

REPUBLIC OF RWANDA

Ministry of Local
Government
(MINALOC)



National Institute of
Statistics of Rwanda
(NISR)

Vision 2020 Umurenge Program (VUP) - Baseline Survey - Final report -

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Preface

The immediate objective of Vision 2020 Umurenge Program (VUP) is poverty reduction, with an ultimate goal of achieving economic and social development in the long run. VUP is basically a social security program targeting poor households with a variety of financial and social developmental assistance. The phasing implementation of VUP Program is planned for. The implementation procedures is primarily the responsibility of local administrative authorities, under close guidance and supervision on the part of the concerned officials at the Ministry of Local Government (MINILOC).

Monitoring and Evaluation are instrumental components of the VUP so as to assess implementation processes as well as to quantify the extent of improvements that such intervention programs would have brought about. The results of the Base-line Survey, 2008, presented in this volume, lay the foundation for the purpose of carrying out evaluation studies in the future. In the same time, the results provide, in an objective manner, a description of the social, economic and demographic characteristics of both intervention and control communities.

The National Institute of Statistics of Rwanda (NISR) has been entrusted with the implementation of this Base-Line Survey. In spite of time restraint, NISR has carried out the survey efficiently and in a timely fashion. I'm really indebted to the Director General of NISR and all concerned NISR staff for their tireless efforts and immeasurable dedication during the various stages of survey implementation.



Christophe BAZIVAMO,
Minister of Local Government

Foreword

As per the request of the ministry of local government (MINALOC), the National Institute of Statistics of Rwanda (NISR) has conducted a Base-line survey on the Vision 2020 Umurenge Program (VUP) sectors, for the purpose of laying foundation for Monitoring and Evaluation of the VUP intervention packages of financial and social developmental assistance of different kinds.

The survey preparations started in early November, 2008 and the field work started on 13th to 24th December 2008. The preliminary tabulations were handed over to MINALOC early in February 2009. The final tabulations were made available in early May 2009. The present final report, including explanations and data interpretation, was prepared in the period mid-May to mid-June 2009.

This work would not have succeeded without the serious efforts and dedication of the survey designated Team at the National Institute of Statistics of Rwanda and Ministry of Local Government from the design till the analysis stage. The National Institute of Statistics has spared no efforts in order to ensure successful implementation of this important survey. We would like to seize this opportunity to thank Honorable Christophe BAZIVAMO, Minister of Local Government, for his continuous support throughout the survey implementation stages.

The final survey report has been prepared by a team from the NISR coordinated by Mr RUTERANA A. Baudouin, the Director of the Demographic and Social Statistics Unit at NISR, assisted by MUCHOCHORI Kanobana and BYIRINGIRO James. They all deserve my highest acknowledgement.

NISR hopes that, this report would satisfy its purposes.



MURANGWA Yusuf,
Acting Director General of National
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TABLE OF CONTENTS

Preface.....	i
Forward.....	ii
Table of Contents.....	iii
Annexes.....	vi
List of Tables.....	vii

Chapter One: SURVEY METHODOLOGY.....1

1.1. Introduction.....	1
1.2. Survey Objectives.....	2
1.3. Questionnaires.....	2
3.1 Household Schedule.....	2
3.2 Consumption Questionnaire.....	3
3.3 Income Questionnaire.....	3
1.4. Sample Design.....	4
1.4.1 Implemented Sample and Response Rate.....	6
1.4.2 Weighting and Estimation Procedure.....	7
a) Weighting Procedures.....	7
b) Survey Estimates.....	7
1.5. Data Collection.....	7
1.5.1 Training for the Field Work.....	7
1.5.2 Field Work and Quality Assurance Measures.....	8
1.5.3 Data Processing.....	8
1.6. Basic Concept and Definitions.....	9
1.6.1 Household.....	9
1.6.2 Adult Equivalent Persons.....	10
1.6.3 Extreme Poverty Line.....	10
1.6.4 Total Poverty Line.....	10
1.6.5 Prevalence of Extreme Poverty.....	10
1.6.6 Prevalence of Total Poverty.....	10
1.6.7 Poverty Gap Ratio.....	10
1.6.8 Household Consumption Expenditure.....	11
1.6.9 Actual Final Consumption.....	12
1.6.10 Household Income.....	12

Chapter Two: SOCIO-DEMOGRAPHIC CHARACTERISTICS.....13

2.1. Demographic Characteristics	13
2.1.1 Age and sex structure of study population.....	13
2.1.2 Age and sex structure of heads of households.....	14
2.2 Marital Status.....	15
2.3 Education.....	16
2.3.1 Educational characteristics of the study populations.....	16
2.3.2 Male educational characteristics.....	19

2.3.3 Female educational characteristics	20
2.3.4 School enrollment	22
2.3.5 Male enrollment	23
2.3.6 Female enrollment	23
2.4. Employment	24
2.4.1 Level and pattern of unemployment.....	24
2.4.2 Economic activity of working population (18 years +).....	26
2.4.3 Male economic activity of working population (18 years +).....	27
2.4.4 Female economic activity of working population (18 years +).....	28
2.5. Child labor.....	28
2.5.1 Child labor characteristics.....	28
2.5.2 Male child labor.....	29
2.5.3 Female child labor.....	30
2.5.4 Age structure of working children.....	31
2.5.5 Sex structure in child labor.....	33
2.6. Participation in public works.....	34
2.7. Disability.....	35
2.7.1 Disability characteristics of the population.....	35
2.7.2 Main types of disability.....	36
2.7.2.1 Types of disability in male population	38
2.7.2.2 Types of disability in female population	39
2.8: Immunization and health insurance	40
2.8.1 Immunization.....	40
2.8.2 Health insurance.....	42
Chapter Three: POVERTY AND INCOME.....	44
3.1: Prevalence of extreme poverty.....	44
3.2 Prevalence of general poverty.....	45
3.3: Poverty gap-ratio (depth of poverty).....	45
3.4: Consumption quintiles.....	46
3.5: Household income	47
3.5.1 Source of income.....	47
3.3.2 Income distribution.....	49
Chapter Four: NUTRITION STATUS.....	52
4.1 Number of meals taken.....	52
4.2 Reduction of number of meals per day.....	54
4.3 Food assistance.....	55
Chapter Five: HOUSEHOLD CHARACTERISTICS.....	56
5.1 Nature of the housing wall.....	56
5.2 Nature of the housing roof.....	57

5.3 Housing occupation status.....	58
5.4 Household main source of drinking water.....	60
5.5 Household main source of light.....	61
5.6 Method of waste disposal.....	62
5.7 Toilet type.....	64

Chapter Six: COMMUNITY DEVELOPMENT AT CELL ADMINISTRATIVE LEVEL.....66

6.1 Infrastructure and public service availability.....	66
6.2 Economic characteristics and migration.....	69
6.2.1 Economic activity.....	69
6.2.2 Child labor	69
6.2.3 Migration.....	70

ANNEXES.....	71
Annex A: Sampling errors and relevant precision estimates.....	72
Annex B: Weight calculation.....	94
Annex C: Estimation Procedures.....	96
Annex D: Survey Personnel.....	99

LIST OF TABLES

Table 1.1: First Stage Sample.....	5
Table 1.2: Number of poor households as indicated in the household lists.....	6
Table 1.3: Implemented Sample and Non-response rate.....	6
Table 1.4: Equivalence scale according to age and sex.....	9
Table 2.1: Distribution of population by age and sex for intervention and control communities.....	13
Table 2.2: Sex ratio by age for intervention and control communities.....	14
Table 2.3: Distribution of households according to age and sex of head of household for intervention and control.....	14
Table 2.4: Distribution of population (12 years+) according to marital status and sex for intervention and control communities.....	15
Table 2.5: Distribution of households according to the marital status and sex of the head of household for intervention and control communities.....	16
Table 2.6: Distribution of population (15 years+) according to the highest educational level and sex for intervention and control communities.....	17
Table 2.7: Distribution of population (15 years +) according to highest educational level and vulnerability status for intervention and control communities.....	18
Table 2.7.1 (a): Intervention.....	18
Table 2.7.1 (b): Control.....	18
Table 2.7.2 (a): Intervention (male).....	19
Table 2.7.2 (b): Control (male).....	20
Table 2.7.3 (a): Intervention (female).....	21
Table 2.7.3 (b): Control (female).....	21
Table 2.8: Net enrolment ratio in primary and secondary education by vulnerability status.....	22
Table 2.8.1 (a): Intervention (both sexes).....	22
Table 2.8.1 (b): Control (both sexes).....	22
Table 2.8.2 (a): Intervention (male)	23
Table 2.8.2 (b): Control (male).....	23
Table 2.8.3 (a): Intervention (females).....	24
Table 2.8.3 (b): Control (female).....	24

Table 2.9: Unemployment rate by vulnerability status and sex (18 years+)	25
Table 2.9 (a): Intervention	25
Table 2.9 (b): Control	25
Table 2.10: Distribution of working persons (18 years +) by economic activity and vulnerability status	26
Table 2.10.1 (a): Intervention (total)	26
Table 2.10.1 (b): Control (total)	26
Table 2.10.2 (a): Intervention (male)	27
Table 2.10.2 (b): Control (male)	27
Table 2.10.3 (a): Intervention (female)	28
Table 2.10.3 (b): Control (female)	28
Table 2.11: Percentage of working children (5-17 years old) by economic activity and vulnerability status	29
Table 2.11.1 (a): Intervention (total)	29
Table 2.11.1 (b): Control (total)	29
Table 2.11.2 (a): Intervention (male)	30
Table 2.11.2 (b): Control (male)	30
Table 2.11.3 (a): Intervention (female)	31
Table 2.11.3 (b): Control (female)	31
Table 2.12: Distribution of working children (5-17 years old) by age and vulnerability status	32
Table 2.12 (a): Intervention	32
Table 2.12 (b): Control	32
Table 2.13: Distribution of working children (5-17 years old) by sex and vulnerability status	33
Table 2.13 (a): Intervention	33
Table 2.13 (b): Control	33
Table 2.14: Percentage of persons having public works in last 12 months by vulnerability groups for intervention and control communities	34
Table 2.15: Mean days of public work in last 12 months by vulnerability groups for intervention and control communities	35
Table 2.16: Number of disabled persons per 1000 population by sex and vulnerability group	36
Table 2.16 (a): Intervention	36

Table 2.16 (b): Control.....	36
Table 2.17: Distribution of persons with disability/ traumatism by type of disability and vulnerability group.....	37
Table 2.17.1 (a): Intervention.....	37
Table 2.17.1 (b): Control.....	37
Table 2.17.2 (a): Intervention (male).....	38
Table 2.17.2 (b): Control (male).....	38
Table 2.17.3 (a): Intervention (female).....	39
Table 2.17.3 (b): Control (female).....	39
Table 2.18: Distribution of children aged from 12 to 23 months according to immunization status by vulnerability.....	41
Table 2.18 (a): Intervention (total).....	41
Table 2.18 (b): Control (total).....	42
Table 2.19: Distribution of persons by type of health insurance and vulnerability status.....	43
Table 2.19 (a): Intervention.....	43
Table 2.19 (b): Control.....	43
Table 3.1: Percentage of adult-equivalent population below the extreme poverty line by vulnerability status for intervention and control communities.....	44
Table 3.2: Percentage of adult-equivalent population below the overall poverty line by vulnerability status for intervention and control communities.....	45
Table 3.3: Poverty gap-ratio for intervention and control communities by vulnerability status.....	46
Table 3.4 (a): Mean annual consumption per adult-equivalent by consumption quintile for intervention communities.....	46
Table 3.4 (b): Mean annual consumption per adult-equivalent by consumption quintile for control communities.....	47
Table 3.5.: Mean household yearly income by income source and vulnerability status.....	48
Table 3.5 (a): Intervention.....	48
Table 3.5 (b): Control	48

Table 3.6: Distribution of households by yearly income according to vulnerability status.....	50
Table 3.6 (a): Intervention.....	50
Table 3.6 (b): Control	51
Table 4.1: Distribution of households by number of daily meals according to the households' size.....	52
Table 4.1 (a): Intervention.....	52
Table 4.1 (b): Control.....	53
Table 4.2: Distribution of households by number of meals according to vulnerability status.....	53
Table 4.2 (a) Intervention.....	53
Table 4.2 (b) Control.....	54
Table 4.3: Percentage of households reported reduction of the number of daily meals in the last 12 months by vulnerability status for intervention and control communities.....	54
Table 4.4 (a): Percentage of households that asked for food assistance in the last 12 months by the number of meals per day for intervention and control communities.....	55
Table 4.4 (b): Percentage of households that asked for food assistance in the last 12 months by vulnerability group.....	55
Table 5.1: Distribution of households according to the nature of the housing wall by vulnerability status.....	56
Table 5.1 (a): Intervention.....	56
Table 5.1 (b): Control.....	57
Table 5.2: Distribution of households according to the nature of housing roof by vulnerability status.....	58
Table 5.2 (a): Intervention.....	58
Table 5.2 (b): Control.....	58
Table 5.3: Distribution of households according to housing occupation status by vulnerability status.....	59
Table 5.3 (a) Intervention.....	59
Table 5.3 (b): Control.....	59

Table 5.4: Distribution of households according to source of drinking water by vulnerability status.....	60
Table 5.4 (a) Intervention.....	60
Table 5.4 (b): Control.....	61
Table 5.5: Distribution of households according to the main source of light by vulnerability status.....	62
Table 5.5 (a): Intervention.....	62
Table 5.5 (b): Control.....	62
Table 5.6: Distribution of households according to the main method of waste disposal by vulnerability status.....	63
Table 5.6 (a): Intervention	63
Table 5.6 (b): Control.....	63
Table 5.7: Distribution of households according to type of used toilet by vulnerability status.....	64
Table 5.7 (a): Intervention.....	64
Table 5.7 (b): Control.....	65
Table 6.1.1: Percentages of cells having the indicated facilities for intervention and control communities.....	67
Table 6.1.2: Distribution of cells according to the source of light for intervention and control communities.....	67
Table 6.1.3: Distribution of cells according to the means of waste disposal.....	68
Table 6.1.4: Distribution of cells according to the source of water for intervention and control communities.....	68
Table 6.2.1: Distribution of cells according to the first, second and third economic activity for intervention and control communities.....	69
Table 6.2.2: Percentage of cells reported having child labor for cash for intervention and control communities.....	70
Table 6.2.3: Percentage of cells experiencing out-migration; in-migration or both.....	70

CHAPTER ONE

SURVEY METHODOLOGY

1.1. Introduction

The Rwandan government endorsed its second poverty reduction strategy paper known as Economic Development and Poverty Reduction Strategy (EDPRS) in December 2007. EDPRS serves as a mid-term framework to implement the government's long term development agenda described in Vision 2020 and the internationally agreed development goals known as the Millennium Development Goals (MDGs). The EDPRS is pitched on three pillars to accelerate growth that is widely shared, and promote human development. These are sustainable growth for jobs and exports; Vision 2020 *Umurenge*, and good economic governance. The first pillar envisions growth acceleration through "high quality public investment programme aimed at systematically reducing the operational costs of business, increase the capacity to innovate, and widen and deepen the financial sector¹." The second pillar of EDPRS Vision 2020 *Umurenge* "will accelerate the rate of poverty reduction by promoting pro-poor components of the national growth agenda. This will be achieved by releasing the productive capacity of the poor in rural areas through a combination of public works, credit packages and direct support²". The third component or pillar of EDPRS continues to build on Rwanda's track record of low rate of corruption and maintaining overall peace and security within the country and in the neighbouring region.

In compliance with EDPRS and Vision 2020 *Umurenge*, the Government of Rwanda, through the Ministry of Local Government (MINALOC) is embarking on a comprehensive social protection program targeting the poorest population segments. This assistance program implies the provision of financial services, direct support, public works and skill development in small business, depending on the pre-specified condition of the poor household.

In its first phase, the VUP Support program will be implemented in the poorest administrative sector of each district. Within every district, sectors were subjectively ranked according to the poverty level, and the poorest one was selected for the social protection program. Noteworthy is that, the ranking process of sectors with regard to poverty level has been made according to the perceptions and judgments of community members based on the principle of wealth ranking, or *ubudehe*.

The initiation of a Monitoring and Evaluation strategy for the VUP Support is instrumental for the project to meet its objectives in a most cost-effective manner. To this end, a panel survey project incorporates "Intervention" and "Control" groups, will be implemented to study the effectiveness of the VUP Support in reducing the depth of

¹ EDPRS (2007): pp ix.

² Ibid, pp ix.

poverty. The specific objectives and the survey methodology are outlined in the subsequent sections.

1.2. Survey Objectives

The objectives of the survey are manifold. First, it will provide baseline information on the socio-economic and demographic characteristics of the poorest population eligible for assistance which is expected to validate the initial subjective ranking of household welfare through *ubudehe*. Particularly, cut-off consumption levels are obtained for subsequent impact assessment. Secondly, through a follow up survey, it will be possible to evaluate the impact of the social assistance program on key welfare outcomes, such as rising income, improved skills, social participation, accumulation of human capital (access to health care, education of children, etc...) and other indicators. As such, this survey lays the basis for an integrated household panel in subsequent years to track living conditions for the most vulnerable and extreme poor in Rwanda.

As an evaluation tool, the panel survey (a non-rotating, balanced one) will make possible comparison of changes occurred in a certain period of time for both “Intervention” and “Control” groups. Thus, the null hypothesis that the intervention program is effective can statistically be tested. The developmental aspects, for which changes over time will be measured for both study groups, are given in the following:

1. Prevalence of poverty.
2. Depth of poverty as measured by poverty-gap ratio
3. Income level and sources
4. Educational status and school enrolment
5. Employment/unemployment characteristics
6. Disability
7. Child health (vaccination and immunization for children in the age group 12-23 months)

1.3. Questionnaires

The measurement of poverty indicators entails measuring consumption of food and non-food items. For this reason a methodology similar to that of living condition surveys has been followed. In this regards a set of three questionnaires has been designed utilizing the same questionnaires applied in the latest Living Condition Survey carried out in 2005/2006 (EICV2). Nonetheless, necessary modification has been introduced on the EICV2 questionnaires in compliance with the above mentioned objectives. The contents of the three household questionnaires are outlined as follows:

1.3.1 Household Schedule:

In addition to basic information (age, sex, and relationship to the head of household) it includes data items on educational status; school enrolment and drop-out; marital status; disability; labor force participation; employment status; economic activity,;

number of working days in the last week, month and year for those reported working in the week preceding the interview, last month and year for those reported working in the preceding month but not in the preceding week, and last year for those reported working in the preceding year but not in the preceding month; and daily wages . Two modules are added to the household schedule to ascertain information on housing conditions, and vaccination/ immunization.

1.3.2 Consumption Questionnaire:

The consumption questionnaire is designed to capture the consumption elements and composition following COICOP classification of goods and services. With regard to food and beverages items the reference period of data collection is Nine days, during which interviewers have visited the same household four times for the purpose of data collection of various consumption modules and in the same time to ascertain proper recording of daily consumption of food and beverages items. The completion of consumption questionnaire for food and beverages items has been facilitated by using a diary for the households to record their daily consumption with the help of interviewers. The diary was given to households in the first visit. The reference periods for non-food items vary according to expenditure frequency. The same reference periods applied in EICV2 for non-food items have been followed. These reference periods are.

- a- Food and non-alcoholic beverages (nine days)
- b- Alcoholic beverages and tobacco (the month ended in the interviewing date)
- c- Clothes and foot wear (the year ended in the interviewing date)
- d- Housing (the month and the year ended in the interviewing date)
- e- House equipment (the year ended in the interviewing date)
- f- Health (the month and the year ended in the interviewing date)
- g- Transportation (the month and the year ended in the interviewing date)
- h- Communication (the month and the year ended in the interviewing date)
- i- Entertainment (the year ended in the interviewing date)
- j- Education (the year ended in the interviewing date)
- k- Restaurant and Hotels (the year ended in the interviewing date)
- l- Miscellaneous goods and services (the year ended in the interviewing date)

1.3.3 Income Questionnaire

This questionnaire has been completed in the last visit to the household. Income data were collected for each income recipient previously identified in the household schedule. Four major income sources have been dealt with, *viz.*, Wages/salaries; Income of self-employed persons, *i.e.*, from agricultural and non-agricultural projects owned and managed by respondents; income from financial and non-financial properties; and income from received transfers.

Furthermore, a **community questionnaire** has been completed for each cell. Community data items are focused on the availability of infrastructure (roads, markets, schools, etc...) as well as the accessibility to public services.

The first drafts of all questionnaires were sent to MINALOC and WB for comments. The comments from those institutions have been taken into consideration in the 2nd draft of the questionnaires. The final versions of the questionnaires were produced after the training of the interviewers was completed. Although, other questions from DFID and the WB were sent too late to NISR to be incorporated in the VUP Baseline questionnaires. They were included in the last moment.

In response to some operational considerations, the three questionnaires were appended in a large unified questionnaire divided into several modules containing the information mentioned in the individual questionnaires described above.

1.4. Sample design

The baseline survey and subsequently the panel that emerges can be conceived as experimental design with a clear objective of comparing outcomes attributed directly to the VUP and outcome resulting from normal trend of development (no intervention). So, we have the advantage of selecting an optimal sample size that not only minimizes the two-well known types of survey errors (sampling and non-sampling errors), but also, that allows for measuring reliable confidence intervals of the key outcome indicators, in this case consumption expenditure and poverty indices. As is common in experimental designs, the sample size also determines what level of outcome differences is acceptable to the researcher/policy maker. In other words, if we are hoping for a significantly higher income differences between targeted and control groups through our intervention, then, the sample size needed is lower for the same sampling error. Thus, at the national level, we have a two-stage stratified non-self weighted of equal size for both “Intervention” and “Control” groups. For each of the two study groups the sample size has been determined as of 1200 households³. The determination of the sample size was guided by the previous experience of EICV surveys in which the smallest sample size for an analysis domain was found to be in the vicinity of 500 households. In addition, due to time and resource constraints it would be difficult to implement a sample of a bigger size. The original sampling scheme is described subsequently; nonetheless there has been some deviation from the initial design as explained in due course.

