



A SECOND STUDY ON

# UNDERSTANDING PUBLIC PERCEPTION OF CLIMATE CHANGE IN CAMBODIA

MINISTRY OF ENVIRONMENT

## KNOWLEDGE, ATTITUDES AND PRACTICES



2016





**A SECOND STUDY ON UNDERSTANDING OF PUBLIC  
PERCEPTION OF CLIMATE CHANGE IN CAMBODIA:  
KNOWLEDGE, ATTITUDES AND PRACTICES**



**Ministry of Environment**

**2016**

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**Citation:**

Ministry of Environment. 2016. *A Second Study on Understanding of Public Perception of Climate Change in Cambodia: Knowledge, Attitudes and Practices*. Phnom Penh: MoE

Edited: Susan Watkins

Layout: Oum Chantha



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## Acronyms and abbreviations

CCCA	Cambodia Climate Change Alliance
CCAP	Cambodia Climate Change Action Plan
CCCSP	Cambodia Climate Change Strategic Plan 2014-23
CEDAC	Cambodian Center for Study and Development in Agriculture
CCD	Climate Change Department
CDRI	Cambodia Development Resource Institute
CO <sub>2</sub>	Carbon Dioxide
DANIDA	Danish International Development Agency
DCA/CA	DanChurchAid/Christian Aid
EU	European Union
KAP	Knowledge, Attitudes and Practices
MoE	Ministry of Environment
NCCC	National Committee on Climate Change
NCSD	National Council for Sustainable Development
NGO	Non-Governmental Organisation
NTFP	Non-Timber Forest Product
PPI	Progress out of Poverty Index
RGC	Royal Government of Cambodia
Sectoral CCSP	Sectoral Climate Change Strategic Plan
SIDA	Swedish International Development Cooperation Agency
SRI	System of Rice Intensification
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change



## Foreword

Climate change is a major threat at present and in the future for the entire mankind. As one of the least developed countries, Cambodia is vulnerable to the impacts of climate change due to its agrarian based economy, limited human and financial resources, insufficient physical infrastructures, and limited capacity, practices, means of information and technologies to address climate change.

The Department of Climate Change (DCC), General Secretariat of the National Council for Sustainable Development, with the support of the Cambodia Climate Change Alliance—a multi-donors project funded by the European Union (EU), United Nations Development Programme (UNDP), and Swedish International Development Cooperation Agency (Sida)—and DanChurchAid/Christian Aid commissioned Cambodia Development Resource Institute (CDRI) to conduct *A Second Study of Understanding of Public Perception of Climate Change in Cambodia: Knowledge, Attitudes and Practices* to identify and evaluate changes in knowledge, attitudes and practices of the public relating to climate change to improve the national and sub-national response to climate change.

The information in the study derived from a nationally representative survey of 1000 Cambodians, 67 in-depth interviews with influential people from national and provincial government agencies, media and non-governmental organisations, and five case studies. Key findings are 1) The term “climate change” has become slightly better known since KAP1; 2) Attitudes towards climate change have changed; 3) Television, radio and word-of-mouth still play critical roles in communicating information about climate change to all people regardless of their socio-demographic background; and 4) High-level political commitment is in place. The report also defined the main barriers to climate change mainstreaming concerning the lack or insufficiency of financial, technical and human resources and limited local institutional capacity.

While the government plays an important role in coordinating and organising the national climate change response, participation from all segments of society is essential to the success. We must mobilise support at all levels to ensure that we put the country on a sustainable, climate-resilient development path. Building on this new knowledge and understanding, on behalf of the Ministry of Environment and the National Council for Sustainable Development, we look forward to working with all these stakeholders on concrete actions to ensure that all sectors and levels of Cambodian society have a full understanding of what climate change means for them, and how they can contribute to a more climate-resilient, low carbon society.

I would like to express my sincere gratitude to DCC and development partners for their support and cooperation in developing policy, strategies and climate change action plans, especially this important study, the *Second Study of Understanding of Public Perception of Climate Change in Cambodia: Knowledge, Attitudes and Practices*.



**Say Samal**  
Minister of Environment  
and Chair of National Council for Sustainable Development

## Acknowledgements

This report was produced as part of the services for the follow up study of the 2011 nationwide Knowledge, Attitudes and Practices (KAP1) study on climate change in Cambodia. The Climate Change Department (CCD) of the Ministry of Environment (MoE), with the support of the Cambodia Climate Change Alliance (CCCA)—a multi-donor project funded by the European Union, United Nations Development Programme, Swedish International Development Cooperation Agency, and DanChurchAid/Christian Aid, commissioned this second nationwide study to identify and evaluate changes in knowledge, attitudes and practices relating to climate change.

The MoE wishes to sincerely thank all development partners, national and local line agencies, organisations and individuals involved for their kind support and assistance in making KAP2 possible and successful. We highly appreciate the support and guidance provided by **H.E. Say Samal**, Minister of Environment and Chair of the National Council for Sustainable Development. Our sincere thanks go to all contributors from the MoE, particularly H.E. Tin Ponlok, Secretary General of the National Council for Sustainable Development (NCSD), and Mr. Sum Thy, Director of CCD, and their staff for valuable advice and insight.

The MoE acknowledges and appreciates the support and collaboration of all CCD staff and consultants. Dr. Heng Chanthoeun, Deputy Director of CCD, Ms. Clara Landeiro, Mr. Julien Chevillard, Mr. Long Sona and Ms. Neou Reaksmeay provided helpful guidance during project implementation and critical inputs to the design of several research activities. Appreciation extends to all participants at the Meeting for Preliminary Findings and Recommendations, the Consultation Workshop and other events for their constructive feedback and practical comments.

The Cambodia Development Resource Institute (CDRI) undertook the field survey and interviews, analysis and reporting of the survey research. We are grateful to the team of enumerators for their efforts in collecting primary data in all provinces and Phnom Penh. Ms. Sam Sreymom, Mr. Nong Monin, Mr. Sim Sokcheng, Ms. Teng Rany and Ms. Ky Channimol oversaw project design, implementation, data analysis and validation, and report development, with supervision and quality control from Dr. Chem Phalla, Acting Director of Research, and Dr. Pech Sokhem, International Climate Change Advisor.



## Executive summary

This report presents key findings from the follow up study to the 2011 nationwide Knowledge, Attitudes and Practices (KAP1) study on climate change in Cambodia, conducted by the Cambodia Development Resource Institute on behalf of the Cambodia Climate Change Alliance. The study consisted of a nationally representative survey of 1000 Cambodians and in-depth interviews with 67 key informants from media, industry, national and provincial government agencies and non-governmental organisations, as well as celebrities and local leaders including commune councils, village chiefs, elders and religious leaders.

**Changes in knowledge, attitudes and practices have been observed since KAP1.** Even so, the results demonstrate a need for more systematic and strategic efforts to improve preparedness and response measures for coping with climate variability, climate change and disaster risks, which are expected to intensify.

**The term “climate change” has become slightly better known since KAP1, while “global warming”, “greenhouse gas” and “ozone layer” are still not well understood because of their technical complexity and problematic translation into Khmer and local minority languages.** Perceptions of causes and effects of climate change have barely changed since KAP1. Again, only relatively simple causes and impacts were noted, albeit 90 percent of respondents have a medium to high level of comprehension related to climate change. Majority of respondents in KAP1 and KAP2 considered their own and family members’ health to be the most critical issue. This highlights the importance of promoting awareness and capacity to address climate change adaptation and disaster risk reduction, and improving understanding of the causes and consequences of climate change and its impacts on human health, livelihoods and other social and economic factors.

**Attitudes towards climate change have changed.** A greater number of respondents were aware that their daily activities can contribute to climate change. The activities they referred to are strongly linked to only agricultural production and firewood collection. KAP2 revealed that more Cambodians across the country are noticing and responding to climate change. This shows that people can respond to climate change through adaptation. However, the majority of those surveyed clearly remained unsure of how to adapt to climate change in a concerted and cost-effective manner.

**Television, radio and word-of-mouth still play critical roles in communicating information about climate change to all people regardless of their socio-demographic background.** But press and media only cover climate-related information when natural disasters or extreme weather events strike and related meetings and workshops take place, and only if they are funded to do so. Beginning to bridge this gap, social media and network sites such as Facebook, internet applications and mobile devices are increasingly being used to share information and lessons learned. At the same time, women, social networks and local opinion leaders such as community elders, clergy and religious leaders continue to play important roles in information sharing and awareness raising.

**Main barriers to climate change mainstreaming concern the lack or insufficiency of financial, technical and human resources and limited local institutional capacity.** The study findings, however, highlight three critical opportunities for mainstreaming climate change adaptation and disaster risk reduction into integrated development planning, communication and decision making at sub-national and national levels. These are government commitment, making climate change a top priority and widening public access to reliable information.

**High-level political commitment is in place.** Policy responses to climate change since KAP1 include the Cambodia Climate Change Strategic Plan and 15 sectoral climate change action

plans. Even so, more concerted efforts and supports are needed to translate that commitment into action. A crucial starting point is through developing better understanding, awareness and high level of “knowing” to ensure that knowledge (ideas and concepts) and best practice are applied to produce results through changing attitudes, organisational behaviours, technological processes and practices.

The next step towards enhancing knowledge of how best to adapt to climate change and reduce disaster risk is to improve individuals’ and groups’ competencies (comprehension) and decision-making and problem-solving abilities (application), and climate change experts’ and finance professionals’ monitoring and evaluation of progress and performance. The following considerations merit attention:

- Enhance understanding of climate change and climate variability as the interrelationships between causes, consequences, impacts, adaptation and mitigation measures, as well as the linkages to sustainable development and poverty reduction.
- Focus awareness raising and public discourse on the connections between climate change and health and well-being, lives and livelihoods.
- Follow-up efforts to improve knowledge, attitudes and practices through:
  - Systematic activities for raising awareness and building/instilling confidence among vulnerable individuals and groups in their ability to adapt to climate change collectively or through well-organised mutual help;
  - Identification and mapping of priority sites and groups that most need help in improving knowledge, attitudes and practices;
  - Properly designed and well executed dissemination of climate change information at sub-national and local levels.

# 1. Introduction

## 1.1 Background

Climate change is one of the most serious issues confronting environmental policymakers around the world and continues to shape international development agenda. There is a broad global consensus that climate change directly threatens lives, livelihoods and communities through adverse impacts on food and water security, ecosystems and the services they provide. Moreover, developing countries are affected most severely, suffering disproportionate damage, while the negative effects are felt disproportionately by the poor and most vulnerable populations within them. Thus climate change could undo decades of development efforts.

Cambodia is among those countries that have contributed the least to the causes of climate change but are highly vulnerable to its impacts (MoE 2013). The 2011 World Risk Report (UNU 2011) ranks the country among the 10 most climate-vulnerable countries globally due to high exposure to natural disasters and poor coping mechanisms. The 2010 Asia and Pacific Disaster Report (UNESCAP 2010) estimated that 1.7 million (12.2 percent) Cambodians are exposed to floods, and ranked the country first among the top 10 countries in the region for the proportion of population at risk of being affected by floods. In a comprehensive climate change threat analysis of the Lower Mekong Basin, Cambodia's eastern provinces were identified as a priority hotspot due to very high vulnerability to large increase in year round temperatures, especially in the wet season, and late onset of rains delaying planting (USAID 2013).

Climate change represents a serious threat to Cambodia's development as it continues to adversely affect agriculture, fisheries, ecosystem services, social and economic development. Its impacts are further compounded by population growth, urbanisation, agricultural intensification, industrialisation, transport system and energy developments. With nearly one-third of Cambodians living at or below the poverty line<sup>1</sup> (MoE and UNDP 2011) and a large rural population highly dependent on rainfed agriculture as the main source of livelihood and food security, climate hazards and extreme weather such as floods, droughts and tropical storms can be devastating to livelihoods and the economy. Many people across the country remain poor or are vulnerable to becoming poor in the face of even very small shocks and crises, let alone those due to increasingly unpredictable and intense weather (MoE and UNDP 2011).

## 1.2 Cambodia's policy response to climate change

The Cambodian government has strongly affirmed its commitment to mitigate and find sustainable solutions for climate risks and natural hazards, signing and ratifying international conventions, adopting and implementing policy measures aimed at disaster risk reduction, climate change adaptation and resilience building.

Rather than continue operating "business as usual", government is making concerted efforts to mainstream climate change adaptation and mitigation into national development planning. Emphasis on environmental management, green growth, livelihood and human capital development as part of Cambodia's shift towards a knowledge-based economy is clearly stated in the list of components for the government's fifth legislature, specifically in Rectangular Strategy III 2014-18, approved by the National Assembly on 24 September 2013. The Strategy sets out environmental sustainability linked with climate change adaptation and mitigation as an overarching framework for environment policy (RGC 2014, 12). Climate change is incorporated as a cross-cutting issue in a comprehensive development approach for environmental management through:

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<sup>1</sup> The food poverty line is defined as the "cost of consuming a single national reference food bundle providing an average subsistence diet of 2,100 calories per day (i.e., averaged over persons of all ages and both sexes)" (World Bank 2009, 5).

- Promoting sustainable natural resource management;
- Intensifying efforts to reduce the impacts of climate change by strengthening adaptive capacity and resilience, particularly by implementing the National Policy on Green Growth and the National Strategic Plan on Green Development 2013-30;
- Continuing to strengthen technical and institutional capacity to promote mainstreaming of climate change responses into policy, law and plans at national and sub-national levels;
- Continuing to introduce measures to control environmental and ecosystems pollution (RGC 2014, 10-11).

Multidisciplinary and cross-sectoral in nature, environmental issues commonly cut across the mandates of several ministries. Effective implementation of Rectangular Strategy III 2014-18 therefore necessitates coordination and technical cooperation between government agencies at national and sub-national levels as well as strengthened cooperation among all stakeholders concerned.

The commitment for mainstreaming climate change, green growth and disaster risk reduction into national development framework is further demonstrated through the establishment on 20 May 2015 of the National Council for Sustainable Development (NCSD). With the Prime Minister as its honorary chair and the Minister of Environment as its chair, and supported by a Secretariat hosted by the MoE, the council was created to promote sustainable development, helping the country address more comprehensively key issues such as climate change, green growth, and biodiversity.

Following adoption of the Cambodia Climate Change Strategic Plan (CCCSP) 2014-23, 15 sector-specific Climate Change Action Plans (CCAPs) are being developed to provide strategic guidance to the implementation of sectoral climate change response for the first period of the CCAP (2014-18), including both adaptation and mitigation measures to be implemented. All climate-related issues will be integrated into national and sub-national development strategy and planning as a matter of priority.

Nonetheless, regardless of how well thought out and executed, the national response to climate change cannot be fully effective unless it is properly understood by the general public, policy and decision makers. Similarly, climate change adaptation measures cannot be tailored and targeted accurately without a clear understanding of people's awareness and perception of climate change, their participation in mitigation and adaptation responses and what responses have and have not been successful and why. This emphasises the importance of this knowledge, attitudes and practices survey as a powerful evaluation and communication tool to collect information on changes in knowledge and application of that knowledge, local innovations, good practices and lessons learned.

### **1.3 The first KAP study on climate change**

The first Knowledge, Attitudes and Practices (KAP1) study on climate change in Cambodia was conducted in 2011 by the Climate Change Department (CCD) of the MoE, with funding support from the Danish International Development Agency (Danida), Oxfam and UNDP (MoE/BBC 2011). The objective was to explore public perceptions and practices related to climate change across Cambodia. Information collected has been used to inform policy priorities and actions in the CCCSP and subsequent sector-specific climate change plans.

To improve public awareness of climate change and encourage effective public participation in mitigation and adaptation policy responses, there is a need to understand trends in perceptual and behavioural change and the mechanisms that stimulate participation in climate change responses. To that end, the MoE organised a second KAP study.



## 1.4 The second KAP study and its objectives

The Cambodia Development Resource Institute (CDRI) was commissioned by CCD, through the support of Cambodia Climate Change Alliance (CCCA), to conduct a second KAP survey in 2014-15. As a follow up study, the aim of KAP2 was three-fold: to validate KAP1; to evaluate changes in knowledge, attitudes and practices across Cambodia following national climate change measures implemented since KAP1; and to assess the impact and effectiveness of public awareness raising activities undertaken since KAP1.

The main objective of KAP2 was to collect further data and information on public knowledge and awareness to improve the national response to climate change. Such information is crucial for tailoring interventions to understand and overcome barriers to adaptation through improving knowledge and changing attitudes and practices related to climate change, and for mobilising partners and other stakeholders to accomplish the following objectives:

- Track changes in general public knowledge about climate change, its causes, observed and expected effects, lessons learned, preparedness and response;
- Monitor changes in local innovation, knowledge and experience of climate change policy actions using baseline data established by KAP1, and how lessons learned and good practices contribute to adaptation;
- Assess changes in information-seeking behaviour and climate change communication across different segments of society;
- Establish public access to climate information and media coverage and influence on public opinion and understanding of climate change and other critical social issues.
- Identify knowledge gaps in different demographic groups;
- Identify barriers and opportunities for improving knowledge on climate change and climate change response.

Importantly, KAP2 provides benchmarks for tracking progress under the fifth strategic objective of CCCSP, namely “promoting public awareness and participation in climate change response action” (NCCC 2013, 3), which aims to:

- Strengthen existing channels for promoting awareness of climate change through government service providers, teachers, journalists, extension services, religious leaders and community elders;
- Develop targeted awareness programmes aimed at different audiences such as most vulnerable groups, women, children, youths and ethnic minorities;
- Facilitate public access to information on climate change through radio, television, newspapers, mobile and web technologies and targeted outreach materials;
- Capitalise on lessons, local knowledge and good practices for development of policies and actions for adaptation and mitigation (NCCC 2013, 16-17).

## 2. Some key terms defined

To ensure common understanding, this study uses the following definitions of key terms.

**Climate change** refers to “a change in the state of the climate that can be identified (e.g using statistical tests) by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer. Climate change may be due to natural internal processes or external forcing such as modulations of the solar cycles, volcanic eruptions and persistent anthropogenic changes in the composition of the atmosphere or in land use. Note that the United Nations Framework Convention on Climate Change (UNFCCC), in its Article 1, defines climate change as: ‘a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods’. The UNFCCC thus makes a distinction between ‘climate change’ attributable to human activities altering the atmospheric composition, and ‘climate variability’ attributable to natural causes” (IPCC 2012 cited in MoE 2014b, 557).

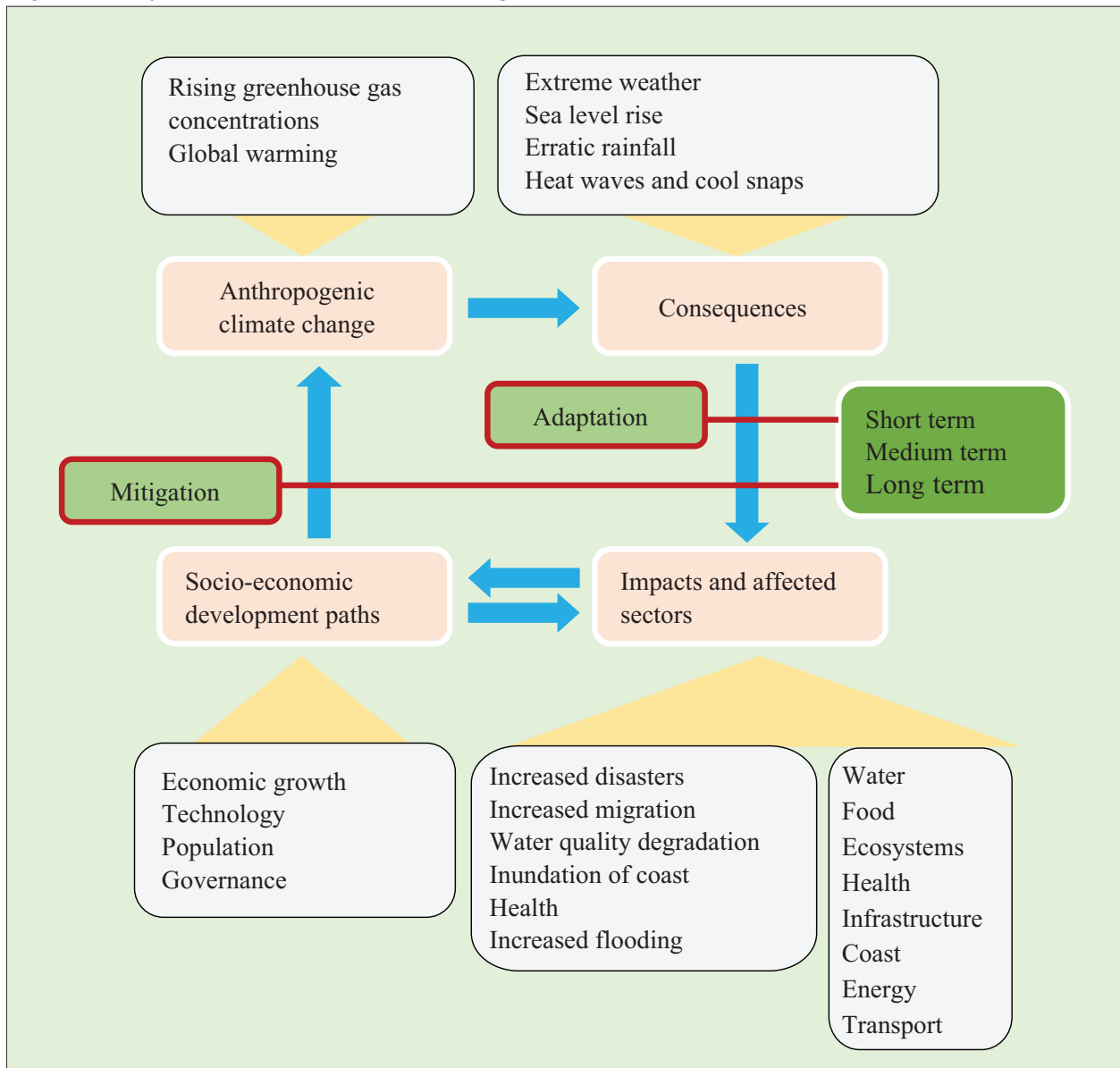
**Climate variability**<sup>2</sup> refers to “variations in the mean state and other statistics (such as standard deviations, the occurrence of extremes) of the climate on all spatial and temporal scales beyond that of individual weather events. Variability may be due to natural internal processes within the climate system (internal variability), or to variations in natural or anthropogenic external forcing (external variability)” (IPCC 2012 cited in MoE 2014b, 557).

However, as Figure 1 depicts, it is useful to understand climate change and climate variability as interrelationships between cause (rising greenhouse gas concentrations and resultant atmospheric warming), effects/consequences (sea level rise, changing temperature and rainfall patterns, extreme weather events), impacts, adaptation and mitigation.

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2 In KAP1, “weather change” rather than “climate variability” was used due to direct translation in Khmer.

Figure 1: Key components of climate change

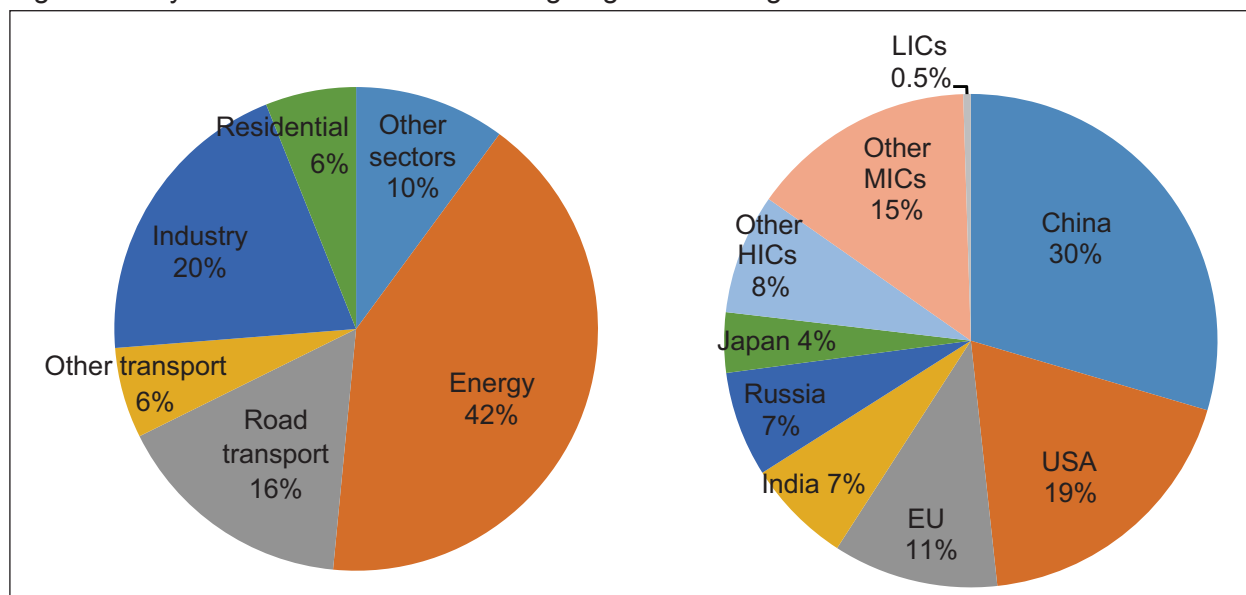


Sources: Adapted from IPCC 2001, 2007

**Global warming** refers to “the change in global surface temperature, which can be called earth temperature, caused by an increase of greenhouse effect resulting from greenhouse gas emission” (IPCC 2012 cited in MoE 2014b, 62).

**Causes of climate change** include both human and natural factors. As Figure 2 shows, human factors consist of greenhouse gas emissions from various activities mainly burning fossil fuel for industry, transport and energy, deforestation, forest burning, forestland encroachment, agriculture and livestock raising, and open waste. Natural factors include volcanic eruptions, changes in wind currents and changes in the sun’s energy.

Figure 2: Key human activities contributing to greenhouse gases



CO<sub>2</sub> emissions by sector

Energy-related CO<sub>2</sub> emissions by country

Source: Adapted from [www.itekenergy.com/global-co2-emissions-from-energy-sector-stalled-in-2014/](http://www.itekenergy.com/global-co2-emissions-from-energy-sector-stalled-in-2014/) (accessed March 2015)

Note: Energy-related CO<sub>2</sub> emissions are CO<sub>2</sub> emissions from the energy sector at the point of combustion. Other transport includes international marine and aviation bunkers, domestic aviation and navigation, rail and pipeline transport; Other sectors include commercial/public services, agriculture/forestry, fishing, energy industries other than electricity and heat generation, and other emissions not specified elsewhere; Energy = fuels consumed for electricity and heat generation; LICs, HICs, MICs = lower-, higher- and middle-income countries, respectively.

Climate change impacts affect water resources, agriculture, human health, coastal wetland, forest and ecology, and they occur at global, regional and local level. Lower crop yields, increase in plant, animal and human diseases and greater risk to infrastructure and livelihood are the expected impacts of future climate changes (JCCI 2012).

Climate change adaptation is defined as “the process of adjustment to actual or expected climate and its effects. In human systems, adaptation seeks to moderate harm or exploit beneficial opportunities. In natural systems, human intervention may facilitate adjustment to expected climate and its effects” (IPCC 2012, 556).



## 3. Methodology and study limitations

### 3.1 Methodology

Methodologies and technical approach were selected in consultation with CCD/MoE and UNDP. Research design and implementation were geared towards achieving the objectives set out in the Terms of Reference for KAP2. All tasks and associated milestones were carried out using a phased and integrated approach to provide a credible study founded on carefully gathered information, rigorous analyses and meaningful feedback mechanisms. Methods included well-planned and facilitated processes to ensure maximum involvement of stakeholders.

The research identified lessons learned, local knowledge and best practices used by communities in responding to climate change, and collected and documented existing training curricula, information, education and communication materials produced by NGOs and government agencies.

The main methods used for impact evaluation are quantitative, qualitative and observational. A comprehensive literature review was undertaken to complement development of the methodology, survey frame and sampling design, information/data management strategy, detailed work plan including access to key informants, and risk management strategy.

#### 3.1.1 Quantitative method

KAP2 used the same research design, sampling approach, data collection methods and analytical framework used in KAP1 (see Annex 1 for sampling frame, locations of selected villages and map of agro-ecological regions). The quantitative household cross-sectional survey questionnaire from KAP1 was used in KAP2 to collect information from 1000 respondents across all 25 provinces including Phnom Penh municipality (Annex 2 presents the survey questionnaires). Although reduced from 2401 respondents in KAP1, the sample size is nationally representative of the target population and statistically significant at a 95 percent confidence level with a 3 percent margin of error.

The target respondents were Cambodian men and women between the ages of 15 and 55, especially those most vulnerable to the effects of climate change. For meaningful comparison with the results of KAP1, primary sampling units were selected using probability proportional to size. Multistage sampling was used to gather participants for survey, as follows.

- *Stage 1 – village selection.* In total, 100 villages were randomly selected from the list of villages in the 2008 Census (NIS 2009) using Stata, as shown in Table A1.
- *Stage 2 – household selection.* Systematic random sampling was used to select 10 households from the village household list in each selected village; the same sampling interval was used in each village.
- *Stage 3 – respondent selection.* Quota sampling ensured representation of women, working youths and seniors in each specified population subgroup. Kish grid was used to list all members and identify 15-55 year-olds in each selected household. Those who would not be at home on the day/evening of survey were excluded. One respondent was randomly selected for interview from each selected household. Urban and rural respondents were selected independently using probability proportional to size.

To ensure a consistent data series over time and to track changes in knowledge, attitude and practices, KAP2 covered the same population subgroups targeted in KAP1 including women, men, youths and seniors and marginalised groups considered particularly vulnerable to climate change. Comparative categories included total sample, agro-ecological region, urban-rural residence, sex, age group, education, progress out of poverty index (PPI), ethnicity and occupation.

Data analysis was done using Stata. Sample characteristics were described using frequencies and percentages, and comparative analyses among subgroups were carried out using chi-square analysis. Statistical significance was accepted at the 5 percent level.

Correlation<sup>3</sup> and cross-tabulation were used to (i) statistically identify climate change variables with demographic variables; (ii) express relationship between variables related to climate change knowledge, attitudes and practices, and demographic categories; and (iii) express statistically significant relationship between variables related to changes in climate change knowledge, attitudes and practices, access to and use of information, lessons learned and good practices. Correlation using logic regression was employed to identify demographic and other variables most strongly related to climate change vulnerability and adoption of good adaptation practices.

### 3.1.2 Qualitative method

KAP2 used a similar qualitative research design to that employed for KAP1. In-depth key informant interviews using guide questions collected information from 67 interviewees with backgrounds similar to those interviewed in KAP1 (see Annex 3 for interview guides). Informant groups comprised government officials, senators, parliamentarians, deputy provincial governors, commune councils, village chiefs, village elders, local religious leaders, celebrities, journalists, teachers, industry professionals, managers, technicians, business people, sales and services workers.

The interviews were adjusted to ensure that information required to answer the research objectives of KAP2 was collected. Specifically, questions were added to identify the challenges and opportunities for mainstreaming climate change adaptation, preparedness and response activities of individuals and communities, and access to and use of climate change information by marginalised groups, local communities and the general public.

Notes (in writing and/or using a voice recorder) were made during the interviews and summary notes (in English) were written up and coded manually immediately afterwards. Related ideas, concepts and themes were coded based on the research questions. Codes were divided into two types: pre-set and emerging. Pre-set codes were assigned to information derived from research questions and consultation. Emerging codes were assigned to themes identified in interview transcripts. Once the master list of codes had been prepared, all information collected was put through a process of coding, sorting and identifying. This allowed a detailed exploration of individual experiences and perceptions as well as frequently occurring themes and interrelationships, if any, between these observations.

Villages were randomly selected and therefore did not necessarily fall within the target area of a climate change-related project. To verify the knowledge of people affected and those unaffected by such projects, the study applied scenario-based analysis by using real-world case studies that demonstrate awareness and understanding of climate change and practical responses at community level. In consultation with the CCD/MoE, the study team selected five case studies of climate change adaptation at community level in five provinces, representing four agro-ecological zones: Kampong Thom (Tonle Sap), Preah Sihanouk (coastal), Prey Veng (plains), Preah Vihear and Kampong Speu (mountains). These case studies are presented in Section 5.

Throughout the whole KAP2 process, the research team worked closely with CCD, MoE, UNDP and other stakeholders to design and carry out meaningful, robust and cost-effective assessment activities. These activities form the foundation for a long-term needs and gap assessment of knowledge, attitudes and practices for response to climate change impacts in Cambodia.

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3 Correlation is a method to establish the strength of the association between two variables. Correlation between sets of data is a measure of how well they are related. In this study, Pearson correlation, which is a measure of the strength of a linear association between two variables, was used. A Pearson correlation attempts to draw a line of best fit through the data of two variables, and the Pearson correlation coefficient indicates how far away all these data points are from this line of best fit.

## 3.2 Study limitations

The study highlighted up two major limitations related to the survey sample and data analysis.

### 3.2.1 Survey sample

The entire survey sample, including primary sampling units and households, had to be reselected because the list of KAP1 survey respondents was unobtainable. For consistency, the same multistage randomised sampling approach used in KAP1 was used for KAP2.

KAP2 also collected data in remote areas that were not accessible during KAP1. This may to some extent explain observed differences in levels of awareness and adaptation practices.

Another challenge was the lack of availability of respondents, especially students, farmers and field workers, due to their busy lives. Only respondents who were at home or their workplace were available for interview. The team managed to interview a number of students at the weekend.

### 3.2.2 Data analysis

Comparative analysis of KAP2 with KAP1 needs raw baseline data. Because raw data from KAP1 could not be obtained, it was not possible to calculate the statistical significance of changes in people's knowledge about climate change and its causes, observed and expected effects, local innovation and knowledge, lessons learned and good adaptation/mitigation practices. Only a simple comparison between KAP1 and KAP2 could be carried out.

Comparative analysis of subgroups was also problematic. Some subgroups, for example, working-age youth, region and occupation, were not clearly defined in the KAP1 report. As a result, these subgroups may have been defined slightly differently in KAP2.

### 3.2.3 Lessons learned and recommendations for the third KAP study

Insufficient resources can hamper productivity and undermine expected outcomes. Plans should be flexible enough to allow sufficient time to contact hard-to-reach respondents and budget should include sufficient contingency funds to cover associated cost overruns.

