSU1["x"])
[1] 2071
```

```
> fix(PSU1)
```

Example of the variable x in PSU:



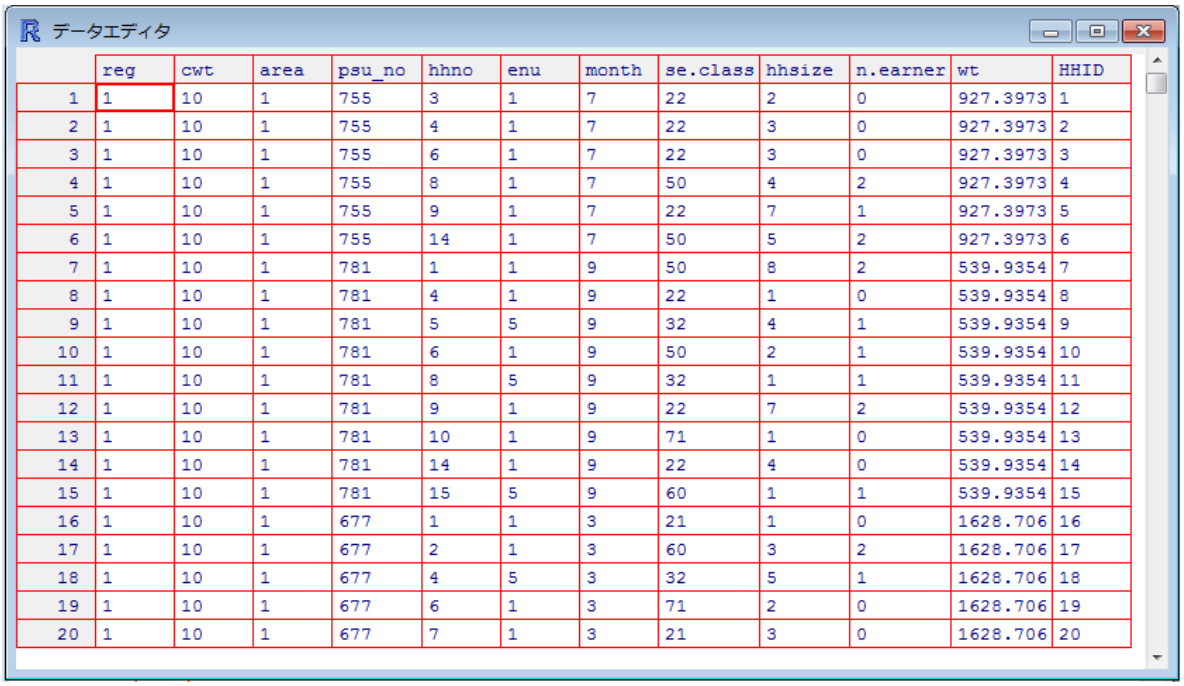
データエディタ

	row.names	reg	cwt	x	area	psu_no	month	wt	psu	nhh
1156	11688	2	71	565	2	86	5	767.3392	1156	8
1157	11696	2	71	566	1	104	4	141.3361	1157	12
1158	11708	2	71	567	2	98	9	685.4794	1158	8
1159	11716	2	71	567	2	101	10	511.4173	1159	6
1160	11722	2	71	568	2	77	1	770.6662	1160	7
1161	11729	2	71	569	1	120	12	184.1062	1161	10
1162	11739	2	71	570	2	89	6	820.459	1162	6
1163	11745	2	71	570	2	92	7	1171.22	1163	8
1164	11753	2	71	571	1	108	6	151.9363	1164	12
1165	11765	2	71	571	1	112	8	212.9856	1165	12
1166	11777	2	71	572	2	104	11	844.2968	1166	8
1167	11785	2	71	573	2	81	3	697.7201	1167	9
1168	11794	2	71	573	2	84	5	757.1663	1168	7
1169	11801	2	71	573	2	96	9	707.1086	1169	7
1170	11808	2	71	574	1	100	2	156.2817	1170	11
1171	11819	2	71	574	2	108	12	515.3221	1171	8
1172	11827	2	71	575	2	75	1	455.2012	1172	7
1173	11834	2	71	575	2	87	6	759.9881	1173	8
1174	11842	2	71	576	1	116	10	141.3361	1174	11
1175	11853	2	71	577	2	99	10	494.2184	1175	8

☐ Generating household identifier HHID in household data file

➢ Created the new variable of household identifier “HHID” in dfhh using the row number of dfhh.

```
# dfhh: subset of REC01 includes the next variables;
# reg, cwt, area, psu_no, hh_no, enu, a01, a03, a04, a05 and a52
> dfhh<-REC01[,c(1:7,10,11,13,60)]
> dim(dfhh)
[1] 43055    11
> colnames(dfhh)
 [1] "reg"    "cwt"    "area"   "psu_no" "hhno"   "enu"    "a01"    "a03"
 [9] "a04"    "a05"    "a52"
> colnames(dfhh)[7:11]<-c("month","se.class","hhsize","n.earner","wt")
> colnames(dfhh)
 [1] "reg"      "cwt"      "area"     "psu_no"   "hhno"     "enu"
 [7] "month"    "se.class" "hhsize"   "n.earner" "wt"
> dfhh["HHID"]<-1:nrow(dfhh)
> fix(dfhh)
```



データエディタ

	reg	cwt	area	psu_no	hhno	enu	month	se.class	hhsize	n.earner	wt	HHID
1	1	10	1	755	3	1	7	22	2	0	927.3973	1
2	1	10	1	755	4	1	7	22	3	0	927.3973	2
3	1	10	1	755	6	1	7	22	3	0	927.3973	3
4	1	10	1	755	8	1	7	50	4	2	927.3973	4
5	1	10	1	755	9	1	7	22	7	1	927.3973	5
6	1	10	1	755	14	1	7	50	5	2	927.3973	6
7	1	10	1	781	1	1	9	50	8	2	539.9354	7
8	1	10	1	781	4	1	9	22	1	0	539.9354	8
9	1	10	1	781	5	5	9	32	4	1	539.9354	9
10	1	10	1	781	6	1	9	50	2	1	539.9354	10
11	1	10	1	781	8	5	9	32	1	1	539.9354	11
12	1	10	1	781	9	1	9	22	7	2	539.9354	12
13	1	10	1	781	10	1	9	71	1	0	539.9354	13
14	1	10	1	781	14	1	9	22	4	0	539.9354	14
15	1	10	1	781	15	5	9	60	1	1	539.9354	15
16	1	10	1	677	1	1	3	21	1	0	1628.706	16
17	1	10	1	677	2	1	3	60	3	2	1628.706	17
18	1	10	1	677	4	5	3	32	5	1	1628.706	18
19	1	10	1	677	6	1	3	71	2	0	1628.706	19
20	1	10	1	677	7	1	3	21	3	0	1628.706	20

☐ Created the new variable of household identifier “HHID2” in individual data.

```
# dfind: subset of individual data REC_02
> dfind<-REC_02[c(1:10,16,43,46)]
> colnames(dfind)
 [1] "reg"    "cwt"    "area"   "psu_no" "hhno"   "enu"    "hm01"   "hm02"   "hm03"
[10] "hm04"   "hm10"   "hm37"   "hm40"
> colnames(dfind)[7:13]<-c("ID","relation","sex","age","marital","work1","work2")
> colnames(dfind)
```

```
 [1] "reg"      "cwt"      "area"     "psu_no"   "hhno"     "enu"      "ID"
 [8] "relation" "sex"      "age"      "marital"  "work1"    "work2"
> dim(dfind)
[1] 139003     13

# Created HHID2 making use of break points of hhno
# in the same way described in  'Sequence check of R01'
> dfind["hhno.pl"]<-c(0,dfind$hhno)[1:nrow(dfind)]
> dfind["hhno.b"]<-as.integer(dfind$hhno!=dfind$hhno.pl)
> dfind["HHID2"]<-cumsum(dfind["hhno.b"])
> max(dfind["HHID2"])
[1] 43055

> fix(dfind)
```

データエディタ

	reg	cwt	area	psu_no	hhno	enu	ID	relation	sex	age	marital	work1	work2	hhno.pl	hhno.b	HHID2
1	1	10	1	755	3	1	1	1	1	76	2	2	NA	0	1	1
2	1	10	1	755	3	1	2	3	1	35	1	3	NA	3	0	1
3	1	10	1	755	4	1	1	1	1	50	4	2	NA	3	1	2
4	1	10	1	755	4	1	2	3	1	15	1	9	NA	4	0	2
5	1	10	1	755	4	1	3	3	1	11	NA	NA	NA	4	0	2
6	1	10	1	755	6	1	1	1	1	51	2	2	NA	4	1	3
7	1	10	1	755	6	1	2	2	2	50	2	3	NA	6	0	3
8	1	10	1	755	6	1	3	3	2	21	1	9	NA	6	0	3
9	1	10	1	755	8	1	1	1	1	32	2	6	NA	6	1	4
10	1	10	1	755	8	1	2	2	2	28	2	6	NA	8	0	4
11	1	10	1	755	8	1	3	3	2	7	NA	NA	NA	8	0	4
12	1	10	1	755	8	1	4	3	2	3	NA	NA	NA	8	0	4
13	1	10	1	755	9	1	1	1	1	68	2	2	NA	8	1	5
14	1	10	1	755	9	1	2	2	2	52	2	8	NA	9	0	5
15	1	10	1	755	9	1	3	3	2	35	1	3	NA	9	0	5
16	1	10	1	755	9	1	4	3	2	25	1	9	NA	9	0	5
17	1	10	1	755	9	1	5	4	2	33	2	3	NA	9	0	5
18	1	10	1	755	9	1	6	5	1	35	2	5	NA	9	0	5
19	1	10	1	755	9	1	7	6	2	3	NA	NA	NA	9	0	5
20	1	10	1	755	14	1	1	1	2	78	1	10	NA	9	1	6
21	1	10	1	755	14	1	2	8	2	41	1	2	NA	14	0	6

☐ Merging dfhh and dfind by using key; "HHID" of dfhh and "HHID2" of dfind

```
# dfhh.ind: merged dataframe of household data and individual data
> dfhh.ind<-merge(dfhh,dfind,by.x="HHID",by.y="HHID2")
> colnames(dfhh.ind)
 [1] "HHID"     "reg.x"    "cwt.x"    "area.x"   "psu_no.x" "hhno.x"   "enu.x"    "month"
 [9] "se.class" "hhsize"   "n.earner" "wt"       "reg.y"    "cwt.y"    "area.y"   "psu_no.y"
[17] "hhno.y"   "enu.y"    "ID"       "relation" "sex"      "age"      "marital"  "work1"
[25] "work2"    "hhno.pl"  "hhno.b"
```

- In dfhh.ind, only one merging key by.x=HHID remained.
- Regarding the common variable names; reg, cwt, area, psu_no, hhno and enu,
  - ✧ Suffix ".x" is appended to the variable names in dfhh, and
  - ✧ Suffix ".y" is appended to the variable names in dfind.

- "reg.x", "cwt.x", "area.x", "psu_no.x", "hhno.x" and "enu.x" are exactly equal to "reg.y", "cwt.y", "area.y", "psu_no.y", "hhno.y" and "enu.y", respectively.

```
> table(dfhh.ind[2:7]==dfhh.ind[13:18])
  TRUE
834018

> nrow(dfhh.ind)*6
[1] 834018
```

Conclusion:

HHID is effective for merging household data and individual data.

Supplement 3

Examples of R scripts for tabulation

- TABLE 16 PERCENTAGE OF HOUSEHOLDS BY MAJOR HOUSING CHARACTERISTICS AND REGION

- TABLE 9 NUMBER OF HOUSEHOLDS BY AVERAGE MONTHLY EXPENDITURE AND SOCIO-ECONOMIC CLASS

- TABLE 1 AVERAGE MONTHLY INCOME PER HOUSEHOLD BY SOURCES OF INCOME, REGION AND AREA

- TABLE 5 SHARE OF HOUSEHOLDS CURRENT INCOME BY DECILE GROUPS AND REGION

Note: The above table numbers correspond to those of the official report in Attachment.

- INEQUALITY OF HOUSEHOLD INCOME

Remarks:
As for the above table 16, 9 and 1, the results made from the following R scripts are completely the same as the report.

- A part of TABLE 16 PERCENTAGE OF HOUSEHOLDS BY MAJOR HOUSING CHARACTERISTICS AND REGION

➢ Identifying table format and variables used for tabulation

				TABLE 16 PERCENTAGE OF HOUSEHOLDS BY MAJOR HOUSING CHARACTERISTICS AND REGION						
					R01	REG, CWT (province) → REG2 (factor)				
						WT				
				Major Housing Characteristics	Whole Kingdom	Greater Bangkok[1] CWT = 10-13	Central 14-27, 70-77	North 50-58, 60-67	Northeast 30-39, 40-49	South 80-86, 90-96
R02										
	HM02 = 1			**1. Head of Household**						
	HM03			**Sex**	1000	1000	1000	1000	1000	1000
	1			Male	Table t16.1					
	2			Female						
	HM04			**Age**	1000	1000	1000	1000	1000	1000
	0-19			Under 20 Years	Table t16.2					
	20-29			20 - 29 Years						
	30-39			30 - 39 Years						
	40-49			40 - 49 Years						
	50-59			50 - 59 Years						
	60-99			60 Years or More						
R01				**2. Member of Household**						
	A04			**Household Size (includes servar**	1000	1000	1000	1000	1000	1000
	1-2			1 - 2 Persons	Table t16.3					
	3-4			3 - 4 Persons						
	5-7			5 - 7 Persons						
	8+			8 Persons or More						
R03				**3. For Living and Public Utility**						
	HH02			**Construction Materials**	1000	1000	1000	1000	1000	1000
	1			Cement, Brick or Stone	Table t16.4					
	2			Wood						
	3			Brick and Wood						
	4			Local Materials						
	5, 6			Re-used Materials and Others						

1/ Nonthaburi, Pathum Thani and Samut Prakan

➢ R scripts for Table 16

```
#### TABLE 16 ####

> # data frame HC
> HC<-subset(R02,HM02==1)[c("HM03","HM04")]
> HC<-cbind(HC,R01[c("A04","WT")],R03["HH02"])
>
> # region
> reg2<-R01$REG
> reg2[R01$CWT>=11&R01$CWT<=13]<-1
> REG2<-factor(reg2,levels=1:5,
+ labels=c("Greater Bangkok","Central","North","Northeast","South"))
> HC<-cbind(HC,REG2)
> attach(HC)

> ### Sex of household head
> head.sex<-factor(HM03,1:2,labels=c("Male","Female"))
> m<-tapply(WT,list(head.sex,REG2),FUN=sum)
> m2<-cbind(rowSums(m),m)
> colnames(m2)[1]<-"Whole Kingdom"
> (t16.1<-round(prop.table(m2,2)*100,1))
       Whole Kingdom Greater Bangkok Central North Northeast South
Male            68.3            66.2    62.7  68.6      71.2  71.9
Female          31.7            33.8    37.3  31.4      28.8  28.1

### Age of household head
> head.age<-cut(R02$HM04[R02$HM02==1],breaks=c(0,20,30,40,50,60,99),
+ right=FALSE,include.lowest=TRUE,
+ labels=c("Under 20","20-29","30-39","40-49","50-59","60 or more"))
> m<-tapply(WT,list(head.age,REG2),FUN=sum)
> m2<-cbind(rowSums(m),m)
> colnames(m2)[1]<-"Whole Kingdom"
> (t16.2<-round(prop.table(m2,2)*100,1))
          Whole Kingdom Greater Bangkok Central North Northeast South
Under 20            0.7             1.0     0.6   0.5       0.8   0.5
20-29               6.4            14.9     8.1   3.6       2.9   5.8
30-39              16.9            23.4    18.2  12.6      14.0  20.8
40-49              24.7            23.3    24.2  25.6      25.0  25.2
50-59              23.0            20.3    21.3  24.8      25.8  19.5
60 or more         28.3            17.2    27.7  32.8      31.6  28.3

### Household size
> hhsize<-cut(A04,breaks=c(1,2,4,7,20),right=T,include.lowest=T,
+ labels=c("1-2 persons","3-4 persons","5-7 persons","8 persons or more"))
> m<-tapply(WT,list(hhsize,REG2),sum)
> m2<-cbind(rowSums(m),m)
> colnames(m2)[1]<-"Whole Kingdom"
> (t16.3<-round(prop.table(m2,2)*100,1))
                Whole Kingdom Greater Bangkok Central North Northeast South
1-2 persons              34.4            42.6    37.0  37.2      28.2  31.5
3-4 persons              44.4            39.2    43.2  46.1      46.9  44.0
5-7 persons              19.9            16.8    18.5  15.8      23.6  23.1
8 persons or more         1.2             1.4     1.3   0.8       1.3   1.4
```

```
### Construction materials of housing
> m<-tapply(WT, list(HH02, REG2), sum)
> detach()
> m<-ifelse(is.na(m), 0, m)
> m2<-cbind(rowSums(m), m)
> colnames(m2)[1]<-"Whole Kingdom"
> m2[5,]<-m2[5,]+m2[6,]
> m2<-m2[-6,]
> rownames(m2)<-c("Cement or brick","Wood","Wood and cement or brick",
+ "Local materials","Re-used materials or others")
> (t16.4<-round(prop.table(m2, 2)*100, 1))
```

	Whole Kingdom	Greater Bangkok	Central	North	Northeast	South
Cement or brick	43.3	69.3	51.9	29.4	27.1	58.7
Wood	29.4	21.4	30.0	41.4	28.7	22.3
Wood and cement or brick	25.4	7.8	15.8	25.5	43.1	17.8
Local materials	1.3	0.4	1.4	3.1	0.7	0.6
Re-used materials or others	0.7	1.2	0.9	0.6	0.3	0.7

✧ Items in construction materials of Table 16 of the report were different from that of the questionnaire and data dictionary.

```
> # Export tables to clipboard for reshaping on Excel
> t16<-rbind(t16.1, t16.2, t16.3, t16.4)
> write.table(t16, file="clipboard", sep="¥t", col.names=NA)
```

➢ Paste tables on Excel sheet from clipboard

	A	B	C	D	E	F	G	H
1		Whole Kingdom	Greater Bangkok	Central	North	Northeast	South	
2	Male	68.3	66.2	62.7	68.6	71.2	71.9	
3	Female	31.7	33.8	37.3	31.4	28.8	28.1	
4	Under 20	0.7	1	0.6	0.5	0.8	0.5	
5	20-29	6.4	14.9	8.1	3.6	2.9	5.8	
6	30-39	16.9	23.4	18.2	12.6	14	20.8	
7	40-49	24.7	23.3	24.2	25.6	25	25.2	
8	50-59	23	20.3	21.3	24.8	25.8	19.5	
9	60 or more	28.3	17.2	27.7	32.8	31.6	28.3	
10	1-2 persons	34.4	42.6	37	37.2	28.2	31.5	
11	3-4 persons	44.4	39.2	43.2	46.1	46.9	44	
12	5-7 persons	19.9	16.8	18.5	15.8	23.6	23.1	
13	8 persons or more	1.2	1.4	1.3	0.8	1.3	1.4	
14	Cement or brick	43.3	69.3	51.9	29.4	27.1	58.7	
15	Wood	29.4	21.4	30	41.4	28.7	22.3	
16	Wood and cement or brick	25.4	7.8	15.8	25.5	43.1	17.8	
17	Local materials	1.3	0.4	1.4	3.1	0.7	0.6	
18	Re-used materials or others	0.7	1.2	0.9	0.6	0.3	0.7	
19								

- TABLE 9 NUMBER OF HOUSEHOLDS BY AVERAGE MONTHLY EXPENDITURE AND SOCIO-ECONOMIC CLASS

➢ Identifying table format and variables used for tabulation

TABLE 9 NUMBER OF HOUSEHOLDS BY AVERAGE MONTHLY EXPENDITURE AND SOCIO-ECONOMIC CLASS

				R01	A03 (socio-economic class)									
					SE1	SE2	SE3	SE4	SE5	SE6	SE7	SE8	SE9	SE10
		Expenditure	Total		Mainly Owning Land	Mainly Renting Land/Free	Fishing Forestry, Agricultural services	Own-Account Workers, Non-Farm	Professional, Tech &Adm Workers	Farm Workers	General Workers	Clerical, Sales &Services Workers	Production Workers	Economically Inactive
R01					01-06	11-13	19	21,22	31,32	41	42	50	60	71,72
	A07	**Monthly Expenditure Per Household**												
	[0,1499]	Less Than 1,500 Baht			Table t9.ph									
	(1499,3000]	1,500 - 3,000 Baht												
	(3000,5000]	3,001 - 5,000 Baht												
	(5000,10000]	5,001 - 10,000 Baht												
	(10000,15000]	10,001 - 15,000 Baht												
	(15000,30000]	15,001 - 30,000 Baht												
	(30000,50000]	30,001 - 50,000 Baht												
	(50000,1000000]	More Than 50,000 Baht												
	A10	**Monthly Expenditure Per Capita**												
	[0,499]	Less Than 500 Baht			Table t9.pc									
	(499,1500]	500 - 1,500 Baht												
	(1500,3000]	1,501 - 3,000 Baht												
	(3000,5000]	3,001 - 5,000 Baht												
	(5000,10000]	5,001 - 10,000 Baht												
	(10000,15000]	10,001 - 15,000 Baht												
	(15000,30000]	15,001 - 30,000 Baht												
	(30000,50000]	30,001 - 50,000 Baht												
	(50000,1000000]	More Than 50,000 Baht												

➢ R scripts for Table 9

```
> #### TABLE 9 ####
>
> # data frame SEC
> # A03: Socio-economic class
> # A07: Average monthly total expenditures per household
> # A10: Average monthly total expenditure per capita
> SEC<-R01[c("A03","A07","A10","WT")]
>
> # Scio-economic class
> breaks=c(01,06,13,19,22,32,41,42,50,60,72)
> labels<-paste("SE",1:10,sep="")
> attach(SEC)
```

```
> se.class<-cut(A03,breaks,labels,right=T,include.lowest=T)
>
> # Monthly expenditure per household
> breaks<-c(0,1499,3000,5000,10000,15000,30000,50000,1000000)
> labels<-c("Less than 1500","1500-3000","3001-5000","5001-10000",
+ "10001-15000","15001-30000","30001-50000","More than 50000")
> exp.ph<-cut(A07,breaks,labels,right=T,include.lowest=T)
>
> # Monthly expenditure per capita
> breaks<-c(0,499,1500,3000,5000,10000,15000,30000,50000,1000000)
> labels<-c("Less than 500","500-1500","1501-3000","3001-5000","5001-10000",
+ "10001-15000","15001-30000","30001-50000","More than 50000")
> exp.pc<-cut(A10,breaks,labels,right=T,include.lowest=T)
>
> SEC<-cbind(SEC,exp.ph,exp.pc,se.class)
>
> # Table: Monthly expenditure per household
> (m1<-round(tapply(WT,list(exp.ph,se.class),sum),0))
                     SE1    SE2    SE3     SE4    SE5    SE6   SE7    SE8    SE9    SE10
Less than 1500      2212   1530   1282    2193    829   2226   836     NA    661   28528
1500-3000          54925  32103  39705   32268   2510  36095  6137   6805  21140  296904
3001-5000         414824  68119 120441  181505   4352  97398 25770  60256 158049  661319
5001-10000       1568642 302032 157016  877402 153020 282760 72154 629887 898767 1314709
10001-15000       613792 147203  56602  784732 247016 126842 29614 664428 704061  504035
15001-30000       375316 102291  19833 1058173 668068  67806 21102 824419 526791  371018
30001-50000        77738   7649   4523  333200 432184  10578  3464 181897  45357   84180
More than 50000    24795   2189   1230   88082 229336    494    NA  54326  10562   56006

> (m2<-ifelse(is.na(m1),0,m1))
                     SE1    SE2    SE3     SE4    SE5    SE6   SE7    SE8    SE9    SE10
Less than 1500      2212   1530   1282    2193    829   2226   836       0    661   28528
1500-3000          54925  32103  39705   32268   2510  36095  6137   6805  21140  296904
3001-5000         414824  68119 120441  181505   4352  97398 25770  60256 158049  661319
5001-10000       1568642 302032 157016  877402 153020 282760 72154 629887 898767 1314709
10001-15000       613792 147203  56602  784732 247016 126842 29614 664428 704061  504035
15001-30000       375316 102291  19833 1058173 668068  67806 21102 824419 526791  371018
30001-50000        77738   7649   4523  333200 432184  10578  3464 181897  45357   84180
More than 50000    24795   2189   1230   88082 229336    494      0  54326  10562   56006

> m3<-cbind(rowSums(m2),m2)
> m4<-round(prop.table(m3,2)*100,1)
> colnames(m4)[1]<-"Total"
> m4
                Total  SE1  SE2  SE3  SE4  SE5  SE6  SE7  SE8  SE9 SE10
Less than 1500    0.2  0.1  0.2  0.3  0.1  0.0  0.4  0.5  0.0  0.0  0.9
1500-3000         2.9  1.8  4.8  9.9  1.0  0.1  5.8  3.9  0.3  0.9  9.0
3001-5000         9.9 13.2 10.3 30.1  5.4  0.3 15.6 16.2  2.5  6.7 19.9
5001-10000       34.4 50.1 45.5 39.2 26.1  8.8 45.3 45.4 26.0 38.0 39.6
10001-15000      21.3 19.6 22.2 14.1 23.4 14.2 20.3 18.6 27.4 29.8 15.2
15001-30000      22.2 12.0 15.4  5.0 31.5 38.5 10.9 13.3 34.0 22.3 11.2
30001-50000       6.5  2.5  1.2  1.1  9.9 24.9  1.7  2.2  7.5  1.9  2.5
More than 50000   2.6  0.8  0.3  0.3  2.6 13.2  0.1  0.0  2.2  0.4  1.7

> t9.1<-rbind(rep(100,11),m4)
> rownames(t9.1)[1]<-"Total"
> t9.1
```

```
                Total   SE1   SE2   SE3   SE4   SE5   SE6   SE7   SE8   SE9  SE10
Total           100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0
Less than 1500    0.2   0.1   0.2   0.3   0.1   0.0   0.4   0.5   0.0   0.0   0.9
1500-3000         2.9   1.8   4.8   9.9   1.0   0.1   5.8   3.9   0.3   0.9   9.0
3001-5000         9.9  13.2  10.3  30.1   5.4   0.3  15.6  16.2   2.5   6.7  19.9
5001-10000       34.4  50.1  45.5  39.2  26.1   8.8  45.3  45.4  26.0  38.0  39.6
10001-15000      21.3  19.6  22.2  14.1  23.4  14.2  20.3  18.6  27.4  29.8  15.2
15001-30000      22.2  12.0  15.4   5.0  31.5  38.5  10.9  13.3  34.0  22.3  11.2
30001-50000       6.5   2.5   1.2   1.1   9.9  24.9   1.7   2.2   7.5   1.9   2.5
More than 50000   2.6   0.8   0.3   0.3   2.6  13.2   0.1   0.0   2.2   0.4   1.7
>
>
> # Table: Monthly expenditure per capita
> m1<-round(tapply(WT,list(exp.pc,se.class),sum),0)
> m2<-cbind(rowSums(m1,na.rm=T),m1)
> colnames(m2)[1]<-"Total"
> m3<-rbind(colSums(m2,na.rm=T),m2)
> rownames(m3)[1]<-"Total"
> m3
                  Total     SE1    SE2    SE3     SE4     SE5    SE6    SE7     SE8     SE9     SE10
Total          18178248 3132241 663116 400635 3357556 1737317 624201 159077 2422019 2365387 3316699
Less than 500      6555      NA   3140    663      NA      NA    302     NA      NA      NA    2450
500-1500        1684526  519526 114749 103228  153229   17801 107052  25622   78941  175246  389132
1501-3000       5995937 1507887 294592 203887  827961  146590 295477  65833  505372  808701 1339637
3001-5000       4579334  702110 169969  66976 1049721  259770 147589  42783  702455  652635  785326
5001-10000      4081989  320073  70078  23005  953488  613639  65795  23825  846429  622545  543112
10001-15000     1053311   53216   9128   1786  220090  343190   6888    386  180909   92745  144973
15001-30000      655312   26413   1114   1026  127556  296863   1098    628   98650   12866   89098
30001-50000       99725    2864    346     NA   21168   49408     NA     NA    8179     649   17111
More than 50000   21559     152     NA     64    4343   10056     NA     NA    1084      NA    5860
>
> m4<-ifelse(is.na(m2),0,m2)
> m5<-round(prop.table(m4,2)*100,1)
> t9.2<-rbind(rep(100,11),m5)
> rownames(t9.2)[1]<-"Total"
> t9.2
                Total   SE1   SE2   SE3   SE4   SE5   SE6   SE7   SE8   SE9  SE10
Total           100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0
Less than 500     0.0   0.0   0.5   0.2   0.0   0.0   0.0   0.0   0.0   0.0   0.1
500-1500          9.3  16.6  17.3  25.8   4.6   1.0  17.2  16.1   3.3   7.4  11.7
1501-3000        33.0  48.1  44.4  50.9  24.7   8.4  47.3  41.4  20.9  34.2  40.4
3001-5000        25.2  22.4  25.6  16.7  31.3  15.0  23.6  26.9  29.0  27.6  23.7
5001-10000       22.5  10.2  10.6   5.7  28.4  35.3  10.5  15.0  34.9  26.3  16.4
10001-15000       5.8   1.7   1.4   0.4   6.6  19.8   1.1   0.2   7.5   3.9   4.4
15001-30000       3.6   0.8   0.2   0.3   3.8  17.1   0.2   0.4   4.1   0.5   2.7
30001-50000       0.5   0.1   0.1   0.0   0.6   2.8   0.0   0.0   0.3   0.0   0.5
More than 50000   0.1   0.0   0.0   0.0   0.1   0.6   0.0   0.0   0.0   0.0   0.2
>
```

- TABLE 1 AVERAGE MONTHLY INCOME PER HOUSEHOLD BY SOURCES OF INCOME, REGION AND AREA

➢ Identifying table format and variables used for tabulation

		TABLE 1 AVERAGE MONTHLY INCOME PER HOUSEHOLD BY SOURCES OF INCOME, REGION AND AREA								
			R01	REG2					AREA	
				Region					Area	
		Source of Income	Whole Kingdom	Greater Bangkok[1/]	Central	North	Northeast	South	Municipal Areas	Non-Municipal Areas
R01				1	2	3	4	5	1	2
A13	1	**Total Monthly Income**								
A14	2	**Total Current Income**								
A38	3	**Money Income**								
	NA	**From Work**								
A18	4	Wages and Salaries								
A20	5	Net Profits from Business								
A22	6	Net Profits from Farming								
	NA	**From Current Transfer**								
A24	7	Pension/Annuities and other Assistance								
A26	8	Work Compensation and Terminated Payment								
A28	9	Assistance from Persons Outside HH								
A30	10	Assistance from Govt. & Organization								
	NA	**From Property Income**								
A32	11	Income from Renting (include Licence and Copyright)								
A34	12	Interest and Dividends from Deposit, Bonds and Stocks								
A36	13	Interest from "Shares" and Loans								
	NA	**Non-money Income**								
A39	14	Estimated Rental Value of Dwelling (include owned dwelling)								
A40	15	In-kind of Goods and Services								
A41	16	In-kind of Foods and Beverages								
A51	17	**Non-current Money Income**								
A43	18	Scholarships								
A45	19	Inheritances/Bequeaths and Gifts								
A47	20	Proceeds from Insurances								
A49	21	Other Receiving (lottery winnings)								

Note: Greater Bangkok includes three provinces of Nonthaburi, Pathumthani and Samut Prakan

➢ R scripts for Table 1

```
> ### TABLE 1 ###
>
> # data frame INC
> colnames(R01)
 [1] "REG"       "CWT"       "AREA"      "PSU_NO"    "HHNO"      "ENU"       "A01"       "A02"
 [9] "A02_1"     "A03"       "A04"       "A04_1"     "A05"       "A06"       "A07"       "A08"
[17] "A09"       "A10"       "A11"       "A12"       "A13"       "A14"       "A15"       "A16"
[25] "A17"       "A18"       "A19"       "A20"       "A21"       "A22"       "A23"       "A24"
[33] "A25"       "A26"       "A27"       "A28"       "A29"       "A30"       "A31"       "A32"
[41] "A33"       "A34"       "A35"       "A36"       "A37"       "A38"       "A39"       "A40"
[49] "A41"       "A42"       "A43"       "A44"       "A45"       "A46"       "A47"       "A48"
[57] "A49"       "A50"       "A51"       "A52"       "CON_EX1"   "CON_EX2"   "CON_EX3"   "NCON_EX1"
[65] "NCON_EX2"  "NCON_EX3"  "FB_EX1"    "FB_EX2"    "FB_EX3"    "TP_EX1"    "TP_EX2"    "TP_EX3"
[73] "WS1"       "WS2"       "PB1"       "PB2"       "PA1"       "PA2"       "HHID"      "WT"
> INC<-R01[c(21,22,46,seq(26,44,by=2),47:49,59,seq(51,57,by=2),3,80)]
> colnames(INC)
 [1] "A13"  "A14"  "A38"  "A18"  "A20"  "A22"  "A24"  "A26"  "A28"  "A30"  "A32"  "A34"  "A36"
[14] "A39"  "A40"  "A41"  "A51"  "A43"  "A45"  "A47"  "A49"  "AREA" "WT"
>
> # region REG2 (same as in Table 16)
>
> # area
> attach(INC)
> area2<-factor(AREA,1:2,labels=c("Municipal area","Non-Municipal area"))
>
> INC<-cbind(INC,REG2,area2)
>
> # Whole Kingdom
> ave.wk<-rep(0,21)
> for(j in 1:21){ ave.wk[j]<-weighted.mean(INC[,j],WT) }
>
> # By Region
> ave.reg<-matrix(0,21,5)
> for(j in 1:21){
+ ave.reg[j,]<-as.vector(by(INC,REG2,function(df) weighted.mean(df[,j],df$WT)))
+ }
> colnames(ave.reg)<-levels(REG2)
>
> # By area
> ave.area<-matrix(0,21,2)
> for(j in 1:21){
+ ave.area[j,]<-as.vector(by(INC,area2,function(df) weighted.mean(df[,j],df$WT)))
+ }
> colnames(ave.area)<-levels(area2)
>
> # Table 1
> t<-cbind(ave.wk,ave.reg,ave.area)
> colnames(t)[1]<-"Whole Kingdom"
> rownames(t)<-1:21
> (t1<-round(t,0))
   Whole Kingdom Greater Bangkok Central North Northeast South Municipal area Non-Municipal area
```

1	18660	35007	18932	13568	12995	19716	28005	14307
2	18296	34514	18647	13218	12622	19394	27593	13966
3	15584	30473	16032	11017	10086	16971	24298	11525
4	7445	18326	8301	4067	3872	6635	13353	4693
5	3894	8279	3685	2645	2349	4485	7080	2409
6	2028	313	2329	2332	1574	4324	655	2667
7	380	657	439	385	244	278	792	188
8	11	30	17	1	4	6	24	4
9	1398	1655	951	1282	1812	914	1532	1336
10	64	19	61	83	84	46	39	75
11	173	540	139	113	63	137	380	77
12	173	644	98	101	71	65	418	59
13	19	8	11	7	12	79	24	17
14	1526	2900	1603	1105	1112	1369	2182	1220
15	437	723	471	373	331	391	566	377
16	750	418	541	724	1093	664	547	844
17	364	493	285	349	374	321	412	341
18	5	2	4	6	6	4	3	5
19	167	352	150	125	134	108	230	138
20	62	10	30	107	98	14	31	76
21	131	129	100	111	135	195	149	122

>

Note: It is easier to get values of Money income from work, Money income from current transfer, Money income from property income and Non-money income from the above items in Excel sheet.

- TABLE 5 SHARE OF HOUSEHOLDS CURRENT INCOME BY DECILE GROUPS AND REGION

➢ In analyzing income distribution, households were equally divided into 10 groups, from those with the lowest to the highest of their monthly income per capita.
Conveniently, used "survey" package.

➢ Identifying table format and variables used for tabulation

	TABLE 5 SHARE OF HOUSEHOLDS CURRENT INCOME BY DECILE GROUPS AND REGION												
R01													
		Percentage Share of Current Income (%)						Per Capita Current Income (Baht)					
	Decile Group by Current Income	Whole Kingdom	Greater Bangkok 1/	Central REG2	North	Northeast	South	Whole Kingdom	Greater Bangkok 1/	Central REG2	North	Northeast	South
d.g													
D1	1 (Lowest Income)												
D2	2												
D3	3												
D4	4												
D5	5												
D6	6												
D7	7												
D8	8												
D9	9												
D10	10 (Highest Income)												
	1/ Nonthaburi, Pathum Thani and Samut Prakan												

m1:
Sum of household current income by decile groups and region

m2:
Number of household members by decile groups and region

t5.1:
Percentage share of household current income by decile groups and region

t5.2:
Per capita current income by decile groups and region

➢ R scripts for Table 5

```
> ### TABLE 5 ###
>
> # data frame DF
> DF<-cbind(R01[c("A14","A16","A04","WT")],REG2)
> colnames(DF)[1:3]<-c("hcinc","pcinc","nhhm")
> attach(DF)
> # hcinc: household current income
> # pcinc: per capita current income
> # nhhm: number of household members

> #### Whole Kingdom ####
> # set survey design
> library(survey)
> svh<-svydesign(id=~1,weights=~WT,data=DF)
>
```

```
> # get break points considering weights
> breaks<-svyquantile(~pcinc,svh,c(0:10)/10)
>
> # Grouping houeholds into decile groups (D1 to D10)
> labels<-paste("D",1:10,sep="")
> d.g<-cut(pcinc,breaks,labels,right=T,include.lowest=T)
>
> # Estimated sum of household current income by decile groups
> m1t<-tapply(hcinc*WT,d.g,sum)
>
> # Estimated number of household members by decile groups
> m2t<-tapply(nhhm*WT,d.g,sum)
>
> #### By Region ####m
> # Sum of household current income by decile groups and region
> m1r<-by(DF,REG2,function(df) tapply(df$WT*df$hcinc,
+ cut(df$pcinc,svyquantile(~df$pcinc,svydesign(id=~1,weights=~WT,data=df),c(0:10)/10),
+ labels,right=F,include.lowest=T),sum))
>
> # Number of household members by decile groups and region
> m2r<-by(DF,REG2,function(df) tapply(df$WT*df$nhhm,
+ cut(df$pcinc,svyquantile(~df$pcinc,svydesign(id=~1,weights=~WT,data=df),c(0:10)/10),
+ labels,right=F,include.lowest=T),sum))
>
> # Table 5.1: Share of household current income by decile groups and region
> m1<-cbind(m1t,m1r[[1]],m1r[[2]],m1r[[3]],m1r[[4]],m1r[[5]])
> colnames(m1)<-c("Whole Kingdom",levels(REG2))
> m1
    Whole Kingdom Greater Bangkok     Central       North   Northeast       South
D1     7243396732      3309476162  1913745402  1183518903  1997406053  1107927995
D2    11590713405      4747535193  3083625758  1899521220  3049974125  1864412666
D3    14378100491      5471418154  3729014830  2267388820  3671031121  2295155047
D4    17524509444      5655128552  4521850702  2735696065  4192180956  2773316382
D5    21274050469      6447209379  5272850624  3035155186  4805379064  3295637706
D6    26118957311      6981881002  5851214612  3477260076  5711250724  3917633110
D7    31831967223      8490910928  6658632459  4147738499  6400438825  4691432776
D8    38754488052     10996569356  7726350686  5264432884  8202767059  5511174367
D9    51725032326     14451531530  9185553084  7211041288 11089300550  7547468504
D10  112150620232     33549645321 18412348702 15384777106 24267640011 13137286159

> (t5.1<-round(prop.table(m1,2)*100,1))
    Whole Kingdom Greater Bangkok Central North Northeast South
D1            2.2             3.3     2.9   2.5       2.7   2.4
D2            3.5             4.7     4.6   4.1       4.2   4.0
D3            4.3             5.5     5.6   4.9       5.0   5.0
D4            5.3             5.6     6.8   5.9       5.7   6.0
D5            6.4             6.4     7.9   6.5       6.5   7.1
D6            7.9             7.0     8.8   7.5       7.8   8.5
D7            9.6             8.5    10.0   8.9       8.7  10.2
D8           11.7            11.0    11.6  11.3      11.2  11.9
D9           15.6            14.4    13.8  15.5      15.1  16.4
D10          33.7            33.5    27.7  33.0      33.1  28.5

> # Table 5.2: Per capita current income by decile grops and region
> m2<-cbind(m2t,m2r[[1]],m2r[[2]],m2r[[3]],m2r[[4]],m2r[[5]])
> colnames(m2)<-c("Whole Kingdom",levels(REG2))
```

```
> m2
    Whole Kingdom Greater Bangkok   Central     North Northeast     South
D1        7517890       1149334.0 1396844.2 1361705.9   2513619 1042207.6
D2        7053391       1053864.9 1363826.7 1278338.8   2441647  991647.2
D3        6617519        983151.7 1282787.6 1193020.3   2285270  923464.9
D4        6373645        865000.3 1281194.0 1190127.1   2167585  885590.8
D5        6174074        850296.9 1252440.8 1104647.4   2072197  848303.7
D6        6036559        796843.9 1153953.0 1056171.8   2059528  808298.2
D7        5734895        815624.0 1080413.7 1030555.5   1890521  783361.3
D8        5332596        857939.0 1016353.2 1012799.1   1900887  712086.6
D9        5047709        816923.8  894716.3  986659.1   1731731  695246.2
D10       4646028        808847.3  826779.1  856701.8   1599387  563865.5

> (t5.2<-round(m1/m2,0))
    Whole Kingdom Greater Bangkok Central North Northeast South
D1            963            2879    1370   869       795  1063
D2           1643            4505    2261  1486      1249  1880
D3           2173            5565    2907  1901      1606  2485
D4           2750            6538    3529  2299      1934  3132
D5           3446            7582    4210  2748      2319  3885
D6           4327            8762    5071  3292      2773  4847
D7           5551           10410    6163  4025      3386  5989
D8           7267           12817    7602  5198      4315  7739
D9          10247           17690   10266  7309      6404 10856
D10         24139           41478   22270 17958     15173 23299
```

Remarks:

Table t5.2 is slightly different from the report.

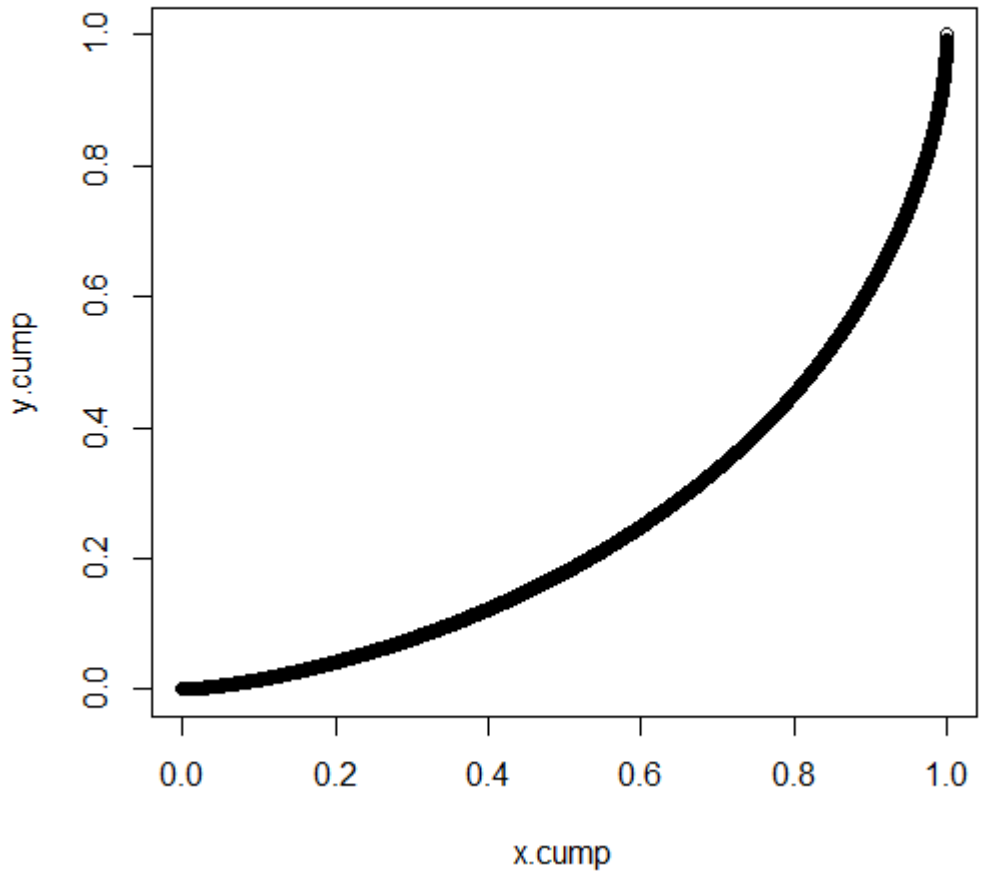
According to the delegates from Thailand for the Fifth International Workshop,

Average monthly per capita current income is defined as variable “A16”. Its formula is average monthly current income per household divided by number of household members (exclude servants). For each group, they just averaged per capita current income by region. A possible reason for this discrepancy may be the method used to treat “ties” when classifying households to each decile.

● INEQUALITY OF HOUSEHOLD INCOME

□ Lorentz curve of household income

```
> # Lorentz curve
> INC<-INC[order(INC$A13),]
> x<-INC$WT    # household weight
> x.cum<-cumsum(x)
> x.cump<-x.cum/sum(x)
> y<-INC$A13*INC$WT    # total household income multiplied by weight
> y.cum<-cumsum(y)
> y.cump<-y.cum/sum(y)
> sum(x)
[1] 18178247
> sum(y)
[1] 339205129908
> plot(x.cump,y.cump)
```



☐ Methods of generating decile groups

➢ 1. Usage of svydesign