- **Stratification:** The households in each poorest and next-to-the poorest sectors are originally envisaged to be divided into two major groups: poor households and non-poor households. The former is the target survey population. Furthermore, the poor households are to be divided into four strata: households without land or working members; households without land but having working members; and households with land but lacking working members, and households having both land and working members. Since the nature of the assistance scheme under VUP

³ Note that this sample size can be reduced if our minimum income difference tends to be large, as it should given the main objective of the program.

varies according to the stratum to which the household belongs, it becomes necessary to drive estimates for each stratum independently. To this end, independent samples of 300 households each would have been selected from each stratum in both “Intervention” and “Control” groups. Nonetheless, although NISR was informed that lists of the households of each stratum for both study groups are available at MINALOC, such stratified lists were not delivered to NISR. Only non-stratified lists of poor households were provided.

- **First stage sample:** The frame of the first sampling stage was prepared in such a way that each poorest sector in all districts was paired with the next-to-the poorest sector in the same district. With the aim of overcoming the contamination problems, when the poorest sector happens to be adjacent to the next-to-the-poorest one, another poor nonadjacent sector was identified and attached to the poorest one to form a pair. Hence, the Primary Sampling Unit (PSU) is a pair of the poorest and next to poorest (or another poor) sector. A sample of 10 pairs of poorest (Intervention) and next-to-the poorest (Control) sectors were selected from the frame of the 30 pairs of sectors following the Probability Proportional to size (PPS) selection method. The employed Measure of Size (MOS) is the combined number of households identified as poor (by MINALOC) within the indicated pair of sectors. For the sake of improving the precision of the sample estimates, districts were arranged geographically within each province in a serpentine fashion, so that an implicit stratification, reflecting the geographical location, is introduced with the systematic PPS selection. The sample of 10 pairs of poor sectors was allocated proportionally among the four provinces and Kigali, where selection was made independently in each province. According to this sampling scheme, the selection of a specific poorest sector (Intervention) implies an automatic selection of the next-to-the poorest sector (Control). As such the first stage selection probability for Intervention and Control samples are identical. Table 1 shows the first stage sample of poor sector pairs along with the number of poor households in each sector provided by MINALOC.

Table 1
First Stage Sample

Province	District	Intervention sectors		Control sectors	
		sector	No. of Poor households	sector	No. of Poor households
West	Karongi	Ruganda	808	Gitesi	1,627
West	Rubavu	Rubavu	1,106	Nyundo	1,666
North	Gicumbi	Rubaya	302	Muko	2,505
East	Gatsibo	Kiziguro	2,128	Nyagihanga	1,651
East	Kirehe	Mahama	2,208	Kigarama	603
Kigali	Nyarugenge	Mageragera	916	Kanyinya	466
South	Muhanga	Rugendabari	737	Nyabinoni	904
South	Nyamagabe	Kibumbwe	1,501	Kamegeri	908
South	Huye	Maraba	9,176	Mukura	2,251
South	Gisagara	Gishubi	1,760	Kansi	856

- **Second stage sample:** For each pair of sectors selected in the first sampling stage, a systematic random sample of 120 households was selected from each sector. It is important to point out that the lists of poor households in the sample sectors have shown substantial discrepancies from the previously provided aggregated number of poor household in each sector (shown in Table 1). Table 2 shows the number of poor households as indicated in the household lists.

Table 2
Number of poor households as indicated in the household lists

Province	District	Intervention sectors		Control sectors	
		sector	No. of Poor households	sector	No. of Poor households
West	Karongi	Ruganda	786	Gitesi	778
West	Rubavu	Rubavu	727	Nyundo	727
North	Gicumbi	Rubaya	586	Muko	933
East	Gatsibo	Kiziguro	1,124	Nyagihanga	749
East	Kirehe	Mahama	1,273	Kigarama	278
Kigali	Nyarugenge	Mageragera	2,178	Kanyinya	234
South	Muhanga	Rugendabari	267	Nyabinoni	451
South	Nyamagabe	Kibumbwe	1,075	Kamegeri	651
South	Huye	Maraba	1,178	Mukura	572
South	Gisagara	Gishubi	320	Kansi	120

This huge disparity between the numbers of households used as a MOS (table 1) and the numbers of households indicated in the household lists (Table 2) results in deepening the non-self-weighting property of the sample design which in turn adversely affects the precision of resulting estimates. Nonetheless, the sampling estimates remain unbiased.

1.4.1 Implemented Sample and response rate

As mentioned before the designed sample is 120 households in each selected sector whether intervention or control. Due to some non-respondent cases the implemented sample is somewhat less than the designed one. Non-response occurred primarily for different causes such as “failure to locate the sample household in the field”; households are “Not-at-home” during data collection period. “Refusals” were found to be inexistent. Table 3 show the designed and implemented samples in intervention and control sectors altogether.

Table 3
Implemented Sample and Non-response rate

Intervention			Control		
Designed sample	Implemented sample	Response rate (%)	Designed sample	Implemented sample	Response rate (%)
1200	1182	98.5	1200	1175	97.9

1.4.2 Weighting and Estimation Procedures

In view of the non-self weighting nature of the sample, the design weight (inverse of the overall sampling rate) has been applied before extracting survey results. This first round of this survey provides base-line measures, depending on which along with the results of subsequent survey rounds, changes occurred in both study groups can be measured and compared to assess the effectiveness of the intervention programs.

a- Weighting Procedures

The basic weight for each sample household is equal to the inverse of its probability of selection (calculated by multiplying the probabilities at each sampling stage). Since all survey data has been processed by computer, it was easy to attach a weight to each sample household record in the computer files, and the tabulation programs can weight the data automatically. The sampling probabilities at each stage of selection were maintained in an Excel spreadsheet so that the overall probability and corresponding weight were calculated for each sample sector. (See Annex B for details)

b- Survey Estimates

The most common survey estimates to be calculated from the VUP Baseline Survey are in the form of totals and ratios. The sampling errors are estimated using ultimate cluster method. (See Annex C for details)

1.5. Data collection and Processing

1.5.1 Training for the field work

A Training of Trainers (TOT) program of 3 days was organized from 2nd to 4th December 2008. The trainers of TOT were the NISR Statisticians who participated in designing the questionnaires and developing the interviewer manual, while trainees of TOT are other NISR staff members who were later appointed as supervisors and team leaders of the field work.

Interviewers were primarily recruited from among those who are experienced in survey implementation and interviewing, especially those who participated in the field work of EICV2 (2005/2006) and National Agriculture Survey (2007/2008). The interviewers were exposed to five-day training program from 6th to 10th December 2008. Training included classroom lectures related to the questionnaires, practical exercises in completing survey questionnaires, and role-playing. Both training sessions were conducted in Kigali. The questionnaires and survey manuals were improved during the training session and finalized at the end of the training. Those who were trained in the TOT training have acted either as trainers or training facilitators in the interviewers training.

1.5.2 Field Work and Quality assurance measures

Interviewers moved to the field on the 12th of December and data collection began on 13th of December and ended on the 24th December 2008. A total of 40 teams of 4 interviewers, 1 Team Leader and 1 driver were responsible for data collection. The Team Leader responsibility included checking completed questionnaires before sending them to the field supervisor. The field work was supervised by 10 field supervisors, each in charge of 2 data collection teams. Field Supervisors were responsible for the questionnaire editing and cross-checking before leaving the working spots.

Data quality was monitored throughout the data collection period by holding daily meetings by Team Leaders at the end/beginning of the day to review progress and address any emerging issues that might have been faced by any of the team member. The supervisors undertook field spot checks on a regular basis and also held regular meetings with team leaders or all members of the teams so as to communicate feedbacks and remarks on the checked questionnaires. There has been regular telephone communications between field supervisors and the team leaders on one hand, and between the supervisors and the concerned Assistant Survey Coordinator on another hand to update on the progress and sort out any emerging problems. The Survey Coordinator followed up the progress of the field work through continuous telephone communication with the Coordinator Assistants, and sometimes with the Supervisors.

Both Assistant survey coordinators visited regularly the teams on the field to follow-up the work progress and sort out any technical problem. In addition, The Survey Coordinator visited 16 teams working in Rubavu, Huye, Gisagara and Nyamagabe districts to monitor the progress of the field work and sort out some technical and administrative issues. Those visits were paid from Friday 19th to Sunday 21st of December 2008. Concurrently, both Assistant Survey Coordinators were doing the same in other 6 districts.

For the purpose of further insuring standardization of data collection operations, an expanded meeting was held on the 18th of December 2008 at the NISR Headquarter in Kigali. The meeting was chaired by the Survey Coordinator and attended by all supervisors and Assistant Coordinators who have submitted progress reports on the field work pertinent to their respective sectors.

1.5.3 Data Processing

In the first two weeks of January, 2009 the Unit of Management and Information Systems (MIS) of NISR was heavily engaged in verifying the data of Vulnerable Genocide Survivors for which NISR was responsible. For this reason, the data entry for VUP Baseline Survey was delayed for a couple of weeks after the field work was completed. It started in the last week of January and ended early in February. Nonetheless, data cleaning, table generation and verification, extraction of poverty indices, and calculation of sampling errors has continued for about three months.

1.6. Basic Concept and Definitions

1.6.1 Household:

A household is classified as either:

(a) a one-person household, that is to say, a person who makes provision for his or her own food or other essentials for living without combining with any other person to form part of a multi-person household; or

(b) a multi-person household, that is to say, a group of two or more persons living together who make common provision for food or other essentials of living. The persons in the group may pool their incomes and may, to a greater or lesser extent, have a common budget; they may be related or unrelated persons or constitute a combination of persons both related and unrelated.

The VUP Baseline Survey followed the *de jure* principle in considering whether a person is a household member or not.

1.6.2 Adult equivalent persons

The adult equivalent is a concept based on the calorie needs of one adult, aged 20-39 years, engaging in moderate activities. For persons outside the 20-39 age span a coefficient (the ratio of the needs of a person, classified by age and sex, compared to the need of an adult person) is assigned. These coefficients are shown in the following table.

Table 4
Equivalence scale according to age and sex

Age group	Sex	
	Male	Female
Less than a year	0.41	0.41
1-3	0.56	0.56
4-6	0.76	0.76
7-9	0.91	0.91
10-12	0.97	1.08
13-15	0.97	1.13
16-19	1.02	1.05
29-39	1.00	1.00
40-49	0.95	0.95
50-59	0.90	0.90
60-69	0.80	0.80
70 and above	0.70	0.70

It is important to point out that the conversion figures shown above have been applied in both EICV1 and EICV2 for measuring poverty indices.

1.6.3 Extreme Poverty Line

In Rwanda, a person is extremely poor if he/she lives in a household that is not able to meet the cost of a reference basket of food goods chosen to provide adequate nutritional energy of 2200 kilo calories per day. The cost of the reference food basket was estimated, in 2000, as of FRw 45,000 per adult equivalent person per annum (EICV1). The cost of the same basket was re-expressed in January 2006 prices as of FRw 63500 (EICV2). For the purpose of measuring extreme poverty in VUP Survey, the cost of the basket has been inflated so as to reflect price changes from January 2006 to December 2008. The new estimate reaches FRw 99452. This is the value of extreme poverty line which has been utilized in measuring the prevalence of extreme poverty for the VUP Baseline Survey.

1.6.4 Total Poverty Line

In the year of 2000 the share of non-food expenditure was estimated to be 30% of the total poverty line approximately, equivalent to FRw 19000. Thus the total poverty line amounted to FRw 64000 per an adult-equivalent person per annum in 2000. After considering inflation from 2000 to 2006, the corresponding figures in January 2006 were estimated as of FRw 26500 and FRw 90000 for non-food and total poverty line respectively. When inflating the non-food portion of total poverty line, so as to reflect price changes of non-food goods from January 2006 to December 2008, the resulting estimates are 35420 and 134872 for non-food component and total poverty line respectively. This is the total poverty line, based on which VUP poverty estimates were derived.

1.6.5 Prevalence of extreme poverty

It is the number of adult-equivalent persons whose annual consumption of food products is lower than the extreme poverty line, expressed as a percentage of total adult-equivalent persons in the society.

1.6.6 Prevalence of total poverty

It is the number of adult-equivalent persons whose annual consumption of food and non-food products is lower than the total poverty line, expressed as a percentage of total adult-equivalent persons in the society.

1.6.7 Poverty gap ratio

It is also known as Depth of Poverty or Scale of Poverty. This indicator measures the gravity of the situation in which the poor people live. It is the mean distance of the poor people from the total poverty line expressed as a

percentage of the total poverty line. Thus, it indicates the level on which poor people are situated below total poverty line. It has been calculated by applying the following formula:

$$\text{Poverty gap ratio} = \frac{1}{n} \sum_{i=1}^r \frac{(\lambda - y_i)}{\lambda} 100, \text{ where}$$

λ : denotes the total poverty line,

y_i : denotes the annual consumption of the i th adult-equivalent poor person,

r : is the total number of adult-equivalent poor persons, and

n : is the total number of adult-equivalent persons (poor and non-poor).

At the household level, y_i is constant for all adult-equivalent members of the household, in addition the number of adult –equivalent household members can be non-integer. For this reason Poverty gap ratio is measured from the household file applying the following formula:

$$\text{Poverty gap ratio} = \frac{1}{\sum_{j=1}^m w_j} \sum_{j=1}^{m_r} w_j \frac{(\lambda - y_j)}{\lambda} 100, \text{ where}$$

w_j : is the design weight of the j th household (w_j), adjusted for non-response, multiplied by the total number of adult equivalent members in the j th household,

y_j : denotes the annual consumption per adult-equivalent member of the j th poor household, i.e., the households for which the consumption per adult-equivalent member is below the poverty line,

m_r : is the total number of poor households, and

m : is the total number of households (poor and non-poor).

1.6.8 Household Consumption Expenditure

It is the value of consumer goods and services that were acquired by a household for the direct satisfaction of the needs and wants of its members:

- (a) through direct purchases in the market;
- (b) through the market-place but without using money as means of payment (barter, income in kind); or
- (c) from production within the household (own-account production)

1.6.9 Actual Final Consumption

This is the total value of consumer goods and services available to the household for satisfying the needs and wants of the household members. In other words, it is the sum of household consumption expenditure and the value of acquired transfers in kind from the government, non-profit institutions or other households. Defined as such, it is the actual final consumption which was followed to measure consumption and generates poverty measures for the VUP Baseline Survey.

1.6.10 Household income

It is regular monetary or in kind receipts acquired by household members during a specified period of time. Such kind of receipts must recur regularly (occurs at least once a year) and should contribute to current economic wellbeing of the household. In the VUP Baseline Survey, Income data were collected for the following income sources:

- 1.6.8 Income from employment: comprising wages/salaries and self-employment income
- 1.6.9 Property income from ownership of financial and other assets
- 1.6.10 Income from household production of services for own consumption, basically it comprises imputed rent of owner-occupied dwellings
- 1.6.11 Transfers received in cash and goods from government (e.g. pensions), other households (e.g. alimony, parental support) and non-profit institutions serving households (e.g. scholarships, strike pay).

CHAPTER TWO

SOCIO-DEMOGRAPHIC CHARACTERISTICS

This chapter deals with the socio-demographic characteristics namely, the demographic characteristics (which include the age and sex structure of the study population, age and sex structure of heads of households), marital status, education (which include educational characteristics of the study populations, male and female education characteristics, school enrollment, male and female school enrollment), employment (which include level and pattern of unemployment, economic activity of working population with 18 years +, male economic activity of working population with 18 years +, female economic activity of working population with 18 years +), child labor (which include child labor characteristics, male and female child labor, age structure of working children and sex structure in child labor), participation in public works, disability (which include disability characteristics of the population, main types of disability, types of disability in male and female populations) and lastly immunization and health insurance (which include immunization and health insurance).

2.1. DEMOGRAPHIC CHARACTERISTICS

2.1.1 AGE AND SEX STRUCTURE OF STUDY POPULATION

Table 2.1 shows that, 46 % of the whole population in the intervention communities is aged between 18-64 years old (i.e. the active population) while only 4.5% is aged 65 years and above, and with a young population of about 48.1% (aged 0 to 17 years old) which is the highest population concentration, yet it is normal for a developing country like Rwanda. The comparable figures for the control communities are 42.6% of the population aged 18-64 years while 5.7 % is aged 65 years and above, and a younger population of about 51.6%.The later two age-groups constitute the dependent population. Evidently, the prevalence of dependents is slightly higher in the control communities, however the active population in the intervention is higher than that of control communities. Male and female age structures for both study communities' shows some differences from the age structure of both sexes combined.

TABLE 2.1: DISTRIBUTION OF POPULATION BY AGE AND SEX FOR INTERVENTION AND CONTROL COMMUNITIES

AGE GROUP	INTERVENTION						CONTROL					
	MALE		FEMALE		TOTAL		MALE		FEMALE		TOTAL	
	NO	%	NO	%	NO	%	NO	%	NO	%	NO	%
0-4	432	18.6	420	15.4	852	16.9	405	18.5	364	13.5	769	15.7
5-17'	811	34.9	839	30.8	1650	32.7	866	39.5	889	33.0	1755	35.9
18-64	1006	43.3	1314	48.2	2320	46.0	823	37.6	1259	46.8	2082	42.6
65+	74	3.2	152	5.6	226	4.5	97	4.4	181	6.7	278	5.7
TOTAL	2323	100.0	2725	100.0	5048	100.0	2191	100.0	2693	100.0	4884	100.0

According to table 2.2, the sex ratio for the intervention communities is slightly higher (85.2%) than that of the control communities (81.4%). Concerning age-specific sex-ratio, it is found that approximately 103 males per 100 females in the age group 0-4, while for the control communities it is about 111 males per 100 females, which is apparently very high. The sex ratio declines gradually with age until it reaches its lowest level at age (65+) where it amounts 48.7% and 53.6% for the intervention and control communities respectively.

TABLE 2.2: SEX RATIO BY AGE FOR INTERVENTION AND CONTROL COMMUNITIES

AGE GROUP	Intervention	Control
0-4"	102.9	111.3
5-17"	96.7	97.4
18-64"	76.6	65.4
65+	48.7	53.6
TOTAL	85.2	81.4

2.1.2 AGE AND SEX STRUCTURE OF HEADS OF HOUSEHOLDS

According to the head of household, table 2.3 shows that, 31.3 % of households are headed by persons aged 35-49 years old compared to 0.7% of those headed by people aged less than 17 years old in intervention communities. As for the control communities it is almost the same 31.4% for households headed by persons aged 35-49 years old and 0.3 % for those aged less than 17 years old. Taking into account the sex of the head of household, 42.89% of households are headed by women in the intervention communities compared to 50.6% for the control communities which are about 8 percentage points higher than in the intervention communities.

TABLE 2.3: DISTRIBUTION OF HOUSEHOLDS ACCORDING TO AGE AND SEX OF HEAD OF HOUSEHOLD FOR INTERVENTION AND CONTROL

AGE GROUP OF HEAD OF HH	INTERVENTION						CONTROL					
	MALE		FEMALE		TOTAL		MALE		FEMALE		TOTAL	
	NO	%	NO	%	NO	%	NO	%	NO	%	NO	%
0-17	4	0.6	4	0.8	8	0.7	1	0.2	2	0.3	3	0.3
18-34	290	43.0	75	14.8	365	30.9	181	31.2	96	16.2	277	23.6
35-49	200	29.6	170	33.5	370	31.3	178	30.6	191	32.2	369	31.4
50-64	108	16.0	131	25.8	239	20.2	129	22.2	154	25.9	283	24.1
65+	73	10.8	127	25.0	200	16.9	92	15.8	151	25.4	243	20.7
TOTAL	675	100.0	507	100.0	1182	100.0	581	100.0	594	100.0	1175	100.0
% of Female headed households			42.9						50.6			

2.2. MARITAL STATUS

With regard to marital status, table 2.4 shows that about 47.1 % of the intervention population is single, while 22.3% is legally married, 12.9% widow/widower and the lowest percentage is legally divorced (0.4%). Whereas in the control population it is 49.4% singles, 21.2% legally married, 15.9% widow/widower and the lowest percentage is for legally divorced (1.8 %). There was no tangible difference between the two populations (communities) regarding marital status structures. With regard to sex differential in marital structure, it is noticed that male singles are more prevalent than female singles in both study communities. Contrarily, widowed and separated females are much higher than their male counterpart.

TABLE 2.4: DISTRIBUTION OF POPULATION (12 YEARS+) ACCORDING TO MARITAL STATUS AND SEX FOR INTERVENTION AND CONTROL COMMUNITIES

MARITAL STATUS	INTERVENTION						CONTROL					
	MALE		FEMALE		TOTAL		MALE		FEMALE		TOTAL	
	NO	%	NO	%	NO	%	NO	%	NO	%	NO	%
Legally married	358	24.7	375	20.4	733	22.3	324	24.5	341	18.7	665	21.1
Living together	221	15.2	242	13.2	463	14.1	144	10.9	172	9.4	316	10.0
Legally divorced	11	0.8	35	1.9	46	1.4	5	0.4	51	2.8	56	1.8
Temporally separated	11	0.8	64	3.5	75	2.3	15	1.1	41	2.3	56	1.8
Single	803	55.4	744	40.5	1547	47.1	770	58.2	783	43.0	1553	49.4
Widow/ Widower	46	3.2	377	20.5	423	12.9	66	5.0	433	23.8	499	15.9
TOTAL	1450	100.0	1837	100.0	3287	100.0	1324	100.0	1821	100.0	3145	100.0

Table 2.5 shows that, in the intervention communities, 33.5% of households are headed by widows/widowers compared to 2.4% headed by legally divorced persons, while in the control communities, about 40.1% of households are headed by widows/widowers (about 6.6 percentage points higher than that in the intervention communities) and 3.3% headed by legally divorced persons which is slightly higher compared to the intervention communities.