Enumerators and data collectors cannot be assumed to have adequate understanding of key climate change issues. It is still important to take time to train all field workers in the basic concepts of climate change science, climate change mitigation and adaptation, and tracking changes in knowledge, attitudes and practices.

The language used in the survey questionnaire is difficult for local rural people to understand. Using plain language would clarify the questions and help respondents answer more quickly and accurately. Further, a double pre-test of the questionnaire would smooth out any ambiguities. Although it is not best practice to change the questions in a follow up study, but based on the difficulties experienced in KAP2, the questionnaire should be modified to ease the conduct of the third study of KAP (KAP3).

The reduced sample size of 1000 respondents is representative of Cambodia. KAP3 would do well to use the same sample size and survey the same respondents in the same villages selected for KAP2.

For in-depth interviews, the same sectors should be retained. But to ensure diversity and validity, more than one representative from each sector should be interviewed.

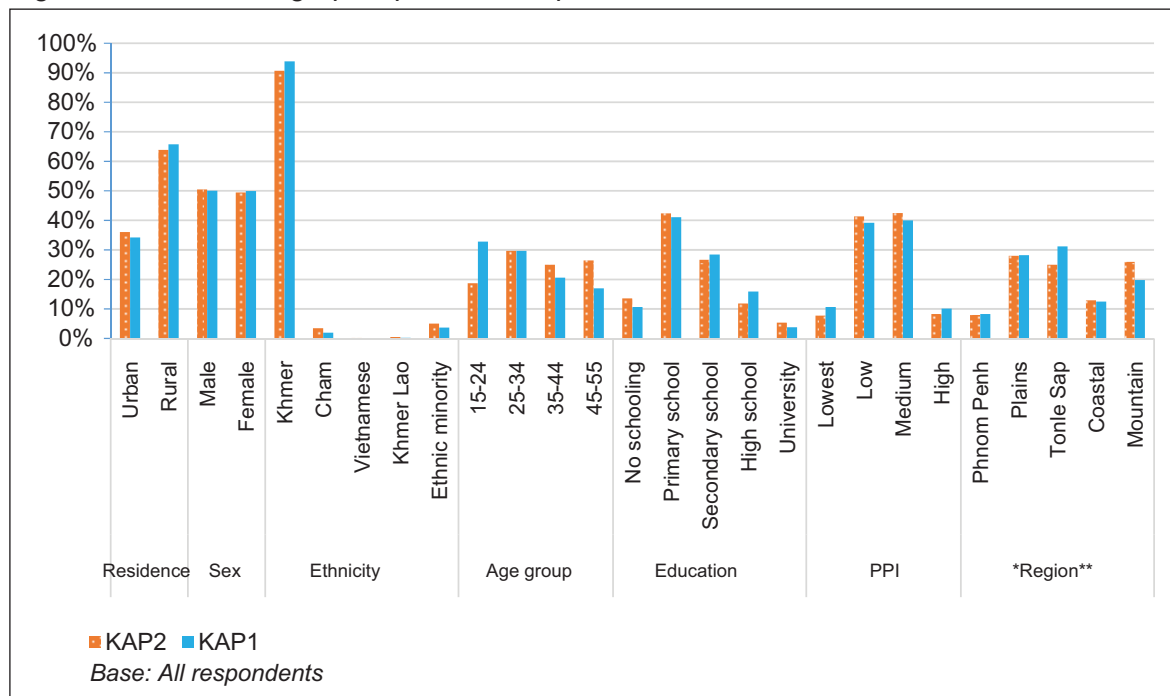
Case studies on climate change response should illustrate good practices in various sectors, not just agriculture. Further studies should look at adaptation practices taken up by different groups of people in diverse geographical locations.

To ensure the usefulness and quality of the final product, stakeholders should be engaged in KAP surveys from the beginning (methodology design).

### 3.3 Socio-demographic and agro-ecological profile of survey samples

As Figure 3 shows, the various respondent groups selected for survey were proportionate to those surveyed in KAP1. However, there was a significant decrease in the number of interviewees from the Tonle Sap region and a corresponding increase in the number of those from remote mountainous areas.

Figure 3: Socio-demographic profile of respondents



Note: \* Progress out of Poverty Index

\*\*Plains: Kampong Cham, Kandal, Prey Veng, Svay Rieng and Takeo. Tonle Sap: Kampong Thom, Siem Reap, Banteay Meanchey, Battambang, Pursat and Kampong Chhnang. Coastal: Koh Kong, Kampot, Preah Sihanouk and Kep. Mountains: Oddar Meanchey, Preah Vihear, Stung Treng, Kratie, Ratanakiri, Mondolkiri, Kampong Speu and Pailin.

Figure 4: Distribution of respondents by occupation

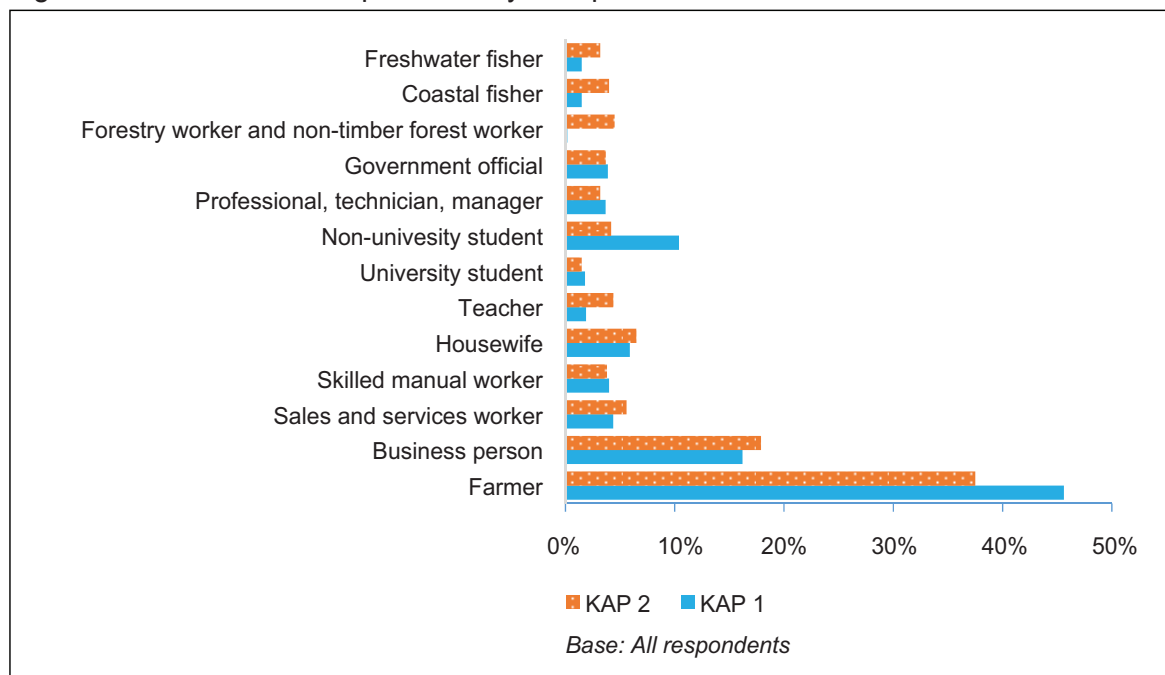
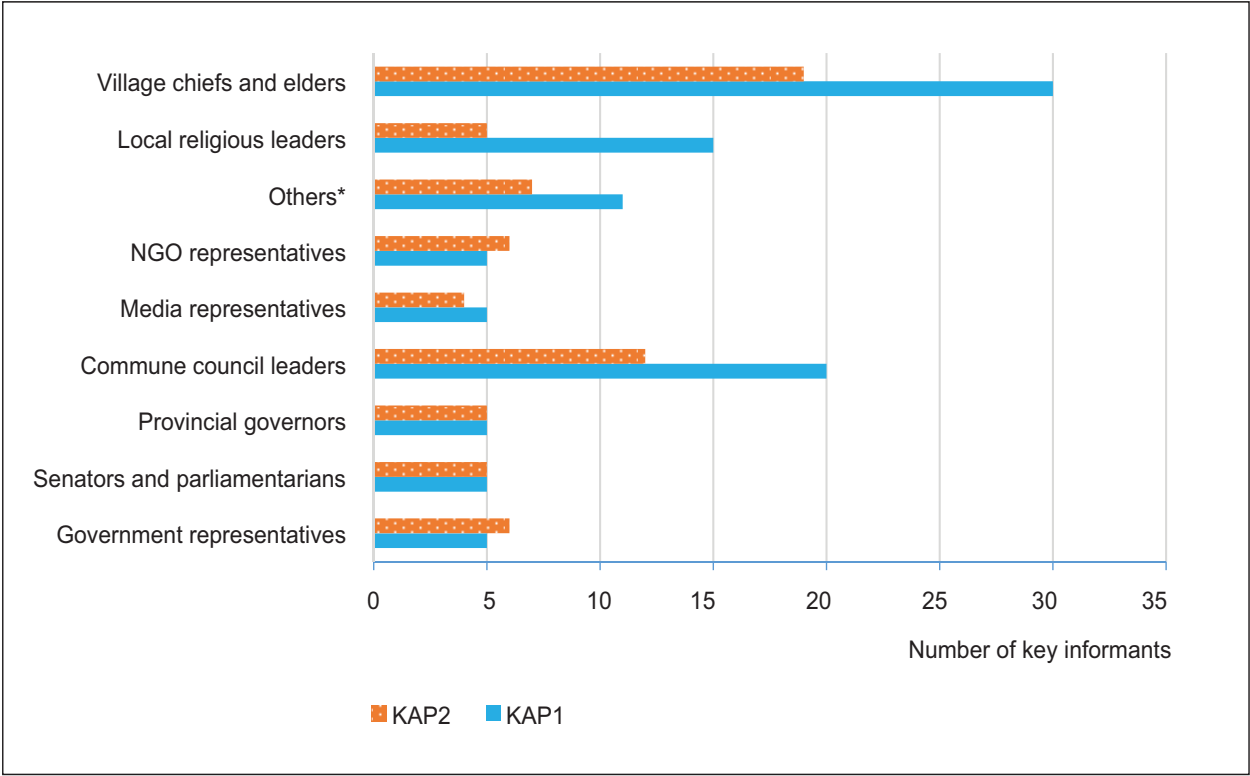




Figure 4 shows that KAP2 involved significantly more interviews with fishers and forest workers than KAP1. Similar groups of informants for qualitative data collection were maintained in KAP2, as presented in Figure 5.

Figure 5: Key informants



Note: \* Representatives from private, tourism, education and industry sectors, and celebrities, whereas in KAP1 this group of key informants came from the industry sector only.

## 4. Key findings

This section reports the results from quantitative and qualitative data collected in KAP2. The findings, where applicable, were compared and validated against the results from KAP1.

### 4.1 Quantitative findings

The main findings are grouped under five themes: knowledge, attitudes, practices, experiences and media consumption.

#### 4.1.1 Knowledge

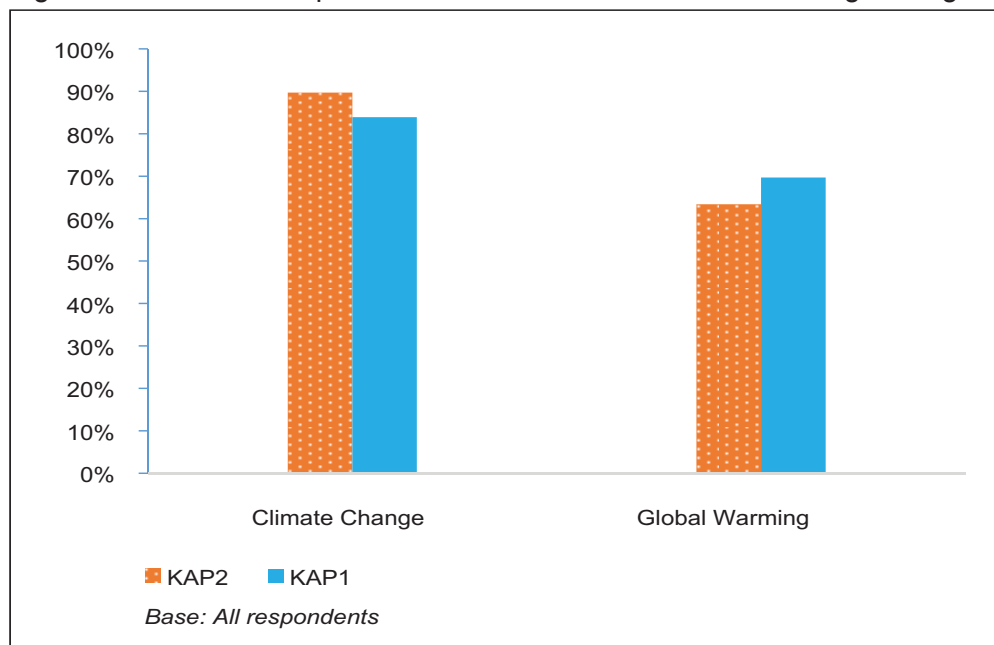
The National Consultation Workshop on 20 May 2015 highlighted the importance of properly defining the term “knowledge” as an act of knowing or a socially constructed sense-making endeavour. This definition recognises not only the practical aspects of knowledge management such as explicitly coded (e.g. documented, identified and articulated) and readily available information, but also its social aspects or implicit or tacit experiences, familiarity and individual skills.

##### 4.1.1.1 Knowledge of climate change terms

The majority (91 percent) of respondents had heard about climate change or global warming (80 percent in KAP1). Those who live in remote areas (ethnic groups, rural and coastal populations) or who have not attended school tended to have not heard about climate change. The same observation was made among those in the 35-44 years old, lowest PPI, forestry worker and non-timber forest product (NTFP) collector groups (see Table A2 in Annex 4 for detailed statistical results).

As Figure 6 shows, fewer respondents in KAP2 than in KAP1 had heard of global warming. This is possibly because the term climate change is used more often than global warming.

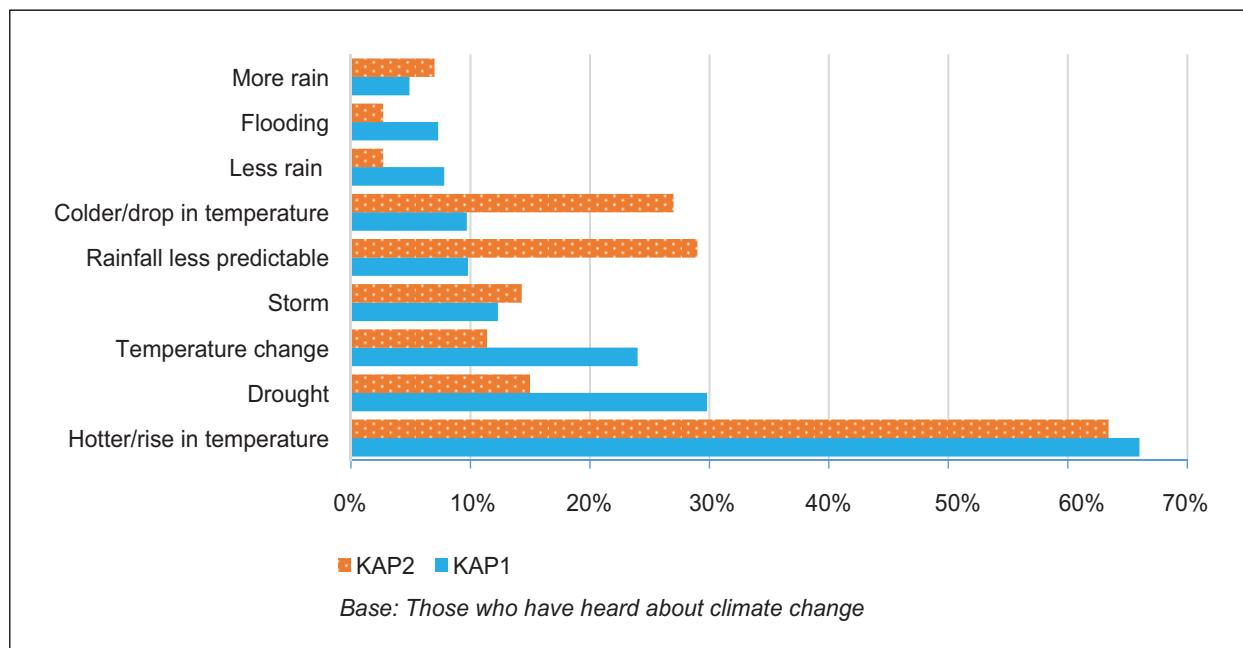
Figure 6: Percent of respondents who had heard of climate change and global warming



When asked to define climate change, respondents always associated it with heat and rainfall. Of the total sample, 64 percent (66 percent in KAP1) defined climate change as an increase in temperature (trends) and 29 percent (9.8 percent in KAP1) associated it with less predictable rainfall patterns (Figure 7). In both surveys, the terms climate change and climate variability seemed to be used interchangeably.

The findings point to the need to improve the design and dissemination of information about climate change, climate variability and disaster risks by explaining causes, consequences, impacts, vulnerability and adaptation.

Figure 7: Events or changes associated with climate change



#### 4.1.1.2 Understanding of climate change causes

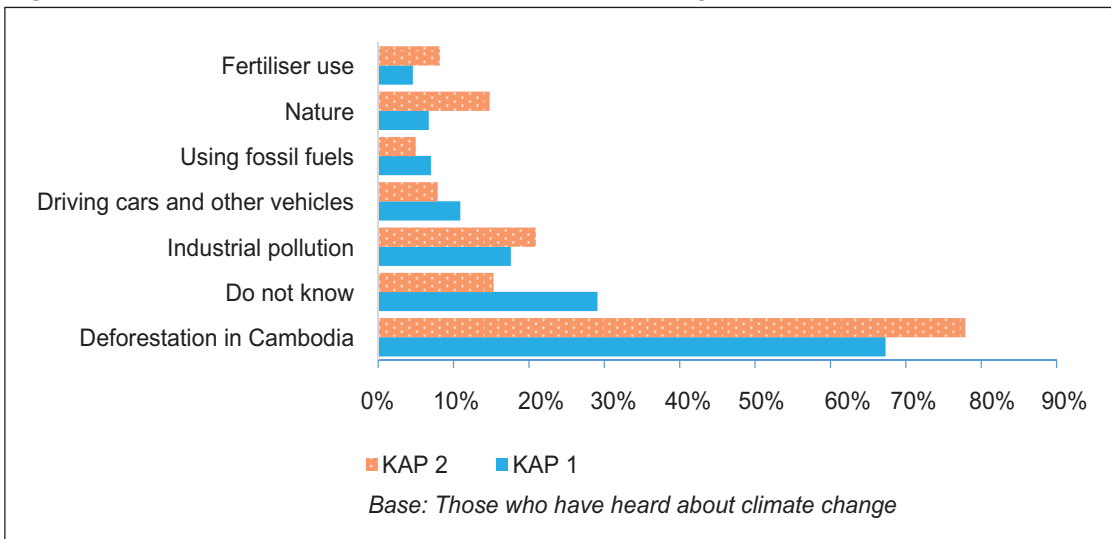
Figure 8 depicts perceptions of the driving force behind climate change. When asked unprompted what has caused climate change in Cambodia, about 15 percent of respondents (compared to 29 percent in KAP1) said that they did not know. This result indicates that more and more Cambodians are aware of the causes. Those who did not know were mostly female, rural residents, predominantly from coastal and mountain regions, have no schooling and the lowest PPI (see Table A3, Annex 4).

Of those who knew the cause of climate change, 78 percent (67 percent in KAP1) thought that deforestation was among the main causes and 8 percent mentioned deforestation in other countries. More male than female respondents, those with higher education, high PPI, living in urban areas, and teachers thought that deforestation was a main cause of climate change in Cambodia (see Table A3, Annex 4).

Twenty-one percent of respondents (18 percent in KAP1) pointed to industrial pollution as a cause of climate change in Cambodia. More men than women considered industry responsible for changing climate and weather patterns. Perceptions varied by urban/rural residence, agro-ecological region, ethnicity, education, PPI and occupation. For instance, those in the higher education and higher PPI groups tended to believe that industrial pollution was the cause (see Table A3, Annex 4).

By occupation, 50 percent of teachers and 40 percent of government officials and students perceived industrial pollution to be a main cause of climate change. However, only 2 percent of forestry workers and NTFP collectors thought so as they firmly believed deforestation to be a main cause. The understanding of farmers, business people and coastal fishers was also low at 15-16 percent (see Table A3, Annex 4).

Figure 8: Perceptions of main causes of climate change in Cambodia



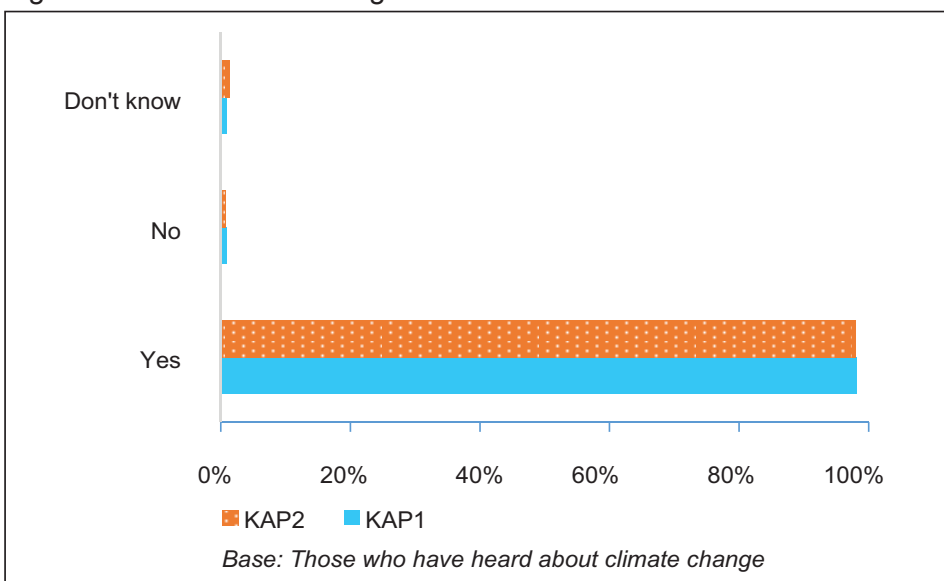
Assessment of knowledge about the causes of climate change shows a certain level of understanding about climate hazards, sensitivity and factors affecting adaptation capacity. However, there was an obvious lack of proper understanding, as many respondents could only identify deforestation as a main cause. This might be due to media coverage and political discourse about deforestation in the world and Cambodia. According to scientific study, CO<sub>2</sub> emissions have been rising ever since the industrial revolution took off in the 18<sup>th</sup> century. Industrialised countries are the main contributors to global warming. Local deforestation in Cambodia is either contributing to it and/or increasing local sensitivity to climate change hazards (EPA 2014; Cameron 2013; Wikipedia for Schools 2014).

Once again, the findings point to the need for improvement in designing and disseminating information about climate change causes, consequences and impacts, vulnerability and adaptation.

#### 4.1.1.3 Knowledge and understanding about climate change impacts

When asked if climate change affects Cambodia, 98 percent of respondents in both KAP2 and KAP1 agreed that it does. In both surveys, only 1 percent of respondents said they did not know (Figure 9).

Figure 9: Does climate change affect Cambodia?

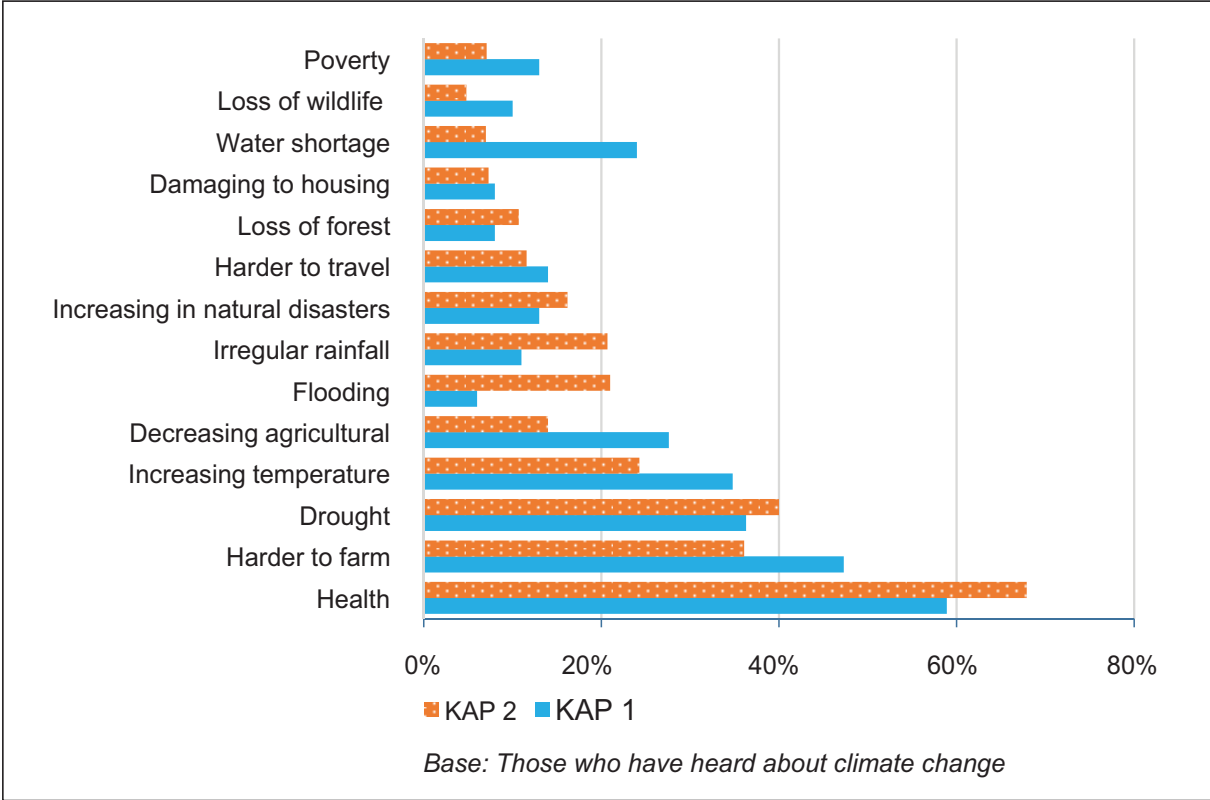




As Figure 10 shows, about 67 percent of respondents (compared with 59 percent in KAP1) thought that climate change has an adverse impact on health, while 36 percents aid that it makes farming harder (it was 47 percent in KAP1). In both KAP1 and KAP2, the main concern most respondents raised was the impact of climate variability on their own and family members’ health. Other notable consequences of climate change included lower crop yields, more droughts, higher temperatures and flooding. The share of respondents aware that climate change was leading to more droughts increased slightly to 40 percent from 36 percent in KAP1.

These results indicate the need to design awareness raising and public discourses about climate change impacts with a focus on people’s health, safety and well-being, as well as their livelihoods.

Figure 10: Climate change/variability impacts on Cambodia



**4.1.1.4 Comprehension of climate change**

As an improvement on KAP1, KAP2 rated respondents’ level of comprehension into three categories—low, medium and high—by adding up the score of ten variables related to knowledge of climate change.<sup>4</sup> Figures 11 and 12 present the level of comprehension by different demographic groups. Of the total sample, 41 percent of respondents fall into the “high” level and 10 percent into the “low” level of comprehension.

Statistical results show that level of comprehension is statistically different between various demographic groups including male and female, region, age, education, PPI and occupation. Respondents from Phnom Penh (56 percent), male, with high education, and high PPI seem to have the highest level of comprehension.

<sup>4</sup> Each variable gets one point. There are three scales: low (0-3 points), medium (4-7 points) and high (8-10 points). The variables include: having heard of climate change/global warming; being able to define the term (being able to describe at least one key term related to climate change; for example, changing temperature); knowing at least one cause; knowing at least one impact; knowing that climate/global warming affects Cambodia now; knowing that climate change/global warming will affect Cambodia in the future; knowing how climate change affects Cambodia; knowing that people can respond to climate variability/climate change with at least one practice; thinking that human activity contributes to climate change; and knowing of at least one human activity contributing to climate change. Respondents knowing all of these ten variables score 10 points, meaning that their knowledge of climate change is high.

Fifty-five percent of male and 42 percent of female respondents have a high level of comprehension, as do around 50 percent of respondents residing in all regions excluding the coastal area. In spite of their low level of comprehension, respondents in the coastal region seemed to be more familiar with adaptation practices.

Of the youngest age group (15-24 years), 58 percent are classed as having a high level and only 8 percent a low level of comprehension. Those with upper secondary or university education have a high level of comprehension. Of those with no schooling, 23 percent have a high level and 26.5 percent a low level of comprehension.

In terms of PPI, 60 percent of respondents in the high PPI group have a high level of comprehension compared to only 31 percent of those in the low PPI group. With regard to occupation, 100 percent of university students have a high level of comprehension while forestry workers and NTFP collectors registered the highest proportion of those with low comprehension (Figure 12).

Figure 11: Comprehension of climate change by sex, region, education and PPI

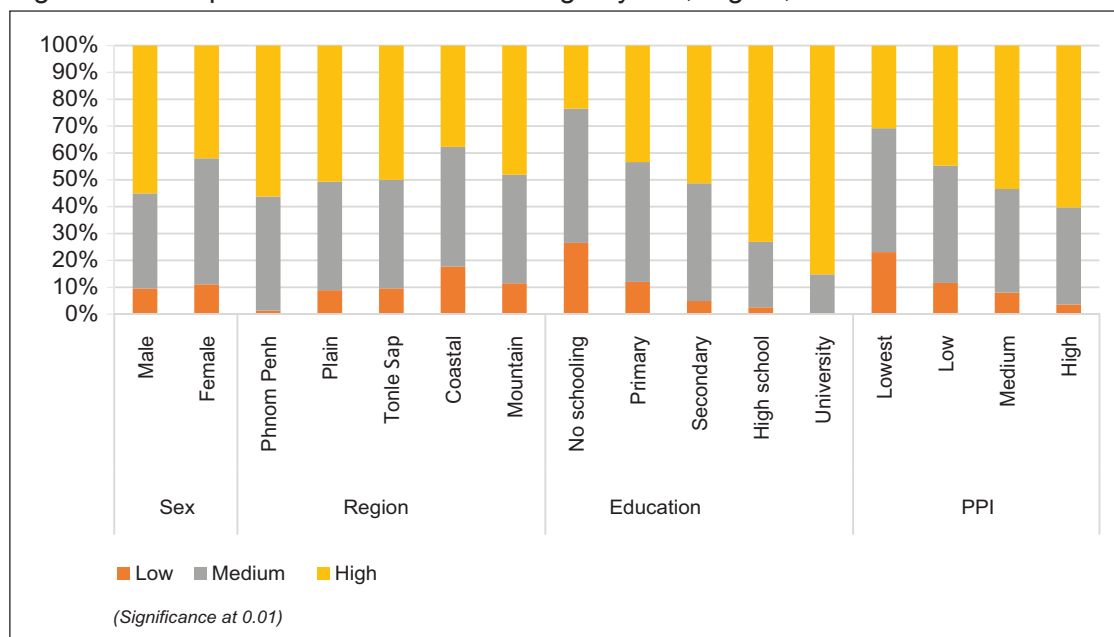
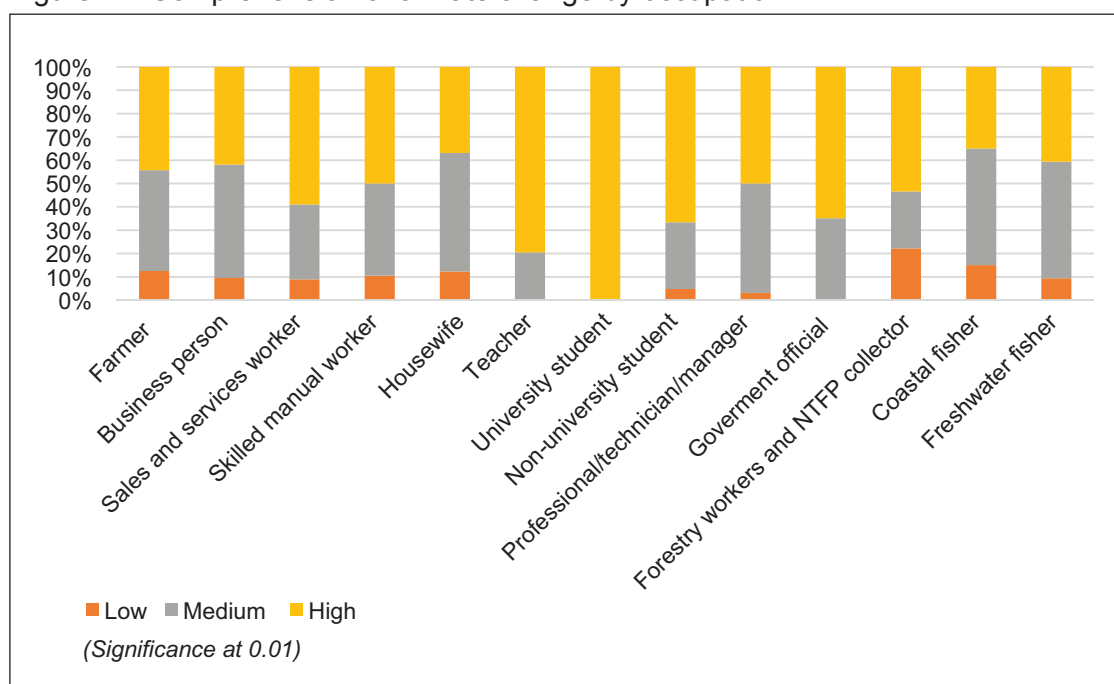


Figure 12: Comprehension of climate change by occupation



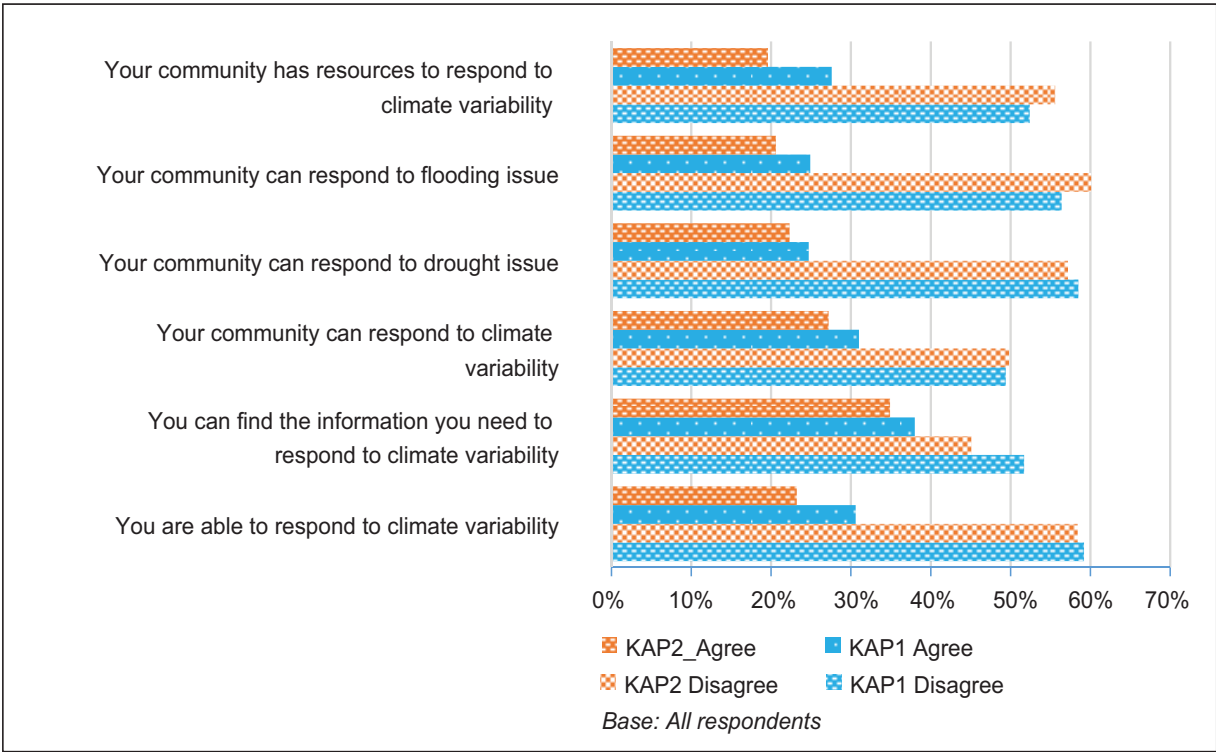
### 4.1.2 Attitude towards climate change

Respondents were asked to indicate the extent of their agreement or disagreement with a list of statements. The results are given in Figure 13. First, they were asked whether they thought their communities have resources to respond to climate variability: 55.6 percent (versus 52.4 percent in KAP1) believed that their community did not have enough financial, human or physical resources to deal with climate change. By region, 48 percent of respondents in the Tonle Sap region and 43 percent of those in mountainous areas thought that their communities have fewer resources to deal with climate change than other regions. By occupation, professionals/technicians/managers, sales and services workers, teachers, government officers and fishers (about 40 percent) thought that their communities did not have enough resources to deal with climate change (see Table A4, Annex 4). Only 27 percent of respondents agreed that their communities were able to respond to climate change, a slight decrease from 31 percent in KAP1.