```
> # survey design
> svh<-svydesign(id=~1,weights=~WT,data=INC)
> attach(INC)
>
> # break points: deciles considering weights
> (breaks<-svyquantile(~A13,svh,c(0:10)/10))
          0  0.1      0.2  0.3  0.4      0.5   0.6   0.7      0.8   0.9       1
A13 -125861 4048 5835.921 7505 9366 11701.47 14529 18425 24871.62 37749 1579134
>
> # create decile groups; D1-D10
> d.g<-cut(A13,breaks,labels=paste("D",1:10,sep=""),
+ right=T,include.lowest=T)
>
> # distribution of sample household by d.g
> table(d.g, useNA="ifany")
d.g
  D1   D2   D3   D4   D5   D6   D7   D8   D9  D10
3437 3758 3931 4022 4320 4298 4502 4747 4935 5105
>
> # distribution of estimated number of household by d.g
> svytable(~d.g, svh)
d.g
     D1      D2      D3      D4      D5      D6      D7      D8      D9     D10
1818301 1817309 1819253 1816540 1817581 1819045 1816792 1817733 1818090 1817604
>
> # instead of using svytable
> tapply(WT, d.g, sum)
     D1      D2      D3      D4      D5      D6      D7      D8      D9     D10
1818301 1817309 1819253 1816540 1817581 1819045 1816792 1817733 1818090 1817604
```

➢ 2. Alternative way to generate break points

```
> z<-rep(0,10)
> for(j in 1:10){
+ z[j]<-INC[sum(x.cump<=j/10),"A13"]
+ }
> names(z)<-paste("D",1:10,sep="")
> z
     D1      D2      D3      D4      D5      D6      D7      D8      D9     D10
   4048    5835    7505    9366   11701   14529   18425   24871   37749 1579134

> breaks
          0  0.1      0.2  0.3  0.4      0.5   0.6   0.7      0.8   0.9       1
A13 -125861 4048 5835.921 7505 9366 11701.47 14529 18425 24871.62 37749 1579134
```

☐ Gini coefficient considering weights

```
> (n<-length(x))
[1] 43055
> (gini<-sum(x.cump[-n]*y.cump[-1])-sum(x.cump[-1]*y.cump[-n]))
[1] 0.4979381


> # Defined function weighted.gini
> weighted.gini<-function(x,w=rep(1,length(x))){
+ n<-length(x)
+ o<-order(x)
+ x<-x[o]
+ w<-w[o]
+ x<-x*w
+ p<-cumsum(w)/sum(w)
+ L<-cumsum(x)/sum(x)
+ return(sum(p[-n]*L[-1])-sum(p[-1]*L[-n]))
+ }
>