Concerning sex differential in marital structure, there exist substantial differences between males and females, “legally married” and “living together” males are much higher than females in the same categories, whereas “widow” and “temporally separated” are greatly higher for females. This pattern is almost the same for both study communities.

TABLE 2.5: DISTRIBUTION OF HOUSEHOLDS ACCORDING TO THE MARITAL STATUS AND SEX OF THE HEAD OF HOUSEHOLD FOR INTERVENTION AND CONTROL COMMUNITIES

MARITAL STATUS	INTERVENTION						CONTROL					
	MALE		FEMALE		TOTAL		MALE		FEMALE		TOTAL	
	NO	%	NO	%	NO	%	NO	%	NO	%	NO	%
Legally married	348	51.6	28	5.5	376	31.8	315	54.3	42	7.1	357	30.4
Living together	209	31.0	20	3.9	229	19.4	134	23.1	22	3.7	156	13.3
Legally divorced	10	1.5	18	3.5	28	2.4	3	0.5	36	6.1	39	3.3
Temporally separated	11	1.6	55	10.8	66	5.6	11	1.9	33	5.6	44	3.7
Single	51	7.6	36	7.1	87	7.4	53	9.1	54	9.1	107	9.1
Widow/Widower	45	6.7	351	69.1	396	33.5	64	11.0	407	68.5	471	40.1
TOTAL	674	100.0	508	100.0	1182	100.0	580	100.0	594	100.0	1174	100.0

2.3. EDUCATION

2.3.1 EDUCATIONAL CHARACTERISTICS OF THE STUDY POPULATIONS

With reference to highest educational level, table 2.6 shows that in the intervention communities 35.4% (36.9% males and 34.2% females) of the population can read and write compared to 31.2% (39.3% males and 25.7% females) in the control communities. However, there is a high percentage of illiterate population 48.0% (38.9% males and 54.2% females) in the control communities while for the intervention communities it is 33.1% (26.4% males and 38.3% females). Evidently, illiteracy is much higher for females than males in both study communities; however, other educational categories do not show much difference between males and females. These rates are for people aged 15 years and above

TABLE 2.6: DISTRIBUTION OF POPULATION (15 YEARS+) ACCORDING TO THE HIGHEST EDUCATIONAL LEVEL AND SEX FOR INTERVENTION AND CONTROL COMMUNITIES

HIGHEST EDUCATIONAL LEVEL	INTERVENTION						CONTROL					
	MALE		FEMALE		TOTAL		MALE		FEMALE		TOTAL	
	NO	%	NO	%	NO	%	NO	%	NO	%	NO	%
Illiterate	312	26.4	596	38.3	908	33.1	406	38.9	830	54.2	1236	48.0
Read only	128	10.8	141	9.1	269	9.8	89	8.5	143	9.3	232	9.0
Read and write	436	36.9	533	34.2	969	35.4	410	39.3	394	25.7	804	31.2
Primary	250	21.2	241	15.5	491	17.9	116	11.1	144	9.4	260	10.1
Less than secondary	44	3.7	42	2.7	86	3.1	15	1.4	14	0.9	29	1.1
Technical & secondary and above	12	1.0	5	0.3	17	0.6	7	0.7	7	0.5	14	0.5
TOTAL	1182	100.0	1558	100.0	2740	100.0	1043	100.0	1532	100.0	2575	100.0

A question was added to the survey questionnaire for the purpose of stratifying the households according to vulnerability status. The strata are defined as group 1 (households lacking land and members able to work manually), group 2 (households lacking land but having members able to work manually), group 3 (households having land but lacking members able to work manually) and group 4 (other households having land and members able to work manually). The numbers of households according to vulnerability groups for both intervention and control populations are: First intervention population, vulnerability groups 1, 2, 3 and 4 have 102, 817, 13 and 245 households respectively, second control population, vulnerability groups 1,2,3 and 4 have 176, 751, 21 and 211 households respectively.

Looking in the educational differentials by vulnerability group in the intervention communities, it is found that illiteracy is highest for group 1 (47.2 %) and decline gradually for the other three groups until it reaches the lowest level in group 4 (26.4%). While for the prevalence level for those with primary education and above, a reverse trend is observed ,where it is lowest for group 1 (8 %) and increases gradually until it reaches its peak for group 4 (26.7%). Whereas in the control communities, the illiteracy is much higher in group 1 (52.6 %) compared to group 3 (33.3%) with the lowest percentage. While for those with primary educational level and above, group 1 has the lowest percentage (9.3%) compared to group 3 and 4 (19.7% and 18.2% respectively). In general, the trend increases from group 1 to group 4.

TABLE 2.7: DISTRIBUTION OF POPULATION (15 YEARS +) ACCORDING TO HIGHEST EDUCATIONAL LEVEL AND VULNERABILITY STATUS FOR INTERVENTION AND CONTROL COMMUNITIES

Table 2.7.1 (a): Intervention

Educational status	(Group 1) Households lacking both land and members able to work manually		(Group 2) Households lacking land but having members able to work manually		(Group 3) Households having land but lacking members able to work manually		(Group 4) Others(Households having land and members able to work manually)		TOTAL	
	NO	%	NO	%	NO	%	NO	%	NO	%
Illiterate	75	47.2	647	34.3	8	33.3	177	26.4	907	33.1
Read only	15	9.4	188	10.0	8	33.3	58	8.6	269	9.8
Read and write	53	33.3	663	35.1	4	16.7	250	37.3	970	35.4
Primary	11	6.9	327	17.3	4	16.7	149	22.2	491	17.9
Less than secondary	1	0.6	53	2.8	0	0.0	32	4.8	86	3.1
Technical & secondary and above	4	2.5	9	0.5	0	0.0	5	0.7	18	0.7
TOTAL	159	100.0	1887	100.0	24	100.0	671	100.0	2741	100.0

Table 2.7.1 (b): Control

Educational status	(Group 1) Households lacking both land and members able to work manually		(Group 2) Households Lacking land but having members able to work manually		(Group 3) Households having land but lacking members able to work manually		(Group 4) Others(Households having land and members able to work manually)		TOTAL	
	NO	%	NO	%	NO	%	NO	%	NO	%
Illiterate	164	52.6	838	50.2	17	33.3	217	40.1	1236	48.0
Read only	25	8.0	153	9.2	3	5.9	51	9.4	232	9.0
Read and write	94	30.1	513	30.7	21	41.2	175	32.3	803	31.2
Primary	23	7.4	140	8.4	8	15.7	89	16.5	260	10.1
Less than secondary	4	1.3	17	1.0	1	2.0	7	1.3	29	1.1
Technical & secondary and above	2	0.6	9	0.5	1	2.0	2	0.4	14	0.5
TOTAL	312	100.0	1670	100.0	51	100.0	541	100.0	2574	100.0

2.3.2 MALE EDUCATIONAL CHARACTERISTICS

With regards to male educational differentials by vulnerability group in the intervention communities, it is found that illiteracy is highest for group 1 (36.4 %) and decline gradually for the other three groups until it reaches the lowest level for group 4 (19.1 %). While for the prevalence level for those with primary education and above, a reverse trend is observed in general, where it is lowest for group 1 and 3 (18.2% for both groups) and increases gradually until it reaches its peak for group 4 (35.4%). Whereas in the control communities, the illiteracy is much higher in group 2 (42.8 %) compared to group 3 (23.8%) with the lowest percentage. While for those with primary educational level and above, group 2 has the lowest percentage (10.2%) compared to group 3 (23.8%). In general, the trend increases from groups 1 and 2 to groups 3 and 4.

Table 2.7.2 (a): Intervention (MALE)

Educational status	(Group 1) Households lacking both land and members able to work manually		(Group 2) Households lacking land but having members able to work manually		(Group 3) Households having land but lacking members able to work manually		(Group 4) Others(Households having land and members able to work manually)		TOTAL	
	NO	%	NO	%	NO	%	NO	%	NO	%
Illiterate	16	36.4	239	28.4	3	27.3	55	19.1	313	26.4
Read only	4	9.1	94	11.2	4	36.4	26	9.0	128	10.8
Read and write	16	36.4	313	37.2	2	18.2	105	36.5	436	36.8
Primary	3	6.8	164	19.5	2	18.2	81	28.1	250	21.1
Less than secondary	1	2.3	26	3.1	0	0.0	18	6.3	45	3.8
Technical & secondary and above	4	9.1	6	0.7	0	0.0	3	1.0	13	1.1
TOTAL	44	100.0	842	100.0	11	100.0	288	100.0	1185	100.0

Table 2.7.2 (b): Control (MALE)

Educational status	(Group 1) Households lacking both land and members able to work manually		(Group 2) Households lacking land but having members able to work manually		(Group 3) Households having land but lacking members able to work manually		(Group 4) Others(Households having land and members able to work manually)		TOTAL	
	NO	%	NO	%	NO	%	NO	%	NO	%
Illiterate	38	38.4	289	42.8	5	23.8	73	29.7	405	38.9
Read only	10	10.1	59	8.7	0	0.0	21	8.5	90	8.6
Read and write	40	40.4	259	38.3	11	52.4	100	40.7	410	39.3
Primary	9	9.1	55	8.1	4	19.0	48	19.5	116	11.1
Less than secondary	1	1.0	10	1.5	0	0.0	4	1.6	15	1.4
Technical & Secondary and above	1	1.0	4	0.6	1	4.8	0	0.0	6	0.6
TOTAL	99	100.0	676	100.0	21	100.0	246	100.0	1042	100.0

2.3.3 FEMALE EDUCATIONAL CHARACTERISTICS

Concerning female educational differentials by vulnerability group in the intervention communities, it is found that illiteracy is highest for group 1 (51.7 %) and generally decline gradually for the other three groups until it reaches the lowest level in group 4 (31.9 %). While for the prevalence level for those with primary education and above, a reverse trend is observed in general ,where it is lowest for group 1 (7.8%) and increases gradually until it reaches its peak for group 4 (22%). Whereas in the control communities, the illiteracy is much higher in group 1 (59.2 %) compared to group 3 (38.7%) with the lowest percentage. While for those with primary educational level and above, group 1 has the lowest percentage (8.5%) compared to group 3 (19.3%). In general, the trend increases from groups 1 to groups 3 and 4.

Table 2.7.3 (a): Intervention (FEMALE)

Educational status	(Group 1) Households lacking both land and members able to work manually		(Group 2) Households lacking land but having members able to work manually		(Group 3) Households having land but lacking members able to work manually		(Group 4) Others(Households having land and members able to work manually)		TOTAL	
	NO	%	NO	%	NO	%	NO	%	NO	%
Illiterate	60	51.7	408	39.0	6	46.2	122	31.9	596	38.3
Read only	11	9.5	94	9.0	4	30.8	32	8.4	141	9.1
Read and write	36	31.0	350	33.5	1	7.7	145	37.9	532	34.1
Primary	9	7.8	163	15.6	2	15.4	68	17.8	242	15.5
Less than secondary	0	0.0	27	2.6	0	0.0	14	3.7	41	2.6
Technical & secondary and above	0	0.0	4	0.4	0	0.0	2	0.5	6	0.4
TOTAL	116	100.0	1046	100.0	13	100.0	383	100.0	1558	100.0

Table 2.7.3 (b): Control (FEMALE)

Educational status	(Group 1) Households lacking both land and members able to work manually		(Group 2) Households lacking land but having members able to work manually		(Group 3) Households having land but lacking members able to work manually		(Group 4) Others(Households having land and members able to work manually)		TOTAL	
	NO	%	NO	%	NO	%	NO	%	NO	%
Illiterate	126	59.2	548	55.2	12	38.7	143	48.3	829	54.1
Read only	15	7.0	94	9.5	3	9.7	30	10.1	142	9.3
Read and write	54	25.4	254	25.6	10	32.3	76	25.7	394	25.7
Primary	14	6.6	85	8.6	5	16.1	42	14.2	146	9.5
Less than secondary	3	1.4	7	0.7	1	3.2	3	1.0	14	0.9
Technical & secondary and above	1	0.5	4	0.4	0	0.0	2	0.7	7	0.5
TOTAL	213	100.0	992	100.0	31	100.0	296	100.0	1532	100.0

2.3.4 SCHOOL ENROLLMENT

Concerning the net enrolment ratio in primary, 55% of the primary school-aged population is enrolled in the primary school in the intervention communities and approximately the same ratio for the control communities, 53%. In contrast, for the enrollment ratio in the secondary school, the ratios are very low, 1.9% for the secondary-school aged population in the intervention communities, slightly higher than that of the control communities 0.3%.

Looking at the differences among vulnerability groups, it is found in the intervention communities, the enrollment ratio in primary, is the lowest for group 2 (53.2%) while in the control communities the lowest rate was for group 3 (31.9%). The enrollment in secondary school is very low in all vulnerability groups of both intervention and control communities.

TABLE 2.8: NET ENROLMENT RATIO IN PRIMARY AND SECONDARY EDUCATION BY VULNERABILITY STATUS

Table 2.8.1 (a): Intervention (both sexes)

LEVEL OF STUDY	Vulnerability Status				TOTAL
	(Group 1) Households lacking both lands and members able to work manually	(Group 2) Households lacking lands but having members able to work manually	(Group 3) Households having land but lacking members able to work manually	(Group 4) Others(Households having land and members able to work manually)	
Primary	63.3	53.2	100.0	57.4	55.0
Secondary	1.3	1.4	0.0	3.3	1.9

Table 2.8.1 (b): Control (both sexes)

LEVEL OF STUDY	Vulnerability Status				TOTAL
	(Group 1) Households lacking both lands and members able to work manually	(Group 2) Households lacking lands but having members able to work manually	(Group 3) Households having land but lacking members able to work manually	(Group 4) Others(Households having land and members able to work manually)	
Primary	52.1	48.6	31.9	59.3	53.0
Secondary	0.7	0.3	0.0	0.0	0.3

2.3.5 MALE ENROLLMENT

Regarding male net enrolment ratio in primary for the intervention communities, 51.9% of male primary school-aged population is enrolled which is higher than that of the control communities (43.4%). In contrast, the enrollment in the secondary school is as low as 1.4% for intervention communities and 0.5% for control communities.

With regards to differentials with vulnerability groups, the net primary enrollment ratio for male in intervention communities ranges from 47.9% for group 4 to 100% for group 3. The corresponding range for the control communities is from 9.5% for group 3 to 46.1% for group 1. The enrollment in secondary school is very low in all vulnerability groups of both intervention and control communities.

Table 2.8.2 (a): Intervention (MALE)

LEVEL OF STUDY	Vulnerability Status				TOTAL
	(Group 1) Households lacking both lands and members able to work manually	(Group 2) Households lacking lands but having members able to work manually	(Group 3) Households having land but lacking members able to work manually	(Group 4) Others(Households having land and members able to work manually)	
Primary	63.6	52.1	100.0	47.9	51.9
Secondary	2.6	0.8	0.0	2.5	1.4

Table 2.8.2 (b): Control (MALE)

LEVEL OF STUDY	Vulnerability Status				TOTAL
	(Group 1) Households lacking both lands and members able to work manually	(Group 2) Households lacking lands but having members able to work manually	(Group 3) Households having land but lacking members able to work manually	(Group 4) Others(Households having land and members able to work manually)	
Primary	46.1	44.0	9.5	42.9	43.4
Secondary	1.6	0.6	0.0	0.0	0.5

2.3.6 FEMALE ENROLLMENT

Regarding female net enrolment ratio in primary for the intervention and control communities, it is almost the same (58.2% and 58.5% respectively). In contrast, the

enrollment ratio in the secondary school is very low in the intervention communities (2.4%) and almost nil in the control communities.

With regards to differentials with vulnerability groups, the net primary enrollment ratio for female in intervention communities ranges from 54.3% for group 2 to 100% for group 3. The corresponding range for the control communities is from 52.8% for group 2 to 75% for group 4. The enrollment in secondary school is very low in all vulnerability groups of both intervention and control communities.

Table 2.8.3 (a): Intervention (FEMALES)

LEVEL OF STUDY	Vulnerability Status				TOTAL
	(Group 1) Households lacking both lands and members able to work manually	(Group 2) Households lacking lands but having members able to work manually	(Group 3) Households having land but lacking members able to work manually	(Group 4) Others(Households having land and members able to work manually)	
Primary	62.9	54.3	100.0	67.2	58.2
Secondary	0.0	1.9	0.0	4.1	2.4

Table 2.8.3 (b): Control (FEMALE)

LEVEL OF STUDY	Vulnerability Status				TOTAL
	(Group 1) Households lacking both lands and members able to work manually	(Group 2) Households lacking lands but having members able to work manually	(Group 3) Households having land but lacking members able to work manually	(Group 4) Others(Households having land and members able to work manually)	
Primary	60.4	52.8	55.0	75.0	58.5
Secondary	0.0	0.0	0.0	0.0	0.0

2.4. EMPLOYMENT

2.4.1 LEVEL AND PATTERN OF UNEMPLOYMENT

Information on the working status of population 15 years and above in the week preceding the interview has been collected in the survey. Based on such information, unemployment level was measured. Table 2.9 shows unemployment rate classified by sex

and vulnerability groups, for both intervention and control communities. It is worth noting that unemployment rate is the ratio of unemployed persons, aged 18-64, to the labor force. The latter is defined as the summation of working and unemployed persons in the age span 18-64.

The unemployment rate for both sexes combined in the intervention communities is 8.1% whereas it is 8.9% in the control communities. Looking at the sex differentials in unemployment, there was no substantial difference between both sexes with a minor excess for females for both intervention and control communities.

With regards to vulnerability group differentials, unemployment in the intervention communities ranges from 19.5% for group 1 to almost nil in the group 3. The corresponding range in the control communities is from 30.2% for group 1 to 3.9% for group 4.

TABLE 2.9: UNEMPLOYMENT RATE BY VULNERABILITY STATUS AND SEX (18 YEARS+)

Table 2.9 (a): Intervention

SEX	(Group 1) Households lacking both lands and members able to work manually	(Group 2) Households lacking lands but having members able to work manually	(Group 3) Households having land but lacking members able to work manually	(Group 4) Others(Households having land and members able to work manually)	TOTAL
MALE	19.0	9.2	0.0	3.2	8.0
FEMALE	19.7	8.6	0.0	4.5	8.2
TOTAL	19.5	8.9	0.0	4.0	8.1

Table 2.9 (b): Control

SEX	(Group 1) Households lacking both lands and members able to work manually	(Group 2) Households lacking lands but having members able to work manually	(Group 3) Households having land but lacking members able to work manually	(Group 4) Others(Households having land and members able to work manually)	TOTAL
MALE	42.9	6.5	28.6	3.6	8.4
FEMALE	25.2	8.7	5.0	4.1	9.2
TOTAL	30.2	7.9	14.7	3.9	8.9

2.4.2 ECONOMIC ACTIVITY OF WORKING POPULATION (18 YEARS +)

The economic activity has been classified into two broad categories, agriculture and non-agriculture. Table 2.10.1 (a & b) shows that the vast majority of working persons is engaged in agricultural activities in both interventions (82.4%) and control (89%) communities. There is no much variability with vulnerability groups for both intervention and control communities.

TABLE 2.10: DISTRIBUTION OF WORKING PERSONS (18 YEARS +) BY ECONOMIC ACTIVITY AND VULNERABILITY STATUS

Table 2.10.1 (a): Intervention (TOTAL)

Economic activity	Vulnerability Status								TOTAL	
	(Group 1) Households lacking both lands and members able to work manually		(Group 2) Households lacking lands but having members able to work manually		(Group 3) Households having land but lacking members able to work manually		(Group 4) Others(Households having land and members able to work manually)			
	NO	%	NO	%	NO	%	NO	%	NO	%
Agriculture	65	92.9	1084	81.3	16	94.1	386	83.5	1551	82.4
Non agriculture	5	7.1	250	18.7	1	5.9	76	16.5	332	17.6
TOTAL	70	100.0	1334	100.0	17	100.0	462	100.0	1883	100.0

Table 2.10.1 (b): Control (TOTAL)

Economic activity	Vulnerability Status								TOTAL	
	(Group 1) Households lacking both lands and members able to work manually		(Group 2) Households lacking lands but having members able to work manually		(Group 3) Households having land but lacking members able to work manually		(Group 4) Others(Households having land and members able to work manually)			
	NO	%	NO	%	NO	%	NO	%	NO	%
Agriculture	94	90.4	1009	88.2	24	85.7	360	91.1	1487	89.0
Non agriculture	10	9.6	135	11.8	4	14.3	35	8.9	184	11.0
TOTAL	104	100.0	1144	100.0	28	100.0	395	100.0	1671	100.0

2.4.3 MALE ECONOMIC ACTIVITY OF WORKING POPULATION (18 YEARS +)

Table 2.10.2 (a & b) shows that the vast majority of males is engaged in agricultural activities in both interventions (76.1%) and control (82.3%) communities. There is no much variability with vulnerability groups for both intervention and control communities.

Table 2.10.2 (a): Intervention (MALE)

Economic activity	Vulnerability Status								TOTAL	
	(Group 1) Households lacking both lands and members able to work manually		(Group 2) Households lacking lands but having members able to work manually		(Group 3) Households having land but lacking members able to work manually		(Group 4) Others (Households having land and members able to work manually)			
	NO	%	NO	%	NO	%	NO	%	NO	%
Agriculture	17	100.0	443	74.0	7	100.0	167	79.5	634	76.1
Non agriculture	0	0.0	156	26.0	0	0.0	43	20.5	199	23.9
TOTAL	17	100.0	599	100.0	7	100.0	210	100.0	833	100.0

Table 2.10.2 (b): Control (MALE)

Economic activity	Vulnerability Status								TOTAL	
	(Group 1) Households lacking both lands and members able to work manually		(Group 2) Households lacking lands but having members able to work manually		(Group 3) Households having land but lacking members able to work manually		(Group 4) Others (Households having land and members able to work manually)			
	NO	%	NO	%	NO	%	NO	%	NO	%
Agriculture	21	87.5	363	81.6	8	80.0	135	83.9	527	82.3
Non agriculture	3	12.5	82	18.4	2	20.0	26	16.1	113	17.7
TOTAL	24	100.0	445	100.0	10	100.0	161	100.0	640	100.0

2.4.4 FEMALE ECONOMIC ACTIVITY OF WORKING POPULATION(18 YEARS +)

Table 2.10.3 (a&b) shows that the vast majority of females is engaged in agricultural activities in both the intervention (87.3%) and control (93.1%) communities. There is no much variability with vulnerability groups for both intervention and control communities.