When asked if they could find information on how best to respond to climate change variability, a slightly smaller proportion of respondents in KAP2 (35 percent) than in KAP1 (38 percent) thought they could. However, 45 percent of those in KAP2 felt they would not be able to access information compared with 52 percent in KAP1. Respondents from the Tonle Sap region, those with low education, low PPI, forestry workers and NTFP collectors were most likely to believe that they did not have the information they needed to respond to climate change (see Table A5, Annex 4). Fifty-eight percent of respondents (59 percent in KAP1) felt unable to respond to climate variability themselves; they were mainly from the mountainous region, have low education, low PPI or worked in the forestry/NTFP sector (see Table A6, Annex 4).

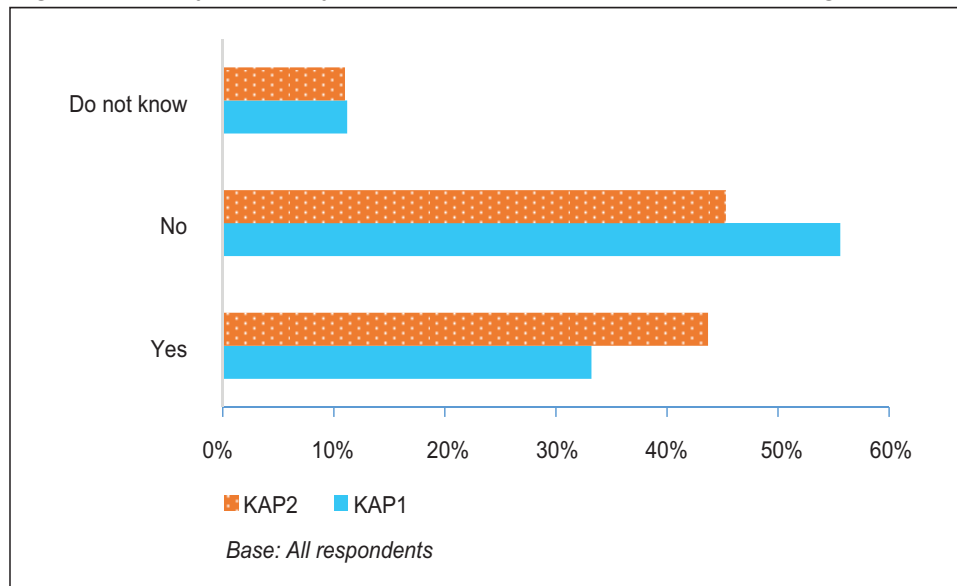
Correlation-based results indicate that respondents with a high level of comprehension and who fall into the high PPI and upper secondary or higher education groups are more likely to think they can do something about the impacts of climate change. Further, the results show that low PPI is negatively correlated with respondents' feelings of self-efficacy in addressing potential impacts on their livelihoods. Of the 60 percent of respondents in the high PPI group and who have a high level of knowledge, 66 percent believed in their ability to manage the adverse effects of climate change on their livelihoods (see Table A36, Annex 5).

Figure 13: Attitude towards climate change/variability



Respondents were then asked whether they thought their own actions contributed to climate change: 44 percent (33 percent in KAP1) believed that their actions contributed to climate change while 45 percent did not (it was 56 percent in KAP1). The remaining respondents (as in KAP1) said they did not know (Figure 14). More women than men, those living in the Tonle Sap region, have no schooling and low PPI, and fresh water fishers thought that their activities did not contribute to climate change/variability (see Table A7, Annex 4).

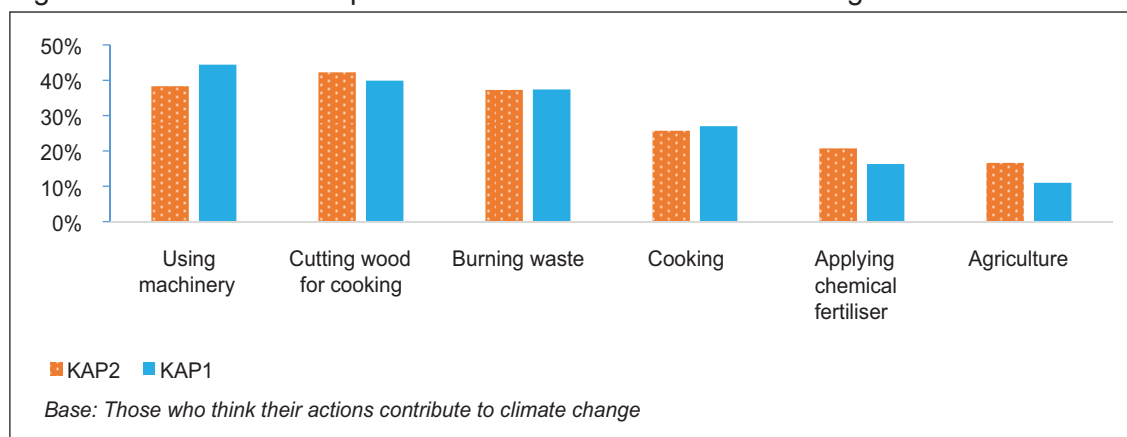
Figure 14: Do you think your actions contribute to climate change?



About 42.3 percent of respondents in KAP2 believed cutting wood for cooking/heating to be a main action contributing to climate change followed by using machines (industry, transport and energy generation) (38.4 percent), burning waste (37.3 percent), cooking (25.8 percent) and farming with chemical fertilisers (20.8 percent). The share of respondents who believed that using machines contributes to climate change decreased to 38.4 percent in KAP2 from 44.4 percent in KAP1 (Figure 15).

Overall, there has been a notable change in attitude or acknowledgement that individuals can contribute to climate change or help mitigate its impacts, from 33 percent in KAP1 to over 43 percent in KAP2. This result further proves that people are more aware of how their daily activities can contribute to climate change. It also emphasises the need to step up proper awareness raising and understanding about the causes and effects of climate change and ways of building resilience and adaptation capacity.

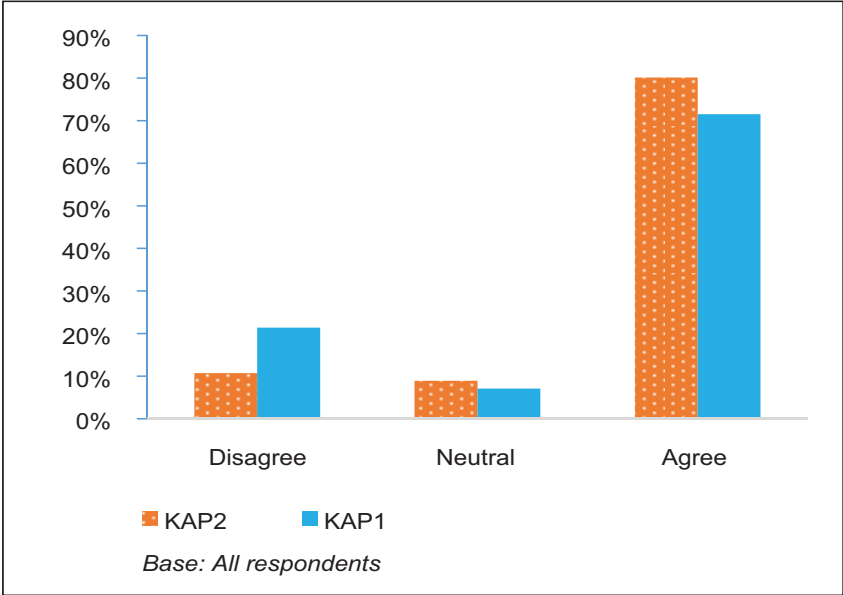
Figure 15: Actions that respondents said can cause climate change



Note: Only the top six answers are displayed in this figure.

All respondents were asked the extent to which they agreed or disagreed with the statement “human activities cause global climate change.” Eight in 10 (80 percent) agreed with this statement—a notable increase from 71 percent in KAP1. Far fewer respondents in KAP2 (11 percent) than in KAP1 (21 percent) disagreed with this statement. This shows increased understanding of the contribution of human activities to climate change (Figure 16).

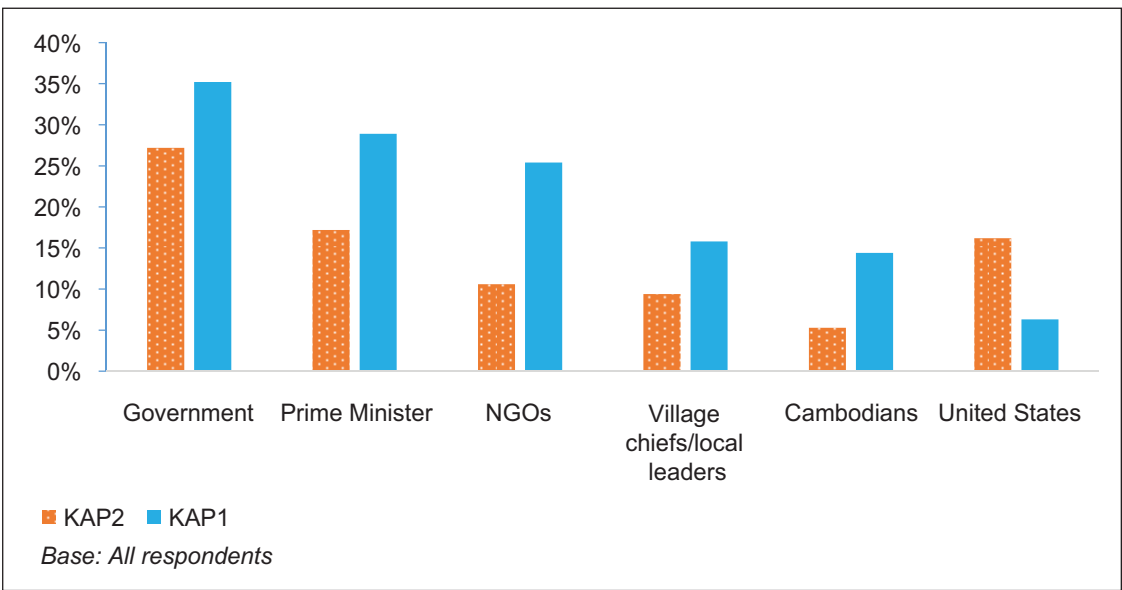
Figure 16: Agreement with the statement ‘human activities cause global climate change’



Some 27 percent of respondents (it was 35 percent in KAP1) thought that government was the most powerful institution to respond to climate change, followed by the Prime Minister, the United States, NGOs and locally elected representatives (Figure 17).

Nearly half of the respondents in the teacher and university student groups thought that the Cambodian government and the United States were the most powerful bodies to facilitate climate change response (see Table A8, Annex 4). Respondents from governmental organisations perceived that the Prime Minister (27 percent) and the Cambodian government (59 percent) were the most appropriate bodies to tackle climate change issues.

Figure 17: Perception of most powerful person/institution to respond to climate variability

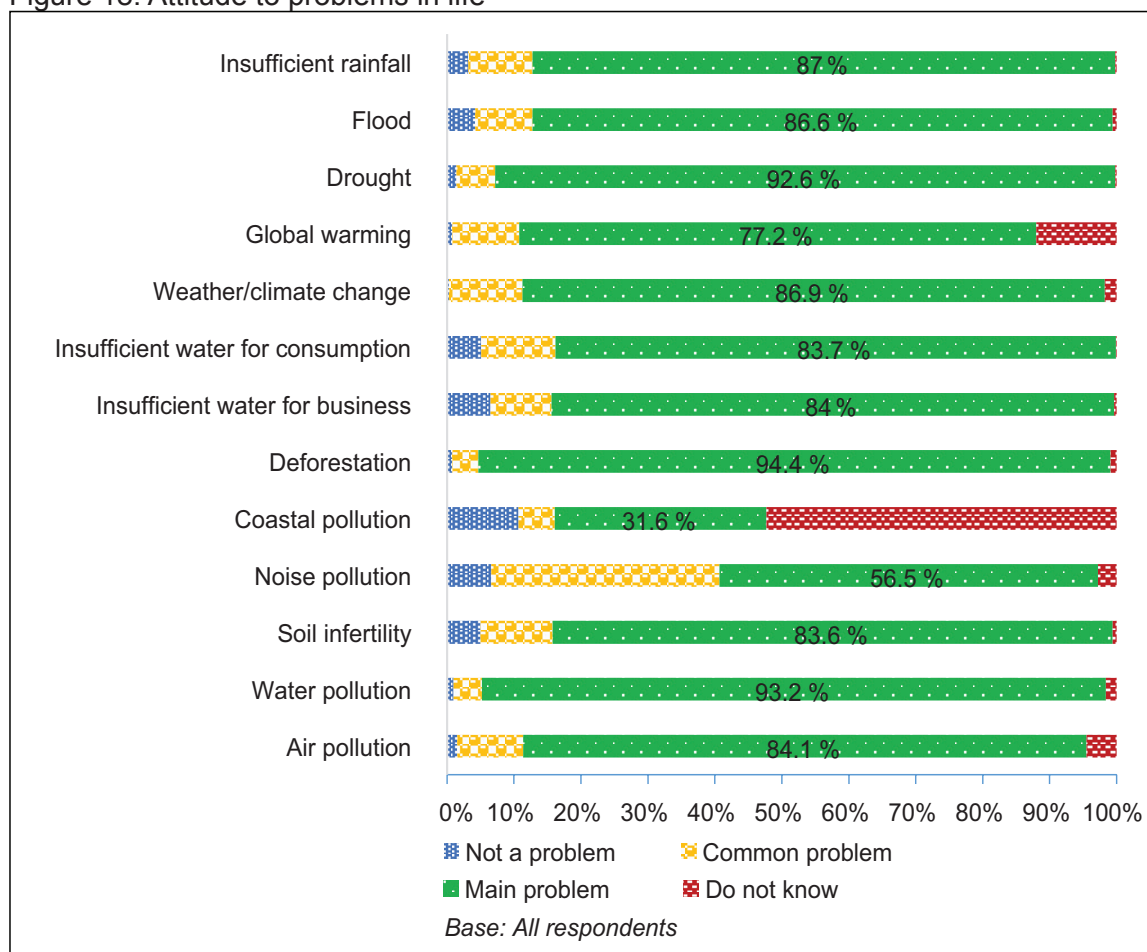


Note: Only the top five answers are displayed in this figure.



With regard to the main problems confronting them, most respondents (94 percent) ranked deforestation as the biggest problem followed by water and air pollution, drought, flood, insufficient rainfall, and water shortage for consumption and irrigation (Figure 18). Extreme weather/climate (heat waves, high temperatures) was ranked as the fifth main problem in their lives.

Figure 18: Attitude to problems in life



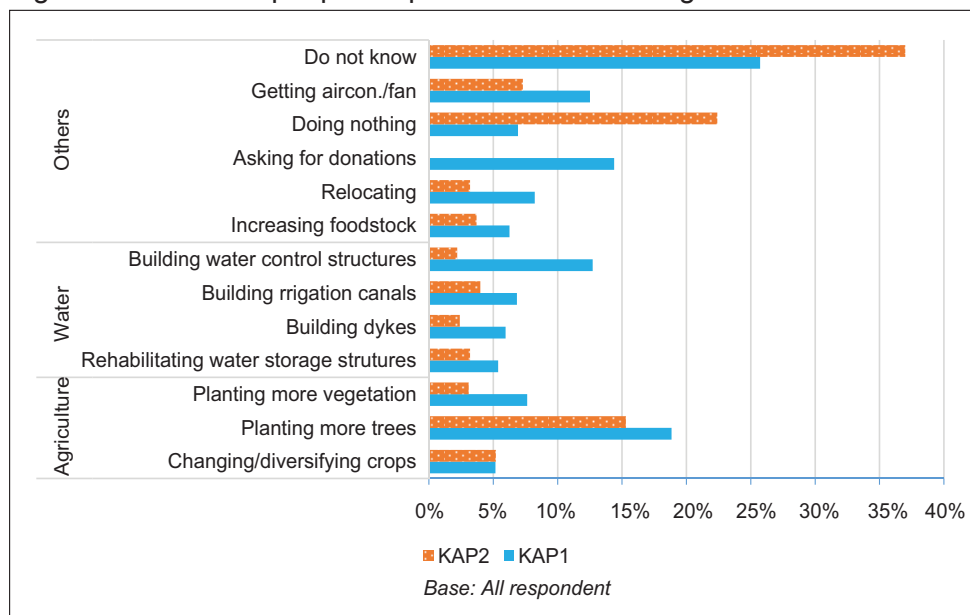
### 4.1.3 Practices

Responses to lessen the effects of climate change/variability have been implemented at individual/household and community levels. A list of adaptation practices recommended by the Joint Climate Change Initiative (JCCI) is presented in Annex 6. Climate change practices are understood as autonomous or planned mitigation and adaptation responses, either undertaken in response to observed and current climate variability and extremes or in anticipation of future climate changes.

#### 4.1.3.1 How do Cambodians think they can respond?

Results from KAP2 revealed a diverse range of measures for responding and adapting to disaster risks and climate hazards. A positive sign was a greater emphasis on preparedness including stocking up on food, building stronger houses, heeding weather forecasts and early warnings and acquiring boats. In contrast, and somewhat alarming, is the increase in those who have done nothing, with 37 percent of respondents (26 percent in KAP1) not knowing how to respond to climate change (Figure 19). These respondents were predominantly female (41 percent compared to 32 percent male), plains (43 percent) and coastal residents (49 percent), have no schooling (46 percent) and low education (39 percent), and employed as skilled manual workers (60 percent), housewives (49 percent) and coastal fishers (40 percent) (see Table A9, Annex 4). These results confirm the need for more properly designed and well executed compilation and dissemination of knowledge and information on climate hazards and cost-effective responses to climate change adaptation among those social groups.

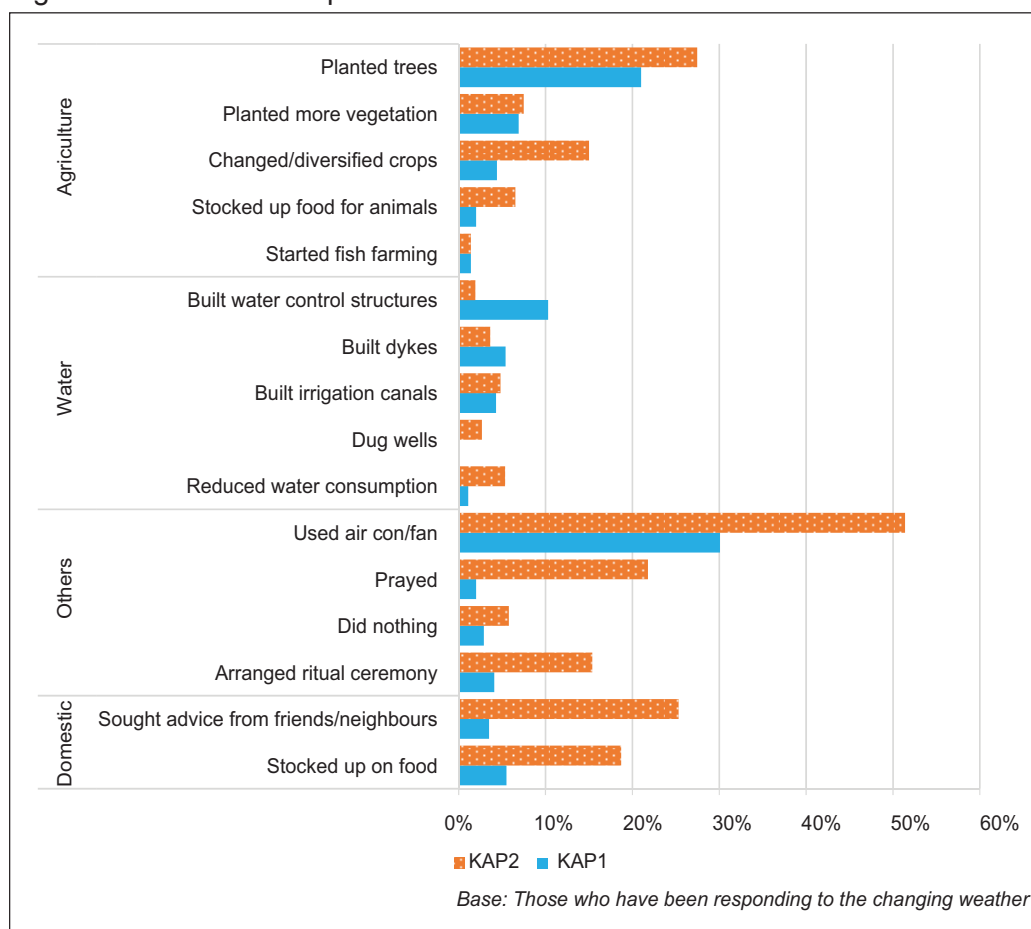
Figure 19: How can people respond to climate change?



#### 4.1.3.2 Perception of climate change response measures/practices

Almost all respondents (94 percent) said they and their family members had taken measures to respond to climate change and only 6 percent had done nothing. By agro-ecological region, the highest proportion of respondents (15 percent) who have taken no action live in the Tonle Sap area (see Table A10, Annex 4).

Figure 20: Practices adopted at household/individual level



As Figure 20 shows, equally high percentages of respondents did not know what to do apart from asking friends and neighbours for advice (25 percent) or praying (22 percent). Both of these responses showed significant increases on KAP1 results. At the same time, 51 percent of respondents (31 percent in KAP1) chose using air-conditioning or a fan as a main adaptation response to higher temperatures, which by itself could be considered a maladaptation as this could eventually contribute to increased emissions and air pollution. Planting trees was the next most popular response given by 27 percent of respondents (it was 21 percent in KAP1) followed by planting crops as usual (26 percent), which by itself was equivalent to doing business as usual.

Changing crop variety and cropping technique are recommended adaptation practices. Somewhat surprisingly, the share of people opting to try a new crop variety or production technique had decreased to just 4 percent in KAP2 from 15 percent in KAP1. To obtain deeper insight into what was happening at local level, the study team undertook a case study in Prey Veng province, summarised in Textbox 1.

### Textbox 1: Case study of changing to a new rice variety and planting technique



Mr. Jhou, a 75 year old farmer, has lived in Pring village, Krang Svay commune, Preah Sdach district, Prey Veng province since 1965. He has seven children and resides in a small wooden house on National Road 1. His family owns five plots of land. He grows rice and many kinds of vegetables to feed the family, but only in the rainy season because water is not available in the dry season.

He has known about climate change for a long time, through the radio and his own observations. He noted that people in his village used to have enough water to plant crops on time and could achieve high yields without having to apply much chemical fertiliser. But now crops are becoming harder to grow due to insufficient rainfall. There is no alternative water source other than rainwater. So, when droughts occur, there is no choice but to wait for rain.

When talking about adaptation practices to cope with climate change, he explained that he now grows a different rice variety that suits current conditions.

Mr. Jhou has switched from using a long-maturing variety to a short-maturing one. Changing crop variety has many benefits. The new variety is able to better withstand current climate variability, particularly erratic rainfall and dry spells during the wet season. It carries higher market value. And his labour costs are lower because the production cycle lasts just 3 months compared to 5 to 6 months for traditional varieties.

He has also been using a different cropping technique for the last two years. His family used to transplant seedlings but now they broadcast soaked seeds instead. This is also to adapt to changes in rainfall patterns. However, because the rains were late this year, he used another new strategy of broadcasting and then ploughing over dry seed. He got the idea from villagers who had already tested this technique in the late rainy season. He decided not to wait for the rain to start as excessive water can also delay planting. Though it is the first time he has used this method, he said that he would try anything once rather than wait for rain like before. He admitted that his understanding of climate change is still very limited, adding that he has never had any specific training.

Vegetable gardening is commonly introduced as a way of helping small-scale producers cope with climate variability. Yet both KAP studies reported a very low take up—by just 10 percent of respondents—of this activity. In an attempt to better understand why this should be so and what supports might be needed, the research team carried out a case study of organic vegetable farming in Kampong Speu province, described in Textbox 2.

### **Textbox 2: Case study of organic vegetable farming**

Ms. Pov Sokhom, aged 48, was born and lives in Ou Veng village, Ka Haeng commune, Somraong Tong district, Kampong Speu province. She supplies organic vegetables to the farm shops run by CEDAC (Cambodian Center for Study and Development in Agriculture). She is also a rice farmer. Her family of six comprises four females and two males.



Although Ms. Pov Sokhom heard of climate change through the radio, television and CEDAC, she was unable to explain it in detail. However, she has observed changes including hotter weather, less rainfall and prolonged dry seasons (drought).

She maintained that deforestation is the main cause of climate change because forest provides a barrier between the earth and the sun, and knew that climate change is very serious and affects everyone in the whole country. That the weather is getting hotter and hotter makes it harder for her and other villagers to raise animals and grow vegetables and rice well. To cope, they have started to change rice varieties and switched from transplanting seedlings to broadcasting seed, and now pump water onto their rice fields. Vegetable growers have to contend with very hot weather every April and May. They deal with intense heat by covering their vegetable gardens with netting to shade the plants. This practice can reduce the impact of extreme heat on vegetable crops to an extent, but plants cannot tolerate very high temperatures for long.

Ms. Pov Sokhom received training from CEDAC on how to adapt to climate change, mainly drought and erratic rainfall, through organic vegetable gardening. She has since changed her gardening methods following what CEDAC has taught her and realised many benefits as a result. For example, she now uses fewer inputs including seeds, chemical fertiliser and labour.



The system of rice intensification (SRI) was introduced long before climate change adaptation took precedence, yet surprisingly few respondents have adopted it. Since this practice is widely considered an effective response to climate variability, a third case study looked at SRI practiced by a woman farmer in Kampong Chhnang province. Textbox 3 presents a summary.

### **Textbox 3: Case study of system of rice intensification**

The System of Rice Intensification (SRI) is a set of practices that can increase productivity without relying on external inputs. SRI has been widely acclaimed for its potential to help farmers especially smallholders adapt to climate change and weather variability.



Ms. Phoeuk Heung, 50 years old, lives in Kraoy Wat village, Khlong

Popork commune, Tuek Phos district, Kampong Chhnang province. She is a commune chief and also a rice farmer.

She first heard about climate change four or five years ago from local people and the radio. Although she could not elaborate on climate change, she was aware that the weather is getting hotter and storms more frequent. Erratic rainfall is the main impact affecting cultivation, making it difficult for farmers to decide when to sow or transplant. A dry spell always occurs between late July and early August. The Provincial Department of Water Resources and Meteorology supports farmers by pumping water onto rice fields. But the extent of this irrigation support is limited.

After attending training on SRI provided by the Provincial Department of Agriculture in 2008-09, Ms. Phoeuk Heung decided to change cultivation practices. Even though she felt it was too risky to transplant young rice seedlings (8-12 days old) at a low density/hill rather than clumps of 30-35 days-old seedlings/hill—the traditional practice, she still gave it a try and found it effective. She achieved a high yield and needed less labour and seed. It was only in 2012-13 when CEDAC arrived in her commune to demonstrate SRI to local people that she realised SRI constitutes a good and sustainable adaptation practice. Average rice yield under SRI is 3 tonnes to 3.5 tonnes per hectare in comparison to only 2 tonnes per hectare using conventional practices.

When asked how SRI helps to adapt to climate change, Ms. Phoeuk Heung said that planting younger seedlings at a density of only 1-2-seedlings per hill means that they grow very strong and are better able to cope with drought. Because SRI mainly uses organic fertiliser, more soil moisture is conserved, allowing greater resilience to drought. Besides SRI, she pointed out that people can also dig a pond to store water for supplementary irrigation during dry spells.



### 4.1.3.3 Community responses to climate change

Similar to the survey results at the individual/household level, the preferred community practice for 49 percent of respondents (it was 26 percent in KAP1) is using air-conditioning or a fan as a main response to climate change.

Figure 21: Community responses to climate variability

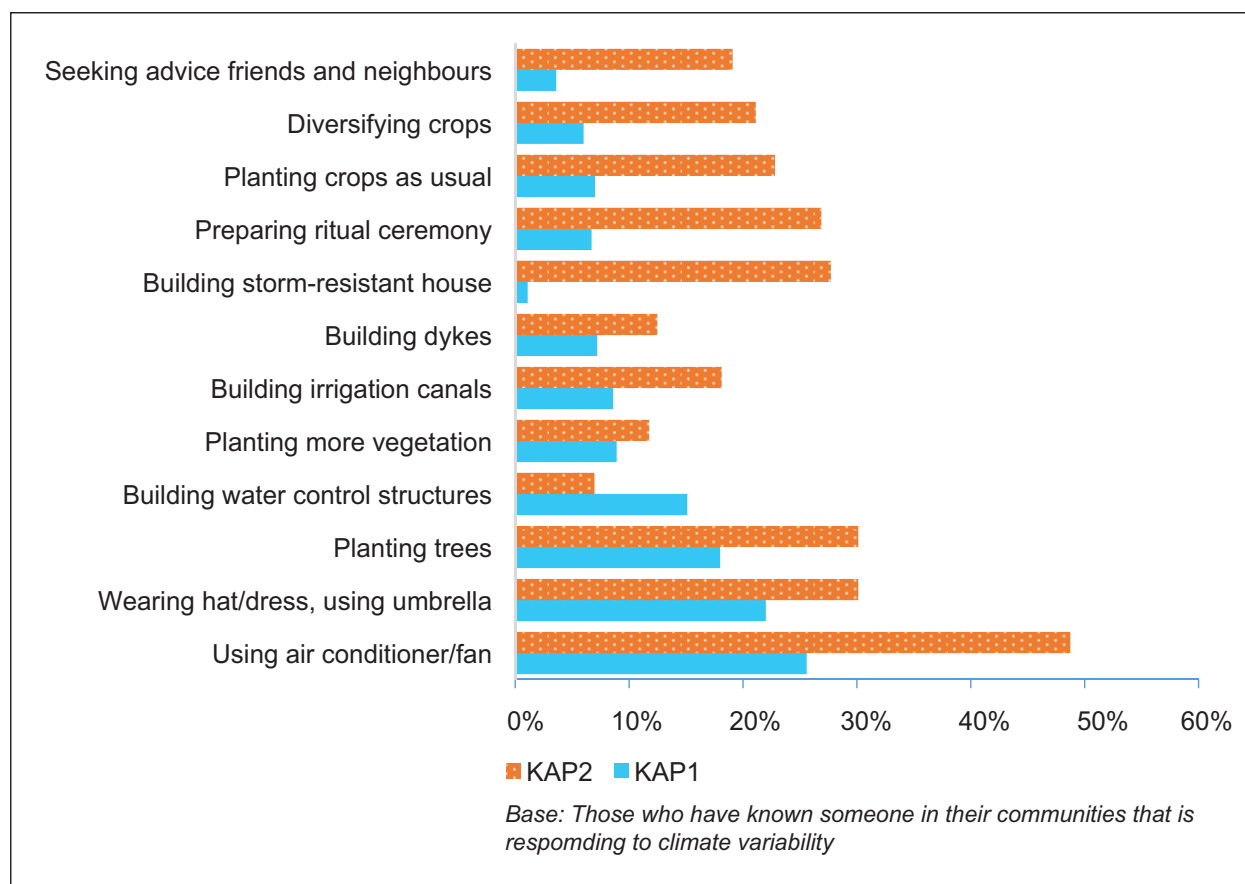


Figure 21 illustrates some significant differences between preferred community practices in KAP1 and KAP2. In KAP2, discussing/asking for advice, building strong houses and diversifying crops were frequently mentioned. However, some respondents still believed in ritual ceremony or prayer (27 percent) and planting crops as usual (23 percent).

