

## Information on Waste Management

### 1-Introduction

Non-formal Education consists of flexibility in compliance to the actual situation and time of the living of those who joint the Non-formal Education Programmes. One can say that non-formal education covers most of the socio-economic aspect of society as well as help the participants of its programmes to have better living and make changes for their future.

Facing the environment of issues, especially waste management, is the situation of Cambodian; therefore, it is needed to acquire knowledge on waste management to resolve the new facing environment issue. Department of Non-formal Education conducted a study on the need assessment with focusing on the waste management which already existed and being appeared in the daily living of Cambodian people. And with the result of this study will be formulated in to a new material of learning of which waste management is the main focus.

### 2. Information of Respondent

The study on the need assessment was conducted in villages, communes, districts of five provinces/city of the kingdom of Cambodia. The above locations are the most populated areas where waste management is the facing problem. The target respondents of the questionnaire are adults of all kinds of races and ethnic minorities.

#### 2.1. Location of target respondents

Most questionnaires were mostly administered to those who lived in Phnom Penh city among five provinces/city. The total numbers of questionnaires are 591. 205 questionnaires,34.69%, are administered to respondents living in Phnom Penh and 88 questionnaires,14.89%, are administered to those living in Siem Reap province. Below is the table of administered questionnaire to the five provinces/city.

Table1: Location of target respondents

No.	Provinces/City	Number	Percentage
1	Kampong Cham	97	16.41
2	Kandal	99	16.75
3	Sihanouk city	102	17.26
4	Phnom Penh city	205	34.69
5	Siem Reap	88	14.89
	Total	591	100.00

#### 2.2. Status of Knowledge

With the gained information on waste management, the study also focused on the knowledge of respondents.

##### 2.2.1. Gained Knowledge

Among 591 respondents of questionnaires, 31(5.25%) respondents are schooling and 445 (75.30%) are experience-schooling. There are 115 (19.46%) respondents who do not provide information on their Knowledge. The reasons which do not such information may possibly come from (1) illiterate or (2) low education, shame to tell. Table 2 will show below.

Table 2: Gained Knowledge

No.	Provinces/City	Schooling		experienced-schooling		No response	
		Num.	%	Num.	%	Num.	%
1	Kampong Cham	1	1.03	86	88.66	10	10.31
2	Kandal	0	0.00	75	75.76	24	24.24
3	Sihanouk city	0	0.00	60	58.82	42	41.18
4	Phnom Penh city	30	14.63	144	70.24	31	15.12
5	Siem Reap	0	0.00	80	90.91	8	9.09
Total		31	5.25	445	75.30	115	19.46

### 2.2.2. Level of Knowledge

The study shows that respondents who provide information on their knowledge with experienced-schooling and primary schooling are 27.41%; with experienced-schooling and lower secondary schooling are 25.72%; with experienced-schooling and upper secondary schooling are 27.41%; and 115 (19.46%) respondents do not provide information on their knowledge.

Table 3: level of Knowledge

No	Province/ City	Primary		Lower Secondary		Upper Secondary		No response	
		Num.	%	Num.	%	Num.	%	Num.	%
1	Kg. Cham	22	22.68	30	30.93	35	36.08	10	10.31
2	Kandal	35	35.35	21	21.21	19	19.19	24	24.24
3	Sihanouk city	20	19.61	15	14.71	25	24.51	42	41.18
4	Phnom Penh	80	39.02	38	18.54	56	27.32	31	15.12
5	Siem Reap	5	5.68	48	54.55	27	30.68	8	9.09
Total		162	27.41	152	25.72	162	27.41	115	19.46

### 2.2.3. Family status

The study indicates that there is 8.80% of very poor family status and 29.27% of poor family status; and 61.93% is average.

Table 4: family status of respondents

No.	Provinces/City	Very poor		Poor		Average	
		Num.	%	Num.	%	Num.	%
1	Kg. Cham	0	0.00	40	41.24	57	58.76
2	Kandal	1	1.01	6	6.06	92	92.93
3	Sihanouk city	4	3.92	14	13.73	84	82.35
4	Phnom Penh	35	17.07	84	40.98	86	41.95
5	Siem Reap	12	13.64	29	32.95	47	53.41
Total		52	8.80	173	29.27	366	61.93

### 2.2.4. Ethnicity

There is 75.30% khmer, the majority, 17.26% Khmer-Chinese, 7.28% Khmer-Islam, and 0.17% Khmer-thai.