Table 2.10.3 (a): Intervention (FEMALE)

Economic activity	Vulnerability Status								TOTAL	
	(Group 1) Households lacking both lands and members able to work manually		(Group 2) Households lacking lands but having members able to work manually		(Group 3) Households having land but lacking members able to work manually		(Group 4) Others (Households having land and members able to work manually)			
	NO	%	NO	%	NO	%	NO	%	NO	%
Agriculture	49	90.7	640	87.2	9	100.0	219	86.9	917	87.3
Non agriculture	5	9.3	94	12.8	1	0.0	33	13.1	133	12.7
TOTAL	54	100.0	734	100.0	10	100.0	252	100.0	1050	100.0

Table 2.10.3 (b): Control (FEMALE)

Economic activity	Vulnerability Status								TOTAL	
	(Group 1) Households lacking both lands and members able to work manually		(Group 2) Households lacking lands but having members able to work manually		(Group 3) Households having land but lacking members able to work manually		(Group 4) Others (Households having land and members able to work manually)			
	NO	%	NO	%	NO	%	NO	%	NO	%
Agriculture	73	91.3	646	92.4	17	89.5	225	96.2	961	93.1
Non agriculture	7	8.8	53	7.6	2	10.5	9	3.8	71	6.9
TOTAL	80	100.0	699	100.0	19	100.0	234	100.0	1032	100.0

2.5. CHILD LABOR

2.5.1 CHILD LABOR CHARACTERISTICS

The prevalence of child labor in both intervention and control communities is respectively 10.8% and 13.3% of all children aged 5-17 (see table 2.11.1 (a & b)). Most

of working children are engaged in agriculture as the child labor rate in agriculture reaches 8.8% and 11.7% in the intervention and control communities respectively

Investigating the differentials of child labor by vulnerability groups, it is found that no substantial variability for the intervention community, yet there is remarkable fluctuations from group to another in the control communities where child labor rate ranges from 6.5% for group 3 to 15% for group 2.

TABLE 2.11: PERCENTAGE OF WORKING CHILDREN (5-17 YEARS OLD) BY ECONOMIC ACTIVITY AND VULNERABILITY STATUS

Table 2.11.1 (a): Intervention (TOTAL)

Economic activity	Vulnerability Status				TOTAL
	(Group 1) Households lacking both land and members able to work manually	(Group 2) Households lacking land but having members able to work manually	(Group 3) Households having land but lacking members able to work manually	(Group 4) Others (Households having land and members able to work manually)	
	%	%	%	%	
Agriculture	9.0	8.9	8.3	8.4	8.8
Non agriculture	0.0	2.4	0.0	1.4	2.0
TOTAL	9.0	11.3	8.3	9.8	10.8

Table 2.11.1 (b): Control (TOTAL)

Economic activity	Vulnerability Status				TOTAL
	(Group 1) Households lacking both land and members able to work manually	(Group 2) Households lacking land but having members able to work manually	(Group 3) Households having land but lacking members able to work manually	(Group 4) Others (Households having land and members able to work manually)	
	%	%	%	%	
Agriculture	6.6	12.7	6.5	11.7	11.7
Non agriculture	0.5	2.3	0.0	0.2	1.6
TOTAL	7.1	15.0	6.5	12.0	13.3

2.5.2 MALE CHILD LABOUR

The prevalence of male child labor in both intervention and control communities is respectively 11% and 14.8% of all male children aged 5-17(see table 2.11.2 (a&b)). Most

of working children are engaged in agriculture as the child labor rate in agriculture reaches 9.1% and 12.8% in the intervention and control communities respectively.

Investigating the differentials of male child labor by vulnerability groups, it is found that no substantial variability for the intervention community, yet there is remarkable fluctuations from group to another in the control communities where child labor rate ranges from 6.4% for group 1 to 16.6% for group 2.

Table 2.11.2 (a): Intervention (MALE)

Economic activity	Vulnerability Status				TOTAL
	(Group 1) Households lacking both land and members able to work manually	(Group 2) Households lacking land but having members able to work manually	(Group 3) Households having land but lacking members able to work manually	(Group 4) Others(Households having land and members able to work manually)	
	%	%	%	%	
Agriculture	11.6	8.7	11.1	9.7	9.1
Non agriculture	0.0	1.7	0.0	2.8	1.8
TOTAL	11.6	10.3	11.1	12.4	11.0

Table 2.11.2 (b): Control (MALE)

Economic activity	Vulnerability Status				TOTAL
	(Group 1) Households lacking both land and members able to work manually	(Group 2) Households lacking land but having members able to work manually	(Group 3) Households having land but lacking members able to work manually	(Group 4) Others(Households having land and members able to work manually)	
	%	%	%	%	
Agriculture	5.3	13.8	6.7	14.0	12.8
Non agriculture	1.1	2.8	0.0	0.5	2.0
TOTAL	6.4	16.6	6.7	14.5	14.8

2.5.2 FEMALE CHILD LABOUR

The prevalence of female child labor in both intervention and control communities is respectively 10.6% and 11.8% of all female children aged 5-17 (see table 2.11.3 (a & b)). Most of working female children are engaged in agriculture as the child labor rate in

agriculture reaches 8.5% and 10.6% in the intervention and control communities respectively.

Investigating the differentials of female child labor by vulnerability groups, it is found that there is variability for both the intervention and control communities. It ranges in the former from 0% for group 3 to 12.2% for group 2, while for the later it ranges from 6.3% for group 3 to 13.6% for group 2.

Table 2.11.3 (a): Intervention (FEMALE)

Economic Activity	Vulnerability status				Total
	(Group 1) Households lacking both land and members able to work manually	(Group 2) Households lacking land but having members able to work manually	(Group 3) Households having land but lacking members able to work manually	(Group 4) Others(Households having land and members able to work manually)	
	%	%	%	%	
Agriculture	5.7	9.2	0.0	7.1	8.5
Non agriculture	0.0	3.1	0.0	0.0	2.1
TOTAL	5.7	12.2	0.0	7.1	10.6

Table 2.11.3 (b): Control (FEMALE)

Economic Activity	Vulnerability Status				Total
	(Group 1) Households lacking both land and members able to work manually	(Group 2) Households lacking land but having members able to work manually	(Group 3) Households having land but lacking members able to work manually	(Group 4) Others(Households having land and members able to work manually)	
	%	%	%	%	
Agriculture	6.8	11.7	6.3	9.0	10.6
Non agriculture	0.0	1.8	0.0	0.0	1.2
Total	6.8	13.6	6.3	9.0	11.8

2.5.3 AGE STRUCTURE OF WORKING CHILDREN

The age structure of working children shows that the highest percentage is in age group 10-17 for both intervention and control communities, respectively 96.2% and 88.9% (see table 2.12 (a&b)), while the lowest is in age group 5-9, respectively 3.9% and 11.1%.

Investigating age structure differentials of working children by vulnerability group-keeping in mind that groups 1 and 3, by definition, have a very limited number of children- it is found that, there is some variability between groups 2 and 4, where the percentages of working children in the first and last age groups are higher for vulnerability group 2 than group 4. As for the control communities, the difference in the age structure between groups 2 and 4 is greater, where the percentages in the first and second age groups are much higher for vulnerability group 2 than group 4.

TABLE 2.12: DISTRIBUTION OF WORKING CHILDREN (5-17 YEARS OLD) BY AGE AND VULNERABILITY STATUS

Table 2.12 (a): Intervention

Age group	Vulnerability Status								Total	
	(Group 1) Households lacking both land and members able to work manually		(Group 2) Households lacking land but having members able to work manually		(Group 3) Households having land but lacking members able to work manually		(Group 4) Others(Households having land and members able to work manually)			
	NO	%	NO	%	NO	%	NO	%	NO	%
5-9	0	0.0	6	4.7	0	0.0	1	2.3	7	3.9
10-14	3	42.9	35	27.1	0	0.0	17	39.5	55	30.6
15-17	4	57.1	88	68.2	1	100.0	25	58.1	118	65.6
TOTAL	7	100.0	129	100.0	1	100.0	43	100.0	180	100.0

Table 2.12 (b): Control

Age group	Vulnerability Status								Total	
	(Group 1) Households lacking both land and members able to work manually		(Group 2) Households lacking land but having members able to work manually		(Group 3) Households having land but lacking members able to work manually		(Group 4) Others(Households having land and members able to work manually)			
	NO	%	NO	%	NO	%	NO	%	NO	%
5-9	2	14.3	21	12.4	0	0.0	3	6.1	26	11.1
10-14	2	14.3	47	27.8	0	0.0	10	20.4	59	25.2
15-17	10	71.4	101	59.8	2	100.0	36	73.5	149	63.7
TOTAL	14	100.0	169	100.0	2	100.0	49	100.0	234	100.0

2.5.3 SEX STRUCTURE IN CHILD LABOUR

Considering working children aged 5 to 17 years old by sex, it is found that working children are distributed exactly evenly between male and female in the intervention communities, whereas about 55% of working children in control communities are males. Ignoring vulnerability groups 1 and 3, for reasons explained above, there is substantial variability in the sex structure of groups 2 and 4 in both intervention and control communities. In the intervention communities, the percentage of males amounts 43.8% in group 2 and 64.3% in group 4. The corresponding percentages in the control communities are 52.4% and 64.6% respectively.

TABLE 2.13: DISTRIBUTION OF WORKING CHILDREN (5-17 YEARS OLD) BY SEX AND VULNERABILITY STATUS

Table 2.13 (a): Intervention

Age group	Vulnerability Status								Total	
	(Group 1) Households lacking both land and members able to work manually		(Group 2) Households lacking land but having members able to work manually		(Group 3) Households having land but lacking members able to work manually		(Group 4) Others (Households having land and members able to work manually)			
	NO	%	NO	%	NO	%	NO	%	NO	%
MALE	5	71.4	56	43.8	1	100.0	27	64.3	89	50.0
FEMALE	2	28.6	72	56.3	0	0.0	15	35.7	89	50.0
TOTAL	7	100.0	128	100.0	1	100.0	42	100.0	178	100.0

Table 2.13 (b): Control

Age group	Vulnerability Status								Total	
	(Group 1) Households lacking both land and members able to work manually		(Group 2) Households lacking land but having members able to work manually		(Group 3) Households having land but lacking members able to work manually		(Group 4) Others (Households having land and members able to work manually)			
	NO	%	NO	%	NO	%	NO	%	NO	%
MALE	7	53.8	89	52.4	1	50.0	31	64.6	128	54.9
FEMALE	6	46.2	81	47.6	1	50.0	17	35.4	105	45.1
TOTAL	13	100.0	170	100.0	2	100.0	48	100.0	233	100.0

2.6. PARTICIPATION IN PUBLIC WORKS

Table 2.14 shows the percentage of persons having public works during the 12 months preceding the survey date in both the intervention and control communities by vulnerability groups. Clearly shown, that the percentage of those having the public works is very low. In intervention community, 7.4% of persons have had public work while in the control community it was 1.3%. Ignoring vulnerability groups 1 and 3, for reasons explained above, there is no substantial variability in both intervention and control communities.

TABLE 2.14: PERCENTAGE OF PERSONS HAVING PUBLIC WORKS IN LAST 12 MONTHS BY VULNERABILITY GROUPS FOR INTERVENTION AND CONTROL COMMUNITIES

STUDY COMMUNITIES	Vulnerability Status								TOTAL	
	(Group 1) Households lacking both lands and members able to work manually		(Group 2) Households lacking lands but having members able to work manually		(Group 3) Households having land but lacking members able to work manually		(Group 4) Others(Households having land and members able to work manually)			
	NO	%	NO	%	NO	%	NO	%	NO	%
INTERVENTION	2	0.9	228	7.9	4	11.1	76	7.2	310	7.4
CONTROL	1	0.2	40	1.5	1	1.3	10	1.1	52	1.3

Not only is the prevalence of public work remarkably weak, but also the average number of working days in the last 12 month is as such. Table 2.15 reveals that the average number of working days in public work is about 58 and 29 in intervention and control communities respectively. Concerning the differentials in the number of working days among vulnerability groups, it is found that though there is no tangible variability in the intervention community, there exists substantial variability in the control communities.

TABLE 2.15: MEAN DAYS OF PUBLIC WORK IN LAST 12 MONTHS BY VULNERABILITY GROUPS FOR INTERVENTION AND CONTROL COMMUNITIES

STUDY COMMUNITIES	Vulnerability Status				TOTAL
	(Group 1) Households lacking both lands and members able to work manually	(Group 2) Households lacking lands but having members able to work manually	(Group 3) Households having land but lacking members able to work manually	(Group 4) Others(Households having land and members able to work manually)	
INTERVENTION	67.5	61.0	56.7	50.0	58.3
CONTROL	61.7	32.7	4.0	12.0	29.4

2.7. DISABILITY

2.7.1 DISABILITY CHARACTERISTICS OF THE POPULATION

Considering the number of disabled persons per 1000 population table 2.16 (a &b) shows that disability index is much higher in the control communities (82.3 per 1000 persons) than in the intervention communities (56.3 per 1000 persons) With regards to sex differentials in disability index, it is evident that disability is more prevalent among females in the intervention communities (62.4 per 1000 persons), whereas it is more prevalent among males in control communities (88.5 per 1000 persons).

There is substantial variability between vulnerability groups as far as the disability index is concerned. For the intervention communities, disability index ranges from 49.9 in group 2 to 150 in group 3. While for the control communities, it ranges from 60.5 in group 4 to 166.7 to group 1.

TABLE 2.16: NUMBER OF DISABLED PERSONS PER 1000 POPULATION BY SEX AND VULNERABILITY GROUP

Table 2.16 (a): Intervention

SEX	(Group 1) Households lacking both land and members able to work manually	(Group 2) Households lacking land but having members able to work manually	(Group 3) Households having land but lacking members able to work manually	(Group 4) Others(Households having land and members able to work manually)	TOTAL
MALE	98.0	45.7	130.4	46.9	49.1
FEMALE	165.6	53.6	176.5	59.2	62.4
TOTAL	139.6	49.9	150.0	53.4	56.3

Table 2.16 (b): Control

SEX	(Group 1) Households lacking both land and members able to work manually	(Group 2) Households lacking land but having members able to work manually	(Group 3) Households having land but lacking members able to work manually	(Group 4) Others(Households having land and members able to work manually)	TOTAL
MALE	166.7	85.5	76.9	65.3	88.5
FEMALE	166.7	68.1	63.8	56.0	77.3
TOTAL	166.7	75.9	69.8	60.5	82.3

2.7.2 MAIN TYPES OF DISABILITY

The table 2.17.1 (a & b) shows the percentage distribution of disabled persons by type of disabilities. The disability in the intervention communities is highest for persons with legs disability (24.5%) and lowest for those with trauma (3.2%). Also, for control communities both types of disabilities represent the highest (30.7% for legs disability) and lowest (0.7% for trauma)

TABLE 2.17: DISTRIBUTION OF PERSONS WITH DISABILITY/ TRAUMATISM BY TYPE OF DISABILITY AND VULNERABILITY GROUP

Table 2.17.1 (a): Intervention

DISABILITY	(Group 1) Households lacking both land and members able to work manually		(Group 2) Households lacking land but having members able to work manually		(Group 3) Households having land but lacking members able to work manually		(Group 4) Others(Households having land and members able to work manually)		TOTAL	
	NO	%	NO	%	NO	%	NO	%	NO	%
Blindness	4	11.1	17	9.8	0	0.0	4	6.0	25	8.9
Mute/deafness	3	8.3	21	12.1	1	20.0	2	3.0	27	9.6
Arms disability	5	13.9	25	14.4	1	20.0	15	22.4	46	16.3
Legs disability	13	36.1	36	20.7	0	0.0	20	29.9	69	24.5
Mental disorders	6	16.7	28	16.1	2	40.0	9	13.4	45	16.0
Traumatism	0	0.0	7	4.0	0	0.0	2	3.0	9	3.2
Others	5	13.9	40	23.0	1	20.0	15	22.4	61	21.6
TOTAL	36	100.0	174	100.0	5	100.0	67	100.0	282	100.0

Table 2.17.1 (b): Control

DISABILITY	(Group 1) Households lacking both land and members able to work manually		(Group 2) Households lacking land but having members able to work manually		(Group 3) Households having land but lacking members able to work manually		(Group 4) Others(Households having land and members able to work manually)		TOTAL	
	NO	%	NO	%	NO	%	NO	%	NO	%
Blindness	11	12.2	62	25.2	0	0.0	8	12.5	81	19.9
Mute/deafness	6	6.7	12	4.9	0	0.0	7	10.9	25	6.1
Arms disability	10	11.1	27	11.0	0	0.0	9	14.1	46	11.3
Legs disability	27	30.0	75	30.5	4	57.1	19	29.7	125	30.7
Mental disorders	11	12.2	28	11.4	0	0.0	12	18.8	51	12.5
Traumatism	2	2.2	1	0.4	0	0.0	0	0.0	3	0.7
Others	23	25.6	41	16.7	3	42.9	9	14.1	76	18.7
TOTAL	90	100.0	246	100.0	7	100.0	64	100.0	407	100.0

2.7.2.1 TYPES OF DISABILITY IN MALE POPULATION

The table 2.17.2 (a & b) shows the percentage distribution of disabled males by type of disabilities. The disability in the intervention communities is highest for male persons with legs disability (25.6%) and lowest for those with trauma (4.7%). Also, for control communities both types of disabilities represent the highest (34% for legs disability) and lowest (0.3% for trauma).

Table 2.17.2 (a): Intervention (MALE)

DISABILITY	(Group 1) Households lacking both land and members able to work manually		(Group 2) Households lacking land but having members able to work manually		(Group 3) Households having land but lacking members able to work manually		(Group 4) Others(Households having land and members able to work manually)		TOTAL	
	NO	%	NO	%	NO	%	NO	%	NO	%
Blindness	2	15.8	8	10.8	0	14.0	2	7.4	12	10.5
Mute/deafness	1	7.4	9	12.7	1	38.5	0	0.0	11	9.9
Arms disability	1	13.7	9	11.9	0	0.0	7	24.8	17	14.8
Legs disability	3	25.7	18	25.0	0	14.0	8	28.6	29	25.6
Mental disorders	2	18.4	12	16.3	1	33.4	3	9.6	17	15.3
Traumatism	0	3.2	4	5.8	0	0.0	1	3.0	5	4.7
Others	2	15.6	13	17.6	0	0.0	7	26.5	22	19.1
TOTAL	10	100.0	74	100.0	3	100.0	27	100.0	114	100.0

Table 2.17.2 (b): Control (MALE)

DISABILITY	(Group 1) Households lacking both land and members able to work manually		(Group 2) Households lacking land but having members able to work manually		(Group 3) Households having land but lacking members able to work manually		(Group 4) Others(Households having land and members able to work manually)		TOTAL	
	NO	%	NO	%	NO	%	NO	%	NO	%
Blindness	4	10.3	36	29.1	0	0.0	3	7.8	42	21.6
Mute/deafness	3	7.7	5	3.8	0	0.0	5	15.6	13	6.5
Arms disability	3	9.4	15	11.9	0	0.0	0	0.0	18	9.2
Legs disability	15	41.1	35	28.5	2	60.2	15	44.2	66	34.0
Mental disorders	6	15.7	13	10.4	0	0.0	5	15.1	23	12.0
Traumatism	1	1.8	0	0.0	0	0.0	0	0.0	1	0.3
Others	5	13.9	20	16.3	1	39.8	6	17.3	32	16.4
TOTAL	35	100	123	100	3	100	33	100	194	100.0

2.7.2.2 TYPES OF DISABILITY IN FEMALE POPULATION

The table 2.17.3 (a & b) shows the percentage distribution of disabled females by type of disabilities. The disability in the intervention communities is highest for disabled females with other types of disability (23.6%) and lowest for those with trauma (2.4%). As for control communities, disability is highest (27.8%) for legs disability and lowest (0.8%) for trauma.

Table 2.17.3 (a): Intervention (FEMALE)

DISABILITY	(Group 1) Households lacking both land and members able to work manually		(Group 2) Households lacking land but having members able to work manually		(Group 3) Households having land but lacking members able to work manually		(Group 4) Others(Households having land and members able to work manually)		TOTAL	
	NO	%	NO	%	NO	%	NO	%	NO	%
Blindness	3	10.1	9	9.3	0	0.0	2	4.0	14	8.1
Mute/deafness	3	9.8	12	11.7	0	0.0	2	3.9	16	9.4
Arms disability	3	12.7	17	16.3	1	29.9	9	21.9	29	17.3
Legs disability	10	39.2	17	17.1	0	0.0	12	31.1	40	23.5
Mental disorders	4	14.8	16	15.8	1	27.2	6	15.9	27	15.9
Traumatism	0	0.0	3	2.7	0	0.0	1	3.2	4	2.4
Others	4	13.5	27	27.1	1	42.9	8	19.9	40	23.6
TOTAL	27	100	101	100	3	100	39	100	170	100

Table 2.17.3 (b): Control (FEMALE)

DISABILITY	(Group 1) Households lacking both land and members able to work manually		(Group 2) Households lacking land but having members able to work manually		(Group 3) Households having land but lacking members able to work manually		(Group 4) Others(Households having land and members able to work manually)		TOTAL	
	NO	%	NO	%	NO	%	NO	%	NO	%
Blindness	7	14.1	26	21.2	0	0.0	6	18.2	39	18.6
Mute/deafness	3	5.6	7	5.6	0	0.0	2	5.6	11	5.5
Arms disability	6	11.7	13	10.5	0	0.0	9	28.9	28	13.3
Legs disability	12	23.2	40	32.8	2	54.7	4	13.6	58	27.9
Mental disorders	6	10.4	15	12.1	0	0.0	7	22.4	27	13.0
Traumatism	1	1.6	1	0.7	0	0.0	0	0.0	2	0.8
Others	18	33.3	21	17.1	1	45.3	3	11.3	43	20.8
TOTAL	53	100	122	100	3	100	30	100	209	100

2.8: IMMUNIZATION AND HEALTH INSURANCE

2.8.1 IMMUNIZATION

One important indicator reflecting child morbidity and mortality is the level of immunization. It is more likely that a child will lead healthy life if he/she has completed the prescribed immunization program.