> # Gini coefficient of household income
> weighted.gini(A13,WT)
[1] 0.4979381

> # Gini coefficient of household expenditure
> weighted.gini(RO1$A07,WT)
[1] 0.4073038
```

Confidential

Household Socio-Economic Survey 2007

(Questionnaire of Household Members and Expenditures)

SES. 2

Enumeration Month……..……..…

A. Location of Household

(For Office Use Only)

1. Region…….……...……...…… REG
2. Province…..…… CWT
3. Amphoe..……..…….. AMP
4. Tambon……..…..…… TMB
5. ☐ Municipal area ☐ Non-municipal area AREA
6. Enumeration district no.…….……..……. E.D.
7. Block / Village no…..……..…….…… BLK / VIL

   Village name……..…….

   Household address…...……. Street……. PSU_NO
8. Name of household head……..…… HH_NO

B. Enumeration Result

ENU ☐

Listing Stage	Enumeration Stage	Code
Completed-information	- Response……	1
	- New household in the same premise was enumerated…..……	2
	- Demolished / fired dwelling……..	3
	- Vacant dwelling……	4
Incompleted-information	- Response……..……	5
Incompleted-information	- Non-response after three visits……	6
	- Refuse to participate..…….……....	7
	- Non-response due to other reasons (Specity)……..…...…....……..	8

Interview-time used……...……hours……..….minutes

Signature…….……..…… (Interviewer)

Date……Month……..2007

Signature…….……..…… (Editor and Encoder)

Date…….Month……2007

Signature……..……..……..…… (Supervisor)

Date……Month……..2007

Summary of Household Information

(For office use only)

REC 0 1 SUB 0 1

Items	Questionnair	Part	Fieldname
1. Enumeration Month	SES. 2	Front page	A01
2. Earners in the household and household status			
2.1 Number of Earners ***(include** servants)*	SES. 2	Part 1	A02
2.2 Socio-Economic Class of Household ***(exclude** servants)*	SES. 3	Part 1 - 4	A03
3. Number of Sub - record			
3.1 Record 02 : Number of household members ***(include** servants)*	SES. 2	Part 1	A04
3.2 Record 13 : Number of household members who earn from wages and salaries ***(include** servants)*	SES. 3	Part 1	A05
3.3 Record 14 : Number of household members who earn from non-farm business	SES. 3	Part 2	A06
4. Household Expenditures *(Generated by computer programming)*	SES. 2	Part 3 - 4	
4.1 Monthly Average of Total Household Expenditures			A07
4.2 Monthly Average of Household Expenditures on Consumption			A08
4.3 Monthly Average of Household Expenditures on Food, Beverages and Tobacco			A09
4.4 Monthly Average of Total Household Expenditures per Capita			A10
4.5 Monthly Average of Household Expenditures on Consumption per Capita			A11
4.6 Monthly Average of Household Expenditures on Food, Beverages and Tobacco per Capita			A12
5. Household Income *(Generated by computer programming)*	SES. 3	Part 1 - 4	
5.1 Monthly Average of Total Income			A13
5.2 Monthly Average of Current Income			A14
5.3 Monthly Average of Total Income per Capita			A15
5.4 Monthly Average of Current Income per Capita			A16
6. Income by Sources *(Generate by computer programming)*			
(a) Income in-cash			
6.1 Previous month household income from wages and salaries	SES. 3	Part 1	A17
6.2 Average household income per month from wages and salaries	SES. 3	Part 1	A18
6.3 Previous month household net profit from non-farm business	SES. 3	Part 2	A19
6.4 Average household net profit per month from non-farm business	SES. 3	Part 2	A20
6.5 Previous month household net profit from farm business	SES. 3	Part 3	A21
6.6 Average household net profit per month from farm business	SES. 3	Part 3	A22
6.7 Previous month household income from pensions/annuities/other assistances	SES. 3	Part 4	A23
6.8 Average household income per month from pensions/annuities/other assistances	SES. 3	Part 4	A24
6.9 Previous month household income from work compensations/terminated payment	SES. 3	Part 4	A25
6.10 Average household income per month from work compensations/terminated payment	SES. 3	Part 4	A26
6.11 Previous month household income from assistance from other people outside household	SES. 3	Part 4	A27
6.12 Average household income per month from assistance from other people outside household	SES. 3	Part 4	A28

Summary of Household Information (Cont.)

(For office use only)	REC	REC 0 1	0 1
Items	**uestionna**	**Part**	**Fieldname**
6.13 Previous month household income from elderly and disability assistance from government and other organisation	SES. 3	Part 4	**A29**
6.14 Average household income per month from elderly and disability assistance from government and other organisation	SES. 3	Part 4	**A30**
6.15 Previous month household income from property rental including licence and copyright	SES. 3	Part 4	**A31**
6.16 Average household income per month from property rental including licence and copyright	SES. 3	Part 4	**A32**
6.17 Previous month household income from saving interest/shares/bonds/stocks	SES. 3	Part 4	**A33**
6.18 Average household income per month from saving interest/shares/bonds/stocks	SES. 3	Part 4	**A34**
6.19 Previous month household income from informal credit/lending	SES. 3	Part 4	**A35**
6.20 Average household income per month from informal credit/lending	SES. 3	Part 4	**A36**
6.21 Sum of all previous month household income in-cash	SES. 3	Part 1 - 4	**A37**
6.22 Sum of all aveage houehold income in-cash per month	SES. 3	Part 1 - 4	**A38**
(b) Income in-kind *(average per month)*			
6.23 Average household income per month from estimated rental of free-occupied or owned house	SES. 2	Part 3	**A39**
6.24 Average household income per month from unpaid of goods and services (include tobacco produc	SES. 2	Part 3 - 4	**A40**
6.25 Average household income per month from upaid of food and beverage	SES. 2	Part 4	**A41**
(c) Other receives			
6.26 Previous month household income from education scholarship	SES. 3	Part 4	**A42**
6.27 Average household income per month from education scholarship	SES. 3	Part 4	**A43**
6.28 Previous month household income from inheritance/gifts	SES. 3	Part 4	**A44**
6.29 Average household income per month from inheritance/gifts	SES. 3	Part 4	**A45**
6.30 Previous month household income from insurances (health/accident etc.)	SES. 3	Part 4	**A46**
6.31 Average household income per month from insurances (health/accident etc.)	SES. 3	Part 4	**A47**
6.32 Previous month household income from others e.g. lottery winnings, commission, gambling etc.	SES. 3	Part 4	**A48**
6.33 Average household income per month from others e.g. lottery winnings, commission, gambling et	SES. 3	Part 4	**A49**
6.34 Sum of all other receives from previous month	SES. 3	Part 4	**A50**
6.35 Sum of all other receives average per month	SES. 3	Part 4	**A51**
7. Household Weight			**A52**

Part 1 Household Members

	Fieldname
1. Number of members in the household	
2. Name and number of member who usually live in this household	HM01
3. Relationship of member to household head Household head = 1 Married Son/Daughter = 4 Parents/Grandparents = 7 Other tenure Spouse = 2 Son/Daughter in-law = 5 Siblings and other relative = 8 Household employees Unmarried Son/Daughter = 3 Grandchild = 6 or servants = 0	HM02
4. Sex Male = 1 Female = 2	HM03
5. Age at last bithday *(If less than 1 year, record "0". If over 99 year, record "99".)*	HM04
6. Religion Buddhism = 1 Islam = 2 Christian = 3 Others *(please specify.....)* = 4	HM05
7. Language used to communicate within household Thai = 1 Malay/Yawi= 2 Chinese = 3 Mon/Burmese = 4 Cambodian/Souy = 5 Karen = 6 Other *(specify....)* = 7	HM06
8. Are you disable person? No = 0 Yes, since birth: - Physical = 1; - Cerebral Palsy = 2; - Physical and Cerebral Palsy = 3 Yes, after birth: - Physical = 4; - Cerebral Palsy = 5; - Physical and Cerebral Palsy = 6	HM07
9. Can you take care yourself *(for regular activities)* **without any help?** No = 0 Yes = 1	HM08
10. Can you travel (out of the house) without any help? No = 0 Yes = 1	HM09
11. Marital Status *(ask only member with 15 year of age and over)* Single (never married) = 1 Married = 2 Widowed = 3 Divorced = 4 Separated = 5 Married but do not know the status = 6	HM10
Ask every member with less than 5 year of age ← Note: "5" should be read as "15".	
12. Are you staying with your parents? Yes *(Go to Q.15)* = 1 Stay with father = 2 Stay with mother = 3 stay with relatives = 4 Stay with other person *(specify)*= 5	HM11
13. How long have you been away from your parents?	HM12
14. Why didn't you stay with your parents? Father and/or mother died = 1 Father and/or mother worked in another province = 3 For education in another area = 5 Father and mother separated = 2 Father and/or mother worked abroad = 4 Other (please specify) = 6	HM13
Ask every members with 6 years of age and over	
15. Are you attending school now ? No, never studied = 0 *(Go to Q.18)* Yes, in private school = 1 Yes, in public school = 2 No, but ever studied = 3	HM14
16. The highest level of education attainment *(If the completed level was in college or university, then specify the study subject)* — **The completed level**	HM15
— **(Major subject)**	HM16
If "studying", specify the completed level and the recent level — **The recent level**	HM17
17. Expenditure on education *(for the whole academic year) (if unpaid, please estimate the value)*	
- Tuition Fees.....	HM18
- Uniforms *(All kinds)*	HM19
- Books, stationary and equipments.....	HM20
- Transport.....	HM21

REC 0 2

SUB 0 1	SUB 0 2	SUB 0 3	SUB 0 4	SUB 0 5	SUB 0 6	SUB 0 7
0 1	0 2	0 3	0 4	0 5	0 6	0 7

			Field name
18. At present, does your household member receive the following welfare of medical services?			
- Government / state enterprise' welfare	No = 0	Yes = 1	HM22
- Universal health coverage card *(30 bath)*	No = 0	Yes = 1	HM23
- Medical card *(social security)*	No = 0	Yes = 1	HM24
- Private health insurance	No = 0	Yes = 1	HM25
- Employer welfare	No = 0	Yes = 1	HM26
19. During the past 5 years, did the members in your household receive benefits from the government programs?			
- Social pension for the elderly poor	No = 0	Yes = *(specify no. of years)*	HM27
- Social pension for disability	No = 0	Yes = *(specify no. of years)*	HM28
- Free school lunch/supplementary food program	No = 0	Yes = *(specify no. of years)*	HM29
- Government scholarship program	No = 0	Yes = *(specify no. of years)*	HM30
- Other funds to assist farmers	No = 0	Yes = *(specify no. of years)*	HM31
20. Did any member of your household borrow money from the following government funds?			
- Government loan for education	No = 0	Yes = 1	HM32
- People bank	No = 0	Yes = 1	HM33
- Village fund scheme	No = 0	Yes = 1	HM34
- Other funds *(Please specify)*	No = 0	Yes = 1	HM35

Ask every members with 15 years of age and over (including the one that less that 15 years of age and having incomes)

21. What kind of primary occupation did you do during the past 12 months? HM36

(specify type of occupation or reasons of not working)

22. Work status HM37

		(Code for economically inactive status)	
Employer	= 01	Housewife	= 08
Own-account worker (without employee)	= 02	Student	= 09
Unpaid family worker	= 03	Children/elder	= 10
Government employee	= 04	Disable person	= 11
State enterprise employee	= 05	Looking for a job	= 12
Private employee	= 06	Not intend to work	= 13
Member of producers' group	= 07	Other *(Please specify)*	= 14

23. Type of economic activity *(If in Q.22 answered "08 - 14", then record "99")* HM38

24. What kind of secondary occupation did you do during the past 12 months? HM39

25. Work status HM40

26. Type of economic activity HM41

SUB 01	SUB 02	SUB 03	SUB 04	SUB 05	SUB 06	SUB 07
01	02	03	04	05	06	07

Part 2 Housing Characteristics

REC 0 3 SUB 0 1

1. Type of Dwelling HH01

Detached house……..…… = 1
Row house……..= 2
Town house/twin house……..…… = 3
Flat or apartment…… = 4
Room or rooms……...…… = 5
Improvised quarter…….……...…..…… = 6
Others *(please specify)* ……..……...…… = 7

2. Materials of construction HH02

Cement or brick ……...…… = 1
Wood ……...…… = 2
Wood and cement or brick……..…… = 3
Local materials……..……..……= 4
Re-used materials……..……..……= 5
Others (please specify)……..……= 6

3. Tenure HH03

Own dwelling and land……..……= 1
Own dwelling on rented land……...…… = 2 (*go to*
Own dwelling on public area……..…… = 3 *Q. 5)*
Hire - purchased……..…..…… = 4
Rent……..…… = 5
Rent paid by others……...…… = 6
Rent, free of charge...……..…… = 7

4. Who pay the rent? HH04

Dweller……..……..... = 1
Employer……
- Government/state enterprise……..…… = 2
- Company or private agency……..……= 3
- International agency……...…… = 4

Parents……..…… = 5
Relatives……..……= 6
Others (please specify)……..…….... = 7

5. Monthly rent or estimated rental HH05

(If owned house or occupied rent free)

6. Is part of the building used for business purposes? HH06

No = 0
Yes = 1 specify……...……...…..……..

7. Number of rooms

Occupied by the household HH07
Number of bedroom HH08

8. Electricity in dwelling HH09

(including other sources of electricity connected)

No = 0 Yes = 1

9. Cooking fuel (Mainly used) HH10

Charcoal……..…… = 1
Wood……..…… = 2
Kerosene……...…… = 3
Gas……..…… = 4
Electricity……...…… = 5
Others (please specify) ……...…… = 6
No cooking……...……= 0

10. Drinking water HH11

Bottle-water……...…… = 0
Inside piped water supply……..…….... = 1
Inside piped underground water ……..…… = 2
Outside piped or Public tap……...…… = 3
Well or Underground water...……..…… = 4
River, stream, waterfall……...…… = 5
Rain water……..…… = 6
Others (please specify)……...……= 7

11. Water supply for general use

(Enter the code according to Q.10) HH12

12. Disposing of garbage in this household

(not more than 2 answers)

1st **HH13** ☐

2nd **HH14** ☐

Public collection……..……..…..……= 1

Burn…….……= 2

Landfill…….……= 3

Animal feeds……...……= 4

Composting……...……= 5

Disposing in rivers / canals …….…… = 6

Disposing on vacant/public proportions…….…… = 7

Others (please specify)……...……= 8

13. Toilet Facilities **HH15** ☐

No facilities……..…… = 0

Flush latrine……..…… = 1

Moulded latrine…….……= 2

Flush and moulded latrine…….…… = 3

Others (please specify)……..……..… = 4

14. Does the household use any of the following vehicles for private?

If "yes", specify "quantity".

(For either household use or bussiness use or both)

If "owned", specify "quantity".

If "not owned", record " 0 ".

Bicycle……..……..…..... **HH16** ☐

Motorcycle……..……..……... ….... **HH17** ☐

Automobile…..…..……..……... ..... **HH18** ☐

Pick-up (mini truck).……..……... ….... **HH19** ☐

Other mini-truck ……..……..…..…. ….... **HH20** ☐

Motor boat……..……..…..... **HH21** ☐

15. Does the household own any of the following items?

If "yes", specify "quantity".

If "owned", specify "quantity".

If "not owned", record " 0 ".

Bed, wood or metal…… **HH22** ☐

Cook stove - gas ……..…… **HH23** ☐

- electricity..…… **HH24** ☐

Microwave ovens…… **HH25** ☐

Electrical pot…… **HH26** ☐

Refrigerator…… **HH27** ☐

Electrical iron…… **HH28** ☐

Electrical cooking pot…… **HH29** ☐

Electrical fan…… **HH30** ☐

Radio…… **HH31** ☐

Television…… **HH32** ☐

Video, VCD, DVD player……..…… **HH33** ☐

Washing machine…… **HH34** ☐

Air conditioner…… **HH35** ☐

Water boiler…….…… **HH36** ☐

Home computer…… **HH37** ☐

- with internet connected…… **HH38** ☐

Telephone *(include PCT)* …… **HH39** ☐

Mobile phone…… **HH40** ☐

Facsimile…… **HH41** ☐

Fluorescence…… **HH42** ☐☐

Light bulb……...…… **HH43** ☐☐

Compact fluorescent lamp…… **HH44** ☐☐

16. Number of members with access to the internet in the past 12 months, regardless of where to access it.

(If "no", record " 0 ".) **HH45** ☐☐

Part 3 Expenditure on Goods and Services

Record "amounts" *(if paid)* or "value" *(if not paid)* for each group according to the reference period

Items	Field name	The previous month: Paid in cash *(Amount of money) (1)*	The previous month: Paid in kind *(Estimated value) (2)*
A. Household Expenditures on Consumption		REC 0 4 SUB 0 1	
1. Expenditures on dwelling *(Exclude cost of new construction)*			
1.1 House and land rent	EG01		
1.2 Labor cost and material for maintenance/repair of dwelling	EG02		
1.3 Fitting/repair plumbing and bathroom appliances	EG03		
1.4 Fixtures and fitting for electricity	EG04		
1.5 Tools for maintenance/repair of dwelling	EG05		

2. Expenditure on operation in the household and on miscellaneous / **2.1 Furniture and equipment**	During the past 12 months: Paid in cash *(Amount of money) (1)*	During the past 12 months: Paid in kind *(Estimated value) (2)*	Field name	Average per month *(office use only)*: Paid in cash *(Amount of money) (3)*	Average per month *(office use only)*: Paid in kind *(Estimated value) (4)*
Major equipment and other furniture *(bed,chair, table,wardrobe,etc.*			EG06		
Cook stove, Gas or electric, Microwave ovens, Rice cookers			EG07		
Blenders, Mixers, Electric pots			EG08		
Washing machine, Household water pump,Water boiler			EG09		
Air conditioners, Refrigerators, fan			EG10		
Other major equipment *(Sewing machine, Vacuum cleaner, etc.)*			EG11		
Maintenance and repair			EG12		

Items	Field name	The previous month	
		Paid in cash *(Amount of money)* *(1)*	Paid in kind *(Estimated value)* *(2)*
		REC 0 5 SUB 0 1	
2.2 Textile house furnishings			
Bedclothes *(Mosquito net, Bed sheets, Blankets, Curtains, etc.)* ……	EG13		
Kitchen and table sheet *(Table and Kitchen linen, Tablecloth, etc)* ……	EG14		
Other cloth used in household *(Towels, Door mats, Floor mats, etc.)* ……	EG15		
2.3 Other items of household appliances			
Kitchenware *(Pots and pans, Pottery ware, Dishes, Cutlery, etc.)* ……	EG16		
Vacuum flasks, Buckets jars, Glassware, Basin, and other……	EG17		
2.4 Fuel, light and water supply			
Electricity …..	EG18		
Cooking gas……	EG19		
Gas for other purposes….	EG20		
Charcoal and wood….	EG21		
Kerosene….	EG22		
Lighting equipment *(Light bulbs, Lamps, Batteries, Candles, Matches, etc.)* ……	EG23		
Water supply and underground water….	EG24		
2.5 Cleaning supplies			
Mops and Brooms……	EG25		
Detergent, soap, flake,Softener and starch……	EG26		
Household polishes, Deodorizer, Insecticides, disinfectants, Rubbish Services, and others ..	EG27		

Items	Field name	The previous month	
		Paid in cash *(Amount of money)* *(1)*	Paid in kind *(Estimated value)* *(2)*
3. Expenditure on servants		REC 0 6 SUB 0 1	
3.1 Servants who are a member of the household *(Cook, Drivers, Baby sister, etc.)*……	EG28		
3.2 Servants who are not a member of the household *(Include Child care services and guard fee)*……	EG29		
4. Expenditure on cloth, clothes and clothing			
4.1 Shirt, Skirt, and pants, etc. *(Include uniforms and bijamas)* ……	EG30		
4.2 Sportswear *(swimsuit, etc.)*……	EG31		
4.3 Panung/sarong, PA-KAO-MA, and underwear……	EG32		
4.4 Other clothing (belts, neckties, etc.)……	EG33		
4.5 Tailoring, Repair and altering of garments……	EG34		
4.6 Hire of clothes, Laundry and dry cleaning……	EG35		
5. Expenditure on footwear			
5.1 Leather/rubber shoes, Leather/rubber slippers……	EG36		
5.2 Sport shoes……	EG37		
5.3 Repairing shoes, Hire of footwear and shoes cleaning services……	EG38		
6. Expenditure on personal supplies			
6.1 Personal supplies			
Toilet soap, Tooth paste, Tooth brush/eletric tooth brush, Shampoo and conditioner, Hair tonic and hair lotion, powder……	EG39		
Brushes/electric brushes, Razor and blades, electric shaver, etc.……	EG40		
Cosmetics *(Perfume and cologne, face powder ,, lipstick, etc)* ……	EG41		
Wrist watch, Sunglasses, umbrella, Hand-bags, purses, suitcases……	EG42		
Other personal suppliers *(Toilet paper, tissue paper, Sanitary napkins, etc.).* ……	EG43		
Repairing……	EG44		
6.2 Personal services			
Beauty saloon *(Haircut, Haircurl, Hirset, Hairdye, Manicure, etc.)* ……	EG45		
Other personal services *(Traditional massage, Turkish bath, Massage, etc.)* ……	EG46		

Items	Field name	The previous month: Paid in cash (Amount of money) (1)	The previous month: Paid in kind (Estimated value) (2)
7. Expenditure on health care and medical supplies		REC 07 SUB 01	
7.1 Medical supplies			
Modern drugs *(Cough remedies, Antidiarrheals, Antiseptice, Inhalant, etc.)* ……	EG47		
Traditional/herbal drugs…..……	EG48		
Contraceptives and Condom……	EG49		
Vitamins…..……	EG50		
First-aid kits and other medical equipment…..……	EG51		
7.2 Medical treatment expense (Outpatients), Dental and Optometrics			
Poblic health centre, Public hospital within amphoe, and Provincial public hospital……	EG52		
Private clinic and private hospital……..……..……	EG53		
Traditional healer/sed harb medical services...……..……	EG54		
Dental clinic…..……	EG55		
Optometry services, including corrective eye-glasses, contact lenses, etc.……..……	EG56		
Annual check up……..……..…..……..……..……..……..……..…	EG57		

Items	Field name	During the past 12 months: Paid in cash (Amount of money) (1)	During the past 12 months: Paid in kind (Estimated value) (2)	Average per month (office use only): Paid in cash (Amount of money) (3)	Average per month (office use only): Paid in kind (Estimated value) (4)
7.3 Medical treatment expense (Inpatients)					
Public health centre, Public hospital within amphoe, and Provincial public hospital……	EG58				
Private clinic and private hospital……	EG59				
Other medical services *(Special nurse fees, etc.)* ……	EG60				

Items	During the past 12 months		Field name	Average per month *(office use only)*	
	Paid in cash *(Amount of money)* (1)	Paid in kind *(Estimated value)* (2)		Paid in cash *(Amount of money)* (3)	Paid in kind *(Estimated value)* (4)
8. Expenditure on transportation and communication				REC 0 8 SUB 0 1	
8.1 Vehicle expenditure					
Automobile, Van Pick up			EG61		
Motorcycle, bicycle, and other vehicles			EG62		
Others (please specify)			EG63		
8.2 Maintenance and expenses on private vehicles					
Tyre and inner tube and Battery			EG64		
Grease & Lubricating oil			EG65		
Overhaul and Repairs and Spare parts			EG66		
Driving lessons, License fees, Registration fees			EG67		
Helmet			EG68		
				The previous month	
				(1)	(2)
Lubrication, Washing, Tyre repair			EG69		
Other maintenance costs (Parking rate, Toll fees, etc.)			EG70		
8.3 Expenditure on transportation					
Car, boat and ferry, Mini bus/Van, Train, Sky train, Tube			EG71		
School bus, Staff bus			EG72		
Taxi, Samlor, Motorcycle			EG73		
Private vehicles					
- Unleaded gasoline (Octane No.91)			EG74		
- Unleaded gasoline (Octane No.95)			EG75		
- Gasohol			EG76		
- NGV			EG77		
- Liquified petroleum gas (LPG)			EG78		
- Diesel			EG79		

Items	During the past 12 months		Field name	Average per month *(office use only)*	
	Paid in cash *(Amount of money)* (1)	Paid in kind *(Estimated value)* (2)		Paid in cash *(Amount of money)* (3)	Paid in kind *(Estimated value)* (4)
8.4 Travel for special occasion and tours				REC 09 SUB 01	
Travel to visit home/relatives, to religious activity and other businesses……			EG80		
Personal domestic and out-bound trip……			EG81		
Package of domestic and out-bound trip and other expenses...			EG82		
Expenses on goods/souvenir during the domestic trip.....			EG83		
Expenses on goods/souvenir during the out-bound tour……			EG84		
8.5 Communication services					
Communication equipment *(Telephone, mobile phone, etc.)* ……			EG85		
				The previous month	
				(1)	(2)
Telephone, Mobile phone *(Service rate)* ……			EG86		
Membership and Internet services……			EG87		
Other communications *(Stamps, Postage, Writing pad and envelope, etc.)* ……			EG88		

9. Education expenses	During the past 12 months			Average per month *(office use only)*	
	Paid in cash *(Amount of money)* (1)	Paid in kind *(Estimated value)* (2)		Paid in cash *(Amount of money)* (3)	Paid in kind *(Estimated value)* (4)
9.1 School fees - public school and Tuition - public vocational……			EG89		
9.2 School fees - private school and Tuition - private vocational……			EG90		
9.3 Text books and School equipment……			EG91		
9.4 Special lessons……			EG92		
9.5 Other education expenses……			EG93		

Items	During the past 12 months		Field name	Average per month *(office use only)*	
	Paid in cash *(Amount of money)* (1)	Paid in kind *(Estimated value)* (2)		Paid in cash *(Amount of money)* (3)	Paid in kind *(Estimated value)* (4)
10. Ependiture on recreation and religious ceremonies				REC 1 0 SUB 0 1	
10.1 Recreation and sport equipment					
TV, radio, cassette tape/compact disc/VDO/VCD/DVD.....			EG94		
Camcorders, Cameras, Movie slide projector……			EG95		
Cable TV installment fees or satellite discs……			EG96		
Home computer equipment ……			EG97		
Tennis, golf and sport equipment, Body fitness equipment……			EG98		
Maintenance and repair and others……..			EG99		
10.2 Sport, Toy, Pets, and Gardening				**The previous month**	
				(1)	(2)
Toys……			EG100		
Pets and pet equipment……			EG101		
Trees/shrubs/fertilizer/sprays/garden equipment……			EG102		
Purchasing records, tapes, VDO tape, VCD, Renting records, tapes, VDO tape, VCD, Cable TV membership fees, Film, Memory stick, developed & contact printing.....			EG103		
Maintenance and repair and others……			EG104		
10.3 Admissions & fees					
Cinema, Theatre/traditional arts, Sport stadiums……			EG105		
Amusement parks, Gardens, zoo, historical sites, Museums……			EG106		
Sport fees *(Swimming rate, etc.)* ……			EG107		
Others *(Memberships, etc.)* ……			EG108		
10.4 Reading materials and Religious activities					
Newspapers, Magazines, Books *(Other than studying books)* ……			EG109		
Library fees……			EG110		
Gift to the temples (including flowers, joss stick, other religious expenses)……			EG111		
	During the past 12 months			**Average per month** *(office use only)*	
	Paid in cash *(Amount of money)* (1)	**Paid in kind** *(Estimated value)* (2)		**Paid in cash** *(Amount of money)* (3)	**Paid in kind** *(Estimated value)* (4)
11. Special ceremony expenses					
Wedding, Birthday, Ordination, Cremation, Other ceremonies ……			EG112		

Items	During the past 12 months		Field name	Average per month *(office use only)*	
	Paid in cash *(Amount of money)* (1)	Paid in kind *(Estimated value)* (2)		Paid in cash *(Amount of money)* (3)	Paid in kind *(Estimated value)* (4)
B. Non-consumption expenditure				REC 1 1 SUB 0 1	
1. Income tax, House and land tax, Fine					
2. Membership of occupation *(Labor union, Agicultural associations, etc*			EG114		
3. Contribution to persons not in the household			EG115		
3. Contribution to charitable institutions			EG116		
4. Contribution to religious institution			EG117		
5. Property insurance, Life insurance and accident, Cremation fees, Social Security Fund			EG118		
7. Lottery, Gambling			EG119		
8. Interest, Shares			EG120		
9. Others (Compensation, Lost money, Commission, Packing, moving services, etc.)			EG121		
	Total amount				

Part 4 Expenditure on Food, Beverages and Tobacco

Household spending on the following groups of food, beverages and tobacco, in one week

* Estimate "value" for 1 week if food can be consumed longer than a week.

(Exclude food expensed for special occation which recorded in Part 3 item no.11)

REC 1 2 SUB 0 1

Items	Field name	The previous week	
		Paid in cash *(Amount of money) (1)*	Paid in kind *(Estimated value) (2)*
1. Grains and cereal products	EF01		
Noodle, bread, bakery.....		.....	.....
* Rice, glutinous rice, oats, cassava flour, corn flour.....		.....	.....
* Macaroni, spaketti, pastries, bean curd, others.....		.....	.....
2. Meats and poultry	EF02		
Fresh meat *(pork, beef, chicken, etc.)* ..... and preserved meat *(ham sausaques, etc.)*		.....	.....
* Prepared meat *(salted pork, salted beef, etc.)*		.....	.....
3. Fishes and seafood	EF03		
Fresh seafood *(fish, prawns, etc.)* and preserved seafood *(steamed fish,etc..)*		.....	.....
* Prepared seafood *(salted fish salted crab,etc.)*		.....	.....
4. Milk, cheese and eggs	EF04		
Fresh milk and other similar milk products, eggs.....		.....	.....
* Conensed milk, cheese, etc.....		.....	.....
5. Oils and fats	EF05		
* Lard oil, vegetable oil, butter and margarine,.....		.....	.....
6. Fruits and nuts	EF06		
Fresh fruits and dried and preserved fruits.....		.....	.....
* Tinned fruits, beans and nuts.....		.....	.....

Items	Field name	The previous week	
		Paid in cash *(Amount of money) (1)*	Paid in kind *(Estimated value) (2)*
7. Vegetables	**EF07**		
Fresh vegetables.....		……	……
* Preserved vegetables *(pickled and salted vegetables, etc.)* ……..		……	……
8. Sugar and sweets	**EF08**		
Ice cream, candy, jellies, chocolate,……..…….....		……	……
* All kinds of sugar *(white / brown / palm sugar)* , jam, confection,.....…..…….….....		……	……
9. Spices and condiments	**EF09**		
* Salt, fishsauce, vinegar, soy sauce,……		……	……
10. Non-alcoholic beverage at home			
* Prepared products *(coffee tea leaves, cocoa, etc)* …….	**EF10**		
Preserved products *(fresh water, coke, instant coffee, et c.)* ……	**EF11**		
11. Prepared food eaten at home	**EF12**		
* Ready - cooked food *(curry, fried rice, etc.)* ……..		……	……
Preserved products *(instant noodles , etc.)* ……..		……	……
12. Food and non-alcoholic beverage away from home	**EF13**		
(Breafast, lunch, dinner, snacks,etc.) ……		……	……
13. Alcoholic beverages			
Drunk at home.....……...…….....…….....……..	**EF14**		
Drunk away from home .....……...…….....…….....……..	**EF15**		
14. Tobacco products			
Cigarettes, cigars and tobacco.....……..…….....…….....……..	**EF16**		
Betelnuts, etc…….....……..…….....…….....……..	**EF17**		

Confidential

Household Socio-Economic Survey 2007

(Questionnaire of Household Income)

SES. 3

A. Location of Household

1. Region……

2. Province……

3. Amphoe…..……

4. Tambon…….……

5. ☐ Municipal area ☐ Non-municipal area

6. Enumeration district no……

7. Block / Village no..……..

Village name……

Household address…...……. Street…..…….……

8. Name of household head……

(For office use only)

REG ☐

CWT ☐☐

AMP ☐☐

TMB ☐☐

AREA ☐

E.D. ☐☐☐

BLK / VIL ☐☐

PSU_NO ☐☐☐☐

HH_NO ☐☐

ENU ☐

Interview-time used……...……hours……..….minutes

Signature…….…….……

(Interviewer)

Date……Month……..2007

Signature…….…….……

(Editor and Encoder)

Date…….Month……2007

Signature…….…….……

(Supervisor)

Date…….Month……2007

Part 1 Earnings from Wages and Salaries *(during the past 12 months)*

Ask only household member who reported the work status in Q.22 or Q.25, Part 1 SES.2, as government employee or state enterprise employee or private employee.

		Fieldname
1. Names and number of members in the household whose work status was anemployee		**IW 01**
(During the past 12 months)		
2. Specify occupations which household member worked as an employee	**Career code**	**IW02**
	Socio-Economic class	**IW03**
3. How long did you work/employ within the past 12 months?		**IW04**
4. How are wage payments made ?		**IW05**
per item = 1 hourly = 2 daily = 3 weekly = 4 monthly = 5 in-kind = 6 Other = 7		
5. How much did you earn from question 4 ? *(in money term)*		**IW06**
Ask for occupation that is not get monthly payment *(Q 6-9)*		
6. How many days you work/employ in a typical month ?		**IW07**
7. How many hours do you work/employ in a typical day ?		**IW08**
8. *(For the wage payment made per item)* **How many items do you make per month ?**		**IW09**
9. *(in money term)* **In the latest month, how much did you receive income for each occupation ?**		
9.1 Wages or salaries including sales commission		**IW10**
9.2 Overtime, bonus, tip, etc.		**IW11**
	Total 9.1-9.2	
10. *(During the past 12 months)* **how much did you receive income for each occupation ?** *(in money term)*		
10.1 Wages or salaries including sales commission *(**Exclude** cost of buying fools / eguipments)*		**IW12**
10.2 Overtime, bonus, tip etc. *(**Include** thenet remained from paid welfare,*		**IW13**
	Total 10.1-10.2	
11. *(During the past 12 months)* **did you receive any welfare as follows; for being an employee ?**		
11.1 Food and beverages ……		
11.2 Rent and other housing cost (*including* ☐ *water bill* ☐ *electricity bill)* ……		
11.3 water and electricity……		
11.4 Transpotation/petrol ……		
11.5 Medical services and Education……		
11.6 Clothing including goods and services received as part of pay……		
	Total 11.1 - 11.6	**IW14**

REC 1 3

SUB 0 1			SUB 0 2			SUB 0 3		
1st Career (1)	2nd Career (2)	3rd Career (3)	1st Career (1)	2nd Career (2)	3rd Career (3)	1st Career (1)	2nd Career (2)	3rd Career (3)

Part 2 Income from Non-Farm Business *(During the past 12 months)*

Ask only household member who reported the work status in Q.22 or Q.25, Part 1 SES.2, as employer or own - account worker or member of producers group which is in non - farm business.

		Fieldname
1. Names and number of members in the household who operates the business		**IB01**
(During the past 12 months)	**Career code**	**IB02**
2. What kind of work did you do in the business ?	**Socio-Economic class**	**IB03**
	Type of Business	**IB04**
3. How long did you operate this enterprise within the past 12 months? *(If less than one month, record "0".)*		**IB05**
4. How many workers were usually working in this enterprise? *(including the owner, workers and unpaid workers)*		**IB06**
5. How many paid workers were working in this enterprise?		**IB07**
6. How much were gross receipts from sales of goods or services produced or purchased for resale? *(in money term)*		**IB08**
7. Please specify the value of operating cost listed below? *(in money term)*		
7.1 Raw and semi-manufactured materials used in production		
7.2 Rent on office or vehicles		
7.3 Fuel, electricity, oil, gas *(estimated only the part used for business)*		
7.4 Wages and salaries paid to employees in cash or in kind *(including overtime, bonus , and welfare)*		
7.5 Medical services and medicines for employees		
7.6 Interest on business loans, insurance premiums, etc.		
7.7 Taxes related to the business operation		
	Total 7.1 - 7.7	**IB09**
8. How much was the value of home produced goods used in the household? *(estimate at market prices)*		**IB10**
9. If there were people outside the household who worked as partnership in the enterprise, what percentage share of net profits did you obtain?	**Percentage**	**IB11**

REC 1 4

SUB 0 1

SUB 0 2

1st Career (1)	2nd Career (2)	1st Career (1)	2nd Career (2)

During the past 12 months (1)	Last month (2)	During the past 12 months (1)	Last month (2)	During the past 12 months (1)	Last month (2)	During the past 12 months (1)	Last month (2)
.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....
	.....		.....		.....		.....

Part 3 Income from Farm Business *(During the past 12 months)*

Ask only household member who reported the work status in Q.22 or Q.25, Part 1 SES.2, as employer or own - account worker or member of producers group which is in farm business.

REC 1 5 SUB 0 1

	Socio-Economic class	IA01
1. Names and number of members in the household who were responsible for the farm operation		
1.1 ……	No. of member	IA02
1.2 ……	*(1)*	
	(2)	
2. Describe the kind of farm activity	Type of Agriculture	IA03
2.1 ……	*(1)*	
2.2 ……	*(2)*	
2.3 ……	*(3)*	

3. How much land was used during the past 12 months? ……..... rai …… tarangwa

* 3.1 Land owned by holder/parents or relatives	IA04		rai		tarangwa
3.2 Land rented from other	IA05		rai		tarangwa
3.3 Public land/Other *(please specify)*……	IA06		rai		tarangwa

4. How many members of the household worked on this farm? IA07 person(s)

5. How many paid farm workers *(excluding household members)* **were employed?**

Soil preparation	Planting	Harvesting	Others
…… Persons	...…… Persons	…… Persons	*(specify)* .. …… Persons

6. Specify the value that household received (in cash or in kind) from renting on out work animals, farm equipment or agricultural and animal husbandry service.

Items	Received in cash	Received in kind						
		Total			Consumed by household		Others	
		Product	Quantity Unit	Value	Quantity Unit	Value	Quantity Unit	Value
6.1 Renting out work animals /other equipment Agricultural								
6.2 Agricultural service *(such as renting out tractor)*								
Total	IA08	----------			IA09		IA10	

7. Amount and values of crops/forestry were produced. How much was sold in cash, consumed by the household, used for seed, paid for labor, etc.?

Type of production	Total production		For sales		For household consumption		Other *(to pay for employment, breeding / to seed to paydebt etc.)*	
	Quantity	Value	Quantity	Value	Quantity	value	Quantity	Value
Total	**IA11**		**IA12**		**IA13**		**IA14**	

8. Amount and values of livestock/poultry and their by-products were raised/produced. How much was sold in cash, consumed by the household, used for seed, paid for labor, etc.?

Animal and products	Animal and products in total		For sales		For household consumption		Other *(to pay for employment, breeding / to seed to paydebt etc.)*	
	Quantity	Value	Quantity	Value	Quantity	value	Quantity	value
Total			**IA16**		**IA17**		**IA18**	

9. Amount of livestock as of the first day in the past 12 months.

Animal	Total	Value
Pig		
Buffalo		
Cattle		
Others (specify)		
Total	**IA19**	

10. Amount and value of the production of fresh water/marine water, fresh water/marine capture, fishery, hunting, and fishing.

Type of production	Total production		For sales		For household consumption		Other *(to pay for employment, breeding / to seed to paydebt etc.)*	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Total			**IA21**		**IA22**		**IA23**	

11. How much were the operating costs of this farm during the past 12-month?

Exclude 1. The expense on new crops which has not yet provided products.

2. The expense on work animals / breeding or farm assets.

Items	Paid in cash	Paid in kind *Used own products or received assistance*		
		Type of Product	Estimated value	
			Own products	Received assistance
11.1 Estimated rental of own land *(including lending free)*			IA24	
11.2 Land rental				
11.3 Cost of agricultural equipment/Equipment rental/Repair of equipment/Rental of work animals				
11.4 Cost of fuel, electricity , irrigation, etc.				
11.5 Cost of fertilizer, chemical, organic/ cost of insecticides, medicines, etc				
11.6 Cost of baby chicks, piglets and other livestock/Cost of fingerlings/Seed, including estimated farm produced grain				
11.7 Animal feed, including estimated home produced grain				
11.8 Wages paid to farm workers				
11.9 Other expenses (such as interest paid on agricultural loans, taxes on farm, land, cost of transportation used in agriculture, etc.)				
Total	IA25		IA26	IA27

12. During the last month, please specify amount of income and expense from farm (in cash or in kind)

Income ……..….. **IA28** **Baht**

Expense ……..…….. **IA29** **Baht**

(IA28-IA29) **Baht**

Part 4 Income from Other Sources *(During the past 12 months)*

Record "amount" or estimate "value" of income other than income from work (Part 1 - 3) for each reference period.

REC 1 6 SUB 0 1

Items	Fieldname	During the past 12 months		The previous month
		Paid in cash	Paid in kind	Paid in cash
Socio-Economic class *(No.1 -4)*	IO01	7 1		
1. Pensions, annuities or welfare	IO02			
2. Work compensation or terminated payment	IO03			
3. Assistance from other persons outside the household	IO04			
4. Social pension for the elderly	IO05			
5. Scholarship program	IO06			
Socio-Economic class *(No.6 -9)*	IO07	7 2		
6. Income from renting non-agriculture land/ income from rentals *(accommodation and renting other properties)*	IO08			
7. Income from license and copyright	IO09			
8. Interest from banks, bonds, other financial institutions/ dividend from stocks and other	IO10			
9. Interest from "Shares"/interest from loans *(individually)*	IO11			
10. Inheritances, bequeaths, gifts, etc.	IO12			
11. Proceeds from health, accident, fire or life insurance	IO13			
12. Other incomes such as lottery winnings, commissions, gambling, etc. *(not for business purpose)*	IO14			

Part 5 Household Assets and Debt

REC 1 7 SUB 0 1

A. Value of household assets

1. House and land value

1.1 Residential use AD01 Baht

(If owned dwelling on rented-land/ free, then estimate only value of house)

1.2 Business use *(Exclude from above)(Both farm and non - farm purposes)* AD02 Baht

2. Vehicles excluding bicycle *(Both for consumption and investment purpose)* AD03 Baht

(Both household and business purposes)

3. Financial assets *(bank deposit, stocks and bond, gold and jewels, etc.)* AD04

< 10,000 Baht = 1	50,001 - 100,000 Baht = 4	1,000,001 - 5,000,000 Baht = 7
10,001 - 30,000 Baht = 2	100,001 - 500,000 Baht = 5	5,000,001 - 10,000,000 Baht = 8
30,001 - 50,000 Baht = 3	500,001 - 1,000,000 Baht = 6	> 10 Million Baht = 9

B. Financial Status

4. During the past 12 months, did your household have any problem on rent ,utilities payment , tuition fess? AD05

No = 0 Some months (< 3 months) = 1 Yes (> 3 months) = 2

5. Did your housed ever apply for loan when it is needed ? AD06

No = 0 Yes, but not in the full amount = 1 Yes, in the full amount = 2 Never needed = 9

6. Does your household have any problem on borrowing for emergency case? AD07

No = 0 Yes, but not in the full amount = 1 Yes, in the full amount = 2 Never needed = 9

C. Household Debt

7. Did the household have any debt? **AD08** ☐

No = 0 *(Go to Q.10)* Yes = 1

8. Please specify two main sources of loan. **AD09** ☐

Commercial bank	= 1	Savings co-operatives/organization's welfare	= 5	**AD10** ☐
Bank for agriculture&agricultural cooperative	= 2	Village fund scheme	= 6	
Government housing bank/Savings bank	= 3	Persons outside the household	= 7	
Other financial institutions	= 4			