Table 5: Ethnicity of Respondents

No.	Provinces/City	Khmer		Khmer-chinese		Khmer-Islam		Khmer-thai	
		Num.	%	Num.	%	Num.	%	Num.	%
1	Kg. Cham	97	100.00	0	0.00	0	0.00	0	0.00
2	Kandal	31	31.31	68	68.69	0	0.00	0	0.00
3	Sihanouk city	88	86.27	13	12.75	0	0.00	1	0.98
4	Phnom Penh	141	68.78	21	10.24	43	20.98	0	0.00
5	Siem Reap	88	100.00	0	0.00	0	0.00	0	0.00
Total		445	75.30	102	17.26	43	7.28	1	0.17

### 3. Waste Usage

This section of the study aims to investigate the types of wastes which collected for the purpose of refine or re-use, waste management, interest of waste management as well as expenditure on waste by the respondents.

#### 3.1. Type of daily waste collection

Through the study it shows that types of waste collect daily by the people are 20.73 % of excrement of animals, 40.18% of home leftover, and 39.09% wastes from litter.

Table 6: Type of daily wastes collection

No.	Provinces/city	excrement of animals		Home leftover		Wastes from litter	
		Num.	%	Num.	%	Num.	%
1	Kg. Cham	91	32.73	96	34.53	91	32.73
2	Kandal	5	2.50	98	49.00	97	48.50
3	Sihanouk city	25	7.49	169	50.60	140	41.92
4	Phnom Penh	58	61.70	19	20.21	17	18.09
5	Siem Reap	49	25.26	60	30.93	85	43.81
Total		228	20.73	442	40.18	430	39.09

#### 3.2. Usage and Refinement

The study on this section aims to look at the waste usage and refinement of the village people in Cambodia. The results show that 33.85% of village people re-use and refine the wastes but 66.16% did not re-use and refine. Therefore, to have clean environment in community needs to have guidance to people on how to re-use and refine the wastes.

Table 7 below will show the figure of the usage and refinement of waste.

Table 7: Usage or Refine of Wastes

No	Provinces/City	Re-use or Refine of wastes		Not re-use or Refine of wastes	
		Num	%	Num	%
1	Kg. Cham	7	7.22	90	92.78
2	Kandal	31	31.31	68	68.69
3	Sihanouk city	52	50.98	50	49.02
4	Phnom Penh	84	40.98	121	59.02
5	Siem Reap	26	29.55	62	70.45
Total		200	33.84	391	66.16

### 3.3. Type of re-useable and refine-able wastes

The study shows that the wastes, that are re-use or refine, have various types such as Plastic Bottle (=31.76%), Glass Bottle(=22.15%), Plastic(=19.93%), Can(=15.84%), and Paper(=10.32%).

Table 8: Type of re-useable and refine-able wastes

No	Provinces/ City	Plastic		Paper		Bottle Plastic		Glass Bottle		Can	
		Num	%	Num	%	Num	%	Num	%	Num	%
1	Kg. Cham	5	2.45	5	2.45	96	47.06	91	44.61	7	3.43
2	Kandal	15	8.20	6	3.28	60	32.79	72	39.34	30	16.39
3	Sihanouk city	143	28.49	79	15.74	130	25.90	71	14.14	79	15.74
4	Phnom Penh	13	15.66	14	16.87	24	28.92	13	15.66	19	22.89
5	Siem Reap	48	31.58	12	7.89	47	30.92	2	1.32	43	28.29
Total		224	19.93	116	10.32	357	31.76	249	22.15	178	15.84