Building water structures was mentioned less in KAP2 than in KAP1 even though this is often recommended as a mitigation strategy for climate variability. To deepen understanding of the issues surrounding community water management, the study team carried out a case study of Rolous Farmer Water User Community, Kampong Thom province.

## Textbox 4: Case study of community water management



Mr. Seng Kimsruon, 51 years old, is a farmer and a head of Roluos Farmer Water User Community (FWUC), Kampong Thom province. He has five family members and since 1979 has lived in O'Kanthor village, O'Kanthor commune, Stung Sen municipality, Kampong Thom province.

He first heard of climate change in 2013 through community training conducted by CDRI in Kompong Thmor commune. Then, in 2015, a local NGO named Help Old Age and Miserable People (HOM) provided training on climate change and disaster management. He recalled that factors that cause climate change can be divided into two categories: manmade and natural. Manmade refers to deforestation and greenhouse gases emitted by other human activities. Natural causes of climate change refer to emissions from volcanic eruptions, natural forest fires and lightning. Nonetheless, he still contended that deforestation is a cause of climate change. Besides attending local training events, he also learned through observing local environmental changes, noting how sizeable expanses of flooded forest in his area have been cleared for agriculture.

Aware that flooded forest helps protect rice fields by absorbing seasonal flood waters, he believed that forest clearance is the cause of irregular flooding. He added that forest cover plays a very important role in regulating rainfall patterns and acts as a

buffer against storms and heat waves. With respect to greenhouse gases, he confirmed that they do not refer to glass greenhouses but to emissions from vehicles, factories and machines. In his view, climate change affects crops, human and animal health and water resources.

He knew of many practices that can help reduce the effects of climate change. He learned about these from the training he attended and through his own thinking and observations. Practices include:

- planting more trees
- restoring private ponds
- finding rice and other crop varieties that need less water and suit local conditions
- restoring community ponds and canals
- identifying safe areas
- repairing and modifying irrigation structures
- disseminating information on revised crop calendars and disaster preparedness.

With regard to natural disasters, he noted that seasonal flooding always happens in mid-August or September and, if there are no storms, recedes in November. Drought often occurs early in the rainy season. People in O'Kanthor commune practice short-term rice double-cropping. The first rice crop is planted in the dry season between November and February and the second one in the wet season between March and July. They use a short-maturing variety commonly known as IR504.

FWUCs help people respond to climate change by supplying irrigation water during times of drought. For Roluos FWUC, however, supplying more irrigation water to support crop production during long dry spells is expensive because water is pumped rather than gravity fed. Since 2010 Roluos FWUC has submitted many proposals for dealing with both flood and drought to the Ministry of Water Resources and Meteorology through the provincial line department. This year saw the completion of repairs and modifications to irrigation structures (including additional water gates and spillways), but the late arrival of rains was stopping farmers from planting a second crop.

Although he has attended many training courses on climate change, he felt his knowledge was still limited and would like to learn more about adaptation and mitigation strategies. He said that dissemination through television and radio is limited because people do not always listen to them, and suggested that training be extended to more local authorities and communities to broaden understanding of climate change.

Planting more trees to conserve soil moisture, help recharge groundwater and protect against storms was cited as a popular community response by 20 percent of respondents (see Figure 21). Community forestry and community protected areas play important roles in promoting household and community tree planting. The case study presented in Textbox 5 relates the reforestation efforts of community members in Chiork Boeungprey protected area, Preah Vihear province.

#### **Textbox 5: Case study of a community protected area**



Chiork Boeungprey community protected area located in Preah Vihear province is supported by a project called Enhancing Climate Resilience of Rural Communities Living in Protected Areas in Cambodia. The project uses an ecosystem-based adaptation approach that aims to reduce pressures on forests by enhancing the food security and forest revenues of the local people who rely on forest resources for their livelihoods. Capacity building is also provided to the community committee and members to increase awareness of climate change and best practices to address the impacts of climate change.

Local people are vulnerable to storms, erratic rainfall, drought and high temperatures. In response to these climate hazards, the community has been restoring degraded forestland through community and household tree planting. The community has so far planted 350 trees and produced some 13,000 tree seedlings in the community tree nursery. With support from the project, the community has also provided its members with vegetable seeds, grub hoes, water pipes for dug wells, water jars and fruit trees (e.g. jackfruit and mango) for home gardening.

Apart from collecting non-timber forest products, local people have now shifted from slash-and-burn agriculture to permanent cultivation of cassava.

Mr. Chann Phoun is a committee member and also a project beneficiary. Besides doing community work, he grows vegetables and cassava. The provision of vegetable seeds enabled him to expand his garden, providing more income and vegetables for family consumption. However, drought and erratic rainfall still worry him because they affect both vegetable and cassava cultivation. The rains were late this year and though he had sought advice from agriculture experts there was still no solution in sight.

Adaptation through crop diversification as one of the best practices appears to vary significantly between rural/urban residency, region, ethnicity, and occupation groups. More rural (26 percent) than urban residents (12 percent) considered modern farming such as crop diversification to be a key response to climate change and weather variability. By region, the largest proportion of respondents acknowledging this practice was from mountainous areas (28 percent). By occupation, farmers (30 percent) and teachers (28 percent) said they responded by planting different crops, while sales and services workers, housewives, university students and coastal fishers were less likely to be aware of modern farming techniques (see Table A11, Annex 4).

The study arrived at very similar results for individual and community responses to climate change and climate variability. Most respondents associated climate change with rising temperatures, mainly in reaction to observed and current climate extremes due to lack of understanding about cost-effective planned adaptation. The number of people turning to a friend or neighbour, or praying for help, demonstrates a clear need for compiling and disseminating knowledge and information about adaptation practices and extending technical and financial supports.

#### 4.1.3.4 Adoption of good practices

A list of practices to cope with climate change and variability was provided in a multiple choice question. Good practices<sup>5</sup> were then selected based on the list of practices recommended by the JCCI (2012).

Sixty-eight percent of respondents have adopted at least one good practice to deal with climate change. Adopted practices varied significantly between different groups mainly by sex, residency, region, education and occupation. Male respondents, those who live in rural areas and the coastal region, those who have high education, and government officials were more likely to have used some practices to adapt to climate change.

Figure 22: Adoption of at least one good practice by sex, residence, region and education

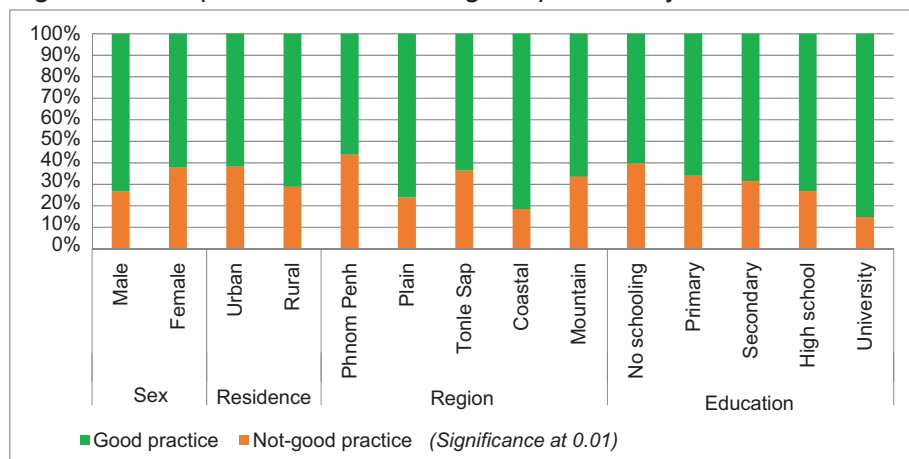
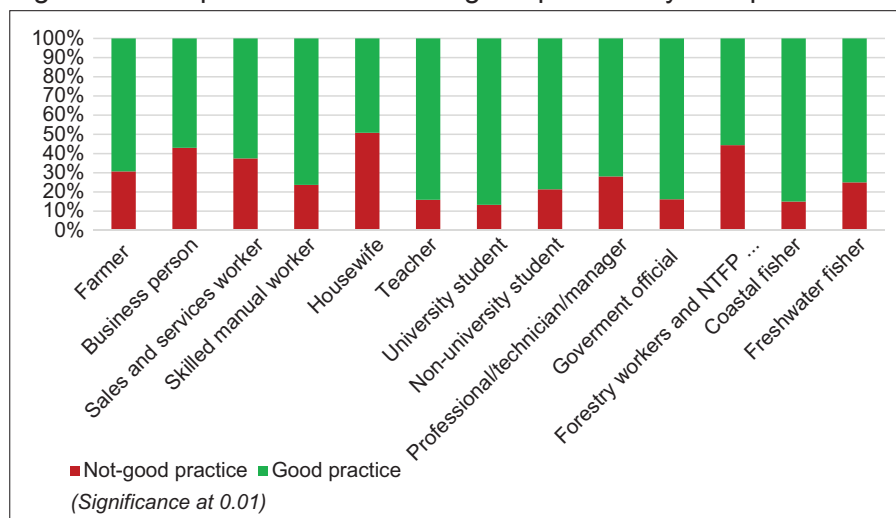


Figure 23: Adoption of at least one good practice by occupation



5 The following are the good practices selected from the list in the questionnaire:

- water harvesting and water management measures such as building/repairing water structures, canals and water storage facilities
- water conservation and energy saving
- building climate-resistant housing and infrastructure
- aquaculture and animal husbandry
- crop diversification to climate-resilient varieties
- acquiring boats to respond to flood
- changing crop varieties
- stock piling food and animal feed
- adapting crop calendar
- planting more trees and ground cover

Correlation results show that respondents who are familiar with climate change, male, have positive self-efficacy, access to television/radio, secondary or higher level of education, high level of comprehension and discuss problems with others are more likely to have taken up good adaptation practices (see Tables A37 and A38, Annex 5). Good practices have been adopted by 89 percent of respondents who are familiar with climate change and have self-efficacy beliefs. Of the 61 percent of respondents with secondary or higher education and high level of climate change comprehension, 83 percent have applied good practices.

#### 4.1.3.5 Factors affecting adoption of good practices

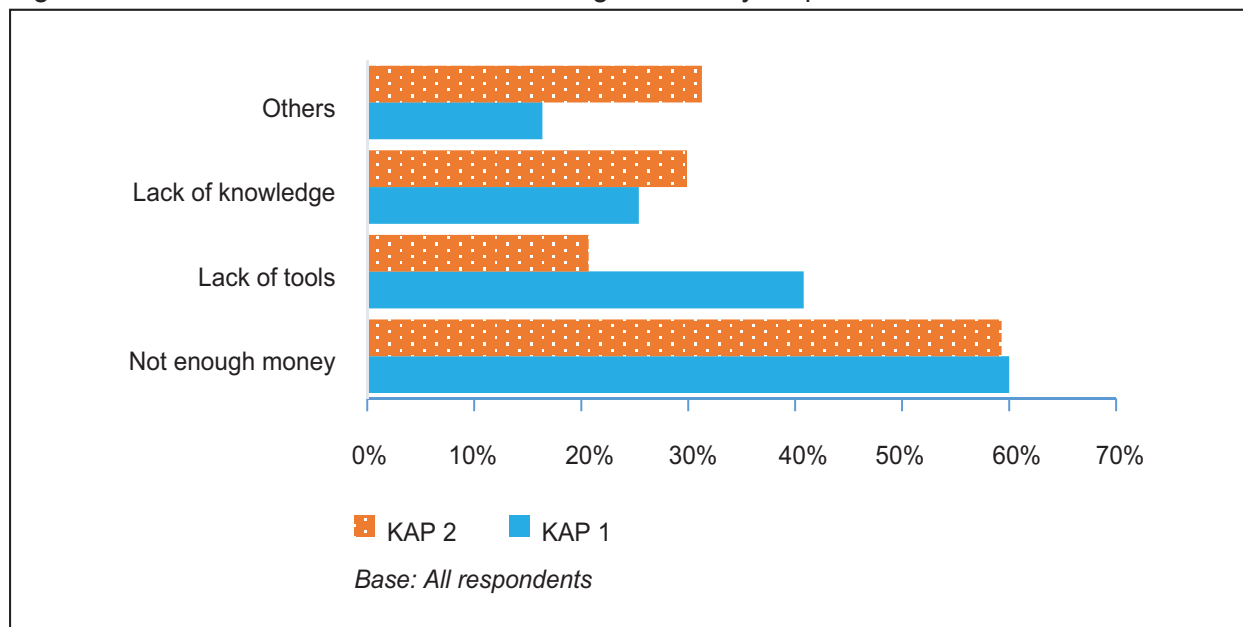
Based on logistic regression,<sup>6</sup> factors affecting adoption of good practices include level of understanding about climate change, access to radio/television, self-efficacy, access to information on natural disasters, and urban/rural residency. Respondents who have high knowledge, access to radio and/or television, positive self-efficacy, receive natural disaster information, are male and live in rural areas tend to adopt good practices (Table A39, Annex 7).

Those who have a high level of comprehension about climate change are likely to adopt good adaptation practices. Likewise, those who have access to television/radio, hold positive self-efficacy, have received disaster information, are rural residents and male are also likely to use at least one good adaptation practice.

#### 4.1.3.6 Perception of barriers to climate change response

In both KAP1 and KAP2, as shown in Figure 24, the majority (60 percent) of respondents considered that the main barrier hindering responses to climate change impacts and hazards was having insufficient money. The next biggest barrier for 30 percent of respondents (25 percent in KAP1) was lack of knowledge. Perception of the lack of tools (hardware and software) as a barrier declined by 20 percent, from 41 percent in KAP1 to 21 percent in KAP2.

Figure 24: Perceived barriers to climate change/variability response



6 Logistic regression is a probabilistic type of regression where binary response variable is related to a set of explanatory variables, which can be discrete and/or continuous. It is used to predict the outcome of categorical dependent variables from a set of independent variables. The expected values of the response variables are modeled based on a combination of values taken by the predictors.



#### 4.1.4 Experiences with extreme weather events

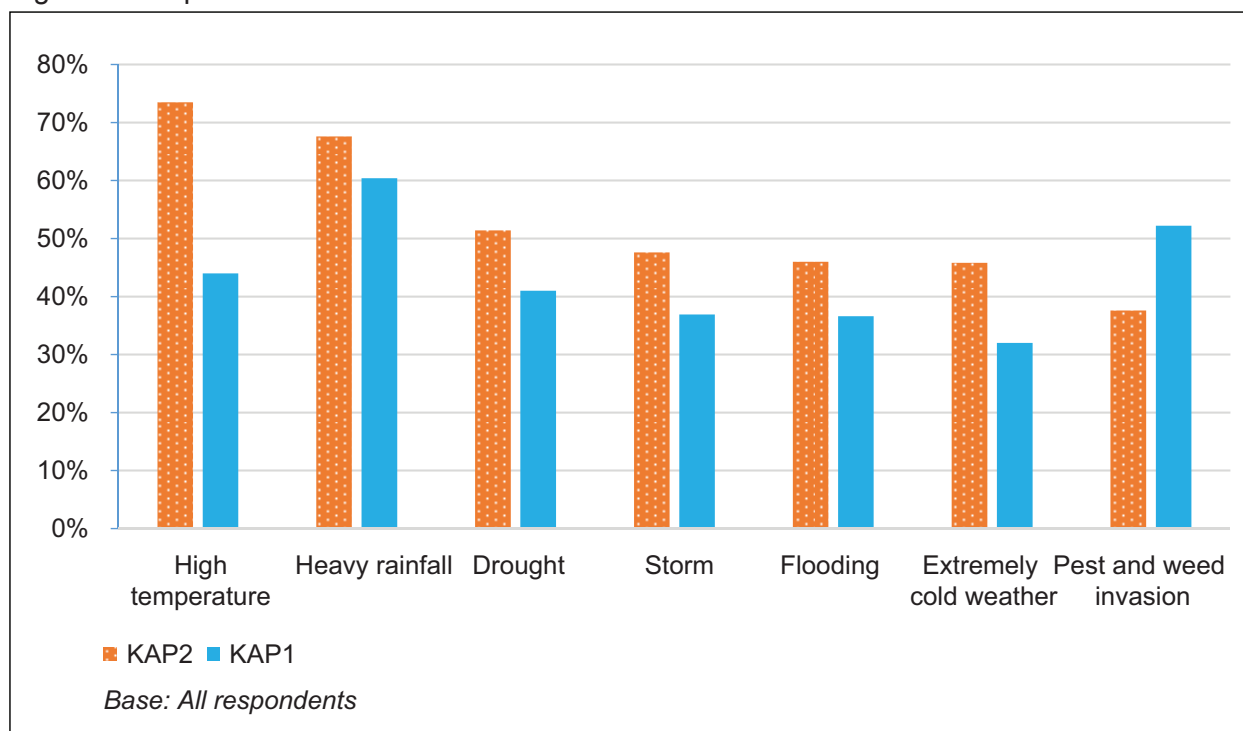
##### 4.1.4.1 Changes in weather and environment

Ninety-three percent of respondents in both KAP1 and KAP2 said they had experienced at least one extreme weather event in the previous few years. KAP2, however, recorded a significant increase in reports of higher temperatures/heat waves (73 percent in KAP2 from 44 percent in KAP1) and a more modest increase in greater rainfall intensity (around 68 percent in KAP2 from 61 percent in KAP1). Other notable experiences included abnormally cool weather, flooding, forest fires, and pest and weed invasion (Figure 25).

The findings show that people have experienced increasingly frequent extreme weather events and more intense climate variability. This highlights the importance of improving understanding and developing capacity to simultaneously address climate change adaptation and disaster risk reduction.

Experiences with higher temperatures varied significantly between different groups by region, ethnicity, education, PPI and occupation. More respondents from the coastal region (82 percent) and Phnom Penh (81 percent) had experienced higher temperatures (see Table A12, Annex 2). That said, Phnom Penh residents' perception of hotter temperatures could be compounded by moving back and forth between chilled indoor spaces and outdoors, as well as the urban heat-island<sup>7</sup> effect typical of urban areas.

Figure 25: Experience with extreme weather events



##### 4.1.4.2 Climate change hazards and access to information

Of the 96 percent of respondents who had experienced at least one extreme weather event, 66 percent received disaster warning and information (it was 63 percent in KAP1) (Figure 26). The percentage of respondents who received no climate information has decreased by slightly less than 2 percent since KAP1. Of those who received a warning, 64 percent got it before the event took place—a remarkable increase from 25 percent in KAP1 (Figure 27).

7 Urban heat island is the relative warmth of a city compared with surrounding rural areas, associated with changes in runoff, the concrete jungle effects on heat retention, changes in surface albedo, changes in pollution and aerosols, and so on (IPCC 2012 cited in MoE 2014b, 125).

Figure 26: Receipt of disaster information/warning

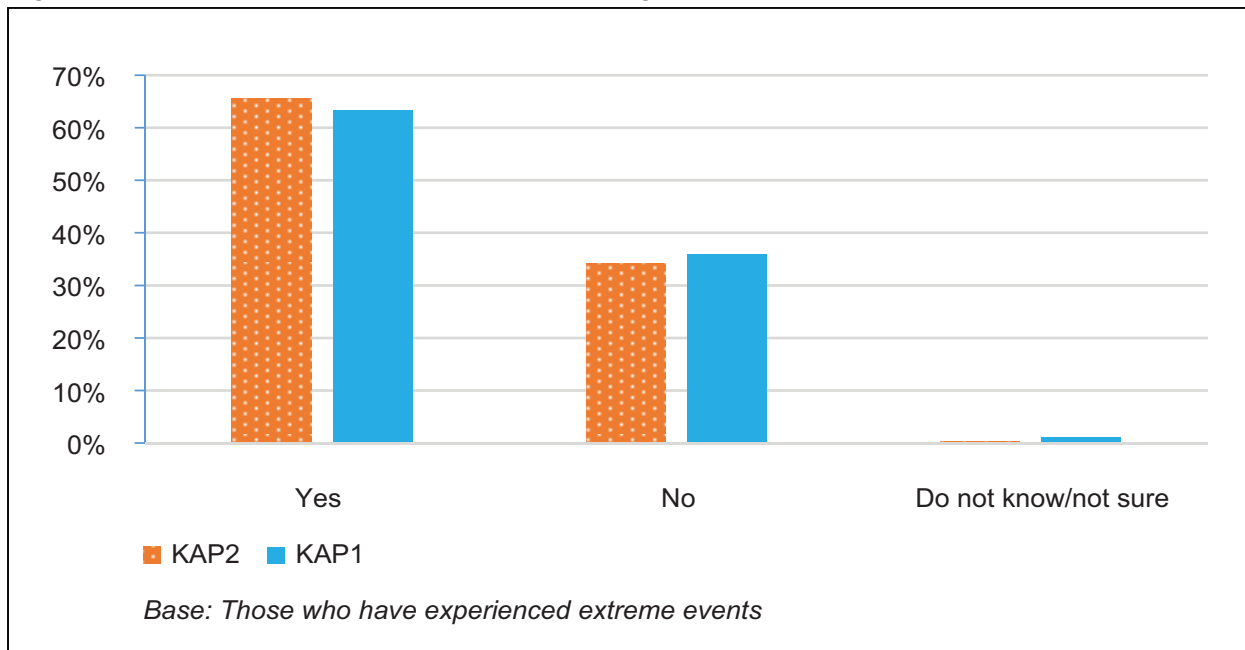
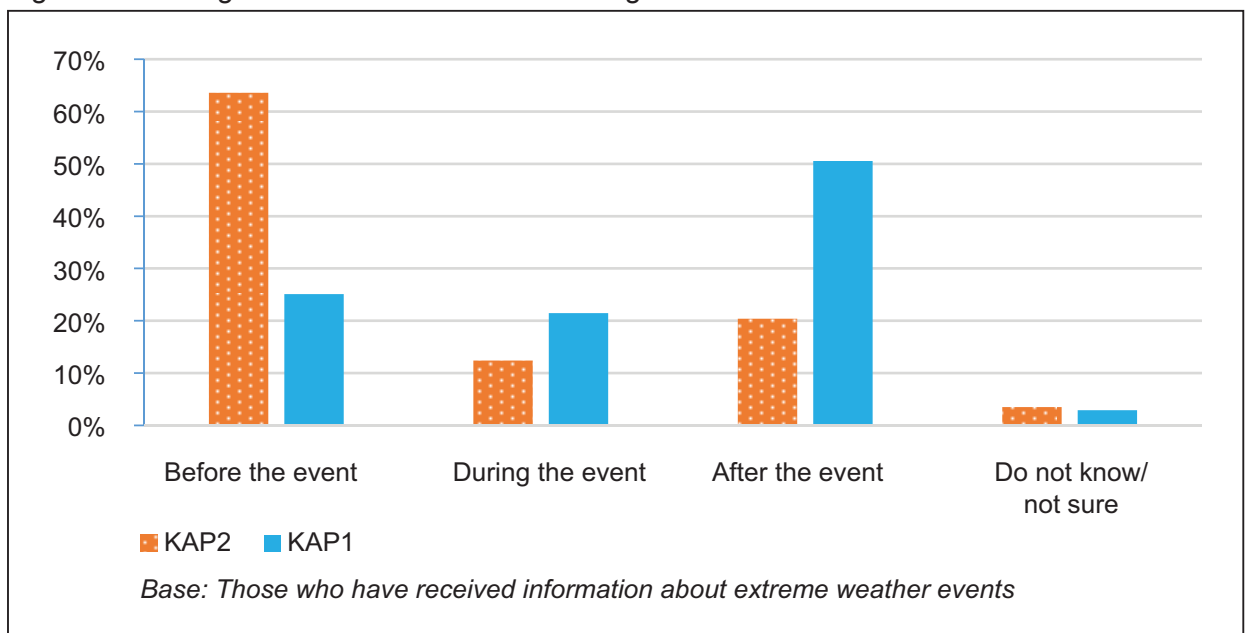
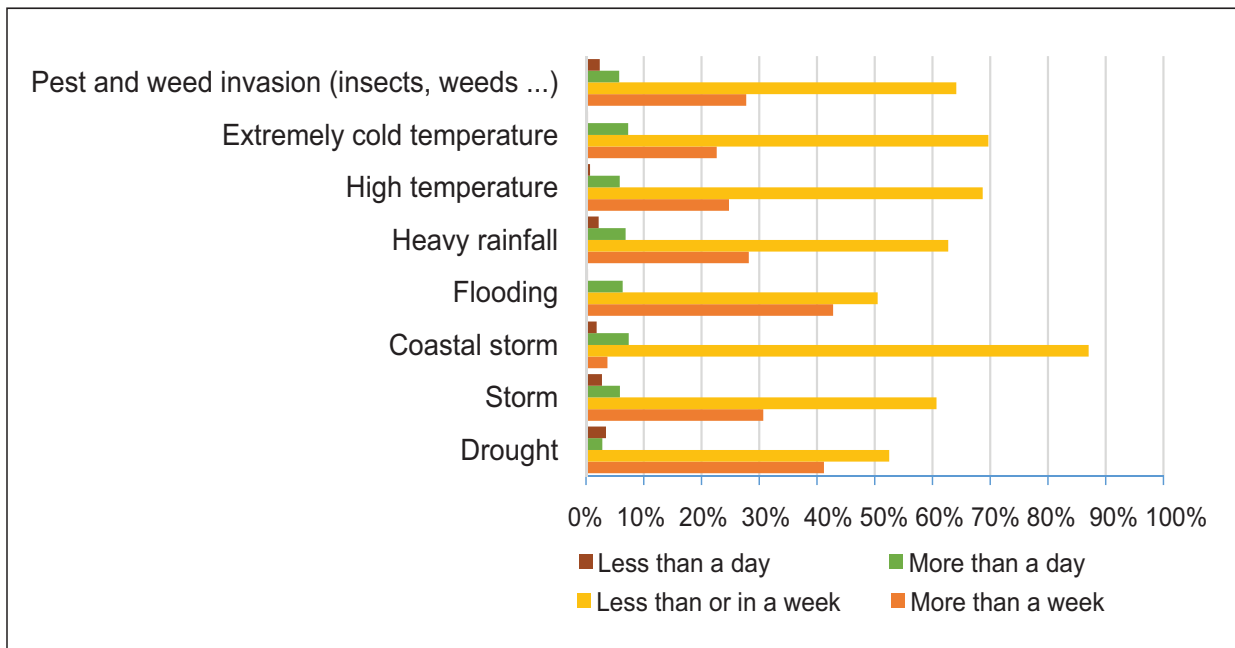


Figure 27: Timing of disaster information/warning



Most of those who received early warning information received it less than a week before the event (Figure 28).

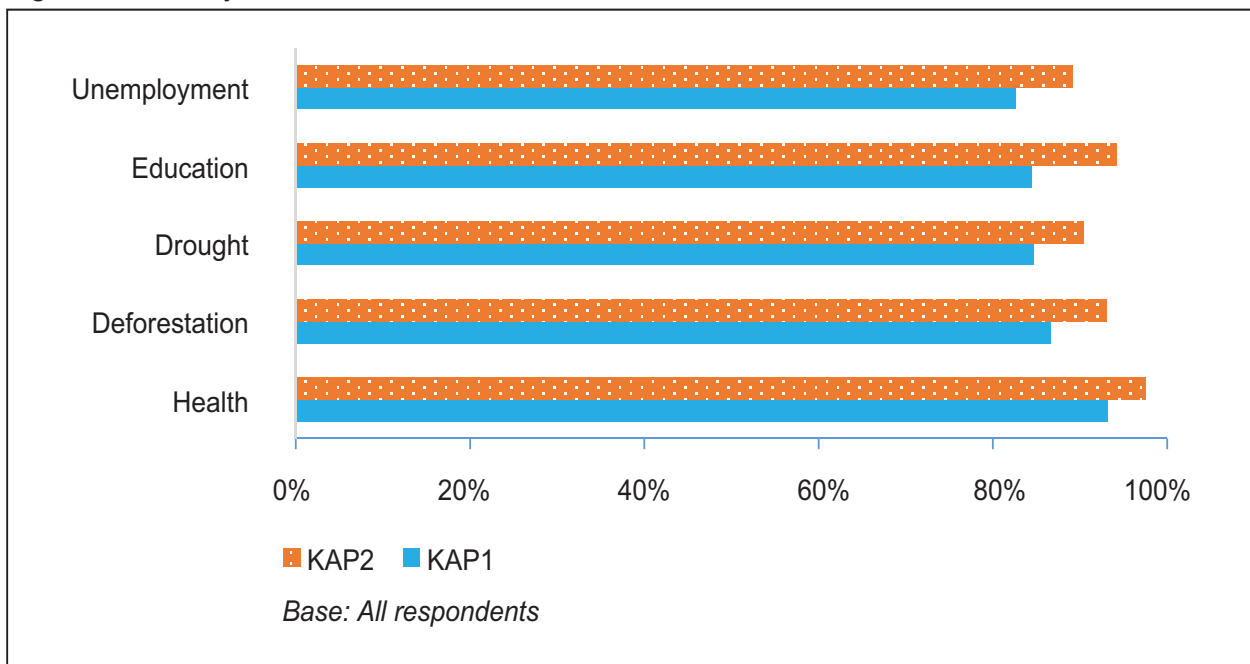
Figure 28: Receipt of disaster information/warning before events take place



#### 4.1.4.3 Most important social, economic and environmental issues in Cambodia

Majority of respondents in KAP1 and KAP2 considered their own and family members' health the most critical issue. Health, education and deforestation were ranked as the three most crucial issues facing Cambodia today (Figure 29). This means that climate change awareness raising and communication need to emphasise the connections between climate change impacts and health and livelihoods, as well as other social and economic issues. Equally important are quality education and mainstreaming climate change and sustainable environmental management into school curricula.

Figure 29: Priority issues for Cambodia



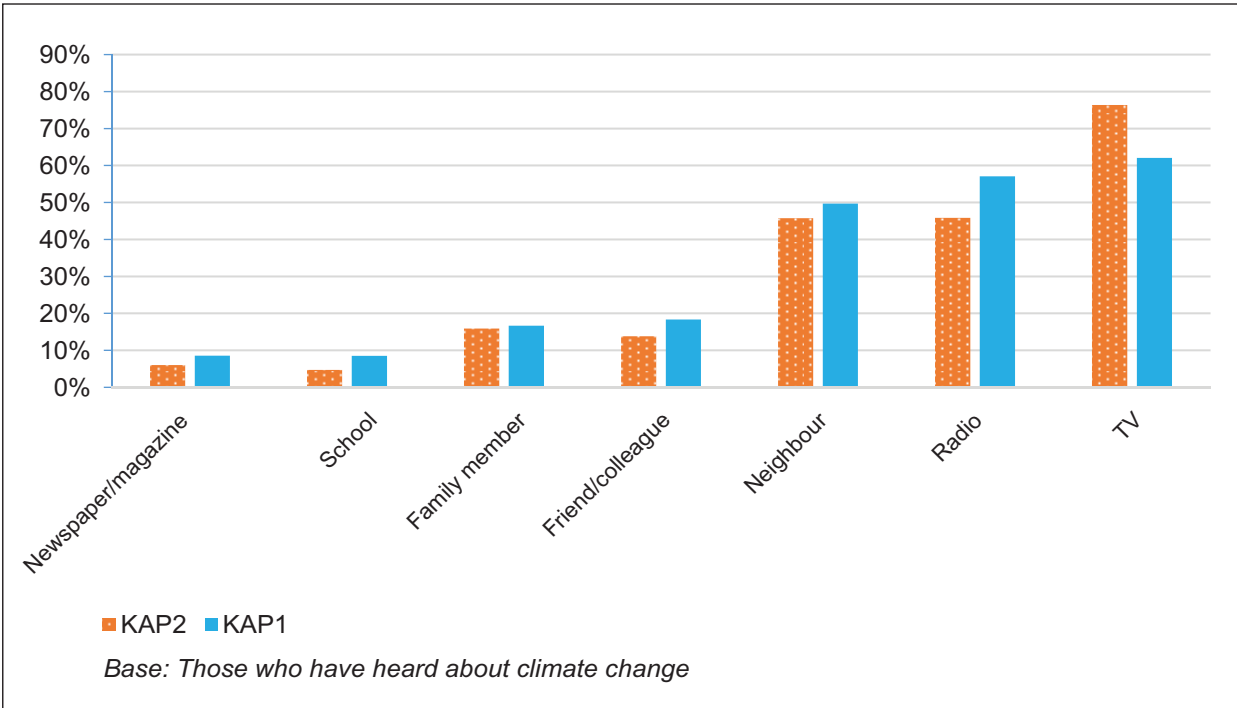
**4.1.5 Media consumption and sources of information**

**4.1.5.1 Sources of climate change information**

Three-fourths (76 percent) of respondents (62 percent in KAP1) had heard about climate change and global warming from television. Radio and word-of-mouth through neighbours, friends and family also played key roles in sharing knowledge and experiences (Figure 30).

Receipt of climate-related information varied among groups. Urban residents (88 percent), Phnom Penh (94.9 percent), highly educated (93 percent) and government officials (100 percent) heard of climate change or global warming or both from television. Half of urban residents heard the terms via radio. Female respondents (50 percent) heard of them through word-of-mouth from neighbours, as did those with no schooling (56 percent), coastal fishers (69 percent) and freshwater fishers (59 percent) (see Table A13, Annex 4). This shows the vital role of women, social networks and local opinion-makers (community elders, clergy, religious leaders) in information sharing and awareness-raising.