9. Total amount of debt at the end of last month **Total** **AD11** ☐☐☐☐☐☐☐☐ **Baht**

Objective of borrowing:	**Loan from formal sector** *Bank* *Village fund scheme* *(Baht)*	**Loan from informal sector** *person outside the household* *(Baht)*
- For purchase/hire -purchase of house and land.....……..….....	**AD12** ☐☐☐☐☐☐☐☐	**AD18** ☐☐☐☐☐☐
- For education…...……..……	**AD13** ☐☐☐☐☐☐☐☐	**AD19** ☐☐☐☐☐☐
- For household consumption…….....……	**AD14** ☐☐☐☐☐☐☐☐	**AD20** ☐☐☐☐☐☐
- For business operation *(not for agriculture)* ……..…..…..……	**AD15** ☐☐☐☐☐☐☐☐	**AD21** ☐☐☐☐☐☐
- For agricultural operation…….……..…..	**AD16** ☐☐☐☐☐☐☐☐	**AD22** ☐☐☐☐☐☐
- Other *(specify)* …….……..……	**AD17** ☐☐☐☐☐☐☐☐	**AD23** ☐☐☐☐☐☐

10. Did any members of the household begin to borrow money last month?

◯ No ◯ Yes ⇩

Total	**AD24**	☐☐☐☐☐☐☐☐
- Forml debt	**AD25**	☐☐☐☐☐☐☐☐
- Informal debt	**AD26**	☐☐☐☐☐☐☐☐

Part 6 Migration and Remittance Transfers

REC 1 8 0 1

	Field name	
1. During the past 10 years, did any of household members move out of this household ? No = 0 *(Go to B)* Yes = *(specify no. of persons)*	MR01	
A. Remittance of the sending member		
2. Member from No.1		
2.1 How many members used to send remittance to this household ?	MR02	
2.2 How many members send remittance to this household every year?	MR03	
Details of remittance of the sending members *(up to the most three sending members)*		1st Person *(1)* / 2nd Person *(2)* / 3rd Person *(3)*
3. Sex Male = 1 Female = 2	MR04	
4. Age at last birthday	MR05	
5. Relationship of migrant to the recent household head Spouse = 2; Unmarried son/daughter = 3; Married son/daughter = 4; Son/daughter-in-law = 5; Grandchild = 6; Parents,grandparents = 7; Siblings and other relatives = 8	MR06	
6. The highest level of education attainment *(If "never studied", then record "never studied".)*	MR07	
7. What kind of primary occupation during the past 12 months? *(specify type of occoupation or reasons of not working)*	MR08	
8. Type of economic activity *(If "economiclly inactive status", then record "99".)*	MR09	
9. Reasons for migration *(Record the reason of the latest moving out)* move to institutional household = 1; looking for job = 2; to study = 3; military service = 4; other *(please specify....)* = 5	MR10	
10. Destination of migration same village = 1; same tambon = 2; same amphoe = 3; same province = 4; from other province to Bangkok = 5; same region = 6; different region = 7; abroad = 8	MR11	
11. *(In the past 12 month)* **how much did the migrant/mover send money back to the family member at the origin**?	MR12	
B. Remittance of the sending member ***(other than the most three sending members)***		
12. *(In the past 12 month)* **how much did the migrant/mover send money back to family member at the origin?** *(including migrant/mover more than 10 years but excluding debt payment)*	MR13	

REC 1 8 0 2

	Field name			
C. Remittance of the receiving members				
13. Member from No.1				
13.1 How many members used to receive remittance from this household?	MP01			
13.2 How many members receive remittance from this household every year?	MP02			
Details of remittance of the receiving members *(up to three persons who received the highest amount)*		1st Person *(1)*	2nd Person *(2)*	3rd Person *(3)*
14. Sex Male = 1 Female = 2	MP03			
15. Age at last birthday	MP04			
16. Relationship of migrant to the recent household head Spouse = 2 Grandchild = 6 Unmarried Son/daughter = 3 Parents, grandparents = 7 Married son/daughter = 4 Siblings and other relatives = 8 Son/daughter-in-law = 5	MP05			
17. The highest level of education attainment *(If "never studied", then record "never studied".)*	MP06			
18. What kind of primary occupation during the past 12 months? *(specify type of occoupation or reasons of not working)*	MP07			
19. Type of economic activity *(If "economiclly inactive status", then record "99")*	MP08			
20. Reasons for migration *(Record the reason of the latest moving out)* move to institutional household = 1 to study = 3 other *(please specify….)* = 5 looking for job = 2 military service = 4	MP09			
21. Destination of migration same village = 1 same province = 4 different region = 7 same tambon = 2 from other province to Bangkok = 5 abroad = 8 same amphoe = 3 same region = 6	MP10			
22. *(In the past 12 month)* **how much did this household send money to the receiving remittance members?**	MP11			

D. Remittance of the receiving member (other than the 3 most sending members)		
23. *(In the past 12 month)* **how much did the household send money to the receiving remittance members?** *(including migrant/mover more than 10 years but excluding debt payment)*	MP12	

HOUSEHOLD SOCIO - ECONOMIC SURVEY, 2007
(SES REDESIGN)
DATA DICTIONARY

ECONOMIC AND SOCIAL STATISTICS BUREAU
NATIONAL STATISTICAL OFFICE

CONTENTS

			Page
RECORD	01	Summary of Household Information	1
RECORD	02	Household Member	8
RECORD	03	Housing Characteristics	17
RECORD	04	Expenditure on Goods and Services	20
RECORD	05	" " (cont.)	21
RECORD	06	" " (cont.)	22
RECORD	07	" " (cont.)	23
RECORD	08	" " (cont.)	24
RECORD	09	" " (cont.)	25
RECORD	10	" " (cont.)	26
RECORD	11	" " (cont.)	27
RECORD	12	Expenditure on Food, Beverages and Tobacco	28
RECORD	13	Earning from Wages and Salaries	29
RECORD	14	Earning from Business, Industry or Profession other than Farming	31
RECORD	15	Earning from Farm Operation	34
RECORD	16	Income from Other Sources	37
RECORD	17	Asset and Liabilities of Household	39
RECORD	18	Migration and Remittance	41

APPENDIX

APPENDIX	A	Region, Changwat, Amphoe & Tambon Codes A - 1
APPENDIX	B	3 Digit Occupation Codes B - 1
APPENDIX	C	SES.2 (special) : Detailed Expenditure C - 1

-1-

DATA DICTIONARY
HOUSEHOLD SOCIO-ECONOMIC SURVEY, 2007 (SES REDESIGN)

FIELD	FIELD NAME	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
	IDEN			
Region	REG	1	1- Bangkok Metropolis 2- Central (Exclude 1) 3- North 4- Northeast 5- South	
Changwat	CWT	2	(see region & changwat codes) list of amphoe and tambon codes are in cd-rom (thai version)	APPENDIX A
Amphoe	AMP	2		
Tambon	TMB	2		
Administrative Area	AREA	1	1- Municipal areas 2- Non- Municipal areas	
Enumeration District	E.D.	3	see code in the list of amphoe, tambon, E.D. and blocks/villages	
Block / Village	BLK/ VIL	2		
No. of Primary Sample Unit	PSU_NO	4	0001-9998	
No. of Sample Household	HH_NO	2	IF AREA = 1 → HH_NO = 1 → 15 = 2 → HH_NO = 1 → 10	
RESULT OF THE ENUMERATION	ENU	1	1- Response 2- A new household in the same premise was enumerated 3- Dwelling of sampled household was demolished/burnt 4- Vacant dwelling (sampled household move out) 5- Response (No information in listing period) 6- Non response after three visits 7- Refusal 8- Non response due to the other reasons	
SUMMARY OF HOUSEHOLD INFORMATION				
RECORD NO. 01	**REC**	**2**	**01**	
SUB- RECORD NO. 01	**SUB**	**2**	**01**	
1. The month of enumeration	A01	2	01- January 07- July 02- February 08- August 03- March 09- September 04- April 10- October 05- May 11- November 06- June 12- December	

FIELD	FIELD NAME	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
2. Works of members and household economic status				
2.1 No. of earners				
-Include servants	A02	2	00 → 15	
-Exclude servants	A02_1	2	00 → 15 (Generated data) **ให้นับจำนวนสมาชิกในแต่ละ SUB ของ REC 02** **ที่มี** HM02 = 0 **แล้วนำมาลบออกจาก** A02	
2.2 Socio- economic class of household (Exclude servants)	A03	2	**01→ 06 : Farm operator who mainly owned land** 01- Less than 2 rai 02- 2 to 4 rai and 399 tarangwa 03- 5 to 9 rai and 399 tarangwa 04- 10 to 19 rai and 399 tarangwa 05- 20 to 39 rai and 399 tarangwa 06- 40 rai or more **11→ 13 : Farm operator who mainly rented land** 11- Less than 5 rai 12- 5 to 19 rai and 399 tarangwa 13- 20 rai or more **19 Fishing, forestry, agricultural services, etc.** **21 → 22: Entrepreneurs, trade and industry** 21- With paid workers 22- Without paid workers **31 → 32 : Professional, Technical and Managerial** 31- Working on own account 32- Employed by others **41 → 42 : Labourers** 41- Farm workers 42- General workers **50, 60 : Other employees** 50- Clerical, sales& services workers 60- Production& construction workers **71 → 72: Economically inactive** 71- Receiving social assistance or pensions/annuities 72- Receiving property income	

FIELD	FIELD NAME	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
3. No. of sub- record				
3.1 For Record 02:				
- No. of Household member				
(include servants)	A04	2	01 → 25	
(exclude servants)	A04_1	2	01 → 25 (Generated data) **นับจำนวนสมาชิกในแต่ละ SUB ของ REC 02** **ที่มี** HM02 = 0 **แล้วนำมาลบออกจาก** A04	
3.2 For Record 13 :				
- No. of members who earned from wages & salaries				
(include servant)	A05	2	00 → 15	
3.3 For Record 14:				
- No. of members who earned from business, industry,				
and non-farm business	A06	2	00 → 15	

Generate				
FIELD	**FIELD NAME**	**LENGTH OF BYTES**	**วิธีการ Generate**	**REMARK**
4. Household expenditures				
4.1 Average monthly total expenditures per household	A07	9	A07 = (CON_EX3) + (NCON_EX3) + (FB_EX3) + (TP_EX3)	**จาก** Record 11 **และ** Record 12
4.2 Average monthly consumption expenditure per household	A08	9	A08 = (CON_EX3) + (FB_EX3) + (TP_EX3)	
4.3 Average monthly expenditure on food, beverages & tobacco per household	A09	9	A09 = (FB_EX3) + (TP_EX3)	
4.4 Average monthly total expenditure per capita	A10	9	A10 = A07 ÷ A04_1	
4.5 Average monthly consumption expenditure per capita	A11	9	A11 = A08 ÷ A04_1	
4.6 Average monthly expenditure on food, beverages and tobacco per capita	A12	9	A12 = A09 ÷ A04_1	

FIELD	FIELD NAME	LENGTH OF BYTES	วิธีการ Generate	REMARK
5. Household income			(จะต้อง Generate ข้อมูล A17 → A51 ก่อน)	
5.1 Average monthly total income per household	A13	9	A13 = (A38 + A39 + A40 + A41 + A51)	
5.2 Average monthly current income per household	A14	9	A14 = (A38 + A39 + A40 + A41)	
5.3 Average monthly total income per capita	A15	9	A15 = A13 ÷ A04_1	
5.4 Average monthly current income per capita	A16	9	A16 = A14 ÷ A04_1	
6. Sources of income				
(a) Money income				
1) Wages and Salaries				
- Last month	A17	9	A17 = WS1	
- Average per month	A18	9	A18 = WS2	
2) Net profit from business				
- Last month	A19	9	A19 = PB1	
- Average per month	A20	9	A20 = PB2	
3) Net profit from farming				
- Last month	A21	9	A21 = PA1	
- Average per month	A22	9	A22 = PA2	
4) Income from pensions/ annuities, other assistance				
- Last month	A23	9	A23 = IO02 (3)	
- Average per month	A24	9	A24 = IO02 (1) / 12	
5) Income from work compensations or terminated payment				
- Last month	A25	9	A25 = IO03 (3)	
- Average per month	A26	9	A26 = IO03 (1) / 12	
6) Income from money assistance from other people outside household				
- Last month	A27	9	A27 = IO04 (3)	
- Average per month	A28	9	A28 = IO04 (1) / 12	

FIELD	FIELD NAME	LENGTH OF BYTES	วิธีการ Generate	REMARK
7) Income from elderly & disability assistace from govt. and other organizations				
- Last month	A29	9	A29 = IO05 (3)	
- Average per month	A30	9	A30 = IO05 (1) / 12	
8) Income from rent of accommodation / land and other properties (include licence and copyright)				
- Last month	A31	9	A31 = IO08 (3)+I009(3)	
- Average per month	A32	9	A32 = IO08(1)+I009(1) / 12	
9) Income from saving interests, shares, bonds, and stocks				
- Last month	A33	9	A33 = IO10 (3)	
- Average per month	A34	9	A34 = IO10 (1) / 12	
10) Income from "shares" and lending				
- Last month	A35	9	A35 = IO11 (3)	
- Average per month	A36	9	A36 = IO11 (1) / 12	
Sum of all money income				
- Last month	A37	9	A37 = (A17 + A19 + A21 + A23+ A25 + A27 + A29 + A31 + A33 + A35)	
- Average per month	A38	9	A38 = (A18 + A20 + A22 + A24+ A26 + A28 + A30+ A32 + A34 + A36)	
(b) Income in-kind				
11) From rental estimated of free-occupied house (include own house)	A39	9	A39 = EG01 (2) REC04	
12) From unpaid of goods and services	A40	9	A40 = (CON_EX2) - (EG01(2) + (NCON_EX2) + (TP_EX2)	
13) From unpaid of food and beverages	A41	9	A41 = FB_EX2	

FIELD	FIELD NAME	LENGTH OF BYTES	วิธีการ Generate	REMARK
(c) Income from other sources				
14) From education scholarship				
- Last month	A42	9	A42 = IO06 (3)	
- Average per month	A43	9	A43 = IO06 (1) / 12	
15) From inheritance and gifts				
- Last month	A44	9	A44 = IO12 (3)	
- Average per month	A45	9	A45 = IO12 (1) / 12	
16) Proceeds from health, accident, fire or life insurance				
- Last month	A46	9	A46 = IO13 (3)	
- Average per month	A47	9	A47 = IO13 (1) / 12	
17) From others, e.g. lottery winnings, commissions, gambling etc.				
- Last month	A48	9	A48 = IO14 (3)	
- Average per month	A49	9	A49 = IO14 (1) / 12	
Sum of all other money receipt				
- Last month	A50	9	A50 = (A42 + A44 + A46 + A48)	
- Average per month	A51	9	A51 = (A43 + A45 + A47 + A49)	
7. Weight	A 52	12	(4 - decimal points)	4 - decimal points
8. Sources of Expenditure				
(a) Average monthly consumption expenditure per household			**จาก Record 04 → 10**	
- Paid in all cash	CON_EX1	9	CON_EX1 = Σ (EG01 → EG112) (สดมภ์ "ซื้อ/ จ่าย")	
- All value of in-kind	CON_EX2	9	CON_EX2 = Σ (EG01 → EG112) (สดมภ์ "ไม่ได้ซื้อ/ จ่าย")	
- Total monthly expenditure	CON_EX3	9	CON_EX3 = CON_EX1+CON_EX2	
(b) Average Monthly of Non-consumption Expenditure per Household			**จาก Record 11**	
- Paid in all cash	NCON_EX1	9	NCON_EX1 =Σ (EG113 → G121) (สดมภ์ "ซื้อ/ จ่าย")	
- All value of in-kind	NCON_EX2	9	NCON_EX2 =Σ (EG113 → EG121) (สดมภ์ "ไม่ได้ซื้อ/ จ่าย")	
- Total monthly expenditure	NCON_EX3	9	NCON_EX3=NCON_EX1 +NCON_EX2	

FIELD	FIELD NAME	LENGTH OF BYTES	วิธีการ Generate	REMARK
(c) Average monthly Expenditure on Food and Beverage per HH.			**จาก Record 12**	
- Paid in all cash	FB_EX1	9	FB_EX1 = Σ (EF01 → EF15)×4.3 (สดมภ์ "ซื้อ/ จ่าย")	
- All value of in-kind	FB_EX2	9	FB_EX2 = Σ (EF01 → EF15)×4.3 (สดมภ์ "ไม่ได้ซื้อ/ จ่าย")	
- Total monthly expenditure	FB_EX3	9	FB_EX3 = FB_EX1+ FB_EX2	
(d) Average Monthly Expenditure on Tobacco Product per HH.			**จาก Record 12**	
- Paid in all cash	TP_EX1	9	TP_EX1 = (EF16 + EF17)×4.3 (สดมภ์ "ซื้อ/ จ่าย")	
- All value of in-kind	TP_EX2	9	TP_EX2 = (EF16 + EF17)×4.3 (สดมภ์ "ไม่ได้ซื้อ/ จ่าย")	
- Total monthly expenditure	TP_EX3	9	TP_EX3 = TP_EX1 + TP_EX2	
9. Total wages and salaries (money) received from every occupation for each household member (Exclude servants HM02 = 0)			**(รวมทุกอาชีพในทุก SUB)**	
- Last month	WS1	9	WS1=∑(IW10 + IW11) ทุกอาชีพ	
- Average per month	WS2	9	WS2=$\frac{\sum(IW12 + IW13)\ \text{ทุกอาชีพ}}{12}$	
10. Total net money profit from business of each member			**(รวมทุกอาชีพในทุก SUB)**	
- Last month	PB1	9	PB1=$\sum \left((IB08(2) - IB09(2) \times \frac{IB11}{100} \right)$ ทุกอาชีพ	
- Average per month	PB2	9	PB2=$\frac{\sum \left((IB08(1) - IB09(1) \times \frac{IB11}{100} \right) \text{ทุกอาชีพ}}{12}$	
			หมายเหตุ : - (1) สดมภ์ 12 เดือนที่แล้ว - (2) สดมภ์ เดือนที่แล้ว - ถ้า IB11 = blank ⇒ ให้ $\frac{IB11}{100} = 1$	
11. Net money profit from farming and agricultral services				
- Last month	PA1	9	PA1 = IA28 - IA29	
- Average per month	PA2	9	PA2 คำนวณตามสูตร (1)	

Formula (1) = $\frac{IA08 + IA09 + IA11 + (IA15 - IA19) + IA20 - (IA25 + IA26) - (IA13 + IA17 + IA22)}{12}$

SES.2 Questionnaire of Household member and Expenditure

FIELD	FIELD NAME	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
PART1 HOUSEHOLD MEMBER **RECORD NO. 02** **SUB- RECORD NO. 01**	**REC** **SUB**	**2** **2**	**02** **01**	
1. Household member NO. 1				
2. Serial no. of members	HM01(1)	2	01	
3. Relationship to household head	HM02(1)	1	1- Head of household	
4. Sex	HM03(1)	1	1- Male 2- Female	
5. Age	HM04(1)	2	10 → 99	
6. Religion	HM05(1)	1	1- Buddhist 2- Islam 3- Christ 4- Other	
7. Language spoken in household	HM06(1)	1	1- Thai 2- Malay/ Yawi 3- Chinese 4- Mon/ Burmese 5- Cambodian/ Souy 6- Karen 7- Other	
8. Disability or not	HM07(1)	1	0- Not disabled **Disability at the time of birth** 1- Physical disability at the time of birth 2- Mental disability at the time of birth 3- Both physical and mental disability at the time of birth **Disability after birth day** 4- Physical disability after birth day 5- Mental disability after birth day 6- Both physical and mental disability after birth day	
9. Can you be able to take care yourself in daily life without assistance	HM08(1)	1	0- No 1- Yes	
10. Can you be able to go out without assistant	HM09(1)	1	0- No 1- Yes	

FIELD	FIELD NAME	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
11. Marital status	HM10(1)	1	1- Never married 2- Married 3- Widowed 4- Divorced 5- Separated 6- Married but unknown status Blank - for members < 15 Yrs. of age	
12. Stay with parents or not	HM11(1)	1	1- Yes 2- Stay with father only 3- Stay with mother only 4- Stay with relatives 5- Stay with other persons Blank - for members ≥ 15 Yrs. of age	
13. How many years have you been not living with father and / or mother	HM12(1)	2	00 → 14 Blank - for members ≥ 15 Yrs. of age - for code "1" in HM11(1)	
14. Reason of not stay with father and / or mother	HM13(1)	1	1- Father and/or mother died 2- Parents separated 3- Father and/or mother work in other province 4- Father and/or mother work abroad 5- Left for studying 6- Others reason Blank - for members ≥ 15 Yrs. of age - for code "1" in HM11(1)	
15. Attending school or not	HM14(1)	1	0- Never attend school 1- Studying in private school 2- Studying in public school 3- Not recently attending school Blank - for members < 6 Yrs. of age	
16. Educational attainment (for the last level)	HM15(1)	3	**Pre-primary education** 110- Graduated 111- Kindergarten **Primary education** 210,250 - Graduated 211,251 - Primary level grade 1 212,252 - Primary level grade 2 213,253 - Primary level grade 3 214,254 - Primary level grade 4 215,255 - Primary level grade 5 216,256 - Primary level grade 6 219,259 - Unknown 240 → 243, 249 - Education of relegion : Buddhism Dharma to be studied, Dharma section หมายเหตุ : (250 → 256,259 - General education of Islam relegion)	

FIELD	FIELD NAME	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
			Lower-secondary education 310, 330,350- Graduated 311, 331,351- Lower-secondary education grade1 312, 332,352- Lower-secondary education grade 2 313, 333,353- Lower-secondary education grade 3 319, 339,359- Unknown หมายเหตุ : (330 → 333,339 - General education of Buddhism relegion) 340 → 342,349 - Education of religion : Buddhism Dharma to be studied, Bali section 350 → 353,359 - Education of relegion : Islam general section **Lower-vocational education** 320- Graduated 321- Military/ orchestra school 1st year 322- Military/ orchestra school 2nd year 323- Military/ orchestra school 3rd year 329- Unknown **Upper-secondary education Level** 410,430,450- Graduated 411,431,451- Upper-secondary grade 4 412,432,452- Upper-secondary grade 5 413,433,453- Upper-secondary grade 6 419,439,459- Unknown หมายเหตุ : (430 → 433,439 - General education of Buddhism relegion) 440 → 443 ,449 - Education of religion : Buddhim Dharma to be studied, Bali section (450 → 453,459 - General education of Islam relegion) **Upper-vocational education** 420,460- Graduated 421,461- Upper-vocational/special occupation 1st year 422,462- Upper-vocational/ special occupation 2nd year 423 - Upper-vocational 3rd year 429 - Unknown	

FIELD	FIELD NAME	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
			Upper-secondary education (diploma in education) 510- Graduated 511- Diploma in education 1st year 512- Diploma in education 2nd year 519- Unknown **High vocational / Technical** 520- Graduated 521- High vocational/technical 1st year 522- High vocational/technical 2nd year 523- Vocational technical 3rd year 529- Unknow **University** 610,630,650- Graduated 611,631,651- University 1st year 612,632,652- University 2 nd year 613,633,653- University 3rd year 614,634,654- University 4th year 615 - University 5th year 616 - University 6th year 619,639,659- Unknow 640 → 643,649- Education of religion : Buddism Dharma to be studied, Bali section หมายเหตุ : (630 → 634,639 - General education of Buddhism relegion) (650 → 654,659 - General education of Islam relegion) **Diploma degree upper Bachelor degree (graduate diploma)** 660- Graduated 661- Graduated diploma 1st year **Master degree** 710,730,750- Graduated 711,731,751- Master 1st year 712,732,752- Master 2nd year 719,739,759- Unknow หมายเหตุ : (730 → 732,739 - General education of Buddhism relegion) (750 → 752,759 - General education of Islam relegion) **Diploma degree upper Master degree (Special certificate)** 760- Graduated 761- Special certificate 1st year	

FIELD	FIELD NAME	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
			Doctoral degree 810,830,850- Graduated 811,831,851- Doctor 1st year 812,832,852- Doctor 2nd year 813,833,853- Doctor 3rd year 819,839,859- Unknown หมายเหตุ : (830 → 833,839 - General education of Buddhism) (850 → 853,859 - General education of Islam relegion) **Diploma degree upper Doctoral degree** 860- Graduated 861- Special certificate upper doctor 1st year **Certificate in specialist medicine** 870- Graduated 871- Specialist medicine 1st year 872- Specialist medicine 2nd year 873- Specialist medicine 3rd year 874- Specialist medicine 4th year 875- Specialist medicine 5th year 879- Unknown **Other education** **Non - certificate course** 911- Short course training 912- Por - Nor (Islamic) study 919- Non - certificate course **Schooling, level incomparable** 921- Education : lslam, Islam section 929- Schooling level incomparable **Schooling, unavailable level** 980- Schooling, unavailable level Blank - for members < 6 Yrs. of age - for code 0 in HM14(1)	
Major (only for the level of the technical and vocational education and Bachelor degree/ Master/ Ph.D.)	HM16(1)	2	**Education** 14- Teacher training and education science **Humanities and arts** 21- Arts 22- Humanities	

FIELD	FIELD NAME	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
			Social sciences, business and law 31- Social and behavioural science 32- Journalism and information 34- Business and administration 38- Law **Science** 42- Biological sciences 44- Physical sciences 46- Mathematics and statistics 48- Computer **Engineering, manufacturing and construction** 52- Engineering 54- Manufacturing 58- Architecture and construction **Agriculture** 62- Agriculture,forestry and fishery 64- Veterinary **Health and welfare** 72- Health 76- Social services **Services** 81- Personal services 84- Transport services 85- Environmental protection 86- Security services Blank - for members < 6 Yrs. of age - for not applicable	
The level of attending school	HM17(1)	3	Same as HM15 (1)	
17. Expense on education (for the whole academic year of the previous education level)				
-Tuition/ school fees	HM18(1)	6	000001 → 999999, Blank	
-Uniform	HM19(1)	6	00001 → 99999, Blank	
-Books & equipment	HM20(1)	6		
-Expense on transpostation	HM21(1)	6		

FIELD	FIELD NAME	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
18. At present, do you receive the following welfare of medical services				
-Government/ state enterprise's welfare	HM22(1)	1	0- No 1- Yes	
-Universal health coverage card (30 baht)	HM23(1)	1		
-Medical card(social security)	HM24(1)	1		
-Private health insurance	HM25(1)	1		
-Welfare by employer	HM26(1)	1		
19. During the past 5 years, did you get benefits from the following government programmes				
-Social pension for the poor elderly	HM27(1)	1	0 - No (1 → 5) - Specify number of years of getting it	
-Social assistant for disability	HM28(1)	1		
-Free school lunch/ supplementary food	HM29(1)	1		
-Government scholarship	HM30(1)	1		
-Other government funds to assist farmers	HM31(1)	1		
20. At present, did you borrow money from the following government funds				
-Government loan for education	HM32(1)	1	0 - No 1 - Yes	
-People bank	HM33(1)	1		
-Village fund scheme	HM34(1)	1		
-Others government loan	HM35(1)	1		
21. Primary Occupation (during the past 12 months)	HM36(1)	3	(see 3-digit occupation codes) Blank-member < 15 yrs. of age and no income from working	APPENDIX B
22. Work status	HM37(1)	2	01- Employer 02- Own- account worker 03- Unpaid family worker 04- Employee - government 05- State enterprise employee 06- Private company employee 07- Member of co-operative group	

FIELD	FIELD NAME	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
			Code for economically inactive 08- Housewife 09- Students 10- Children, elderly person 11- Illness, disabled person 12- Looking for a job 13- Unemployed 14- Others Blank-member < 15 yrs. and no income from working	
23. Type of business/industry	HM38(1)	2	01- Agriculture, hunting and forestry 02- Fishery 03- Mining and quarrying 04- Manufacturing 05- Electricity, gas and water supply 06- Construction 07- Wholesale and retail, repairing motor vehicles, motorcycles and personal and household good 08- Hotel and restaurant 09- Transport, storage and communications 10- Financial intermediation 11- Real estate,renting and business activities 12- Public administration and defence, compulsory social security 13- Education 14- Health and social work 15- Other community,social and personal service activities 16- Private households with employed persons 17- Extra - territorial organizations and bodies 99- Economically inactive Blank-member < 15 yrs. of age or no income from working	

FIELD	FIELD NAME	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
24. Secondary occupation	HM39(1)	3	Same as primary occupation HM 36 (1) **ยกเว้นรหัส** 991 → 996, 999	
25. Work status	HM40(1)	2	Same as HM 37 (1) **ยกเว้นรหัส** 08 → 14	
26. Type of business/industry	HM41(1)	2	Same as HM 38 (1) **ยกเว้นรหัส** 99	
SUB- RECORD NO. 02,03...	SUB	2	02 → 25	
2. Serial no. of members (02,03...)	HM01 (2 → 25)	2	02 → 25	
3. Relationship to household head	HM02 (2 → 25)	1	2- Spouse 3- Unmarried son or daughter 4- Married son or daughter 5- Son or daughter-in-law 6- Grandchild 7- Parents, grandparents 8- Brother or sister and other relative 9- Non- relative 0- Servant and household workers	
5. Age	HM04 (2 → 25)	2	00 → 99 (00 = Less than…)	
Item 4, 6 - 26 same as SUB 01	HM03, HM05 (2 → 25) ↓ HM41 (2 → 25)		Same as Sub 01 HM 03 (1), HM 05 (1) → HM 41 (1)	

FIELD	FIELD NAME	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
PART2 HOUSING CHARACTERISTICS				
RECORD NO.03	REC	2	03	
SUB- RECORD NO.01	SUB	2	01	
1. Type of dwelling	HH01	1	1 - Detached house 2 - Row house 3 - Town house / twin house 4 - Flat or apartment, etc. 5 - Room or rooms 6 - Improvised quarter 7 - Other	
2. Materials of construction	HH02	1	1 - Cement or brick 2 - Wood 3 - Wood and cement or brick 4 - Local materials 5 - Re-used materials 6 - Other	
3. Tenure	HH03	1	1 - Own dwelling and land 2 - Own dwelling on rented land 3 - Own dwelling on public area 4 - Hire - purchased 5 - Rent 6 - Rent paid by others 7 - Occupied, rented free	
4. Who pay for rent	HH04	1	1 - Dweller 2 - Government 3 - Company or private agency 4 - Foreign organization 5 - Parents 6 - Relatives 7 - Other Blank- Not applicable for code 1 - 4 in HH03	
5. Monthly rent or estimated rental value (for all area of dwelling)	HH05	6	000001 → 999999	
6. Dwelling used for business purposes	HH06	1	0 - No 1 - Yes	

FIELD	FIELD NAME	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
7. Number of rooms				
- No. of all rooms	HH07	1	1 → 9	
- No. of bedrooms	HH08	1		
8. Electricity in dwelling	HH09	1	0 - No 1 - Yes	
9. Cooking fuel	HH10	1	0 - No cooking 1 - Charcoal 2 - Wood 3 - Kerosene 4- Gas 5 - Electricity 6 - Others	
10. Drinking water	HH11	1	0 - Bottled - water 1 - Inside piped water supply 2 - Inside piped underground water 3 - Outside piped or public tap 4 - Well or underground water 5 - River, stream,etc. 6 - Rain water 7 - Others	
11. Water supply for general use	HH12	1	Same as HH 11 (code 1 → 7) **ยกเว้น** Code 0	
12. Method of household to get rid of garbage			1 - Take to public cleansing services 2 - Burn 3 - Bury 4 - Feed animals 5 - Fertilizer ferment 6 - Throwing in river,canal 7 - Throwing in public area 8 - Others Blank → **ลำดับที่** 1 Blank **ไม่ได้** → **ลำดับที่** 2 Blank **ได้**	
- First method	HH13	1		
- Second Method	HH14	1		
13. Toilet facilties	HH15	1	0 - No facility nearby 1 - Flush latrine 2 - Mould latrine 3 - Flush and mould latrine 4 - Others	

FIELD	FIELD NAME	STARTING POSITION	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
14. Dose household own any of the following vehicles					
Bicycle	HH16		1	1 → 9 0 - Not owned or not available	
Motorcycle	HH17		1		
Automobile	HH18		1		
Pick- up (mini truck), van	HH19		1		
Other mini- truck	HH20		1		
Motor boat	HH21		1		
15. No. of items owned by household					
Bed (wood or metal)	HH22		1	1 → 9 0 - Not owned or not available	
Cooking stove - gas	HH23		1		
- electricity	HH24		1		
Microwave oven	HH25		1		
Electrical pot	HH26		1		
Refrigerator	HH27		1		
Electrical iron	HH28		1		
Electrical cooking pot	HH29		1		
Electrical fan	HH30		1		
Radio	HH31		1		
T.V.	HH32		1		
Video/VCD/DVD	HH33		1		
Washing machine	HH34		1		
Air conditioner	HH35		1		
Water boiler	HH36		1		
Home computer	HH37		1		
- Internet connected	HH38		1		
Telephone (include PCT)	HH39		1		
Mobile phone	HH40		1		
Facsimile	HH41		1		
No. of fluorescences	HH42		2	01 → 30 00 - not available	
No. of light bulbs	HH43		2		
No. of compact fluorescent	HH44		2		
16. No. of members accessed The Internet during the past 12 months	HH45		2	00 → 15	

FIELD		FIELD NAME	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
PART 3 EXPENDITURE ON GOODS AND SERVICES (baht/ month)					
RECORD NO.04		**REC**	**2**	**04**	
SUB - RECORD NO.01		**SUB**	**2**	**01**	
A. Consumption expenditures					
1. Housing (shelter)					
1.1 House rent	*(cash)*	EG01 (1)	6	000001 → 999999, Blank	
Estimated rental value	*(in-kind)*	EG01 (2)	6		
1.2 Repair of dwelling	*(cash)*	EG02 (1)	6		
	(in-kind)	EG02 (2)	6		
1.3 Fitting/repair plumbing and	*(cash)*	EG03 (1)	6		
bathroom appliances	*(in-kind)*	EG03 (2)	6		
1.4 Fitting/repair electricity	*(cash)*	EG04 (1)	6		
	(in-kind)	EG04 (2)	6		
1.5 Tools/equipment	*(cash)*	EG05 (1)	6		
	(in-kind)	EG05 (2)	6		
2. Household operation, furnitures and equipment					
2.1 Major equipment					
- Furnitures	*(cash)*	EG06 (3)	5	00001 → 99999, Blank	
	(in-kind)	EG06 (4)	5		
- Cooking stove(gas/ electric),					
microwave oven, rice cookers	*(cash)*	EG07 (3)	5		
	(in-kind)	EG07 (4)	5		
- Electric mixer, Blenders electrical pots	*(cash)*	EG08 (3)	5		
	(in-kind)	EG08 (4)	5		
- Washing machine,water-filter/ pump,					
water boiler	*(cash)*	EG09 (3)	5		
	(in-kind)	EG09 (4)	5		
- Air conditioner,refrigerators,electric fan					
	(cash)	EG10 (3)	5		
	(in-kind)	EG10 (4)	5		
- Others major equipment	*(cash)*	EG11 (3)	5		
	(in-kind)	EG11 (4)	5		
- Repair / maintenance	*(cash)*	EG12 (3)	5		
	(in-kind)	EG12 (4)	5		

FIELD		FIELD NAME	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
RECORD NO.05		**REC**	**2**	**05**	
SUB - RECORD NO.01		**SUB**	**2**	**01**	
2.2 Household textiles					
- Bedding equipment and	*(cash)*	EG13 (1)	5		
furnishing cloth	*(in-kind)*	EG13 (2)	5		
- Other cloth used in kitchen	*(cash)*	EG14 (1)	5		
and eatting	*(in-kind)*	EG14 (2)	5		
- Other cloth used in household	*(cash)*	EG15 (1)	5		
	(in-kind)	EG15 (2)	5		
2.3 Small appliances					
- Kitchen appliance(pans etc.)	*(cash)*	EG16 (1)	5		
	(in-kind)	EG16 (2)	5		
- Vacuum flasks, bucket&jars and others	*(cash)*	EG17 (1)	5		
	(in-kind)	EG17 (2)	5		
2.4 Fuel , lighting and water supply					
- Electricity	*(cash)*	EG18 (1)	5		
	(in-kind)	EG18 (2)	5		
- Cooking gas	*(cash)*	EG19 (1)	5		
	(in-kind)	EG19 (2)	5		
-Gas for other purposes	*(cash)*	EG20 (1)	5		
	(in-kind)	EG20 (2)	5	00001 → 99999, Blank	
- Charcoal and wood	*(cash)*	EG21 (1)	5		
	(in-kind)	EG21 (2)	5		
- Kerosene	*(cash)*	EG22 (1)	5		
	(in-kind)	EG22 (2)	5		
- Lighting accessories	*(cash)*	EG23 (1)	5		
	(in-kind)	EG23 (2)	5		
- Water supply,underground water	*(cash)*	EG24 (1)	5		
	(in-kind)	EG24 (2)	5		
2.5 Cleaning supplies					
- Mops , brooms , brushes etc.	*(cash)*	EG25 (1)	5		
	(in-kind)	EG25 (2)	5		
-Detergent / softener / strach	*(cash)*	EG26 (1)	5		
	(in-kind)	EG26 (2)	5		
-Liquid detergent/polishes,			5		
rubbish services and others	*(cash)*	EG27 (1)	5		
	(in-kind)	EG27 (2)	5		

FIELD		FIELD NAME	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
RECORD NO.06		**REC**	**2**	**06**	
SUB - RECORD NO.01		**SUB**	**2**	**01**	
3. Service workers in household					
3.1 Servants and house workers					
(member of households)	*(cash)*	EG28 (1)	5		
	(in-kind)	EG28 (2)	5		
3.2 Servants and house workers					
(persons outside households)	*(cash)*	EG29 (1)	5		
	(in-kind)	EG29 (2)	5		
4. Cloth , clothes and clothing material					
4.1 Clothes , skirts and trousers	*(cash)*	EG30 (1)	5		
	(in-kind)	EG30 (2)	5		
4.2 Sport suits	*(cash)*	EG31 (1)	5		
	(in-kind)	EG31 (2)	5		
4.3 Panung , sarong , pa-kao-ma ,					
underwear	*(cash)*	EG32 (1)	5		
	(in-kind)	EG32 (2)	5		
4.4 Other clothing and body furnishings	*(cash)*	EG33 (1)	5		
	(in-kind)	EG33 (2)	5		
4.5 Sewing/repair/altering	*(cash)*	EG34 (1)	5		
	(in-kind)	EG34 (2)	5		
4.6 Hire/laundry/dry cleaning	*(cash)*	EG35 (1)	5		
	(in-kind)	EG35 (2)	5		
5. Footwears					
5.1 Shoes (all type)	*(cash)*	EG36 (1)	5		
	(in-kind)	EG36 (2)	5		
5.2 Sport shoes	*(cash)*	EG37 (1)	5	00001 → 99999, Blank	
	(in-kind)	EG37 (2)	5		
5.3 Repair/ hire/ cleaning services	*(cash)*	EG38 (1)	5		
	(in-kind)	EG38 (2)	5		
6. Personal care					
6.1 Personal supplies					
- Soap,tooth brush shampoo,powder etc.	*(cash)*	EG39 (1)	5		
	(in-kind)	EG39 (2)	5		
- Comb/brushes,razor etc.	*(cash)*	EG40 (1)	5		
	(in-kind)	EG40 (2)	5		
- Cosmetics	*(cash)*	EG41 (1)	5		
	(in-kind)	EG41 (2)	5		
- Wrist watch,sunglasses etc.	*(cash)*	EG42 (1)	5		
	(in-kind)	EG42 (2)	5		
- Others supplies	*(cash)*	EG43 (1)	5		
	(in-kind)	EG43 (2)	5		
- Maintenance and repair	*(cash)*	EG44 (1)	5		
	(in-kind)	EG44 (2)	5		
6.2 Personal services					
- Beauty services	*(cash)*	EG45 (1)	5		
	(in-kind)	EG45 (2)	5		
- Other personal services	*(cash)*	EG46 (1)	5		
	(in-kind)	EG46 (2)	5		

FIELD		FIELD NAME	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
RECORD NO.07		**REC**	**2**	**07**	
SUB - RECORD NO.01		**SUB**	**2**	**01**	
7. Medical and health care					
7.1 Medical and supplies					
- Modern medicine	*(cash)*	EG47 (1)	5		
	(in-kind)	EG47 (2)	5		
-Traditional/herbal medicine	*(cash)*	EG48 (1)	5		
	(in-kind)	EG48 (2)	5		
- Contraceptives and condom	*(cash)*	EG49 (1)	5		
	(in-kind)	EG49 (2)	5		
-Vitamins	*(cash)*	EG50 (1)	5		
	(in-kind)	EG50 (2)	5		
- First-aid kits/medical equipments	*(cash)*	EG51 (1)	5		
	(in-kind)	EG51 (2)	5		
7.2 Medical services (outpatients)					
- Public health centre/public hospital	*(cash)*	EG52 (1)	5	00001 → 99999, Blank	
	(in-kind)	EG52 (2)	5		
- Private clinic/ hospital	*(cash)*	EG53 (1)	5		
	(in-kind)	EG53 (2)	5		
- Traditional healer/sed harb medical services	*(cash)*	EG54 (1)	5		
	(in-kind)	EG54 (2)	5		
- Private dental clinic	*(cash)*	EG55 (1)	5		
	(in-kind)	EG55 (2)	5		
- Optometry services & equipment	*(cash)*	EG56 (1)	5		
	(in-kind)	EG56 (2)	5		
- Other health services	*(cash)*	EG57 (1)	5		
	(in-kind)	EG57 (2)	5		
7.3 Medical services (inpatients)					
- Public health centre/public hospital	*(cash)*	EG58 (3)	6	000001 → 999999, Blank	
	(in-kind)	EG58 (4)	6		
- Private clinic/ hospital	*(cash)*	EG59 (3)	6		
	(in-kind)	EG59 (4)	6		
- Other expense	*(cash)*	EG60 (3)	5	00001→ 99999, Blank	
	(in-kind)	EG60 (4)	5		

FIELD		FIELD NAME	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
RECORD NO.08		**REC**	**2**	**08**	
SUB - RECORD NO.01		**SUB**	**2**	**01**	
8. Transportation and communication					
8.1 Vehicles purchase					
- Automobile, van , pick up	*(cash)*	EG61 (3)	6	000001 → 999999, Blank	
	(in-kind)	EG61 (4)	6		
- Motorcycle , bicycle and others	*(cash)*	EG62 (3)	5	00001 → 99999, Blank	
	(in-kind)	EG62 (4)	5		
- Equipment and others	*(cash)*	EG63 (3)	5		
	(in-kind)	EG63 (4)	5		
8.2 Vehicle repairing & maintanance					
-Types and inner tube, battery	*(cash)*	EG64 (3)	5	00001 → 99999, Blank	
	(in-kind)	EG64 (4)	5		
- Grease & Lubricating oil	*(cash)*	EG65 (3)	5		
	(in-kind)	EG65 (4)	5		
- Overhaul , repairing	*(cash)*	EG66 (3)	5		
	(in-kind)	EG66 (4)	5		
- Driver training,driving license and registration fees	*(cash)*	EG67 (3)	5		
	(in-kind)	EG67 (4)	5		
- Crash helmet	*(cash)*	EG68 (3)	5		
	(in-kind)	EG68 (4)	5		
- Washing / lubrication / types repair	*(cash)*	EG69 (1)	5		
	(in-kind)	EG69 (2)	5		
- Other maintenance cost	*(cash)*	EG70 (1)	5		
	(in-kind)	EG70 (2)	5		
8.3 Local transportation					
- Bus / boat , minibus , van , train , high-speed train	*(cash)*	EG71(1)	5	00001 → 99999, Blank	
	(in-kind)	EG71(2)	5		
- School bus , staff-service bus	*(cash)*	EG72 (1)	5		
	(in-kind)	EG72 (2)	5		
-Taxi ,tricycle , mortorcycle and other	*(cash)*	EG73 (1)	5		
	(in-kind)	EG73 (2)	5		
- Private vehicle					
Unleaded gasoline (Octane no.91)	*(cash)*	EG74 (1)	5		
	(in-kind)	EG74 (2)	5		
Unleaded gasoline (Octane no.95)	*(cash)*	EG75 (1)	5		
	(in-kind)	EG75 (2)	5		
Gasohol	*(cash)*	EG76 (1)	5		
	(in-kind)	EG76 (2)	5		
NGV gas	*(cash)*	EG77 (1)	5		
	(in-kind)	EG77(2)	5		
LPG gas	*(cash)*	EG78 (1)	5		
	(in-kind)	EG78 (2)	5		
High speed diesel	*(cash)*	EG79 (1)	5		
	(in-kind)	EG79 (2)	5		

FIELD		FIELD NAME	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
RECORD NO.09		**REC**	**2**	**09**	
SUB - RECORD NO.01		**SUB**	**2**	**01**	
8.4 Special occasion travelling and tours					
- Visiting hometown/relatives,					
religious activity / other	*(cash)*	EG80 (3)	5		
	(in-kind)	EG80 (4)	5		
- Personal trip (domestic / out-bound)	*(cash)*	EG81 (3)	5		
	(in-kind)	EG81 (4)	5		
- Package tour (domestic / out-bound)	*(cash)*	EG82 (3)	5		
	(in-kind)	EG82 (4)	5		
- Expense on goods / souvenir during					
the domestic trip	*(cash)*	EG83 (3)	5		
	(in-kind)	EG83 (4)	5		
-Expense on goods / souvenir during					
the out-bound trip	*(cash)*	EG84 (3)	5		
	(in-kind)	EG84 (4)	5		
				00001 → 99999, Blank	
8.5 Communication					
- Communicated equipment i.e. telephone,					
mobile phone, facsimile					
(include service cost)	*(cash)*	EG85 (3)	5		
	(in-kind)	EG85 (4)	5		
- Telephone rate and service	*(cash)*	EG86 (1)	5		
	(in-kind)	EG86 (2)	5		
-Membership / internet services	*(cash)*	EG87 (1)	5		
	(in-kind)	EG87 (2)	5		
-Other	*(cash)*	EG88 (1)	5		
	(in-kind)	EG88 (2)	5		
9. Education expense					
9.1 Tuition and school fees - public					
academy	*(cash)*	EG89 (3)	6		
	(in-kind)	EG89 (4)	6		
9.2 Tuition and school fees - private				000001 → 999999, Blank	
academy	*(cash)*	EG90 (3)	6		
	(in-kind)	EG90 (4)	6		
9.3 Text books , school equipment	*(cash)*	EG91 (3)	5		
	(in-kind)	EG91 (4)	5		
9.4 Special learning course	*(cash)*	EG92 (3)	5	00001 → 99999, Blank	
	(in-kind)	EG92 (4)	5		
9.5 Other education expenses	*(cash)*	EG93 (3)	5		
	(in-kind)	EG93 (4)	5		

FIELD		FIELD NAME	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
RECORD NO. 10		**REC**	**2**	**10**	
SUB-RECORD NO. 01		**SUB**	**2**	**01**	
10. Recreation/religious activity expense					
10.1 Recreation equipment and sports					
-TV sets , radio , cassette-tape /					
disc / video / VCD / DVD player	*(cash)*	EG94 (3)	5		
	(in-kind)	EG94 (4)	5		
- Camera / camcorders ,movie slide					
projector	*(cash)*	EG95 (3)	5		
	(in-kind)	EG95 (4)	5		
- Cable TV installment fees or satellite					
discs	*(cash)*	EG96 (3)	5		
	(in-kind)	EG96 (4)	5		
-Computer & equipments	*(cash)*	EG97 (3)	5		
	(in-kind)	EG97 (4)	5		
-Sport equipments and Body fitness					
equipments	*(cash)*	EG98 (3)	5		
	(in-kind)	EG98 (4)	5		
-Repair / maintenance and others	*(cash)*	EG99 (3)	5		
	(in-kind)	EG99 (4)	5		
10.2 Toys , pets , shurbs and recreation					
- Toys (include baby cars)	*(cash)*	EG100 (3)	5		
	(in-kind)	EG100 (4)	5	00001 → 99999, Blank	
- Pets and pet equipment	*(cash)*	EG101 (3)	5		
	(in-kind)	EG101 (4)	5		
-Tree / shrubs / flower (including					
fertilizer / equipment)	*(cash)*	EG102 (1)	5		
	(in-kind)	EG102 (2)	5		
- Purchasing/ renting tapes/ video/ cable					
TV membership / photography	*(cash)*	EG103 (1)	5		
	(in-kind)	EG103 (2)	5		
- Repair / maintenance and others	*(cash)*	EG104 (1)	5		
	(in-kind)	EG104 (2)	5		
10.3 Admission , sports fee					
- Cinema / sports / tradition arts	*(cash)*	EG105 (1)	5		
	(in-kind)	EG105 (2)	5		
- Amusement parks , zoo , etc.	*(cash)*	EG106 (1)	5		
	(in-kind)	EG106 (2)	5		
- Sport fees / rate	*(cash)*	EG107 (1)	5		
	(in-kind)	EG107 (2)	5		
- Others	*(cash)*	EG108 (1)	5		
	(in-kind)	EG108 (2)	5		

FIELD		FIELD NAME	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
10.4 Reading / religious activities					
- Newspapers , magazines and books					
(other than studying books)	*(cash)*	EG109 (1)	5		
	(in-kind)	EG109 (2)	5		
- Library fees / other reading materials rate					
	(cash)	EG110 (1)	5		
	(in-kind)	EG110 (2)	5		
- Gifts to the temple and other religious					
expenses	*(cash)*	EG111 (1)	5	00001 → 99999, Blank	
	(in-kind)	EG111 (2)	5		
11. Special ceremony expenses					
- Wedding , birthday , other ceremonies					
	(cash)	EG112 (3)	5		
	(in-kind)	EG112 (4)	5		
B. NON - CONSUMPTION EXPENDITURE					
RECORD NO. 11		**REC**	**2**	**11**	
SUB-RECORD NO. 01		**SUB**	**2**	**01**	
1. Taxes , charge / fees and fine	*(cash)*	EG113 (3)	5		
	(in-kind)	EG113 (4)	5		
2. Career membership expense	*(cash)*	EG114 (3)	5		
	(in-kind)	EG114 (4)	5		
3. Money / material given to other person					
(outside this household)	*(cash)*	EG115 (3)	5		