### 3.4. Type of daily waste usage

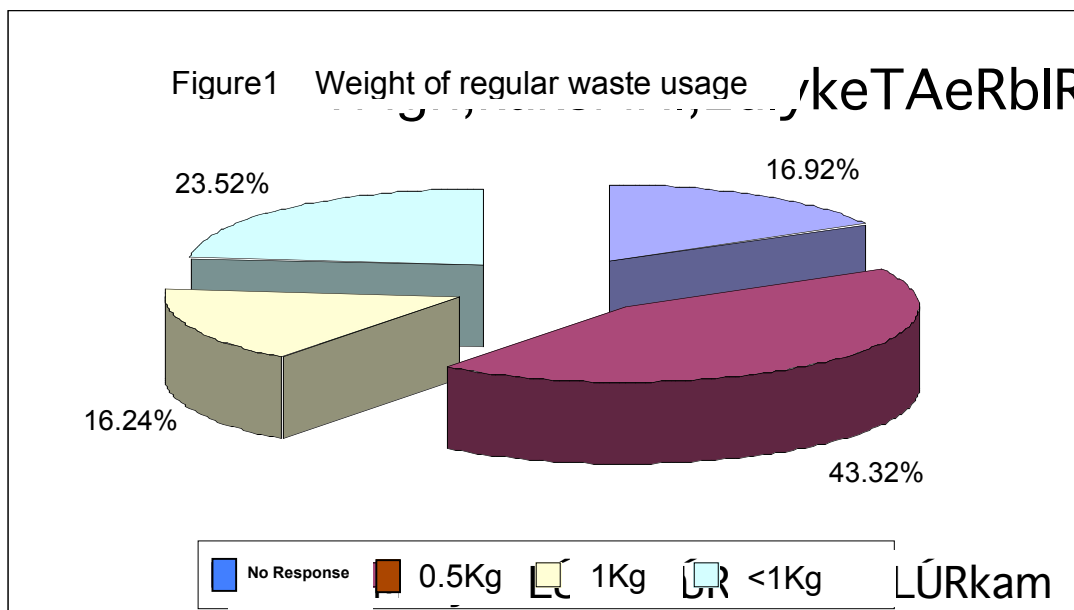
The results show that Plastic (=31.37%) is mostly used and Glass Bottle (=11.28%) is least used.

Table 9: Type of daily waste usage

No	Province s/City	Plastic		Paper		Bottle Plastic		Glass Bottle		Can	
		Num	%	Num	%	Num	%	Num	%	Num	%
1	Kg. Cham	94	48.45	91	46.91	4	2.06	2	1.03	3	1.55
2	Kandal	64	21.12	31	10.23	72	23.76	85	28.05	51	16.83
3	Sihanouk city	136	33.83	60	14.93	124	30.85	32	7.96	50	12.44
4	Phnom Penh	24	26.97	12	13.48	23	25.84	7	7.87	23	25.84
5	Siem Reap	49	26.92	39	21.43	47	25.82	6	3.30	41	22.53
Total		367	31.37	233	19.91	270	23.08	132	11.28	168	14.36

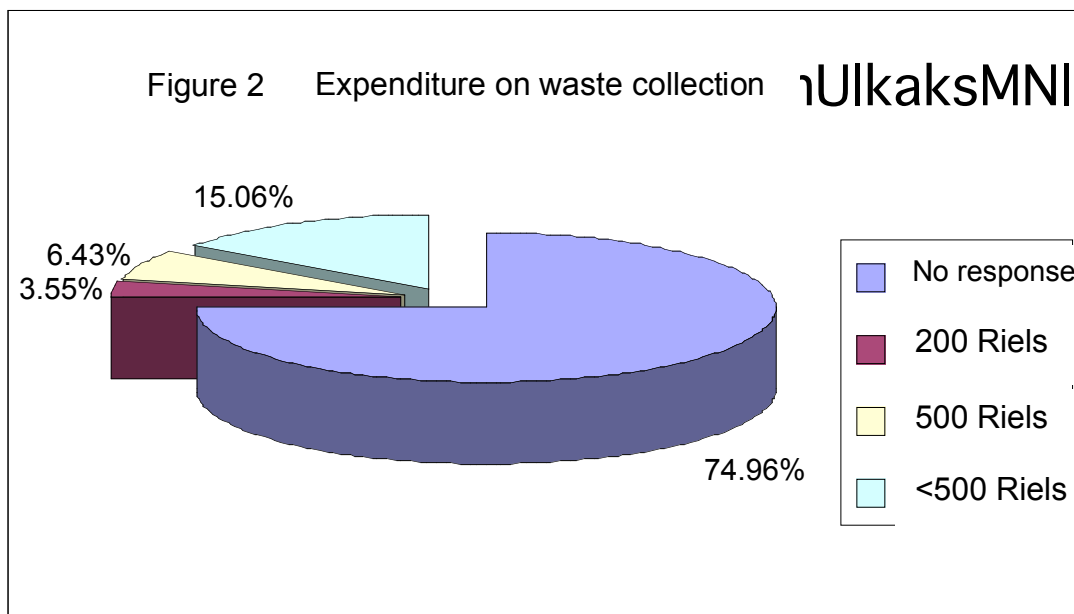
### 3.5. Weight of regular waste collection

The Study shows that the weight of regular waste collection is one Kilogram (=43.32%) and more than one kilogram (=23.52%). The responses of 16.24% of respondents for this section do not provide information or collect the waste to re-use and refine.