Table 2.18 (a & b) presents vaccination coverage results by type of immunization and vulnerability status for children age 12 to 23 months, thereby including only children who had reached the age by which they should be fully immunized. The data shows no big disparities by type of immunization in the intervention and control communities. The percentage of children who have received the BCG vaccine in the intervention and control communities is respectively 96.9% and 96.2%, while for DT Coq the percentage of immunized children is 94.9% for intervention and 92.7% for control communities, for Polio the percentage of immunized children is 92.4% and 91.6% for intervention and control communities, and lastly for Measles the percentage of immunized children is 97.5% and 91.8% for intervention and control communities respectively.

Interviewers have been asked to check for the immunization cards for each child, only cards were seen for 57.4% and 42.6% of children in intervention and control communities respectively.

Considering vulnerability groups and starting with intervention communities the percentage of fully immunized children ranges from 84.7% for group 2 to 100% for group1 (note that group 3 has no children aged 12-23 months). As for control communities the comparable percentage ranges from 70.8% for group 4 to 100% for groups 3.

TABLE 2.18: DISTRIBUTION OF CHILDREN AGED FROM 12 TO 23 MONTHS ACCORDING TO IMMUNIZATION STATUS BY VULNERABILITY

Table 2.18 (a): Intervention (TOTAL)

TYPE OF IMMUNIZATION		Vulnerability Status				TOTAL
		(Group 1) Households lacking both land and members able to work manually	(Group 2) Households lacking land but having members able to work manually	(Group 3) households having land but lacking members able to work manually	(Group 4) Others (households having land and members able to work manually)	%
BCG	Yes	100.0	97.0	0.0	95.5	96.9
	NO	0.0	2.4	0.0	0.0	1.8
	NS	0.0	0.7	0.0	4.5	1.2
DT Coq	Complete	100.0	95.0	0.0	92.3	94.9
	Incomplete	0.0	0.0	0.0	3.3	0.5
	None	0.0	4.0	0.0	0.0	3.1
	NS	0.0	1.0	0.0	4.5	1.5
Polio	Complete	100.0	92.7	0.0	87.8	92.4
	Incomplete	0.0	1.9	0.0	7.7	2.7
	None	0.0	2.5	0.0	0.0	2.0
	don't know	0.0	1.8	0.0	0.0	1.4
	NS	0.0	1.0	0.0	4.5	1.5
Measles	Yes	100.0	98.7	0.0	91.0	97.5
	NO	0.0	0.0	0.0	4.5	0.7
	NS	0.0	1.0	0.0	4.5	1.5
All immunization		100.0	84.7	0.0	96.1	87.1
No immunization		0.0	14.5	0.0	3.9	12.3
% with vaccination cards		72.1	58.6	0.0	51.5	57.4

Table 2.18 (b): Control (TOTAL)

TYPE OF IMMUNIZATION		Vulnerability Status				TOTAL
		(Group 1) Households lacking both land and members able to work manually	(Group 2) Households lacking land but having members able to work manually	(Group 3) households having land but lacking members able to work manually	(Group 4) Others (households having land and members able to work manually)	%
BCG	Yes	100.0	95.2	100.0	100.0	96.2
	NO	0.0	4.8	0.0	0.0	3.8
	don't know	0.0	0.0	0.0	0.0	0.0
DT Coq	Complete	100.0	92.1	100.0	93.5	92.7
	Incomplete	0.0	3.2	0.0	6.5	3.5
	None	0.0	4.8	0.0	0.0	3.8
	don't know	0.0	0.0	0.0	0.0	0.0
Polio	Complete	100.0	91.9	100.0	87.0	91.6
	Incomplete	0.0	4.6	0.0	13.0	5.5
	None	0.0	3.6	0.0	0.0	2.8
	don't know	0.0	0.0	0.0	0.0	0.0
Measles	Yes	100.0	90.9	100.0	93.5	91.8
	NO	0.0	5.8	0.0	6.5	5.6
	don't know	0.0	1.2	0.0	0.0	0.9
All immunization		82.4	91.5	100.0	70.8	87.8
No immunization		17.6	7.0	0.0	29.2	11.0
% with vaccination cards		27.9	41.4	100.0	48.5	42.6

2.8.2 HEALTH INSURANCE

Table 2.19 (a&b) shows that the percentage of population not covered by any health insurance scheme is about the same in the intervention (28.7%) and the control (28.6%) communities. The most important health scheme is mutuelle de santé in both intervention and control communities, where the percentage of population with this insurance scheme amounts to 69.4% and 69.1% in the intervention and control communities respectively.

With regards to differentials with vulnerability groups, there was somehow substantial variability in the percentage of non-covered population, where for intervention it ranges from 15.5% for group 3 to 48.4% for group 1, while for the control communities it ranges from 22.5% for group 4 to 30.4% for groups 1 and 2. The health insurance scheme mutuelle de santé is persistently the most important health insurance scheme irrespective of the vulnerability group in both the intervention and control communities.

TABLE 2.19: DISTRIBUTION OF PERSONS BY TYPE OF HEALTH INSURANCE AND VULNERABILITY STATUS

Table 2.19 (a): Intervention

HEALTH INSURANCE	(Group 1) Households lacking both land and members able to work manually		(Group 2) Households lacking land but having members able to work manually		(Group 3) Households having land but lacking members able to work manually		(Group 4) Others(Households having land and members able to work manually)		TOTAL	
	NO	%	NO	%	NO	%	NO	%	NO	%
RAMA or MMI	0	0.0	62	1.8	0	0.0	6	0.5	68	1.3
Mutuelle de santé	135	51.1	2386	68.0	34	84.5	950	76.9	3505	69.4
Employer	0	0.0	1	0.0	0	0.0	6	0.5	7	0.1
Others health insurance	1	0.5	12	0.3	0	0.0	7	0.5	20	0.4
None	128	48.4	1047	29.8	6	15.5	266	21.6	1447	28.7
TOTAL	265	100	3508	100	40	100	1235	100	5048	100

Table 2.19 (b): Control

HEALTH INSURANCE	(Group 1) Households lacking both land and members able to work manually		(Group 2) Households lacking land but having members able to work manually		(Group 3) Households having land but lacking members able to work manually		(Group 4) Others(Households having land and members able to work manually)		TOTAL	
	NO	%	NO	%	NO	%	NO	%	NO	%
RAMA or MMI	8	1.4	54	1.7	1	1.0	1	0.1	64	1.3
Mutuelle de santé	345	65.5	2165	67.0	63	73.3	800	76.8	3373	69.1
Employer	2	0.4	10	0.3	0	0.0	5	0.5	17	0.4
Others health insurance	12	2.3	18	0.6	1	1.5	0	0.0	32	0.6
None	160	30.4	982	30.4	21	24.3	234	22.5	1397	28.6
TOTAL	528	100	3229	100	86	100	1041	100	4884	100

CHAPTER III

POVERTY AND INCOME

Amongst the key objectives of the survey is to measure objectively the level of poverty and poverty gap ratio (the depth of poverty), as well as household income from various sources. This chapter deals with poverty level and differentials according to vulnerability group. Income is presented in the end of the chapter.

3.1: PREVELANCE OF EXTREME POVERTY

Table 3.1 shows the level of extreme (food) poverty in both intervention and control communities (see Chapter I for definitions). Extreme poverty is remarkably higher in the control (83.9%) compared with the intervention communities (68%). Concerning the variability with vulnerability group, It is found that, in intervention communities, group3 and group 1 has the lowest level (about 50% in each), while group 4 has the highest level of poverty (76.7%). As for the control communities, the group with lowest poverty (58.4%) is group 3 whereas group 2 has the highest level (86.7%).

Notably, the vulnerability groups having members able to work are characterized by higher level of poverty compared with the other two groups. Although this result is, to some what, difficult to explain, households having members able to work are generally bigger in size to the extent that their nutritional pattern may fall in short to satisfy the needs of all household members.

TABLE 3.1: PERCENTAGE OF ADULT-EQUIVALENT POPULATION BELOW THE EXTREME POVERTY LINE BY VULNERABILITY STATUS FOR INTERVENTION AND CONTROL COMMUNITIES

STUDY COMMUNITY	Vulnerability Status				TOTAL
	(Group 1) Households lacking both lands and members able to work manually	(Group 2) Households lacking lands but having members able to work manually	(Group 3) Households having land but lacking members able to work manually	(Group 4) Others (Households having land and members able to work manually)	
INTERVENTION	50.2	67.5	50.0	76.7	68.7
CONTROL	72.5	86.7	58.4	83.3	83.9

3.2 PREVALENCE OF GENERAL POVERTY

Table 3.2 shows the level of general (food and non-food) poverty in both intervention and control communities (see Chapter I for definitions). Again General poverty is remarkably higher in the control (84.9%) compared with the intervention communities (64.5%). The difference is not attributed to chance process as it is proven to be statistically significant (see annex A). Concerning the variability with vulnerability group, it is found that, in intervention communities, group3 and group 1 has the lowest level (about 47% in each), while group 4 has the highest level of poverty (68%). As for the control communities, the group with lowest poverty (63.6%) is group 3 whereas group 4 has the highest level (84.2%).

Expectedly, general poverty prevalence is to be higher than extreme poverty, nonetheless general poverty for the intervention communities shows a reverse pattern of difference, the reason for that is when the consumption of non-food components is added to the food component some extremely poor household has moved above the general poverty line.

TABLE 3.2: PERCENTAGE OF ADULT-EQUIVALENT POPULATION BELOW THE OVERALL POVERTY LINE BY VULNERABILITY STATUS FOR INTERVENTION AND CONTROL COMMUNITIES.

STUDY COMMUNITY	Vulnerability Status				TOTAL
	(Group 1) Households lacking both lands and members able to work manually	(Group 2) Households lacking lands but having members able to work manually	(Group 3) Households having land but lacking members able to work manually	(Group 4) Others (Households having land and members able to work manually)	
INTERVENTION	47.4	64.7	47.1	68.0	64.5
CONTROL	75.3	87.2	63.6	84.2	84.9

3.3: POVERTY GAP-RATIO (DEPTH OF POVERTY)

Also called the ‘‘scale of poverty’’, this indicator measures the gravity of the situation in which poor people live. It indicates the level on which poor people are situated below the poverty line: it in fact measures the mean distance from the poverty line and thus enables the total deficit of all the poor to be calculated. Evidently the depth of poverty (Table 3.3) is much higher for the control (41.5%) compared with the intervention (26.6%) communities. In Consistency with poverty prevalence, the depth of poverty is higher for vulnerability groups 2 and 4 compared with groups 1 and 3 in both intervention and control communities (see the table below).

TABLE 3.3: POVERTY GAP-RATIO FOR INTERVENTION AND CONTROL COMMUNITIES BY VULNERABILITY STATUS

STUDY COMMUNITY	Vulnerability Status				TOTAL
	(Group 1) Households lacking both lands and members able to work manually	(Group 2) Households lacking lands but having members able to work manually	(Group 3) Households having Land but lacking members able to work manually	(Group 4) Others(Households having land and members able to work manually)	
INTERVENTION	21.7	27.0	16.6	26.9	26.6
CONTROL	34.8	43.6	28.7	39.5	41.5

3.4 CONSUMPTION QUINTILES

Table 3.4 (a & b) shows mean annual consumption per adult equivalent (AE) corresponding to consumption quintiles for intervention and control communities. The first quintile is the value below which the poorest 20% of the adult equivalent population lie. While the fifth quintile is the value above which the richest 20% of the adult-equivalent population lie.

Apparently, mean consumption, irrespective of the quintile order, is consistently higher in the intervention than the control communities. Moreover, the level of inequality (measured by taking the difference between the mean consumption of the fifth and first quintiles) is much higher in the intervention (about 265 thousand Frws) than in the control (about 142 thousand Frws) communities.

TABLE 3.4 (a): MEAN ANNUAL CONSUMPTION PER ADULT-EQUIVALENT BY CONSUMPTION QUINTILE FOR INTERVENTION COMMUNITIES

QUINTILES	INTERVENTION	
	Level of consumption	Mean annually consumption per A E
1 st quintile	less than 63687.25	44787.0
2 nd quintile	63687.25-88878.39	75940.9
3 rd quintile	88878.39-124829.7	105461.3
4 th quintile	124829.7-180273.1	148078.0
5 th quintile	180273.1+	269039.5
Total		128791.8

TABLE 3.4 (b): MEAN ANNUAL CONSUMPTION PER ADULT-EQUIVALENT BY CONSUMPTION QUINTILE FOR CONTROL COMMUNITIES

QUINTILES	Level of consumption	Mean annually consumption per A E
1 ST quintile	less than 43839.7	33616.1
2 nd quintile	43839.7-63574.42	53351.2
3 rd quintile	63574.42-83227.47	72994.0
4 th quintile	83227.47-121637.1	101473.3
5 th quintile	121637.1+	175573.0
Total	Total	87256.1

3.5: HOUSEHOLD INCOME

3.5.1 SOURCE OF INCOME

Concerning the mean household yearly income by income source and vulnerability status (table 3.5 (a&b)), the total mean yearly income in the intervention communities, is about 2.5 times (226974 Frws) more than that of the control communities (92433 Frws). Regarding the source, the prime source of income in the intervention community is wages/salaries (47.4%) while for the control communities it is self employment (40.9%). This is one more evidence that the control communities is much poorer than the intervention one in terms of annual revenue. The lowest source of income comes from transfers for both intervention and control groups (2.2% and 4.3% respectively). Looking at vulnerability groups, the mean household income of groups 2 and 4 in intervention communities is substantially higher than groups 1 and 2, while in the control communities groups 3 and 4 have the highest income (see the table below).

TABLE 3.5: MEAN HOUSEHOLD YEARLY INCOME BY INCOME SOURCE AND VULNERABILITY STATUS

Table 3.5 (a): Intervention

Income source		(Group 1) Households lacking both lands and members able to work manually	(Group 2) Households lacking lands but having members able to work manually	(Group 3) Households having land but lacking members able to work manually	(Group 4) Others(Households having land and members able to work manually)	TOTAL
Wage / Salary		5624	125633	25161	93109	107487
Self employment	Agriculture	18555	61247	29139	83127	61799
	Non agriculture	3168	24623	448	22899	22165
Properties		15252	30531	21770	36938	30461
Transfers		9069	3878	2495	7494	5062
TOTAL		51668	245912	79013	243567	226974

Table 3.5(b): Control

Income source		(Group 1) Households lacking both lands and members able to work manually	(Group 2) Households lacking lands but having members able to work manually	(Group 3) Households having land but lacking members able to work manually	(Group 4) Others(Households having land and members able to work manually)	TOTAL
Wage / Salary		6728	34255	26938	38896	30801
Self employment	Agriculture	13932	28018	94622	57013	32385
	Non agriculture	2469	6329	5714	4701	5437
Properties		18779	19280	38388	20950	19858
Transfers		3695	4571	6971	1661	3952
TOTAL		45603	92454	172633	123220	92433

3.5.2 INCOME DISTRIBUTION

Generally, income distribution in all societies deviates from symmetry, it is skewed to the right whether the society is rich or poor. The VUP Intervention and control communities are not exceptions. Looking in table 3.6 (a&b) one realizes the skewness of income distribution of both intervention and control communities. Nonetheless, the deepness of skewness is more evident in the control than the intervention communities, indicating higher impoverished conditions of the former compared with the latter. For example the percentage of households having annual income below 130000 Frws is 52.5 % in the intervention while it is as high as 80.5% in the control communities. Looking in the upper end of the distribution we found another evidence that assert this finding, where the percentage of households having annual income greater than 23000 Frws is 31.2% for intervention and 8.4% for control communities.

Investigating the distribution differentials over vulnerability group, it is realized that, in the intervention communities, the distribution skewness to the right is higher for groups 1 and 3 compared to the other two groups, meaning that groups 1 and 3 are poorer than other groups. Whereas in the control communities, the vulnerability groups are more homogenous as far as income distribution is concerned, with slight difference between groups 1 and 2 on one side and groups 3 and 4 on the other. The percentage of households receiving annual income less than 130000 Frws amounts 92.6% and 80.7% for groups 1 and 2; and 71.4 % and 70.4 % for groups 3 and 4, indicating that the latter two groups are relatively in better off conditions.

TABLE 3.6: DISTRIBUTION OF HOUSEHOLDS BY YEARLY INCOME ACCORDING TO VULNERABILITY STATUS

Table 3.6 (a): Intervention

Income Class	Vulnerability Status								TOTAL	
	(Group 1) Households lacking Both lands and members able to work manually		(Group 2) Households lacking lands but having members able to work manually		(Group 3) households having land but lacking members able to work manually		(Group 4) Others (households having land and members able to work manually)			
	No	%	No	%	No	%	No	%	No	%
less than 5000	11	10.8	19	2.3	1	7.7	0	0.0	31	2.6
5000-30000	32	31.4	122	14.9	2	15.4	15	6.1	171	14.5
30000-55000	26	25.5	98	12.0	2	15.4	32	13.1	158	13.4
55000-80000	18	17.6	78	9.5	5	38.5	30	12.2	131	11.1
80000-105000	5	4.9	47	5.8	1	7.7	24	9.8	77	6.5
105000-130000	0	0.0	41	5.0	0	0.0	11	4.5	52	4.4
130000-155000	4	3.9	33	4.0	1	7.7	14	5.7	52	4.4
155000-180000	0	0.0	35	4.3	0	0.0	18	7.3	53	4.5
180000-205000	2	2.0	43	5.3	0	0.0	15	6.1	60	5.1
205000-230000	2	2.0	20	2.4	0	0.0	4	1.6	26	2.2
230000-255000	0	0.0	28	3.4	0	0.0	8	3.3	36	3.1
255000-280000	0	0.0	15	1.8	0	0.0	7	2.9	22	1.9
280000 and more	2	2.0	238	29.1	1	7.7	67	27.3	308	26.2
TOTAL	102	100.0	817	100.0	13	100.0	245	100.0	1177	100.0

Table 3.6 (b): Control

Income Class	Vulnerability Status								TOTAL	
	(Group 1) Households lacking Both lands and members able to work manually		(Group 2) Households lacking lands but having members able to work manually		(Group 3) households having land but lacking members able to work manually		(Group 4) Others (households having land and members able to work manually)			
	No	%	No	%	No	%	No	%	No	%
less than 5000	14	8.0	14	1.9	0	0.0	0	0.0	28	2.4
5000-30000	96	54.5	223	29.7	7	33.3	34	16.1	360	31.1
30000-55000	22	12.5	163	21.7	2	9.5	53	25.1	240	20.7
55000-80000	19	10.8	97	12.9	1	4.8	33	15.6	150	12.9
80000-105000	6	3.4	51	6.8	4	19.0	18	8.5	79	6.8
105000-130000	6	3.4	58	7.7	1	4.8	11	5.2	76	6.6
130000-155000	3	1.7	28	3.7	1	4.8	14	6.6	46	4.0
155000-180000	1	0.6	27	3.6	0	0.0	10	4.7	38	3.3
180000-205000	2	1.1	24	3.2	1	4.8	11	5.2	38	3.3
205000-230000	1	0.6	4	0.5	0	0.0	2	0.9	7	0.6
230000-255000	1	0.6	8	1.1	1	4.8	7	3.3	17	1.5
255000-280000	0	0.0	6	0.8	0	0.0	2	0.9	8	0.7
280000 and more	5	2.8	48	6.4	3	14.3	16	7.6	72	6.2
TOTAL	176	100.0	751	100.0	21	100.0	211	100.0	1159	100.0

CHAPTER IV

NUTRITION STATUS

This chapter deals with the nutrition status characteristics namely the number of meals taken by the household, reduction of number of meals per day usually taken and finally the food assistance in any case the household have received.

4.1 NUMBER OF MEALS TAKEN

Table 4.1 (a & b) exhibits the distribution of households by number of daily meals according to households' size. Clearly, the vast majority of the households take 2 meals per day (75.3% for intervention and 72.1% for control communities). The pattern of number of daily meals is almost the same irrespective of the size of the household.