Figure 30: Main sources of climate change information

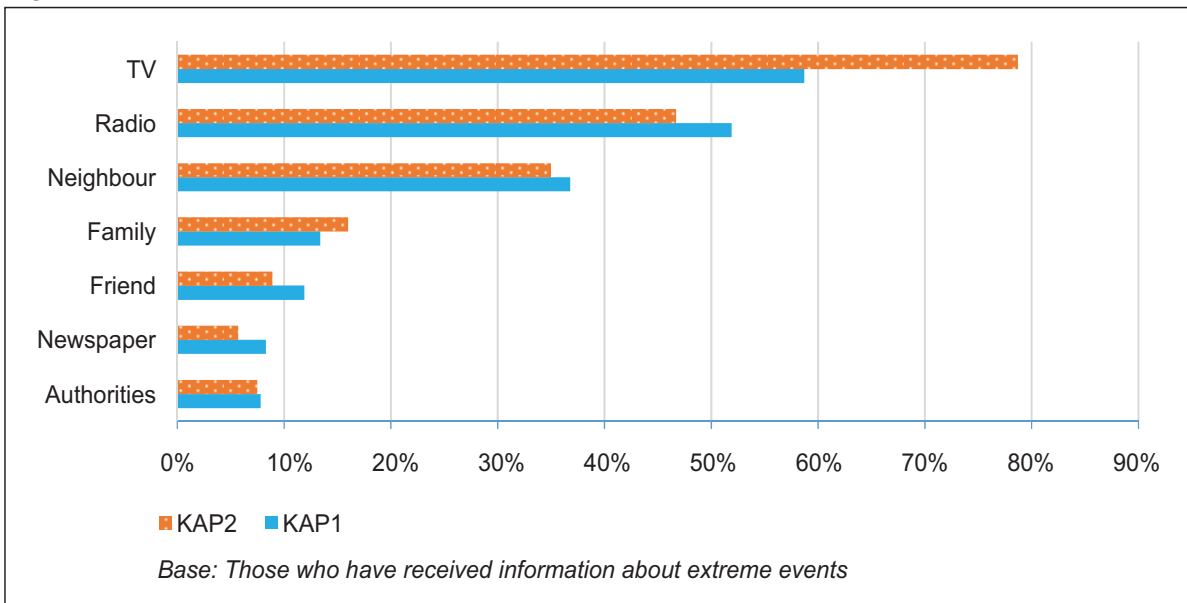


**4.1.5.2 Sources of disaster/warning information**

Of the 65 percent of respondents who received information about extreme weather, 79 percent mainly got a forecast or warning through television (it was 59 percent in KAP1). Other sources such as radio and word-of-mouth are still major sources of disaster information (Figure 31).

Information broadcast by television was mostly received by urban residents (89 percent), Phnom Penh region (93 percent), highest PPI group (93 percent), housewives (97 percent) and high school students (94 percent). Radio weather forecasts, warning and disaster information reached rural residents (52 percent), mountain region (55 percent), low PPI group (54 percent) and farmers (54 percent). Neighbours were the main source of information for rural residents (38 percent), coastal region (42 percent), the poorest (54 percent), and fresh water fishers (64 percent) (see Table A14, Annex 4).

Figure 31: Main sources of disaster information

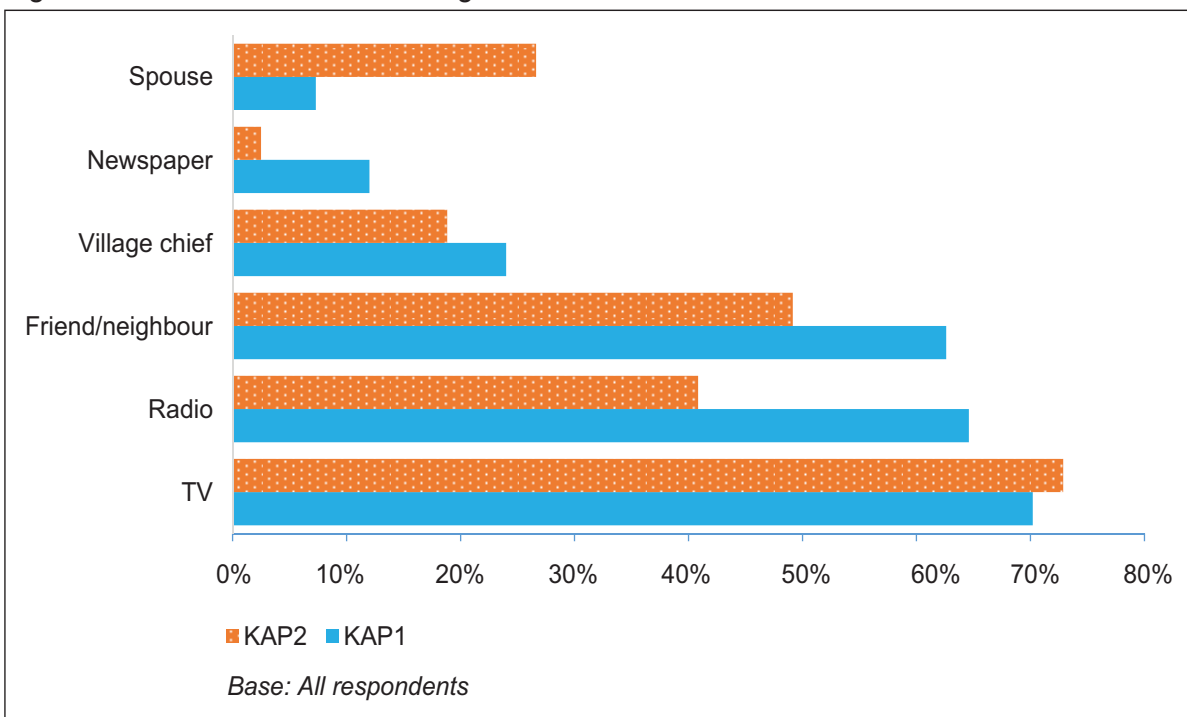


#### 4.1.5.3 General sources of information

The results of both KAP1 and KAP2 suggest that television is considered the major and most trusted source for weather forecasts, climate change information, early warnings and natural disaster news, as well as general information (Figure 32).

Television was the main source of information for the following groups: males (86 percent), urban residents (93 percent), Phnom Penh region (95 percent), highly educated (96 percent), high PPI (96 percent) and government officials (100 percent) (see Table A15, Annex 4).

Figure 32: Most trusted sources of general information



#### 4.1.5.4 Media selection and combination

In KAP1 and KAP2, 40 percent of respondents received information from both television and radio.



Figure 33: Media combination

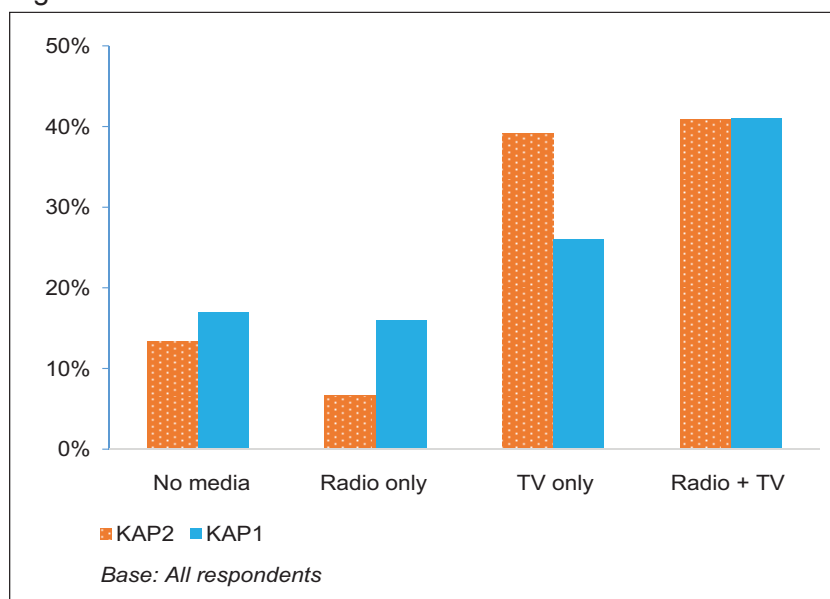


Table 1 summarises preference and relevance of various social and mass media for dissemination of information in Cambodia.

Table 1: Information sources and networks

Media	Preference		Observation
	KAP2	KAP1	
TV in general	80%	67%	Males (86%), urban residents (93%), Phnom Penh region (95%), highly educated (96%), high PPI (96%) and government officials (100%).
Hang Meas HDTV	40%	NA	Viewed mainly by males (47%), urban residents (46%), and 35-44 year-olds (47%).
CTN	17%	74%	Two-thirds of them watch TV every day: 82% of urban residents and 77% of 35-44 years-old. Most popular viewing times are 8:00 to 10:00 pm (45%) and 6:00 to 8:00 am (29%). News programmes—local or international—attract 81% of all TV viewers, followed by international movies (61%), concerts and comedy shows (45%).
Radio in general	47%	57%	Phnom Penh region (59%), 45-55year-olds (54%), higher education (59%), and university students (73%). News programs are the most popular, followed by music. More female listeners (63%) and the youngest age group of 15-24 (68%) listen to music programs. Half of the listeners have listened to a phone-in show.
ABC Traffic Kampuchea FM	45%	NA	Most radio listeners tune in every day from 6:00 to 8:00 am and from 6:00 to 8:00 pm.
Mobile phone	94%	91%	Most have access to a mobile phone: urban residents (97%), Phnom Penh region (97%), highest PPI (99%), sales and services workers, university students, professionals/technicians/managers and government officials (100%).
Internet	18%	4%	Males (23%), urban residents (30%), Phnom Penh region (41%), 15-24 year-olds (39%), highest education (87%), highest PPI (49%) and university students (100%).
DVD/VCD	35%	59%	Few respondents watched a DVD/VCD in the month before survey.
Outreach	74%	56%	Of all respondents, 55% have heard about outreach activities. Of these, 72% have joined these activities since last year. Group discussion is the most attended and the preferred activity (35%). Of all respondents, 73% have participated in mobile film screenings. The most attended programs are health education (75%), domestic violence (37%) and human rights and human trafficking (18%).

Besides television and radio, mobile devices and the internet especially popular social media should be further exploited for raising awareness and broadcasting early warning information. Main uses of mobile devices include:

- making and receiving calls (100 percent)
- listening to music (49 percent)
- taking photographs (37 percent)
- listening to radio (36 percent)
- playing games (32 percent)
- sending/receiving messages (22 percent)
- surfing the internet (21 percent).

Among those who use mobile phones, 71 percent send/receive SMS in English (82 percent in KAP1) and 53 percent send/receive SMS in Khmer (23 percent in KAP1). More rural residents (64 percent) use SMS in Khmer, and more urban residents (88 percent) use SMS in English.

Respondents access the internet to:

- read news (85 percent)
- log onto Facebook (88 percent)
- search for comedy (74 percent)
- search for songs/music (73 percent)
- search for information (67 percent).

And they usually use the internet:

- on a mobile device (75 percent)
- at home (42 percent)
- at a shop, café or supermarket (15 percent).

See Tables A16 to A35 in Annex 4 for detailed statistics on media.

## **4.2 Qualitative findings**

This section presents the results of 67 key informant interviews with lawmakers and representatives from six ministries, provincial and local authorities, NGOs, media, tourism and industry sectors.

### **4.2.1 Key informants' understanding of climate change**

As in KAP1, few key informants seemed to have a clear understanding of climate change, its definition, causes and effects/consequences. Also, not many of them could link climate change causes to greenhouse gases or carbon emissions or explain the term climate change in an internationally accepted way.

#### **4.2.1.1 Awareness of terminology**

Almost every key informant in KAP2 had heard of the term climate change. All key informants in KAP2 had heard of climate change and some had heard about global warming and greenhouse gases. Among those who had heard of both climate change and global warming, most were familiar with climate change rather than global warming. But, as in KAP1, those who had heard the terms did not necessarily fully understand their real meanings or implications.

Climate change is the change of temperature from cold to hot and of rainfall. This has led to global warming. In December, the temperature is normally around 14°C but global warming has increased it up to 29°C. (Parliamentarian)

They seemed to relate climate change to its impacts rather than its definition.

Climate change is an increase in temperature, rising sea level, melting iceberg, heavy rainfall that lasts almost half a month or a month and rapid change in atmosphere, which is different from before. For example, fog suddenly disappears in the mountains due to increased temperature. (Provincial governor representative)

Majority of them found it hard to understand the difference between climate change and global warming. Some of them thought they were the same. Others associated global warming with heat, and climate change with temperature and rainfall. Moreover, the term global warming is translated into Khmer as an increase in earth heat.

Only high ranking government officials and NGO representatives who have been deeply involved in climate change-related work could elaborate on climate change and global warming. They could even discuss them in a scientific way.

Climate change is the long-term change in weather patterns, which is different from climate variability, changing the heating of Earth and seasonal weather conditions over a long period. (NGO representative)

Nonetheless, there were still misconceptions about climate change and the ozone layer.

The ozone layer is increased, causing climate change. (Government representative)

Almost all respondents heard the term climate change from television and direct involvement in climate change-related work. NGO workers and high-ranking government officials heard the terms through their work and meetings, and sub-national informants heard of them mainly through meetings with NGOs and national government agencies.

I first heard the term climate change a long time ago in a workshop back in 2000, conducted by H.E. Tin Ponlok of the Ministry of Environment. (Provincial governor representative)

I heard the term climate change at a workshop that took place last year. (Parliamentarian)

#### **4.2.1.2 Perceived causes**

Most of the informants thought of climate change as having two causes: human and nature. Most of them, whether from national or sub-national level, linked climate change to deforestation. This finding is similar to that of KAP1.

Deforestation causes climate change in 1994, there were many forests so everything in the atmosphere was absorbed by trees. But a lot of deforestation has taken place since 2000 so much so that there is no more heat absorbance. (Provincial governor representative)

Other informants connected climate change to industry, development, population growth, waste, agriculture, energy consumption, natural resource depletion, mining, pollution by industries and factories, technology, transport and chemical fertilisers.

Climate change results from gas emissions that deplete the ozone layer, and smoke from vehicles and industrial factories. (Village chief)

Some informants said that nature causes climate change but that it is not the only cause, linking it to human-induced causes mentioned above.

Explanations provided by some informants suggested they were not well informed about climate change, and those who were familiar with the terms greenhouse gas and ozone depletion could not explain the relation between these terms and climate change.

### **4.2.1.3 Perceived impacts**

As in KAP1, all informants from provincial areas had observed climate variability including irregular rainfall, change in rainfall patterns, increase and decrease in temperature, increase in storm events, flooding and drought, and less predictable seasons.

In the wet season last year there was intensive rainfall and flooding, while this year there has been less rainfall and it rained in the cold season instead of in the wet season. (Local religious leader)

All key informants said that climate change affects health, agriculture, tourism and infrastructure. Health was mentioned most frequently as an impact of a rise or drop in temperature. However, most of the local informants could not elaborate on the kinds of diseases associated with climate change. Agriculture was the second concern since it is a climate-sensitive sector where many people rely directly on favourable weather. Many informants linked climate change to water supply, again emphasising agriculture as one of the most affected sectors.

Climate change affects four things. It affects human health via some diseases such as fever. Then people cannot earn money because they are sick, affecting their livelihoods. Agriculture is affected by drought, rice disease and strong winds. Flooding destroys roads and bridges. (Village chief)

Informants identified rural areas, poor people, women, children, ethnic minorities, older people and people with disabilities as the most vulnerable to climate change. Rural people are the most affected because their occupations and livelihoods depend directly on climate-sensitive resources (water, land and forest ecosystems). Women, children, ethnic minorities, older people and people with disabilities are very vulnerable due to their household role and sensitivity to temperature extremes and flooding. Most of the informants said that women are more vulnerable than men because they are responsible for food and water, family wellbeing and financial soundness. However, some informants could not elaborate why women and other marginalised groups are more vulnerable. This finding points to the need for gender-sensitive approaches and tools in climate change and disaster risk reduction awareness campaigns, pro-gender-equity programs and pro-poor development.

Rural poor communities have limited capacity to deal with and recover from climate change impacts. They also have limited access to early warning and severe weather information in time to prepare for extreme events.

People in rural areas and the poor are the most vulnerable to climate change impacts since they lack knowledge and education as well as means to cope with the impacts. (Parliamentarian)

### **4.2.1.4 How does the public perceive climate change?**

Urban informants seemed to be better informed about climate change than their rural counterparts because they have better access to information through mass and social media and exposure through various consultation and training workshops and conferences. People living in rural areas learned about disasters and climate change through their own experiences and observations. KAP1 arrived at very similar results.

People may understand about climate change through their experiences. For example, when they do cultivation, they get less rain than before and their crops are destroyed. This might lead them to think that it might be because of climate change. (Celebrity)

Some sub-national and local level informants mainly associated climate change with water issues. Since they were living in agricultural areas, the effects of climate change were seen largely through its impacts on agricultural production and water resources.

... people who depend on agriculture are affected by climate change, and 85 percent of Cambodians rely on this sector. It affects water resources because of uneven and unusual rainfall and drought. It also affects food security because it destroys rice crops, then people have nothing left for the coming cropping season. It affects livelihoods because people's lives depend on agriculture. (Provincial governor representative)

As regards obtaining climate-related information, those living in urban areas seemed to have better access to information through media including television, radio, newspapers, social networking and the internet, as well as through workshops, training courses and meetings. But for those in rural areas, access to such information was not the same. Some sub-national and rural informants said they did not know where they could find this kind of information.

I can only get information related to climate change through TV, since I do not know anyone who can share such information. (Deputy commune chief)

Informants believed that people would understand climate change more and act on it if dissemination were expanded and the technical aspects of climate change simplified and popularised. The mode of dissemination should also be improved to get the best out of climate-related knowledge and information and share it with all people. All informants recommended the use of television, radio, word-of-mouth, training, mobile phone and internet, awareness-raising campaigns, outreach activities and meetings as the most effective media for raising public awareness, sharing information and exchanging experiences.

#### **4.2.1.5 Where does responsibility lie?**

Key informants who understood climate change from a global and regional perspective believed that responsibility for climate change lies mostly with industrialised countries, while others opined that responsibility lies with the Cambodian government. In contrast, others believed the main cause of climate change to be deforestation in Cambodia and therefore held government responsible. Nonetheless, they called for cooperation from all stakeholders to deal with climate change because government alone cannot cope with it.

Again, depending on the level and scope of understanding about cause, consequences and impacts, some informants said Cambodia did not contribute to climate change at global level, while others thought that the country contributed through localised deforestation. True enough, Cambodia has contributed the least to climate change in terms of greenhouse gas emissions. But it is among the most vulnerable countries due its dependence on agriculture and other climate-sensitive sectors and its low adaptive capacity and resilience. Further, changes in land use and forest cover compound the country's sensitivity and vulnerability.

Climate change happens everywhere around the world but why do developed countries always blame developing countries for local deforestation? In developed countries, the sky is falling down. (Senator)

Climate change results from an increase in greenhouse gases and change in temperature causing heat waves, floods, droughts and sea level rise. Cambodia does not contribute to the causes of climate change but is affected by it, and Cambodia is the most vulnerable country to climate change. (NGO representative)

#### **4.2.1.6 What responses are required?**

Some informants reported that they did not get enough information about climate change or best practices to cope with the impacts.

People in my village do not get enough information about climate change and they do not know who or where to go to apart from local authorities. (Local religious leader)

All informants considered climate change a priority issue that should be paid greater attention, while 50 percent of those from sub-national and local level thought that climate change was a second priority after education, health and water infrastructure.

Climate change is not the first priority or the most serious one for Cambodia. Insufficient infrastructure and lack of markets for agricultural products are much more important. (Commune council)



All informants believed that lack of financial, technical and human resources are the main challenges to dealing with climate change. Government and NGO representatives thought that cooperation among all key stakeholders was critical. They said that livelihood improvement should go hand-in-hand with climate change adaptation because adaptation would not be feasible without better livelihoods.

... to deal with climate change, money and human resources are needed. Some government officials do not even know what climate change is. (Senator)

Main barriers or challenges include insufficient budget to publish books on environmental management. There is still concern over which topics related to climate change should be incorporated in school curricula. There is poor cooperation among stakeholders and lack of human resources and technical skills for climate change. (Government representative)

Most of the informants thought that government plays a very important role in leading climate change action for mitigation or adaptation. Informants from provincial level said that it would be good to have a clear strategy or plan to help them deal with climate change.

Provincial government will follow national government guidelines regarding what should be done to deal with climate change. It would be good to have guidelines to follow. National government is responsible for planning while provincial authorities are responsible for implementation. (Provincial governor representative)

Almost all informants said that more properly designed and executed dissemination of information on climate change is required since almost all sub-national and local informants were poorly informed about the causes and consequences of climate change and best adaptation practices. Second, there is still misunderstanding about roles: sub-national informants were still of the opinion that only the national government must play a leading role in developing strategy and guidelines for implementation at sub-national level.

## **4.2.2 Climate change from different perspectives**

### **4.2.2.1 Government representatives, senators and parliamentarians**

Most informants from this group tended to have a good understanding or knowledge about climate change. They could link climate change to global phenomena, and some of them could distinguish between climate change and its causes, consequences, impacts and adaptation. These informants could identify key terms related to climate change such as greenhouse gases, ozone depletion and carbon dioxide emissions (all causes). Even so, a small number of informants confused greenhouse gases with something else. Some informants were familiar with the Kyoto Protocol.

Greenhouse gases absorb infrared radiation from the sun and reflect it back to Earth. This is the greenhouse effect. That and carbon dioxide emissions increase the temperature. Greenhouse gases are produced from many activities including fuel consumption, coal burning, animal rearing, deforestation and chemical fertiliser application. (Senator)

... there are a lot of industrial factories and these affect the ozone layer. Factories emit a lot of greenhouse gases but if there were forests, the forests would absorb those gases. The gases emitted into the atmosphere cause global warming. (Parliamentarian)

All of these informants treat climate change as one priority among others because it affects many sectors: agriculture, health, sanitation and education. Every government representative was quite knowledgeable about their specific sector regarding climate change impacts and responses.

Climate change is a very interesting issue for my institution since agriculture is sensitive to climate change. It affects agricultural productivity. Global warming changes the climate, causing more frequent droughts and floods and other extreme events such as storms and plant pests and diseases. (Government representative)

All informants in this group emphasised the importance of a participatory approach that involves diverse stakeholders at all levels to consider climate change and find solutions to manage and mitigate its impacts. They all mentioned efforts made by the government to address climate change issues, but that these were not sufficient to raise awareness and encourage cooperation among institutions concerned at both local and regional levels.

Climate change is a global priority issue. Cambodia alone cannot deal with it. If we can deal with it but our neighbouring countries cannot, it will also affect us. Hence it requires global, regional and local cooperation. Although the Royal Government of Cambodia is quite knowledgeable about climate change and the issue is already incorporated into the National Strategic Development Plan, and a certain amount of budget is allocated to climate change, the government still needs support from development partners, especially Danida, Sida, UNDP and the European Union. (Parliamentarian)

Key informants maintained that although climate change adaptation is a top priority, Cambodia should also pay attention to mitigation through forest management and reforestation.

Although Cambodia is a developing country and we do not have an obligation to establish climate change mitigation, we do have a low carbon emission strategy. Climate-smart agriculture has three-fold objectives including high productivity, high adaptive capacity and low carbon emissions. It deals with climate change through no-regret adaptation actions, which refer to more output with less input. (Governmental representative)

Cambodia is only coping with climate change, but in the future the country will be so badly affected that mitigation will also be needed. In Holland, people ride bicycles rather than drive cars, especially old cars. (Parliamentarian)

Most of the respondents knew which ministries and institutions are working on climate change, and were aware of some strategic plans and actions.

#### **4.2.2.2 Provincial governors**

Some informants in this group had technical knowledge on climate change while others still had knowledge gaps. Technical terms related to climate change such as global warming, greenhouse gases and ozone layer were not well understood. They had all heard of them but could not elaborate on them. Some of them could only associate global warming with carbon dioxide emissions and ozone depletion.

Climate change is the gradual change in long-term weather, temperature, rainfall patterns, storms, icebergs and sea level. (Provincial governor representative)

Climate change means continuous rain, drought, storm and disease. For instance, in my province, sometimes there is too much rain and sometimes too little rain. (Provincial governor representative)

All key informants said that climate change affected mainly agriculture, identifying change in rainfall patterns, increased frequency of floods and droughts, and sea level rise affecting farming in coastal areas. They were concerned that these adverse impacts on agriculture will badly affect farmers' livelihoods especially those of poor farmers who have limited capacity, know-how and resources to cope.

Climate change negatively affects Cambodians, especially the poor living in rural areas and relying on agriculture. It affects their crops and farming. For example, in Prey Nop district, most of the people depend on farming and an increase in sea level will affect their farmland. (Provincial governor representative)

People understand how climate change affects their livelihoods but they do not have knowledge on how to adapt or respond to it. To adapt to changes, there should be a big warehouse to store seeds for farmers, but that would be very costly. (Provincial governor representative)

Informants heard about climate change from meetings and workshops, and they all knew of projects, NGOs and development partners working on climate change in their provinces. They knew about the barriers to mainstreaming and integrating climate change into development planning. One of the barriers was that knowledge of climate change seemed to be confined to central government and has not been disseminated widely to sub-national level. Another was limited budget.

Climate change mainstreaming and integration is still limited in Cambodia. Mainstreaming and integration happen in national policy but have not been implemented or integrated into policy at sub-national and local levels. (Provincial governor representative)

Mainstreaming and integration are still in indirect mode and even leaders do not have specific principles of what to do. Knowledge on climate change and mitigation measures is confined to people at provincial level without any sharing to subordinates at local level. Even though some activities have been developed to increase awareness about climate change, the budget issue has prevented their implementation. (Provincial governor representative)

Informants also suggested extending awareness raising on climate change throughout the country, and pointed out the need for cooperation and support from NGOs and industrialised countries.

#### **4.2.2.3 Commune council leaders**

Key informants from this group seemed to have insufficient knowledge about climate change though they had heard of the term. Most of them associated climate change with its impacts rather than its causes, consequences and response framework. The informants have experience with natural disasters (flood, drought and storm) and changes in rainfall patterns.

Climate change is irregular rainfall in consecutive months, destroying wet season rice and decreasing yield, and floods damaging hundreds of hectares of rice fields. (Deputy commune chief)

Climate change is an extremely hot and cold state. There is rainfall in the dry season and storms while in the wet season there is drought. Rainfall is irregular and intensive. (Deputy commune chief)

Other technical key terms including global warming and greenhouse gases were less well known among this group. Most of the informants said climate change and global warming were the same. Those who had heard about greenhouse gases also got it wrong.

Greenhouse gases are the increase of iron and glass that absorb heat. (Deputy commune chief)

None of the informants could link climate change to global and local phenomena even though some of them had attended training on climate change. Most of them believed that the main causes of climate change are local deforestation, air pollution and waste from industries and factories, inappropriate technology, natural resource depletion and forestland encroachment for farming. Only a few informants thought that the main causes originate from industrialised countries.

Climate change is caused by big factories in many of the most powerful countries emitting many gases, thinning/depleting the ozone layer. Another human activity that also contributes to climate change is forestland encroachment for farming or hunting. (Commune council)

All of the informants expressed concern about climate change impacts, in particular on crop and livestock farming, assets and infrastructure, health and livelihoods. The impacts are the consequences of flooding, drought, irregular rainfall and high temperatures. Those that cause the most concern are on human health and crop productivity.

The impacts from climate change are on people's houses, agriculture, crops, health, animals and livelihoods. The impacts have badly affected people in rural areas rather than in urban areas. (Commune chief)

When asked whether climate change was a priority issue to which Cambodia should pay greater attention, only one third of informants thought it was. Other issues considered more important than climate change were livelihoods, health, water structures and infrastructure. This perception stemmed from a lack of understanding of how climate change will affect health, livelihoods and infrastructure if they are not climate resilient or climate proofed.

Climate change is a problem for Cambodia because its impacts including flood, drought and storm destroy crops and houses, and these are very serious problems. (Commune chief)

Informants believed that people in their communes have done nothing to cope with or adapt to climate change because they do not know what coping/adaption responses or measures are available so do not think ahead. Climate-related projects or programmes are few and far between in the communes. This was claimed to be a main reason why informants and local people had little technical knowledge on climate change and were unaware of appropriate responses and measures.

Regarding access to climate information, all informants said they get information from district and provincial administrations, Provincial Department of Environment, Provincial Department of Water Resources and Meteorology, disaster committees and NGOs.

When asked how they could help local people with climate change, all of them said they could tell people about climate and weather hazards and help them prepare for extreme events and then recover from the aftermath. Some of them said they could help through developing commune plans to cope with extreme events and disseminate early warning information, and others said they could mobilise humanitarian assistance from disaster-related institutions such as the District Committee for Disaster Management and the Cambodian Red Cross. Yet others said they would inform local people on how to cope with or adapt to climate change but they felt their own knowledge was still limited.

Officers from the commune will disseminate information on how to cope with climate change but our knowledge is also limited. We do not have any publications on climate change. (Commune council)

#### **4.2.2.4 Village chiefs, elders and local religious leaders**

None of the informants in this group had technical knowledge on climate change. They often related climate change to its impacts. The most frequently heard definition of climate change was change in temperature or being extremely hot or cold, and unpredictable seasons and rainfall.

Climate change is the change in both wet and dry seasons. There are more droughts and sometimes intensive rainfall, destroying rice crops and decreasing yields. (Local religious leader)

Climate change and global warming are the same and they are the change of temperature from cold to hot, rainfall in the dry season, and the change of season. (Village chief)

Climate change refers to irregular rainfall but global warming to the increase in heat. (Village chief)

Most of the informants in this group had never heard of greenhouse gases and those that had often got them confused with something else.

Greenhouse gases are the glass house that causes climate change. (Village chief)

Causes of climate change perceived by all informants in this group included forestland encroachment for farming, deforestation, air pollution from industry, vehicle exhaust, waste, chemical fertilisers and pesticides.

Climate change is from deforestation, ozone depletion, transport and emission from industrial factories. (Village chief)

Concerns were aired about the impacts of climate change on health and agriculture, specifically the implications for the poor. A few informants recalled that some local people have responded to climate change by digging ponds and wells and planting more trees. The majority of them thought that few steps had been taken to address climate change because people do not know what responses are available to them.

People in my area have not done anything to cope with climate change yet as they do not know what they can do and because local authorities have not explained or informed them of such matters. (Village chief)

All informants claimed that local people have not received information on climate change or coping mechanisms as information dissemination has been quite limited. Another reason was because local people were neither fully aware of nor interested in climate change. The informants believed that the best way to reach local people would be by increasing the coverage and quality of dissemination through training, capacity building for local authorities and communities, and television and radio broadcasts.

I and people in my village have not received enough information about climate change because there is not enough training and dissemination. (Village chief)

People in my village can get information about climate change from TV and radio. But neither of them broadcast it regularly enough. People can also go to the village chief but he does not know about climate change either so he has no information to give them. (Deputy village chief)

#### **4.2.2.5 NGO representatives**

NGO representatives seemed to be relatively knowledgeable about climate change because they have been working on this issue. Most of them could explain climate change but global warming was still not understood well. Others understood related phenomena including ozone depletion and greenhouse gas concentration.

Climate change results from greenhouse gases changing the temperature, causing flood, drought and sea level rise. There are eight types of greenhouse gases from factory smoke, fossil fuel, agriculture, animal dung, and refrigerators. These greenhouse gases affect the ozone layer. (NGO representative)

Greenhouse gas is a generic scientific term. The gases are methane, carbon dioxide and water vapour and they accumulate in a layer of the atmosphere which regulates heat. (NGO representative)

The main causes perceived by this group included an increase in greenhouse gases specifically carbon dioxide and methane, forest fires and pollution from industrial factories and transport systems.

There are several causes of climate change. First is an increase in carbon dioxide that is emitted from industry, burning fossil fuel (oil and coal), transport sector and electricity consumption. Second is forest burning and deforestation. If there was as much forest as before, current emissions would not contribute to climate change. Third is an increase in methane emitted from improper waste management and agricultural waste (animal dung). (NGO representative)

The causes of climate change stem from both human and natural factors. Natural factors cause climate change too, but slowly compared to the human factor which is stronger (faster). Human activities are those of big industry, energy consumption, car emissions, forest logging, poisonous gases, and mineral extraction. (NGO representative)

In their view, impacts are mainly on water resources, agricultural crops, health and livelihoods and have implications for all people regardless of residency, sex or social status. Some informants shared their concern for the rural poor and women who are most vulnerable to climate change due to limited knowledge, access to information, assets and capacity.



The main impacts of climate change are those affecting water resources and leading to disasters and storms. Disasters include drought and flood, but flood is the greatest hazard for Cambodia. Farmers have not yet adapted to the change in rainfall patterns. Even though they get information from the meteorology department, the information is not yet specific or accurate enough and is not linked to climate change. People living in rural areas are most affected since their livelihoods depend on natural resources. Agriculture is the most badly affected sector because of flood, drought and pests. (NGO representative)

All informants acknowledged that Cambodia has barely contributed to global climate change because it is a developing agrarian country without any big industrial factories. At the same time, they said that Cambodia has contributed to climate change to a minor extent through emissions from old vehicles, natural resource depletion, forest clearance and logging.

In addition, all informants believed climate change to be the most pressing issue confronting Cambodia, along with poverty reduction and development. They were aware that poverty reduction, social and economic development, climate change and disaster risk reduction go hand-in-hand.

As NGO workers, they have been involved in projects and activities related to climate change adaptation and mitigation. Their projects focus on enhancing adaptive capacity, disseminating adaptation strategies, climate-smart and organic agriculture, water storage options, biogas, forestry management and local saving groups. Even so, they emphasised that NGOs' coverage and capacity for climate-related projects remain limited and highlighted three main barriers to NGOs' effectiveness. They are (i) insufficient knowledge of climate change, (ii) inability to distinguish between a disaster, an extreme event and a natural hazard, and assess possibilities for adaptation initiatives, and (iii) low adaptive capacity and dependence of people's livelihoods on climate-sensitive resources.

Informants stressed that gaining a better understanding of climate change and what it might mean for their health and livelihoods is the most important issue for all local people.

Villagers always think about finding enough to eat first before thinking about other things. So they are not yet in a position to think about climate change. (NGO representative)

All of the informants claimed that public access to good climate change information was still limited though government and NGOs were doing their best to expand dissemination. One major problem reported was the ineffectiveness of climate change mainstreaming and information dissemination in quality, coverage and intensity. Some informants said that national government and development partners supported mainly short-term measures. Others noted that national climate change adaptation efforts were neither diffused well enough at sub-national level nor site- and context-specific enough. In their view, the main barriers hindering the efforts of national government are insufficient climate change knowledge and limited financial and human resources.