### 3.6. Expenditure on waste collection

The study indicates that among all respondents, there are 3.55% of whom spend 200 Riels and 15.06% of whom spend more than 500 Riels for their regular waste collection. There are 74.96% of the respondents who do not provide information or spend on their regular waste collection.



### 3.7. Waste Management

The study indicates that there are 41.62% of respondents who burn their waste and 9.81% bury in the land. Information is not provided by 30.46% of respondents.

Table 10: Waste Management

Management	Number	%
No response	180	30.46
Put in the whole	107	18.10
Burn out	246	41.62
Bury in the land	58	9.81

### 3.8. Interest of Waste Management

#### 3.8.1. Interest of Waste Management by Province/City

The study indicates that most of the respondents, 91.20%, would like to have waste management. It is considered to establish materials regarding this.

Table 11: Interest of Waste Management by Province/City

No	Provinces/City	Not interested in		Interested in	
		Number	%	Number	%
1	Kampong Cham	0	0.00	97	100.00
2	Kandal	15	15.15	84	84.85
3	Sihanouk city	4	3.92	98	96.08
4	Phnom Penh	19	9.27	186	90.73
5	Siem Reap	14	15.91	74	84.09
Total		52	8.80	539	91.20

#### 3.8.2. Interest and Need on Waste Management Knowledge

It is shown that 36.54% of respondents who are not interested in waste management but they need to have knowledge on waste management. However, most of the respondent (=83.86%) are interested in and need to have knowledge on waste management.

Table 12: Interest and Need on Waste Management Knowledge

Needs	Not interested in		Interested in		Total	
	Number	%	Number	%	Number	%
Not acquire knowledge	33	63.46	87	16.14	120	20.30
Acquire knowledge	19	36.54	452	83.86	471	79.70

#### 3.8.3. Interest and Eagerness to know Waste Management

There are 78.85% of respondents who are not interested in Waste but they want to have waste management. 96.29% of respondents are interested in and eager to know Waste Management.

Table 13: Interest and Eagerness to know Waste Management

Interest	Not Interested in		Interested in		Total	
	Number	%	Number	%	Number	%
Not want to know	11	21.15	20	3.71	31	5.25
want to know	41	78.85	519	96.29	560	94.75

### 3.8.4. Interest and Acquisition of knowledge

Among all respondents, there are 21.15% who are not interested in waste management but they are used to have education on this. 75.88% of respondents who are interested in waste management never have education on this.

Table 14: Interest and Acquisition of Knowledge

Education	Not interested in		Interested in		Total	
	Number	%	Number	%	Number	%
Never have	41	78.85	409	75.88	450	76.14
Used to have	11	21.15	130	24.12	141	23.86

### 3.8.5. Interest and Opportunity to Education

The study presents that there are 56.03% of respondents who feel interested in waste management but do not have opportunity to such a kind of education. Meanwhile, there are 43.97% of respondents who feel interested in and have opportunity to have access to such education.

Table 15: Interest and Opportunity to Education

Education	Not interested in		Interested in		Total	
	Number	%	Number	%	Number	%
No opportunity	40	76.92	302	56.03	342	57.87
Have opportunity	12	23.08	237	43.97	249	42.13

### 3.8.6. Expenditure on waste management

There are 65.14% of respondents who do not expense at all on waste collection. 23.52% of them expense from 1500 Riels up to 4000 Riels and 0.17% of them expense more than 8000 Riels for Litter Collection Company.

Table 16: Expenditure on waste management

Provinces /City	Expenditure in Riels ( 4100 Riels = 1USD)										Total	
	No expense		500-1500		1501-4000		4001-8000		<8000			
	Num	%	Num	%	Num	%	Num	%	Num	%	Num	%
Kg. Cham	92	15.57	0	0.00	0	0.00	5	0.85	0	0.00	97	16.41
Kandal	32	5.41	2	0.34	38	6.43	27	4.57	0	0.00	99	16.75
Sihanouk city	97	16.41	0	0.00	0	0.00	5	0.85	0	0.00	102	17.26
Phnom Penh	78	13.20	20	3.38	101	17.09	5	0.85	1	0.17	205	34.69
Siem Reap	86	14.55	0	0.00	0	0.00	2	0.34	0	0.00	88	14.89
Total	385	65.14	22	3.72	139	23.52	44	7.45	1	0.17	591	100.00

#### 4. Perception of Waste Management by respondents

We have compiled the definition of waste management of the respondents as the following:

- Home leftover** : It consists of rice, vegetables, and soup leftover and other debris which are easy decomposed.
- Animal excrement** : It is the excrement of poultry and buffalo and cow...
- Litter** : It consists of leaves of trees, debris of old cloth, broken Porcelain or glasses, papers...which are not easy to decompose.
- Used Can** : It is a used can which made from aluminum.
- Used bottle** : It is a used bottle which is not broken.
- Plastic** : It is a material which made from plastic such as plastic bags, plastic bottles, and plastic containers.