TABLE 4.1: DISTRIBUTION OF HOUSEHOLDS BY NUMBER OF DAILY MEALS ACCORDING TO THE HOUSEHOLDS SIZE

Table 4.1 (a): Intervention

NUMBER OF MEALS	HOUSEHOLD SIZE										Total	
	1		2-3		4-5		6-7		8+			
	NO	%	NO	%	NO	%	NO	%	NO	%	NO	%
3	13	15.3	38	9.8	25	6.2	26	11.7	5	6.3	107	9.1
2	55	64.7	290	76.0	310	75.0	165	74.8	71	86.5	890	75.3
1	14	16.9	53	13.8	72	17.5	29	13.0	6	7.3	174	14.7
1 every 2 days	1	1.3	0	0.0	3	0.8	0	0.0	0	0.0	5	0.4
Others frequencies	0	0.5	0	0.0	1	0.3	0	0.0	0	0.0	2	0.1
N.S	1	1.3	2	0.4	1	0.2	1	0.5	0	0.0	5	0.4
TOTAL	85	100.0	381	100.0	413	100.0	221	100.0	82	100.0	1182	100.0

Table 4.1 (b): Control

NUMBER OF MEALS	HOUSEHOLD SIZE										Total	
	1		2-3		4-5		6-7		8+			
	NO	%	NO	%	NO	%	NO	%	NO	%	NO	%
3	29	22.8	3	11.7	33	8.4	17	7.8	12	14.8	133	11.3
2	68	54.2	250	69.8	298	77.2	169	76.5	61	73.6	847	72.1
1	24	19.1	58	16.2	49	12.6	33	14.9	10	11.6	174	14.8
1 every 2 days	3	2.7	5	1.4	4	1.0	0	0.1	0	0.0	12	1.1
Others frequencies	1	1.0	1	0.4	3	0.7	1	0.6	0	0.0	6	0.6
N.S	0	0.2	2	0.6	0	0.1	0	0.0	0	0.0	3	0.2
TOTAL	126	100.0	320	100.0	386	100.0	221	100.0	83	100.0	1175	100.0

Considering the number of meals taken according to vulnerability groups, table 4.2 (a & b) shows a little variability between the vulnerability groups. Still two meals a day is the norm for all vulnerability groups with some variability among them, where the percentage of households taking 2 meals a day for intervention communities ranges from 68.6% for group 1 to 84.6% for group 3, while for control communities it ranges from 56.1% for group 1 to 90.5% for group 3.

TABLE 4.2: DISTRIBUTION OF HOUSEHOLDS BY NUMBER OF MEALS ACCORDING TO VULNERABILITY STATUS

Table 4.2 (a) Intervention

NUMBER OF MEALS	(Group 1) Households lacking both land and members able to work manually		(Group 2) Households lacking land but having members able to work manually		(Group 3) Households having land but lacking members able to work manually		(Group 4) Others(Households having land and members able to work manually)		TOTAL	
	NO	%	NO	%	NO	%	NO	%	NO	%
3	14	13.3	68	8.3	1	7.7	24	9.8	107	9.0
2	72	68.6	609	74.3	11	84.6	199	81.2	891	75.3
1	18	17.1	134	16.3	1	7.7	21	8.6	174	14.7
1 every 2 days	0	0.0	4	0.5	0	0.0	1	0.4	5	0.4
Others	0	0.0	1	0.1	0	0.0	0	0.0	1	0.1
NS	1	1.0	4	0.5	0	0.0	0	0.0	5	0.4
TOTAL	105	100.0	820	100.0	13	100.0	245	100.0	1183	100.0

Table 4.2 (b) Control

NUMBER OF MEALS	(Group 1) Households lacking both land and members able to work manually		(Group 2) Households lacking land but having members able to work manually		(Group 3) Households having land but lacking members able to work manually		(Group 4) Others(Households having land and members able to work manually)		TOTAL	
	NO	%	NO	%	NO	%	NO	%	NO	%
3	21	11.7	97	12.7	1	4.8	14	6.6	133	11.3
2	101	56.1	555	72.8	19	90.5	173	82.0	848	72.2
1	49	27.2	102	13.4	1	4.8	21	10.0	173	14.7
1 every 2 days	2	1.1	7	0.9	0	0.0	3	1.4	12	1.0
Others	5	2.8	1	0.1	0	0.0	0	0.0	6	0.5
NS	2	1.1	0	0.0	0	0.0	0	0.0	2	0.2
TOTAL	180	100.0	762	100.0	21	100.0	211	100.0	1174	100.0

4.2 REDUCTION OF NUMBER OF MEALS PER DAY

Table 4.3 shows the percentage of households reported reduction of number of daily meals in the last 12 months by vulnerability groups for intervention and control communities. Evidently, more than half of households in the intervention and two thirds of the households in the control communities have experienced meal reduction in the last 12 months. The prevalence in food reduction varies with vulnerability groups where it ranges in intervention communities from 59% for group 2 to 78.1% for group 3, and from 55.2% for group 3 to 69.9% for group 2 for the control communities.

TABLE 4.3 PERCENTAGE OF HOUSEHOLDS REPORTED REDUCTION OF THE NUMBER OF DAILY MEALS IN THE LAST 12 MONTHS BY VULNERABILITY STATUS FOR INTERVENTION AND CONTROL COMMUNITIES

STUDY COMMUNITIES	(Group 1) Households lacking both land and members able to work manually		(Group 2) Households lacking land but having members able to work manually		(Group 3) Households having land but lacking members able to work manually		(Group 4) Others(Households having land and members able to work manually)		Total	
	No	%	No	%	No	%	No	%	No	%
Intervention	65	61.7	484	59.0	10	78.1	145	59.1	703	59.5
Control	113	62.8	533	69.9	12	55.2	129	61.1	786	67.0

4.3 FOOD ASSISTANCE

Table 4.4 (a) shows the percentage of households that asked for food assistance in the last 12 months by the number of meals per day for intervention and control groups. Evidently, 35.5% of households in the intervention and 44.6% of the households in the control communities have asked for food assistance in the last 12 months. The demand for food assistance varies with the number of meals currently taken per day, where the percentage ranges in intervention communities from 0.3% to 24%, and from 0.7% to 31.1% for the control communities. Looking in the variability of the percentage of households demanding food assistance in the last 12 months according to vulnerability groups (table 4.4 (b)), it is found that, the demand for food assistance varies over the vulnerability groups where it ranges for the intervention communities from 30.4% for group 4 to 58.2% for group 3, while for the control communities it ranges from 39.1% for group 1 to 46.6% for group 2.

TABLE 4.4 (a) PERCENTAGE OF HOUSEHOLDS THAT ASKED FOR FOOD ASSISTANCE IN THE LAST 12 MONTHS BY THE NUMBER OF MEALS PER DAY FOR INTERVENTION AND CONTROL COMMUNITIES

NUMBER OF MEALS	Intervention		Control	
	No	%	No	%
3	53	4.5	63	5.4
2	283	24.0	365	31.1
1	80	6.7	88	7.5
1 for 2 days	4	0.3	9	0.7
TOTAL	420	35.5	524	44.6

TABLE 4.4 (b): PERCENTAGE OF HOUSEHOLDS THAT ASKED FOR FOOD ASSISTANCE IN THE LAST 12 MONTHS BY VULNERABILITY GROUP.

GROUP	(Group 1) Households lacking both land and members able to work manually		(Group 2) Households lacking land but having members able to work manually		(Group 3) Households having land but lacking members able to work manually		(Group 4) Others (Households having land and members able to work manually)		Total	
	No	%	No	%	No	%	No	%	No	%
Intervention	39	36.9	301	36.7	8	58.2	75	30.4	422	35.7
Control	70	39.1	355	46.6	9	44.2	90	42.7	525	44.7

CHAPTER V

HOUSEHOLD CHARACTERISTICS

This chapter deals with the households characteristics (housing conditions) which include the nature of the housing wall, the nature of housing roof, housing occupation status, household main source of drinking water, households main source of light, method of waste disposal and toilet type.

5.1 NATURE OF THE HOUSING WALL

Considering the distribution of households according to the nature of the housing wall by vulnerability group, table 5.1 (a & b) shows that the vast majority of the housing wall in the intervention and control communities is made up with trees without cement (47.2% and 54.9% respectively) and bricks with no cement (37.1% and 39.9% respectively). There is a little variability in housing wall made up with trees without cement by vulnerability groups. It ranges in the intervention communities from 41.7% for group 4 to 57.1% for group 3, while for control communities it ranges from 48.8% for group 4 to 57.5% for group 2.

TABLE 5.1: DISTRIBUTION OF HOUSEHOLDS ACCORDING TO THE NATURE OF THE HOUSING WALL BY VULNERABILITY STATUS

Table 5.1 (a): Intervention

NATURE OF THE WALL	(Group 1) Households lacking both land and members able to work manually		(Group 2) Households lacking land but having members able to work manually		(Group 3) Households having land but lacking members able to work manually		(Group 4) Others (Households having land and members able to work manually)		Total	
	NO	%	NO	%	NO	%	NO	%	NO	%
Bricks with no cement	43	41.3	288	35.2	5	37.5	103	41.8	439	37.1
Bricks with cement	8	7.8	64	7.8	0	0.0	21	8.5	93	7.8
Trees with cement	2	1.5	44	5.3	0	2.1	12	5.0	58	4.9
Trees without cement	46	43.7	402	49.1	7	57.1	102	41.7	558	47.2
Woods (Imbaho)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Fired bricks	0	0.0	1	0.1	0	3.3	0	0.0	1	0.1
Bricks made in cement	0	0.0	1	0.1	0	0.0	0	0.0	1	0.1
Stones	0	0.0	0	0.1	0	0.0	0	0.0	0	0.0
Tents	0	0.0	1	0.1	0	0.0	1	0.4	2	0.2
Other materials	6	5.6	19	2.3	0	0.0	6	2.5	31	2.6
TOTAL	105	100.0	820	100.0	13	100.0	245	100.0	1182	100.0

Table 5.1 (b): Control

NATURE OF THE WALL	(Group 1) Households lacking both land and members able to work manually		(Group 2) Households lacking land but having members able to work manually		(Group 3) Households having land but lacking members able to work manually		(Group 4) Others (Households having land and members able to work manually)		Total	
	NO	%	NO	%	NO	%	NO	%	NO	%
Bricks with no cement	81	44.9	285	37.4	5	21.9	99	46.6	469	39.9
Bricks with cement	2	1.2	6	0.8	2	7.1	4	1.9	13	1.1
Trees with cement	3	1.4	20	2.6	3	15.2	5	2.6	31	2.7
Trees without cement	92	51.4	438	57.5	12	55.8	103	48.8	646	54.9
Woods (Imbaho)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Fired bricks	1	0.6	4	0.5	0	0.0	0	0.0	5	0.4
Bricks made in cement	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Stones	0	0.0	0	0.1	0	0.0	0	0.0	0	0.0
Tents	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Other materials	1	0.5	9	1.2	0	0.0	0	0.2	11	0.9
TOTAL	180	100.0	762	100.0	21	100.0	212	100.0	1175	100.0

5.2: NATURE OF THE HOUSING ROOF

Table 5.2 (a&b) exhibits the distribution of households according to the nature of housing roof by vulnerability groups. Clearly, the vast majority of the housing roof in the intervention communities is made up with sheet metal (47.6%), tiled roof (31.4%) and banana leaves (19.2%), whereas for control communities it is made up with the tiled roof (41.6%), banana leaves (30.9%) and sheet metal (26.3%). Looking at differentials with vulnerability groups, there was somehow substantial variability in the percentage of housing made up of sheet metal in the intervention communities where it ranges from 36.4% for group 3 to 49.4% for group 2, while for the control communities, tiled roof (the most prevalent housing roof), ranges from 34.7% for group 3 to 47.5% for groups 4.

TABLE 5.2: DISTRIBUTION OF HOUSEHOLDS ACCORDING TO THE NATURE OF HOUSING ROOF BY VULNERABILITY STATUS

Table 5.2 (a): Intervention

NATURE OF ROOF	(Group 1) Households lacking both land and members able to work manually		(Group 2) Households lacking land but having members able to work manually		(Group 3) Households having land but lacking members able to work manually		(Group 4) Others(Households having land and members able to work manually)		Total	
	NO	%	NO	%	NO	%	NO	%	NO	%
Banana leaves	21	20.5	162	19.8	1	11.1	41	16.9	227	19.2
Sheet metal	48	46.2	405	49.4	5	36.4	105	42.7	563	47.6
Beton	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Tiled roof	33	31.7	240	29.3	7	52.4	92	37.4	371	31.4
Others	2	1.6	12	1.5	0	0.0	7	3.0	21	1.8
TOTAL	105	100.0	820	100.0	13	100.0	245	100.0	1182	100.0

Table 5.2 (b): Control

NATURE OF ROOF	(Group 1) Households lacking both land and members able to work manually		(Group 2) Households lacking land but having members able to work manually		(Group 3) Households having land but lacking members able to work manually		(Group 4) Others(Households having land and members able to work manually)		Total	
	NO	%	NO	%	NO	%	NO	%	NO	%
Banana leaves	31	17.0	283	37.1	2	8.9	48	22.5	363	30.9
Sheet metal	75	41.4	159	20.9	12	56.4	63	29.8	309	26.3
Beton	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Tiled roof	72	39.8	309	40.5	7	34.7	101	47.5	488	41.6
Others	3	1.8	11	1.4	0	0.0	0	0.2	15	1.2
TOTAL	180	100.0	762	100.0	21	100.0	212	100.0	1175	100.0

5.3: HOUSING OCCUPATION STATUS

Table 5.3 (a&b) shows that the vast majority of households own their houses and the level is about the same in the intervention (87.2%) and the control (87.5%) communities. With regards to differentials with vulnerability groups, there was no much variability in the percentage of those who own a house, where for intervention it ranges from 79.1% for group 1 to 93.3% for group 4, while for the control communities it ranges from 81% for group 1 to 95.2% for groups 4.

TABLE 5.3: DISTRIBUTION OF HOUSEHOLDS ACCORDING TO HOUSING OCCUPATION STATUS BY VULNERABILITY STATUS

Table 5.3 (a) Intervention

OCCUPATION STATUS	(Group 1) Households lacking both land and members able to work manually		(Group 2) Households lacking land but having members able to work manually		(Group 3) Households having land but lacking members able to work manually		(Group 4) Others (Households having land and members able to work manually)		Total	
	NO	%	NO	%	NO	%	NO	%	NO	%
Own house	83	79.1	707	86.3	12	92.2	229	93.3	1031	87.2
Renting house	4	4.2	28	3.4	0	0.0	8	3.4	41	3.5
Job housing	1	1.2	3	0.3	0	0.0	0	0.0	4	0.3
Free housing	13	12.6	60	7.3	1	7.8	7	2.8	81	6.8
Temporally housing	1	1.4	6	0.7	0	0.0	1	0.5	9	0.7
Mortgage housing	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Refuge housing	0	0.4	11	1.4	0	0.0	0	0.0	12	1.0
Others	1	1.1	4	0.5	0	0.0	0	0.0	5	0.5
TOTAL	105	100.0	820	100.0	13	100.0	245	100.0	1182	100.0

Table 5.3 (b): Control

OCCUPATION STATUS	(Group 1) Households lacking both land and members able to work manually		(Group 2) Households lacking land but having members able to work manually		(Group 3) Households having land but lacking members able to work manually		(Group 4) Others (Households having land and members able to work manually)		Total	
	NO	%	NO	%	NO	%	NO	%	NO	%
Own house	146	81.0	662	86.8	19	90.9	201	95.1	1028	87.5
Renting house	7	4.1	17	2.3	0	0.0	2	0.8	26	2.2
Job housing	1	0.8	1	0.2	1	6.1	0	0.0	4	0.4
Free housing	17	9.2	46	6.0	1	3.0	8	3.9	71	6.0
Temporally housing	4	2.2	10	1.3	0	0.0	0	0.0	14	1.2
Mortgage housing	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Refuge housing	3	1.9	18	2.3	0	0.0	0	0.2	21	1.8
Others	1	0.7	9	1.2	0	0.0	0	0.0	10	0.9
TOTAL	180	100.0	762	100.0	21	100.0	212	100.0	1175	100.0

5.4 HOUSEHOLD MAIN SOURCE OF DRINKING WATER

The availability and accessibility of drinking water is among the indicators reflecting the status of public health of any population. Table 5.4 (a & b) shows the distribution of households according to source of drinking water by vulnerability group, where it ranges for intervention communities from 0.2% of households who are electrogaz subscriber to 28.4% of those households which get water from free public tap, while for the control community, it ranges from 0.3% for those with other (unspecified) source of drinking water to 33.5% of households with free public tap.

There is substantial variability by vulnerability groups regarding households with free public tap as source of drinking water, where it ranges for intervention communities from 27.8% in group 2 to 48.1% in group 3, and for control communities it ranges from 8.9% in group 3 to 36.0% in group 2.

TABLE 5.4: DISTRIBUTION OF HOUSEHOLDS ACCORDING TO SOURCE OF DRINKING WATER BY VULNERABILITY STATUS

Table 5.4 (a) Intervention

DRINKING WATER SOURCE TYPE	(Group 1) Households lacking both land and members able to work manually		(Group 2) Households lacking land but having members able to work manually		(Group 3) Households having land but lacking members able to work manually		(Group 4) Others (Households having land and members able to work manually)		Total	
	NO	%	NO	%	NO	%	NO	%	NO	%
Electrogaz subscriber	1	0.9	2	0.2	0	0.0	0	0.0	3	0.2
Water born not protected	3	3.2	18	2.3	0	2.6	8	3.4	31	2.6
water born protected	3	3.3	49	6.0	2	13.0	15	6.0	69	5.8
River, Lake, Marsh	14	13.5	122	14.9	2	16.4	52	21.4	191	16.1
Protected spring	20	19.0	160	19.5	2	12.3	42	17.2	224	18.9
Non protected spring	11	10.8	67	8.2	1	5.4	25	10.3	104	8.8
Purchase on public tap	18	17.0	168	20.5	0	2.1	34	13.7	220	18.6
Free public tap	34	32.1	228	27.8	6	48.1	69	28.0	336	28.4
Other	0	0.0	5	0.6	0	0.0	0	0.0	5	0.4
TOTAL	105	100.0	820	100.0	13	100.0	245	100.0	1182	100.0

Table 5.4 (b): Control

DRINKING WATER SOURCE TYPE	(Group 1) Households lacking both land and members able to work manually		(Group 2) Households lacking land but having members able to work manually		(Group 3) Households having land but lacking members able to work manually		(Group 4) Others(House holds having land and members able to work manually)		Total	
	NO	%	NO	%	NO	%	NO	%	NO	%
Electrogaz subscriber	3	1.9	9	1.1	1	6.1	4	1.8	17	1.5
Water born not protected	3	1.9	10	1.3	0	0.0	2	0.8	15	1.3
water born protected	12	6.5	29	3.8	0	1.0	2	0.9	43	3.6
River, Lake, Marsh	23	13.0	111	14.5	2	9.1	34	16.3	170	14.5
Protected spring	43	24.1	201	26.4	12	54.3	58	27.4	314	26.7
Non protected spring	22	12.3	73	9.5	3	13.7	32	14.9	129	11.0
Purchase on public tap	31	17.1	53	7.0	1	6.9	5	2.5	91	7.7
Free public tap	42	23.3	275	36.0	2	8.9	75	35.4	393	33.5
Other	0	0.0	3	0.4	0	0.0	0	0.0	3	0.3
TOTAL	180	100.0	762	100.0	21	100.0	212	100.0	1175	100.0

5.5 HOUSEHOLDS MAIN SOURCE OF LIGHT

Table 5.5 (a & b) exhibits the distribution of households according to the main source of light by vulnerability groups. Clearly, the vast majority of the households source of light is the illumination lamp (53.9% for intervention and 42.5% for control communities) followed by fire from wood (25.8% for intervention and 42.4% for control communities). Looking at differentials with vulnerability groups, there was little variability in the percentage of households with illumination lamp as source of light, where it ranges for intervention communities from 49.8% for group 1 to 58.2 for group 4, while for the control communities it ranges from 37.9% for group1 to 50.1% for group 4.

TABLE 5.5: DISTRIBUTION OF HOUSEHOLDS ACCORDING TO THE MAIN SOURCE OF LIGHT BY VULNERABILITY STATUS

Table 5.5 (a): Intervention

MAIN SOURCE OF LIGHT	(Group 1) Households lacking both land and members able to work manually		(Group 2) Households lacking land but having members able to work manually		(Group 3) Households having land but lacking members able to work manually		(Group 4) Others(Households having land and members able to work manually)		Total	
	NO	%	NO	%	NO	%	NO	%	NO	%
Electricity	0	0.0	3	0.4	0	0.0	0	0.0	3	0.3
Electric generator	0	0.0	2	0.2	0	0.0	0	0.0	2	0.1
Fuel lamp	3	2.6	91	11.0	0	0.0	21	8.6	114	9.7
Gas lamp	0	0.0	1	0.1	0	2.1	0	0.0	1	0.1
Fire from wood	40	37.8	204	24.9	6	45.1	56	23.1	306	25.8
Candle	1	0.8	27	3.3	0	0.0	5	1.9	32	2.7
Illimination lamp (Agatadowa)	52	49.8	437	53.3	6	50.3	143	58.2	638	53.9
Other	9	9.0	56	6.9	0	2.6	20	8.2	86	7.3
TOTAL	105	100.0	820	100.0	13	100.0	245	100.0	1182	100.0

Table 5.5 (b): Control

MAIN SOURCE OF LIGHT	(Group 1) Households lacking both land and members able to work manually		(Group 2) Households lacking land but having members able to work manually		(Group 3) Households having land but lacking members able to work manually		(Group 4) Others(Hous eholds having land and members able to work manually)		Total	
	NO	%	NO	%	NO	%	NO	%	NO	%
Electricity	0	0.0	2	0.3	0	0.0	2	0.8	4	0.3
Electric generator	0	0.1	2	0.2	0	0.0	0	0.0	2	0.2
Fuel lamp	8	4.5	21	2.7	3	13.1	6	3.0	38	3.2
Gas lamp	1	0.7	1	0.1	1	6.1	0	0.0	3	0.3
Fire from wood	85	47.5	339	44.5	6	27.9	68	32.1	498	42.4
Candle	8	4.5	24	3.1	1	6.1	5	2.5	38	3.3
Illimination lamp (Agatadowa)	68	37.9	315	41.4	10	46.8	106	50.1	499	42.5
Other	9	4.8	59	7.7	0	0.0	24	11.5	92	7.8
TOTAL	180	100.0	762	100.0	21	100.0	212	100.0	1175	100.0

5.6: METHOD OF WASTE DISPOSAL

Table 5.6 (a&b) shows the distribution of households according to the main method of waste disposal by vulnerability groups. The vast majority of population uses household garbage hole (64.3% for intervention and 60.7% for control communities) followed by

throwing in the farm (22.9% in the intervention and 32.4% in the control communities). Looking at the vulnerability groups, the variability is substantial for population with households' garbage hole where it ranges for the intervention communities from 52.8% for group 1 to 74.7% for group 3, while for control communities it ranges from 49.2% in group 1 to 75.8% in group 4.