	(in-kind)	EG115 (4)	5	00001 → 99999, Blank	
4. Contribute money / material to					
NGO institute	*(cash)*	EG116 (3)	5		
	(in-kind)	EG116 (4)	5		
5. Other contributions	*(cash)*	EG117 (3)	5		
	(in-kind)	EG117 (4)	5		
6. Insurances premiums , cremation fee					
etc.(excluding saving insurance)	*(cash)*	EG118 (3)	6		
	(in-kind)	EG118 (4)	6		
7. Lottery tickets and					
other kind of gambing	*(cash)*	EG119 (3)	6	000001 → 999999, Blank	
	(in-kind)	EG119 (4)	6		
8. Interest payment	*(cash)*	EG120 (3)	6		
	(in-kind)	EG120 (4)	6		
9. Other expenses	*(cash)*	EG121 (3)	5	00001 → 99999, Blank	
	(in-kind)	EG121 (4)	5		

FIELD		FIELD NAME	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
PART 4 EXPENDITURE ON FOOD , BEVERAGES AND TOBACCO (Baht / Week)					
RECORD NO. 12		**REC**	**2**	**12**	
SUB-RECORD NO. 01		**SUB**	**2**	**01**	
1. Grains and cereal products	*(cash)*	EF01 (1)	4		
	(in-kind)	EF01 (2)	4		
2. Meat and poultry	*(cash)*	EF02 (1)	4		
	(in-kind)	EF02 (2)	4		
3. Fishes and seafood	*(cash)*	EF03 (1)	4		
	(in-kind)	EF03 (2)	4		
4. Milk , cheese and eggs	*(cash)*	EF04 (1)	4		
	(in-kind)	EF04 (2)	4		
5. Oil and fat	*(cash)*	EF05 (1)	4		
	(in-kind)	EF05 (2)	4		
6. Fruits and nuts	*(cash)*	EF06 (1)	4		
	(in-kind)	EF06 (2)	4		
7. Vegetables	*(cash)*	EF07 (1)	4	0001 → 9999, Blank	
	(in-kind)	EF07 (2)	4		
8. Sugar and sweets	*(cash)*	EF08 (1)	4		
	(in-kind)	EF08 (2)	4		
9. Spices and condiments	*(cash)*	EF09 (1)	4		
	(in-kind)	EF09 (2)	4		
10. Non - alcoholic beverages (at home)					
- Semi - prepared products	*(cash)*	EF10 (1)	4		
	(in-kind)	EF10 (2)	4		
- Prepared products	*(cash)*	EF11 (1)	4		
	(in-kind)	EF11 (2)	4		
11. Prepared food (taken home)	*(cash)*	EF12 (1)	4		
	(in-kind)	EF12 (2)	4		
12. Food and non-alcoholic beverages (eaten away from home)	*(cash)*	EF13 (1)	5		
	(in-kind)	EF13 (2)	5		
13. Alcoholic beverages					
- Drink at home	*(cash)*	EF14 (1)	5	00001 → 99999, Blank	
	(in-kind)	EF14 (2)	5		
- Drink away from home	*(cash)*	EF15 (1)	5		
	(in-kind)	EF15 (2)	5		
14. Tobacco products					
- Cigarettes , tobacco etc.	*(cash)*	EF16 (1)	4		
	(in-kind)	EF16 (2)	4		
- Betelnut , snuff etc.	*(cash)*	EF17 (1)	4	0001 → 9999, Blank	
	(in-kind)	EF17 (2)	4		

SES.3 Questionnaire of Household Income				
FIELD	**FIELD NAME**	**LENGTH OF BYTES**	**POSSIBLE CODE & MEANING**	**REMARK**
PART 1 EARNING FROM WAGES AND SALARIES				
RECORD NO. 13	**REC**	**2**	**13**	
SUB - RECORD NO. 01	**SUB**	**2**	**01**	
1. Serial no. of members worked as employees	IW01	2	01 → 25	
2. All occupation which member worked as employees				
1st Occupation				
Occupation code	IW 02 (1)	3	Same as record 01 HM 36(1)	APPENDIX B
Socio - economic class	IW 03 (1)	2	32 - Professional, technical and managerial workers 41 - Farm workers 42 - General workers 50 - Clerical, Sales & Services workers 60 - Production & Construction workers	
3. How many months of working (during the past 12 months)	IW04(1)	2	00 → 12 (00= Less than 1 month)	
4. Type of wages in each occupation	IW05(1)	1	1- Wage per piece 2- Wage per hour 3- Wage per day 4- Wage per week 5- Wage per monthly/salary 6- Non -money wage 7- Others	
5. Rate of wages (in cash) (except only for receiving monthly wage/ salary)	IW06(1)	6	000001 → 999999, Blank	
6. Number of days worked per month	IW07(1)	2	01 → 30, Blank	
7. Number of hours worked per day	IW08(1)	2	01 → 24, Blank	
8. Number of pieces per month	IW09(1)	6	000001 → 999999, Blank	

FIELD	FIELD NAME	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
9. (Last month) Compensation received in cash				
9.1 Wages and salaries	IW10(1)	6	000001 → 999999, Blank	
9.2 Overtime, bonus and others	IW11(1)	6		
10. During the (Past 12 months) Compensation received in cash				
10.1 Wages and salaries	IW12(1)	7	0000001 → 9999999	
10.2 Overtime, bonus and others	IW13(1)	7	000001 → 999999, Blank	
11. During the (Past 12 months) Total value of of welfare received from employee	IW14(1)	6		
2nd Occupation				
Occupation code	IW02(2)		Same as IW 02(1) → IW14(1) และ Blank	
⋮	↓			
	IW14(2)			
3rd Occupation				
Occupation code	IW02(3)			
⋮	↓			
	IW14(3)			
SUB - RECORD NO. 02,03…	**SUB**	**2**	**02, 03, ...**	
1. Serial no. of members who earn from wages and salaries	IW01	2	02 → 25	
Item 2 →11 Details of working	IW02 ↓ IW14		Same as Sub-record 01	

FIELD	FIELD NAME	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
PART 2 EARNING FROM BUSINESS, INDUSTRY, OR PROFESSION OTHER THAN FARMING				
RECORD NO. 14	**REC**	**2**	**14**	
SUB - RECORD NO. 01	**SUB**	**2**	**01**	
1. Serial no. of Members who operate the business/enterperise	IB01	2	01 → 25	
2. Responsibility and type of enterprise				
1st Occupation				
Occupation code	IB02(1)	3	See 3 digit occupation codes	APPENDIX B
Socio - Economic Class	IB03(1)	2	Entrepreneurs, trade & industry 21 - With paid Workers 22 - Without paid Worker 31- Working as professional, technique and management	
Type of Enterprise	IB04(1)	2	Mining & quarrying 24 - Mining & Quarrying 25 - Salt production Manufacturing 31 - Food & beverages products 32 - Textiles 33 - Leather products 34 - Wood products and furniture 35 - Paper products 36 - Rubber and plastics products 37 - Printing 38 - Manufacture of bodies (coachwork) for motor vehicles 39 - Other manufacturing 40 - Electricity, gas & water 50 - Construction Wholesale & retail 61 - Sale and repair of motor vehicles and bicycles 62 - Retail sale of automotive fuel 63 - Food,beverages and fruits 64 - Textile clothing & footwear 65 - Furniture	

FIELD	FIELD NAME	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
			66 - Pharmaceutical and medical goods,cosmetics 67 - Household appliance, articles and equipment 68 - Hardware,paints and glass 69 - Other sale and repair of personal and household goods Hotels & restaurants 71 - Hotels,camping sites 72 - Restaurants,bars Transport, storage & communications 73 - Cargo handling and post 74 - Bus,boat (on fixed way) 75 - Taxi,motorcycle, ferryboat Other services 76 - Financial exchange 77 - Renting of machinery and equipment without operator 78 - Photographic 79 - Human health & veterinary 80 - Washing and dry-cleaning 81 - Barber & beauty shops 82 - Recreational and cultural 83 - Education 84 - Accounting, legal activities 85 - General services workes	
3. How many months operating this business (during the past 12 months)	IB05(1)	2	00 → 12 (00 = less than 1 month)	
4. Total number of workers (include enterpreneer)	IB06(1)	2	01 → 99	
5. Number of Employees	IB07(1)	2	01 → 9 Blank - for not available	
6. Gross money receipts from business	IB08(1)			
- The past 12 months	(1)	9	000000001 → 999999999	
- Last month	(2)	8	00000001 → 99999999, Blank	

FIELD	FIELD NAME	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
7. Total operating Cost	IB09(1)			
- The past 12 months	(1)	9	000000001 → 999999999 , Blank	
- Last month	(2)	8	00000001 → 99999999, Blank	
8. The value of home produced goods and services used in household (12 months)	IB10(1)	5	00001 → 99999 , Blank	
9. If having partnership, please specify the percent share of net profit from business	IB11(1)	2	01 → 99, Blank - not available	
2nd Occupation				
2. Type of enterprise (NO.2)	IB02 (2)	3	Same as IB02(1) → IB11(1) และ Blank	
Occupation ↓	↓	↓		
9. If having partnership, please specify the percent shore of net profit	IB11(2)	2		
SUB - RECORD NO. 02,03…	**SUB**	**2**	**02, 03**	
1. Serial no. of Member who operate the enterperise	IB01	2	02 → 25	
1st Occupation				
Career code	IB02	3	Same as SUB 01	
↓	↓	↓		
	IB11	2		
2nd Occupation				
Career code	IB02	3		
↓	↓	↓		
	IB11	2		

FIELD	FIELD NAME	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
PART 3 FARM OPERATION (Include Agricultural service)				
RECORD NO. 15	**REC**	**2**	**15**	
SUB - RECORD NO. 01	**SUB**	**2**	**01**	
Socio - Economic class	IA 01	2	01 → 06 : Farm operator mainly owning land 01 - Less than 2 rai 02- 2 to 4 rai and 399 tarangwa 03- 5 to 9 rai and 399 tarangwa 04- 10 to 19 rai and 399 tarangwa 05- 20 to 39 rai and 399 tarangwa 06 - 40 rai or more 11 → 13 : Farm operator, mainly renting land 11 - Less than 5 rai 12 - 5 to 19 rai and 399 tarangwa 13 - 20 rai or more 19 : Fishing, Agricultural services, Forestry(specify)	
1. Serial no.of member who operated farm	IA02(1) IA02(2)	2 2	01 → 25 Same as IA02(1) และ Blank	
2. Type of Farm	IA03(1)	2	11 → 18 : Agricultural 11 - Rice farming 12 - Other crop farms and vegetables 13 - Fruits,permanent crops and shrub crops 14 - livestock 15 - Poultry 16 - Other animal farming 17 - Forestry,hunting 18 - Agricultural Service 19 → 23 :Fishery 19 - Freshwater capture fishery 20 - Freshwater culture 21 - Marine/brackishwater culture 22 - Small scale marine capture fishery 23 - Commercial marine capture fishery	
	IA03(2) IA03(3)	2 2	Same as IA03(1) และ Blank	

FIELD	FIELD NAME	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
3. Area of land used. in agriculture (rai - tarangwa)				
3.1 Owner (include land owned by parents and relatives)	IA04			
- no. of rai	(1)	5	00001 → 99999, Blank	
- no. of tarangwa	(2)	3	001 → 399, Blank	
3.2 Land rented from other persons	IA05			
- no. of rai	(1)	5	Same as IA 04	
- no. of tarangwa	(2)	3		
3.3 Public land and other	IA06			
- no. of rai	(1)	5		
- no. of tarangwa	(2)	3		
4. No. of household member worked in farm (include enterpreneer)	IA07	2	01 → 15	
6. Income from rented work animals/tools and compensation from agricultural services during the past 12 months				
-Received in cash (baht)	IA08	8	0000001 → 9999999, Blank	
-Received in products (value)				
-Sold	IA09	8		
-Household consumed and other	IA10	8		
7. Harvested crops/ products during the past 12 months and distribution for use				
- Total value of all products	IA11	8	00000001 → 99999999, Blank	
- Distribution -Sold	IA12	8		
-For household consumption	IA13	8	0000001 → 9999999, Blank	
-Others use	IA14	8		
8. Livestock/ poultry and products from farming in the past 12 months and distribution for use				
- Total value of all products	IA15	8	00000001 → 99999999, Blank	
- Distribution -Sold	IA16	8		
-For household consumption	IA17	8	0000001 → 9999999, Blank	
-Others use	IA18	8		
9. Total value of animals at the first day of the past 12 months	IA19	8	00000001 → 99999999, Blank	

FIELD	FIELD NAME	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
10. Value of product from freshwater culture / fishery and hunting and distribution for use				
- Total value of all products	IA20	8	00000001 → 99999999, Blank	
- Distribution -Sold	IA21	8		
-For household consumption	IA22	8	0000001 → 9999999, Blank	
-Others use	IA23	8		
11. Farm operating cost in the past 12 months				
- Estimated rental value of land owned by holder/ parents/ relatives	IA24	8	0000001 → 9999999, Blank	
- Total operating cost				
- Paid / in cash	IA25	8	00000001→ 99999999, Blank	
- Used own products	IA26	8	000001 → 999999, Blank	
- Received assistance	IA27	8		
12. Gross receiving and expenditure of farming in the last month				
- Gross receiving	IA28	8	00000001 → 99999999, Blank	
- Expenditure	IA29	8		

FIELD	FIELD NAME	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
PART4 INCOME FROM OTHER SOURCES (other than earning)				
RECORD NO. 16	**REC**	**2**	**16**	
SUB - RECORD NO. 01	**SUB**	**2**	**01**	
Socio - Economic class (item 1 - 4)	**IO01**	**2**	**71 - Receiving assistance or pensions**	
1. Pensions annuities or welfare				
- During the past 12 months				
- Cash	IO02(1)	9	000000001 → 999999999, Blank	
- In kind	IO02(2)	9		
- During the last month (in cash)	IO02(3)	9		
2. Work compensation or terminated payment				
- During the past 12 months				
- Cash	IO03(1)	9		
- In kind	IO03(2)	9		
- During the last month (in cash)	IO03(3)	9		
3. Assistance from other persons outside the household				
- During the past 12 months				
- Cash	IO04(1)	9		
- In kind	IO04(2)	9		
- During the last month (in cash)	IO04(3)	9		
4. Social pensions for the elderly and disability,assistance from government and other agencies			Same as IO 02 (ข้อ.1)	
- During the past 12 months				
- Cash	IO05(1)	9		
- In kind	IO05(2)	9		
- During the last month (in cash)	IO05(3)	9		
5. Private / government scholarships				
- During the past 12 months				
- Cash	IO06(1)	9		
- In kind	IO06(2)	9		
- During the last month (in cash)	IO06(3)	9		

FIELD	FIELD NAME	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
Socio - Economic class (item 6 - 9)	**IO 07**	**2**	**72 - Receiving property income**	
6. Income from renting accommodation land and other properties				
- During the past 12 months				
- Cash	IO08(1)	9		
- In kind	IO08(2)	9		
- During the last month (in cash)	IO08(3)	9		
7. Licence and copyright				
- During the past 12 months				
- Cash	IO09(1)	9		
- In kind	IO09(2)	9		
- During the last month (in cash)	IO09(3)	9		
8. Interest from banks,government bonds,dividend from stocks and other investment				
- During the past 12 months				
- Cash	IO10(1)	9		
- In kind	IO10(2)	9		
- During the last month (in cash)	IO10(3)	9		
9. Interest from "shares" and loans				
- During the past 12 months			Same as IO 02 (ข้อ.1)	
- Cash	IO11(1)	9		
- In kind	IO11(2)	9		
- During the last month (in cash)	IO11(3)	9		
10. Inheritances bequeaths gifts				
- During the past 12 months				
- Cash	IO12(1)	9		
- In kind	IO12(2)	9		
- During the last month (in cash)	IO12(3)	9		
11. Proceeds from health,accident, fire or life insurance				
- During the past 12 months				
- Cash	IO13(1)	9		
- In kind	IO13(2)	9		
- During the last month (in cash)	IO13(3)	9		
12. Other income,lottery,commissions, gambling etc.				
- During the past 12 months				
- Cash	IO14(1)	9		
- In kind	IO14(2)	9		
- During the last month (in cash)	IO14(3)	9		

FIELD	FIELD NAME	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
PART 5 ASSETS AND LIABILITIES OF HOUSEHOLD				
RECORD NO. 17	**REC**	**2**	**17**	
SUB - RECORD NO. 01	**SUB**	**2**	**01**	
a. Value of household assets				
1. Value of house,land and building (Owned by household members)				
1.1 Dwelling (for living)	AD01	9	000000001 → 999999999, Blank	
1.2 Land/building for business/ agriculture and others	AD02	9		
2.Value of vehicles owned by household	AD03	9		
3. Value of financial assets (Baht)	AD04	1	1 - Less than - 10,000 2 - 10,001 - 30,000 3 - 30,001 - 50,000 4 - 50,001 - 100,000 5 - 100,001 - 500,000 6 - 500,001 - 1,000,000 7 - 1,000,001 - 5,000,000 8 - 5,000,001 - 10,000,000 9 - More than 10 million Blank	
b. Finance of household				
4. (During the past 12 months) Did you ever have any problems of paying on house rent, water/electricity rates or school fees ?	AD05	1	0 - No problem 1 - Had problem in some month (not over 3 month) 2 - Had many problems (over 3 month)	
5. Could you borrow money for operating business or farm	AD06	1	0 - Could not 1 - Borrowed some 2 - Borrowed with all purposed money 9 - No need / wouldn't borrow	
6. Could you borrow money for emergency payment	AD07	1	Same as AD 06	
c. Household debt				
7. Whether household has debt in present	AD08	1	0 - No 1 - Yes	

FIELD	FIELD NAME	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
8. Sources of loan				
- 1st Source	AD09	1	1 - Commercial banks 2 - Bank for Agriculture & agri,Co-operative 3 - Government housing bank / Saving bank 4 - Other finance companies 5 - Savings co-operatives organization's welfare 6 - Village fund scheme 7 - Persons outside the household	
- 2nd Source	AD10	1	same code as AD09 and Blank	
9. Amount of total debt (At the end of last month)	AD11	8	00000001 → 99999999, Blank	
Loan from formal sector				
Purpose of credit				
-Purchased / hire - purchased house and / or land	AD12	8	00000001 → 99999999, Blank	
-Education	AD13	8		
- Household consumption	AD14	8		
- Business	AD15	8		
-Farm business	AD16	8		
-Other	AD17	8		
Loan from informal sector				
Purpose of credit				
-Purchased / hire - purchased house and / or land	AD18	8	00000001 → 99999999, Blank	
-Education	AD19	8		
-Household consumption	AD20	8		
-Business	AD21	8		
-Farm business	AD22	8		
-Other	AD23	8		
10. (Last month) Whether household had borrowed or owed any bills				
Amount of total debt	AD24	8	00000001 → 99999999, Blank	
-Loan from formal sector	AD25	8		
- Loan from informal sector	AD26	8		

FIELD	FIELD NAME	LENGTH OF BYTE	POSSIBLE CODE & MEANING	REMARK
PART 6 MIGRATION AND REMITTANCE				
RECORD NO. 18	**REC**	**2**	**18**	
SUB - RECORD NO. 01	**SUB**	**2**	**01**	
1. (During the past 10 years) Whether there were any household members moved out from this household	MR01	**2**	00 → 15	
a. Migrant person who sends money to this household				
2.1 No. of persons who ever sent or gave money to this household	MR02	2	00 → 15, Blank	
2.2 No. of persons who have regularly sent or gave money to this household	MR03	2	00 → 15, Blank	
Detail of person who sent/gave money to this household				
1st person				
3. Sex	MR04(1)	1	1 - Male 2 - Female Blank for code "00" in MR01	
4. Age	MR05(1)	2	12 → 99, Blank	
5. Relationship to Household head (in present)	MR06(1)	1	2 - Spouse 3 - Unmarried son/daughter 4 - Married son/daughter 5 - Son / daughter-in -law 6 - Grandchild 7 - Parents,grandparents 8 - Other relatives Blank	
6. Educational attainment	MR07(1)	3	Same as HM15 (Record 02) 000 - No schooling Blank	
7. Primary Occupation	MR08(1)	3	(See 3 - digit occupation code) Blank	Appendix B
8. Type of Industry/bussiness	MR09(1)	2	Same as HM 38 (Record 02) Blank	
9. Reason of moving out from this household	MR10(1)	1	1 - To have their own family 2 - To work 3 - To study 4 - To be a soldier 5 - Others Blank	

FIELD	FIELD NAME	LENGTH OF BYTE	POSSIBLE CODE & MEANING	REMARK
10. Place where this person lives after moving out from this household	MR11(1)	1	1 - In the same village 2 - In the same tambon 3 - In the same amphoe 4 - In the same changwat 5 - From other changwat to Bangkok 6 - In the same region 7 - In the different region 8 - Outside the country Blank	
11. (During the past 12 months) Amount of money that this person had sent/given to this household	MR12(1)	8	00000001 → 99999999,Blank	
Detail of person who sent/gave money to this household (2nd and 3rd person)				
3.Sex	MR04(2)	1	Same as MR 04(1) → MR 12(1)	
	↓			
	MR12(2)	8		
	MR04(3)	1		
	↓			
	MR12(3)	8		
b. Person who sent/gave money to this household, apart from the above persons in a.				
12. (During the past 12 months)Total amout of money that this household received from other relatives (include person who left more than 10 years)	MR13	8	00000001 → 99999999, Blank	
SUB - RECORD NO. 02	**SUB**	**2**	**02**	
c.Person who received money from this household				
13.1 No. of persons that this household had ever given money to them	MP01	2	00 → 15, Blank	
13.2 No. of persons that this household have regularly sent money to them	MP02	2	00 → 15, Blank	

FIELD	FIELD NAME	LENGTH OF BYTE	POSSIBLE CODE & MEANING	REMARK
Detail of person who received money from this household				
1st person				
14. Sex	MP03(1)	1	1 - Male 2 - Female Blank	
15. Age	MP04(1)	2	00 → 99, Blank (00 = Less than.....)	
16. Relationship to household head (in present)	MP05(1)	1	Same as MR 06(1) → MR11(1)	
17. Educational attainment	MP06(1)	3		
18. Primary occupation	MP07(1)	3		
19. Type of industry/bussiness	MP08(1)	2		
20. Reason of moving out from this household	MP09(1)	1		
21. Place where this person lives after moving out	MP10(1)	1		
22. (During the past 12 months) Amout of money that this household had sent money to this persons	MP11(1)	8	00000001 → 99999999, Blank	
Detail of person who received money from this household (2nd and 3rd person)				
14. Sex	MP03(2) ↓ MP11(2)	1 8	Same as MP 03(1) → MP 11(1)	
	MP03(3) ↓ MP11(3)	1 8		
d. Person who received money from this household, apart from the above persons in c.				
23. (During the past 12 months) Total amount of money that this household had sent to their relatives (include person who left more than 10 years)	MP12	8	0000001 → 9999999, Blank	

APPENDIX

APPENDIX A
REGION, CHANGWAT, AMPHOE & TAMBON CODES

Region & Changwat	Amphoe	Tambon

Bangkok Metropolis =1

10 - Bangkok Metropolis

Central = 2

Changwat

11 - Samut Prakan
12 - Nonthaburi
13 - Pathum thani
14 - Phra nakhon si ayutthaya
15 - Ang thong
16 - Lop buri
17 - Sing buri
18 - Chai nat
19 - Saraburi
20 - Chon buri
21 - Rayong
22 - Chanthaburi
23 - Trat
24 - Chachoengsao
25 - Prachin buri
26 - Nakhon nayok
27 - Sakaeo
70 - Ratchaburi
71 - Kanchanaburi
72 - Suphanburi
73 - Nakhon pathom
74 - Samut sakhon
75 - Samut songkhram
76 - Phetchaburi
77 - Prachuap khiri khan

List of amphoe and tambon codes (thai version) in cd - rom

Region & Changwat	Amphoe	Tambon

North = 3

Changwat

50 - Chiang mai
51 - Lamphun
52 - Lampang
53 - Uttaradit
54 - Phrae
55 - Nan
56 - Phayao
57 - Chiang rai
58 - Mae hong son
60 - Nakhon sawan
61 - Uthai thani
62 - Kamphang phet
63 - Tak
64 - Sukhothai
65 - Phitsanulok
66 - Phichit
67 - Phetchabun

List of amphoe and tambon codes (thai version) in cd - rom

Northeast = 4

Changwat

30 - Nakhon ratchasima
31 - Buri ram
32 - Surin
33 - Si sa ket
34 - Ubon ratchathani
35 - Yasothon
36 - Chaiyaphum
37 - Amnat charoen
39 - Nong bua lam phu
40 - Khon kaen
41 - Udon thani

Region & Changwat	Amphoe	Tambon

Northeast = 4

Changwat

42 - Loei

43 - Nong khai

44 - Maha sarakham

45 - Roi et

46 - kalasin

47 - Sakon nakhon

48 - Nakhon phanom

49 - Mukdahan

South = 5

Changwat

80 - Nakhon si thammarat

81 - Krabi

82 - Phangnga

83 - Phuket

84 - Surat thani

85 - Ranong

86 - Chumphon

90 - Songkhla

91 - Satun

92 - Trang

93 - Phatthalung

94 - Pattani

95 - Yala

96 - Naratiwat

List of amphoe and tambon codes (thai version) in cd - rom

B - 1

APPENDIX B
3 DIGIT OCCUPAION CODES
International Standard Classification of Occupations (ISCO - 88)
(REC 02 : HM 36,39) (REC 13 : IW02) (REC 14 : IB02) (REC 18 : MR08))

TITLES

Major group 1 Legislators, senior officials and managers

11 Legislators and senior officials

111 Legislators

112 Senior government officials

113 Traditional chiefs and heads of villages

114 Senior officials of special-interest organisations

12 Corporate managers

121 Directors and chief executives

122 Production and operations department managers

123 Other department managers

13 General managers

131 General managers

Major group 2 Professionals

21 Physical, mathematical and engineering science professionals

211 Physicists, chemists and related professionals

212 Mathematicians, statisticians and related professionals

213 Computing Professionals

214 Architects, engineers and related professionals

B - 2

TITLES
22 Life science and health professionals
221 Life science Professionals
222 Health professionals(except nursing)
223 Nursing and midwifery professionals
23 Teaching professionals
231 College,university and higher education teaching professionals
232 Secondary education teaching professionals
233 Primary and pre-primary education teaching professionals
234 Special education teaching professionals
235 Other teaching professionals
24 Other professionals
241 Business professionals
242 Legal professionals
243 Archivists, librarians and related information professionals
244 Social science and related professionals
245 Writers and creative or performing artists
246 Religious professionals
<u>Major group 3</u> Technicians and associate professionals
31 Physical and engineering science associate professionals
311 Physical and engineering science technicians
312 Computer associate professionals
313 Optical and electronic equipment operators
314 Ship and aircraft controllers and technicians
315 Safety and quality inspectors

B - 3

	TITLES
32	**Life science and health associate professionals**
321	Life science technicians and related associate professionals
322	Modern health associate professionals (except nursing)
323	Nursing and midwifery associate professionals
324	Traditional medicine practitioners and faith healers
33	**Teaching associate professionals**
331	Primary education teaching associate professionals
332	Pre-primary education teaching associate professionals
333	Special education teaching associate professionals
334	Other teaching associate professionals
34	**Other associate professionals**
341	Finance and sales associate professionals
342	Business services agents and trade brokers
343	Administrative associate professionals
344	Customs, tax and related government associate professionals
345	Police inspectors and detectives
346	Social work associate professionals
347	Artistic, entertainment and sports associate professionals
348	Religious associate professionals

B - 4

TITLES

Major group 4 Clerks

41 Office clerks

411 Secretaries and keyboard-operating clerks

412 Numerical clerks

413 Material-recording and transport clerks

414 Library, mail and related clerks

419 Other office clerks

42 Customer services clerks

421 Cashiers,tellers and related clerks

422 Client information clerks

Major group 5 Service workers and shop and market sales workers

51 Personal and protective services workers

511 Travel attendants and related workers

512 Housekeeping and restaurant services workers

513 Personal care and related workers

514 Other personal services workers

515 Astrologers,fortune-tellers and related workers

516 Protective services workers

52 Models,sales persons and demonstrators

521 Fashion and other models

522 Shop sales persons and demonstrators

523 Stall and market sales persons

B - 5

TITLES
Major group 6 Skilled agricultural and fishery workers
61 Market-oriented skilled agricultural and fishery workers
611 Market gardeners and crop growers
612 Market-oriented animal producers and related workers
613 Market-oriented crop and animal producers
614 Forestry and related workers
615 Fishery workers,hunters and trappers
62 Subsistence agricultural and fishery workers
621 Subsistence agricultural and fishery workers
Major group 7 Craft and related trades workers
71 Extraction and buiding trades workes
711 Miners,shotfirers,stone cutters and carvers
712 Building frame and related trades workes
713 Building finishers and related trades workers
714 Painters,building structure cleaners and related trades workers

B - 6

TITLES	
72	**Metal,machinery and related trades workers**
721	Metal moulders,welders,sheetmetal workers, structuralmetal preparers,and related trades workers
722	Blacksmiths,tool-makers and related trades workers
723	Machinery mechanics and fitters
724	Electrical and electronic equipment mechanics and fitters
73	**Precision,handicraft,printing and related trades workers**
731	Precision workers in metal and related materials
732	Potters,glass-makers and related trades workers
733	Handicraft workers in wood,textile,leather,and related materials
734	Printing and related trades workers
74	**Other craft and related trades workers**
741	Food processing and related trades workers
742	Wood treaters, cabinet-makers and related trades workers
743	Textile, garment and related trades workers
744	Pelt, leather and shoemaking trades workers

B - 7

TITLES

Major group 8 Plant and machine operators and assemblers

81 Stationary-plant and related operators

811 Mining-and mineral-processing-plant operators

812 Metal-processing-plant operators

813 Glass, ceramics and related plant operators

814 Wood-processing- and paperma-king-plant operators

815 Chemical-processing-plant operators

816 Power-production and related plant operators

817 Automated-assembly-line and industrial-robot operators

82 Machine operators and assemblers

821 Metal-and mineral-products machine operators

822 Chemical-products machine operators

823 Rubber-and plastic-products machine operators

824 Wood-products machine operators

825 Printing-binding-and paper-products machine operators

826 Textile-fur-and leather-products machine operators

827 Food and related products machine operators

828 Assemblers

829 Other machine operators and assembles

B - 8

TITLES

83 Drivers and mobile-plant operators

831 Locomotive-engine drivers and related workers

832 Motor-vehicle drivers

833 Agricultural and other mobile-plant operators

834 Ships deck crews and related workers

Major group 9 Elementary occupations

91 Sales and services elementary occupations

911 Street vendors and related workers

912 Shoe cleaning and other street services elementary occupations

913 Domestic and related helpers, cleaners and launderers

914 Building caretakers, window and related cleaners

915 Messengers, porters, doorkeepers and related workers

916 Garbage collectors and related labourers

B - 9

TITLES

92 Agricultural, fishery and related labourers

921 Agricultural, fishery and related labourers

93 Labourers in mining, construction, manufacturing and transport

931 Mining and construction labourers

932 Manufacturing labourers

933 Transport labourers and freight handlers

Major group 0 Armed forces

01 Armed forces

011 Armed forces

CODES FOR ECONOMICALLY INACTIVE AND UNKNOWN OCCUPATION

991 Housewife

992 Students

993 Children,elderly person

994 Illness / disabled person

995 Looking for a job

996 Others,retied person

997 Employed but unknown occupation

999 Unemployed

APPENDIX C
SES.2 (SPECIAL) : DETAILED EXPENDITURE

FIELD		FIELD NAME	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
PART 3 EXPENDITURE ON GOODS AND SERVICES (baht/ month)					
RECORD NO.04		**REC**	**2**	**04**	
SUB - RECORD NO.01		**SUB**	**2**	**01**	
A. Consumption expenditures					
1. Housing (shelter)					
1.1 House rent	*(cash)*	EG01 (1)	6	000001 → 999999, Blank	
Estimated rental value	*(in-kind)*	EG01 (2)	6		
1.2 Repair of dwelling	*(cash)*	EG02 (1)	6		
	(in-kind)	EG02 (2)	6		
1.3 Fitting/repair plumbing and	*(cash)*	EG03 (1)	6		
bathroom appliances	*(in-kind)*	EG03 (2)	6		
1.4 Fitting/repair electricity	*(cash)*	EG04 (1)	6		
	(in-kind)	EG04 (2)	6		
1.5 Tools/equipment	*(cash)*	EG05 (1)	6		
	(in-kind)	EG05 (2)	6		
2. Household operation, furnitures and equipment					
2.1 Major equipment					
Furnitures	*(cash)*	EG06 (3)	5	00001 → 99999, Blank	
	(in-kind)	EG06 (4)	5		
Cooking stove(gas/ electric), microwave oven, rice cookers		EG07			
- Cooking stove (gas / electric)	*(cash)*	EG0701(3)	5		
	(in-kind)	EG0701(4)	5		
- Microwave oven	*(cash)*	EG0702(3)	5		
	(in-kind)	EG0702(4)	5		
- Rice cookers	*(cash)*	EG0703(3)	5		
	(in-kind)	EG0703(4)	5		
Electric mixer, Blenders electrical pots	*(cash)*	EG08(3)	5		
	(in-kind)	EG08(4)	5		
Washing machine,water-filter/ pump, water boiler		EG09			
- Washing machine	*(cash)*	EG0901(3)	5		
	(in-kind)	EG0901(4)	5		
- Water - filter / pump	*(cash)*	EG0902(3)	5		
	(in-kind)	EG0902(4)	5		
- Water boiler	*(cash)*	EG0903(3)	5		
	(in-kind)	EG0903(4)	5		
Air conditioner,refrigerators,electric fan		EG10			
- Air conditioner	*(cash)*	EG1001(3)	5		
	(in-kind)	EG1001(4)	5		
- Refrigerators	*(cash)*	EG1002(3)	5		
	(in-kind)	EG1002(4)	5		
- Electric fan	*(cash)*	EG1003(3)	5		
	(in-kind)	EG1003(4)	5		
Others major equipment					
	(cash)	EG11(3)	5		
	(in-kind)	EG11(4)	5		
Repair / maintenance	*(cash)*	EG12(3)	5		
	(in-kind)	EG12(4)	5		

FIELD		FIELD NAME	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
RECORD NO.05		**REC**	**2**	**05**	
SUB - RECORD NO.01		**SUB**	**2**	**01**	
2.2 Household textiles					
Bedding equipment and	*(cash)*	EG13 (1)	5		
furnishing cloth	*(in-kind)*	EG13 (2)	5		
Other cloth used in kitchen and eatting	*(cash)*	EG14 (1)	5		
	(in-kind)	EG14 (2)	5		
Other cloth used in household	*(cash)*	EG15 (1)	5		
	(in-kind)	EG15 (2)	5		
2.3 Small appliances					
Kitchen appliance(pans etc.)	*(cash)*	EG16 (1)	5		
	(in-kind)	EG16 (2)	5		
Vacuum flasks, bucket&jars and others	*(cash)*	EG17 (1)	5		
	(in-kind)	EG17 (2)	5		
2.4 Fuel , lighting and water supply					
Electricity	*(cash)*	EG18 (1)	5		
	(in-kind)	EG18 (2)	5		
Cooking gas	*(cash)*	EG19 (1)	5		
	(in-kind)	EG19 (2)	5		
Gas for other purposes	*(cash)*	EG20 (1)	5		
	(in-kind)	EG20 (2)	5		
Charcoal and wood	*(cash)*	EG21 (1)	5		
	(in-kind)	EG21 (2)	5		
Kerosene	*(cash)*	EG22 (1)	5		
	(in-kind)	EG22 (2)	5	00001 → 99999, Blank	
Lighting accessories	*(cash)*	EG23 (1)	5		
	(in-kind)	EG23 (2)	5		
Water supply,underground water		EG24			
- Water supply	*(cash)*	EG2401(1)	5		
	(in-kind)	EG2401(2)	5		
- Underground water	*(cash)*	EG2402(1)	5		
	(in-kind)	EG2402(2)	5		
2.5 Cleaning supplies					
Mops , brooms , brushes etc.	*(cash)*	EG25(1)	5		
	(in-kind)	EG25(2)	5		
Detergent / softener / strach		EG26			
- Laundry soup	*(cash)*	EG2601(1)	5		
	(in-kind)	EG2601(2)	5		
- Flake	*(cash)*	EG2602(1)	5		
	(in-kind)	EG2602(2)	5		
- Detergent	*(cash)*	EG2603(1)	5		
	(in-kind)	EG2603(2)	5		
- Softener	*(cash)*	EG2604(1)	5		
	(in-kind)	EG2604(2)	5		
- Strach	*(cash)*	EG2605(1)	5		
	(in-kind)	EG2605(2)	5		

FIELD		FIELD NAME[253]	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
Liquid detergent/polishes, rubbish services and others		EG27			
- Floor polishes	*(cash)*	EG2701(1)	5	00001 → 99999, Blank	
	(in-kind)	EG2701(2)	5		
- Toilet polishes	*(cash)*	EG2702(1)	5		
	(in-kind)	EG2702(2)	5		
- Washing liquids	*(cash)*	EG2703(1)	5		
	(in-kind)	EG2703(2)	5		
- Deodorizer	*(cash)*	EG2704(1)	5		
	(in-kind)	EG2704(2)	5		
- Insecticides / mosquito coil	*(cash)*	EG2705(1)	5		
	(in-kind)	EG2705(2)	5		
- Rubbish services	*(cash)*	EG2706(1)	5		
	(in-kind)	EG2706(2)	5		
- Other supplies	*(cash)*	EG2707(1)	5		
	(in-kind)	EG2707(2)	5		

FIELD		FIELD NAME	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
RECORD NO.06		**REC**	**2**	**06**	
SUB - RECORD NO.01		**SUB**	**2**	**01**	
3. Service workers in household					
3.1 Servants and house workers					
(member of households)	*(cash)*	EG28(1)	5		
	(in-kind)	EG28(2)	5		
3.2 Servants and house workers					
(persons outside households)	*(cash)*	EG29(1)	5		
	(in-kind)	EG29(2)	5		
4. Cloth , clothes and clothing material					
4.1 Clothes , skirts and trousers		EG30			
Men's clothing (over 13 years)					
- Office uniform	*(cash)*	EG3001(1)	5		
	(in-kind)	EG3001(2)	5		
- School uniform	*(cash)*	EG3002(1)	5		
	(in-kind)	EG3002(2)	5		
- Clothes(Jackets,Shirts,T-shirts)	*(cash)*	EG3003(1)	5		
	(in-kind)	EG3003(2)	5		
- Pajamas	*(cash)*	EG3004(1)	5		
	(in-kind)	EG3004(2)	5		
- Trousers	*(cash)*	EG3005(1)	5		
	(in-kind)	EG3005(2)	5		
- Cloth	*(cash)*	EG3006(1)	5		
	(in-kind)	EG3006(2)	5		
Women's clothing (over 13 years)					
- Office uniform	*(cash)*	EG3007(1)	5	00001 → 99999, Blank	
	(in-kind)	EG3007(2)	5		
- School uniform	*(cash)*	EG3008(1)	5		
	(in-kind)	EG3008(2)	5		
- Clothes(Jackets,Shirts,T-shirts)	*(cash)*	EG3009(1)	5		
	(in-kind)	EG3009(2)	5		
- Pajamas	*(cash)*	EG3010(1)	5		
	(in-kind)	EG3010(2)	5		
- Skirts/trousers,dress,matenal dresses	*(cash)*	EG3011(1)	5		
	(in-kind)	EG3011(2)	5		
- Cloth	*(cash)*	EG3012(1)	5		
	(in-kind)	EG3012(2)	5		
Clothing for boys and girls (≤ 12 yrs.)					
- School uniform	*(cash)*	EG3013(1)	5		
	(in-kind)	EG3013(2)	5		
- Clothes , skirts and trousers	*(cash)*	EG3014(1)	5		
	(in-kind)	EG3014(2)	5		
- Baby's clothing (lower 1 year)	*(cash)*	EG3015(1)	5		
	(in-kind)	EG3015(2)	5		
- Pajamas	*(cash)*	EG3016(1)	5		
	(in-kind)	EG3016(2)	5		
- Cloth / diaper	*(cash)*	EG3017(1)	5		
	(in-kind)	EG3017(2)	5		

FIELD		FIELD NAME	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
4.2 Sport suits	*(cash)*	EG31(1)	5		
	(in-kind)	EG31(2)	5		
4.3 Panung , sarong , pa-kao-ma ฯ		EG32			
- For men	*(cash)*	EG3201(1)	5		
	(in-kind)	EG3201(2)	5		
- For women	*(cash)*	EG3202(1)	5		
	(in-kind)	EG3202(2)	5		
- Boys and girls	*(cash)*	EG3203(1)	5		
	(in-kind)	EG3203(2)	5		
4.4 Other clothing and body furnishings	*(cash)*	EG33 (1)	5		
	(in-kind)	EG33 (2)	5		
4.5 Sewing/repair/altering	*(cash)*	EG34 (1)	5		
	(in-kind)	EG34 (2)	5		
4.6 Hire/laundry/dry cleaning	*(cash)*	EG35 (1)	5		
	(in-kind)	EG35 (2)	5		
5. Footwears					
5.1 Shoes (all type)		EG36			
- For men	*(cash)*	EG3601(1)	5		
	(in-kind)	EG3601(2)	5		
- For women	*(cash)*	EG3602(1)	5		
	(in-kind)	EG3602(2)	5		
- For boys and girls	*(cash)*	EG3603(1)	5		
	(in-kind)	EG3603(2)	5		
5.2 Sport shoes		EG37		00001 → 99999, Blank	
- For men	*(cash)*	EG3701(1)	5		
	(in-kind)	EG3701(2)	5		
- For women	*(cash)*	EG3702(1)	5		
	(in-kind)	EG3702(2)	5		
- For boys and girls	*(cash)*	EG3703(1)	5		
	(in-kind)	EG3703(2)	5		
5.3 Repair/ hire/ cleaning services		EG38			
- For men	*(cash)*	EG3801(1)	5		
	(in-kind)	EG3801(2)	5		
- For women	*(cash)*	EG3802(1)	5		
	(in-kind)	EG3802(2)	5		
- For boys and girls	*(cash)*	EG3803(1)	5		
	(in-kind)	EG3803(2)	5		
- Hire/ cleaning services	*(cash)*	EG3804(1)	5		
	(in-kind)	EG3804(2)	5		
6. Personal care					
6.1 Personal supplies					
Soap,tooth brush shampoo, powder etc.		EG39			
- Soap	*(cash)*	EG3901(1)	5		
	(in-kind)	EG3901(2)	5		
- Tooth brush	*(cash)*	EG3902(1)	5		
	(in-kind)	EG3902(2)	5		
- Tooth paste	*(cash)*	EG3903(1)	5		
	(in-kind)	EG3903(2)	5		

FIELD		FIELD NAME	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
- Shampoo	*(cash)*	EG3904(1)	5		
	(in-kind)	EG3904(2)	5		
- Conditioner	*(cash)*	EG3905(1)	5		
	(in-kind)	EG3905(2)	5		
- Hair tonic , hair lotion	*(cash)*	EG3906(1)	5		
	(in-kind)	EG3906(2)	5		
- Powder	*(cash)*	EG3907(1)	5		
	(in-kind)	EG3907(2)	5		
- Personal deodorants	*(cash)*	EG3908(1)	5		
	(in-kind)	EG3908(2)	5		
- Other supplies	*(cash)*	EG3909(1)	5		
	(in-kind)	EG3909(2)	5		
- Comb/brushes,razor etc.	*(cash)*	EG40(1)	5		
	(in-kind)	EG40(2)	5		
Cosmetics		EG41			
- Perfume	*(cash)*	EG4101(1)	5		
	(in-kind)	EG4101(2)	5		
- Lipstick	*(cash)*	EG4102(1)	5		
	(in-kind)	EG4102(2)	5		
- Lotion	*(cash)*	EG4103(1)	5		
	(in-kind)	EG4103(2)	5		
- Face powder , other cosmetic	*(cash)*	EG4104(1)	5		
	(in-kind)	EG4104(2)	5		
Wrist watch,sunglasses etc.		EG42			
- Wrist watch	*(cash)*	EG4201(1)	5	00001 → 99999, Blank	
	(in-kind)	EG4201(2)	5		
-Purses	*(cash)*	EG4202(1)	5		
	(in-kind)	EG4202(2)	5		
- Student bags	*(cash)*	EG4203(1)	5		
	(in-kind)	EG4203(2)	5		
- Sunglasses , umbrella etc.	*(cash)*	EG4204(1)	5		
	(in-kind)	EG4204(2)	5		
Others supplies		EG43			
- Toilet paper / tissue paper	*(cash)*	EG4301(1)	5		
	(in-kind)	EG4301(2)	5		
- Sanitary napkins	*(cash)*	EG4302(1)	5		
	(in-kind)	EG4302(2)	5		
- Other supplies	*(cash)*	EG4303(1)	5		
	(in-kind)	EG4303(2)	5		
Maintenance and repair	*(cash)*	EG44(1)	5		
	(in-kind)	EG44(2)	5		
6.2 Personal services					
Beauty services		EG45			
- For men	*(cash)*	EG4501(1)	5		
	(in-kind)	EG4501(2)	5		
- For women	*(cash)*	EG4502(1)	5		
	(in-kind)	EG4502(2)	5		
Other personal services	*(cash)*	EG46(1)	5		
	(in-kind)	EG46(2)	5		

FIELD		FIELD NAME[257]	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
RECORD NO.07		**REC**	**2**	**07**	
SUB - RECORD NO.01		**SUB**	**2**	**01**	
7. Medical and health care					
7.1 Medical and supplies					
Modern medicine		EG47			
- Cough remedies	*(cash)*	EG4701(1)	5		
	(in-kind)	EG4701(2)	5		
- Antipyretics and analgesics	*(cash)*	EG4702(1)	5		
	(in-kind)	EG4702(2)	5		
- Cold remedies	*(cash)*	EG4703(1)	5		
	(in-kind)	EG4703(2)	5		
- Antimicrobials	*(cash)*	EG4704(1)	5		
	(in-kind)	EG4704(2)	5		
- Antifungals-dermatologic	*(cash)*	EG4705(1)	5		
preperation	*(in-kind)*	EG4705(2)	5		
- Antiseptics	*(cash)*	EG4706(1)	5		
	(in-kind)	EG4706(2)	5		
- Antacids	*(cash)*	EG4707(1)	5		
	(in-kind)	EG4707(2)	5		
- Carminatives	*(cash)*	EG4708(1)	5		
	(in-kind)	EG4708(2)	5		
- Antidiarrheals	*(cash)*	EG4709(1)	5		
	(in-kind)	EG4709(2)	5		
- Antivenim	*(cash)*	EG4710(1)	5		
	(in-kind)	EG4710(2)	5		
- Anti-inflammatory analgesics	*(cash)*	EG4711(1)	5	00001 → 99999, Blank	
	(in-kind)	EG4711(2)	5		
- Inhalant/ other modern drugs	*(cash)*	EG4712(1)	5		
	(in-kind)	EG4712(2)	5		
Traditional / herbal medicine		EG48			
- Herbal remedies	*(cash)*	EG4801(1)	5		
	(in-kind)	EG4801(2)	5		
- Traditional / herbal medicine	*(cash)*	EG4802(1)	5		
	(in-kind)	EG4802(2)	5		
Contraceptives and condom		EG49			
- Contraceptives	*(cash)*	EG4901(1)	5		
	(in-kind)	EG4901(2)	5		
- Condom	*(cash)*	EG4902(1)	5		
	(in-kind)	EG4902(2)	5		
Vitamins	*(cash)*	EG50(1)	5		
	(in-kind)	EG50(2)	5		
First-aid kits/medical equipments		EG51			
- Plaster	*(cash)*	EG5101(1)	5		
	(in-kind)	EG5101(2)	5		
- Bandage / medical equipments	*(cash)*	EG5102(1)	5		
	(in-kind)	EG5102(2)	5		

FIELD		FIELD NAME[258]	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
7.2 Medical services (outpatients)					
Public health centre/public hospital		EG52			
- Medical services	*(cash)*	EG5201(1)	5		
	(in-kind)	EG5201(2)	5		
- Medicines	*(cash)*	EG5202(1)	5		
	(in-kind)	EG5202(2)	5		
- X- ray services	*(cash)*	EG5203(1)	5		
	(in-kind)	EG5203(2)	5		
- Blood -testing	*(cash)*	EG5204(1)	5		
	(in-kind)	EG5204(2)	5		
- Other health services	*(cash)*	EG5205(1)	5		
	(in-kind)	EG5205(2)	5		
Private clinic/ hospital		EG53			
Private clinic					
- Medical services	*(cash)*	EG5301(1)	5		
	(in-kind)	EG5301(2)	5		
- Medicines	*(cash)*	EG5302(1)	5		
	(in-kind)	EG5302(2)	5		
- X-ray services	*(cash)*	EG5303(1)	5		
	(in-kind)	EG5303(2)	5		
- Blood -testing	*(cash)*	EG5304(1)	5		
	(in-kind)	EG5304(2)	5		
- Other health services	*(cash)*	EG5305(1)	5	00001 → 99999, Blank	
	(in-kind)	EG5305(2)	5		
Private hospital					
- Medical services	*(cash)*	EG5306(1)	5		
	(in-kind)	EG5306(2)	5		
- Medicines	*(cash)*	EG5307(1)	5		
	(in-kind)	EG5307(2)	5		
- X-ray services	*(cash)*	EG5308(1)	5		
	(in-kind)	EG5308(2)	5		
- Blood -testing	*(cash)*	EG5309(1)	5		
	(in-kind)	EG5309(2)	5		
- Other health services	*(cash)*	EG5310(1)	5		