It is shown that 17.04% of respondents provide information on home leftover, 11.31% on animal excrement, 23.26% on Litters, 17.29% on used can, 17.12% on used bottle, and 13.96% on Plastic.

Table 17: Perception of Waste Management by respondents

Provinces/City	Home leftover		Animal excrement		Litter		Used can		Used bottle		Plastic	
	Num	%	Num	%	Num	%	Num	%	Num	%	Num	%
Kampong Cham	76	20.65%	66	17.93%	76	20.65%	75	20.38%	74	20.11%	1	0.27%
Kandal	47	18.50%	17	6.69%	60	23.62%	27	10.63%	47	18.50%	56	22.05%
Sihanouk city	49	16.17%	19	6.27%	75	24.75%	48	15.84%	42	13.86%	70	23.10%
Phnom Penh	14	7.41%	14	7.41%	53	28.04%	39	20.63%	27	14.29%	42	22.22%
Siem Reap	25	20.16%	24	19.35%	24	19.35%	25	20.16%	22	17.74%	4	3.23%
Total	211	17.04%	140	11.31%	288	23.26%	214	17.29%	212	17.12%	173	13.97%



## 2. Guideline to fill questionnaire

To ensure the efficiency in processing the questionnaire needs the interviewer or interviewer officer to know the following:

- Code: Please do not fill. It is for the Official coder only.
- Information of interviewer:
  - Name, Sex, Position and Telephone has to be filled by the interviewer.
  - Date of interview: Please fill the date to interview, e.g. 25 Feb 2005.
  - Place of interview: Please fill the house number; Street, Group, and the name of Village, commune, district, Province/city of the respondent with emphasize the size of the village (measure as Km<sup>2</sup>) and size of the family, and the total population and population projection per year in the village.
- Information of Respondents: Please fill
  - Name and next name (if any) of the respondents with emphasizing the sex, age, and education level.
  - Ethnicity: Please tick one box only of the ethnic provided boxes.
  - Family status: Please tick only one box of the provided boxes.
- Waste Usage: Please tick
  - The provided boxes for more than one to answer the question in 3.1 point.
  - Yes or No box of Question in 3.2 point and provide the Reason for choosing the Yes or No box.
  - One or more of the provided boxes of Question in 3.3 point.
  - One or more of the provided boxes of Question in 3.4 point.
  - The kilo of weight which provided in 3.5 point of Question.
  - One expenditure box of Question in 3.6 that the respondents spend for their waste collection
  - One of the provided boxes of Question in 3.7 for their habit of waste management.
  - One of the provided boxes of Questions in 3.8 and 3.9. These questions ask the interest in waste management of the respondents.
  - One of the provided boxes of Question in 3.10 to have a look the respondents' previous knowledge on waste management.
  - One of the provided boxes of Question in 3.11 to see the possible opportunity and time that the respondents gain education on waste management.
  - One of the provided boxes of Question in 3.12 to see the expenditure of the respondents who spend to the waste collection company.
  - One of the provided boxes of Question in 3.13 to observe or see the waste collection have reuse or refine any kind of wastes or not.