TABLE 5.6: DISTRIBUTION OF HOUSEHOLDS ACCORDING TO THE MAIN METHOD OF WASTE DISPOSAL BY VULNERABILITY STATUS

Table 5.6 (a): Intervention

THE MAIN METHOD OF WASTAGE EVACUATION	(Group 1) Households lacking both land and members able to work manually		(Group 2) Households lacking land but having members able to work manually		(Group 3) Households having land but lacking members able to work manually		(Group 4) Others(Households having land and members able to work manually)		Total	
	NO	%	NO	%	NO	%	NO	%	NO	%
Public garbage	2	2.0	26	3.1	0	2.1	16	6.6	44	3.7
Household garbage hole	55	52.8	532	64.9	9	74.7	163	66.7	760	64.3
Cleaning companies	0	0.3	4	0.5	0	0.0	0	0.0	5	0.4
Throwing in the farm	30	29.0	182	22.2	2	17.3	57	23.1	271	22.9
In the nature (bush)	15	14.3	70	8.5	1	5.9	7	3.1	93	7.9
Incineration	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Elsewhere	2	1.7	6	0.8	0	0.0	1	0.5	9	0.8
TOTAL	105	100.0	820	100.0	13	100.0	245	100.0	1182	100.0

Table 5.6 (b): Control

THE MAIN METHOD OF WASTAGE EVACUATION	(Group 1) Households lacking both land and members able to work manually		(Group 2) Households lacking land but having members able to work manually		(Group 3) Households having land but lacking members able to work manually		(Group 4) Others(Households having land and members able to work manually)		Total	
	NO	%	NO	%	NO	%	NO	%	NO	%
Public garbage	8	4.3	27	3.6	1	6.1	3	1.2	39	3.3
Household garbage hole	88	49.2	453	59.5	10	48.6	160	75.8	713	60.7
Cleaning companies	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Throwing in the farm	75	41.6	252	33.2	8	39.3	44	20.9	380	32.4
In the nature (bush)	8	4.2	18	2.4	1	6.0	3	1.4	30	2.5
Incineration	0	0.0	2	0.2	0	0.0	0	0.0	2	0.2
Elsewhere	1	0.7	8	1.1	0	0.0	1	0.6	11	0.9
TOTAL	180	100.0	762	100.0	21	100.0	212	100.0	1175	100.0

5.7: TOILET TYPE

Table 5.7 (a&b) shows the distribution of households according to type of used toilet by vulnerability groups. The vast majority of households uses pit latrine with wood flag (51.7% for intervention and 47.7% for control communities) followed by pit latrine without wood flag (34.6% in the intervention and 35.3% in the control communities). Looking at the vulnerability groups, the variability is substantial for households with pit latrine with wood flag, where it ranges for the intervention communities from 36.2% for group 1 to 64.4% for group 4, while for control communities it ranges from 35.7% in group 1 to 53% in group 4.

TABLE 5.7: DISTRIBUTION OF HOUSEHOLDS ACCORDING TO TYPE OF USED TOILET BY VULNERABILITY STATUS

Table 5.7 (a): Intervention

TYPE OF USED TOILET	(Group 1) Households lacking both land and members able to work manually		(Group 2) Households lacking land but having members able to work manually		(Group 3) Households having land but lacking members able to work manually		(Group 4) Others(Households having land and members able to work manually)		Total	
	NO	%	NO	%	NO	%	NO	%	NO	%
Modern toilet with septic tank	0	0.0	5	0.6	0	0.0	1	0.5	6	0.5
Pit latrine with wood flag	38	36.2	409	49.9	7	55.8	158	64.4	612	51.7
Pit latrine without wood flag	44	42.0	288	35.2	5	39.1	71	29.1	409	34.6
Other type of toilet	2	2.4	29	3.6	0	0.0	2	0.7	34	2.8
None	20	19.4	88	10.8	1	5.1	13	5.3	122	10.4
TOTAL	105	100.0	820	100.0	13	100.0	245	100.0	1182	100.0

Table 5.7 (b): Control

TYPE OF USED TOILET	(Group 1) Households lacking both land and members able to work manually		(Group 2) Households lacking land but having members able to work manually		(Group 3) Households having land but lacking members able to work manually		(Group 4) Others(Households having land and members able to work manually)		Total	
	NO	%	NO	%	NO	%	NO	%	NO	%
Modern toilet with septic tank	2	1.0	5	0.6	0	2.0	2	0.9	9	0.8
Pit latrine with wood flag	64	35.7	375	49.2	9	43.2	112	53.0	561	47.7
Pit latrine without wood flag	72	40.1	258	33.9	8	39.8	76	35.9	415	35.3
Other type of toilet	3	1.6	22	2.9	1	6.1	1	0.7	28	2.4
None	39	21.7	101	13.3	2	8.9	20	9.4	163	13.8
TOTAL	180	100.0	762	100.0	21	100.0	212	100.0	1175	100.0

CHAPTER VI

COMMUNITY DEVELOPMENT AT CELL ADMINISTRATIVE LEVEL

In conjunction with the household questionnaires, the survey has collected community data at the cell level for both intervention and control communities. The total number of cells is 54 in each of the intervention and control communities, all have responded with the exception of one cell in the intervention. The most important information included in the community questionnaire is availability of infrastructure and public service; economic characteristics and migration. This chapter deals with both topics in order.

6.1 INFRASTRUCTURE AND PUBLIC SERVICE AVAILABILITY

With regards to the percentage of cells having various facilities as indicated in table 6.1.1 below, it is clear that, in the intervention communities cells, the facilities with highest prevalence are roads (88.7%), churches (77.4%) and schools (66%), followed by facilities with moderate prevalence, namely, water canalization tubes (51.9%), built-up areas (agglomeration) (50.9%), bridges (37.7%) and sports grounds (34%), and the facilities with lowest prevalence (less than 15 percent) are health center/dispensary (13.2%), Mosques and Markets (11.3% each), district offices (1.9%) and lastly cultural centers(0%). For the control communities the first category with highest prevalence facilities comprises churches (86.8%), roads (83%) and schools (79.2%), followed by facilities with moderate prevalence which are water canalization tubes (51%), bridges (50.9%), sports grounds (47.2%), built-up areas (agglomeration) (37.7%) and health center/dispensary (18.9%), and the third category with the lowest prevalence (less than 15 percent) are markets (9.4%), Mosques (5.7%), district offices (1.9%) and lastly cultural centers(0%). Evidently, the classification of facilities according to prevalence level (high, moderate, low) is more or less the same in both intervention and control communities.

TABLE 6.1.1: PERCENTAGES OF CELLS HAVING THE INDICATED FACILITIES FOR INTERVENTION AND CONTROL COMMUNITIES

SERVICES	INTERVENTION		CONTROL	
	Number	%	Number	%
School	35	66.0	42	79.2
Health center/ Dispensary	7	13.2	10	18.9
Bridges	20	37.7	27	50.9
Roads	47	88.7	44	83.0
Mosques	6	11.3	3	5.7
Churches	41	77.4	46	86.8
Markets	6	11.3	5	9.4
District offices	1	1.9	1	1.9
Cultural centers	0	0.0	0	0.0
Sports grounds	18	34.0	25	47.2
Water canalization tubes	27	51.9	26	51.0
Built-up areas (Agglomerations)	27	50.9	20	37.7

Looking in the distribution of cells according to the source of light for intervention and control communities, table 6.1.2 shows that the most prevalent source of light/energy in the cells is the local fuel lamp (Agatadowa) which amounts for 79.2% in the intervention and 83% in the control communities.

TABLE 6.1.2: DISTRIBUTION OF CELLS ACCORDING TO THE SOURCE OF LIGHT FOR INTERVENTION AND CONTROL COMMUNITIES

SOURCE OF ENERGY	INTERVENTION		CONTROL	
	Number	%	Number	%
Electricity	0	0.0	0	0.0
Generator	0	0.0	0	0.0
Fuel Lamp	2	3.8	2	3.8
Local fuel lamp (Agatadowa)	42	79.2	44	83.0
Candles	0	0.0	0	0.0
Fire wood	9	17.0	6	11.3
Other source	0	0.0	1	1.9
TOTAL	53	100.0	53	100.0

Considering the distribution of cells according to the means of waste disposal, table 6.1.3 shows that, the vast majority of population in the cells uses the households' garbage hole which accounts for 92.3% and 94.3% in the intervention and control communities respectively.

TABLE 6.1.3: DISTRIBUTION OF CELLS ACCORDING TO THE MEANS OF WASTE DISPOSAL

MEANS OF WESTAGE COLLECTION	INTERVENTION		CONTROL	
	Number	%	Number	%
Throwing it elsewhere	4	7.7	0	0.0
In the farm	0	0.0	2	3.8
Incineration	0	0.0	0	0.0
Household garbage hole	48	92.3	50	94.3
Others ways	0	0.0	1	1.9
TOTAL	52	100.0	53	100.0

With regard to source of water, Table 6.1.4 shows the distribution of cells according to the source of water for intervention and control groups. The table reveals that the most common source in the intervention communities' cells is protected spring (34%), followed by free public tap (20.8%). Whereas for the control communities' cells, the most common source is non protected spring and free public tap (which accounts each for 25.9%), followed by water from river, lake, marsh (22.2%) and lastly from protected spring accounts (18.5%).

TABLE 6.1.4: DISTRIBUTION OF CELLS ACCORDING TO THE SOURCE OF WATER FOR INTERVENTION AND CONTROL COMMUNITIES

SOURCE OF WATER	INTERVENTION		CONTROL	
	Number	%	Number	%
Protected waterborn	0	0	2	3.7
River, lake, marsh	7	13.2	12	22.2
Protected spring	18	34.0	10	18.5
Non protected spring	7	13.2	14	25.9
Purchased on public tap	8	15.1	--	--
Free public tap	11	20.8	14	25.9
Other sources	2	3.8	2	3.7
TOTAL	53	100.0	54	100.0

6.2. ECONOMIC CHARACTERISTICS AND MIGRATION

6.2.1 ECONOMIC ACTIVITY

A question was asked about the most common economic activities practiced by the cell population. Respondents were requested to identify the highest, second, and third economic activity that they perceived to be the most common in their cells. Table 6.2.1 shows the distribution of cells according to the first, second and third economic activity for intervention and control communities. The most prevalent economic activity is the agriculture (crop cultivation) as having the highest percentage for first activity which accounts for 88.7% and 94.3% for intervention and control communities respectively. As for the second economic activity, it is found that another agricultural activity (livestock breeding) occupies the highest percentage for the second important economic activity, 46.7% and 65.9% for intervention and control communities respectively, whereas the domestic trade has the highest percentage for the third important economic activity which amounts for 36.4 and 52.4% for intervention and control communities respectively.

TABLE 6.2.1: DISTRIBUTION OF CELLS ACCORDING TO THE FIRST, SECOND AND THIRD ECONOMIC ACTIVITY FOR INTERVENTION AND CONTROL COMMUNITIES

STUDY COMMUNITIES	Agriculture (crop cultivation) as having the highest percentage for the first activity		Agriculture (livestock) as having the highest percentage for the second activity		Domestic trade as having the highest percentage for the third activity	
	Number	%	Number	%	Number	%
INTERVENTION	47	88.7	21	46.7	16	36.4
CONTROL	50	94.3	29	65.9	22	52.4

6.2.2 CHILD LABOR

The perception of cell officials regarding the extent of child labor was gauged. Table 6.2.2 shows the percentage of cells reported having children working for cash in their cell is the same (52.8%) in both the intervention and control communities. This means that, in both groups, child labor is present in larger percentages probably due to the impoverished condition of the cell populations.

TABLE 6.2.2: PERCENTAGE OF CELLS REPORTED HAVING CHILD LABOUR FOR CASH FOR INTERVENTION AND CONTROL COMMUNITIES

STUDY COMMUNITIES	Number	%
INTERVENTION	28	52.8
CONTROL	28	52.8

6.2.3 MIGRATION

With regards to the percentage of cells experiencing out-migration, in-migration or both, , from the view point of cell officials, table 6.2.3 shows that, for the intervention communities' cells 60.4% experienced both in- and out-migration, while for the control communities it was 47.2%. Considering out-migration only, 20.8% in the intervention communities experienced that phenomenon while for control communities it was 37.7%. As for in-migration, only, 15.1% in the intervention communities experienced in-migration while for the control communities it is 11.3%. In the same time cells experienced neither out- nor in-migration for the two study groups is about 3.8% in both intervention and control communities each.

TABLE 6.2.3: PERCENTAGE OF CELLS EXPERIENCING OUT-MIGRATION; IN-MIGRATION OR BOTH

STUDY COMMUNITIES	BOTH		OUT-MIGRATION ONLY		IN - MIGRATION ONLY		NEITHER OUT NOR IN - MIGRATION	
	NO	%	NO	%	NO	%	NO	%
INTERVENTION	32	60.4	11	20.8	8	15.1	2	3.8
CONTROL	25	47.2	20	37.7	6	11.3	2	3.8

ANNEXES

ANNEX A: Sampling errors and relevant precision estimates

Contents of annex A:

- 1- Proportion of Adult-Equivalent Population below extreme poverty line of intervention and control samples by vulnerability group
- 2- Proportion of Adult-Equivalent Population below overall poverty line of intervention and control samples by vulnerability group
- 3- Difference of poverty prevalence between Control and Intervention Samples
- 4- Mean annual consumption per adult equivalent by Consumption quintiles for Intervention Group
- 5- Mean annual consumption per adult equivalent for Intervention and control samples
- 6- Poverty Gap Ratio for Intervention and Control Samples by Vulnerability Group
- 7- Mean Household annual income by income source and vulnerability group
- 8- Analysis type: difference of ratios (Mean Income difference between intervention and control communities)
- 9- Distribution of Households by income classes for intervention and control samples
- 10- Disability
- 11- Unemployment / Labor Force
- 12- Illiterate per population 15 years +
- 13- Child Labor

1: Proportion of Adult-Equivalent Population below extreme poverty line of intervention and control samples by vulnerability group

1.1.Intervention

Analysis Ratio: POORFIN / INTERVENTION

Category	Estimate	Standard Error	C.V.(%)	95% Confidence Interval		Design Effect	Number of Observations
				Lower	Upper		
<INTERCEPT>							
1	0.687	0.076	11.12	0.537	0.837	44.19	2351
GROUP							
Group1	0.502	0.117	23.28	0.273	0.732	4.59	348
Group2	0.675	0.088	13.09	0.502	0.848	40.03	1537
Group3	0.512	0.195	38.01	0.13	0.893	1.87	46
Group4	0.766	0.039	5.06	0.69	0.842	3.38	420

1.2.Control

Analysis Ratio: POORFCON / CONTRO

Category	Estimate	Standard Error	C.V. (%)	95% Confidence Interval		Design Effect	Number of Observations
				Lower	Upper		
<INTERCEPT>							
1	0.839	0.025	2.96	0.791	0.888	7.22	2351
GROUP							
Group1	0.725	0.069	9.57	0.589	0.861	4.12	348
Group2	0.867	0.021	2.42	0.826	0.908	3.96	1537
Group3	0.58	0.123	21.23	0.339	0.821	1.74	46
Group4	0.833	0.036	4.34	0.762	0.904	3.18	420

2: Proportion of Adult-Equivalent Population below overall poverty line of intervention and control samples by vulnerability group

2.1. Intervention

POORINTER / INTERVENTION

Analysis Ratio:

Category	Estimate	Standard Error	C.V.(%)	95% Confidence Interval		Design Effect	Number of Observations
				Lower	Upper		
<INTERCEPT>							
1	0.645	0.094	14.56	0.461	0.829	62.3	2339
GROUP							
Group1	0.473	0.139	29.36	0.201	0.745	6.36	339
Group2	0.647	0.097	15.07	0.456	0.838	46.62	1534
Group3	0.482	0.185	38.31	0.12	0.845	1.68	46
Group4	0.68	0.086	12.66	0.512	0.849	13.7	420

2.2.Control

POORCONT / CONTRO

Analysis Ratio:

Category	Estimate	Standard Error	C.V. (%)	95% Confidence Interval		Design Effect	Number of Observations
				Lower	Upper		
<INTERCEPT>							
1	0.848	0.032	3.77	0.786	0.911	12.42	2339
GROUP							
Group1	0.753	0.078	10.35	0.6	0.906	5.38	339
Group2	0.872	0.022	2.53	0.828	0.915	4.49	1534
Group3	0.634	0.101	15.97	0.435	0.832	1.23	46
Group4	0.842	0.037	4.42	0.769	0.914	3.5	420

3: Difference of poverty prevalence between Control and Intervention Samples

Number of observations: 2339

Num / Denom	Estimate	Standard Error	C.V. (%)	95% Confidence Interval		Design Effect
				Lower	Upper	
POORCONT / CONTROL	-					
POORINTE / INTERVENTION	0.203	0.099	48.81	0.009	0.398	43.97

4: Mean annual consumption per adult equivalent by Consumption quintiles for Intervention Group

ANALYSIS TYPE: SUBPOPULATION MEANS

Analysis Variable: AVERAGEEXPWN

4.1. Intervention

Quintiles	Estimate	Standard Error	C.V. (%)	95% Confidence Interval		Design Effect	Number of Observations
				Lower	Upper		
Below 63687.25	44786.852	1438.48	3.21	41967.431	47606.272	4.15	266
63687.25-88878.4	75940.712	711.578	0.94	74546.018	77335.405	3.15	222
88878.4-124829.7	105461.456	811.928	0.77	103870.077	107052.835	1.97	248
124829.7-180273.	148078.168	1077.932	0.73	145965.422	150190.914	1.38	213
180273.1+	269045.434	4314.931	1.6	260588.169	277502.699	0.6	222

4.2. Control

Quintiles	Estimate	Standard Error	C.V. (%)	95% Confidence Interval		Design Effect	Number of Observations
				Lower	Upper		
Below 43839.7	33616.363	564.793	1.68	32509.369	34723.356	2.41	170
43839.7-63574.4	53351.031	428.748	0.8	52510.685	54191.378	1.47	187
63574.4-83227.5	72993.852	844.055	1.16	71339.504	74648.201	6.6	208
83227.5-121637.1	101472.368	613.74	0.6	100269.437	102675.299	0.79	261
121637.1+	175554.528	4466.088	2.54	166800.996	184308.061	0.74	342

5: Mean annual consumption per adult equivalent for Intervention and control samples

STRATUM

Intervention	128794.619	17020.457	13.22	95434.523	162154.714	56.89	1171
Control	87253.072	6106.235	7	75284.851	99221.292	14.12	1168

6: Poverty Gap Ratio for Intervention and Control Samples by Vulnerability Group

Analysis Variable: DEPTH

Category	Estimate	Standard Error	C.V.(%)	95% Confidence Interval		Design Effect	Number of Observations
				Lower	Upper		
STRATUM							
Intervention	26.63	5.67	21.29	15.517	37.742	74.73	1171
Control	41.506	3.123	7.52	35.385	47.627	21.49	1168
Intervention groups							
Group1	21.666	7.641	35.27	6.69	36.643	6.38	144
Group2	27.024	6.149	22.76	14.971	39.077	58.71	771
Group3	16.594	7.01	42.25	2.854	30.334	1.3	17
Group4	26.853	4.819	17.94	17.408	36.297	15.32	239
Control Groups							
Group1	34.762	7.242	20.83	20.568	48.956	10.13	195
Group2	43.567	2.713	6.23	38.249	48.884	11.19	763
Group3	28.659	12.256	42.77	4.636	52.681	4.46	29
Group4	39.54	3.957	10.01	31.785	47.295	8.02	181

7: Mean Household annual income by income source and vulnerability group

Analysis type: Subpopulation means

7.1. Salary

Category VUP	Estimate	Standard Error	C.V. (%)	95% Confidence Interval		Design Effect	Number of Observations
				Lower	Upper		
Intervention	107486.585	15232.094	14.17	77631.681	137341.489	3.13	1171
Control	30800.79	8341.5	27.08	14451.45	47150.13	7.61	1164
Intervention vulnerability groups							
Group 1	5623.988	3202.021	56.94	-651.972	11899.949	1.77	144
Group 2	125633.367	17210.436	13.7	91900.914	159365.821	2.27	773
Group 3	25161.477	16064.692	63.85	-6325.32	56648.274	1.25	16
Group 4	93109.133	20396.201	21.91	53132.579	133085.687	1.75	238
Control vulnerability groups							
Group 1	6728.339	2379.359	35.36	2064.796	11391.881	0.78	195
Group 2	34255.231	10382.738	30.31	13905.064	54605.398	6.92	759
Group 3	26937.609	21429.939	79.55	-15065.072	68940.29	1.25	29
Group 4	38895.802	13142.643	33.79	13136.222	64655.381	2.56	181

7.2. Self-employment in agriculture

Category VUP	Estimate	Standard Error	C.V. (%)	95% Confidence Interval		Design Effect	Number of Observations
				Lower	Upper		
Intervention	61798.793	14030.697	22.7	34298.626	89298.959	17.53	1171
Control	32385.364	4332.486	13.38	23893.692	40877.036	7.67	1164
Intervention vulnerability groups							
Group 1	18554.8	5130.046	27.65	8499.91	28609.69	3.05	144
Group 2	61246.866	16297.98	26.61	29302.824	93190.907	13.11	773
Group 3	29139.295	6412.175	22.01	16571.432	41707.159	0.8	16
Group 4	83127.067	12329.382	14.83	58961.478	107292.655	5.52	238
Control vulnerability groups							
Group 1	13931.92	5298.126	38.03	3547.592	24316.248	7.46	195
Group 2	28017.746	3189.859	11.39	21765.621	34269.87	6.38	759
Group 3	94622.396	44711.195	47.25	6988.453	182256.338	0.9	29
Group 4	57012.722	11711.787	20.54	34057.619	79967.824	5.79	181