	(in-kind)	EG5310(2)	5		
Traditional healer/sed harb/medical service	*(cash)*	EG54(1)	5		
	(in-kind)	EG54(2)	5		
Private dental clinic	*(cash)*	EG55(1)	5		
	(in-kind)	EG55(2)	5		
Optometry services & equipment	*(cash)*	EG56(1)	5		
	(in-kind)	EG56(2)	5		
Other health services	*(cash)*	EG57(1)	5		
	(in-kind)	EG57(2)	5		

FIELD		FIELD NAME[259]	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
7.3 Medical services (inpatients)					
Public health centre/public hospital		EG58			
- Medical services	*(cash)*	EG5801(3)	6		
	(in-kind)	EG5801(4)	6		
- Medicines	*(cash)*	EG5802(3)	6		
	(in-kind)	EG5802(4)	6		
- X-ray services	*(cash)*	EG5803(3)	6		
	(in-kind)	EG5803(4)	6		
- Blood -testing	*(cash)*	EG5804(3)	6		
	(in-kind)	EG5804(4)	6		
- Accommodation (include food and nursing auxiliaries)	*(cash)*	EG5805(3)	6		
	(in-kind)	EG5805(4)	6		
- Other health services	*(cash)*	EG5806(3)	6		
	(in-kind)	EG5806(4)	6		
Private clinic/ hospital		EG59		000001 → 999999, Blank	
- Medical services	*(cash)*	EG5901(3)	6		
	(in-kind)	EG5901(4)	6		
- Medicines	*(cash)*	EG5902(3)	6		
	(in-kind)	EG5902(4)	6		
- X-ray services	*(cash)*	EG5903(3)	6		
	(in-kind)	EG5903(4)	6		
- Blood -testing	*(cash)*	EG5904(3)	6		
	(in-kind)	EG5904(4)	6		
- Accommodation (include food and nursing auxiliaries)	*(cash)*	EG5905(3)	6		
	(in-kind)	EG5905(4)	6		
- Other health services	*(cash)*	EG5906(3)	6		
	(in-kind)	EG5906(4)	6		
Other expense					
	(cash)	EG60(3)	5	00001 → 99999, Blank	
	(in-kind)	EG60(4)	5		

FIELD		FIELD NAME	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
RECORD NO.08		**REC**	**2**	**08**	
SUB - RECORD NO.01		**SUB**	**2**	**01**	
8. Transportation and communication					
8.1 Vehicles purchase					
Automobile, van , pick up	*(cash)*	EG61(3)	6	000001 → 999999, Blank	
	(in-kind)	EG61(4)	6		
Motorcycle , bicycle and others		EG62			
- Motorcycle	*(cash)*	EG6201(3)	5		
	(in-kind)	EG6201(4)	5		
- Bicycle	*(cash)*	EG6202(3)	5		
	(in-kind)	EG6202(4)	5		
- Other vehicles	*(cash)*	EG6203(3)	5		
	(in-kind)	EG6203(4)	5		
Equipment and others	*(cash)*	EG63(3)	5		
	(in-kind)	EG63(4)	5		
8.2 Vehicle repairing & maintanance					
Types and inner tube, battery		EG64			
- Tyres (cars)	*(cash)*	EG6401(3)	5		
	(in-kind)	EG6401(4)	5		
- Tyres (motorcycle, bicycle, etc.)	*(cash)*	EG6402(3)	5		
	(in-kind)	EG6402(4)	5		
- Inner (motorcycle, bicycle, etc.)	*(cash)*	EG6403(3)	5		
	(in-kind)	EG6403(4)	5		
- Battery	*(cash)*	EG6404(3)	5		
	(in-kind)	EG6404(4)	5		
- Other vehicle battery	*(cash)*	EG6405(3)	5		
	(in-kind)	EG6405(4)	5		
Grease & Lubricating oil	*(cash)*	EG65(3)	5		
	(in-kind)	EG65(4)	5		
Overhaul , repairing	*(cash)*	EG66(3)	5	00001 → 99999, Blank	
	(in-kind)	EG66(4)	5		
Driver training,driving license and registration fees		EG67			
- Driver training,driving license and registration fees	*(cash)*	EG6701(3)	5		
	(in-kind)	EG6701(4)	5		
- Vehicle tax	*(cash)*	EG6702(3)	5		
	(in-kind)	EG6702(4)	5		
Crash helmet	*(cash)*	EG68(3)	5		
	(in-kind)	EG68(4)	5		
Washing / lubrication / types repair	*(cash)*	EG69(1)	5		
	(in-kind)	EG69(2)	5		
Other maintenance cost		EG70			
- Maintenance automobile cost	*(cash)*	EG7001(1)	5		
	(in-kind)	EG7001(2)	5		
- Maintenance motocycle cost	*(cash)*	EG7002(1)	5		
	(in-kind)	EG7002(2)	5		
- Other maintenance cost	*(cash)*	EG7003(1)	5		
	(in-kind)	EG7003(2)	5		
- Parking rate	*(cash)*	EG7004(1)	5		
	(in-kind)	EG7004(2)	5		
- Toll fees	*(cash)*	EG7005(1)	5		
	(in-kind)	EG7005(2)	5		

FIELD		FIELD NAME[261]	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
8.3 Local transportation					
Bus / boat , minibus , van , train , high-speed train		EG71			
- Bus fare	*(cash)*	EG7101(1)	5		
	(in-kind)	EG7101(2)	5		
- Boat fare	*(cash)*	EG7102(1)	5		
	(in-kind)	EG7102(2)	5		
- Van fare	*(cash)*	EG7103(1)	5		
	(in-kind)	EG7103(2)	5		
- Minibus fare	*(cash)*	EG7104(1)	5		
	(in-kind)	EG7104(2)	5		
- Train fare	*(cash)*	EG7105(1)	5		
	(in-kind)	EG7105(2)	5		
- High-speed train	*(cash)*	EG7106(1)	5		
	(in-kind)	EG7106(2)	5		
School bus , staff-service bus	*(cash)*	EG72(1)	5		
	(in-kind)	EG72(2)	5		
Taxi ,tricycle , mortorcycle and other		EG73			
- Taxi fare	*(cash)*	EG7301(1)	5		
	(in-kind)	EG7301(2)	5		
- Tricycle fare	*(cash)*	EG7302(1)	5		
	(in-kind)	EG7302(2)	5		
- Motorcycle fare	*(cash)*	EG7303(1)	5	00001 → 99999, Blank	
	(in-kind)	EG7303(2)	5		
- Samlor and others	*(cash)*	EG7304(1)	5		
	(in-kind)	EG7304(2)	5		
Private vehicle					
- Unleaded gasoline (Octane no.91)	*(cash)*	EG74(1)	5		
	(in-kind)	EG74(2)	5		
- Unleaded gasoline (Octane no.95)	*(cash)*	EG75(1)	5		
	(in-kind)	EG75(2)	5		
- Gasohol		EG76			
- Gasohol no. 91	*(cash)*	EG7601(1)	5		
	(in-kind)	EG7601(2)	5		
- Gasohol no. 95	*(cash)*	EG7602(1)	5		
	(in-kind)	EG7602(2)	5		
- NGV gas	*(cash)*	EG77(1)	5		
	(in-kind)	EG77(2)	5		
- LPG gas	*(cash)*	EG78(1)	5		
	(in-kind)	EG78(2)	5		
- High speed diesel	*(cash)*	EG79(1)	5		
	(in-kind)	EG79(2)	5		

FIELD		FIELD NAME [262]	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
RECORD NO.09		**REC**	**2**	**09**	
SUB - RECORD NO.01		**SUB**	**2**	**01**	
8.4 Special occasion travelling and tours					
Visiting hometown/relatives,					
religious activity / other	*(cash)*	EG80(3)	5		
	(in-kind)	EG80(4)	5		
Personal trip (domestic / out-bound)		EG81			
- Domestic	*(cash)*	EG8101(3)	5		
	(in-kind)	EG8101(4)	5		
- Out - bound	*(cash)*	EG8102(3)	5		
	(in-kind)	EG8102(4)	5		
Package tour (domestic / out-bound)		EG82			
- Domestic	*(cash)*	EG8201(3)	5		
	(in-kind)	EG8201(4)	5		
- Out - bound	*(cash)*	EG8202(3)	5		
	(in-kind)	EG8202(4)	5		
Expense on goods / souvenir during					
the domestic trip	*(cash)*	EG83(3)	5		
	(in-kind)	EG83(4)	5		
Expense on goods / souvenir during					
the out-bound trip	*(cash)*	EG84(3)	5		
	(in-kind)	EG84(4)	5		
8.5 Communication					
Communicated equipment i.e. telephone,					
mobile phone, facsimile(include service)		EG85		00001 → 99999, Blank	
- Telephone handset	*(cash)*	EG8501(3)	5		
	(in-kind)	EG8501(4)	5		
- Mobile phone	*(cash)*	EG8502(3)	5		
	(in-kind)	EG8502(4)	5		
- Mobile phone battery	*(cash)*	EG8503(3)	5		
	(in-kind)	EG8503(4)	5		
- Others	*(cash)*	EG8504(3)	5		
	(in-kind)	EG8504(4)	5		
Telephone rate and service					
		EG86			
- Telephone rate and service	*(cash)*	EG8601(1)	5		
	(in-kind)	EG8601(2)	5		
- Mobile phone rate and service	*(cash)*	EG8602(1)	5		
	(in-kind)	EG8602(2)	5		
- Public phone rate and service	*(cash)*	EG8603(1)	5		
	(in-kind)	EG8603(2)	5		
- Phone card	*(cash)*	EG8604(1)	5		
	(in-kind)	EG8604(2)	5		
Membership / internet services	*(cash)*	EG87(1)	5		
	(in-kind)	EG87(2)	5		

FIELD		FIELD NAME[263]	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
Other		EG88			
- Postage	*(cash)*	EG8801(1)	5	00001 → 99999, Blank	
	(in-kind)	EG8801(2)	5		
- Parcel post service (domestic)	*(cash)*	EG8802(1)	5		
	(in-kind)	EG8802(2)	5		
- Parcel post service (out - bound)	*(cash)*	EG8803(1)	5		
	(in-kind)	EG8803(2)	5		
- Others	*(cash)*	EG8804(1)	5		
	(in-kind)	EG8804(2)	5		
9. Education expense					
9.1 Tuition and school fees - public academy		EG89			
- Pre-primary/ primary education	*(cash)*	EG8901(3)	6	000001 → 999999, Blank	
	(in-kind)	EG8901(4)	6		
- Lower/ upper secondary education	*(cash)*	EG8902(3)	6		
	(in-kind)	EG8902(4)	6		
- Post-secondary education	*(cash)*	EG8903(3)	6		
	(in-kind)	EG8903(4)	6		
- University education	*(cash)*	EG8904(3)	6		
	(in-kind)	EG8904(4)	6		
9.2 Tuition and school fees - private academy		EG90			
- Pre-primary/ primary education	*(cash)*	EG9001(3)	6	000001 → 999999, Blank	
	(in-kind)	EG9001(4)	6		
- Lower/ upper secondary education	*(cash)*	EG9002(3)	6		
	(in-kind)	EG9002(4)	6		
- Post-secondary education	*(cash)*	EG9003(3)	6		
	(in-kind)	EG9003(4)	6		
- University education	*(cash)*	EG9004(3)	6		
	(in-kind)	EG9004(4)	6		
9.3 Text books , school equipment		EG91			
- Text books	*(cash)*	EG9101(3)	5	00001 → 99999, Blank	
	(in-kind)	EG9101(4)	5		
- Stationery	*(cash)*	EG9102(3)	5		
	(in-kind)	EG9102(4)	5		
- School equipment	*(cash)*	EG9103(3)	5		
	(in-kind)	EG9103(4)	5		
9.4 Special learning course	*(cash)*	EG92(3)	5		
	(in-kind)	EG92(4)	5		
9.5 Other education expenses	*(cash)*	EG93(3)	5		
	(in-kind)	EG93(4)	5		

FIELD		FIELD NAME	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
RECORD NO.10		**REC**	**2**	**10**	
SUB - RECORD NO.01		**SUB**	**2**	**01**	
10. Recreation/religious activity expense					
10.1 Recreation equipment and sports					
TV sets , radio , cassette-tape /					
disc / video / VCD / DVD player		EG94			
- T V sets	*(cash)*	EG9401(3)	5		
	(in-kind)	EG9401(4)	5		
- Radios	*(cash)*	EG9402(3)	5		
	(in-kind)	EG9402(4)	5		
- Cassette-tape/disc/video/VCD/DVD	*(cash)*	EG9403(3)	5		
	(in-kind)	EG9403(4)	5		
Camera / camcorders ,movie slide					
projector	*(cash)*	EG95(3)	5		
	(in-kind)	EG95(4)	5		
Cable TV installment fees or satellite					
discs	*(cash)*	EG96(3)	5		
	(in-kind)	EG96(4)	5		
Computer & equipments	*(cash)*	EG97(3)	5		
	(in-kind)	EG97(4)	5		
Sport equipments and Body fitness	*(cash)*	EG98(3)	5		
equipments	*(in-kind)*	EG98(4)	5		
Repair / maintenance and others	*(cash)*	EG99(3)	5		
	(in-kind)	EG99(4)	5		
10.2 Toys , pets , shurbs and recreation					
Toys (include baby cars)	*(cash)*	EG100(3)	5		
	(in-kind)	EG100(4)	5	00001 → 99999, Blank	
Pets and pet equipment	*(cash)*	EG101(3)	5		
	(in-kind)	EG101(4)	5		
Tree / shrubs / flower (including					
fertilizer / equipment)	*(cash)*	EG102(1)	5		
	(in-kind)	EG102(2)	5		
Purchasing/ renting tapes/ video/ cable					
TV membership / photography		EG103			
- Purchasing disc / VDO ฯ	*(cash)*	EG10301(1)	5		
	(in-kind)	EG10301(2)	5		
- Renting disc / VDO ฯ	*(cash)*	EG10302(1)	5		
	(in-kind)	EG10302(2)	5		
- Purchasing tapes	*(cash)*	EG10303(1)	5		
	(in-kind)	EG10303(2)	5		
- Cable TV membership	*(cash)*	EG10304(1)	5		
	(in-kind)	EG10304(2)	5		
- Purchasing film	*(cash)*	EG10305(1)	5		
	(in-kind)	EG10305(2)	5		
- Purchasing memory stick ฯ	*(cash)*	EG10306(1)	5		
	(in-kind)	EG10306(2)	5		
Repair / maintenance and others	*(cash)*	EG104(1)	5		
	(in-kind)	EG104(2)	5		

FIELD		FIELD NAME 265	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
10.3 Admission , sports fee					
Cinema / sports / tradition arts	*(cash)*	EG105(1)	5		
	(in-kind)	EG105(2)	5		
Amusement parks , zoo , etc.	*(cash)*	EG106(1)	5		
	(in-kind)	EG106(2)	5		
Sport fees / rate	*(cash)*	EG107(1)	5		
	(in-kind)	EG107(2)	5		
Others	*(cash)*	EG108(1)	5		
	(in-kind)	EG108(2)	5		
10.4 Reading / religious activities					
Newspapers , magazines and books					
(other than studying books)		EG109			
- Newspapers	*(cash)*	EG10901(1)	5		
	(in-kind)	EG10901(2)	5		
- Magazines				00001 → 99999, Blank	
	(cash)	EG10902(1)	5		
	(in-kind)	EG10902(2)	5		
- Books(other than studying books)					
	(cash)	EG10903(1)	5		
	(in-kind)	EG10903(2)	5		
Library fees/other reading materials ra	*(cash)*	EG110(1)	5		
	(in-kind)	EG110(2)	5		
Gifts to the temple and other religious	*(cash)*	EG111(1)	5		
expenses	*(in-kind)*	EG111(2)	5		
11. Special ceremony expenses					
Wedding , birthday , other ceremonies	*(cash)*	EG112(3)	5		
	(in-kind)	EG112(4)	5		

FIELD		FIELD NAME	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
B. NON - CONSUMPTION EXPENDITURE					
RECORD NO.11		**REC**	**2**	**11**	
SUB - RECORD NO.01		**SUB**	**2**	**01**	
1. Taxes , charge / fees and fine	*(cash)*	EG113(3)	5		
	(in-kind)	EG113(4)	5		
2. Career membership expense	*(cash)*	EG114(3)	5		
	(in-kind)	EG114(4)	5		
3. Money / material given to other person					
(outside this household)	*(cash)*	EG115(3)	5		
	(in-kind)	EG115(4)	5	00001 → 99999, Blank	
4. Contribute money / material to					
NGO institute	*(cash)*	EG116(3)	5		
	(in-kind)	EG116(4)	5		
5. Other contributions	*(cash)*	EG117(3)	5		
	(in-kind)	EG117(4)	5		
6. Insurances premiums , cremation fee					
etc.(excluding saving insurance)		EG118			
- Property insurance	*(cash)*	EG11801(3)	6		
	(in-kind)	EG11801(4)	6		
- Third parties insurance					
	(cash)	EG11802(3)	6		
	(in-kind)	EG11802(4)	6		
- Car insurance	*(cash)*	EG11803(3)	6		
	(in-kind)	EG11803(4)	6		
- Life insurance	*(cash)*	EG11804(3)	6		
(exclude saving insurance)	*(in-kind)*	EG11804(4)	6	000001 → 999999, Blank	
- Cremation fees	*(cash)*	EG11805(3)	6		
	(in-kind)	EG11805(4)	6		
- Social security and other insurances	*(cash)*	EG11806(3)	6		
	(in-kind)	EG11806(4)	6		
7. Lottery tickets and	*(cash)*	EG119(3)	6		
other kind of gambing	*(in-kind)*	EG119(4)	6		
8. Interest payment	*(cash)*	EG120(3)	6		
	(in-kind)	EG120(4)	6		
9. Other expenses	*(cash)*	EG121(3)	5	00001 → 99999, Blank	
	(in-kind)	EG121(4)	5		

FIELD		FIELD NAME	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
PART 4 EXPENDITURE ON FOOD , BEVERAGES AND TOBACCO (Baht / Week)					
RECORD NO. 12		**REC**	**2**	**12**	
SUB-RECORD NO. 01		**SUB**	**2**	**01**	
1. Grains and cereal products		EF01			
- Chinese noodle / chinese egg noodle / thai vermicelli	*(cash)*	EF0101(1)	4	0001 → 9999, Blank	
	(in-kind)	EF0101(2)	4		
-Bread	*(cash)*	EF0102(1)	4		
	(in-kind)	EF0102(2)	4		
- Bake dessert / cake	*(cash)*	EF0103(1)	4		
	(in-kind)	EF0103(2)	4		
- Cereal food	*(cash)*	EF0104(1)	4		
	(in-kind)	EF0104(2)	4		
- Rice	*(cash)*	EF0105(1)	4		
	(in-kind)	EF0105(2)	4		
- Glutinous rice	*(cash)*	EF0106(1)	4		
	(in-kind)	EF0106(2)	4		
- Rice flour	*(cash)*	EF0107(1)	4		
	(in-kind)	EF0107(2)	4		
- Wheat	*(cash)*	EF0108(1)	4		
	(in-kind)	EF0108(2)	4		
- Noodles	*(cash)*	EF0109(1)	4		
	(in-kind)	EF0109(2)	4		
- Bean curd	*(cash)*	EF0110(1)	4		
	(in-kind)	EF0110(2)	4		
- Soybean curd	*(cash)*	EF0111(1)	4		
	(in-kind)	EF0111(2)	4		
- Macaroni / spaghetty	*(cash)*	EF0112(1)	4		
	(in-kind)	EF0112(2)	4		
- Sago palm and others (specify)	*(cash)*	EF0113(1)	4		
	(in-kind)	EF0113(2)	4		
2. Meats and poultry		EF02			
Fresh and prepared					
- Fresh pork	*(cash)*	EF0201(1)	4	0001 → 9999, Blank	
	(in-kind)	EF0201(2)	4		
- Spareribs	*(cash)*	EF0202(1)	4		
	(in-kind)	EF0202(2)	4		
- Other porks	*(cash)*	EF0203(1)	4		
	(in-kind)	EF0203(2)	4		
- Beef	*(cash)*	EF0204(1)	4		
	(in-kind)	EF0204(2)	4		
- Other meats	*(cash)*	EF0205(1)	4		
	(in-kind)	EF0205(2)	4		
- Fresh hens	*(cash)*	EF0206(1)	4		
	(in-kind)	EF0206(2)	4		

FIELD		FIELD NAME[268]	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
- Grilled chicken	*(cash)*	EF0207(1)	4	0001 → 9999, Blank	
	(in-kind)	EF0207(2)	4		
- Sausage	*(cash)*	EF0208(1)	4		
	(in-kind)	EF0208(2)	4		
- Boiled duck	*(cash)*	EF0209(1)	4		
	(in-kind)	EF0209(2)	4		
- Others (specify)	*(cash)*	EF0210(1)	4		
	(in-kind)	EF0210(2)	4		
Prepared (salted / dried)					
- Shredded pork	*(cash)*	EF0211(1)	4	0001 → 9999, Blank	
	(in-kind)	EF0211(2)	4		
- Minced pork	*(cash)*	EF0212(1)	4		
	(in-kind)	EF0212(2)	4		
- Porkball / chickenball	*(cash)*	EF0213(1)	4		
	(in-kind)	EF0213(2)	4		
- Others (specify)	*(cash)*	EF0214(1)	4		
	(in-kind)	EF0214(2)	4		
3. Fishes and seafood		EF03			
Fresh / prepared					
- Snakehead	*(cash)*	EF0301(1)	4	0001 → 9999, Blank	
	(in-kind)	EF0301(2)	4		
- Bighead walking catfish	*(cash)*	EF0302(1)	4		
	(in-kind)	EF0302(2)	4		
- Nile tilapia	*(cash)*	EF0303(1)	4		
	(in-kind)	EF0303(2)	4		
- Tilapia	*(cash)*	EF0304(1)	4		
	(in-kind)	EF0304(2)	4		
- Pomfret (black / silver)	*(cash)*	EF0305(1)	4		
	(in-kind)	EF0305(2)	4		
- Red snapper / giant seaperch	*(cash)*	EF0306(1)	4		
	(in-kind)	EF0306(2)	4		
- Sheatfish	*(cash)*	EF0307(1)	4		
	(in-kind)	EF0307(2)	4		
- Chub mackerel	*(cash)*	EF0308(1)	4		
	(in-kind)	EF0308(2)	4		
- Indian mackerel	*(cash)*	EF0309(1)	4		
	(in-kind)	EF0309(2)	4		
- Prawn	*(cash)*	EF0310(1)	4		
	(in-kind)	EF0310(2)	4		
- Banana prawn	*(cash)*	EF0311(1)	4		
	(in-kind)	EF0311(2)	4		
- Giant tiger prawn	*(cash)*	EF0312(1)	4		
	(in-kind)	EF0312(2)	4		
- Squid	*(cash)*	EF0313(1)	4		
	(in-kind)	EF0313(2)	4		
- Blood cockle	*(cash)*	EF0314(1)	4		
	(in-kind)	EF0314(2)	4		
- Baby clam	*(cash)*	EF0315(1)	4		
	(in-kind)	EF0315(2)	4		

FIELD		FIELD NAME [269]	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
- Green mussel	*(cash)*	EF0316(1)	4	0001 → 9999, Blank	
	(in-kind)	EF0316(2)	4		
- Sea crabs (blue crab)	*(cash)*	EF0317(1)	4		
	(in-kind)	EF0317(2)	4		
- Blue swimming crab	*(cash)*	EF0318(1)	4		
	(in-kind)	EF0318(2)	4		
- Frog	*(cash)*	EF0319(1)	4		
	(in-kind)	EF0319(2)	4		
- Steamed chub mackerel	*(cash)*	EF0320(1)	4		
	(in-kind)	EF0320(2)	4		
- Others (specify)	*(cash)*	EF0321(1)	4		
	(in-kind)	EF0321(2)	4		
Prepared					
- Dried snakeskin gourami	*(cash)*	EF0322(1)	4	0001 → 9999, Blank	
	(in-kind)	EF0322(2)	4		
- Dried snakehead	*(cash)*	EF0323(1)	4		
	(in-kind)	EF0323(2)	4		
- Salted chub mackerel	*(cash)*	EF0324(1)	4		
	(in-kind)	EF0324(2)	4		
- Salted spanish mackerel	*(cash)*	EF0325(1)	4		
	(in-kind)	EF0325(2)	4		
- Salted trevally	*(cash)*	EF0326(1)	4		
	(in-kind)	EF0326(2)	4		
- Dried shrimp	*(cash)*	EF0327(1)	4		
	(in-kind)	EF0327(2)	4		
- Salted crab	*(cash)*	EF0328(1)	4		
	(in-kind)	EF0328(2)	4		
- Fishball	*(cash)*	EF0329(1)	4		
	(in-kind)	EF0329(2)	4		
- Fermented fish	*(cash)*	EF0330(1)	4		
	(in-kind)	EF0330(2)	4		
- Others (specify)	*(cash)*	EF0331(1)	4		
	(in-kind)	EF0331(2)	4		
4. Milk , cheese and eggs		EF04			
- Fresh milk	*(cash)*	EF0401(1)	4	0001 → 9999, Blank	
	(in-kind)	EF0401(2)	4		
- Sour cream	*(cash)*	EF0402(1)	4		
	(in-kind)	EF0402(2)	4		
- Soybean milk	*(cash)*	EF0403(1)	4		
	(in-kind)	EF0403(2)	4		
- Hen eggs	*(cash)*	EF0404(1)	4		
	(in-kind)	EF0404(2)	4		
- Duck eggs	*(cash)*	EF0405(1)	4		
	(in-kind)	EF0405(2)	4		
- Salted eggs	*(cash)*	EF0406(1)	4		
	(in-kind)	EF0406(2)	4		
- Other eggs(specify)	*(cash)*	EF0407(1)	4		
	(in-kind)	EF0407(2)	4		

FIELD		FIELD NAME[270]	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
- Condensed milk	*(cash)*	EF0408(1)	4		
	(in-kind)	EF0408(2)	4		
- Powdered milk	*(cash)*	EF0409(1)	4		
	(in-kind)	EF0409(2)	4		
- Non-diary cream	*(cash)*	EF0410(1)	4		
	(in-kind)	EF0410(2)	4		
- Cheese	*(cash)*	EF0411(1)	4	0001 → 9999, Blank	
	(in-kind)	EF0411(2)	4		
- Magarine	*(cash)*	EF0412(1)	4		
	(in-kind)	EF0412(2)	4		
- Others (specify)	*(cash)*	EF0413(1)	4		
	(in-kind)	EF0413(2)	4		
5. Oil and fat		EF05			
- Vegetable oil	*(cash)*	EF0501(1)	4		
	(in-kind)	EF0501(2)	4		
- Lard oil	*(cash)*	EF0502(1)	4		
	(in-kind)	EF0502(2)	4		
- Butter	*(cash)*	EF0503(1)	4		
	(in-kind)	EF0503(2)	4	0001 → 9999, Blank	
- Coconut cream	*(cash)*	EF0504(1)	4		
	(in-kind)	EF0504(2)	4		
- Coconut	*(cash)*	EF0505(1)	4		
	(in-kind)	EF0505(2)	4		
- Other oil and fat	*(cash)*	EF0506(1)	4		
	(in-kind)	EF0506(2)	4		
6. Fruits and nuts		EF06			
Fresh fruits					
- Bananas	*(cash)*	EF0601(1)	4		
	(in-kind)	EF0601(2)	4		
- Oranges	*(cash)*	EF0602(1)	4		
	(in-kind)	EF0602(2)	4		
- Papaya	*(cash)*	EF0603(1)	4		
	(in-kind)	EF0603(2)	4		
- Pineapple	*(cash)*	EF0604(1)	4		
	(in-kind)	EF0604(2)	4		
-Rambutan	*(cash)*	EF0605(1)	4		
	(in-kind)	EF0605(2)	4		
- Mango	*(cash)*	EF0606(1)	4	0001 → 9999, Blank	
	(in-kind)	EF0606(2)	4		
- Melon	*(cash)*	EF0607(1)	4		
	(in-kind)	EF0607(2)	4		
- Durian	*(cash)*	EF0608(1)	4		
	(in-kind)	EF0608(2)	4		
- Grape	*(cash)*	EF0609(1)	4		
	(in-kind)	EF0609(2)	4		
- Apple	*(cash)*	EF0610(1)	4		
	(in-kind)	EF0610(2)	4		

FIELD		FIELD NAME[271]	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
- Guava	*(cash)*	EF0611(1)	4	0001 → 9999, Blank	
	(in-kind)	EF0611(2)	4		
- Rose apple	*(cash)*	EF0612(1)	4		
	(in-kind)	EF0612(2)	4		
- Other fresh fruits (specify)	*(cash)*	EF0613(1)	4		
	(in-kind)	EF0613(2)	4		
Prepared fruits and nuts					
- Preserved fruits	*(cash)*	EF0614(1)	4	0001 → 9999, Blank	
	(in-kind)	EF0614(2)	4		
- Pickled /preserved / dried fruit	*(cash)*	EF0615(1)	4		
	(in-kind)	EF0615(2)	4		
- Tinned fruits	*(cash)*	EF0616(1)	4		
	(in-kind)	EF0616(2)	4		
- Ground nut	*(cash)*	EF0617(1)	4		
	(in-kind)	EF0617(2)	4		
- Green chick pea	*(cash)*	EF0618(1)	4		
	(in-kind)	EF0618(2)	4		
- Other nuts (specify)	*(cash)*	EF0619(1)	4		
	(in-kind)	EF0619(2)	4		
7. Vegetable		EF07			
Fresh vegetable					
- Kale	*(cash)*	EF0701(1)	4	0001 → 9999, Blank	
	(in-kind)	EF0701(2)	4		
- Cucumber	*(cash)*	EF0702(1)	4		
	(in-kind)	EF0702(2)	4		
- Chinese mustard lettuce	*(cash)*	EF0703(1)	4		
	(in-kind)	EF0703(2)	4		
- Cabbage	*(cash)*	EF0704(1)	4		
	(in-kind)	EF0704(2)	4		
- Mushroom	*(cash)*	EF0705(1)	4		
	(in-kind)	EF0705(2)	4		
- Morning - glory	*(cash)*	EF0706(1)	4		
	(in-kind)	EF0706(2)	4		
- Coriander	*(cash)*	EF0707(1)	4		
	(in-kind)	EF0707(2)	4		
- Eggplant	*(cash)*	EF0708(1)	4		
	(in-kind)	EF0708(2)	4		
- Tomato	*(cash)*	EF0709(1)	4		
	(in-kind)	EF0709(2)	4		
- Stringbean	*(cash)*	EF0710(1)	4		
	(in-kind)	EF0710(2)	4		
- Smooth loofah	*(cash)*	EF0711(1)	4		
	(in-kind)	EF0711(2)	4		
- Raw papaya	*(cash)*	EF0712(1)	4		
	(in-kind)	EF0712(2)	4		
- Ash pumpkin	*(cash)*	EF0713(1)	4		
	(in-kind)	EF0713(2)	4		

FIELD		FIELD NAME[272]	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
- Pumpkin	*(cash)*	EF0714(1)	4	0001 → 9999, Blank	
	(in-kind)	EF0714(2)	4		
- Lemon	*(cash)*	EF0715(1)	4		
	(in-kind)	EF0715(2)	4		
- Chilies	*(cash)*	EF0716(1)	4		
	(in-kind)	EF0716(2)	4		
- Celery	*(cash)*	EF0717(1)	4		
	(in-kind)	EF0717(2)	4		
- Multiplier onion	*(cash)*	EF0718(1)	4		
	(in-kind)	EF0718(2)	4		
- Green peas	*(cash)*	EF0719(1)	4		
	(in-kind)	EF0719(2)	4		
- Carrot	*(cash)*	EF0720(1)	4		
	(in-kind)	EF0720(2)	4		
- Beansprout	*(cash)*	EF0721(1)	4		
	(in-kind)	EF0721(2)	4		
- Other culinary herbs	*(cash)*	EF0722(1)	4		
	(in-kind)	EF0722(2)	4		
- Ivy gourd	*(cash)*	EF0723(1)	4		
	(in-kind)	EF0723(2)	4		
- Chinese leek	*(cash)*	EF0724(1)	4		
	(in-kind)	EF0724(2)	4		
- Others (specify)	*(cash)*	EF0725(1)	4		
	(in-kind)	EF0725(2)	4		
Dried /pickled /salted vegetable					
- Onion	*(cash)*	EF0726(1)	4	0001 → 9999, Blank	
	(in-kind)	EF0726(2)	4		
- Garlic	*(cash)*	EF0727(1)	4		
	(in-kind)	EF0727(2)	4		
- Dried chili	*(cash)*	EF0728(1)	4		
	(in-kind)	EF0728(2)	4		
- Boiled bamboo shoot	*(cash)*	EF0729(1)	4		
	(in-kind)	EF0729(2)	4		
- Pickled vegetable	*(cash)*	EF0730(1)	4		
	(in-kind)	EF0730(2)	4		
- Others (specify)	*(cash)*	EF0731(1)	4		
	(in-kind)	EF0731(2)	4		
8. Sugar and sweets		EF08			
- Candles	*(cash)*	EF0801(1)	4	0001 → 9999, Blank	
	(in-kind)	EF0801(2)	4		
- Ice - cream	*(cash)*	EF0802(1)	4		
	(in-kind)	EF0802(2)	4		
- Dessert	*(cash)*	EF0803(1)	4		
	(in-kind)	EF0803(2)	4		
- Gelly / chocolate	*(cash)*	EF0804(1)	4		
	(in-kind)	EF0804(2)	4		
- White sugar	*(cash)*	EF0805(1)	4		
	(in-kind)	EF0805(2)	4		

FIELD		FIELD NAME[273]	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
- Palm sugar	*(cash)*	EF0806(1)	4	0001 → 9999, Blank	
	(in-kind)	EF0806(2)	4		
- Coconut sugar	*(cash)*	EF0807(1)	4		
	(in-kind)	EF0807(2)	4		
- Jams	*(cash)*	EF0808(1)	4		
	(in-kind)	EF0808(2)	4		
- Others (specify)	*(cash)*	EF0809(1)	4		
	(in-kind)	EF0809(2)	4		
9. Spices and condiments		EF09			
- Salt	*(cash)*	EF0901(1)	4	0001 → 9999, Blank	
	(in-kind)	EF0901(2)	4		
- Fish sauce	*(cash)*	EF0902(1)	4		
	(in-kind)	EF0902(2)	4		
- Soy sauce	*(cash)*	EF0903(1)	4		
	(in-kind)	EF0903(2)	4		
- Oyster sauce	*(cash)*	EF0904(1)	4		
	(in-kind)	EF0904(2)	4		
- Chili sauce	*(cash)*	EF0905(1)	4		
	(in-kind)	EF0905(2)	4		
- Tomato sauce	*(cash)*	EF0906(1)	4		
	(in-kind)	EF0906(2)	4		
- Vinegar	*(cash)*	EF0907(1)	4		
	(in-kind)	EF0907(2)	4		
- Shrimp paste	*(cash)*	EF0908(1)	4		
	(in-kind)	EF0908(2)	4		
- Ripe tamarine	*(cash)*	EF0909(1)	4		
	(in-kind)	EF0909(2)	4		
- Seasonings	*(cash)*	EF0910(1)	4		
	(in-kind)	EF0910(2)	4		
- Monosodium glutamate	*(cash)*	EF0911(1)	4		
	(in-kind)	EF0911(2)	4		
- Spicy paste	*(cash)*	EF0912(1)	4		
	(in-kind)	EF0912(2)	4		
- Other spices	*(cash)*	EF0913(1)	4		
	(in-kind)	EF0913(2)	4		
10. Non-alcoholic beverages(at home)					
Semi - prepared products		EF10			
- Coffee	*(cash)*	EF1001(1)	4	0001 → 9999, Blank	
	(in-kind)	EF1001(2)	4		
- Tea	*(cash)*	EF1002(1)	4		
	(in-kind)	EF1002(2)	4		
- Milo	*(cash)*	EF1003(1)	4		
	(in-kind)	EF1003(2)	4		
- Others (specify)	*(cash)*	EF1004(1)	4		
	(in-kind)	EF1004(2)	4		

FIELD		FIELD NAME[274]	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
Prepared products		EF11			
- Soda	*(cash)*	EF1101(1)	4	0001 → 9999, Blank	
	(in-kind)	EF1101(2)	4		
- Soft drink	*(cash)*	EF1102(1)	4		
	(in-kind)	EF1102(2)	4		
- Vegetable / fruit juices	*(cash)*	EF1103(1)	4		
	(in-kind)	EF1103(2)	4		
- Drinking water	*(cash)*	EF1104(1)	4		
	(in-kind)	EF1104(2)	4		
- Ice	*(cash)*	EF1105(1)	4		
	(in-kind)	EF1105(2)	4		
- Ice coffee with milk/ice black coffee	*(cash)*	EF1106(1)	4		
	(in-kind)	EF1106(2)	4		
- Caffeinated drinks	*(cash)*	EF1107(1)	4		
	(in-kind)	EF1107(2)	4		
- Prepared coffee	*(cash)*	EF1108(1)	4		
	(in-kind)	EF1108(2)	4		
- Prepared tea	*(cash)*	EF1109(1)	4		
	(in-kind)	EF1109(2)	4		
- Others (specify)	*(cash)*	EF1110(1)	4		
	(in-kind)	EF1110(2)	4		
11. Prepared food (taken home)		EF12			
- Rice and curry / fried rice	*(cash)*	EF1201(1)	4	0001 → 9999, Blank	
(with rice)	*(in-kind)*	EF1201(2)	4		
- Prepared food	*(cash)*	EF1202(1)	4		
	(in-kind)	EF1202(2)	4		
- Noodles	*(cash)*	EF1203(1)	4		
	(in-kind)	EF1203(2)	4		
- Hamburger/sandwich/pizza	*(cash)*	EF1204(1)	4		
	(in-kind)	EF1204(2)	4		
- Home - delivery food	*(cash)*	EF1205(1)	4		
	(in-kind)	EF1205(2)	4		
- Semi - prepared noodle	*(cash)*	EF1206(1)	4		
	(in-kind)	EF1206(2)	4		
- Can prepared food	*(cash)*	EF1207(1)	4		
	(in-kind)	EF1207(2)	4		
- Snacks and others (specify)	*(cash)*	EF1208(1)	4		
	(in-kind)	EF1208(2)	4		
12. Food and non-alcoholic beverages (eaten away from home)		EF13			
- Breakfast	*(cash)*	EF1301(1)	5	00001 → 99999, Blank	
	(in-kind)	EF1301(2)	5		
- Lunch	*(cash)*	EF1302(1)	5		
	(in-kind)	EF1302(2)	5		
- Dinner	*(cash)*	EF1303(1)	5		
	(in-kind)	EF1303(2)	5		
- Fastfood	*(cash)*	EF1304(1)	5		
	(in-kind)	EF1304(2)	5		
- Others (specify)	*(cash)*	EF1305(1)	5		
	(in-kind)	EF1305(2)	5		

FIELD		FIELD NAME[275]	LENGTH OF BYTES	POSSIBLE CODE & MEANING	REMARK
13. Alcoholic beverages					
Drink at home		EF14			
- Beer	*(cash)*	EF1401(1)	5	00001 → 99999, Blank	
	(in-kind)	EF1401(2)	5		
- Wine	*(cash)*	EF1402(1)	5		
	(in-kind)	EF1402(2)	5		
- Spirits	*(cash)*	EF1403(1)	5		
	(in-kind)	EF1403(2)	5		
- Others (specify)	*(cash)*	EF1404(1)	5		
	(in-kind)	EF1404(2)	5		
Drink away from home		EF15			
- Beer	*(cash)*	EF1501(1)	5	00001 → 99999, Blank	
	(in-kind)	EF1501(2)	5		
- Wine	*(cash)*	EF1502(1)	5		
	(in-kind)	EF1502(2)	5		
- Spirits	*(cash)*	EF1503(1)	5		
	(in-kind)	EF1503(2)	5		
- Others (specify)	*(cash)*	EF1504(1)	5		
	(in-kind)	EF1504(2)	5		
14. Tobacco products					
		EF16			
- Cigarettes	*(cash)*	EF1601(1)	4	0001 → 9999, Blank	
	(in-kind)	EF1601(2)	4		
- Cigars, pipe tobacco	*(cash)*	EF1602(1)	4		
	(in-kind)	EF1602(2)	4		
		EF17			
- Snuff	*(cash)*	EF1701(1)	4	0001 → 9999, Blank	
	(in-kind)	EF1701(2)	4		
- Betelnut ฯ	*(cash)*	EF1702(1)	4		
	(in-kind)	EF1702(2)	4		

รายการ Fieldname *(หลัก)* ที่ต้องทำการ Generate ข้อมูลจาก Fieldname *(ย่อย)* ใน สศส.2 (พิเศษ) Record 04 - 12

REC 04

Fieldname	Length of byte	Generate ข้อมูลจาก
EG07 (3)	5	EG0701 (3) + EG0702 (3) + EG0703 (3)
EG07 (4)	5	EG0701 (4) + EG0702 (4) + EG0703 (4)
EG09 (3)	5	EG0901 (3) + EG0902 (3) + EG0903 (3)
EG09 (4)	5	EG0901 (4) + EG0902 (4) + EG0903 (4)
EG10 (3)	5	EG1001 (3) + EG1002 (3) + EG1003 (3)
EG10 (4)	5	EG1001 (4) + EG1002 (4) + EG1003 (4)

REC 05

Fieldname	Length of byte	Generate ข้อมูลจาก
EG24 (1)	5	EG2401 (1) + EG2402 (1)
EG24 (2)	5	EG2401 (2) + EG2402 (2)
EG26 (1)	5	EG2601 (1) + EG2602 (1) + EG2603 (1) + EG2604 (1) + EG2605 (1)
EG26 (2)	5	EG2601 (2) + EG2602 (2) + EG2603 (2) + EG2604 (2) + EG2605 (2)
EG27 (1)	5	EG2701 (1) + EG2702 (1) + EG2703 (1) + EG2704 (1) + EG2705 (1) + EG2706 (1) + EG2707 (1)
EG27 (2)	5	EG2701 (2) + EG2702 (2) + EG2703 (2) + EG2704 (2) + EG2705 (2) + EG2706 (2) + EG2707 (2)

REC 06

Fieldname	Length of byte	Generate ข้อมูลจาก
EG30 (1)	5	EG3001(1) + EG3002(1) + EG3003(1) + EG3004 (1) + EG3005 (1) + EG3006 (1) + EG3007 (1) + EG3008(1) + EG3009 (1) + EG3010 (1) + EG3011 (1) + EG3012(1) + EG3013 (1) + EG3014 (1) + EG3015 (1) + EG3016(1) + EG3017 (1)
EG30 (2)	5	EG3001(2) + EG3002(2) + EG3003(2) + EG3004 (2) + EG3005 (2) + EG3006 (2) + EG3007 (2) + EG3008(2) + EG3009 (2) + EG3010 (2) + EG3011 (2) + EG3012(2) + EG3013 (2) + EG3014 (2) + EG3015 (2) + EG3016(2) + EG3017 (2)
EG32 (1)	5	EG3201(1) + EG3202(1) + EG3203(1)
EG32 (2)	5	EG3201(2) + EG3202(2) + EG3203(2)
EG36 (1)	5	EG3601(1) + EG3602(1) + EG3603(1)
EG36 (2)	5	EG3601(2) + EG3602(2) + EG3603(2)
EG37 (1)	5	EG3701(1) + EG3702(1) + EG3703(1)
EG37 (2)	5	EG3701(2) + EG3702(2) + EG3703(2)
EG38 (1)	5	EG3801(1) + EG3802(1) + EG3803(1) + EG3804(1)
EG38 (2)	5	EG3801(2) + EG3802(2) + EG3803(2) + EG3804(2)
EG39 (1)	5	EG3901(1) + EG3902(1) + EG3903(1) + EG3904 (1) + EG3905 (1) + EG3906 (1) + EG3907 (1) + EG3908(1) + EG3909 (1)
EG39 (2)	5	EG3901(2) + EG3902(2) + EG3903(2) + EG3904 (2) + EG3905 (2) + EG3906 (2) + EG3907 (2) + EG3908(2) + EG3909 (2)
EG41 (1)	5	EG4101(1) + EG4102(1) + EG4103(1) + EG4104(1)
EG41 (2)	5	EG4101(2) + EG4102(2) + EG4103(2) + EG4104(2)
EG42 (1)	5	EG4201(1) + EG4202(1) + EG4203(1) + EG4204(1)
EG42 (2)	5	EG4201(2) + EG4202(2) + EG4203(2) + EG4204(2)
EG43 (1)	5	EG4301(1) + EG4302(1) + EG4303(1)
EG43 (2)	5	EG4301(2) + EG4302(2) + EG4303(2)
EG45 (1)	5	EG4501(1) + EG4502(1)
EG45 (2)	5	EG4501(2) + EG4502(2)

REC 07

Fieldname	Length of byte	Generate ข้อมูลจาก
EG47 (1)	5	EG4701(1) + EG4702(1) + EG4703(1) + EG4704 (1) + EG4705 (1) + EG4706 (1) + EG4707 (1) + EG4708(1) + EG4709 (1) + EG4710 (1) + EG4711 (1) + EG4712(1)
EG47 (2)	5	EG4701(2) + EG4702(2) + EG4703(2) + EG4704 (2) + EG4705 (2) + EG4706 (2) + EG4707 (2) + EG4708(2) + EG4709 (2) + EG4710 (2) + EG4711 (2) + EG4712(2)
EG48 (1)	5	EG4801(1) + EG4802(1)
EG48 (2)	5	EG4801(2) + EG4802(2)
EG49 (1)	5	EG4901(1) + EG4902(1)
EG49 (2)	5	EG4901(2) + EG4902(2)
EG51 (1)	5	EG5101(1) + EG5102(1)
EG51 (2)	5	EG5101(2) + EG5102(2)
EG52 (1)	5	EG5201(1) + EG5202(1) + EG5203(1) + EG5204 (1) + EG5205 (1)
EG52 (2)	5	EG5201(2) + EG5202(2) + EG5203(2) + EG5204 (2) + EG5205 (2)
EG53 (1)	5	EG5301(1) + EG5302(1) + EG5303(1) + EG5304 (1) + EG5305 (1) + EG5306 (1) + EG5307 (1) + EG5308(1) + EG5309 (1) + EG5310 (1)
EG53 (2)	5	EG5301(2) + EG5302(2) + EG5303(2) + EG5304 (2) + EG5305 (2) + EG5306 (2) + EG5307 (2) + EG5308(2) + EG5309 (2) + EG5310 (2)
EG58 (3)	6	EG5801(3) + EG5802(3) + EG5803(3) + EG5804 (3) + EG5805 (3) + EG5806 (3)
EG58 (4)	6	EG5801(4) + EG5802(4) + EG5803(4) + EG5804 (4) + EG5805 (4) + EG5806 (4)
EG59 (3)	6	EG5901(3) + EG5902(3) + EG5903(3) + EG5904 (3) + EG5905 (3) + EG5906 (3)
EG59 (4)	6	EG5901(4) + EG5902(4) + EG5903(4) + EG5904 (4) + EG5905 (4) + EG5906 (4)

REC 08

Fieldname	Length of byte	Generate ข้อมูลจาก
EG62 (3)	5	EG6201(3) + EG6202(3) + EG6203(3)
EG62 (4)	5	EG6201(4) + EG6202(4) + EG6203(4)
EG64 (3)	5	EG6401(3) + EG6402(3) + EG6403(3) + EG6404 (3) + EG6405 (3)
EG64 (4)	5	EG6401(4) + EG6402(4) + EG6403(4) + EG6404 (4) + EG6405 (4)
EG67 (3)	5	EG6701(3) + EG6702(3)
EG67 (4)	5	EG6701(4) + EG6702(4)
EG70 (1)	5	EG7001(1) + EG7002(1) + EG7003(1) + EG7004 (1) + EG7005 (1)
EG70 (2)	5	EG7001(2) + EG7002(2) + EG7003(2) + EG7004 (2) + EG7005 (2)
EG71 (1)	5	EG7101(1) + EG7102(1) + EG7103(1) + EG7104 (1) + EG7105 (1) + EG7106 (1)
EG71 (2)	5	EG7101(2) + EG7102(2) + EG7103(2) + EG7104 (2) + EG7105 (2) + EG7106 (2)
EG73 (1)	5	EG7301(1) + EG7302(1) + EG7303(1) + EG7304 (1)
EG73 (2)	5	EG7301(2) + EG7302(2) + EG7303(2) + EG7304 (2)
EG76 (1)	5	EG7601(1) + EG7602(1)
EG76 (2)	5	EG7601(2) + EG7602(2)

REC 09

Fieldname	Length of byte	Generate ข้อมูลจาก
EG81 (3)	5	EG8101(3) + EG8102(3)
EG81 (4)	5	EG8101(4) + EG8102(4)
EG82 (3)	5	EG8201(3) + EG8202(3)
EG82 (4)	5	EG8201(4) + EG8202(4)
EG85 (3)	5	EG8501(3) + EG8502(3) + EG8503(3) + EG8504 (3)
EG85 (4)	5	EG8501(4) + EG8502(4) + EG8503(4) + EG8504 (4)
EG86 (1)	5	EG8601(1) + EG8602(1) + EG8603(1) + EG8604 (1)
EG86 (2)	5	EG8601(2) + EG8602(2) + EG8603(2) + EG8604 (2)
EG88 (1)	5	EG8801(1) + EG8802(1) + EG8803(1) + EG8804 (1)
EG88 (2)	5	EG8801(2) + EG8802(2) + EG8803(2) + EG8804 (2)
EG89 (3)	6	EG8901(3) + EG8902(3) + EG8903(3) + EG8904 (3)
EG89 (4)	6	EG8901(4) + EG8902(4) + EG8903(4) + EG8904 (4)
EG90 (3)	6	EG9001(3) + EG9002(3) + EG9003(3) + EG9004 (3)
EG90 (4)	6	EG9001(4) + EG9002(4) + EG9003(4) + EG9004 (4)
EG91 (3)	5	EG9101(3) + EG9102(3) + EG9103(3)
EG91 (4)	5	EG9101(4) + EG9102(4) + EG9103(4)

REC 10

Fieldname	Length of byte	Generate ข้อมูลจาก
EG94 (3)	5	EG9401(3) + EG9402(3) + EG9403(3)
EG94 (4)	5	EG9401(4) + EG9402(4) + EG9403(4)
EG103 (1)	5	EG10301(1) + EG10302(1) + EG10303(1) + EG10304 (1) + EG10305 (1) + EG10306 (1)
EG103 (2)	5	EG10301(2) + EG10302(2) + EG10303(2) + EG10304 (2) + EG10305 (2) + EG10306 (2)
EG109 (1)	5	EG10901(1) + EG10902(1) + EG10903(1)
EG109 (2)	5	EG10901(2) + EG10902(2) + EG10903(2)

REC 11

Fieldname	Length of byte	Generate ข้อมูลจาก
EG118 (3)	6	EG11801(3) + EG11802(3) + EG11803(3) + EG11804 (3) + EG11805 (3) + EG11806 (3)
EG118 (4)	6	EG11801(4) + EG11802(4) + EG11803(4) + EG11804 (4) + EG11805 (4) + EG11806 (4)

REC 12

Fieldname	Length of byte	Generate ข้อมูลจาก
EF01 (1)	4	EF0101 (1) + EF0102 (1) + EF0103 (1) + EF0104 (1) + EF0105 (1) + EF0106 (1) + EF0107 (1) + EF0108 (1) + EF0109 (1) + EF0110 (1) + EF0111 (1) + EF0112 (1) + EF0113 (1)
EF01 (2)	4	EF0101 (2) + EF0102 (2) + EF0103 (2) + EF0104 (2) + EF0105 (2) + EF0106 (2) + EF0107 (2) + EF0108 (2) + EF0109 (2) + EF0110 (2) + EF0111 (2) + EF0112 (2) + EF0113 (2)
EF02 (1)	4	EF0201 (1) + EF0202 (1) + EF0203 (1) + EF0204 (1) + EF0205 (1) + EF0206 (1) + EF0207 (1) + EF0208 (1) + EF0209 (1) + EF0210 (1) + EF0211 (1) + EF0212 (1) + EF0213 (1) + EF0214 (1)
EF02 (2)	4	EF0201 (2) + EF0202 (2) + EF0203 (2) + EF0204 (2) + EF0205 (2) + EF0206 (2) + EF0207 (2) + EF0208 (2) + EF0209 (2) + EF0210 (2) + EF0211 (2) + EF0212 (2) + EF0213 (2) + EF0214 (2)
EF03 (1)	4	EF0301 (1) + EF0302 (1) + EF0303 (1) + EF0304 (1) + EF0305 (1) + EF0306 (1) + EF0307 (1) + EF0308 (1) + EF0309 (1) + EF0310 (1) + EF0311 (1) + EF0312 (1) + EF0313 (1) + EF0314 (1) + EF0315 (1) + EF0316 (1) + EF0317 (1) + EF0318 (1) + EF0319 (1) + EF0320 (1) + EF0321 (1) + EF0322 (1) + EF0323 (1) + EF0324 (1) + EF0325 (1) + EF0326 (1) + EF0327 (1) + EF0328 (1) + EF0329 (1) + EF0330 (1) + EF0331 (1)

REC 12 (ต่อ)

Fieldname	Length of byte	Generate ข้อมูลจาก
EF03 (2)	4	EF0301 (2) + EF0302 (2) + EF0303 (2) + EF0304 (2) + EF0305 (2) + EF0306 (2) + EF0307 (2) + EF0308 (2) + EF0309 (2) + EF0310 (2) + EF0311 (2) + EF0312 (2) + EF0313 (2) + EF0314 (2) + EF0315 (2) + EF0316 (2) + EF0317 (2) + EF0318 (2) + EF0319 (2) + EF0320 (2) + EF0321 (2) + EF0322 (2) + EF0323 (2) + EF0324 (2) + EF0325 (2) + EF0326 (2) + EF0327 (2) + EF0328 (2) + EF0329 (2) + EF0330 (2) + EF0331 (2)
EF04 (1)	4	EF0401 (1) + EF0402 (1) + EF0403 (1) + EF0404 (1) + EF0405 (1) + EF0406 (1) + EF0407 (1) + EF0408 (1) + EF0409 (1) + EF0410 (1) + EF0411 (1) + EF0412 (1) + EF0413 (1)
EF04 (2)	4	EF0401 (2) + EF0402 (2) + EF0403 (2) + EF0404 (2) + EF0405 (2) + EF0406 (2) + EF0407 (2) + EF0408 (2) + EF0409 (2) + EF0410 (2) + EF0411 (2) + EF0412 (2) + EF0413 (2)
EF05 (1)	4	EF0501 (1) + EF0502 (1) + EF0503 (1) + EF0504 (1) + EF0505 (1) + EF0506 (1)
EF05 (2)	4	EF0501 (2) + EF0502 (2) + EF0503 (2) + EF0504 (2) + EF0505 (2) + EF0506 (2)
EF06 (1)	4	EF0601 (1) + EF0602 (1) + EF0603 (1) + EF0604 (1) + EF0605 (1) + EF0606 (1) + EF0607 (1) + EF0608 (1) + EF0609 (1) + EF0610 (1) + EF0611 (1) + EF0612 (1) + EF0613 (1) + EF0614 (1) + EF0615 (1) + EF0616 (1) + EF0617 (1) + EF0618 (1) + EF0619 (1)
EF06 (2)	4	EF0601 (2) + EF0602 (2) + EF0603 (2) + EF0604 (2) + EF0605 (2) + EF0606 (2) + EF0607 (2) + EF0608 (2) + EF0609 (2) + EF0610 (2) + EF0611 (2) + EF0612 (2) + EF0613 (2) + EF0614 (2) + EF0615 (2) + EF0616 (2) + EF0617 (2) + EF0618 (2) + EF0619 (2)

REC 12 (ต่อ)

Fieldname	Length of byte	Generate ข้อมูลจาก
EF07 (1)	4	EF0701 (1) + EF0702 (1) + EF0703 (1) + EF0704 (1) + EF0705 (1) + EF0706 (1) + EF0707 (1) + EF0708 (1) + EF0709 (1) + EF0710 (1) + EF0711 (1) + EF0712 (1) + EF0713 (1) + EF0714 (1) + EF0715 (1) + EF0716 (1) + EF0717 (1) + EF0718 (1) + EF0719 (1) + EF0720 (1) + EF0721 (1) + EF0722 (1) + EF0723 (1) + EF0724 (1) + EF0725 (1) + EF0726 (1) + EF0727 (1) + EF0728 (1) + EF0729 (1) + EF0730 (1) + EF0731 (1)
EF07 (2)	4	EF0701 (2) + EF0702 (2) + EF0703 (2) + EF0704 (2) + EF0705 (2) + EF0706 (2) + EF0707 (2) + EF0708 (2) + EF0709 (2) + EF0710 (2) + EF0711 (2) + EF0712 (2) + EF0713 (2) + EF0714 (2) + EF0715 (2) + EF0716 (2) + EF0717 (2) + EF0718 (2) + EF0719 (2) + EF0720 (2) + EF0721 (2) + EF0722 (2) + EF0723 (2) + EF0724 (2) + EF0725 (2) + EF0726 (2) + EF0727 (2) + EF0728 (2) + EF0729 (2) + EF0730 (2) + EF0731 (2)
EF08 (1)	4	EF0801 (1) + EF0802 (1) + EF0803 (1) + EF0804 (1) + EF0805 (1) + EF0806 (1) + EF0807 (1) + EF0808 (1) + EF0809 (1)
EF08 (2)	4	EF0801 (2) + EF0802 (2) + EF0803 (2) + EF0804 (2) + EF0805 (2) + EF0806 (2) + EF0807 (2) + EF0808 (2) + EF0809 (2)
EF09 (1)	4	EF0901 (1) + EF0902 (1) + EF0903 (1) + EF0904 (1) + EF0905 (1) + EF0906 (1) + EF0907 (1) + EF0908 (1) + EF0909 (1) + EF0910 (1) + EF0911 (1) + EF0912 (1) + EF0913 (1)
EF09 (2)	4	EF0901 (2) + EF0902 (2) + EF0903 (2) + EF0904 (2) + EF0905 (2) + EF0906 (2) + EF0907 (2) + EF0908 (2) + EF0909 (2) + EF0910 (2) + EF0911 (2) + EF0912 (2) + EF0913 (2)

REC 12 (ต่อ)

Fieldname	Length of byte	Generate ข้อมูลจาก
EF10 (1)	4	EF1001 (1) + EF1002 (1) + EF1003 (1) + EF1004 (1)
EF10 (2)	4	EF1001 (2) + EF1002 (2) + EF1003 (2) + EF1004 (2)
EF11 (1)	4	EF1101 (1) + EF1102 (1) + EF1103 (1) + EF1104 (1) + EF1105 (1) + EF1106 (1) + EF1107 (1) + EF1108 (1) + EF1109 (1) + EF1110 (1)
EF11 (2)	4	EF1101 (2) + EF1102 (2) + EF1103 (2) + EF1104 (2) + EF1105 (2) + EF1106 (2) + EF1107 (2) + EF1108 (2) + EF1109 (2) + EF1110 (2)
EF12 (1)	4	EF1201 (1) + EF1202 (1) + EF1203 (1) + EF1204 (1) + EF1205 (1) + EF1206 (1) + EF1207 (1) + EF1208 (1)
EF12 (2)	4	EF1201 (2) + EF1202 (2) + EF1203 (2) + EF1204 (2) + EF1205 (2) + EF1206 (2) + EF1207 (2) + EF1208 (2)
EF13 (1)	5	EF1301 (1) + EF1302 (1) + EF1303 (1) + EF1304 (1) + EF1305 (1)
EF13 (2)	5	EF1301 (2) + EF1302 (2) + EF1303 (2) + EF1304 (2) + EF1305 (2)
EF14 (1)	5	EF1401 (1) + EF1402 (1) + EF1403 (1) + EF1404 (1)
EF14 (2)	5	EF1401 (2) + EF1402 (2) + EF1403 (2) + EF1404 (2)
EF15 (1)	5	EF1501 (1) + EF1502 (1) + EF1503 (1) + EF1504 (1)
EF15 (2)	5	EF1501 (2) + EF1502 (2) + EF1503 (2) + EF1504 (2)
EF16 (1)	4	EF1601 (1) + EF1602 (1)
EF16 (2)	4	EF1601 (2) + EF1602 (2)
EF17 (1)	4	EF1701 (1) + EF1702 (1)
EF17 (2)	4	EF1701 (2) + EF1702 (2)

สรุปรายการข้อมูลที่ทำการ Generate (A07 – A52)

Recordที่ 01

รายการข้อมูลที่ทำการ Generate

FIELD	FIELD NAME	LENGTH OF BYTES	วิธีการ Generate	REMARK
4. Household expenditures				
4.1 Average monthly total expenditures per household	A07	8	A07 = (CON_EX3) + (NCON_EX3) + (FB_EX3) + (TP_EX3)	
4.2 Average monthly consumption expenditure per household	A08	8	A08 = (CON_EX3) + (FB_EX3) + (TP_EX3)	
4.3 Average monthly expenditure on food, beverages & tobacco per household	A09	8	A09 = (FB_EX3) + (TP_EX3)	
4.4 Average monthly total expenditure per capita	A10	8	A10 = A07 ÷ A04_1	
4.5 Average monthly consumption expenditure per capita	A11	8	A11 = A08 ÷ A04_1	
4.6 Average monthly expenditure on food, beverages and tobacco per capita	A12	8	A12 = A09 ÷ A04_1	
5. Household income			(จะต้อง Generate ข้อมูล A18 → A52 ก่อน)	
5.1 Average monthly total income per household	A13	8	A13 = (A39 + A40 + A41 + A42 + A52)	
5.2 Average monthly current income per household	A14	8	A14 = (A39 + A40 + A41 + A42)	
5.3 Average monthly total income per capita	A15	8	A15 = A13 ÷ A04_1	
5.4 Average monthly current income per capita	A16	8	A16 = A14 ÷ A04_1	
6. Sources of income				
(a) Money income				
1) Wages and Salaries				
- Last month	A17	8	A17 = WS1	
- Average per month	A18	8	A18 = WS2	
2) Net profit from business				
- Last month	A19	8	A19 = PB1	
- Average per month	A20	8	A20 = PB2	
3) Net profit from farming				
- Last month	A21	8	A21 = PA1	
- Average per month	A22	8	A22 = PA2	

รายการข้อมูลที่ทำการ Generate				
FIELD	**FIELD NAME**	**LENGTH OF BYTES**	**วิธีการ Generate**	**REMARK**
4) Income from pensions/ annuities, other assistance				
- Last month	A23	8	A23 = IO02 (3)	
- Average per month	A24	8	A24 = IO02 (1) / 12	
5) Income from work compensations or terminated payment				
- Last month	A25	8	A25 = IO03 (3)	
- Average per month	A26	8	A26 = IO03 (1) / 12	
6) Income from money assistance from other people outside household				
- Last month	A27	8	A27 = IO04 (3)	
- Average per month	A28	8	A28 = IO04 (1) / 12	
7) Income from elderly & disability assistance from govt. and other organizations				
- Last month	A29	8	A29 = IO05 (3)	
- Average per month	A30	8	A30 = IO05 (1) / 12	
8) Income from rent of accommodation / land and other properties (include licence and copyright)				
- Last month	A31	8	A31= IO08 (3)+IO09(3)	
- Average per month	A32	8	A32 = IO08(1)+IO09(1) / 12	
9) Income from saving interests, shares, bonds, and stocks				
- Last month	A33	8	A33 = IO10 (3)	
- Average per month	A34	8	A34 = IO10 (1) / 12	
10) Income from "shares" and lending				
- Last month	A35	8	A35 = IO11 (3)	
- Average per month	A36	8	A36 = IO11 (1) / 12	

รายการข้อมูลที่ทำการ Generate				
FIELD	**FIELD NAME**	**LENGTH OF BYTES**	**วิธีการ Generate**	**REMARK**
Sum of all money income				
- Last month	A37	8	A37 = (A17 + A19 + A21 + A23 + A25 + A27 + A29 + A31 + A33 + A35)	
- Average per month	A38	8	A38 = (A18 + A20 + A22 + A24 + A26 + A28 + A30 + A32 + A34 + A36)	
(b) Income in-kind				
11) From rental estimated of free-occupied house (include own house)	A39	8	A39 = EG01 (2) REC04	