### 3. Entering Form

Master Data : Form
X

**កំរងសំណួរស្តីពីការគ្រប់គ្រងភាគសំណល់**  
**(ភ្នំពេញ - ក្រុងព្រះសីហនុ - កណ្តាល - កំពង់ចាម - សៀមរាប)**

Add Record
លេខកូដ

ព័ត៌មានអង្កេតប្រឹកស័កសន៍
លេខកូដ

ឈ្មោះ  ភេទ  កូនចី

លេខទូរស័ព្ទ  ថ្ងៃខែឆ្នាំធ្វើសំភាសន៍

លេខកូដភូមិ

ភូមិ  ឃុំ

ស្រុក  ខេត្ត

ទំហំ  ចំនួនគ្រួសារ  ចំនួនប្រជាជន  កំរើនប្រជាជន

ព័ត៌មានអ្នកប្រឹកស័កសន៍

ឈ្មោះ  ឈ្មោះហៅក្រៅ  ភេទ  អាយុ

កំពុងរៀនថ្នាក់ទី  ធ្លាប់រៀនថ្នាក់ទី  ស្ថានភាពគ្រួសារ  ជនជាតិ

ក.១ - កាកសំណល់ ដែលប្រមូលប្រចាំថ្ងៃ  សាមកសង្ក  កាកសំណល់ផ្ទះបាយ  សំរាម

ក.២ - កែវថ្លៃ ឬប្រើប្រាស់ឡើងវិញ  មូលហេតុ

ខ - កាកសំណល់ដែលយកទៅកែវថ្លៃ  ទិញស្លឹក  ក្រដាស  ដបដីរ  ដបកែវ  កំប៉ុង

គ - កាកសំណល់យកទៅប្រើប្រាស់វាលថ្ងៃ  ទិញស្លឹក  ក្រដាស  ដបដីរ  ដបកែវ  កំប៉ុង

ឃ - កាកសំណល់ប្រមូលជាមធ្យម  ង - ការចំណាយលើការប្រមូលកាកសំណល់

ច - ការគ្រប់គ្រងកាកសំណល់  ឆ - ការចាប់អារម្មណ៍អំពីការគ្រប់គ្រងកាកសំណល់

ជ - ការចាំបាច់ចំណេះដឹង  ឈ - ទងដឹងអំពីវិធីគ្រប់គ្រងកាកសំណល់

ញ - អ្នកធ្លាប់ ឬមិនធ្លាប់ទទួលការអប់រំ  ដ - ឱកាសរៀនអំពីការគ្រប់គ្រងកាកសំណល់

ដ - ប្រាក់ចំណាយសំរាប់ការដឹកជញ្ជូន  ឡ - ការកែវថ្លៃសំរាមរបស់ក្រុមហ៊ុនប្រមូលសំរាម

គំរេងចំពាក្យ

## 4. Team Work

### 4.1. Leadership and Management

Mr. Phung Hansin	Director of Non-formal Education
Mr. Kuoch Kou Lom-A	Deputy Director of Non-formal Education

### 4.2. Developing Questionnaires

Mr. Phung Hansin	Director of Non-formal Education
Mr. Kuoch Kou Lom-A	Deputy Director of Non-formal Education
Mr. Chim Boran	Assistant chief of office of Post literacy Development
Mrs. Kang Sothavy	Assistant chief of office of Post literacy Development
Mr. Chhin Vit	Assistant chief of office of Planning and NFE-MIS

### 4.3. Data collection team

Mr. Chim Boran	Assistant chief of office of Post literacy Development
Mrs. Kang Sothavy	Assistant chief of office of Post literacy Development
Mr. Kim Davuth	Assistant chief of Complementary Education Office
Mrs. Srun Maty	Staff of office of Post literacy Development
Mrs. Yi Sophornratha	Staff of office of Post literacy Development
Mr. Vanh Sreu	Staff of office of Post literacy Development
Mr. Chhom Chanmunireth	Staff of office of Post literacy Development
Mr. Pen Saroeun	Staff of office of Community Learning Center
Mr. Keo Sroeun	Staff of office of Post literacy Development
Mr. Ek Sakhun	Staff of office of Community Learning Center
Mr. Kruy Meng	Staff of office of Post literacy Development
Mrs. Chan Ratanak Ubal	Staff of CWDA
Ms. Tony Mashy	Staff of CWDA
Mrs. Seri Maly	Staff of CWDA
Mrs. Hun Phanna	Staff of CWDA

### 4.4. Data cleaning, coding and entering

Mr. Chhin Vit	Assistant chief of office of Planning and NFE-MIS
Mr. Chin Nivath	Staff of office of Planning and NFE-MIS
Ms. San Somaly	Staff of office of Planning and NFE-MIS
Ms. Chhum Sophorn	Staff of office of Planning and NFE-MIS
Ms. Souch Phanna	Staff of office of Planning and NFE-MIS
Ms. Ty Vattei	Staff of office of Planning and NFE-MIS
Mr. Yord Dy	Staff of office of Planning and NFE-MIS

Mrs. Ty Rada

Staff of office of Planning and NFE-MIS

#### 4.5. Analysis and Report

Mr. Phung Hansin

Director of Non-formal Education

Mr. Kuoch Kou Lom-A

Deputy Director of Non-formal Education

Mr. Chhin Vit

Assistant chief of office of Planning and NFE-MIS

# Report on Waste Management Survey

(Phnom Penh, Sihanuk Ville, Kandal,  
Kampong Cham, and Siem Reap)



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