7.3. Self-employment in non-agriculture)

Category VUP	Estimate	Standard Error	C.V. (%)	95% Confidence Interval		Design Effect	Number of Observations
				Lower	Upper		
Intervention	22165.039	9675.01	43.65	3202.02	41128.058	16.35	1171
Control	5437.082	1113.697	20.48	3254.236	7619.928	2.07	1164
Intervention vulnerability groups							
Group 1	3168.271	1560.116	49.24	110.443	6226.098	3.31	144
Group 2	24622.683	10320.52	41.91	4394.465	44850.902	11.12	773
Group 3	447.663	348.455	77.84	-235.308	1130.634	0.42	16
Group 4	22898.961	11727.725	51.22	-87.379	45885.301	5.62	238
Control vulnerability groups							
Group 1	2469.221	840.411	34.04	822.016	4116.426	0.9	195
Group 2	6329.339	1656.767	26.18	3082.077	9576.602	2.15	759
Group 3	5714.284	3371.756	59.01	-894.358	12322.927	0.89	29
Group 4	4700.622	1116.007	23.74	2513.249	6887.996	1.07	181

7.4. Income from properties

Category VUP	Estimate	Standard Error	C.V. (%)	95% Confidence Interval		Design Effect	Number of Observations
				Lower	Upper		
Intervention	30460.684	3309.752	10.87	23973.57	36947.797	7.72	1171
Control	19857.711	2012.29	10.13	15913.623	23801.8	9.32	1164
Intervention vulnerability groups							
Group 1	15252.038	1652.726	10.84	12012.696	18491.38	1.5	144
Group 2	30530.778	3414.627	11.18	23838.109	37223.448	5	773
Group 3	21770.344	4360.615	20.03	13223.538	30317.149	1.89	16
Group 4	36938.099	4816.763	13.04	27497.244	46378.955	3.91	238
Control vulnerability groups							
Group 1	18779.126	4414.73	23.51	10126.256	27431.997	6.72	195
Group 2	19280.44	1664.876	8.64	16017.282	22543.598	4.84	759
Group 3	38387.644	14241.441	37.1	10474.419	66300.87	0.79	29
Group 4	20949.94	1930.193	9.21	17166.761	24733.119	3.27	181

7.5.Income from transfers)

Category VUP	Estimate	Standard Error	C.V. (%)	95% Confidence Interval		Design Effect	Number of Observations
				Lower	Upper		
Intervention	5062.409	1143.863	22.6	2820.437	7304.381	1.94	1171
Control	3951.894	1569.851	39.72	874.986	7028.803	3.38	1164
Intervention vulnerability groups							
Group 1	9068.999	4495.652	49.57	257.52	17880.478	0.93	144
Group 2	3877.887	892.679	23.02	2128.236	5627.538	2.01	773
Group 3	2494.65	2131.379	85.44	-1682.853	6672.152	1.06	16
Group 4	7493.622	2824.16	37.69	1958.269	13028.976	1.09	238
Control vulnerability groups							
Group 1	3694.66	790.66	21.4	2144.966	5244.355	0.77	195
Group 2	4570.796	2268.036	49.62	125.446	9016.146	3.11	759
Group 3	6970.87	4704.324	67.49	-2249.604	16191.345	2.19	29
Group 4	1661.411	835.484	50.29	23.862	3298.961	2.07	181

7.6.Total Income

Category VUP	Estimate	Standard Error	C.V. (%)	95% Confidence Interval		Design Effect	Number of Observations
				Lower	Upper		
Intervention	226973.509	29810.814	13.13	168544.313	285402.705	9.22	1171
Control	92432.842	9853.825	10.66	73119.345	111746.34	6.55	1164
Intervention vulnerability groups							
Group 1	51668.096	5338.99	10.33	41203.676	62132.516	0.71	144
Group 2	245911.582	34483.738	14.02	178323.455	313499.709	7.25	773
Group 3	79013.428	20228.955	25.6	39364.676	118662.18	1.13	16
Group 4	243566.883	34967.531	14.36	175030.522	312103.244	3.62	238
Control vulnerability groups							
Group 1	45603.266	9621.011	21.1	26746.085	64460.447	5.09	195
Group 2	92453.551	10683.923	11.56	71513.063	113394.04	5.32	759
Group 3	172632.804	44944.355	26.03	84541.867	260723.74	0.51	29
Group 4	123220.497	15292.291	12.41	93247.607	153193.388	2.12	181

8: Analysis type: difference of ratios (Mean Income difference between intervention and control groups)

Number of observations: 2335

Num / Denom	Estimate	Standard Error	C.V. (%)	95% Confidence Interval		Design Effect
				Lower	Upper	
difference between Intervention and Control income means	134540.667	31397.173	23.34	73002.207	196079.127	8.87

9: Distribution of Households by income classes for intervention and control samples

Analysis Variable:
<INTERCEPT>

9.1. Intervention Sample

Category in Class	Estimate	Standard Error	C.V. (%)	95% Confidence Interval		Design Effect	Number of Observations
				Lower	Upper		
less than 5000	0.026	0.006	22.75	0.014	0.037	624.86	40
5000-	0.146	0.011	7.33	0.125	0.167	419.37	245
30000-	0.135	0.012	9.12	0.111	0.159	595.93	162
55000-	0.112	0.01	9.37	0.091	0.132	504.79	136
80000-	0.065	0.008	12.61	0.049	0.081	506.13	70
105000-	0.044	0.007	14.77	0.031	0.057	462.72	53
130000-	0.045	0.007	15.79	0.031	0.059	534.04	47
155000-	0.045	0.007	16.02	0.031	0.059	552.76	47
180000-	0.05	0.007	14.06	0.036	0.064	477.73	49
205000-	0.022	0.004	20.45	0.013	0.03	425.29	30
230000-	0.03	0.006	19.1	0.019	0.041	516.2	32
255000-	0.019	0.003	18.66	0.012	0.025	301.07	25
280000 and above	0.263	0.019	7.33	0.225	0.3	877.44	235

Analysis Variable:
<INTERCEPT>

9.2. Control Sample

Category in Class	Estimate	Standard Error	C.V. (%)	95% Confidence Interval		Design Effect	Number of Observations
				Lower	Upper		
less than 5000	0.024	0.008	35.26	0.007	0.04	4.6	27
5000-	0.31	0.04	12.81	0.232	0.388	11.19	337
30000-	0.208	0.021	9.93	0.167	0.248	3.92	219
55000-	0.129	0.013	9.87	0.104	0.153	2.18	136
80000-	0.069	0.009	12.45	0.052	0.086	1.75	93
105000-	0.066	0.01	14.8	0.047	0.085	2.35	81
130000-	0.039	0.009	23.37	0.021	0.056	3.34	57
155000-	0.033	0.006	18.28	0.021	0.044	1.7	43
180000-	0.033	0.004	13.41	0.024	0.041	0.92	39
205000-	0.006	0.002	37.59	0.002	0.011	1.32	10
230000-	0.015	0.002	13.66	0.011	0.019	0.42	17
255000-	0.008	0.002	31.69	0.003	0.012	1.16	14
280000 and above	0.062	0.012	18.69	0.039	0.085	3.51	90

10: Disability

Analysis Ratio:

Category	Estimate	Standard Error	C.V. (%)	95% Confidence Interval		Design Effect	Number of Observations
				Lower	Upper		
intervention	0.056	0.012	21.66	0.032	0.08	13.57	4762
control	0.083	0.011	13.77	0.06	0.105	8.01	4789
Intervention group							
Group1	0.138	0.063	45.72	0.014	0.263	8.55	323
Group2	0.05	0.009	17.77	0.033	0.067	5.6	3231
Group3	0.152	0.066	43.56	0.022	0.282	1.3	44
Group4	0.053	0.014	25.53	0.027	0.08	4.36	1164
Control group							
Group1	0.167	0.034	20.25	0.101	0.234	4.18	597
Group2	0.076	0.009	12.17	0.058	0.094	3.78	3219
Group3	0.073	0.04	54.8	-0.005	0.151	1.96	111
Group4	0.061	0.021	34.64	0.02	0.102	7.79	862
by SEX							
intervention							
male	0.049	0.011	21.85	0.028	0.07	5.5	2115
female	0.062	0.014	22.68	0.035	0.09	8.97	2647
Control							
male	0.089	0.011	12.52	0.067	0.11	3.21	2141
female	0.078	0.013	17	0.052	0.103	6.29	2648

11 : Unemployment per labor force

Category VUP	Estimate	Standard Error	C.V. (%)	95% Confidence Interval		Design Effect	Number of Observations
				Lower	Upper		
Intervention	0.081	0.015	18.15	0.052	0.11	5.74	4762
Control	0.089	0.026	29.52	0.038	0.141	15.04	4789
by GROUP							
intervention							
Group1	0.194	0.137	70.56	-0.074	0.463	10.09	323
Group2	0.089	0.014	16.15	0.061	0.117	3.57	3231
Group3	0	0.000 *****	0	0	*****	44	
Group4	0.041	0.02	49.53	0.001	0.08	4.8	1164
control							
Group1	0.298	0.136	45.62	0.032	0.564	12.56	597
Group2	0.079	0.021	26.47	0.038	0.12	7.17	3219
Group3	0.151	0.11	72.95	-0.065	0.367	3.04	111
Group4	0.04	0.023	57.85	-0.005	0.085	5.47	862
by SEX							
intervention							
male	0.079	0.015	19.37	0.049	0.109	2.81	2115
female	0.083	0.016	18.91	0.052	0.113	3.55	2647
control							
male	0.084	0.023	27.01	0.04	0.129	4.52	2141
female	0.092	0.034	37.11	0.025	0.159	15.24	2648

12: Illiterate per population 15 years and above

Category VUP	Estimate	Standard Error	C.V. (%)	95% Confidence Interval		Design Effect	Number of Observations
				Lower	Upper		
intervention	0.314	0.053	17.06	0.209	0.418	37.02	4762
control	0.455	0.029	6.4	0.398	0.512	8.92	4789
by GROUP							
intervention							
Group1	0.443	0.122	27.64	0.203	0.683	9.94	323
Group2	0.326	0.052	16.01	0.223	0.428	23.64	3231
Group3	0.33	0.108	32.68	0.119	0.541	1.3	44
Group4	0.248	0.047	18.9	0.156	0.34	8.09	1164
control							
Group1	0.504	0.077	15.19	0.354	0.654	7.35	597
Group2	0.473	0.027	5.79	0.419	0.527	5.12	3219
Group3	0.311	0.112	35.92	0.092	0.53	3.1	111
Group4	0.383	0.029	7.61	0.326	0.44	1.96	862
by SEX							
male	0.25	0.03	11.83	0.192	0.308	5.6	2115
female	0.362	0.07	19.31	0.225	0.499	33.49	2647
male	0.367	0.022	6.1	0.323	0.41	2.29	2141
female	0.515	0.035	6.76	0.447	0.583	7.51	2648

13: Child labor

Category VUP	Estimate	Standard	C.V. (%)	95% Confidence Interval		Design Effect	Number of Observations
				Lower	Upper		
Intervention	0.108	0.011	10.01	0.087	0.13	1.93	4762
control	0.133	0.018	13.26	0.099	0.168	4.57	4789
by GROUP							
intervention							
Group1	0.094	0.05	53.54	-0.005	0.193	2.26	323
Group2	0.113	0.016	14.37	0.081	0.145	2.86	3231
Group3	0.092	0.07	75.74	-0.045	0.229	0.71	44
Group4	0.099	0.031	31.48	0.038	0.16	4.47	1164
control							
Group1	0.072	0.027	37.91	0.019	0.126	1.96	597
Group2	0.15	0.026	17.01	0.1	0.2	5.57	3219
Group3	0.066	0.04	59.64	-0.011	0.144	0.76	111
Group4	0.119	0.023	18.98	0.075	0.163	1.92	862
by SEX							
intervention							
male	0.11	0.015	13.34	0.081	0.139	1.71	2115
female	0.107	0.015	14.04	0.077	0.136	1.9	2647
control							
male	0.148	0.024	15.92	0.102	0.194	3.66	2141
female	0.119	0.017	14.44	0.085	0.153	2.41	2648
by AGE							
Intervention							
5-9	54	15	28.43	24	85	4.24	646
10-14	7	4	60.41	-1	15	2.35	655
15-17	118	32	27.38	55	181	8.59	336
Control							
5-9	59	18	30	24	94	5.16	640
10-14	25	16	64.42	-7	57	10.16	696
15-17	149	34	22.57	83	216	7.43	346

By Group and by Age

by AGE	Estimate	Standard Error	C.V. (%)	95% Confidence Interval		Design Effect	Number of Observations
				Lower	Upper		
Intervention: Group1							
5-9	3	2	58.01	0	6	0.88	57
10-14	0	0 100.00	0	1	0.4	28	
15-17	4	2	56.06	0	9	1.29	26
Intervention: Group 2							
5-9	35	17	47.91	2	67	7.68	410
10-14	6	4	66.89	-2	13	2.38	469
15-17	88	31	35.41	27	149	10.67	213
Intervention: Group 3							
5-9	0	0 100.00	0	1	0.31	8	
10-14	0	0 *****	0	0	*****	5	
15-17	1	1 100.00	-1	2	0.81	3	
Intervention: Group 4							
5-9	17	5	33.14	6	27	1.75	171
10-14	1	1	67.31	0	2	0.32	153
15-17	25	5	21.36	15	35	1.1	94
control: Group 1							
5-9	2	1	77.86	-1	5	1.07	88
10-14	2	1	85.52	-1	4	1.06	74
15-17	10	6	57.28	-1	21	3.09	38
control: Group 2							
5-9	47	16	33.06	17	78	5.02	415
10-14	21	14	65.66	-6	48	8.8	479
15-17	101	23	22.5	57	146	4.99	220
control: Group 3							
5-9	0	0 *****	0	0	*****	13	
10-14	0	0 *****	0	0	*****	13	
15-17	2	1	72.32	-1	5	1.04	8
control: Group4							
5-9	10	6	58.33	-1	21	3.26	124
10-14	3	2	66.75	-1	6	1.16	130
15-17	36	11	31.74	14	59	3.52	80

Annex B:

Weight calculation

The overall probability of selection for sample households in both intervention and control groups can be expressed as follows:

$$p_{hi} = \frac{n_h \times M_{hi}}{M_h} \times \frac{120}{M'_{hi}},$$

where:

p_{hj} = probability of selection for the sample households in the i-th sample sector in stratum (Province) h

n_h = number of sector pairs selected in stratum h

M_h = total number of poor households in the frame of first stage sample (the summation of combined number of poor households of all pairs of sectors) in stratum h

M_{hi} = total number of households in the frame for the i-th pair of sectors in stratum h (MOS)

M'_{hi} = total number of households listed in the i-th sample sector within stratum h

Clearly, the first stage sampling rate is identical for both intervention and control sectors.

The basic sampling weight, or expansion factor, is calculated as the inverse of this probability of selection. Based on the previous expression for the probability, the weight can be simplified as follows:

$$W_{hi} = \frac{M_h \times M'_{hi}}{n_h \times M_{hi} \times 120},$$

where:

W_{hi} = basic weight for the sample households in the i-th sample sector within the i-th stratum h.

It is also important to adjust the weights to take into account the non-response rate. Since the weights will be calculated at the level of the sample sector, it would be advantageous

to adjust the weights at this level. The final weight (W'_{hi}) for the sample households in the i-th sample sector in stratum h can be expressed as follows:

$$W'_{hi} = W_{hi} \times \frac{120}{m''_{hi}},$$

where:

m''_{hj} = total number of interviewed sample households selected in the i-th sample sector in stratum h

Annex C:

The survey estimate of a total can be expressed as follows:

$$\hat{Y} = \sum_{h=1}^L \sum_{i=1}^{n_h} \sum_{j=1}^{m_{hj}} W'_{hi} y_{hij} ,$$

where:

L = number of strata (4 provinces and Kigali)

y_{hij} = value of variable y for the j-th sample household in the i-th sample sector in stratum h

The survey estimate of a ratio is defined as follows:

$$\hat{R} = \frac{\hat{Y}}{\hat{X}},$$

where \hat{Y} and \hat{X} are estimates of totals for variables y and x, respectively, calculated as specified previously.

When cluster designs are involved, means and proportions are special types of ratios. In the case of the mean, the variable X, in the denominator of the ratio, is defined to equal 1 for each element so that the denominator is the sum of the weights. For a proportion, the variable X in the denominator is also defined to equal 1 for all elements; the variable Y in the numerator is binomial and is defined to equal either 0 or 1, depending on the absence or presence, respectively, of a specified attribute in the element observed.

Variance Estimation Procedures

It is important to include a statement on the accuracy of the survey data. In addition to presenting tables with calculated sampling errors for the most important survey estimates, the different sources of non-sampling error should be described.

The standard error, or square root of the variance, is used to measure the sampling error, although it may also include a small part of the non-sampling error. The variance estimator should take into account the different aspects of the sample design, such as the stratification and clustering. In order to avoid the time and effort it would require to develop custom variance programs, it would be ideal to use an available software package to tabulate the variances. One such program available for calculating the variances for survey data from stratified multi-stage sample designs such as the VUP Baseline Survey, 2008 is CENVAR, which is menu-driven and user-friendly. It uses the data dictionary defined in the DATADICT component of IMPS. It can be used to

calculate the variances of totals, means, proportions and other ratios. It produces subpopulation estimates for each category of a classification variable, and these variables can be cross-classified. For each estimate, CENVAR calculates the standard error, coefficient of variation (CV), 95 percent confidence interval and the design effect (DEFF). This software package uses an ultimate cluster variance estimator. CENVAR was used for calculating the precision for the estimates of average household income, poverty indices and selected socio-demographic characteristics from the VUP Baseline Survey, 2008. Results are presented in the Annex 1.

In order to derive estimates of standard errors using CENVAR, it is necessary to produce a new data input file from the original survey data. Since the CENVAR package will only accept one type of record, it is necessary to generate one record for each unit of analysis in the CENVAR data input file. For example, in the case of the estimates by person, such as the unemployment rate, the CENVAR input file should have one record for each in-scope sample person. For household estimates, such as average household income and expenditures, it is necessary to generate one record for each sample household. Each record in the CENVAR data input file should include fields for the stratum, cluster and weight, in addition to the classification and analysis variables that are required for the particular CENVAR analysis. The classification variables are used to produce subpopulation estimates for all their respective categories. The analysis variables are generally continuous variables, such as income and expenditures, or count variables, which are equal to 1 if the unit has a certain characteristic and 0 otherwise. CENVAR automatically creates a count variable named INTERCEPT, which is equal to 1 for each record. The INTERCEPT variable can be used to obtain the estimate of the weighted total number of units (for example, the total number of persons or households), or it can be used in the denominator of a ratio in order to obtain a mean or proportion.

Variance Estimator of a Total

$$V(\hat{Y}) = \sum_{h=1}^L \left[\frac{n_h}{n_h - 1} \sum_{i=1}^{n_h} \left(\hat{Y}_{hi} - \frac{\hat{Y}_h}{n_h} \right)^2 \right],$$

where:

$$\hat{Y}_{hi} = \sum_{j=1}^{m_{hj}} W_{hi} y_{hij}$$

$$\hat{Y}_h = \sum_{i=1}^{n_h} \hat{Y}_{hi}$$

The variance estimator of a ratio used by CENVAR can be expressed as follows:

Variance Estimator of a Ratio

$$V(\hat{R}) = \frac{1}{\hat{X}^2} [V(\hat{Y}) + \hat{R}^2 V(\hat{X}) - 2 \hat{R} COV(\hat{X}, \hat{Y})],$$

where:

$$COV(\hat{X}, \hat{Y}) = \sum_{h=1}^L \left[\frac{n_h}{n_h - 1} \sum_{i=1}^{n_h} \left(\hat{X}_{hi} - \frac{\hat{X}_h}{n_h} \right) \left(\hat{Y}_{hi} - \frac{\hat{Y}_h}{n_h} \right) \right]$$

$V(\hat{Y})$ and $V(\hat{X})$ are calculated according to the formula for the variance shown above.

Annex D:

VUP SURVEY STAFF

SURVEY MANAGER

RUTERANA Abdon Baudouin

MEMBERS OF TECHNICAL TEAM

MUGABO Jean

NTAMBARA Juvenal

GASIGWA Théobald

MUNYANDINDA Alain

MUCHOCHORI Kanobana

NYAMPINGA Immaculée

BYIRINGIRO James

FIELD WORK COORDINATOR

RUTERANA Baudouin

FIELD WORK ASSISTANT COORDINATORS

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MUDASHIMA Wellars

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GAHAMANYI Vincent

UWIMBABAZI Florence

BWASISI Saidi

MUKUNZI Jean Paul

MUNGWARIHO Jean Nepo

NIYOMUGABO Cyriaque

ABISHIMWE Vestine

GAKURU François

KAJABIKA André

MANIRAKIZA Georges

UDAHEMUKA Serge

ITANGISHAKA Emmanuel

MUKANGENDO Immaculée

MUNYANEZA Thacien

MINANI Epimaque

RWAGASANA Fiston

MUKAKIBIBI Salama

MUSABYEYEZU Nancy Belancille

NTAKIRUTIMANA Angelique

MUKAWERA Valentine

MUKARUGWIZA Alphonsine

IHIGABATWARE André
 NSENGIMANA Ignace
 NTASONI Théodomir
 UFITIMANA Charles
 UWITIJE Joel
 MUKAMAZIMPAKA Odette
 KANYEBINJA Wellars
 SECUMI Viateur

NYINAWUMUNTU Marie Louise
 NGOGA André
 MINE Frank
 MUKARUTAMU Patricie
 HABARUGIRA Venant
 NZASINGIZIMANA Tharcisse
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