The Royal Government of Cambodia has tried its best to disseminate and mainstream climate change but because the budget to implement these activities is limited, inclusive efforts cannot be expanded. (NGO representative)

Civil society organisations shared their experiences and lessons learned in mainstreaming and disseminating information on climate change, and suggested that:

- Plans and actions for sharing and disseminating information must be more systematic, not isolated as now.
- Stakeholders at the sub-national level should be engaged in adaptation planning and implementation and offered complementary capacity building activities.
- Local people should be provided with training materials, video clips and posters that use simple words and pictures, illustrated with real-world case studies and practical experience.

They asserted that to communicate effectively with people, four essential elements need to be in place: listen, observe, implement and support. Local people's engagement through these processes enables them to develop a much better understanding of the challenges ahead.

#### **4.2.2.6 Media**

Key informants from this group had heard about climate change, global warming and greenhouse gases. Still, they could not elaborate on these terms in a scientific and practical way. One informant suggested re-inventing climate change technical language, at least the term "greenhouse gases", in Khmer because it leads to confusion among many people.

All of them were concerned about the impacts of climate change. They believed that it affects everyone in the country, especially vulnerable groups including the poor, elderly, women, ethnic minorities and children. In their opinion, climate change is a most important issue that requires urgent attention because the impacts could be disastrous. They saw it as not only as a local or national issue but also a global one.

Climate change is a problem for Cambodia and the whole world because everyone is living on the Earth. So, if something changes, it will affect everyone to a greater or lesser extent. Hence, it is really a shared problem to resolve together. Climate change is very important, though its impacts are not immediately visible. Still, the impacts will gradually occur little by little from day to day and year to year in the long term. Then there will be a big change and living conditions will be harsh. (Media representative)

They also voiced concern over the limited coverage and quality of the dissemination of climate change knowledge and coping mechanisms, resulting in many people not knowing how to respond to climate change impacts. In particular, the response of rural poor people is limited by their lack of knowledge and awareness of available resources.

People living in rural areas face severe impacts from climate change such as insufficient rainfall and storms. And their knowledge of climate change adaptation is limited. They are still practicing their traditional way of life which is less adaptive to climate change. (Media representative)

When asked whether they had ever reported any stories related to climate change, all of the respondents said that they only covered extreme weather events as they happened or when seminars and workshops related to climate change took place.

Ours is a private media company, so we do not have any spare time to focus on climate change. But if we receive information about a seminar, workshop or 'hot spot' analysis of climate change supported by the Ministry of Environment, we will cover them. But such stories are rare. We just cover reports of floods and storms and include comments and advice in the text only. (Media representative)

They asserted that if funds were made available, they would definitely produce and broadcast stories on climate change more often. They also suggested that the best ways to inform people about climate change and coping strategies are through radio, outreach and educational drama, especially in areas where television coverage is not accessible; and role models such as the prime minister, politicians, NGO representatives, singers and film stars accompanied or supported by climate change experts and scientists.

#### **4.2.2.7 Others**

This group comprised representatives from education, tourism, industry, the arts and the private sector. Their explanations of what climate change meant to them centred on impacts. They all linked climate change with their own observations of changes in the last few years, but could not link climate change to either global phenomena or scientific explanations/studies. The most common explanations given were changes in weather and rainfall patterns. They could not clarify the concepts of global warming and greenhouse gases.

I used to hear the word climate change. It is, for example, hotter than before and not as cold as now. And this is climate change, I think ... And global warming is caused by climate change but I have never heard of greenhouse gases. (Celebrity)

I heard about climate change a long time ago in 2000 through reading many articles from various sources. Climate change is affecting the weather, and the rains and cool weather are quite different from before. Before, in December it was very cold and there was no rain. But this month I experienced the cool season lasted only one or two days. This is different from normal. (Tourism representative)

Only one informant in this group had attended training on climate change and was therefore relatively well informed about climate-related issues and greenhouse gases.

I got to know climate change terms during 2012-13 when UNDP involved me in conducting a vulnerability rapid assessment when my community was facing drought. Climate change is the change in weather, rainfall, season, temperature, lightning and storms. And things have changed very much in the last two years. There was a severe drought in 2014. June, when the rains normally arrive, is the month when people can sow rice. But this was not the case in 2014, delaying planting of the main crop. I did not understand greenhouse gases at first and thought that it referred to glasses. But after attending training with Khmer Youth and Social Development Organisation (KYSD), I now know that these gases refer to gases from car emissions, agriculture and plastic bags. (Ecotourism representative)

Causes perceived by this group included local and global industries, air pollution from transport, deforestation, natural resource depletion, energy consumption, agriculture and mineral extraction. Only one informant linked the causes of climate change to global phenomena.

There are two causes of climate change. One is local deforestation. During the Sihanouk period (1950s-1970s), there were a lot of forests and no climate change. Another one is from industrialised countries especially the United States and China. These two emit gases to the atmosphere. (Ecotourism representative)

Many big countries around the world create a lot of [climate change] problems because they are much more developed with big industries and consume too much energy. (Industry representative)

Overall, informants' perceptions of climate change impacts were similar to those in the agriculture, health and tourism informant groups. However, answers to the question about which population group in Cambodia is the most affected by climate change were varied. Some thought that all people are affected, others referred to urban or rural residents and yet others said it depended on people's livelihoods and living conditions.

Climate change affects everyone in Cambodia and also around the globe because it is a global issue, not just an individual country's issue. So, everyone is responsible and all people are affected to a greater or lesser extent. (Education representative)

Most of the informants thought Cambodia contributed very little to global climate change, as did informants from other groups, and acknowledged that Cambodia is one of the most vulnerable countries to climate change.

Cambodia is a small country and everything that we do is very small. We do not even have big industry so we contribute less to the cause of global climate change. The big countries contribute a lot to climate change. Cambodia is small so what we do has a small impact but we are a victim, suffering bad impacts as result of the activities of big countries. (Business person)

Informants from industry and private businesses said they had joined Clean Development Mechanism (CDM), a project implemented by the Ministry of Environment to promote more efficient and clean energy consumption. Others said that climate change information should be shared through television, radio, school curricula, local meetings and seminars, and youth groups. An informant from the education sector claimed that formal seminars and training alone were not enough, and that people could learn through simple actions and attitude shifts.

The government has been working a lot on climate change. To my mind, not only big and formal seminars about climate change but also simple and small actions should be included. For example, in my university now, I encourage students to ride bicycles rather than drive cars or use motorbikes. To promote this, my university provides free parking for bicycles. I want to motivate students to use bicycles more often and to know why we must keep the environment clean, not only in this university but also in the whole country. (Education representative)

In summary, information gathered from informants across the various groups shows that most of them were relatively knowledgeable about climate change. The more they have been involved in climate change-related projects and activities, the more they have learned about it. However, many of them had not yet grasped a broader understanding of the full climate change picture—cause (greenhouse gas emissions, global warming), consequences (sea level rise, flood, drought, erosion, disease), impacts on key sectors, adaptation mechanisms and practices. Most of the informants understood climate change from their personal observations and experiences of climate variability and disasters. Some technical terms such as global warming, greenhouse gases and ozone depletion were very difficult for local people and those not working on climate change to understand.

Climate change dissemination, mainstreaming and integration at all levels are constrained by many barriers, most notably knowledge gaps, limited commitment and lack of human, technical and financial resources. However, there are opportunities for improvements in these areas including government commitment, making climate change a top priority, and wider access to information by all key stakeholders, as discussed in Section 4.

## 5. Conclusion and recommendations

The results demonstrate a need for more systematic and strategic efforts to improve knowledge, attitudes and practices for coping with climate variability, climate change and disaster risks, all of which are expected to intensify. Even so, the follow up study identified some positive changes. The term “climate change” has become more familiar among the public, though “global warming”, “greenhouse gas” and “ozone depletion” are still not well understood due to their technical complexity and problematic translation into Khmer and local minority languages.

Perceived causes and effects of climate change were nearly identical in both KAP surveys. Again, respondents noted only simple causes and impacts. Yet the findings indicate that 90 percent of respondents have a “medium” to “high” level of climate change comprehension. More people in KAP2 than in KAP1 were aware of the causes of climate change. Local deforestation was the most frequently identified cause in both surveys. Industrial pollution was emphasised more in KAP2 than in KAP1, suggesting that knowledge has improved.

Majority of respondents in KAP1 and KAP2 considered their own and family members’ health to be the most critical issue. Overall, health, education and deforestation were ranked as the three most important issues. At the same time, the findings show that people have experienced increasingly variable weather and growing incidence and intensity of extreme weather and climate events. This suggests that awareness raising and communication need to focus on the causal links between climate change and health, well-being and livelihoods.

The findings demonstrate the vital role of disaster risk reduction in climate change adaptation and the need to promote awareness and understanding of the synergies between the two. Importantly, to build local capacity for addressing both climate change and disaster risk, it is necessary to provide sufficient and clear information on the cause and consequences of climate change and its impacts on human health, lives and livelihoods.

Attitudes towards climate change have changed. A greater number of respondents were aware that their daily activities can contribute to climate change. The activities they referred to were strongly linked to only agricultural production and firewood collection.

Again, depending on the level and scope of understanding about cause, consequences and impacts, some key informants said Cambodia did not contribute to global climate change while others thought that it did through local deforestation. Cambodia, with the smallest share of greenhouse gas emissions, has contributed the least to climate change. Yet Cambodia is among the most vulnerable countries due to its high dependence on agriculture and other climate-sensitive sectors and its low adaptive capacity. Further, changes in land use and forest cover compound Cambodia’s current sensitivity and vulnerability to other stresses.

People still look to the prime minister, government and NGOs to respond to climate change, and sub-national and local authorities remain the most trusted sources of information on climate change. However, from the key informant interviews, people seem to be pre-occupied with other urgent priorities: 50 percent of informants at sub-national and local levels thought that climate change was a second priority after education, health and water infrastructure. The prevailing perception was that only the prime minister, government and NGOs can address the challenge of climate change. Apart from reflecting over-reliance on top leaders, such beliefs can restrict creativity, initiative and self-help.

More people in KAP2 than in KAP1 have been responding to climate change. This shows that people are capable of change. Respondents and informants were still not quite sure what they could do to adapt to climate change in an informed and cost-effective manner. Television, radio and word-of-mouth still play critical roles in communicating information about climate change to all people regardless of socio-demographic background. But press and media only cover climate-related information when natural disasters or extreme weather events strike or when associated meetings and workshops take place, and then only if funds are made available for them to do so.



Still, there is growing potential to bridge this gap using social media and network sites such as Facebook, internet applications and mobile devices that are increasingly being used for sharing information and lessons learned.

The study also confirms the important role of women, social networks and local opinion-makers such as community elders, clergy and religious leaders in information sharing and awareness raising.

Rural communities, poor people, women, children, ethnic minorities, older people and people with disabilities were identified as being most vulnerable to climate change and climate variability because of their limited alternative livelihood options, social roles and norms, sensitivity to climate changes and low adaptive capacity. But not all informants were able to elaborate on why women and other marginalised groups are more vulnerable.

The main barriers to climate change mainstreaming are related to lack of financial, technical and human resources and limited local institutional capacity. However, this study identified three important opportunities to enhance mainstreaming and integration of climate change issues into all levels of communication. These are government commitment, making climate change a top priority, and widening public access to good quality information.

High-level political commitment is in place. Policy responses to climate change since KAP1 include the development of CCCSP, 9 sectoral CCSPs and 15 CCAPs. The development of these CCSPs includes action plans for climate change adaptation and mitigation interventions. Even so, more concerted efforts and supports are needed to translate political commitment into meaningful action. A crucial starting point for developing better understanding, awareness and high level of “knowing” is to ensure that knowledge and best practice are applied to produce results through changing attitudes, organisational behaviour, technological processes and practices.

The next step towards enhancing knowledge about climate change causes, consequences, impacts, vulnerability and adaptation is to improve community leaders’ and influencers’ competencies (comprehension) and decision-making and problem-solving abilities (application), and climate change experts’ and finance professionals’ monitoring and evaluation of progress and performance.

## Recommendations

Still very useful for government, NGOs and development partners working on climate change in Cambodia are recommendations from KAP1, as follows.

- Design and develop separate climate change communication materials for different groups of people.
- Produce a simple message about climate change as a long-term phenomenon requiring diverse, flexible responses.
- Explore climate change, its effects and responses within a medium-term timeframe and develop milestones to track emerging effects and responses.
- Help people respond to key areas of concern including disasters, livelihoods, health, water and agriculture by applying and developing new technologies through information and communication.
- Increase the reach of information about extreme weather and natural disasters and develop a national broadcast alert system recognised by the public.

Following are recommendations derived from KAP2.

1. Continue this KAP study as a significant communication tool for monitoring climate change adaptation.

- Address key limitations to directly monitoring progress and performance by using benchmarking. This requires a better way to compile and store raw data. Data records should allow statistical testing for significance so that future studies can track detailed changes in public concern and knowledge about climate change, observed and expected effects, local innovation and local knowledge, lessons learned and best practices.
  - Allow sufficient budget and time to ensure that a nationally representative sample is selected, design and implement surveys properly, and train enumerators to conduct open-ended (semi-structured) interviews.
2. Familiarise the public and institutions with the basics of climate change causes and impacts to improve understanding and communication and popularise practical adaptation measures.
- Make consistent efforts to improve understanding about climate change and climate variability as interrelationships between cause, effects/consequences, impacts and adaptation/mitigation practices, and the links to development and poverty reduction efforts.
  - Apply both scientific and local knowledge in medium and longer-term planning to synergise climate change adaptation and disaster risk reduction efforts.
  - Design awareness raising and discourses about climate change with a focus on the links between impacts and health, livelihoods and well-being.
3. Follow-up steps for improving knowledge, attitudes and practices:
- Promote systematic activities for raising awareness and building/instilling confidence among vulnerable groups in their ability to adapt to climate change collectively or through well-organised/mutual help.
  - Identify the areas and population groups that need the most help in improving knowledge, attitudes and practices to shape informed decision making for building resilience and adaptive capacity.
  - Demonstrate impacts and costs of climate change on health and livelihoods through compiling case studies to share practical experiences of the links between storms, flooding, drought, heat, air pollutants, food shortage, population displacement, malnutrition, respiratory diseases, outbreaks of infectious diseases and so on.
  - Disseminate and provide access to good quality information about the causes and impacts of climate change and adaptation options for the threats it poses to help close the gap between climate adaptation plans and poverty reduction strategies.
  - Empower sub-national authorities and institutions to lead the development of strategic directions and guidelines for climate change adaptation and disaster risk reduction. Specific actions could include:
    - Improving the scientific knowledge of highly educated people, perhaps through training, workshops, regular television and radio broadcasts and social networking sites such as Facebook, and publishing high quality reading materials in Khmer.
    - Linking commonly experienced weather with simple climate change science for rural or poorly educated people by producing information materials written in plain language and illustrated with case studies and photographs.
    - De-coding climate change language so that non-specialists and poorly educated audiences can understand that climate change affects them.
    - Providing climate information especially on adaptation practices to commune centres so that these can become information centres for local people.
    - Supporting collaboration among institutions so that they work together to achieve effective and inclusive dissemination of climate change information.

- Promoting the inclusion of information on climate change adaptation in the national education system.
- Producing news stories and publications on climate change in Khmer and circulating them to institutions concerned.
- Diffusing good practices to cope with various aspects of climate change and variability, specifically in urban areas and to the poor and marginalised.
- Expanding climate change adaptation practices to sectors other than agriculture and water as people outside those sectors have little to no idea of how to respond to climate change.
- Extending financial, technical and institutional supports to help local people respond to climate change.
- Designing low-cost adaptation practices that poor people can afford to adopt and diffusing those practices in rural areas where other supports are not available.
- Securing alternative sources of funding to support climate change mainstreaming.
- Designing low/zero cost climate change mainstreaming and integration activities.

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## Annex 1: Survey sampling frame

Table A1: Quantitative sampling

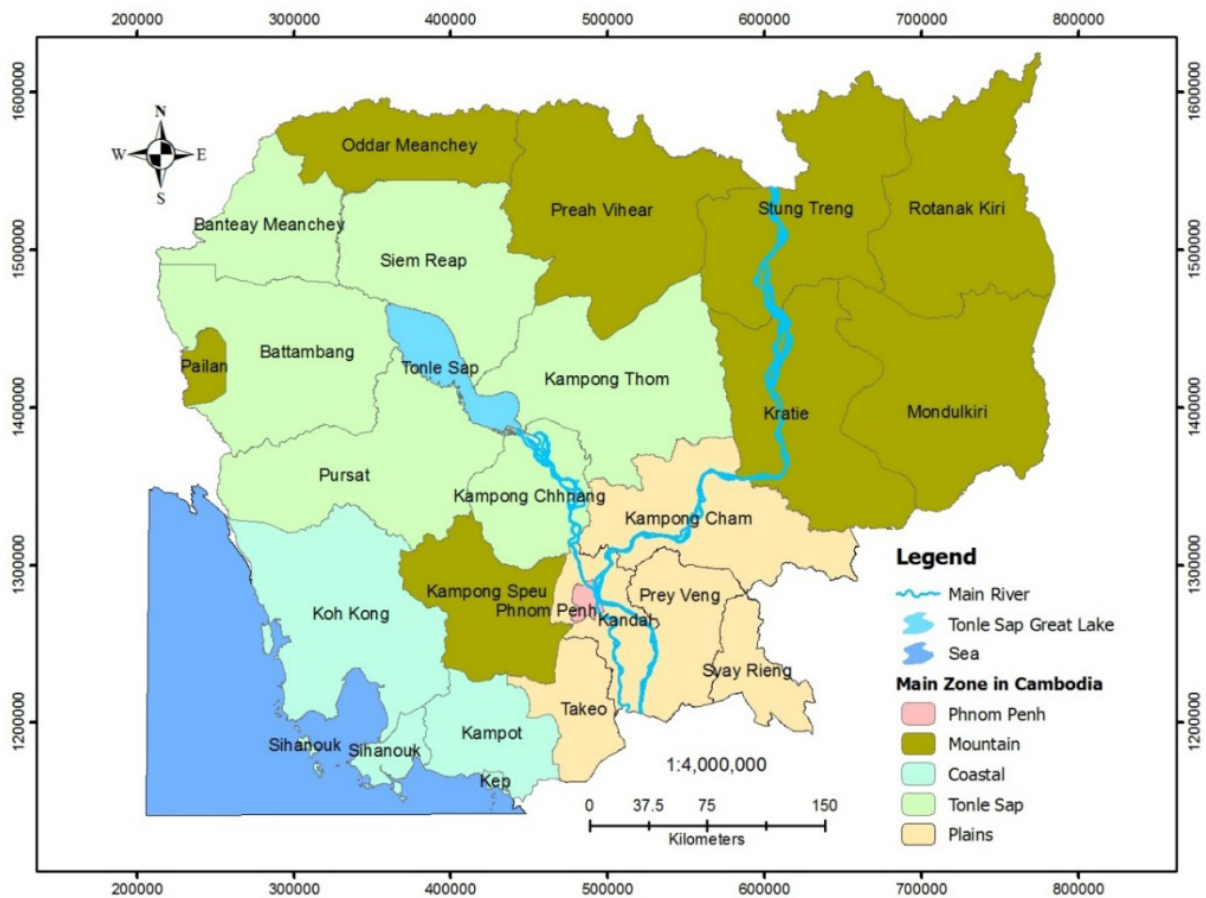
<i>Province</i>	<i>Urban</i>	<i>Rural</i>	<i>Total</i>	<i>Number of villages</i>
Banteay Meanchey	10	20	30	3
Battambang	20	40	60	6
Kampot	10	30	40	4
Kandal	20	40	60	6
Kep	10	20	30	3
Koh Kong	10	20	30	3
Kampong Cham	20	30	50	5
Kampong Chhnang	10	30	40	4
Kampong Speu	10	30	40	4
Kampong Thom	10	30	40	4
Kratie	10	30	40	4
Mondolkiri	10	20	30	3
Oddar Meanchey	10	20	30	3
Pailin	10	20	30	3
Phnom Penh	20	60	80	8
Preah Sihanouk	10	20	30	3
Preah Vihear	10	20	30	3
Prey Veng	10	30	40	4
Pursat	10	30	40	4
Ratanakkiri	10	20	30	3
Siem Reap	20	20	40	4
Stung Treng	10	20	30	3
Svay Rieng	10	30	40	4
Takeo	10	30	40	4
Tboung Khmum	20	30	50	5
Total	330	670	1000	100



Figure A1: Location of sample villages



Figure A2: Main agro-ecological regions and provinces



## Annex 2: Survey questionnaires

### 2.1 Instructions for using Kish Grid

1. Find out how many people living in the household are eligible to be interviewed. Include people who sleep there, but are not there when you visit. Ignore children aged under 15 and adults aged over 55.
2. The youngest (excluding children under 15) is number 1, the second youngest is number 2, and so on.
3. The first household where you do an interview is household 1, the second is household 2, and so on, up to household 8 (the last in the cluster).
4. Look up the column for the household number and the row for the number of eligible people. The number in the cell where the column and row meet is the person to interview.
5. For example, if household 2 has 3 adults, interview the 2nd youngest (shown in bold type). If that person is not there when you call, arrange to come back later before noon.

HH members aged 15-55 years	Household							
	1-(9)	2-(10)	3-(11)	4	5	6	7	8
1	1	1	1	1	1	1	1	1
2	1	2	1	2	1	2	1	2
3	1	2	3	1	2	3	1	2
4	1	2	3	4	1	2	3	4
5	1	2	3	4	5	6	7	5
6	1	2	3	4	5	6	7	6
7	1	2	3	4	5	6	7	4
8	1	2	3	4	5	6	7	8
9	1	2	3	4	5	6	7	8
10	1	2	3	4	5	6	7	8

Is Mr/Ms [name] here now?

1. If yes, get consent and start interview or make an appointment for interview
2. Will he/she be back later so that I can see him/her then?

### 2.2 Questionnaire A: Climate Change in Cambodia

<p>Section A: Information about questionnaire and selecting family member</p> <p>Geography</p> <p>A1 Province/city: ..... code.....</p> <p>A2 District/sangkat:..... .code.....</p> <p>A3 Commune/khan: .....code.....</p> <p>A4 Village/phum: ..... code.....</p> <p>A5 Family ID in village:.....</p> <p>A6 Questionnaire ID:.....  .....  .....  .....  .....  .....  .....  .....  .....  .....</p> <p>A7Location: 1. Urban 2. Rural</p>
--

Notes on survey

A8 Interviewer's name: .....
A9 Team leader's name:.....
A10 Date of interview (dd/mm/yyyy) .....
A10.1 Start time of interview:...../.....A10.2 End time of interview:
A11 Duration of interview .....mn
A12 Monitor's name.....
A13 Date of monitoring (dd/mm/yyyy): .....
A14 Result of monitoring.....Remarks:.....

Notes on data entry

A15	Data entry:	1. First entry	2. Second entry
A16	Name of data entry operator: .....	Code.....	
A17	Date of data Entry:.....		

**Introduction**

Hello, my name is ..... I work for the Cambodia Development Resource Institute (CDRI). We are conducting research on climate change in Cambodia All of your answers will be totally confidential. If you feel uncomfortable, you may skip or not answer any question or end the interview at any time. Your participation is valuable. Your opinion will help us to prepare public media and information programmes.

A.18: How many people are there in the household aged from 15 to 55 years? (a)..... person(s)  
*(if none, write 0 and finish interview and leave for another household)*

I know there may be some members of your family working or studying outside of home.

The term household refers to members who have been staying with you for 15 years or more

A 19: How many people in the household are less than 15 years old? (b). ....person(s)

A 20: How many of the children aged between 7 and 15 attend school? [PPI]

	Score
No children aged 7 to 15	4
All	4
None, not all	0

A 21: How many people in the household are more than 55 years old? (c).....person(s)

A 22: Calculate and then confirm: So there are a total of [X] people in this household? (a+b+c)..... person(s)

Could you tell me the first names, gender and age of each member?

A23	A24 Name	A25 Sex 1 = male 2 = female	A26 Age (less than 1 year=0)	A27 Relationship (write a code)
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				

12				
13				
14				
15				

Code for relationship to head of household	
1 Head of household	8 Brother/sister
2 Wife/husband	9 Brother/sister-in law
3 Son/daughter	10 Adopted/foster/stepchild
4 Son/daughter in law	11 Nephew/niece
5 Grandchild	12 Uncle/aunt
6 Parent	13 Not related
7 Parent- in-law	14 Don't know

Household No..... Questionnaire No.....

2.3 Questionnaire B: Climate Change in Cambodia

Ask for permission to interview

Hello, my name is ..... I work for the Cambodia Development Resource Institute (CDRI). We are collecting data about climate change and understanding of mass media such as radio, television, and others. Your village, house and person were selected randomly for interview. I would be grateful for your collaboration and sparing around 45 minutes of your time in conducting an interview to get your views about climate change in Cambodia All of your answers will be confidential. If you feel uncomfortable, you may skip or not answer any question or end the interview at any time. Your participation is valuable. Your opinion will help us to prepare public media and information programmes.

B1. Do you need any clarification?

- 1. Yes
- 2. No

Interviewer: In this case please reply respondent's question or pass this question to team leader if you are able to answer and quit the interview.

B2. Do you understand the purpose of the interview?

- 1. Yes
- 2. No (finish interviewing)

B3. Do you agree of being interviewed?

- 1. Yes
- 2. No (finish interviewing)

B4. Name of respondent:..... B4.1 Code:.....

First of all may I have your name?

1 Geographical information

- 1.1 Could you please tell me your age?.....years (write number)
- 1.2 Sex of respondent: Male: 1 Female: 2
- 1.3 What ethnic group are you from?

Khmer	1
Cham	2
Vietnamese	3
Laotian	4
Chinese	5
Khmer Lao	6
Thai	7
Other.....	8

1.4 What is your current marital status? (Only one answer)

Single – never married	1
Married/living with someone as married	2
Widowed	3
Divorced/separated	4

1.5 What is the highest level of education you completed?

Doctorate	15	skip to Q1.8
MA	14	skip to Q1.8
Bachelor/associate degree	13	skip to Q1.8
School grade .....		skip to Q1.8
No school education	0	cont to Q1.6
Others (specify):.....		skip to Q1.8

1.6 Have you received any education outside of school?

If yes, ask respondent where they received education

Yes	1	continue
No	2	skip to Q1.8

1.7 What did you study? .....

1.8 Have you ever attended classes, workshops or conferences with an NGO?

Yes (less than 3 years)	1	
Yes (more than 3 years)	2	skip to Q1.11a
No	3	skip to Q1.11a

1.9 What were the names of the NGO(s) you worked with over the last three years? (Name up to three)

1..... 2..... 3.....

1.10 What were the subjects of the NGO sessions you attended in the last three years? (Name up to three)

1..... 2..... 3.....

1.11a What is your occupation, that is, what work do you mainly do?

(Only one answer; use a code) ...

1.11b What is your second occupation? (Only one answer; use a code).....

Occupation	code
Rice farmer	1
Agricultural labourer	2
Market seller	3
Other farmer (specify).....	4
Coastal fisher	5



Freshwater fisher	6
Forestry worker (logging)	7
Job reliant on forest products (non-timber related)	8
Business person - small business	9
Business person - medium business	10
Business person - large business	11
Tourism (specify).....	12
Sales and services	13
Mechanic	14
Factory worker	15
Weaver	16
Maid, servant	17
Housework/housewife	18
Teacher	19
Government official	20
University student	21
Non-university student	22
Professional, technician, manager	23
Other, specify.....	24

1.12 I would like to ask you a question about your annual income. Can you tell me how much your annual income is in riel? (If the respondent is unsure, suggest they estimate their income and/or confirm it with the household head) ..... Thank you. Now I would like to ask you a few questions about household items.

1.13 How many motorcycles does the household own?

None	0
≥1	13

1.14 How many bicycles does the household own?

	score
None	0
1	4
2	7
3+	11

1.15 Does the household own a bed set?

	score
Yes	4
No	0

1.16 Does the household own a wardrobe or cabinet?

	score
Yes	8
No	0

1.17 Does the household own a water pump? (Private)

	score
Yes	5
No	0

1.18 Does the household own a television?

	score
Yes	6
No	0

1.19 Do you have a land title?

	score
Yes	5
No	0

1.20 What type of fuel does the household mainly use for cooking?

	score
Firewood or other	0
Charcoal, firewood and charcoal, liquefied petroleum gas, kerosene, publicly-provided electricity, gas and electricity, privately-generated electricity, or none/does not cook	8

1.21 What toilet facility does the household have?

	score
Open land	0
None	4
Pit latrine, septic tank, other without septic tank, public toilet, shared toilet, or other	6
Connected to sewerage	13

## 2. Source of information

2.1 I would like to ask a question about where you get information in general (read each answer; multiple answers)

Spouse	1
Child	2
Parent	3
Other family member	4
Friend/neighbour	5
Newspaper	6
Magazine	7
TV	8
Radio	9
Internet	10
Concert	11
Workshop/conference	12
School	13
Scientists	14
Religious leader	15
Village chief	16
Commune chief	17
Government officials	18
Community information meetings	19

INGOs/NGOs	20
Technical or scientific publications	21
Others (specify) .....	22

2.2 Please tell me three sources of information you most trust and list them from 1 to 3 where 1 is the most trusted

1.....2.....3.....

2.3 I am about to read through a list. Please tell me, for each item on the list, whether for Cambodia it should be a high priority, a priority, or not a priority at all.

Randomise items on list. Ask whether priority or not, then whether high priority or not.

		Not a priority	Priority	High priority	Don't want to answer	Don't know
1	Health	1	2	3	8	9
2	Education	1	2	3	8	9
3	Corruption	1	2	3	8	9
4	Climate change	1	2	3	8	9
5	Global warming	1	2	3	8	9
6	Development	1	2	3	8	9
7	Drought	1	2	3	8	9
8	Flooding	1	2	3	8	9
9	Economic crisis	1	2	3	8	9
10	Housing	1	2	3	8	9
11	Land dispute	1	2	3	8	9
12	Domestic violence	1	2	3	8	9
13	HIV and AIDS	1	2	3	8	9
14	Robbery	1	2	3	8	9
15	Traffic accidents	1	2	3	8	9
16	Drug problems	1	2	3	8	9
17	Deforestation	1	2	3	8	9
18	Illegal fishing	1	2	3	8	9
19	Illegal migration	1	2	3	8	9
20	Illegal logging	1	2	3	8	9
21	Unemployment	1	2	3	8	9
22	Gangsters	1	2	3	8	9
23	Rights of women	1	2	3	8	9
24	Rights of children	1	2	3	8	9

2.4 Remind respondents of the priorities they mentioned and allow them to pick three and rank them from 1-3, where 1 is the most important priority.

1.....  
 2.....  
 3.....

### 3 Cause and effects of climate change

I would like to begin by asking you about some terms you may have heard. For each term, please tell me whether or not you have heard the term. (Single response for each term)

		Yes	No	Don't know/not sure
3.1.1	Climate change	1	0	9
3.1.2	Global warming	1	0	9

Note: If 3.1.1 = 1 and 3.1.2 = 1

continue to Q3.2

If 3.1.1 = 2 and 3.1.2 ≠ 1 or if 3.1.1 ≠ 1 and 3.1.2 = 1

continue to Q3.3

If 3.1.1 ≠ 1 and 3.1.2 ≠ 1

continue to Q3.10

3.2 If respondent recognises both terms, ask: Which term are you more familiar with? Record response

Climate change	1
Global warming	2

3.3. Would you please tell me where you heard the term? Please ask respondent to say where they heard the term. After each response, probe on the media part only.

3.4 For the term (climate change and/or global warming), please could you tell me as much about it as you can?

Spouse	1
Child	2
Parent	3
Other family member	4
Friend	5
Neighbour	6
Colleague	7
Newspaper	8
Magazine	9
TV	10
Radio	11
Concert	12
Workshop/conference	13
School	14
Religious leader	15
Village chief	16
Commune leader	17
Don't know, not sure	18
Other (specify).....	19

3.4.1 Open answer

3.4.2 Prompt for causes: Climate change and/or global warming?

Open answer

3.4.3 Prompt for effects: Would you like to say anything more about the effects here? Open answer

--

3.5 Do you think climate change or global warming affects Cambodia now?

Yes	1	skip to 3.7
No	0	continue to ask 3.6
Don't know/not sure	9	continue to ask 3.6

3.6 Do you think climate change or global warming will affect Cambodia in the future?

Yes	1	continue to ask
No	0	continue to Q3.8
Don't know/not sure	9	continue to Q3.8

3.7 What in your opinion are (climate change or global warming “What will be...”) the effects of climate change here in Cambodia? (Unprompted)

Rising sea level	1	
Increasing natural disasters	2	
Increasing temperature	3	
Irregular rainfall	4	
Decreasing agricultural products	5	
Melting ice	6	
Coastal erosion	7	
Drought	8	
Health	9	skip to Q3.9
Lack of fish stocks	10	
Loss of forest	11	
Poverty	12	
Less money	13	
Water shortages	14	
Flooding	15	
Harder to farm	16	
Harder to travel	17	
Damage housing	18	
Damage wildlife	19	
Have to move to another area	20	
Other (specify) .....	21	

3.8 (if 3.2 different from 9) Does climate change affect human health?

Yes	1	continue to ask
No	0	skip to Q3.10
Don't know/not sure	9	skip to Q3.10



3.9 What effects does climate change have on health?

High fever	1
Coma	2
Cold	3
Diarrhea	4
Malaria	5
Dengue	6
Skill allergy	7
Other (specify) .....	8

3.10 Now I would like to ask some questions about your life in Cambodia. Thinking about the past year, please tell me whether you have experienced one or more of the following...  
(Read list and record multiple answers)

Drought	1	Wildfire	7
Storm, cyclone, tornado	2	Landslide	8
Coastal storm surge	3	Very cold temperatures	9
Flood	4	Pest on agricultural production	10
Very heavy rain	5	No such event experienced in past year (skip to 3.18)	11
Very high temperatures	6	Other extreme weather (specify)...	12

3.11 If respondent mentions more than one event, ask: Which of these events had the most serious impact on your life? Code one response only .....