12) From unpaid of goods and services	A40	8	A40 = (CON_EX2) - (EG01(2) + (NCON_EX2) + (TP_EX2)	
13) From unpaid of food and beverages	A41	8	A41 = FB_EX2	
(c) Income from other sources				
14) From education scholarship				
- Last month	A42	8	A42 = IO06 (3)	
- Average per month	A43	8	A43 = IO06 (1) / 12	
15) From inheritance and gifts				
- Last month	A44	8	A44 = IO12 (3)	
- Average per month	A45	8	A45 = IO12 (1) / 12	
16) Proceeds from health, accident, fire or life insurance				
- Last month	A46	8	A46 = IO13 (3)	
- Average per month	A47	8	A47 = IO13 (1) / 12	
17) From others, e.g. lottery winnings, commissions, gambling etc.				
- Last month	A48	8	A48 = IO14 (3)	
- Average per month	A49	8	A49 = IO14 (1) / 12	
Sum of all other money receipt				
- Last month	A50	8	A50 = (A42 + A44 + A46 + A48)	
- Average per month	A51	8	A51 = (A43 + A45 + A47 + A49)	
7. Weight	A52	8		

SES.2 Questionnaire of Household Member and Expenditure

PART 3 EXPENDITURE ON GOODS AND SERVICES

รายการข้อมูลที่ทำการ Generate				
FIELD	**FIELD NAME**	**LENGTH OF BYTES**	**วิธีการ Generate**	**REMARK**
(1) Average monthly consumption expenditure per household			**จาก Record 04 → 10**	
- Paid in all cash	CON_EX 1	8	CON_EX1 = Σ (EG01 → EG112) (สดมภ์ "ซื้อ/ จ่าย")	
- All value of in-kind	CON_EX 2	8	CON_EX2 = Σ (EG01 → EG112) (สดมภ์ "ไม่ได้ซื้อ/ จ่าย")	
- Total monthly expenditure	CON_EX 3	8	CON_EX3 = CON_EX1+CON_EX2	
(2) Average Monthly of Non-consumption Expenditure per Household			**จาก Record 11**	
- Paid in all cash	NCON_EX1	8	NCON_EX1 =Σ (EG113 → G121) (สดมภ์ "ซื้อ/ จ่าย")	
- All value of in-kind	NCON_EX2	8	NCON_EX2 =Σ (EG113 → EG121) (สดมภ์ "ไม่ได้ซื้อ/ จ่าย")	
- Total monthly expenditure	NCON_EX3	8	NCON_EX3=NCON_EX1 +NCON_EX2	

PART 4 EXPENDITURE ON FOOD BEVERAGES AND TOBACCO

รายการข้อมูลที่ทำการ Generate				
FIELD	**FIELD NAME**	**LENGTH OF BYTES**	**วิธีการ Generate**	**REMARK**
(1) Average monthly Expenditure on Food and Beverage per Household			**จาก Record 12**	
- Paid in all cash	FB_EX 1	8	FB_EX1 = Σ (EF01 → EF15)×4.3 (สดมภ์ "ซื้อ/ จ่าย")	
- All value of in-kind	FB_EX 2	8	FB_EX2 = Σ (EF01 → EF15)×4.3 (สดมภ์ "ไม่ได้ซื้อ/ จ่าย")	
- Total monthly expenditure	FB_EX 3	8	FB_EX3 = FB_EX1+ FB_EX2	
(2) Average Monthly Expenditure on Tobacco Product per Household			**จาก Record 12**	
- Paid in all cash	TP_EX 1	8	TP_EX1 = (EF16 + EF17)×4.3 (สดมภ์ "ซื้อ/ จ่าย")	
- All value of in-kind	TP_EX 2	8	TP_EX2 = (EF16 + EF17)×4.3 (สดมภ์ "ไม่ได้ซื้อ/ จ่าย")	
- Total monthly expenditure	TP_EX 3	8	TP_EX3 = TP_EX1 + TP_EX2	

SES.3 Questionnaire of Household Income

PART 1 EARNING FROM WAGES AND SALARIES

รายการข้อมูลที่ทำการ Generate (ยกเว้นคนรับใช้ HM02 = 0)				
FIELD	**FIELD NAME**	**LENGTH OF BYTES**	**วิธีการ Generate**	**REMARK**
Total wages and salaries (money) received from every occupation for each household member			**(รวมทุกอาชีพในทุก SUB)**	
- Last month	WS1	8	WS1=∑(IW10 + IW11) ทุกอาชีพ	
- Average per month	WS2	8	$WS2=\frac{\sum(IW12 + IW13)\ \text{ทุกอาชีพ}}{12}$	
ยกเว้น ลำดับที่สมาชิก (IW 01 หรือ HM01) ที่มีรหัสของ HM 02 ใน REC 02 = 0 ไม่ต้องคำนวน				

PART2 EARNING FROM BUSINESS, INDUSTRY, OR PROFESSION OTHER THAN FARMING

รายการข้อมูลที่ทำการ Generate				
FIELD	**FIELD NAME**	**LENGTH OF BYTES**	**วิธีการ Generate**	**REMARK**
Total net money profit from business of each member			**(รวมทุกอาชีพในทุก SUB)**	
- Last month	PB1	8	$PB1=\sum\left((IB08(2) - IB09(2) \times \frac{IB11}{100}\right)$ ทุกอาชีพ	
- Average per month	PB2	8	$PB2=\frac{\sum\left(IB08(1) - IB09(1) \times \frac{IB11}{100}\right)\ \text{ทุกอาชีพ}}{12}$	
			หมายเหตุ : - (1) สดมภ์ 12 เดือนที่แล้ว - (2) สดมภ์ เดือนที่แล้ว - ถ้า IB11 = blank ⇒ ให้ $\frac{IB11}{100} = 1$	

PART 3 FARM OPERATION (Include Agricultural service)

รายการข้อมูลที่ทำการ Generate				
FIELD	**FIELD NAME**	**LENGTH OF BYTES**	**วิธีการ Generate**	**REMARK**
Net money profit from farming and agricultral services				
- Last month	PA1	8	PA1 = IA28 - IA29	
- Average per month	PA2	8	PA2 คำนวณตามสูตร (1)	
สูตร (1) = $\frac{IA08 + IA09 + IA11 + (IA15 - IA19) + IA20 - (IA25 + IA26) - (IA13 + IA17 + IA22)}{12}$				

INPUT FORMAT
SES - Redesign, 2007

แบบ สศส.2 (พิเศษ) แบบสำรวจสมาชิกและการใช้จ่ายของครัวเรือน

IDENTIFICATION	REC	SUB	รายการข้อมูลที่บันทึก	รายการข้อมูลที่ Generate
REG, CWT, AMP,.....ENU (20 bytes)	01	01	A01 ⟶ A06	A02_1, A04_1 และ A07 ⟶ A51
	02	01 ↓	HM01 ⟶ HM41 ของสมาชิกโดยบันทึกให้จบทีละคน	
	03	01	HH01 ⟶ HH45	
	04	01	EG01 ⟶ EG06 (บันทึกรายการ 2 สดมภ์คู่กันไป)	
		01	EG07 (EG0701⟶ EG0703) (" ")	
		01	EG08 (" ")	
		01	EG09 (EG0901⟶ EG0903) (" ")	
		01	EG10 (EG1001⟶ EG1003) (" ")	
		01	EG11, EG12 (" ")	
	05	01	EG13 ⟶ EG23 (" ")	
		01	EG24 (EG2401⟶ EG2402) (" ")	
		01	EG25 (" ")	
		01	EG26 (EG2601⟶ EG2605) (" ")	
		01	EG27 (EG2701⟶ EG2707) (" ")	
	06	01	EG28, EG29 (" ")	
		01	EG30 (EG3001⟶ EG3017) (" ")	
		01	EG31 (" ")	
		01	EG32 (EG3201⟶ EG3203) (" ")	
		01	EG33 ⟶ EG35 (" ")	
		01	EG36 (EG3601⟶ EG3603) (" ")	
		01	EG37 (EG3701⟶ EG3703) (" ")	
		01	EG38 (EG3801⟶ EG3804) (" ")	

INPUT FORMAT
SES - Redesign, 2007

แบบ สศส.2 (พิเศษ) แบบสำรวจสมาชิกและการใช้จ่ายของครัวเรือน

REC	SUB	รายการข้อมูลที่บันทึก	รายการข้อมูลที่ Generate
06	01	EG39 (EG3901⟶ EG3909) (บันทึกรายการ 2 สดมภ์คู่กันไป)	
	01	EG40 (" ")	
	01	EG41 (EG4101⟶ EG4104) (" ")	
	01	EG42 (EG4201⟶ EG4204) (" ")	
	01	EG43 (EG4301⟶ EG4303) (" ")	
	01	EG44 (" ")	
	01	EG45 (EG4501⟶ EG4502) (" ")	
	01	EG46 (" ")	
07	01	EG47 (EG4701⟶ EG4712) (" ")	
	01	EG48 (EG4801⟶ EG4802) (" ")	
	01	EG49 (EG4901⟶ EG4902) (" ")	
	01	EG50 (" ")	
	01	EG51 (EG5101⟶ EG5102) (" ")	
	01	EG52 (EG5201⟶ EG5205) (" ")	
	01	EG53 (EG5301⟶ EG5310) (" ")	
	01	EG54 ⟶ EG57 (" ")	
	01	EG58 (EG5801⟶ EG5806) (" ")	
	01	EG59 (EG5901⟶ EG5906) (" ")	
	01	EG60 (" ")	
08	01	EG61 (" ")	
	01	EG62 (EG6201⟶ EG6203) (" ")	
	01	EG63 (" ")	
	01	EG64 (EG6401⟶ EG6405) (" ")	
	01	EG65, EG66 (" ")	
	01	EG67 (EG6701⟶ EG6702) (" ")	
	01	EG68, EG69 (" ")	
	01	EG70 (EG7001⟶ EG7005) (" ")	
	01	EG71 (EG7101⟶ EG7106) (" ")	

INPUT FORMAT
SES - Redesign, 2007

แบบ สศส.2 (พิเศษ) แบบสำรวจสมาชิกและการใช้จ่ายของครัวเรือน

REC	SUB	รายการข้อมูลที่บันทึก	รายการข้อมูลที่ Generate
08	01	EG72 (บันทึกรายการ 2 สดมภ์คู่กันไป)	
	01	EG73 (EG7301⟶ EG7304) (" ")	
	01	EG74, EG75 (" ")	
	01	EG76 (EG7601⟶ EG7602) (" ")	
	01	EG77 ⟶ EG79 (" ")	
09	01	EG80 (" ")	
	01	EG81 (EG8101⟶ EG8102) (" ")	
	01	EG82 (EG8201⟶ EG8202) (" ")	
	01	EG83, EG84 (" ")	
	01	EG85 (EG8501⟶ EG8504) (" ")	
	01	EG86 (EG8601⟶ EG8604) (" ")	
	01	EG87 (" ")	
	01	EG88 (EG8801⟶ EG8804) (" ")	
	01	EG89 (EG8901⟶ EG8904) (" ")	
	01	EG90 (EG9001⟶ EG9004) (" ")	
	01	EG91 (EG9101⟶ EG9103) (" ")	
	01	EG92, EG93 (" ")	
10	01	EG94 (EG9401⟶ EG9403) (" ")	
	01	EG95 ⟶ EG102 (" ")	
	01	EG103 (EG10301⟶ EG10306) (" ")	
	01	EG104⟶ EG108 (" ")	
	01	EG109 (EG10901⟶ EG10903) (" ")	
	01	EG110⟶ EG112 (" ")	
11	01	EG113⟶ EG117 (" ")	
	01	EG118 (EG11801⟶ EG11806) (" ")	
	01	EG119⟶ EG121 (" ")	CON_EX1, CON_EX2, CON_EX3, NCON_EX1, NCON_EX2, NCON_EX3

INPUT FORMAT
SES - Redesign, 2007

แบบ สศส.2 (พิเศษ) แบบสำรวจสมาชิกและการใช้จ่ายของครัวเรือน

REC	SUB	รายการข้อมูลที่บันทึก				รายการข้อมูลที่ Generate
12	01	EF01 (EF0101 →	EF0113)	(บันทึกรายการ 2 สดมภ์คู่กันไป)		
	01	EF02 (EF0201 →	EF0214)	("	")	
	01	EF03 (EF0301 →	EF0331)	("	")	
	01	EF04 (EF0401 →	EF0413)	("	")	
	01	EF05 (EF0501 →	EF0506)	("	")	
	01	EF06 (EF0601 →	EF0619)	("	")	
	01	EF07 (EF0701 →	EF0731)	("	")	
	01	EF08 (EF0801 →	EF0809)	("	")	
	01	EF09 (EF0901 →	EF0913)	("	")	
	01	EF10 (EF1001 →	EF1004)	("	")	
	01	EF11 (EF1101 →	EF1110)	("	")	
	01	EF12 (EF1201 →	EF1208)	("	")	
	01	EF13 (EF1301 →	EF1305)	("	")	
	01	EF14 (EF1401 →	EF1404)	("	")	
	01	EF15 (EF1501 →	EF1504)	("	")	
	01	EF16 (EF1601 →	EF1602)	("	")	
	01	EF17 (EF1701 →	EF1702)	("	")	FB_EX1, FB_EX2, FB_EX3, TP_EX1, TP_EX2, TP_EX3

▲

INPUT FORMAT
SES - Redesign, 2007

แบบ สศส.2 แบบสำรวจสมาชิกและการใช้จ่ายของครัวเรือน

IDENTIFICATION	REC	SUB	รายการข้อมูลที่บันทึก	รายการข้อมูลที่ Generate
REG, CWT, AMP,.....ENU (20 bytes)	01	01	A01 ⟶ A06	A02_1, A04_1 และ A07 ⟶A52
	02	01 ↓	HM01⟶ HM41 ของสมาชิกโดยบันทึกให้จบทีละคน	
	03	01	HH01 ⟶ HH45	
	04	01	EG01 ⟶ EG12 (บันทึกรายการ 2 สดมภ์คู่กันไป)	
	05	01	EG13 ⟶ EG27 (" ")	
	06	01	EG28 ⟶ EG46 (" ")	
	07	01	EG47 ⟶ EG60 (" ")	
	08	01	EG61 ⟶ EG79 (" ")	
	09	01	EG80 ⟶ EG93 (" ")	
	10	01	EG94 ⟶ EG112 (" ")	
	11	01	EG113⟶ EG121 (" ")	CON_EX1, CON_EX2, CON_EX3, NCON_EX1, NCON_EX2, NCON_EX3
	12	01	EF01 ⟶ EF17 (บันทึกรายการ 2 สดมภ์คู่กันไป)	FB_EX1, FB_EX2, FB_EX3, TP_EX1, TP_EX2, TP_EX3

แบบ สศส.3 แบบสำรวจรายได้ของครัวเรือน

IDENTIFICATION				
IDENTIFICATION	13	01 ↓	IW01, IW02⟶ IW14 (โดยบันทึกข้อมูลให้จบทีละอาชีพ)	WS1, WS2
	14	01 ↓	IB01, IB02 ⟶ IB11 (โดยบันทึกข้อมูลให้จบทีละอาชีพ)	PB1, PB2
	15	01	IA01, IA02 (2 ตัว) IA03 (3 ตัว) และ IA04 ⟶IA29	PA1, PA2
	16	01	IO01 ⟶ IO14 (รายการใดมี 3 ตัว ให้บันทึกต่อเนื่องกัน)	
	17	01	AD01 ⟶ AD26	
	18	01	MR01 ⟶ MR03, MR04 ⟶MR12 (บันทึกให้จบทีละคน) และ MR13	
		02	MP01 ⟶ MP02, MP03 ⟶MP11 (บันทึกให้จบทีละคน) และ MP12	

Methodology

1. Sample Design

A Stratified Two–stage Sampling was adopted for the survey. Provinces were considered to be constituted strata. There were altogether 76 strata, each stratum was divided into two parts according to the type of local administration, namely, municipal areas, and non-municipal areas.

1) Selection of Primary Sampling Units

The sample selection of blocks/villages was performed separately and independently in each part by using probability proportional to the total number of households in that block or village.

2) Selection of Secondary Sampling Units

In this stage, private households were the ultimate sampling units. Households in every sample block and village were listed to serve as the sampling frame then the set of households was rearranged by size of household (classified by number of household members) and type of economic household (determined on the basis of the occupation type which produces the highest income in the household), Finally private sampled households were selected by using the systematic method in each type of local administration with the following sample sizes :

(1) 15 households from each of sample blocks in municipal areas

(2) 10 households from each of sample villages in non–municipal areas

The total number of private sampled households for the whole year were 51,970 households.

2. Method of Estimation

The results of the survey were presented at regional levels and Whole Kingdom separately for Bangkok Metropolitan and the three provinces (Nonthaburi, Pathum Thani and Samut Prakan) and other regions, i.e. Central, Northern, Northeastern and Southern region. The estimation processes were the following stages:

86

1) Estimation of Total

Let $k = 1, 2, 3, \ldots, m_{hij}$ (sample / village)

$j = 1, 2$ (type of local administration)

$i = 1, 2, 3, \ldots, A_h$ (province)

$h = 1, 2, 3, 4, 5$ (region)

(1) Adjusted estimate of the total number of characteristic X of household for the h[th] region was based on the formula :

$$x''_h = \sum_{i=1}^{A_h} \sum_{j=1}^{2} \frac{x'_{hij}}{y'_{hij}} Y_{hij} \quad \ldots\ldots(1)$$

where Y_{hij} is the estimate, based on the population projection, of the total number of households[1/] in the j[th] area, i[th] province, h[th] region.

x'_{hij} is the ordinary estimate of the total number of characteristic X of household in the j[th] area, i[th] province, h[th] region.

$$x'_{hij} = \frac{1}{m_{hij}} \sum_{k=1}^{m_{hij}} \frac{1}{P_{hijk}} \frac{N_{hijk}}{n_{hijk}} x_{hijk}$$

y'_{hij} is the ordinary estimate of the total number of households in the j[th] area, i[th] province, h[th] region.

$$y'_{hij} = \frac{1}{m_{hij}} \sum_{k=1}^{m_{hij}} \frac{1}{P_{hijk}} \frac{N_{hijk}}{n_{hijk}} n'_{hijk}$$

that x_{hijk} is the characteristic X of every sample household in the k[th] sample block / village, j[th] area, i[th] province, h[th] region.

N_{hijk} is the number of listing households in the k[th] sample block / village, j[th] area, i[th] province, h[th] region.

n_{hijk} is the number of enumerating sample households in the k[th] sample block / village, j[th] area, i[th] province, h[th] region.

P_{hijk} is the probability of selection of the k[th] sample block / village, j[th] area, i[th] province, h[th] region.

[1/] Population Projections for Thailand 1990 - 2020, National Economics and Social Development Board

m_{hij} is the number of sample blocks / villages in the j^{th} area, i^{th} province, h^{th} region.

n'_{hijk} is the number of the interviewed households in the k^{th} sample block / village, j^{th} area, i^{th} province, h^{th} region.

(2) Adjusted estimate of the total number of characteristic X of household for the whole kingdom was based on the formula :

$$x'' = \sum_{h=1}^{5} x''_h \quad \text{.....(2)}$$

2) Estimation of Average

(1) The estimate of the average of characteristic X per household for the h^{th} region was based on the formula :

$$\bar{x}_h = \frac{x''_h}{Y_h} \quad \text{.....(3)}$$

where Y_h is the estimate, based on the population projection, of the total number of households in the h^{th} region

$$Y_h = \sum_{i=1}^{A_h} \sum_{j=1}^{2} Y_{hij}$$

(2) The estimate of the average of characteristic X per household for the whole kingdom was based on the formula :

$$\bar{x} = \frac{x''}{Y} \quad \text{.....(4)}$$

where Y is the estimate, based on the population projection, of the total number of households in the whole kingdom

$$Y = \sum_{h=1}^{5} Y_h$$

88

3. Annual Percentage Change

$$= \left\{ \left[\frac{\text{Value in 2007}}{\text{Value in 2006}} \right] - 1 \right\} \times 100$$

4. Real Income

$$= \frac{\text{Consumer Price Index in 2006}}{\text{Consumer Price Index in 2007}} \times \text{Income in 2007}$$

5. Data Collection

The sample of about 52,000 households, in both municipal and non-municipal area, was divided into twelve equally representative sub–samples. Each sub–household group was interviewed for the period of one–month. The survey data was collected by an interviewing method. The interviewers were sent out to interview the household head or other household members of the sample households. The period of data collection started from January of December 2007.

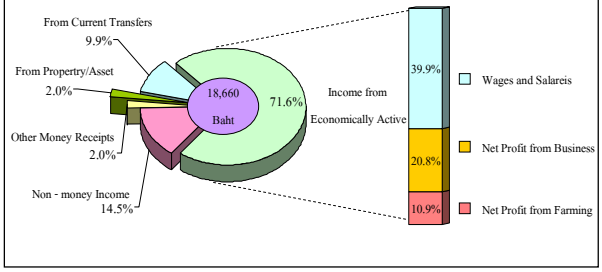
6. Data Processing

All recorded questionnaires which had already been reviewed, edited and encoded from the field operators before sending the completed questionnaires to the NSO headquarter. At the central office, they were examined for completeness and consistancy in all details. Descriptive information was numerically coded and then was transferred into computer's media for data processing. All raw data were computerizedly edited for the final review then tabulations were prepared. After several stages of data correction, the results were then tabulated.

EXECUTIVE SUMMARY

The National Statistical Office has carried out the Household Socio-economic Survey 2007 from January to December 2007. The survey covered household samples in both municipal and non-municipal area in every province. The sample size for this survey was 52,000 households. The survey collected detailed information on income, expenditure, debt and asset of households as well as their housing characteristics. In the survey, expenditure data referred to expenditure for necessary items for daily life, which excluded saving and capital formation expenditures such as purchase or hire-purchase of house and land. The result of the SES 2007 is as following.

Figure 1 Percentage Distribution of Monthly Household Income by Source of Income (2007)

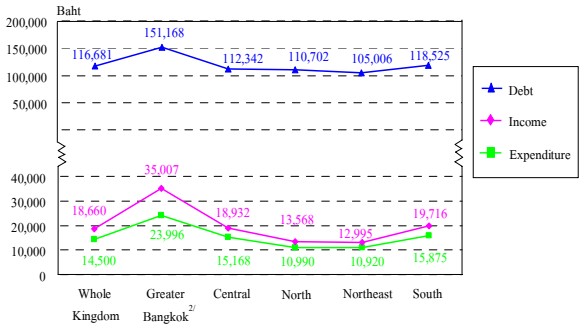


Household Income (2007)

The result of the 2007 survey showed that household nationwide earned on average 18,660 baht per month. The major source of income (71.6%) was from economically activities such as wages and salaries (39.9%), followed by net profit from non-farm business (20.8%), and net profit from farming (10.9%). Income from economically inactive was mainly from assistance from other persons outside the household or from government (9.9%), followed by income from asset and property rental such as interest receive (2.0%). The other source of earning was from assistance in terms of welfare/goods and services (14.5%).

1/

Figure 2 Average Monthly Household Income and Expenditure by Region (2007)

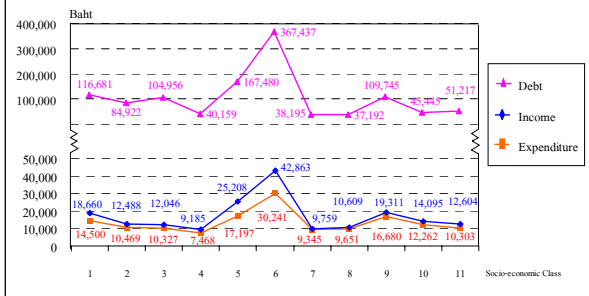


2/ Nonthaburi, Pathum Thani and Samut Prakan.

Concerning household income by region, it was discovered that households in Bangkok Metropolis and the three provinces nearby, which are Nonthaburi, Pathu Thani, and Samut Prakan, earned on average 35,007 baht, which was higher than other region. The following were households in the South (19,716 baht), in the Central (18,932 baht), and in the North (13,568 baht), whereas households in the Northeast earned the lowest of about 12,995 baht. However, it was showed that an increasing rate of household income in the Northeast (10.0%) was higher than those in other parts of the country. By this, households in the Central experienced a decreasing rate of household income (1.8%).

1/

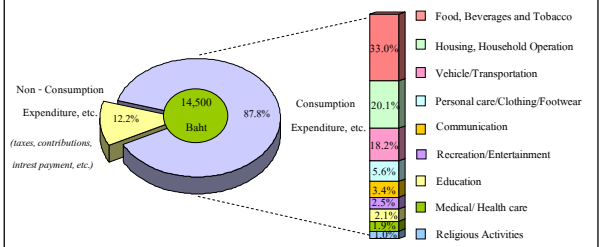
Figure 3 Average Monthly Household Income, Expenditure and Average Amount of Debt per All Households by Socio-economic Class (2007)



1/ expenditure for necessary items for daily life, which excluded saving and capital formation expenditures such as purchase or hire-purchase of house and land, etc.

Considering household income by socio-economic classification (determined on the basis of the occupation type which produces the highest income in the household), the survey result showed that households of employed professional/technical/executive workers earned the highest average income of about 42,863 baht, followed by households of operators in non-farm business, households of clerical/sales/service workers, and households of production workers (25,208 baht, 19,311 baht, and 14,095 baht, respectively). Households earned the lowest income were of agricultural operators on fishery/forestry/hunting (9,185 baht). In addition, most of households which earned high income also have high expenditure and debt.

Figure 4 Percentage Distribution of Monthly Household Expenditure[1/] by Type of Expenditure (2007)

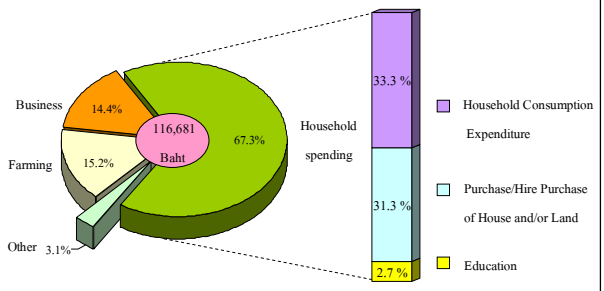


Household Expenditure[1/] (2007)

During the 2007 survey, household nationwide spent on average 14,500 baht per month. By this amount, 33.0 percent was mainly spent on food and beverages (of which 1.3 percent was paid for alcoholic drinking), followed by expense on housing and household appliances (20.1%), vehicles and transportation (18.2%), personal supplies/clothing/footwear (5.6%), communication (3.4%), recreation and entertainment (2.5%), education (2.1%), and activities related to religious (1.0%). In addition, household had non-consumption expenditure such as expenses on taxes, gifts, insurance (non-accumulative), lottery, and interest payment, which was about 12.2 percent.

Consider to household expenditure both by region and type of occupation, the survey result showed that households of high income also had high expenditure and debt.

Figure 5 Percentage of Average Amount of Debt per Households by Borrowing Purposes (2007)



Household Debt (2007)

Over a half of households in the whole country (63.3%) was indebted. The top two purposes were for household consumption (33.3%) and for buying house/land (31.3%). Using credit for agricultural purpose was 15.2 percent, followed by the debt purpose on non-farm business (14.4%), where the purpose of loan for education was only 2.7 percent.

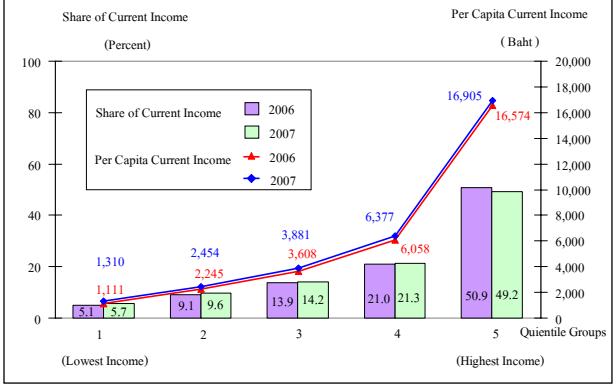
Concerning household debt by region and occupation, it was found that households of high income also had a considerable amount of debt as well as high expenditure. Considering further to the percentage of changes of debt, the survey result found that households in the South experienced an increasing rate of 3.8 percent, followed by households in the Northeast of about 3.1 percent.

[1/] expenditure for necessary items for daily life, which excluded saving and capital formation expenditures such as purchase or hire-purchase of house and land, etc.

Comparing Household Income, Expenditure,[1/] and Debt

Considering household income, household expenditure, and household debt by region, the survey result showed that households in Bangkok Metropolis and the three provinces nearby, which are Nonthaburi, Patum Thani, and Samut Prakan, earned the highest average income of about 35,007 baht. In this region, it was discovered that household expenditure and household debt were found the highest figures which are 23,996 baht and 151,168 baht, respectively. As a result, the proportion of expenditure per income in this region was 68.6 percent. Households in the Northeast have the lowest figures in income, expenditure, and debt. By this, the proportion of expenditure per income was 84.0 percent. As a result, households in this region would have less money for saving or for repaying debt comparing to other region (those of households in Central/South/North was between 80-81 percent).

Figure 6 Share of Household Current Income by Quintile Groups (2006 to 2007)



	2006	2007
Per Capita Current Income	5,245	5,494

Comparing Distribution of Household Income (2006 to 2007)

In analyzing income distribution, households were equally divided into 5 groups, from those with the lowest to the highest of their monthly income per capita (the first groups earned the lowest income while the fifth group earned the highest income). The result showed that the percentage share of the fifth group was 49.2 percent, whereas that of the first group was 5.7 percent. However, it was found that income inequality has decreased. That is, from 2006 to 2007, the percentage share of households from the highest income group felled from 50.9 percent to 49.2 percent, while that of households from the lowest income group grew up from 5.1 percent to 5.7 percent.

Considering an average monthly income per capita, it was found the increase figure averagely from 5,245 baht in 2006 to 5,494 baht in 2007, which was increase in all groups. By this, households from the highest group has an average monthly income per capita rose from 16,574 baht to 16,905 baht, and households from the lowest group experienced an average monthly income per capita increased from 1,111 baht to 1,310 baht.

[1/] expenditure for necessary items for daily life, which excluded saving and capital formation expenditures such as purchase or hire-purchase of house and land, etc.

LIST OF STATISTICAL TABLES

		Page
Table 1	Average Monthly Income Per Household by Sources of Income, Region and Area	37
Table 2	Average Monthly Income Per Household by Sources of Income and Socio-economic Class	39
Table 3	Percentage of Households by Average Monthly Income and Region	41
Table 4	Percentage of Households by Average Monthly Income and Socio-economic Class	42
Table 5	Share of Households Current Income by Decile Groups and Region	43
Table 6	Average Monthly Expenditure Per Household by Expenditure Group, Region and Area	44
Table 7	Average Monthly Expenditure Per Household by Expenditure Group and Socio-economic Class	47
Table 8	Percentage of Households by Average Monthly Expenditure and Region	50
Table 9	Percentage of Households by Average Monthly Expenditure and Socio-economic Class	51
Table 10	Number of Indebted Households and Average Amount of Debt by Source of Loan, Purposes of Borrowing, Region and Area	52
Table 11	Number of Indebted Households and Average Amount of Debt by Source of Loan, Purposes of Borrowing and Socio-economic Class	54
Table 12	Value of Household Assets; House/ Land/ Building and Vehicles by Region	56
Table 13	Value of Household Assets ; House/ Land/ Building and Vehicles by Socio-economic Class	57
Table 14	Percentage of Households Reporting Assets; House/ Land/ Building, Vehicles and Financial Assets by Value of Assets and Region	58
Table 15	Percentage of Households Reporting Assets; House/ Land/ Building, Vehicles and Financial Assets by Value of Assets and Socio-economic Class	60
Table 16	Percentage of Households by Major Housing Characteristics and Region	62
Table 17	Percentage of Households by Major Housing Characteristics and Socio-economic Class	69

TABLE 1 AVERAGE MONTHLY INCOME PER HOUSEHOLD BY SOURCES OF INCOME, REGION AND AREA **(Baht)**

Source of Income	Whole Kingdom	Region					Area	
		Greater Bangkok[1/]	Central	North	Northeast	South	Municipal Areas	Non - Municipal Areas
Total Monthly Income	**18,660**	**35,007**	**18,932**	**13,568**	**12,995**	**19,716**	**28,005**	**14,307**
Total Current Income	**18,296**	**34,514**	**18,647**	**13,219**	**12,622**	**19,394**	**27,593**	**13,966**
Money Income	**15,584**	**30,473**	**16,032**	**11,017**	**10,086**	**16,971**	**24,298**	**11,525**
From Work	**13,366**	**26,919**	**14,315**	**9,045**	**7,796**	**15,445**	**21,088**	**9,769**
Wages and Salaries	7,445	18,326	8,301	4,067	3,872	6,635	13,353	4,693
Net Profits from Business	3,894	8,279	3,685	2,645	2,349	4,485	7,080	2,409
Net Profits from Farming	2,028	313	2,329	2,332	1,574	4,324	655	2,667
From Current Transfer	**1,852**	**2,361**	**1,468**	**1,751**	**2,144**	**1,244**	**2,387**	**1,604**
Pension / Annuities and other Assistan	380	657	439	385	244	278	792	188
Work Compensation and Terminated Payment	11	30	17	1	4	6	24	4
Assistance from Persons Outside HH.	1,398	1,655	951	1,282	1,812	914	1,532	1,336
Assistance from Govt. & Organization	64	19	61	83	84	46	39	75
From Property Income	**366**	**1,193**	**249**	**222**	**146**	**282**	**823**	**152**
Income from Renting (include Licence and Copyright)	173	540	139	113	63	137	380	77
Interest and Dividends from Deposit, Bonds and Stocks	173	644	98	101	71	65	418	59
Interest from "Shares" and Loans	19	8	11	7	12	79	24	17

TABLE 1 AVERAGE MONTHLY INCOME PER HOUSEHOLD BY SOURCES OF INCOME, REGION AND AREA (Contd.) **(Baht)**

Source of Income	Whole Kingdom	Region					Area	
		Greater Bangkok[1/]	Central	North	Northeast	South	Municipal Areas	Non - Municipal Areas
Non - money Income	**2,712**	**4,041**	**2,615**	**2,202**	**2,536**	**2,423**	**3,295**	**2,440**
Estimated Rental Value of Dwelling (include owned dwelling)	1,526	2,900	1,603	1,105	1,112	1,369	2,182	1,220
In - kind of Goods and Services	437	723	471	373	331	391	566	377
In - kind of Foods and Beverages	750	418	541	724	1,093	664	547	844
Non - current Money Income	**364**	**493**	**285**	**349**	**374**	**321**	**412**	**341**
Scholarships	5	2	4	6	6	4	3	5
Inheritances/ Bequeaths and Gifts	167	352	150	125	134	108	230	138
Proceeds from Insurances	62	10	30	107	98	14	31	76
Other Receiving (lottery winnings)	131	129	100	111	135	195	149	122

1/ Nonthaburi, Pathum Thani and Samut Prakan.

TABLE 2 AVERAGE MONTHLY INCOME PER HOUSEHOLD BY SOURCES OF INCOME AND SOCIO-ECONOMIC CLASS (Baht)

Source of Income	Total	Farm Operators			Own-Account Workers, Non-Farm	Employees					Econo-mically Inactive
		Plant /Animal / Culture		Fishing, Forestry, Agricultural services		Professional, Tech. & Adm. Workers	Farm Workers	General Workers	Clerical, Sales & Services Workers	Production Workers	
		Mainly Owning Land	Mainly Renting Land / Free								
Total Monthly Income	**18,660**	**12,488**	**12,046**	**9,185**	**25,208**	**42,863**	**9,759**	**10,609**	**19,311**	**14,095**	**12,604**
Total Current Income	**18,296**	**12,151**	**11,788**	**8,918**	**24,793**	**42,347**	**9,609**	**10,439**	**19,066**	**13,940**	**12,026**
Money Income	**15,584**	**9,736**	**9,511**	**7,223**	**22,033**	**37,792**	**7,819**	**8,515**	**16,373**	**11,867**	**9,146**
From Work	**13,366**	**8,834**	**8,905**	**6,655**	**21,013**	**35,273**	**7,363**	**7,952**	**15,435**	**11,388**	**1,514**
Wages and Salaries	7,445	868	835	590	2,059	33,389	6,689	7,378	14,096	10,630	883
Net Profits from Business	3,894	402	468	205	18,375	1,271	280	322	1,027	443	332
Net Profits from Farming	2,028	7,563	7,602	5,861	579	612	395	253	313	315	298
From Current Transfer	**1,852**	**828**	**573**	**545**	**778**	**1,640**	**403**	**431**	**776**	**437**	**6,575**
Pension / Annuities and other Assistanc	380	14	-	121	122	654	2	-	146	7	1,481
Work Compensation and Terminated Payment	11	1	-	-	3	21	-	-	2	1	41
Assistance from Persons Outside HH.	1,398	735	503	376	613	937	350	365	592	387	4,920
Assistance from Govt. & Organization	64	78	70	47	40	28	51	66	36	42	133
From Property Income	**366**	**74**	**34**	**23**	**243**	**880**	**53**	**132**	**161**	**41**	**1,058**
Income from Renting (include Licence and Copyright)	173	42	18	14	135	236	28	107	69	23	570
Interest and Dividends from Deposit, Bonds and Stocks	173	23	15	9	91	632	4	18	83	15	430
Interest from "Shares" and Loans	19	10	1	1	18	12	20	7	9	4	58
Non - money Income	**2,712**	**2,415**	**2,277**	**1,694**	**2,760**	**4,555**	**1,790**	**1,924**	**2,694**	**2,074**	**2,880**
Estimated Rental Value of Dwelling (include owned dwelling)	1,526	1,168	1,135	868	1,601	3,121	935	1,016	1,571	1,030	1,575
In - kind of Goods and Services	437	217	200	173	315	1,006	255	326	489	495	513
In - kind of Foods and Beverages	750	1,031	942	653	844	428	600	582	634	548	792
Non-current Money Income	**364**	**337**	**257**	**267**	**415**	**516**	**150**	**170**	**244**	**155**	**578**
Scholarships	5	3	4	9	3	5	5	6	5	4	7
Inheritances/ Bequeaths and Gifts	167	166	148	95	106	167	57	99	104	55	393
Proceeds from Insurances	62	96	19	86	41	91	10	8	33	35	92
Other Receiving (lottery winnings)	131	71	86	77	266	253	78	58	102	61	85

TABLE 3 PERCENTAGE OF HOUSEHOLDS BY AVERAGE MONTHLY INCOME AND REGION

Income	Total	Greater Bangkok[1/]	Central	North	Northeast	South
Monthly Income Per Household	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Less Than 1,500 Baht	0.8	0.2	0.5	1.1	0.9	1.0
1,500 - 3,000 Baht	4.3	0.3	2.4	6.7	6.4	2.9
3,001 - 5,000 Baht	10.1	1.2	6.6	14.6	15.3	6.6
5,001 - 10,000 Baht	27.8	11.5	24.0	34.0	36.3	23.6
10,001 - 15,000 Baht	18.5	16.3	21.4	17.6	17.7	20.1
15,001 - 30,000 Baht	23.5	35.5	30.3	17.5	15.2	27.7
30,001 - 50,000 Baht	9.2	17.9	10.1	5.7	5.1	12.1
50,001 - 100,000 Baht	4.7	12.6	3.8	2.3	2.7	5.0
More Than 100,000 Baht	1.2	4.5	0.8	0.4	0.4	0.9
Monthly Income Per Capita	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Less Than 500 Baht	0.6	0.1	0.3	1.0	0.9	0.7
500 - 1,500 Baht	11.2	0.5	5.0	13.3	20.2	8.2
1,501 - 3,000 Baht	26.5	4.3	20.9	34.7	37.2	24.0
3,001 - 5,000 Baht	21.8	14.3	27.4	23.9	20.3	23.1
5,001 - 10,000 Baht	24.1	43.8	30.3	17.5	13.4	26.7
10,001 - 15,000 Baht	8.0	17.7	8.9	5.0	4.2	8.6
15,001 - 30,000 Baht	5.8	13.7	5.9	3.5	2.7	6.8
30,001 - 50,000 Baht	1.4	3.7	0.9	0.9	0.8	1.4
50,001 - 100,000 Baht	0.4	1.3	0.3	0.2	0.2	0.3
More Than 100,000 Baht	0.2	0.6	0.1	0.1	0.0	0.1

1/ Nonthaburi, Pathum Thani and Samut Prakan.

TABLE 4 PERCENTAGE OF HOUSEHOLDS BY AVERAGE MONTHLY INCOME AND SOCIO-ECONOMIC CLASS

Income	Total	Farm Operators			Own-Account Workers, Non-Farm	Employees					Economically Inactive
		Plant /Animal / Culture		Fishing, Forestry, Agricultural services		Professional, Tech. & Adm. Workers	Farm Workers	General Workers	Clerical, Sales & Services Workers	Production Workers	
		Mainly Owning Land	Mainly Renting Land / Free								
Monthly Income Per Household	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Less Than 1,500 Baht	0.8	1.1	2.2	0.8	0.5	0.0	0.3	0.5	0.1	0.2	1.9
1,500 - 3,000 Baht	4.3	5.5	9.3	14.0	1.7	0.0	5.2	3.6	0.6	1.5	10.2
3,001 - 5,000 Baht	10.1	16.6	13.5	26.2	4.9	0.3	16.4	14.2	2.3	5.0	19.5
5,001 - 10,000 Baht	27.8	38.5	34.4	36.6	19.0	5.5	41.6	42.2	20.8	31.3	35.2
10,001 - 15,000 Baht	18.5	17.1	18.3	11.3	19.4	11.0	21.7	18.9	23.3	27.8	13.0
15,001 - 30,000 Baht	23.5	14.2	16.4	6.7	32.4	26.9	12.4	16.8	37.7	28.7	13.1
30,001 - 50,000 Baht	9.2	4.7	3.7	2.5	14.1	26.9	2.1	3.8	11.4	4.7	4.2
50,001 - 100,000 Baht	4.7	1.9	1.8	1.6	5.8	23.5	0.2	-	3.6	0.7	2.3
More Than 100,000 Baht	1.2	0.4	0.3	0.4	2.2	5.7	-	-	0.2	0.0	0.6
Monthly Income Per Capita	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Less Than 500 Baht	0.6	1.3	2.4	1.7	0.5	0.0	0.4	-	0.2	0.1	0.7
500 - 1,500 Baht	11.2	23.6	23.3	27.6	4.7	1.0	18.3	13.5	2.8	7.0	14.6
1,501 - 3,000 Baht	26.5	36.8	34.5	44.5	18.0	6.0	41.6	38.0	17.6	27.8	34.7
3,001 - 5,000 Baht	21.8	18.8	21.9	15.9	24.9	9.8	23.9	24.6	24.5	26.8	22.3
5,001 - 10,000 Baht	24.1	13.3	13.8	7.1	32.6	25.2	14.1	22.8	37.8	30.0	17.0
10,001 - 15,000 Baht	8.0	3.8	2.1	1.5	9.8	22.4	1.6	1.2	11.0	6.4	5.4
15,001 - 30,000 Baht	5.8	2.0	1.6	1.2	6.9	25.0	0.0	-	5.6	1.7	4.0
30,001 - 50,000 Baht	1.4	0.4	0.3	0.3	1.4	8.5	-	-	0.5	0.1	0.7
50,001 - 100,000 Baht	0.4	0.1	0.0	0.1	0.7	1.8	-	-	0.1	0.0	0.4
More Than 100,000 Baht	0.2	0.0	-	-	0.5	0.3	-	-	0.0	-	0.2

TABLE 5 SHARE OF HOUSEHOLDS CURRENT INCOME BY DECILE GROUPS AND REGION

Decile Group by Current Income		Percentage Share of Current Income						Per Capita Current Income (Baht)					
		Whole Kingdom	Greater Bangkok[1/]	Central	North	Northeast	South	Whole Kingdom	Greater Bangkok[1/]	Central	North	Northeast	South
(Lowest Income)	1	2.2	3.3	2.9	2.6	2.8	2.4	1,001	2,885	1,372	872	797	1,064
	2	3.5	4.7	4.7	4.0	4.1	4.1	1,642	4,509	2,263	1,489	1,251	1,883
	3	4.3	5.5	5.6	4.9	5.0	5.0	2,171	5,567	2,909	1,901	1,607	2,491
	4	5.3	5.7	6.8	5.9	5.7	6.0	2,749	6,542	3,532	2,299	1,935	3,135
	5	6.4	6.4	8.0	6.5	6.6	7.2	3,446	7,588	4,214	2,748	2,319	3,888
	6	7.8	7.0	8.8	7.5	7.8	8.5	4,326	8,766	5,074	3,294	2,774	4,851
	7	9.6	8.5	10.0	8.9	8.7	10.1	5,548	10,414	6,164	4,024	3,388	5,993
	8	11.7	11.0	11.7	11.3	11.2	11.9	7,265	12,821	7,605	5,205	4,319	7,742
	9	15.5	14.5	13.8	15.4	15.1	16.3	10,248	17,689	10,274	7,313	6,415	10,859
(Highest Income)	10	33.7	33.4	27.7	33.0	33.0	28.5	24,142	41,605	22,284	17,966	15,192	23,303

1/ Nonthaburi, Pathum Thani and Samut Prakan.

TABLE 6 AVERAGE MONTHLY EXPENDITURE PER HOUSEHOLD BY EXPENDITURE GROUP, REGION AND AREA (Baht)

Expenditure Group	Whole Kingdom	Region					Area	
		Greater Bangkok[1/]	Central	North	Northeast	South	Municipal Areas	Non - Municipal Areas
Total Monthly Expenditures	**14,500**	**23,996**	**15,168**	**10,990**	**10,920**	**15,875**	**20,179**	**11,854**
Consumption Expenditures	**12,735**	**21,009**	**13,273**	**9,623**	**9,702**	**13,868**	**17,541**	**10,496**
Food and Beverages (excludes alcoholic)	**4,492**	**6,457**	**4,683**	**3,427**	**3,882**	**4,877**	**5,599**	**3,975**
Food Prepared at Home	2,657	2,491	2,611	2,387	2,744	3,110	2,566	2,698
Prepared Food	1,637	3,623	1,808	918	1,018	1,540	2,750	1,119
Food Taken Home	698	1,446	750	380	508	641	1,170	478
Food Eaten Away from Home	939	2,177	1,058	538	510	898	1,580	641
Non-alcoholic Beverage (at home)	198	343	264	122	120	228	283	159
Alcoholic Beverages	**197**	**281**	**263**	**158**	**133**	**211**	**258**	**169**
Drunk At Home	117	168	177	85	75	116	148	102
Drunk Away from Home	80	114	86	72	58	95	109	66
Tobacco Products	**96**	**151**	**115**	**55**	**65**	**139**	**131**	**80**
Cigarettes, Tobacco etc.	91	151	111	50	56	133	129	73
Betelnut, Snuff etc.	5	1	4	4	9	6	2	7
Household Operation, Furnitures and Equipment	**2,918**	**5,626**	**3,039**	**2,036**	**2,059**	**2,838**	**4,353**	**2,249**
Shelter	223	804	240	55	40	187	568	63
Estimated Rental Value of Dwelling (Include owned dwelling)	1,526	2,900	1,603	1,105	1,112	1,369	2,182	1,220
Repair / Maintenance Dwelling	195	217	201	104	182	326	207	190
Furnitures and Major Equipment Household Textiles Small Appliances	142	127	140	150	119	199	154	136
Fuel, Lighting and Water Supply	618	1,155	648	451	451	577	914	480
Cleaning Supplies	166	232	180	142	139	163	206	147
Service Workers in Household	48	190	27	28	16	18	123	14
Apparel and Footwear	**388**	**537**	**410**	**320**	**287**	**520**	**522**	**325**
Cloth and Clothing	320	439	342	260	234	438	431	268
Footwear	68	97	68	60	53	82	91	57
Personal Care	**418**	**756**	**450**	**308**	**299**	**409**	**620**	**323**
Personal Supplies	338	592	367	252	258	309	488	268
Personal Services	79	164	83	55	41	100	132	55

TABLE 6 AVERAGE MONTHLY EXPENDITURE PER HOUSEHOLD BY EXPENDITURE GROUP, REGION AND AREA (Contd.)

(Baht)

Expenditure Group	Whole Kingdom	Region					Area	
		Greater Bangkok[1/]	Central	North	Northeast	South	Municipal Areas	Non - Municipal Areas
Medical and Health Care	**284**	**484**	**256**	**271**	**186**	**340**	**401**	**229**
Medicine and Supplies	43	64	56	39	23	55	60	35
Medical Services (outpatients)	149	306	137	112	85	190	239	108
Medical Services (inpatients)	91	114	63	120	78	95	102	86
Transport and Communication	**3,131**	**5,321**	**3,233**	**2,342**	**2,172**	**3,823**	**4,516**	**2,486**
Vehicles Purchase	1,041	1,202	1,007	906	836	1,597	1,323	910
Vehicle Repairing & Maintenance	225	356	243	194	154	256	312	184
Local Transportation	1,159	2,191	1,294	785	752	1,245	1,679	916
Special Occasion Travelling and Tour	211	563	172	118	102	244	406	120
Communication	496	1,008	517	340	328	480	796	356
Education	**302**	**750**	**266**	**228**	**165**	**254**	**539**	**191**
Recreation Reading and Religious Activity	**300**	**583**	**356**	**246**	**173**	**265**	**482**	**216**
Recreation Equipment and Sports	54	80	56	62	32	59	73	45
Toys, Pets, Shurbs and Recreation	81	183	104	52	32	82	144	51
Admission, Sports fee	17	61	16	9	2	12	40	6
Reading/ Religious Activities	149	259	180	123	107	111	225	113
Special Ceremony Expenses	**210**	**63**	**204**	**233**	**282**	**193**	**120**	**252**

TABLE 6 AVERAGE MONTHLY EXPENDITURE PER HOUSEHOLD BY EXPENDITURE GROUP, REGION AND AREA (Contd.)

(Baht)

Expenditure Group	Whole Kingdom	Region					Area	
		Greater Bangkok[1/]	Central	North	Northeast	South	Municipal Areas	Non - Municipal Areas
Non-Consumption Expenditures	**1,765**	**2,987**	**1,895**	**1,367**	**1,218**	**2,006**	**2,638**	**1,358**
Taxes/Charge/Fees and Fine	69	226	47	47	29	44	155	29
Career Membership Expense	3	1	4	6	1	3	3	3
Money/Meterial Give to Other Person Outside this Household	652	1,176	692	482	382	864	1,081	452
Contribute Money/Material to NGO Institute	17	26	27	12	7	20	27	12
Other Contributions	207	170	281	148	178	302	206	208
Insurances Premiums, Cremation fee etc.	463	978	496	337	302	367	712	347
Lottery Tickets and Other Kind of Gambing	109	163	118	106	82	103	148	91
Interest Payment	227	223	217	221	216	282	285	200
Other Expenses	18	23	13	8	23	21	19	17

1/ Nonthaburi, Pathum Thani and Samut Prakan.

TABLE 7 AVERAGE MONTHLY EXPENDITURE PER HOUSEHOLD BY EXPENDITURE GROUP AND SOCIO-ECONOMIC CLASS (Baht)

Expenditure Group	Total	Farm Operators			Own-Account Workers, Non-Farm	Employees					Economically Inactive
		Plant /Animal / Culture		Fishing, Forestry, Agricultural services		Professional, Tech. & Adm. Workers	Farm Workers	General Workers	Clerical, Sales & Services Workers	Production Workers	
		Mainly Owning Land	Mainly Renting Land / Free								
Total Monthly Expenditures	**14,500**	**10,469**	**10,327**	**7,468**	**17,197**	**30,241**	**9,345**	**9,651**	**16,680**	**12,262**	**10,303**
Consumption Expenditures	**12,735**	**9,364**	**9,316**	**6,822**	**15,274**	**25,048**	**8,620**	**8,866**	**14,551**	**10,689**	**9,452**
Food and Beverages (excludes alcoholic	**4,492**	**3,722**	**3,706**	**3,061**	**5,153**	**6,643**	**3,778**	**3,904**	**5,289**	**4,466**	**3,360**
Food Prepared at Home	2,657	2,898	2,845	2,311	2,819	3,183	2,672	2,367	2,588	2,435	2,211
Prepared Food	1,637	700	727	644	2,074	3,147	936	1,373	2,445	1,809	1,030
Food Taken Home	698	323	301	270	1,034	1,102	399	585	918	712	521
Food Eaten Away from Home	939	377	425	374	1,039	2,045	537	789	1,527	1,097	509
Non-alcoholic Beverage (at home)	198	124	137	106	260	313	170	163	256	222	119
Alcoholic Beverages	**197**	**132**	**181**	**121**	**232**	**312**	**185**	**200**	**288**	**255**	**71**
Drunk At Home	117	75	118	62	157	137	112	123	164	169	41
Drunk Away from Home	80	57	63	59	75	175	73	77	124	86	29
Tobacco Products	**96**	**64**	**60**	**61**	**130**	**97**	**113**	**100**	**142**	**127**	**44**
Cigarettes, Tobacco etc.	91	56	54	54	127	96	107	96	140	124	33
Betelnut, Snuff etc.	5	8	6	7	3	1	6	4	2	3	11
Household Operation, Furnitures and Equipment	**2,918**	**2,119**	**1,999**	**1,474**	**3,390**	**5,552**	**1,841**	**1,954**	**3,167**	**2,315**	**2,681**
Shelter	223	1	8	4	394	285	42	111	395	378	101
Estimated Rental Value of Dwelling (Include owned dwelling)	1,526	1,168	1,135	868	1,601	3,121	935	1,016	1,571	1,030	1,575
Repair / Maintenance Dwelling	195	253	143	53	196	234	208	169	151	152	208
Furnitures and Major Equipment Household Textiles Small Appliances	142	133	134	69	154	310	99	79	128	90	117
Fuel, Lighting and Water Supply	618	427	434	367	802	1,113	428	455	687	503	498
Cleaning Supplies	166	133	142	107	192	264	125	119	193	155	129
Service Workers in Household	48	4	4	4	51	226	4	5	43	7	53
Apparel and Footwear	**388**	**276**	**299**	**177**	**437**	**920**	**268**	**218**	**444**	**278**	**280**
Cloth and Clothing	320	227	250	140	364	757	219	187	363	228	230
Footwear	68	50	50	38	72	163	49	31	81	49	49
Personal Care	**418**	**268**	**281**	**214**	**481**	**907**	**265**	**277**	**527**	**372**	**281**
Personal Supplies	338	222	236	177	385	710	216	231	425	313	230
Personal Services	79	45	45	37	96	196	49	46	102	60	51
Medical and Health Care	**284**	**192**	**185**	**133**	**331**	**628**	**141**	**161**	**255**	**130**	**346**
Medicine and Supplies	43	30	29	29	50	75	42	21	43	36	43
Medical Services (outpatients)	149	98	90	73	175	318	66	80	155	62	183