3.12 Did you receive any information about the event you mentioned?

Yes	1	continue to ask
No	0	skip to 3.17
Don't know/not sure	9	skip to 3.17

3.13 Where did you get this information from? (Unprompted. Respondents can say as much or as little as they wish. All "other" codes must be specified. After each response, probe into media sources only)

Spouse	1	TV	9
Child	2	Radio	10
Parent	3	Concert	11
Other family member	4	Workshop/conference	12
Friend	5	School	13
Neighbour	6	Religious leader	14
Newspaper	7	Village chief	15
Magazine	8	Commune chief	16
		Weather forecast (skip to 3.15)	17
		Other (specify).....	18
		Don't know, not sure	99

3.14 Could you tell me how many days (before/after) the event you received this information?

		3.14.1 code.....	3.14.2 code.....	3.14.3 code.....
		From code of 3.10		
		3.14.1a	3.14.2a	3.14.3a
	More than a week	1	1	1
Before	One week or less	2	2	2
	One day	3	3	3
	Less than one day	4	4	4
During	During the event	5	5	5
	More than a week	6	6	6
	One week or less	7	7	7
After	One day	8	8	8
	Less than one day	9	9	9
	Don't know/not sure	99	99	99

3.15 What information or knowledge would have helped you prepare for such an event?

Natural disaster warning	1
Method to prevent natural disasters	2
Agricultural production techniques	3
Other (specify) .....	4

3.16 How would this information have helped you to prepare for such an event?

Prepare materials	1
Move to safe place	2
Construct irrigation system	3
Stock pile food	4
Help each other to prepare for the event	5
Store water	6
Plant more trees	7
Other (specify) .....	9

3.17 Have you ever received a weather forecast? 1. Yes 2. No 3. Don't know/not sure

3.18 Think about your entire life, have you ever experienced....? (Read through the list and ask respondents whether they trust, false, don't want to answer and don't know)

3.19 When did you start observing these changes? (1= this year, 2= last year, 3= more than three years ago, 4=more than five years ago, 5= more than five years ago, 6= more than ten years ago, 7 not remember)

		3.18				3.19
		True	False	Don't want to answer	Don't know	
1	Temperature increased/got hotter	1	0	8	9	
2	Temperature decreased/got colder	1	0	8	9	
3	Drought more frequent	1	0	8	9	
4	Drought more extreme	1	0	8	9	
5	Drought more intense	1	0	8	9	
6	Flooding more frequent	1	0	8	9	
7	Flooding more extreme	1	0	8	9	
8	Flooding more intense	1	0	8	9	
9	Less rain	1	0	8	9	
10	More rain	1	0	8	9	

11	Less intense rain	1	0	8	9	
12	More intense rain	1	0	8	9	
13	Rains less predictable	1	0	8	9	
14	Seasons start and finish at a different time than they used to	1	0	8	9	
15	Seasons less predictable	1	0	8	9	
16	More windstorms	1	0	8	9	
17	Seawater intrusion worse	1	0	8	9	
18	Tides higher than they used to be	1	0	8	9	
19	Coastal erosion worse	1	0	8	9	

3.20 Have you ever discussed these changes in the weather with people you know? (Single response)

Yes	1	Continue
No	0	skip to Q3.24
Don't know, not sure	9	skip to Q3.24

3.21 Who have you discussed these changes with? (Only one answer)

Spouse	1	Student	9
Child	2	Colleague	10
Parent	3	People at market	11
Other family member	4	Religious leader	12
Friend	5	Village chief	13
Neighbour	6	Other named public figure (please specify name and title .....)	14
Workshop/conference participants	7	Don't know/not sure	15
Teacher	8	Other (specify).....	16

3.22 Do you know of any words or expressions to describe the changes in the weather you have discussed?

Yes	1	continue
No	2	skip to Q3.24
Don't know, not sure	3	skip to Q3.24

3.23 What are/is this/these words or expressions? (Unprompted. up to three answers)

1..... 2..... 3.....

3.24 What are the consequences of changes in weather for you and your family? (More than one answer)

Nothing is difficult	1
Many diseases	2
Lower crop yields	3
Difficult to travel	4
Difficult to work	5
Heavy rain	7
More expense (electricity, water)	8

3.25 What can people do in response to climate variability?

3.26 What have you or someone in your family done in response to the climate variability? What did you or they do?

3.26.1 Please complete the table below by describing the solutions your family has found in response to climate change.

3.26.1a Solution (use code)	3.26.1b Where did you learn this solution? 1. Local knowledge 2. Knowledge outside village 3. Own experience	3.26.1c Is this solution different from those adopted in 2011? 1. Yes 2. No	3.26.1d If different, why?

3.27 What have people in your community done in response to the climate variability? What are they doing?

Solutions	3.25	3.26	3.27
No		0	0
Rehabilitating water storage structures	1	1	1
Irrigation canals	2	2	2
Building dykes	3	3	3
Water control structures	4	4	4
Strengthening dwelling against windstorms	5	5	5
Get air conditioning/ fan	6	6	6
Use less energy	7	7	7
Nothing	8	8	8
Move to another area	9	9	9
Fish farming	10	10	10
Prepare boats	11	11	11
Changing/diversifying crops	12	12	12
Paying more attention to weather forecasts	13	13	13
Planting as usual	14	14	14
Arranging religious ceremonies	15	15	15
Praying	16	16	16
Keeping communities clean	17	17	17
Talking to friends and neighbours	18	18	18
Building elevated enclosures for livestock	19	19	19
Increasing household's food stock	20	20	20
Increasing feedstock for animals	21	21	21
Moving to a safer place	22	22	22
Reducing water consumption	23	23	23
Planting more vegetation	24	24	24
Other (specify) .....	25	25	25
Don't know/not sure	99		

3.28 Have you noticed any differences in the ways men and women respond to climate change?

Yes	1	Continue
No	0	skip to Q3.30
Don't know/not sure	9	skip to Q3.30

3.29 What are the differences? (open answer)

3.30 Now I would like you to tell me how strongly you agree or disagree with the following statements.

The possible answers are: 1=strongly disagree, 2=disagree,3=neutral-neither agree nor disagree, 4=agree,5=strongly agree, 8=don't want to answer, and 9=don't know

To make it easier, I will ask you first if you agree or disagree then ask you to what extent you agree or disagree: strongly, or slightly. Please remember there are no wrong or right answers.

		strongly disagree	disagree	neutral	agree	strongly agree	Don't want to answer	Don't know
1	I am able to respond to the climate variability	1	2	3	4	5	8	9
2	I can find the information I need to respond to the climate variability	1	2	3	4	5	8	9
3	My community can respond to the climate variability	1	2	3	4	5	8	9
4	My community is able to respond to drought	1	2	3	4	5	8	9
5	My community is able to respond to floods	1	2	3	4	5	8	9
6	My community has the resources** we need to respond to the climate variability	1	2	3	4	5	8	9
7	The climate variability brings benefits to me and my family	1	2	3	4	5	8	9

\*\*Here, 'resources' means money, people and physical resources

3.31 What three things would be most useful to you and your family as you respond to the climate variability? Please record the order in which these are mentioned. We will add more categories using answers from the pilot test

Money	1
Support from government	2
Support from an NGO	3
Tools	4
Building materials	5

More time	6
More people to help	7
Knowledge	8
Education	9
Information	10
Other (specify).....	11

3.31.1 What do you think causes the weather patterns to change in Cambodia? List three main causes where 1 is the most crucial

1..... 2..... 3.....

3.32 Thank you. I am now going to read from a list of things that might cause weather patterns in Cambodia to change. (Read twice before asking) (1= yes, 0= no, 9= don't know/not sure)

1	God	1	11	Burning wood	11
2	Nature	2	12	Driving cars and other vehicles	12
3	Hole in the ozone layer	3	13	Forest fires	13
4	Too much building	4	14	Livestock	14
5	Using fossil fuels	5	15	Greenhouse gas emissions	15
6	Deforestation/tree-cutting in Cambodia	6	16	Fertiliser use	16
7	Deforestation/tree-cutting in other countries	7	17	Growing population	17
8	Waste	8	18	Human activities	18
9	Pollution by industry	9	19	Punishment from God	19
10	Burning rubbish	10	20	Other (specify).....	20
			21	Don't know	99

3.33 Some people say that human activities are causing weather patterns around the world to change over time. To what extent do you agree or disagree with this statement? Read statement at least twice before asking for respondent's answer (1=Yes, 0=No, and 9 don't know/not sure).

		1. Yes	2. No	9. Don't know /not sure
3.33.1	God	1	2	9
3.33.2	Nature	1	2	9
3.33.3	Hole in the ozone layer	1	2	9
3.33.4	Too much building	1	2	9
3.33.5	Using fossil fuels	1	2	9
3.33.6	Deforestation/tree-cutting in Cambodia	1	2	9
3.33.7	Deforestation/tree-cutting in other countries	1	2	9
3.33.8	Waste	1	2	9
3.33.9	Pollution by industry	1	2	9
3.33.10	Burning rubbish	1	2	9
3.33.11	Burning wood	1	2	9
3.33.12	Driving cars and other vehicles	1	2	9
3.33.13	Forest fires	1	2	9
3.33.14	Livestock	1	2	9
3.33.15	Greenhouse gas emissions	1	2	9
3.33.16	Fertiliser use	1	2	9
3.33.17	Growing population	1	2	9
3.33.18	Human activities	1	2	9
3.33.19	Punishment from God	1	2	9
3.33.20	Other (specify) .....	1	2	9
3.33.21	Don't know	1	2	9

3.34 Some say human activities are the main causes of climate change. To what extent do you agree with this statement?

Strongly disagree	1
Disagree	2
Neutral	3
Agree	4
Strongly agree	5



3.35 Do you think your actions contribute to climate change?

Yes	1	continue
No	0	skip to Q3.37
Don't know/not sure	99	skip to Q3.37

3.36 If yes, ask: How do you think your actions contribute to climate change?

Cutting wood for cooking	1
Burning waste	2
Using machines	3
Doing agriculture	4
Using chemicals	5
Cooking	6
Bad manage of waste	7
Other (specify) .....	8

3.37 Do you know of any individual, organisation or government department that is working to respond to the climate variability?

Yes	1	continue
No	0	skip to Q3.39
Don't know/not sure	99	skip to Q3.39

3.38 If so, please tell me the name of this individual, organisation or government department.  
(Respondent to name up to three; list and record respondent's comments verbatim)

3.38.1	3.38.2What are they doing?
Name 1.....	
Name 2 .....	
Name 3.....	

3.39 In your opinion, who has the most power to respond to the climate variability? Please mention up to three individuals or organisations. Record the order in which these are mentioned.

No-one has the power	1	skip to Q3.40
God	2	
Developed countries	3	
Europe	4	
USA	5	
China	6	
Japan	7	
Developing/less developed countries	8	
Poor countries	9	
Prime Minister Hun Sen	10	
The King	11	
Commune council representative	12	
Village chief/local leader	13	
Government	14	
Rich people	15	
NGOs	16	
Myself	17	
Friends and family	18	

Cambodian people	19	
Industry	20	
Other (specify)	21	
Don't know/not sure	99	skip to Q3.41

3.40 (If 3.39=1) Why do you say that no-one can help? (Open answer)

3.41 Is there anything you think your government can do to help you cope with the problem of the climate variability?

Yes	1	continue to ask
No	0	skip to 4.1
Don't know/not sure	9	skip to 4.1

3.42 What can the government do?

Stop deforestation	1
Give me money	2
Plant more trees	3
Use renewable energy	4
Build irrigation	5
Stop pollution from factories	6
Inform people about climate change	7
Forest conservation	8
Illegal fishing activities	9
Other (specify) .....	10

#### 4 Livelihoods

4.1 Thinking about changes in the weather, would you say your work has been affected? To what extent?

Badly affected	1
Affected	2
Not affected	3
Don't know/not sure	9

4.2 Thinking about the future now, in 10 years' time, would you say your work will be affected by changes in the weather? To what extent?

Badly affected	1
Affected	2
Not affected	3
Don't know/not sure	9

4.3 Why do you say this? (Open answer)

4.4 If weather changes were to get worse, how would you respond to the impact of these changes on your work?

Rehabilitate water storage structures	1
Construct irrigation canals	2
Build dykes	3
Construct water control structures	4
Strengthen dwelling against windstorms	5
Get air conditioning/fan	6
Use less energy	7

Nothing	8
Move to another area	9
Move away	10
Fish farming	11
Prepare boats	12
Change/diversify crops	13
Pay more attention to weather forecasts	14
Plant as usual	15
Arrange religious ceremonies	16
Pray	17
Keep communities clean	18
Talk to friends and neighbours	19
Build elevated enclosures for livestock	20
Increase household's food stock	21
Increase feedstock for animals	22
Move to a safer place	23
Reduce water consumption	24
Plant more vegetation	25
Other (specify) .....	26
Don't know/not sure	27

4.5 Do you know of anyone who is already responding to the impact of weather changes on their work?

Yes	1	continue to ask skip to 4.8 skip to 4.8
No	0	
Don't know/not sure	9	

4.6 Who is this person/are these people? (More one answer)

Spouse	1
Child	2
Parent	3
Other family member	4
Friend	5
Neighbour	6
Village chief	7
Other named public figure (specify name and title)	8
Colleague	9
Other (specify)	10

4.7 What actions have they taken?

Rehabilitate water storage structures	1
Create pond for fish raising	2
Dig water storage pond	3
Dig irrigation canal	4
Call for help	5
Diversify cropping	6
Increase family food stock	7
Other (specify) .....	8

4.8 What would you say are the barriers to taking action to respond to the impact of weather changes?

Not enough money	1
Lack of tools	2
Lack of building materials	3
Lack of time	4
Not enough people to help	5
Lack of knowledge	6
Lack of education	7
Lack of information	8
Other things are more important than climate change	9
Other (specify)	10
Don't know/not sure	99

skip to Q4.9

4.9 You mentioned that other things are more important. Could you explain?

5 Natural resources and the environment

5.1 Please tell me five things you most strongly associate with the environment in the area where you live. Unprompted. Please use pilot to add items to this list

Trees	1
Forest	2
Rubbish	3
Rice	4
Pollution	5
Mountain	6
Plain	7
River	8
Urban	9
Noise	10
Rural	11
Traffic	12
Sea	13
Coast	14
Beach	15
Bad smell	16
Calm	17
Wind	18
Rain	19
Fish	20
Other (specify) .....	21

5.2 When you think about natural resources in Cambodia, what would you say are the three most important natural resources? 1.....2.....3.....

5.3 In the area where you live, would you say the environment is getting better or worse? To what extent?

Much better	1
Better	2
Neither better nor worse	3
Worse	4

Much worse	5
Don't want to answer	8
Don't know/not sure	9

5.4 Thinking about access to water in the area where you live, would you say that access to water is getting better or worse? To what extent?

Much better	1
Better	2
Neither better nor worse	3
Worse	4
Much worse	5
Don't want to answer	8
Don't know/not sure	9

5.5 Thinking about the quality of water in the area where you live, would you say that the quality of water is getting better or worse? To what extent?

Much better	1
Better	2
Neither better nor worse	3
Worse	4
Much worse	5
Don't want to answer	8
Don't know/not sure	9

5.6 Would you say you and your family have enough water for your personal use? (By personal use we mean drinking, cooking and washing.)

Yes	1
No	0
Don't know/not sure	9

5.7 Would you say you and your family have the water you need to do your work?

Yes	1
No	0
Don't know/not sure	9

5.8 For the following question, I do not expect you to recognise all of the words. Where you do not recognise a word, please say so. Thinking about your own life, please tell me if you think these things are a problem or not. If you think they are a problem, please tell me if you think they are a *big* problem or not. Randomise items in list

		Not a problem	A problem	A big problem	Don't want to answer	Don't know/not sure
5.8.1	Air pollution	1	2	3	8	9
5.8.2	Water pollution	1	2	3	8	9
5.8.3	Soil infertility	1	2	3	8	9
5.8.4	Noise pollution	1	2	3	8	9
5.8.5	Coastal pollution	1	2	3	8	9
5.8.6	Deforestation	1	2	3	8	9
5.8.7	Lack of water for my work	1	2	3	8	9
5.8.8	Lack of water for personal use	1	2	3	8	9

5.8.9	Climate change/weather change	1	2	3	8	9
5.8.10	Global warming	1	2	3	8	9
5.8.11	Greenhouse effect	1	2	3	8	9
5.8.12	Drought	1	2	3	8	9
5.8.13	Flooding	1	2	3	8	9
5.8.14	Lack of rain	1	2	3	8	9

## 6 Radio

6.1 When was the last time you listened to the radio? (Single answer)

Never	0	skip to Q7.1
Today	1	
Yesterday	2	
Before yesterday but in this week	3	
More than a week ago, but in this month	4	
More than a month ago, but in this year	5	
Don't know/not sure	99	

6.2 What programme(s) do you usually listen to the most? (Multiple answers)

Reality	1
Hip Hop Girls	2
Green music	3
Youth and environment	4
No is No	5
Joke	6
Songs - entertainment	7
Health	8
Songs - by request	9
Education (law, community)	10
News	11
Debate (politics, society matters)	12
Chatting on phone	13
Other (specify).....	14

6.3 What day(s) do you usually listen to radio? (Multiple answers)

Monday	1
Tuesday	2
Wednesday	3
Thursday	4
Friday	5
Saturday	6
Sunday	7
Every day	8
Don't know/not sure	99



6.4 On average,

How many times per day do you listen to radio? .....(times)	How long per time do you listen to radio? (minutes)
--	--

6.5 At what time(s) do you usually listen to radio? (Multiple answers)

6:00 am - 8: 00 am	1
8:01 am - 10:00 am	2
10:01 am - 12:00am	3
12:01 pm - 14:00 pm	4
14:01 pm - 16:00 pm	5
16:01 pm - 18:00 pm	6
18:01 pm - 20:00 pm	7
20:01 pm - 22:00 pm	8
22:01 pm - 24:00 pm	9
24:01 am - 6:00 am	10
Don't remember	11

6.6 Have you ever listened to a phone-in programme?

Yes	1
No	0
Don't know/not sure	99

skip to Q91

6.7 Have you ever called into a phone-in programme?

Yes	1
No	0
Don't know/not sure	99

skip to Q6.9

6.8 If yes, why did you call into the phone-in programme? (Multiple answers)

To request a song	1
To talk about a love story	2
To debate social problems	3
To tell jokes	4
To debate political issues	5
To debate health issues	6
Have good presenter	7
Other (specify) .....	8

6.9 Which radio stations do you listen to? (Multiple answers)

Base station	Radio code
Phnom Penh	1-Sweet FM 88 (PP)
	2-Meanchey FM 88.25 (PP)
	3-Christian FM 89.50 (PP)
	4-Reach Sey Radio FM 90 (PP)
	5-Taprum FM 90.5 (PP)
	6-Sek Meas FM 91.25 (PP)
	7-RFI FM 92.0 (PP)
	8-Sam Rainsy Radio FM 93.5 (PP)
	9-Bayon Radio FM 95 (PP)—Kcham (FM91.5, SReap (FM93), SVille (FM92), Pursat (FM93), BTChey(FM93), K Thom (FM91.5)
	10-National Radio FM 96 (PP)
	11-Apsara Radio FM 97 (PP)
	12-LOVE Radio FM 97.5 (PP)
	13-Khemarak Phone in Radio FM 98 (PP)
	14-Kaksekar FM 98.25 (PP)
	15-National Radio Wat Phnom FM 105.75 (PP)
	16-Radio FM 99 (PP)
	17-Family FM Radio FM 99.5 (PP)
	18-WMC Radio FM 102(PP)--SRIeng (FM94.5), KThom (FM102.2)
	19-Municipal Radio FM 103 (PP)
	20-Sovanna Phum FM 104 (PP)
	21-Sambok Khmum Radio FM 105 (PP)
	22-Free Asia Voice (PP)
	23-Star FM (106.5)
	24-Khmer Radio FM 107 (PP)
	25-ABC Traffic Kampuchea (FM107.5)
	26-ABC Australia FM 101.5 (PP)
	27-National Radio Kampuchea AM 918 (PP)
	28-Hang Mas FM 104.5 (PP)
	29-Tonle radio FM 102.5 (PP)
	30-Chinese, RNK FM 96.5 FM (PP)
	31- Solida FM 108 (PP)
	32- KCF 105.5 (PP)
	33- Meatophum Yung radio ( our homeland radio) 101. 25
	34-Traffic FM 94.5 (PP)
	35-Phnom Penh Thmey FM 91
	36-Sarika FM 106.5 (PP)
	37-South East Asia Voice Fm106 (PP)
Kampong Cham	38-Kampong Cham radio (FM 92.5)
	39-Sweet FM 100.5 (KCham)
Battambang and Pailin	40-Klang Meurng radio FM 90.3 (BTB)
	41- Khemera FM 91(BTB)
	42-Radio National Kampuchea FM96 (BTB)
	43-SweetFM 103.25 (BTB)
	44-Paillin radio FM 90.5 (Pailin)
	45-Chamkar Chek

Preah Vihear	46-Phnom Penh Municipality FM 99
	47-Radio Bayon
Banteay Menchey	48-Prum Meanchey FM 96.5 (BTChey)
	49-Sweet FM 103.5 (BTChey)
Rattanakkiri	50-Radio Bayon
Oddar Meanchey	51-Radio Bayon
Siem Reap	52-Angkor Ratha (FM95.5)
	53-Love FM 97.5 (SReap)
	54-Khemarak Phomin Radio(FM98)
	55-SweetFM 100.5 (Sreap)
	56-FM 102.5 (Sreap)
	57-Monkul Sovan FM 105.5 (Sreap)
Pursat	58-Kampuchea Pusat radio (FM 98.5)
	59-Sweet FM 100.5 (Pursat)
x	60-Radio Free Asia (RFA)
	61-BBC (FM100)
	62-Listened to radio, but do not know all channels
	63-Others, specify _____

## 7 Television

### 7.1 When was the last time you watched TV?

Never	0
Today	1
Yesterday	2
Before yesterday but in this week	3
More than one week but in this month	4
More than one month but in this year	5
More than one year ago	6
Don't know/not sure	99

### 7.2

	Listing
1--Khmer series	1
2--International TV film series	2
3--Cellcard scene	3
4--Deal or not Deal	4
5--Sokea Lakena BIG	5
6--Sports (boxing, soccer,...)	6
7--Sam Nouch Tam Phoum	7
8--Game shows	8
9--Concerts (or comedy...) specify	9
10--Cartoons	10
11--Musical shows (song request, karaoke, pop, foreign songs)	11
12--Documentaries	12
13--Education (law, community....)	13
14--Health	14
15--Beauty women	15

16--Housewife	16
17--News	17
18--Wrestling	18
19-- Debates	19
20--Travel	20
21—Other (specify).....	21

7.3 List the three you like the most from 1 to 3 (1= extremely like, 2= strongly like, 3=like)

7.4 Which TV stations/channels do you watch? (Multiple answers)

	Listing
V5 (Khemarak Phomin TV)	1
Municipal TV (TV3)	2
National TV (TVK)	3
Khmer TV (CTV9)	4
Apsara TV (TV11)	5
Bayon TV (TV27)	6
Bayon TV (News)	7
ETV	8
CTN	9
My TV	10
CNC	11
SEA TV	12
Hong Meas TV	13
Battambang TV	14
French TV (TV5 Asia)	15
Vietnam TV (VTV)	16
Satellite TV	17
Local Cable TV	18
Watch TV, but can't identify channel	19
Others, specify _____	20

7.5 Which TV station do you like the most? (Single answer) .....(code)

7.6 On what day(s) do you usually watch TV? (Multiple answers)

Monday	1
Tuesday	2
Wednesday	3
Thursday	4
Friday	5
Saturday	6
Sunday	7
Every day	8
Don't know/not sure	99

7.7 On average,

How many times per day do you watch TV?  
.....(times)

How much time do you spend watching TV?  
.....(minutes)

7.8

6:00 am - 8: 00 am	1
8:01AM - 10:00 am	2
10:01 am - 12:00 am	3
12:01 pm - 14:00 pm	4
14:01 pm - 16:00 pm	5
16:01 pm - 18:00 pm	6
18:01 pm - 20:00 pm	7
20:01 pm - 22:00 pm	8
22:01 pm - 24:00 pm	9
24:01 am - 6:00 am	10
Do not remember	11

## 8 Phone

8.1 Do you have access to a mobile phone?

Yes	1	
No	0	
Don't know/not sure	99	skip to Q9.1

8.2 Whose phone do you have access to? (Multiple answers)

Phone booth	1	skip to Q9.1
Friends	2	skip to Q9.1
Spouse	3	skip to Q9.1
My own	4	continue
My relatives	5	skip to Q9.1
My neighbours	6	skip to Q9.1
Other (specify).....	7	

8.3 Which network/mobile phone company do you use? (Multiple answers)

Service provider company	Code
Mobitel (012, 017, 077, 092, 089, 011, 099, 085, 076)	1
Smart Mobile (010, 093, 069, 070, 015, 016, 081, 098,096)	2
qb-CADCOMMS (013, 080, 083)	3
Beeline (090, 067, 068)	4
Metfone (097, 088, 079, 071)	5
Excel (018)	6
Other (specify).....	7

8.4 Which of these mobile functions do you use?

	Mobile activities	Yes	No	Don't know/not sure
8.4.1	1. Making/receiving calls	1	0	9
8.4.2	2. Sending SMS	1	0	9
8.4.3	3. Receiving SMS	1	0	9
8.4.4	4. Surfing internet	1	0	9
8.4.5	5. Playing games	1	0	9
8.4.6	6. Recording audio	1	0	9
8.4.7	7. Email/checking	1	0	9
8.4.8	8. Seeking job	1	0	9
8.4.9	9. Listening to music	1	0	9
8.4.10	10. Getting news updates	1	0	9
8.4.11	11. Listening to radio	1	0	9
8.4.12	12. Take photographs	1	0	9
8.4.13	13. Others (specify)	1	0	9

8.5 (Ask a message user only) What kind of message do you use?

1. SMS in Khmer	1
2. SMS in voice	2
3. SMS photo message	3
4. SMS in English	4
5. SMS template	5
6. Others (specify).....	6

**9 Internet**

9.1 Have you ever used the internet?

Yes	1	
No	0	skip to Q10.1
Not aware of internet	8	skip to Q10.1
Don't know/ not sure	9	skip to Q10.1

9.2 When was the last time you used the internet? (Single answer)

Today	1
Yesterday	2
Before yesterday, but in this week	3
More than a week ago, but in this month	4
More than a month ago, but in this year	5
Never/more than 1 year ago	6
Don't know/not sure	9

9.3 What do you mainly use the internet for? (Three answers)

	Internet activities	Yes	No	Don't know/not sure
9.3.1	E-mailing	1	0	9
9.3.2	Chat	1	0	9
9.3.3	Gathering information	1	0	9
9.3.4	Searching music/songs	1	0	9
9.3.5	Searching funny clip/stories	1	0	9



9.3.6	Social networking (Facebook, twitter, Linked-in, etc.)	1	0	9
9.3.7	Job searching	1	0	9
9.3.8	Reading news	1	0	9
9.3.9	Films, songs, music	1	0	9
9.3.10	Blogging	1	0	9
9.3.11	Other (specify).....	1	0	9

9.4 Where have you used internet service?

Office	1
Internet cafe	2
At home (landline)	3
Wi Fi	4
Mobile phone	5
Other (specify)	6

## 10 Outreach

10.1 Have you ever heard about outreach? By outreach activities, I mean when an NGO or organisation comes to your home or community to make a presentation or education or community event about something.

Yes	1
No	0
Don't know/not sure	9

skip to Q10.3

skip to Q10.3

10.2 If yes, when was the last time you participated?

Never	0
Today	1
Yesterday	2
Before yesterday, but in this week	3
More than a week ago, but in this month	4
More than a month ago, but in this year	5
Don't know/not sure	9

skip to Q 10.5

10.3 Have you ever participated in the following activities?

		Yes	No	Don't know
10.3.1	Educational play	1	0	9
10.3.2	Group discussion	1	0	9
10.3.3	Workshop	1	0	9
10.3.4	Direct education at home/family	1	0	9
10.3.5	Listening club	1	0	9
10.3.6	Show card	1	0	9

10.4 Which activities do you like the most? .....

10.5 Have you ever participated in mobile screening?

Yes	1
No	0
Don't know	9

skip to Q11

10.6 What programme (s) have you participated in? (Multiple answers)

Health education	1
Domestic violence	2
Land conflict	3
Rights and human trafficking	4
Religious issues	5
Freedom and democracy	6
Election process	7
D&D	8
Other (specify)	9

**11 Using VCD/DVD**

11.1 When was the last time you watched VCD/DVD?

No	0
Today	1
Yesterday	2
Before yesterday, but in this week	3
This week, but in this month	4
This month, but in this year	5
Never heard/never watched	6
Don't know	7

stop interview

stop interview

11.2 What types of VCD/DVD do you usually watch?

Movie series (Khmer, Chinese, Korean, Thai)	1
Comedy	2
Cartoons	3
Songs	4
Health education	5
Other (specify)	6

11.3 Where do you usually watch VCD/DVD?

My own house	1
NGOs	2
Friend's or neighbour's house	3
Public	4
On the bus	5
Coffee shop	6
Public, but payment	7
Relative's house	8
Other	9

## Annex 3: Interview guides for different population subgroups

Note: Questions 1-16 were used for all subgroups. Section A3.1 presents the full interview guide, whereas Sections A3.2 to A3.7 give only the specific questions for that subgroup.

### 3.1 Discussion guide for a policymaker (government official, senator, parliamentarian, deputy provincial governor)

- Be engaging
- Stick to the questions and time limit
- Be neutral

#### Introduction (5 minutes)

Thank you for granting me this interview today. My name is ..... I am a researcher working with CDRI. Today's interview is about knowledge, attitudes and practices related to climate change. With your permission, I would like to record this interview to make sure that important information is not missed.

First, I would like to begin by hearing what you understand by the terms “global warming”, “greenhouse gas” and “climate change”.

1. Have you ever heard the expression “climate change” (karpheipruol a kha teat)?  
If yes, ask: What does the term “climate change” mean to you?
2. Have you noticed floods, drought and irregular rainfall?
3. Have you ever heard of the expression “global warming”?
4. (If the interviewee has heard of both expressions, ask) Are “climate change” and “global warming” (karleungkamdavphendey) different? If yes, ask: What are the differences?
5. Have you ever heard of the expression “greenhouse gas”?  
If yes, ask: What does the term mean to you?
6. What would you say are the main causes of climate change? If the interviewee does not mention human activities, ask: Do you think human activities because climate change?
7. Do you think Cambodia contributes to the causes of climate change in any way?  
If yes, ask: How? Can you give me any examples? (Probe fully) If no, ask: Why not? (Probe fully)
8. Who is affected by climate change? (Probe fully)
9. Who in Cambodia is affected by climate change? (Probe fully)
10. Would you say climate change is a problem in Cambodia? Why do you say this? If it is a problem, how serious is it?
11. Does Cambodia have other priorities of greater importance than climate change? What are they?
12. Are there priorities of greater importance than climate change? What are they?
13. Between men and women who do you think could be most affected?
14. Do you think it affects people more in rural or urban areas, or both? Why do you say so?
15. Do you think if I asked a person on the street what climate change was they would be able to tell me?
16. In your opinion, how much of a concern is climate change to ordinary Cambodian citizens?
17. If you wanted to inform and engage the public about these issues, do you think that “climate change” is a useful term to use? Probe
  - Do you have any suggestions for terms that would be better?
18. If you could inform the public about one aspect of climate change, what would that be?
19. Could you tell some of the ways in which your organisation is responding to climate change?
20. Do you know which ministries are working on climate change?
  - Could you tell me about any climate change programmes that have been planned or implemented?
  - Are there any programmes that you feel were particularly successful?
  - Were there any challenges? If so, how were these dealt with?
21. Besides the ministries you mentioned, are you aware of any other organisations working on climate change?

- Based on your knowledge and experience of these, how effective would you say the programmes have been? Probe fully
22. In your experience, what is the Cambodian government doing to respond to climate change at local, provincial and national levels?
  23. What do you think leaders like you should do to help people adapt to the effects of climate change?
    - Could you tell me what programmes are needed?
    - What strategies are needed to ensure successful programme implementation?
  24. What more should individual organisations do to respond to climate change?
  25. How effective do you think climate change mainstreaming and integration has been in Cambodia?
 

Follow-up questions:

    - On a national level, what factors enable effective climate change mainstreaming and integration?
    - On a local community level, what factors enable effective climate change mainstreaming and integration?
    - On personal and interpersonal levels, what mindset and/or behaviours enable effective climate change mainstreaming and integration?
  26. What are the existing barriers, if any, to mainstreaming and integrating climate change into communication at national, provincial and local levels?
  27. Have there been sufficient education and awareness-raising programmes and public participation with regards to climate change? If not, ask: What do you suggest we do to improve this situation?
  28. How accessible is the climate change information for the people?
 

Follow-up questions:

    - Why some people are still deprived of such information?
    - What do you suggest we do to improve this situation?
  29. What approach would improve the implementation of climate change mainstreaming and integration? Are micro or macro focused approaches required?

**Close:** Now our interview is at an end. Thank you for your contribution. It has been very helpful and interesting to hear your thoughts. Do you have anything else to add before we end? Thank the respondent and close the interview

### 3.2 Discussion guide for a commune council

1-16. See A3.1

17. Do you think people understand how climate change affects their lives?
 

If no, ask: Do you think people would care more about climate change if they knew how it affected their everyday lives?
18. What are people in your commune doing to respond to climate change?
19. What do you think commune leaders should do to help people?
20. Could you tell me about the climate change programmes, if any, that have been planned or implemented in your commune?
 

If the commune has a programme(s), ask: Are there any programmes that you feel were particularly successful? Why do you think they were successful? Were there any challenges? If so, how did the commune deal with those challenges?
21. Could you tell some of the ways in which government is responding to climate change? (Probe fully)
22. If you want information about climate change and adaptation practices, do you go to an individual or an institution? What are the obstacles to accessing the information you need?
23. If people in your commune want information about climate change and adaptation practices do they seek it from an individual or an institution? What are the obstacles to getting the information they are looking for?
24. Does your commune have sufficient capacity to advertise climate change information or set up an information centre for people? If so, how effective is it?
25. Do you think you and people in your commune get sufficient information about climate change and adaptation practices?
 