Medical Services (inpatients)	91	64	66	31	105	235	33	60	57	33	120

TABLE 7 AVERAGE MONTHLY EXPENDITURE PER HOUSEHOLD BY EXPENDITURE GROUP AND SOCIO-ECONOMIC CLASS (Contd.) **(Baht)**

Expenditure Group	Total	Farm Operators			Own-Account Workers, Non-Farm	Employees					Econo-mically Inactive
		Plant /Animal / Culture		Fishing, Forestry, Agricultural services		Professional, Tech. & Adm. Workers	Farm Workers	General Workers	Clerical, Sales & Services Workers	Production Workers	
		Mainly Owning Land	Mainly Renting Land / Free								
Transport and Communication	**3,131**	**1,968**	**2,016**	**1,196**	**4,112**	**8,274**	**1,669**	**1,545**	**3,593**	**2,279**	**1,648**
Vehicles Purchase	1,041	683	663	326	1,642	2,680	584	459	1,062	614	484
Vehicle Repairing & Maintenance	225	167	183	112	295	625	114	90	225	119	126
Local Transportation	1,159	766	816	532	1,291	3,030	679	684	1,445	1,007	582
Special Occasion Travelling and Tour	211	100	64	41	236	744	70	64	211	147	144
Communication	496	252	290	184	648	1,195	222	249	651	392	311
Education	**302**	**139**	**178**	**106**	**416**	**769**	**105**	**142**	**364**	**151**	**253**
Recreation Reading and Religious Activity	**300**	**174**	**181**	**129**	**383**	**728**	**122**	**172**	**337**	**202**	**242**
Recreation Equipment and Sports	54	35	34	27	52	148	28	55	66	36	40
Toys, Pets, Shurbs and Recreation	81	39	39	25	98	230	38	35	98	57	54
Admission, Sports fee	17	2	8	1	20	68	1	10	21	11	10
Reading/ Religious Activities	149	98	100	77	213	281	55	72	152	98	137
Special Ceremony Expenses	**210**	**311**	**227**	**150**	**210**	**219**	**133**	**194**	**145**	**114**	**247**
Non-Consumption Expenditures	**1,765**	**1,105**	**1,012**	**646**	**1,923**	**5,194**	**725**	**786**	**2,130**	**1,573**	**851**
Taxes/Charge/Fees and Fine	69	4	5	15	40	494	3	4	51	19	25
Career Membership Expense	3	2	1	0	4	9	0	1	4	1	2
Money/Meterial Give to Other Person Outside this Household	652	426	335	145	790	1,905	257	201	765	618	237
Contribute Money/Material to NGO Institute	17	8	7	19	19	51	5	5	15	7	18
Other Contributions	207	217	212	148	236	362	161	155	189	148	161
Insurances Premiums, Cremation fee etc.	463	262	274	171	404	1,322	143	239	661	541	212
Lottery Tickets and Other Kind of Gambing	109	73	80	44	168	160	62	93	140	103	64
Interest Payment	227	103	85	103	250	836	88	86	284	128	110
Other Expenses	18	10	12	1	13	55	6	2	21	8	21

TABLE 8 PERCENTAGE OF HOUSEHOLDS BY AVERAGE MONTHLY EXPENDITURE AND REGION

Expenditure	Whole Kingdom	Greater Bangkok[1/]	Central	North	Northeast	South
Monthly Expenditure Per Household	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Less Than 1,500 Baht	0.2	-	0.2	0.5	0.2	0.1
1,500 - 3,000 Baht	2.9	0.1	1.9	6.0	3.3	2.2
3,001 - 5,000 Baht	9.9	1.0	6.4	16.3	13.9	6.3
5,001 - 10,000 Baht	34.4	15.5	28.9	39.1	46.8	28.4
10,001 - 15,000 Baht	21.3	22.8	26.5	18.6	18.0	24.1
15,001 - 30,000 Baht	22.2	36.7	28.1	15.0	13.2	28.4
30,001 - 50,000 Baht	6.5	15.4	6.0	3.2	3.7	8.1
More Than 50,000 Baht	2.6	8.6	2.1	1.2	0.8	2.4
Monthly Expenditure Per Capita	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Less Than 500 Baht	0.0	-	-	0.2	-	-
500 - 1,500 Baht	9.3	0.2	3.5	13.3	16.0	6.5
1,501 - 3,000 Baht	33.0	5.6	26.9	41.5	47.0	28.8
3,001 - 5,000 Baht	25.2	22.8	31.8	24.5	21.5	28.2
5,001 - 10,000 Baht	22.5	46.8	27.6	14.9	10.5	25.5
10,001 - 15,000 Baht	5.8	13.7	6.3	3.0	3.0	6.3
15,001 - 30,000 Baht	3.6	9.1	3.4	2.4	1.7	3.9
30,001 - 50,000 Baht	0.5	1.5	0.3	0.3	0.3	0.7
More Than 50,000 Baht	0.1	0.4	0.1	0.0	-	0.1

TABLE 9 PERCENTAGE OF HOUSEHOLDS BY AVERAGE MONTHLY EXPENDITURE AND SOCIO-ECONOMIC CLASS

Expenditure	Total	Farm Operators			Own-Account Workers, Non-Farm	Employees					Econo-mically Inactive
		Plant /Animal / Culture		Fishing, Forestry, Agricultural services		Professional, Tech. & Adm. Workers	Farm Workers	General Workers	Clerical, Sales & Services Workers	Production Workers	
		Mainly Owning Land	Mainly Renting Land / Free								
Monthly Expenditure Per Household	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Less Than 1,500 Baht	0.2	0.1	0.2	0.3	0.1	-	0.4	0.5	-	0.0	0.9
1,500 - 3,000 Baht	2.9	1.8	4.8	9.9	1.0	0.0	5.8	3.9	0.3	0.9	9.0
3,001 - 5,000 Baht	9.9	13.2	10.3	30.1	5.4	0.2	15.6	16.2	2.5	6.7	19.9
5,001 - 10,000 Baht	34.4	50.1	45.5	39.2	26.1	8.7	45.3	45.4	26.0	38.0	39.6
10,001 - 15,000 Baht	21.3	19.6	22.2	14.1	23.3	14.3	20.3	18.6	27.4	29.8	15.2
15,001 - 30,000 Baht	22.2	12.0	15.4	5.0	31.5	38.6	10.9	13.3	34.0	22.3	11.2
30,001 - 50,000 Baht	6.5	2.5	1.2	1.1	10.0	24.9	1.7	2.2	7.5	1.9	2.5
More Than 50,000 Baht	2.6	0.8	0.3	0.3	2.6	13.4	0.1	-	2.2	0.4	1.7
Monthly Expenditure Per Capita	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Less Than 500 Baht	0.0	-	0.5	0.2	-	-	0.0	-	-	-	0.1
500 - 1,500 Baht	9.3	16.6	17.3	25.8	4.6	0.9	17.2	16.1	3.3	7.4	11.7
1,501 - 3,000 Baht	33.0	48.1	44.4	50.9	24.6	8.3	47.3	41.4	20.9	34.2	40.4
3,001 - 5,000 Baht	25.2	22.4	25.6	16.7	31.2	15.0	23.6	26.9	29.0	27.6	23.7
5,001 - 10,000 Baht	22.5	10.2	10.6	5.7	28.4	35.3	10.5	15.0	34.9	26.3	16.4
10,001 - 15,000 Baht	5.8	1.7	1.4	0.4	6.5	19.9	1.1	0.2	7.5	3.9	4.4
15,001 - 30,000 Baht	3.6	0.8	0.2	0.3	3.8	17.2	0.2	0.4	4.1	0.5	2.7
30,001 - 50,000 Baht	0.5	0.1	0.1	-	0.6	2.9	-	-	0.3	0.0	0.5
More Than 50,000 Baht	0.1	0.0	-	0.0	0.1	0.5	-	-	-	-	0.2

TABLE 10 NUMBER OF INDEBTED HOUSEHOLDS AND AVERAGE AMOUNT OF DEBT BY SOURCE OF LOAN, PURPOSES OF BORROWING, REGION AND AREA

Source of Loan and Purpose of Borrowing	Whole Kingdom	Region					Area	
		Greater Bangkok[1/]	Central	North	Northeast	South	Municipal Areas	Non - Municipal Areas
Total Number of Indebted Households [2/]	**11,506,100**	**1,278,900**	**2,090,600**	**2,351,400**	**4,397,200**	**1,388,000**	**2,950,600**	**8,555,500**
Formal Sector								
Purchase/Hire Purchase House and/or Loan	1,364,275	270,781	215,009	275,880	376,198	226,407	560,265	804,010
Education	598,096	85,495	83,197	140,470	220,133	68,801	194,708	403,388
Household Consumption	6,727,281	676,369	1,180,122	1,235,938	2,886,671	748,182	1,640,541	5,086,741
Business	1,256,870	136,905	223,652	307,329	419,935	169,050	396,689	860,181
Farming	4,028,719	23,435	595,754	1,079,944	2,058,737	270,848	280,536	3,748,183
Others	277,645	21,859	36,710	89,354	105,362	24,361	61,915	215,731
Informal Sector								
Purchase/Hire Purchase House and/or Loan	126,919	10,722	25,330	19,916	38,717	32,234	30,186	96,733
Education	77,233	23,322	10,729	9,975	19,032	14,175	31,955	45,278
Household Consumption	1,544,731	257,345	318,081	207,370	506,830	255,105	480,228	1,064,503
Business	279,866	55,832	76,394	38,707	57,448	51,485	128,740	151,126
Farming	273,614	5,493	65,074	72,221	110,805	20,021	23,047	250,568
Others	85,894	5,332	13,881	24,050	28,876	13,754	18,041	67,853
Average Debt per Household (Baht)	**116,681**	**151,168**	**112,342**	**110,702**	**105,006**	**118,525**	**161,468**	**95,819**
Purchase/Hire Purchase House and/or Loan	36,508	70,194	31,937	28,912	26,676	37,563	63,955	23,722
Education	3,130	4,122	2,099	3,336	2,911	3,689	4,970	2,272
Household Consumption	38,909	41,205	35,276	31,772	41,731	45,230	48,982	34,218
Business	16,766	22,993	18,061	17,733	12,150	17,087	30,968	10,151
Farming	17,711	2,909	23,485	25,592	18,922	12,484	5,947	23,192
Others	3,657	9,746	1,484	3,357	2,615	2,472	6,647	2,264

TABLE 10 NUMBER OF INDEBTED HOUSEHOLDS AND AVERAGE AMOUNT OF DEBT BY SOURCE OF LOAN, PURPOSES OF BORROWING, REGION AND AREA(Contd.)

Source of Loan and Purpose of Borrowing	Whole Kingdom	Region					Area	
		Greater Bangkok[1/]	Central	North	Northeast	South	Municipal Areas	Non - Municipal Areas
Formal Sector (Baht)	**109,826**	**144,954**	**101,791**	**105,791**	**99,392**	**110,501**	**152,391**	**89,998**
Purchase/Hire Purchase House and/or Loan	35,599	69,507	30,717	28,293	25,881	36,141	62,978	22,845
Education	3,020	3,926	2,023	3,285	2,853	3,426	4,823	2,181
Household Consumption	36,376	38,230	32,431	30,445	38,949	42,514	45,858	31,958
Business	14,713	20,891	13,652	16,203	11,493	14,430	27,043	8,970
Farming	16,980	2,811	22,016	24,843	18,198	12,094	5,438	22,357
Others	3,138	9,590	952	2,721	2,017	1,897	6,251	1,688
Informal Sector (Baht)	**6,855**	**6,214**	**10,551**	**4,911**	**5,614**	**8,024**	**9,077**	**5,820**
Purchase/Hire Purchase House and/or Loan	909	687	1,220	619	796	1,422	977	878
Education	109	196	76	52	58	263	146	92
Household Consumption	2,534	2,975	2,845	1,326	2,782	2,717	3,124	2,259
Business	2,053	2,102	4,409	1,529	657	2,658	3,925	1,181
Farming	731	98	1,469	748	724	390	509	834
Others	519	156	532	636	598	575	396	576

1/ Nonthaburi, Pathum Thani and Samut Prakan.

2/ One household could report more than one purpose of borrowing

TABLE 11 NUMBER OF INDEBTED HOUSEHOLDS AND AVERAGE AMOUNT OF DEBT BY SOURCE OF LOAN, PURPOSES OF BORROWING AND SOCIO - ECONOMIC CLASS

Source of Loan and Purpose of Borrowing	Total	Farm Operators			Own-Account Workers, Non-Farm	Employees				
		Plant /Animal / Culture		Fishing, Forestry, Agricultural services		Professional, Tech. & Adm. Workers	Farm Workers	General Workers	Clerical, Sales & Services Workers	Production Workers
		Mainly Owning Land	Mainly Renting Land / Free							
Total Number of Indebted Households[1/]	**11,506,100**	**2,459,400**	**570,500**	**248,900**	**2,200,800**	**1,161,900**	**378,500**	**92,000**	**1,460,800**	**1,402,100**
Formal Sector										
Purchase/Hire Purchase House and/or Loan	1,364,275	173,882	34,711	18,191	251,576	395,214	31,983	9,206	231,192	96,597
Education	598,096	105,406	23,476	8,754	78,688	114,861	12,574	3,822	111,166	69,796
Household Consumption	6,727,281	1,355,530	237,969	149,736	1,063,402	772,676	224,324	59,249	981,566	890,955
Business	1,256,870	99,933	27,790	6,878	815,680	58,726	14,685	3,723	102,461	55,327
Farming	4,028,719	1,684,327	452,143	86,901	381,909	189,808	95,939	20,233	225,484	326,687
Others	277,645	52,130	11,971	4,366	34,377	27,052	10,722	1,766	45,633	18,944
Informal Sector										
Purchase/Hire Purchase House and/or Loan	126,919	16,903	3,064	1,351	29,024	11,717	15,381	2,638	16,903	16,737
Education	77,233	8,981	1,706	-	19,667	6,218	7,294	-	16,885	11,118
Household Consumption	1,544,731	242,845	55,736	44,497	280,163	74,191	110,110	22,768	225,691	303,980
Business	279,866	15,284	6,768	1,333	201,828	7,917	3,752	648	16,691	14,033
Farming	273,614	99,262	50,173	9,311	22,685	7,357	12,750	2,015	11,308	27,140
Others	85,894	12,709	1,246	244	13,769	5,543	5,415	-	11,946	9,371
Debt per Household (Baht)	**116,681**	**84,922**	**104,956**	**40,159**	**167,480**	**367,437**	**38,195**	**37,192**	**109,745**	**45,445**
Purchase/Hire Purchase House and/or Loan	36,508	9,677	9,241	6,263	44,039	173,325	7,321	12,065	40,887	12,732
Education	3,130	1,421	1,286	303	1,919	13,564	704	512	4,473	1,576
Household Consumption	38,909	24,005	15,070	14,067	45,930	133,430	19,163	17,233	44,599	21,452
Business	16,766	2,755	4,050	2,149	64,894	13,617	1,924	1,194	10,318	1,794
Farming	17,711	45,489	73,926	17,210	8,702	15,761	7,683	6,090	6,285	7,132
Others	3,657	1,576	1,382	168	1,996	17,740	1,400	97	3,182	760

TABLE 11 NUMBER OF INDEBTED HOUSEHOLDS AND AVERAGE AMOUNT OF DEBT BY SOURCE OF LOAN, PURPOSES OF BORROWING AND SOCIO - ECONOMIC CLASS(C

Source of Loan and Purpose of Borrowing	Total	Farm Operators			Own-Account Workers, Non-Farm	Employees				
		Plant /Animal / Culture		Fishing, Forestry, Agricultural services		Professional, Tech. & Adm. Workers	Farm Workers	General Workers	Clerical, Sales & Services Workers	Production Workers
		Mainly Owning Land	Mainly Renting Land / Free							
Formal Sector (Baht)	**109,826**	**79,846**	**96,707**	**36,790**	**153,289**	**361,356**	**31,754**	**31,290**	**104,469**	**41,141**
Purchase/Hire Purchase House and/or Loan	35,599	9,368	8,615	5,971	42,516	171,254	5,138	11,534	40,183	12,159
Education	3,020	1,332	1,267	303	1,730	13,449	518	512	4,336	1,470
Household Consumption	36,376	21,985	13,162	11,706	42,393	130,334	15,813	12,304	42,210	19,156
Business	14,713	2,164	3,270	2,089	57,042	13,139	1,831	1,173	8,886	1,354
Farming	16,980	43,889	69,036	16,556	8,304	15,612	7,366	5,670	5,929	6,595
Others	3,138	1,107	1,357	165	1,304	17,568	1,088	97	2,926	407
Informal Sector (Baht)	**6,855**	**5,076**	**8,249**	**3,368**	**14,191**	**6,082**	**6,442**	**5,901**	**5,275**	**4,304**
Purchase/Hire Purchase House and/or Loan	909	309	626	292	1,523	2,071	2,183	531	704	573
Education	109	89	19	-	189	115	185	-	137	106
Household Consumption	2,534	2,020	1,908	2,361	3,537	3,096	3,350	4,929	2,389	2,296
Business	2,053	590	780	59	7,852	478	94	20	1,432	439
Farming	731	1,600	4,890	653	398	149	317	421	357	537
Others	519	468	25	3	692	172	312	-	256	353

1/ One household could report more than one purpose of borrowing

Econo-mically Inactive
1,531,200
121,723
69,553
991,875
71,667
565,286
70,683
13,202
5,364
184,750
11,610
31,615
25,652
51,217
12,909
1,996
17,744
5,835
8,821
3,912

ontd.)

Econo-mically Inactive
46,515
12,360
1,949
15,884
4,928
8,588
2,806
4,702
549
47
1,860
907
233
1,106

TABLE 12 VALUE OF HOUSEHOLD ASSETS ; HOUSE / LAND / BUILDING AND VEHICLES BY REGION **Value : Million Baht**

Type of Assets	Whole Kingdom	Greater Bangkok[1/]	Central	North	Northeast	South
Value of House / Land / Building	**13,602,667**	**3,874,784**	**2,420,113**	**1,977,682**	**3,541,887**	**1,788,201**
- For Living	8,826,033	3,393,909	1,433,701	1,210,738	1,840,302	947,383
- For Business of Household and Others	4,776,634	480,875	986,412	766,944	1,701,585	840,818
Value of Vehicles (exclude bicycle)	**2,536,679**	**606,932**	**529,828**	**424,047**	**642,029**	**333,843**

1/ Nonthaburi, Pathum Thani and Samut Prakan.

TABLE 13 VALUE OF HOUSEHOLD ASSETS ; HOUSE / LAND / BUILDING AND VEHICLES BY SOCIO-ECONOMIC CLASS **Value : Million Baht**

Type of Assets	Total	Farm Operators			Own-Account Workers, Non-Farm	Employees					Econo-mically Inactive
		Plant /Animal / Culture		Fishing, Forestry, Agricultural services		Professional, Tech. & Adm. Workers	Farm Workers	General Workers	Clerical, Sales & Services Workers	Production Workers	
		Mainly Owning Land	Mainly Renting Land / Free								
Value of House / Land / Building	**13,602,667**	**2,819,725**	**323,386**	**148,125**	**2,794,505**	**2,513,408**	**167,175**	**42,537**	**1,232,577**	**690,500**	**2,870,729**
- For Living	8,826,033	889,906	160,472	98,806	2,029,124	2,041,762	106,481	32,035	934,763	479,755	2,052,929
- For Business of Household and others	4,776,634	1,929,819	162,914	49,319	765,381	471,646	60,694	10,502	297,814	210,745	817,800
Value of Vehicles (exclude bicycle)	**2,536,679**	**346,916**	**74,870**	**30,026**	**787,380**	**623,038**	**24,568**	**5,239**	**284,845**	**137,079**	**222,718**

TABLE 14 PERCENTAGE OF HOUSEHOLDS REPORTING ASSETS ; HOUSE/LAND/BUILDING, VEHICLES AND FINANCIAL ASSETS BY VALUE OF ASSETS AND REGION

Type of Assets	Whole Kingdom	Greater Bangkok[1/]	Central	North	Northeast	South
Value of Household Assets						
House / Land / Building						
For Living	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Less than 10,000 Baht	17.7	47.3	23.1	9.5	4.8	17.1
10,000 - 30,000 Baht	3.0	1.1	3.5	5.0	2.4	2.9
30,001 - 50,000 Baht	4.5	1.2	4.1	7.1	5.1	3.7
50,001 - 100,000 Baht	13.8	2.4	10.2	17.1	20.3	12.5
100,001 - 500,000 Baht	41.0	11.0	37.5	45.5	54.7	42.8
500,001 - 1,000,000 Baht	11.8	13.0	15.0	10.5	9.1	14.0
1,000,001 - 5,000,000 Baht	7.4	20.3	6.2	5.1	3.4	6.8
More than 5 Million Baht	0.7	3.7	0.3	0.1	0.1	0.3
For Business of Household and Other	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Less than 10,000 Baht	55.1	93.5	70.4	49.4	29.1	57.3
10,000 - 30,000 Baht	2.6	0.7	2.2	5.2	2.3	2.3
30,001 - 50,000 Baht	2.4	0.4	1.7	3.7	3.1	1.9
50,001 - 100,000 Baht	5.7	0.6	2.7	7.5	9.4	4.5
100,001 - 500,000 Baht	22.6	1.8	11.7	22.6	41.1	18.9
500,001 - 1,000,000 Baht	7.1	1.0	4.9	7.5	11.0	7.8
1,000,001 - 5,000,000 Baht	4.2	1.4	5.8	3.9	3.8	6.5
More than 5 Million Baht	0.5	0.5	0.8	0.2	0.2	0.8
Vehicles (exclude bicycle)	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Less than 10,000 Baht	28.4	42.8	25.6	29.1	26.0	20.0
10,000 - 30,000 Baht	26.7	15.5	28.2	26.0	29.5	32.2
30,001 - 50,000 Baht	11.8	5.9	11.0	11.2	14.9	13.2
50,001 - 100,000 Baht	7.5	2.7	6.9	8.4	9.7	7.4
100,001 - 500,000 Baht	18.0	20.6	20.0	19.5	14.2	18.9
500,001 - 1,000,000 Baht	6.2	9.1	6.8	4.9	4.8	7.1
1,000,001 - 5,000,000 Baht	1.4	3.3	1.5	0.9	0.9	1.0
More than 5 Million Baht	0.1	0.1	0.1	0.1	0.1	0.1
Financial Assets	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Less than 10,000 Baht	37.7	27.4	36.3	39.5	44.5	33.4
10,000 - 30,000 Baht	25.0	19.8	23.7	27.1	26.5	26.8
30,001 - 50,000 Baht	14.0	15.3	14.4	13.9	12.9	14.7
50,001 - 100,000 Baht	11.5	17.7	13.5	9.0	8.0	13.0
100,001 - 500,000 Baht	8.1	10.7	9.1	7.7	6.1	8.9
500,001 - 1,000,000 Baht	2.3	5.0	1.9	1.9	1.4	2.3
1,000,001 - 5,000,000 Baht	1.0	2.8	0.8	0.7	0.5	0.6
More than 5 Million Baht	0.3	1.3	0.3	0.1	0.1	0.3

1/ Nonthaburi, Pathum Thani and Samut Prakan.

TABLE 15 PERCENTAGE OF HOUSEHOLDS REPORTING ASSETS ; HOUSE/LAND/BUILDING, VEHICLES AND FINANCIAL ASSETS BY VALUE OF ASSETS AND SOCIO-ECONOMIC CLASS

Type of Assets	Total	Farm Operators			Own-Account Workers, Non-Farm	Employees					Econo-mically Inactive
		Plant /Animal / Culture		Fishing, Forestry, Agricultural services		Professional, Tech. & Adm. Workers	Farm Workers	General Workers	Clerical, Sales & Services Workers	Production Workers	
		Mainly Owning Land	Mainly Renting Land / Free								
Value of Household Assets											
House / Land / Building											
For Living	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Less than 10,000 Baht	17.7	1.2	5.4	7.5	21.5	20.8	15.3	16.3	34.6	32.6	9.1
10,000 - 30,000 Baht	3.0	2.3	7.3	12.3	1.5	0.4	9.7	11.3	1.9	2.5	3.8
30,001 - 50,000 Baht	4.5	4.3	8.1	12.6	2.6	0.8	10.7	7.5	2.8	5.2	6.1
50,001 - 100,000 Baht	13.8	21.4	19.9	24.1	9.0	3.6	21.6	23.6	8.4	14.0	16.3
100,001 - 500,000 Baht	41.0	60.5	49.6	37.6	37.7	23.7	37.6	33.1	30.4	36.0	46.2
500,001 - 1,000,000 Baht	11.8	8.2	7.7	4.3	15.4	22.4	3.9	5.9	13.7	8.0	10.9
1,000,001 - 5,000,000 Baht	7.4	2.1	2.2	1.2	11.5	24.6	1.2	2.2	7.7	1.7	6.5
More than 5 Million Baht	0.7	0.1	-	0.3	0.9	3.6	0.0	-	0.3	-	1.1
For Business of Household	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Less than 10,000 Baht	55.1	5.9	46.9	65.6	62.0	69.8	71.8	76.7	76.4	74.0	53.9
10,000 - 30,000 Baht	2.6	2.1	5.1	6.1	3.4	1.3	3.0	1.3	2.0	2.2	2.5
30,001 - 50,000 Baht	2.4	2.8	3.5	2.9	2.9	1.2	2.5	2.2	1.4	2.2	2.5
50,001 - 100,000 Baht	5.7	8.1	9.0	7.2	5.5	2.7	6.9	6.3	3.2	4.6	6.6
100,001 - 500,000 Baht	22.6	49.9	25.6	15.3	16.8	13.7	11.5	10.4	11.6	13.0	25.2
500,001 - 1,000,000 Baht	7.1	19.1	6.2	1.8	5.3	6.2	2.5	2.3	3.2	2.6	6.0
1,000,001 - 5,000,000 Baht	4.2	11.2	3.2	0.9	3.6	4.5	1.7	0.8	1.8	1.4	2.9
More than 5 Million Baht	0.5	1.0	0.5	0.3	0.5	0.5	0.1	-	0.3	0.1	0.4
Vehicles (exclude bicycle)	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Less than 10,000 Baht	28.4	18.6	20.7	52.6	18.4	12.1	37.8	43.4	27.1	34.5	49.0
10,000 - 30,000 Baht	26.7	29.4	27.4	23.2	23.1	13.8	35.5	34.2	29.1	34.4	25.2
30,001 - 50,000 Baht	11.8	17.6	14.6	8.4	8.8	7.3	12.8	9.2	13.0	13.9	9.1
50,001 - 100,000 Baht	7.5	13.9	12.7	4.2	6.4	5.0	6.1	7.2	7.7	5.9	4.3
100,001 - 500,000 Baht	18.0	15.4	19.6	8.0	29.0	38.4	6.9	5.5	17.3	9.1	9.2
500,001 - 1,000,000 Baht	6.2	4.3	4.1	2.2	11.4	18.1	0.9	0.5	5.0	2.1	2.6
1,000,001 - 5,000,000 Baht	1.4	0.7	0.8	1.4	2.8	5.2	-	-	0.8	0.1	0.5
More than 5 Million Baht	0.1	0.1	-	-	0.1	0.1	-	-	0.1	-	0.0
Financial Assets	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Less than 10,000 Baht	37.7	37.1	39.3	73.6	25.9	10.5	61.7	66.6	34.5	49.9	47.7
10,000 - 30,000 Baht	25.0	30.0	27.2	14.1	24.9	16.8	22.6	17.3	27.1	28.5	22.5
30,001 - 50,000 Baht	14.0	15.6	15.1	6.2	17.9	14.8	8.4	8.8	14.9	11.7	11.2
50,001 - 100,000 Baht	11.5	9.7	10.9	2.8	16.4	18.7	5.4	4.4	12.9	7.1	9.2
100,001 - 500,000 Baht	8.1	6.3	6.4	2.5	11.0	21.9	1.9	2.9	8.2	2.3	6.1
500,001 - 1,000,000 Baht	2.3	0.9	0.9	0.6	2.7	10.6	0.1	-	1.8	0.4	1.7
1,000,001 - 5,000,000 Baht	1.0	0.3	0.1	0.3	0.9	5.1	-	-	0.6	0.1	1.0

More than 5 Million Baht	0.3	0.1	0.1	0.0	0.2	1.6	0.0	-	0.1	0.0	0.6

TABLE 16 PERCENTAGE OF HOUSEHOLDS BY MAJOR HOUSING CHARACTERISTICS AND REGION

Major Housing Characteristics	Whole Kingdom	Greater Bangkok[1/]	Central	North	Northeast	South
1. Head of Household						
Sex	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Male	68.3	66.2	62.7	68.6	71.2	71.9
Female	31.7	33.8	37.3	31.4	28.8	28.1
Age	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Under 20 Years	0.7	1.0	0.6	0.5	0.8	0.5
20 - 29 Years	6.4	14.9	8.1	3.6	2.9	5.8
30 - 39 Years	16.9	23.4	18.2	12.6	14.0	20.8
40 - 49 Years	24.7	23.3	24.2	25.6	25.0	25.2
50 - 59 Years	23.0	20.3	21.3	24.8	25.8	19.5
60 Years or More	28.3	17.2	27.7	32.8	31.6	28.3
Marital Status	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Never Married	7.8	17.9	9.1	5.3	4.2	6.0
Married	71.6	66.2	68.6	70.8	75.0	75.7
Widowed	15.6	9.2	15.9	18.9	17.1	14.0
Divorced	2.2	2.7	2.0	2.3	2.0	2.1
Separated	2.8	4.0	4.3	2.8	1.6	2.1
Level of Completed Education Level	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Never Attended School	6.2	2.6	5.3	12.6	3.6	8.5
Pre - Primary and Primary Education	66.0	43.0	66.2	68.6	78.0	60.7
Lower Secondary / Upper Secondary Education	15.3	26.5	16.5	11.0	10.7	17.3
Vocational or Technical and Post - Secondary Education	5.5	12.0	6.3	3.3	2.7	6.4
University / Bachelor Degree Level	6.1	13.3	5.1	4.0	4.3	6.4
Postgraduate / Master / Doctoral Degree Level	0.8	2.5	0.4	0.5	0.5	0.6
Other Education	0.1	0.1	0.1	0.1	-	0.1

TABLE 16 PERCENTAGE OF HOUSEHOLDS BY MAJOR HOUSING CHARACTERISTICS AND REGION (Contd.)

Major Housing Characteristics	Whole Kingdom	Greater Bangkok[1/]	Central	North	Northeast	South
2. Member of Household						
Household Size (include servants)	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
1 - 2 Persons	34.4	42.6	37.0	37.2	28.2	31.5
3 - 4 Persons	44.4	39.2	43.2	46.1	46.9	44.0
5 - 7 Persons	19.9	16.8	18.5	15.8	23.6	23.1
8 Persons or More	1.2	1.4	1.3	0.8	1.3	1.4
Household Size (exclude servants/employee)	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
1 - 2 Persons	34.5	42.8	37.0	37.2	28.2	31.6
3 - 4 Persons	44.5	39.6	43.2	46.2	46.9	43.9
5 - 7 Persons	19.8	16.3	18.5	15.8	23.5	23.0
8 Persons or More	1.2	1.3	1.3	0.8	1.3	1.4
Number of Earners	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
None	8.4	6.8	8.4	9.8	9.3	6.4
1 Person	24.7	31.2	27.6	24.6	19.5	25.6
2 - 3 Persons	59.8	56.0	57.1	60.2	62.5	60.9
4 Persons or More	7.1	6.1	7.0	5.5	8.6	7.0
Number Disability	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
None	93.2	96.9	93.6	91.3	92.4	92.9
1 Person	6.0	2.6	5.7	7.7	6.7	6.4
2 - 3 Persons	0.7	0.4	0.6	0.9	0.8	0.6
4 Persons or More	0.1	0.1	0.1	0.1	0.1	0.1

TABLE 16 PERCENTAGE OF HOUSEHOLDS BY MAJOR HOUSING CHARACTERISTICS AND REGION (Contd.)

Major Housing Characteristics	Whole Kingdom	Greater Bangkok[1/]	Central	North	Northeast	South
Received Government / State Enterprise's Welfare	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
None	85.1	83.4	85.3	85.9	86.4	82.5
Have	14.8	16.5	14.7	14.0	13.6	17.5
Received Universal Health Coverage Card	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
None	17.9	40.8	20.7	11.5	9.2	16.3
Have	82.1	59.1	79.3	88.5	90.8	83.6
Received Medical Card (social security)	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
None	76.7	42.6	66.3	88.1	90.4	83.6
Have	23.3	57.5	33.7	11.8	9.6	16.4
Received Private Health Insurance	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
None	95.5	91.4	94.5	96.2	98.0	94.8
Have	4.5	8.5	5.5	3.8	2.0	5.2
Received Welfare by Employer	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
None	99.2	97.3	98.9	99.6	99.9	99.5
Have	0.8	2.7	1.0	0.4	0.1	0.5

TABLE 16 PERCENTAGE OF HOUSEHOLDS BY MAJOR HOUSING CHARACTERISTICS AND REGION (Contd.)

Major Housing Characteristics	Whole Kingdom	Greater Bangkok[1/]	Central	North	Northeast	South
Received Social Pension for the Poor Elderly	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
None	89.4	98.6	92.1	86.3	83.7	92.4
Have	10.6	1.4	7.9	13.7	16.3	7.6
Received Social Assistant for Disability	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
None	98.6	99.8	98.8	97.8	98.1	98.8
Have	1.4	0.2	1.2	2.2	1.9	1.2
Received Free School Lunch/ Supplementary Food	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
None	72.7	89.2	77.7	72.3	61.1	73.9
Have	27.4	10.8	22.3	27.6	38.9	26.0
Received Government's Scholarship	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
None	98.3	99.4	98.6	96.7	98.3	98.5
Have	1.7	0.6	1.4	3.2	1.7	1.5
Other Government Funds to Assist Farmers	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Not Participate	99.2	100.0	99.6	98.6	98.8	99.4
Participate	0.8	-	0.4	1.4	1.2	0.6
Borrowed Government Loan for Education	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
None	98.9	98.1	99.2	98.5	99.2	98.9
Have	1.1	1.9	0.8	1.5	0.8	1.1

TABLE 16 PERCENTAGE OF HOUSEHOLDS BY MAJOR HOUSING CHARACTERISTICS AND REGION (Contd.)

Major Housing Characteristics	Whole Kingdom	Greater Bangkok[1/]	Central	North	Northeast	South
Borrowed People Bank	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
None	99.4	99.9	99.3	99.3	99.2	99.5
Have	0.6	0.1	0.7	0.7	0.8	0.5
Borrowed Village Fund Scheme	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
None	68.6	98.5	73.1	60.5	50.2	81.9
Have	31.5	1.5	26.9	39.5	49.8	18.0
Other Government Loan	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
None	97.6	99.9	98.1	96.2	96.6	98.4
Have	2.4	0.1	1.9	3.8	3.4	1.6
Members who Accessed to the Internet	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
None	72.2	55.9	73.4	72.4	78.5	74.5
Have	27.7	44.1	26.7	27.5	21.5	25.5
3. For Living and Public Utility						
Type of Dwelling	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Detached House	79.8	36.9	75.8	93.8	95.4	79.5
Row House	11.8	25.1	18.7	4.2	3.4	17.2
Townhouse or Twinhouse	4.0	16.3	4.0	0.7	0.7	1.7
Apartment or Flat	2.9	14.7	0.9	0.8	0.3	0.9
Room or Rooms	1.0	5.5	0.1	0.2	0.1	0.1
Improvised Quarter and Others	0.5	1.5	0.5	0.3	0.2	0.5
Construction Materials	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Cement, Brick or Stone	43.3	69.3	51.9	29.4	27.1	58.7
Wood	29.4	21.4	30.0	41.4	28.7	22.3
Brick and Wood	25.4	7.8	15.8	25.5	43.1	17.8
Local Materials	1.3	0.4	1.4	3.1	0.7	0.6
Re-used Materials and Others	0.7	1.2	0.9	0.6	0.2	0.7

TABLE 16 PERCENTAGE OF HOUSEHOLDS BY MAJOR HOUSING CHARACTERISTICS AND REGION (Contd.)

Major Housing Characteristics	Whole Kingdom	Greater Bangkok[1/]	Central	North	Northeast	South
Occupancy Status	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Owns Dwelling and Land	76.2	39.6	69.5	84.1	92.8	78.4
Owns Dwelling on Rented Land	4.7	10.2	5.9	6.0	1.0	3.0
Rents	12.2	39.5	15.3	3.7	2.5	10.3
Occupied Rented Free	7.0	10.7	9.2	6.2	3.7	8.2
Part of Dwelling Used for Business	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
No	82.3	83.8	81.7	83.6	80.6	83.9
Yes	17.7	16.2	18.3	16.4	19.4	16.1
Cooking Fuel	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Charcoal	16.0	1.2	11.4	19.3	29.5	3.3
Wood	16.6	0.4	2.8	27.5	32.1	3.0
Kerosene	0.2	0.2	0.2	0.1	0.1	0.3
Gas	57.9	71.8	75.5	47.5	34.3	87.9
Electricity	3.4	12.6	2.8	1.4	1.1	1.9
Others	0.2	0.0	0.1	0.3	0.2	0.1
No Cooking	5.7	13.7	7.1	3.9	2.8	3.7
Drinking Water	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Bottle-Water	28.7	40.3	39.2	27.5	12.6	40.0
Inside Piped Water-Supply	21.2	53.1	14.9	30.2	8.3	9.8
Inside Piped Underground Water	7.1	0.6	4.6	12.9	5.8	13.1
Outside Piped or Public Tap	1.1	3.0	0.4	0.9	0.4	1.7
Well or Underground Water	3.9	-	1.5	3.0	3.6	14.2
River, Stream etc.	0.6	0.1	0.4	1.9	0.1	0.4
Rain Water	37.0	2.9	38.1	22.9	68.6	20.2
Others	0.6	0.1	0.9	0.6	0.6	0.5

TABLE 16 PERCENTAGE OF HOUSEHOLDS BY MAJOR HOUSING CHARACTERISTICS AND REGION (Contd.)

Major Housing Characteristics	Whole Kingdom	Greater Bangkok[1/]	Central	North	Northeast	South
Water Supply	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Inside Piped Water Supply	68.1	92.7	65.0	62.8	71.6	42.0
Inside Piped Underground Water	19.6	4.2	22.0	26.6	19.6	24.1
Outside Piped Public Tap	2.4	1.6	2.4	1.5	2.0	5.2
Well Underground Water	6.6	0.6	6.4	4.4	4.8	21.6
River, Stream etc.	2.1	0.8	2.9	3.0	1.0	3.9
Rain Water	0.6	0.0	0.8	0.2	0.6	2.0
Others	0.7	0.2	0.5	1.5	0.4	1.2
Toilet Facilities	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
No Facility Nearby	1.2	0.2	1.1	1.0	1.2	2.5
Flush Latrine	8.5	27.2	7.3	5.2	3.2	5.6
Mould Latrine	87.3	66.7	88.8	89.9	94.0	89.9
Flush and Mould Latrine	2.9	6.0	2.8	3.7	1.5	1.5
Pit or Hole in Ground or into River and Others	0.1	-	0.0	0.1	0.1	0.5
Method of Getting Rid of Household Garbage[2/]						
Take to Public Cleansing Services	50.2	96.6	51.5	38.9	36.1	43.1
Burn	51.5	3.4	50.9	58.0	67.2	63.0
Bury	3.7	0.6	2.6	4.7	5.1	4.4
Feed Animals	0.0	-	0.0	0.0	0.1	-
Fertilizer Ferment	0.3	-	0.0	0.3	0.6	0.2
Throwing in River, Canal in Public and Others	4.7	2.6	2.2	8.0	4.8	5.5

1/ Nonthaburi, Pathum Thani and Samut Prakan.

2/ Households many report more than 1 method

TABLE 17 PERCENTAGE OF HOUSEHOLDS BY MAJOR HOUSING CHARACTERISTICS AND SOCIO-ECONOMIC CLASS

Major Housing Characteristics	Total	Farm Operators			Own-Account Workers, Non-Farm	Employees					Econo-mically Inactive
		Plant /Animal / Culture		Fishing, Forestry, Agricultural services		Professional, Tech. & Adm. Workers	Farm Workers	General Workers	Clerical, Sales & Services Workers	Production Workers	
		Mainly Owning Land	Mainly Renting Land / Free								
1. Head of Household											
Sex	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Male	68.3	79.1	82.2	70.4	70.5	67.2	71.9	67.6	67.7	71.9	50.8
Female	31.7	20.9	17.8	29.6	29.5	32.8	28.1	32.4	32.3	28.1	49.2
Age	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Under 20 Years	0.7	-	0.1	-	0.1	0.0	0.2	0.0	0.5	1.0	2.5
20 - 29 Years	6.4	1.5	2.2	2.8	3.5	7.7	5.8	6.2	12.3	14.8	4.1
30 - 39 Years	16.9	13.2	17.8	18.2	19.8	18.1	23.6	20.0	23.0	24.0	5.8
40 - 49 Years	24.7	26.5	34.7	26.6	30.8	28.7	26.4	31.7	25.5	24.9	11.1
50 - 59 Years	23.0	27.0	25.3	25.9	24.3	26.4	22.8	17.8	21.4	19.1	19.5
60 Years or More	28.3	31.8	19.8	26.5	21.5	19.1	21.3	24.2	17.2	16.2	57.0
Marital Status	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Never Married	7.8	2.5	0.9	3.8	5.5	14.9	4.1	6.3	12.0	11.0	8.7
Married	71.6	80.6	88.6	71.7	77.2	69.9	77.7	65.3	69.1	71.9	55.8
Widowed	15.6	14.2	8.8	18.0	11.4	10.8	12.0	18.7	12.1	11.2	30.7
Divorced	2.2	1.2	0.8	2.4	2.3	2.7	2.5	5.5	3.2	2.1	2.1
Separated	2.8	1.5	0.9	4.2	3.6	1.7	3.6	4.2	3.5	3.7	2.7
Level of Completed Education Level	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Never Attended School	6.2	5.9	9.5	15.7	4.1	1.7	14.7	10.5	3.1	4.7	10.6
Pre - Primary and Primary Education	66.0	84.1	82.5	77.0	65.6	24.9	75.6	77.9	52.7	69.2	71.2
Lower Secondary / Upper Secondary Education	15.3	8.2	7.0	6.4	17.9	16.2	8.4	9.8	26.6	20.5	11.0
Vocational or Technical and Post - Secondary Education	5.5	1.2	0.8	0.7	7.2	13.6	1.0	1.6	10.5	4.9	3.0
University / Bachelor Degree Level	6.1	0.6	0.1	0.3	4.9	36.5	0.1	0.0	6.8	0.6	3.7
Postgraduate / Master / Doctoral Degree Level	0.8	0.0	-	-	0.2	7.0	-	-	0.2	-	0.5
Other Education	0.1	0.0	0.1	-	0.1	0.1	0.1	0.1	0.1	0.0	0.0
2. Member of Household											
Household Size (include servants)	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
1 - 2 Persons	34.4	24.5	20.3	33.3	29.7	33.1	29.7	37.8	33.4	34.0	53.9
3 - 4 Persons	44.4	49.0	55.5	47.0	46.3	46.3	47.3	41.3	44.2	44.2	34.7
5 - 7 Persons	19.9	25.7	22.6	19.2	22.5	19.0	22.0	20.9	20.7	20.0	10.9
8 Persons or More	1.2	0.8	1.7	0.6	1.5	1.7	1.0	0.0	1.6	1.7	0.5
Household Size (exclude servants/employee)	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
1 - 2 Persons	34.5	24.5	20.3	33.3	29.9	33.4	29.7	37.8	33.5	34.0	54.0
3 - 4 Persons	44.5	49.0	55.5	47.0	46.3	46.7	47.3	41.3	44.3	44.2	34.7
5 - 7 Persons	19.8	25.7	22.6	19.2	22.4	18.3	22.0	20.9	20.6	20.0	10.8
8 Persons or More	1.2	0.8	1.7	0.6	1.5	1.6	1.0	0.0	1.6	1.7	0.5

TABLE 17 PERCENTAGE OF HOUSEHOLDS BY MAJOR HOUSING CHARACTERISTICS AND SOCIO-ECONOMIC CLASS (Contd.)

Major Housing Characteristics	Total	Farm Operators			Own-Account Workers, Non-Farm	Employees					Economically Inactive
		Plant /Animal / Culture		Fishing, Forestry, Agricultural services		Professional, Tech. & Adm. Workers	Farm Workers	General Workers	Clerical, Sales & Services Workers	Production Workers	
		Mainly Owning Land	Mainly Renting Land / Free								
Number of Earners	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
None	8.4	0.0	0.0	-	0.0	-	-	-	0.1	-	46.1
1 Person	24.7	14.6	9.9	34.0	24.3	31.2	28.1	36.0	31.6	24.9	26.8
2 - 3 Persons	59.8	76.0	81.9	61.2	66.8	62.0	66.4	58.0	59.7	65.7	26.1
4 Persons or More	7.1	9.3	8.2	4.8	8.9	6.8	5.5	6.0	8.6	9.4	1.0
Number Disability	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
None	93.2	91.9	94.4	91.1	94.1	96.5	90.7	91.3	94.6	94.7	90.3
1 Person	6.0	7.2	5.4	7.6	5.2	3.0	8.3	7.7	4.6	4.7	8.7
2 - 3 Persons	0.7	0.9	0.2	0.8	0.6	0.4	0.8	0.7	0.5	0.5	0.9
4 Persons or More	0.1	0.0	-	0.5	0.1	0.1	0.2	0.2	0.3	0.1	0.0
Received Government/ State Enterprise's Welfare	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
None	85.1	93.6	96.6	97.8	91.2	47.7	97.5	86.9	75.9	97.0	82.3
Have	14.8	6.3	3.4	2.1	8.9	52.2	2.4	13.1	24.0	3.1	17.7
Received Universal Health Coverage Card	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
None	17.9	3.3	1.5	4.7	9.8	54.5	6.5	14.6	32.1	23.8	13.4
Have	82.1	96.7	98.4	95.3	90.1	45.6	93.5	85.4	67.9	76.1	86.6
Received Medical Card (social security)	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
None	76.7	96.4	94.9	98.8	86.8	51.1	91.1	72.0	46.7	46.1	96.1
Have	23.3	3.5	5.1	1.2	13.2	48.9	8.9	28.0	53.2	53.9	4.0
Received Private Health Insurance	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
None	95.5	98.0	98.1	97.8	92.2	89.1	98.1	95.9	95.3	97.9	97.0
Have	4.5	2.0	1.9	2.2	7.8	11.0	1.8	4.0	4.8	2.1	3.0
Received Welfare by Employer	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
None	99.2	99.9	99.8	100.0	99.7	96.2	99.9	97.9	98.8	99.0	99.7
Have	0.8	0.1	0.2	-	0.3	3.8	0.1	2.1	1.2	1.0	0.3
Received Social Pension for the Poor Elderly	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
None	89.4	85.4	93.1	89.2	93.9	96.6	90.7	87.6	94.6	93.9	76.7
Have	10.6	14.6	6.9	10.8	6.1	3.4	9.3	12.4	5.4	6.1	23.3
Received Social Assistant for Disability	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
None	98.6	98.3	98.1	98.4	99.0	99.5	97.9	97.6	99.2	98.7	97.5
Have	1.4	1.7	1.9	1.6	1.0	0.5	2.1	2.4	0.8	1.3	2.5
Received Free School Lunch/ Supplementary Food	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
None	72.7	64.4	58.5	63.9	74.6	86.1	64.9	67.0	78.8	71.8	73.5
Have	27.4	35.6	41.5	36.1	25.4	13.9	35.2	33.0	21.2	28.2	26.4

TABLE 17 PERCENTAGE OF HOUSEHOLDS BY MAJOR HOUSING CHARACTERISTICS AND SOCIO-ECONOMIC CLASS (Contd.)

Major Housing Characteristics	Total	Farm Operators			Own-Account Workers, Non-Farm	Employees					Economically Inactive
		Plant /Animal / Culture		Fishing, Forestry, Agricultural services		Professional, Tech. & Adm. Workers	Farm Workers	General Workers	Clerical, Sales & Services Workers	Production Workers	
		Mainly Owning Land	Mainly Renting Land / Free								
Received Government's Scholarship	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
None	98.3	97.8	96.9	96.5	98.8	99.0	96.9	96.7	98.2	98.3	98.6
Have	1.7	2.2	3.1	3.5	1.2	1.0	3.1	3.3	1.8	1.6	1.4
Other Government Funds to Assist Farmers	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Not Participate	99.2	98.6	97.6	99.3	99.3	99.8	99.5	99.6	99.6	99.4	99.0
Participate	0.8	1.4	2.4	0.7	0.7	0.2	0.5	0.4	0.4	0.6	1.0
Borrowed Government Loan for Education	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
None	98.9	99.0	99.2	99.9	99.1	97.9	99.6	99.3	98.5	98.8	99.0
Have	1.1	1.0	0.8	0.1	0.9	2.1	0.4	0.7	1.5	1.2	1.0
Borrowed People Bank	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
None	99.4	98.9	98.5	99.7	99.1	99.7	99.4	99.9	99.6	99.6	99.8
Have	0.6	1.1	1.5	0.3	0.9	0.3	0.6	0.1	0.4	0.4	0.2
Borrowed Village Fund Scheme	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
None	68.6	45.7	36.4	60.0	72.4	84.6	69.5	74.4	80.6	75.2	71.3
Have	31.5	54.3	63.6	40.0	27.5	15.3	30.5	25.6	19.4	24.9	28.7
Other Government Loan	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
None	97.6	96.0	94.1	96.5	98.3	98.5	95.7	99.9	98.7	98.0	97.7
Have	2.4	4.0	5.9	3.5	1.7	1.5	4.3	0.1	1.3	2.0	2.3
Members who Accessed to the Internet	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
None	72.2	80.1	75.8	86.1	69.9	30.9	89.0	84.8	64.4	83.4	80.0
Have	27.7	20.0	24.2	14.0	30.1	69.1	11.0	15.1	35.6	16.6	20.0

TABLE 17 PERCENTAGE OF HOUSEHOLDS BY MAJOR HOUSING CHARACTERISTICS AND SOCIO-ECONOMIC CLASS (Contd.)

Major Housing Characteristics	Total	Farm Operators			Own-Account Workers, Non-Farm	Employees					Economically Inactive
		Plant /Animal / Culture		Fishing, Forestry, Agricultural services		Professional, Tech. & Adm. Workers	Farm Workers	General Workers	Clerical, Sales & Services Workers	Production Workers	
		Mainly Owning Land	Mainly Renting Land / Free								
3. For Living and Public Utility											
Type of Dwelling	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Detached House	79.8	99.0	99.4	98.0	70.6	66.2	92.3	86.1	61.5	68.6	91.0
Row House	11.8	0.8	0.2	0.4	20.8	15.0	6.4	11.2	21.4	18.2	4.5
Townhouse or Twinhouse	4.0	0.2	0.2	0.6	5.7	12.7	0.3	0.6	6.5	2.6	2.3
Apartment or Flat	2.9	-	-	-	1.3	5.4	0.3	1.5	7.0	6.7	1.7
Room or Rooms	1.0	-	-	-	1.2	0.6	0.0	0.6	2.8	2.2	0.2
Improvised Quarter and Others	0.5	0.1	0.2	1.0	0.3	0.1	0.7	0.0	0.8	1.7	0.2
Construction Materials	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Cement, Brick or Stone	43.3	23.7	23.7	27.5	54.5	63.0	38.1	41.2	54.4	49.4	34.5
Wood	29.4	38.5	46.7	43.6	21.0	11.8	41.1	42.6	24.7	30.4	33.2
Brick and Wood	25.4	36.5	24.1	20.8	23.3	25.0	15.7	14.2	19.6	17.2	30.4
Local Materials	1.3	0.9	4.7	6.8	0.7	0.1	3.7	0.7	0.5	1.3	1.5
Re-used Materials and Others	0.7	0.3	0.8	1.3	0.6	0.0	1.4	1.3	0.7	1.7	0.4
Occupancy Status	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Owns Dwelling and Land	76.2	97.4	83.0	86.3	70.3	72.8	77.9	70.8	56.7	60.4	86.7
Owns Dwelling on Rented Land	4.7	1.3	13.3	7.1	6.1	2.8	6.2	10.7	6.2	5.2	3.3
Rents	12.2	0.1	0.5	0.5	19.6	12.6	3.2	8.5	23.2	24.8	4.4
Occupied Rented Free	7.0	1.3	3.1	6.1	3.9	11.9	12.7	10.0	13.9	9.5	5.6
Part of Dwelling Used for Business	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
No	82.3	87.6	85.6	91.3	49.5	89.2	92.4	94.9	89.8	92.3	90.5
Yes	17.7	12.4	14.4	8.7	50.5	10.8	7.6	5.1	10.2	7.7	9.5
Cooking Fuel	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Charcoal	16.0	28.3	24.3	22.1	10.7	4.5	19.7	20.4	7.8	12.1	21.3
Wood	16.6	29.2	29.6	44.5	8.9	4.1	14.1	17.3	7.5	13.0	22.6
Kerosene	0.2	0.1	0.0	-	0.4	0.1	0.3	-	0.0	0.1	0.2
Gas	57.9	41.5	45.5	31.6	72.4	78.0	61.2	55.0	66.9	59.2	46.1
Electricity	3.4	0.2	0.1	0.4	2.6	5.2	1.1	2.9	7.7	7.5	1.8
Others	0.2	0.4	0.3	0.0	0.2	0.0	0.2	0.4	0.0	0.1	0.1
No Cooking	5.7	0.4	0.2	1.3	4.8	8.0	3.4	4.0	10.1	8.1	7.8

TABLE 17 PERCENTAGE OF HOUSEHOLDS BY MAJOR HOUSING CHARACTERISTICS AND SOCIO-ECONOMIC CLASS (Contd.)

Major Housing Characteristics	Total	Farm Operators			Own-Account Workers, Non-Farm	Employees					Econo-mically Inactive
		Plant /Animal / Culture		Fishing, Forestry, Agricultural services		Professional, Tech. & Adm. Workers	Farm Workers	General Workers	Clerical, Sales & Services Workers	Production Workers	
		Mainly Owning Land	Mainly Renting Land / Free								
Drinking Water	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Bottle-Water	28.7	8.4	7.3	8.6	40.7	43.2	16.4	22.2	46.4	39.3	17.1
Inside Piped Water-Supply	21.2	12.7	22.8	23.4	25.8	33.9	14.5	19.7	24.0	16.7	19.7
Inside Piped Underground Water	7.1	11.4	9.3	9.1	5.2	3.5	13.7	11.3	4.9	5.5	7.2
Outside Piped or Public Tap	1.1	0.7	1.0	0.9	1.3	0.6	1.2	2.5	1.7	1.5	0.8
Well or Underground Water	3.9	5.7	3.7	5.0	2.9	1.4	14.0	9.7	2.3	3.0	4.0
River, Stream etc.	0.6	0.8	3.5	2.3	0.2	0.2	1.1	0.1	0.2	0.3	0.5
Rain Water	37.0	59.4	51.8	49.6	23.5	16.8	38.7	34.0	20.2	33.2	50.1
Others	0.6	0.9	0.6	1.1	0.4	0.4	0.3	0.4	0.3	0.5	0.7
Water Supply	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Inside Piped Water Supply	68.1	57.4	56.9	58.6	72.6	81.9	44.4	58.8	76.0	70.6	67.0
Inside Piped Underground Water	19.6	25.2	24.4	20.8	17.7	13.6	23.4	20.3	15.4	19.0	20.9
Outside Piped Public Tap	2.4	2.3	3.0	3.7	2.3	1.0	4.5	1.9	2.3	2.6	2.4
Well Underground Water	6.6	9.1	7.7	8.3	5.7	2.4	19.5	12.8	4.5	5.4	6.3
River, Stream etc.	2.1	3.3	6.7	4.8	1.0	0.6	5.8	5.2	1.1	1.6	1.8
Rain Water	0.6	1.2	0.1	1.9	0.4	0.1	0.7	0.9	0.3	0.4	1.0
Others	0.7	1.5	1.2	1.9	0.3	0.2	1.8	0.1	0.5	0.4	0.6
Toilet Facilities	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
No Facility Nearby	1.2	0.8	2.0	2.8	0.9	0.2	5.2	3.4	0.7	0.8	1.7
Flush Latrine	8.5	2.2	1.6	1.3	10.1	26.9	1.1	3.8	10.3	5.2	8.5
Mould Latrine	87.3	96.3	95.5	94.5	84.5	63.5	93.0	90.2	86.5	93.0	86.7
Flush and Mould Latrine	2.9	0.6	0.9	0.6	4.4	9.4	0.4	2.4	2.6	0.9	3.0
Pit or Hole in Ground or into River and Others	0.1	0.1	-	0.9	0.1	0.0	0.3	0.3	0.0	0.0	0.1
Method of Getting Rid of Household Garbage[1/]											
Take to public cleansing services	50.2	22.2	22.8	27.3	63.9	76.5	23.1	50.3	72.7	57.3	41.0
Burn	51.5	79.1	76.4	72.3	38.0	27.0	78.6	50.6	30.1	43.9	60.3
Bury	3.7	7.5	5.6	2.7	2.5	2.6	4.2	4.2	1.9	2.1	4.1
Feed animals	0.0	0.1	0.1	-	0.1	0.0	-	-	0.0	0.0	0.0
Fertilizer ferment	0.3	0.6	0.5	-	0.2	0.3	-	-	0.1	0.1	0.4
Throwing in River, Canal in Public and Others	4.7	6.5	5.9	8.3	4.0	2.0	5.8	7.8	2.8	5.2	4.8

1/ Households many report more than 1 method