If no, ask: Why not?
26. What in your view are the most effective methods (e.g. films, radio, television, workshop, education theatre, and so on) for disseminating information about climate change in your commune?
27. Is climate change mainstreamed in your commune plan?

If yes, ask: What are the plans?

If no, ask: Why not?

28. Do people in your commune have the opportunity to participate in climate change planning? If yes, how do they participate and what is the extent of their participation?

### 3.3 Discussion guide for a village chief

1-16 See A3.1

17. Do you think people understand how climate change affects their lives?  
If no, ask: Do you think people would care more about climate change if they knew how it affected their everyday lives?
18. In your experience, what are people in your village doing to respond to climate change?
19. What do you think village leaders should do to help people?
20. Could you tell some of the ways in which government is responding to climate change? (Probe fully)
21. Could you tell some of the ways in which government is responding to climate change? (Probe fully)
22. If you want information about climate change and adaptation practices, do you go to an individual or an institution? What are the obstacles to accessing the information you need?
23. Do you and other people in your commune get sufficient information about climate change and adaptation practices? If not, why?
24. Does your commune have sufficient capacity to advertise climate change information or set up an information centre for people? If so, how effective is it?
25. Do you think you and people in your commune get sufficient information about climate change and adaptation practices?  
If no, ask: Why not?

### 3.4 Discussion guide for a celebrity

1-16 See A3.1

17. Do you think people understand how climate change affects their lives? If no, ask: Do you think people would care more about climate change if they knew how it affected their everyday lives?
18. If you wanted to inform and engage the public about these issues, do you think that climate change is a good term to use?
19. If you could inform the public about one aspect of climate change, what would that be?
20. How do media talk about climate change?
21. How do you contribute to climate change?

### 3.5 Discussion guide for a media spokesperson

1-16 See A3.1

17. Do you think people understand how climate change affects their lives?  
If no, ask: Do you think people would care more about climate change if they knew how it affected their everyday lives?
18. If you wanted to inform and engage the public about these issues, do you think that climate change is a good term to use?
19. If you could inform the public about one aspect of climate change, what would that be?
20. How do media talk about climate change?
21. How do you contribute to climate change?
22. Does your media organisation report on climate change?
23. How many stories related to climate change or other environmental issues in Cambodia would you say your media organisation covers every month?
24. Do you think people need more information about climate change and how it could affect their lives?  
If yes, ask: Who do you think could act as a role model that people would listen to on the subject of climate change?
25. Have you recently done any stories on extreme weather events (flooding, drought, storm...)?  
- Did those articles/stories touch on climate change?  
- Do you think climate change relates to those issues? Why?

### 3.6 Discussion guide for an industry representative

1-16 See A3.1

17. Do you think people understand how climate change affects their lives?  
If no, ask: Do you think people would care more about climate change if they knew how it affected their everyday lives?

18. If you wanted to inform and engage the public about these issues, do you think that climate change is a good term to use?
19. If you could inform the public about one aspect of climate change, what would that be?
20. What has your institution been doing with regard to climate change?
21. Besides your sector, which ministries (departments) are working on climate change?  
 Could you tell me about climate change programmes that have been planned or implemented? If the interviewee's ministry (department) has programmes, ask:  
 Are there any programmes that you feel were particularly successful? Why do you think they were successful?  
 Were there any challenges? How were those challenges dealt with?  
 What do you think about implementation?
22. In your experience, what is the Cambodian government doing at local, provincial and national levels to respond to climate change?
23. What do you think other sectors (departments) should do to help people adapt to the effects of climate change? Could you tell me what programmes Cambodia should implement? What strategies are needed to ensure the success of those programmes?
24. What more should individual organisations do to respond to climate change?

### 3.7 Discussion guide for an NGO worker

1-16 See A3.1

17. Do you think people understand how climate change affects their lives?  
 If no, ask: Do you think people would care more about climate change if they knew how it affected their everyday lives?
18. If you wanted to inform and engage the public about these issues, do you think that climate change is a good term to use?
19. If you could inform the public about one aspect of climate change, what would that be?
20. What has your institution been doing with regard to climate change?
21. Besides your sector, which ministries (departments) are working on climate change?  
 Would you tell me about climate change programmes that have been planned or implemented? If the interviewee's ministry (department) has programmes, ask:  
 Are there any programmes that you feel were particularly successful? Why do you think they were successful?  
 Were there any challenges? How were those challenges dealt with?  
 - What do you think about implementation?
22. In your experience, what is the Cambodian government doing at local, provincial and national levels to respond to climate change?
23. Do you think climate change mainstreaming and integration climate change has been effective so far?  
 At the national level, what factors would help ensure effective climate change mainstreaming and integration?  
 At the commune level, what factors would help ensure effective climate change mainstreaming and integration?  
 At the individual level, what ideas/attitudes would help ensure effective climate change mainstreaming and integration?
24. What are the existing barriers, if any, to mainstreaming and integrating climate change into communication at national, provincial and local levels?
25. Do you think education programmes, awareness raising and public participation are sufficient to respond to climate change?  
 If no, ask: Do you have some ideas about how to improve instruction?
26. How can people get information about climate change? Why do people still not get enough information?
27. What would enable effective implementation of climate change mainstreaming and integration?  
 Are micro or macro measures needed?



## Annex 4: Statistical results

Table A2. Have you heard the term 'climate change'?

Base: All respondents

	Base	No		Yes		Do not know	
		#	%	#	%	#	%
All Respondents	1,000	97	9.7	897	89.7	6	0.6
Sex							
Male	500	47	9.3	456	90.3	2	0.4
Female	495	50	10.1	441	89.1	4	0.8
Chi2/p*	Pearson chi2(2)=0.9104 Pr=0.634						
Resident							
Urban	361	25	6.9	336	93.1	0	0.0
Rural	639	72	11.3	561	87.8	6	0.9
Chi2/p*	Pearson chi2(2)=8.5913 Pr=0.014						
Region							
Phnom Penh	80	2	2.5	78	97.5	0	0.0
Plain	280	24	8.6	256	91.4	0	0.0
Tonle Sap	250	23	9.2	227	90.8	0	0.0
Coastal	130	19	14.6	107	82.3	4	3.1
Mountain	260	29	11.2	229	88.1	2	0.8
Chi2/p*	Pearson chi2(8)=27.1270 Pr=0.001						
Ethnicity							
Khmer	907	72	7.9	831	91.6	4	0.4
Cham	35	9	25.7	24	68.6	2	5.7
Indigenous	51	15	29.4	36	70.6	0	0.0
Others	7	1	14.3	6	85.7	0	0.0
Chi2/p*	Pearson chi2(6)=52.9284 Pr=0.000						
Age							
15-24	187	14	7.5	173	92.5	0	0.0
25-34	297	18	6.1	279	93.9	0	0.0
35-44	250	34	13.6	212	84.8	4	1.6
45-55	266	31	11.7	233	87.6	2	0.8
Chi2/p*	Pearson chi2(6)=18.7009 Pr=0.005						
Education							
No Schooling	136	36	26.5	98	72.1	2	1.5
Primary School	424	48	11.3	373	88.0	3	0.7
Secondary School	267	11	4.1	255	95.5	1	0.4
High School	119	2	1.7	117	98.3	0	0.0
University	54	0	0.0	54	100.0	0	0.0
Chi2/p*	Pearson chi2(8)=72.8312 Pr=0.000						
PPI index							
Lowest (0-24)	78	17	21.8	60	76.9	1	1.3
Low(25-49)	414	44	10.6	366	88.4	4	1.0
Medium (50-74)	425	32	7.5	392	92.2	1	0.2
High (75-100)	83	4	4.8	79	95.2	0	0.0
Chi2/p*	Pearson chi2(6)=26.2829 Pr=0.002						
Occupation							
Farmer	375	47	12.5	326	86.9	2	0.5
Business Person	179	14	7.8	164	91.6	1	0.6
Sales and services worker	56	4	7.1	52	92.9	0	0.0
Skilled manual worker	38	4	10.5	34	89.5	0	0.0
Housewife	65	6	9.2	57	87.7	2	3.1
Teacher	44	0	0.0	44	100.0	0	0.0
University student	15	0	0.0	15	100.0	0	0.0
Non-university student	42	1	2.4	41	97.6	0	0.0
Professional/technician/manager	32	1	3.1	30	93.8	1	3.1
Government official	37	0	0.0	37	100.0	0	0.0
Forestry workers and NTFP collector	45	10	22.2	35	77.8	0	0.0
Coastal fisher	40	6	15.0	34	85.0	0	0.0
Freshwater fisher	32	4	12.5	28	87.5	0	0.0
Chi2/p*	Pearson chi2(24)=40.8983 Pr=0.017						

Table A3: What do you think causes climate change? (Part1)

Base: All respondents

	Base	Nature		Using of Fuel		Deforestation in Cambodia		Deforestation in other countries		Burning waste	
		#	%	#	%	#	%	#	%	#	%
All Respondents	1000	148	14.8	50	5.0	779	77.9	79	7.9	42	4.2
Sex											
Male	505	78	15.5	32	6.3	416	82.4	44	8.7	24	4.8
Female	495	70	14.1	18	3.6	363	73.3	35	7.1	18	3.6
Chi2/p*		0.337	0.561	3.837	0.050	11.874	0.001	0.926	0.336	0.774	0.379
Resident											
Urban	361	50	13.9	25	6.9	296	82.0	27	7.5	22	6.1
Rural	639	98	15.3	25	3.9	483	75.6	52	8.1	20	3.1
Chi2/p*		0.404	0.525	4.408	0.036	5.501	0.019	0.137	0.711	5.038	0.025
Region											
Phnom Penh	80	2	2.5	6	7.5	70	87.5	3	3.8	6	7.5
Plain	280	63	22.5	21	7.5	224	80.0	24	8.6	20	7.1
Tonle Sap	250	50	20.0	11	4.4	219	87.6	28	11.2	10	4.0
Coastal	130	10	7.7	5	3.9	83	63.9	2	1.5	1	0.8
Mountain	260	23	8.9	7	2.7	183	70.4	22	8.5	5	1.9
Chi2/p*		40.642	0.000	8.206	0.084	42.107	0.000	13.152	0.011	15.370	0.004
Ethnicity											
Khmer	907	133	14.7	47	5.2	722	79.6	76	8.4	41	4.5
Cham	35	6	17.1	2	5.7	24	68.6	1	2.9	0	0.0
Indigenous	51	8	15.7	1	2.0	29	56.9	2	3.9	0	0.0
Others	7	1	14.3	0	0.0	4	57.1	0	0.0	1	14.3
Chi2/p*		0.199	0.978	1.461	0.691	18.160	0.000	3.220	0.359	5.771	0.123
Education											
No Schooling	136	22	16.2	3	2.2	79	58.1	7	5.2	1	0.7
Primary School	424	63	14.9	13	3.1	313	73.8	34	8.0	10	2.4
Secondary School	267	48	18.0	10	3.8	226	84.6	17	6.4	16	6.0
High School	119	10	8.4	16	13.5	110	92.4	14	11.8	8	6.7
University	54	5	9.3	8	14.8	51	94.4	7	13.0	7	13.0
Chi2/p*		7.520	0.111	35.279	0.000	65.352	0.000	6.632	0.157	21.951	0.000
PPI index											
Lowest (0-24)	78	8	10.3	0	0.0	45	57.7	2	2.6	1	1.3
Low(25-49)	414	72	17.4	13	3.1	317	76.6	41	9.9	11	2.7
Medium (50-74)	425	57	13.4	33	7.8	341	80.2	29	6.8	24	5.7
High (75-100)	83	11	13.3	4	4.8	76	91.6	7	8.4	6	7.2
Chi2/p*		4.289	0.232	13.965	0.003	29.277	0.000	6.045	0.109	8.205	0.042
Occupation											
Farmer	375	72	19.2	9	2.4	277	73.9	31	8.3	12	3.2
Business Person	179	29	16.2	6	3.4	137	76.5	10	5.6	8	4.5
Sales and services worker	56	6	10.7	7	12.5	47	83.9	9	16.1	3	5.4
Skilled manual worker	38	2	5.3	1	2.6	27	71.1	2	5.3	1	2.6
Housewife	65	4	6.2	2	3.1	46	70.8	6	9.2	3	4.6
Teacher	44	6	13.6	5	11.4	44	100.0	7	15.9	4	9.1
University student	15	1	6.7	4	26.7	14	93.3	1	6.7	3	20.0
Non-university student	42	4	9.5	5	11.9	37	88.1	4	9.5	2	4.8
Professional/technician/manager	32	4	12.5	5	15.6	29	90.6	3	9.4	2	6.3
Government official	37	2	5.4	5	13.5	35	94.6	3	8.1	3	8.1
Forestry workers and NTFP collector	45	7	15.6	0	0.0	35	77.8	1	2.2	0	0.0
Coastal fisher	40	4	10.0	1	2.5	27	67.5	1	2.5	0	0.0
Freshwater fisher	32	7	21.9	0	0.0	24	75.0	1	3.1	1	3.1
Chi2/p*		19.879	0.069	54.568	0.000	36.637	0.000	15.807	0.200	18.923	0.090

Table A3: What do you think causes climate change? (Part2)

Base: All respondents

	Base	Industrial pollution		Driving car		Fertilizer use		Others		Do not know	
		#	%	#	%	#	%	#	%	#	%
All Respondents	1000	209	20.9	79	7.9	82	8.2	214	21.4	153	15.3
Sex											
Male	505	123	24.4	46	9.1	39	7.7	134	26.5	60	11.9
Female	495	86	17.4	33	6.7	43	8.7	80	16.2	93	18.8
Chi2/p*		7.373	0.007	2.049	0.152	0.309	0.579	15.991	0.000	9.202	0.002
Resident											
Urban	361	89	24.7	37	10.3	30	8.3	94	26.0	42	11.6
Rural	639	120	18.8	42	6.6	52	8.1	120	18.8	111	17.4
Chi2/p*		4.814	0.028	4.285	0.038	0.009	0.924	7.227	0.007	5.858	0.016
Region											
Phnom Penh	80	31	38.8	11	13.8	6	7.5	18	22.5	7	8.8
Plain	280	64	22.9	28	10.0	18	6.4	66	23.6	33	11.8
Tonle Sap	250	56	22.4	23	9.2	21	8.4	54	21.6	21	8.4
Coastal	130	23	17.7	5	3.9	12	9.2	24	18.5	34	26.2
Mountain	260	35	13.5	12	4.6	25	9.6	52	20.0	58	22.3
Chi2/p*		25.919	0.000	12.832	0.012	2.108	0.716	1.819	0.769	36.172	0.000
Ethnicity											
Khmer	907	201	22.2	75	8.3	76	8.4	197	21.7	126	13.9
Cham	35	5	14.3	3	8.6	1	2.9	5	14.3	9	25.7
Indigenous	51	2	3.9	1	2.0	5	9.8	12	23.5	15	29.4
Others	7	1	14.3	0	0.0	0	0.0	0	0.0	3	42.9
Chi2/p*		10.877	0.012	3.264	0.353	2.166	0.539	3.152	0.369	16.256	0.001
Education											
No Schooling	136	13	9.6	2	1.5	11	8.1	16	11.8	43	31.6
Primary School	424	63	14.9	25	5.9	22	5.2	68	16.0	84	19.8
Secondary School	267	63	23.6	23	8.6	28	10.5	62	23.2	23	8.6
High School	119	40	33.6	17	14.3	13	10.9	39	32.8	2	1.7
University	54	30	55.6	12	22.2	8	14.8	29	53.7	1	1.9
Chi2/p*		71.980	0.000	32.147	0.000	11.277	0.024	57.933	0.000	68.381	0.000
PPI index											
Lowest (0-24)	78	4	5.1	2	2.6	4	5.1	8	10.3	26	33.3
Low(25-49)	414	68	16.4	22	5.3	33	8.0	76	18.4	67	16.2
Medium (50-74)	425	113	26.6	43	10.1	40	9.4	102	24.0	56	13.2
High (75-100)	83	24	28.9	12	14.5	5	6.0	28	33.7	4	4.8
Chi2/p*		28.295	0.000	14.636	0.002	2.358	0.502	17.253	0.001	28.337	0.000
Occupation											
Farmer	375	60	16.0	24	6.4	29	7.7	64	17.1	69	18.4
Business Person	179	28	15.6	11	6.2	13	7.3	32	17.9	30	16.8
Sales and services worker	56	14	25.0	7	12.5	4	7.1	18	32.1	5	8.9
Skilled manual worker	38	11	29.0	2	5.3	2	5.3	6	15.8	7	18.4
Housewife	65	15	23.1	7	10.8	7	10.8	13	20.0	12	18.5
Teacher	44	22	50.0	7	15.9	8	18.2	18	40.9	0	0.0
University student	15	6	40.0	4	26.7	1	6.7	9	60.0	0	0.0
Non-university student	42	15	35.7	7	16.7	4	9.5	15	35.7	2	4.8
Professional/technician/manager	32	9	28.1	3	9.4	3	9.4	8	25.0	2	6.3
Government official	37	15	40.5	5	13.5	7	18.9	13	35.1	0	0.0
Forestry workers and NTFP collector	45	1	2.2	1	2.2	1	2.2	10	22.2	9	20.0
Coastal fisher	40	6	15.0	0	0.0	2	5.0	6	15.0	10	25.0
Freshwater fisher	32	7	21.9	1	3.1	1	3.1	2	6.3	7	21.9
Chi2/p*		62.108	0.000	28.346	0.005	16.856	0.155	48.251	0.000	33.318	0.001

**Table A4: To what extent do you agree with the statement 'communities have sufficient resources to respond to climate variability'?**

Base: All respondents

	Total	Strongly disagree		Disagree		Neutral		Agree		Strongly Agree		Do not want to answer		Do not know	
		#	%	#	%	#	%	#	%	#	%	#	%	#	%
All Respondents	1000	370	37	186	18.6	87	8.7	152	15.2	44	4.4	3	0.3	158	15.8
Sex															
Male	505	200	39.6	94	18.6	43	8.5	71	14.1	18	3.6	1	0.2	78	15.4
Female	495	170	34.3	92	18.6	44	8.9	81	16.4	26	5.3	2	0.4	80	16.2
Chi2/p*	Pearson chi2(6)=4.8370 Pr=0.565														
Residence															
Urban	361	132	36.6	67	18.6	30	8.3	59	16.3	13	3.6	0	0	60	16.6
Rural	639	238	37.2	119	18.6	57	8.9	93	14.6	31	4.9	3	0.5	98	15.3
Chi2/p*	Pearson chi2(6)=3.3690 Pr=0.761														
Region															
Phnom Penh	80	26	32.5	12	15	14	17.5	12	15	1	1.3	0	0	15	18.8
Plain	280	81	28.9	57	20.4	24	8.6	43	15.4	9	3.2	3	1.1	63	22.5
Tonle Sap	250	121	48.4	46	18.4	16	6.4	27	10.8	21	8.4	0	0	19	7.6
Coastal	130	29	22.3	28	21.5	11	8.5	27	20.8	1	0.8	0	0	34	26.2
Mountain	260	113	43.5	43	16.5	22	8.5	43	16.5	12	4.6	0	0	27	10.4
Chi2/p*	Pearson chi2(24)=97.8219 Pr=0.000														
Ethnicity															
Khmer	907	323	35.6	174	19.2	86	9.5	131	14.4	41	4.5	3	0.3	149	16.4
Cham	35	15	42.9	8	22.9	0	0	4	11.4	1	2.9	0	0	7	20
Indigenous	51	29	56.9	4	7.8	1	2	13	25.5	2	3.9	0	0	2	3.9
Others	7	3	42.9	0	0	0	0	4	57.1	0	0	0	0	0	0
Chi2/p*	Pearson chi2(18)=37.6980 Pr=0.004														
Age															
15-24	187	59	31.6	38	20.3	25	13.4	33	17.6	16	8.6	0	0	16	8.6
25-34	297	122	41.1	39	13.1	27	9.1	48	16.2	11	3.7	1	0.3	49	16.5
35-44	250	95	38	54	21.6	14	5.6	37	14.8	7	2.8	1	0.4	42	16.8
45-55	266	94	35.3	55	20.7	21	7.9	34	12.8	10	3.8	1	0.4	51	19.2
Chi2/p*	Pearson chi2(18)=38.1210 Pr=0.004														
Education															
No Schooling	36	48	35.3	21	15.4	9	6.6	23	16.9	9	6.6	0	0	26	19.1
Primary School	424	159	37.5	87	20.5	32	7.5	66	15.6	12	2.8	3	0.7	65	15.3
Secondary School	267	100	37.5	51	19.1	24	9	37	13.9	12	4.5	0	0	43	16.1
High School	119	39	32.8	18	15.1	16	13.4	18	15.1	10	8.4	0	0	18	15.1
University	54	24	44.4	9	16.7	6	11.1	8	14.8	1	1.9	0	0	6	11.1
Chi2/p*	Pearson chi2(24)=24.3484 Pr=0.442														
PPI index															
Lowest (0-24)	78	32	41	11	14.1	10	12.8	7	9	7	9	0	0	11	14.1
Low(25-49)	414	165	39.9	72	17.4	31	7.5	58	14	20	4.8	2	0.5	66	15.9
Medium (50-74)	425	143	33.6	89	20.9	36	8.5	76	17.9	13	3.1	0	0	68	16
High (75-100)	83	30	36.1	14	16.9	10	12	11	13.3	4	4.8	1	1.2	13	15.7
Chi2/p*	Pearson chi2(18)=23.0820 Pr=0.187														
Occupation															
Farmer	375	125	33.3	85	22.7	26	6.9	57	15.2	18	4.8	2	0.5	62	16.5
Business Person	179	65	36.3	35	19.6	9	5	29	16.2	5	2.8	0	0	36	20.1
Sales and services worker	56	23	41.1	12	21.4	5	8.9	8	14.3	3	5.4	0	0	5	8.9
Skilled manual worker	38	13	34.2	4	10.5	3	7.9	7	18.4	2	5.3	0	0	9	23.7
Housewife	65	23	35.4	6	9.2	13	20	8	12.3	5	7.7	0	0	10	15.4
Teacher	44	19	43.2	5	11.4	7	15.9	6	13.6	1	2.3	0	0	6	13.6
University student	15	5	33.3	5	33.3	3	20	2	13.3	0	0	0	0	0	0
Non-university student	42	15	35.7	9	21.4	6	14.3	7	16.7	2	4.8	0	0	3	7.1
Professional/technician/manager	32	13	40.6	5	15.6	2	6.3	6	18.8	2	6.3	0	0	4	12.5
Government official	37	17	45.9	7	18.9	2	5.4	6	16.2	1	2.7	0	0	4	10.8
Forestry workers and NTFP collector	45	27	60	6	13.3	2	4.4	8	17.8	1	2.2	0	0	1	2.2
Coastal fisher	40	11	27.5	5	12.5	5	12.5	6	15	0	0	0	0	13	32.5
Freshwater fisher	32	14	43.8	2	6.3	4	12.5	2	6.3	4	12.5	1	3.1	5	15.6
Chi2/p*	Pearson chi2(72)=98.0268 Pr=0.022														



**Table A5: To what extent do you agree with the statement 'you can access information needed to respond to climate variability'?**

Base: All respondents

	Total	Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Do not know	
		#	%	#	%	#	%	#	%	#	%	#	%
All Respondents	1000	236	23.6	215	21.5	157	15.7	273	27.3	76	7.6	43	4.3
Sex													
Male	505	108	21.4	102	20.2	87	17.2	149	29.5	42	8.3	17	3.4
Female	495	128	25.9	113	22.8	70	14.1	124	25.1	34	6.9	26	5.3
Chi2/p*	Pearson chi2(5)=9.0146 Pr=0.108												
Residence													
Urban	361	87	24.1	75	20.8	44	12.2	112	31	31	8.6	12	3.3
Rural	639	149	23.3	140	21.9	113	17.7	161	25.2	45	7	31	4.9
Chi2/p*	Pearson chi2(5)=9.4821 Pr=0.000												
Region													
Phnom Penh	80	17	21.3	14	17.5	15	18.8	23	28.7	9	11.3	2	2.5
Plain	280	81	28.9	44	15.7	48	17.1	78	27.9	17	6.1	12	4.3
Tonle Sap	250	62	24.8	76	30.4	25	10	65	26	21	8.4	1	0.4
Coastal	130	12	9.2	29	22.3	30	23.1	41	31.5	6	4.6	12	9.2
Mountain	260	64	24.6	52	20	39	15	66	25.4	23	8.8	16	6.2
Chi2/p*	Pearson chi2(20)=65.1346 Pr=0.000												
Ethnicity													
Khmer	907	202	22.3	200	22.1	146	16.1	253	27.9	69	7.6	37	4.1
Cham	35	7	20	8	22.9	6	17.1	9	25.7	4	11.4	1	2.9
Indigenous	51	23	45.1	6	11.8	4	7.8	10	19.6	3	5.9	5	9.8
Others	7	4	57.1	1	14.3	1	14.3	1	14.3	0	0	0	0
Chi2/p*	Pearson chi2(15)=26.1830 Pr=0.036												
Age													
15-24	187	39	20.9	36	19.3	38	20.3	56	29.9	14	7.5	4	2.1
25-34	297	57	19.2	61	20.5	42	14.1	91	30.6	31	10.4	15	5.1
35-44	250	71	28.4	58	23.2	38	15.2	55	22	16	6.4	12	4.8
45-55	266	69	25.9	60	22.6	39	14.7	71	26.7	15	5.6	12	4.5
Chi2/p*	Pearson chi2(15)=22.2306 Pr=0.102												
Education													
No Schooling	136	47	34.6	30	22.1	20	14.7	22	16.2	9	6.6	8	5.9
Primary School	424	119	28.1	102	24.1	65	15.3	85	20	30	7.1	23	5.4
Secondary School	267	53	19.9	49	18.4	37	13.9	98	36.7	18	6.7	12	4.5
High School	119	12	10.1	26	21.8	23	19.3	47	39.5	11	9.2	0	0
University	54	5	9.3	8	14.8	12	22.2	21	38.9	8	14.8	0	0
Chi2/p*	Pearson chi2(20)=79.1724 Pr=0.000												
PPI index													
Lowest (0-24)	78	24	30.8	20	25.6	8	10.3	14	17.9	4	5.1	8	10.3
Low(25-49)	414	109	26.3	93	22.5	66	15.9	96	23.2	31	7.5	19	4.6
Medium (50-74)	425	89	20.9	83	19.5	71	16.7	136	32	33	7.8	13	3.1
High (75-100)	83	14	16.9	19	22.9	12	14.5	27	32.5	8	9.6	3	3.6
Chi2/p*	Pearson chi2(15)=27.9236 Pr=0.022												
Occupation													
Farmer	375	96	25.6	91	24.3	65	17.3	79	21.1	27	7.2	17	4.5
Business Person	179	45	25.1	43	24	16	8.9	55	30.7	12	6.7	8	4.5
Sales and services worker	56	11	19.6	8	14.3	12	21.4	18	32.1	6	10.7	1	1.8
Skilled manual worker	38	8	21.1	4	10.5	9	23.7	13	34.2	2	5.3	2	5.3
Housewife	65	17	26.2	17	26.2	12	18.5	12	18.5	4	6.2	3	4.6
Teacher	44	6	13.6	6	13.6	5	11.4	23	52.3	4	9.1	0	0
University student	15	0	0	1	6.7	4	26.7	7	46.7	3	20	0	0
Non-university student	42	10	23.8	11	26.2	7	16.7	13	31	1	2.4	0	0
Professional/technician/manager	32	6	18.8	6	18.8	3	9.4	14	43.8	2	6.3	1	3.1
Government official	37	8	21.6	5	13.5	6	16.2	11	29.7	6	16.2	1	2.7
Forestry workers and NTFP collector	45	14	31.1	10	22.2	4	8.9	11	24.4	3	6.7	3	6.7
Coastal fisher	40	3	7.5	7	17.5	12	30	10	25	3	7.5	5	12.5
Freshwater fisher	32	12	37.5	6	18.8	2	6.3	7	21.9	3	9.4	2	6.3
Chi2/p*	Pearson chi2(60)=93.9455 Pr=0.003												

**Table A6: To what extent do you agree with the statement that 'you can respond to climate variability'?**

Base: All respondents

	Total	Strongly disagree		Disagree		Neutral		Agree		Strongly agree		Do not know	
		#	%	#	%	#	%	#	%	#	%	#	%
All Respondents	1000	357	35.7	227	22.7	169	16.9	190	19	42	4.2	15	1.5
Sex													
Male	505	174	34.5	107	21.2	97	19.2	98	19.4	24	4.8	5	1
Female	495	183	37	120	24.2	72	14.5	92	18.6	18	3.6	10	2
Chi2/p*	Pearson chi2(5)=7.2836 Pr=0.200												
Residence													
Urban	361	126	34.9	70	19.4	66	18.3	74	20.5	21	5.8	4	1.1
Rural	639	231	36.2	157	24.6	103	16.1	116	18.2	21	3.3	11	1.7
Chi2/p*	Pearson chi2(5)=8.2294 Pr=0.144												
Region													
Phnom Penh	80	24	30	12	15	27	33.8	12	15	3	3.8	2	2.5
Plain	280	99	35.4	69	24.6	49	17.5	50	17.9	9	3.2	4	1.4
Tonle Sap	250	95	38	52	20.8	37	14.8	53	21.2	12	4.8	1	0.4
Coastal	130	22	16.9	42	32.3	30	23.1	31	23.8	2	1.5	3	2.3
Mountain	260	117	45	52	20	26	10	44	16.9	16	6.2	5	1.9
Chi2/p*	Pearson chi2(20)=66.3230 Pr=0.000												
Ethnicity													
Khmer	907	302	33.3	216	23.8	164	18.1	174	19.2	39	4.3	12	1.3
Cham	35	10	28.6	8	22.9	3	8.6	11	31.4	3	8.6	0	0
Indigenous	51	40	78.4	2	3.9	1	2	5	9.8	0	0	3	5.9
Others	7	5	71.4	1	14.3	1	14.3	0	0	0	0	0	0
Chi2/p*	Pearson chi2(15)=66.0017 Pr=0.000												
Age													
15-24	187	71	38	40	21.4	35	18.7	30	16	9	4.8	2	1.1
25-34	297	105	35.4	69	23.2	46	15.5	61	20.5	14	4.7	2	0.7
35-44	250	85	34	58	23.2	40	16	54	21.6	8	3.2	5	2
45-55	266	96	35.1	60	22.6	48	18	45	16.9	11	4.1	6	2.3
Chi2/p*	Pearson chi2(15)=8.4355 Pr=0.905												
Education													
No Schooling	136	52	38.2	37	27.2	18	13.2	19	14	4	2.9	6	4.4
Primary School	424	163	38.4	100	23.6	65	15.3	77	18.2	16	3.8	3	0.7
Secondary School	267	98	36.7	60	22.5	42	15.7	47	17.6	14	5.2	6	2.2
High School	119	34	28.6	25	21	28	23.5	27	22.7	5	4.2	0	0
University	54	10	18.5	5	9.3	16	29.6	20	37	3	5.6	0	0
Chi2/p*	Pearson chi2(20)=50.3940 Pr=0.000												
PPI index													
Lowest (0-24)	78	34	43.6	19	24.4	6	7.7	10	12.8	4	5.1	5	6.4
Low(25-49)	414	164	39.6	99	23.9	62	15	67	16.2	18	4.3	4	1
Medium (50-74)	425	140	32.9	98	23.1	81	19.1	87	20.5	14	3.3	5	1.2
High (75-100)	83	19	22.9	11	13.3	20	24.1	26	31.3	6	7.2	1	1.2
Chi2/p*	Pearson chi2(15)=46.9518 Pr=0.000												
Occupation													
Farmer	375	142	37.9	97	25.9	50	13.3	65	17.3	14	3.7	7	1.9
Business Person	179	65	36.3	45	25.1	28	15.6	34	19	5	2.8	2	1.1
Sales and services worker	56	18	32.1	11	19.6	10	17.9	12	21.4	5	8.9	0	0
Skilled manual worker	38	13	34.2	3	7.9	11	28.9	9	23.7	1	2.6	1	2.6
Housewife	65	23	35.4	19	29.2	12	18.5	7	10.8	3	4.6	1	1.5
Teacher	44	11	25	4	9.1	14	31.8	14	31.8	1	2.3	0	0
University student	15	1	6.7	0	0	7	46.7	6	40	1	6.7	0	0
Non-university student	42	18	42.9	11	26.2	5	11.9	4	9.5	3	7.1	1	2.4
Professional/technician/manager	32	10	31.3	4	12.5	7	21.9	9	28.1	1	3.1	1	3.1
Government official	37	10	27	7	18.9	10	27	7	18.9	3	8.1	0	0
Forestry workers and NTFP collector	45	29	64.4	4	8.9	4	8.9	7	15.6	1	2.2	0	0
Coastal fisher	40	5	12.5	11	27.5	10	25	12	30	0	0	2	5
Freshwater fisher	32	12	37.5	11	34.4	1	3.1	4	12.5	4	12.5	0	0
Chi2/p*	Pearson chi2(60)=116.7571 Pr=0.000												



Table A7: Do you think your actions contribute to climate change?

Base: All respondents

	Base	No		Yes		Do not know, not sure	
		#	%	#	%	#	%
All Respondents	1,000	453	45.3	437	43.7	110	11.0
Sex							
Male	500	210	41.6	261	51.7	34	6.7
Female	495	243	49.1	176	35.6	76	15.4
Chi2/p*	Pearson chi2(2)=34.8770 Pr=0.000						
Resident							
Urban	361	172	47.6	158	43.8	31	8.6
Rural	639	281	44.0	279	43.7	79	12.4
Chi2/p*	Pearson chi2(2)=3.6764 Pr=0.159						
Region							
Phnom Penh	80	38	47.5	38	47.5	4	5.0
Plain	280	124	44.3	121	43.2	35	12.5
Tonle Sap	250	124	49.6	111	44.4	15	6.0
Coastal	130	59	45.4	51	39.2	20	15.4
Mountain	260	108	41.5	116	44.6	36	13.8
Chi2/p*	Pearson chi2(8)=15.9928 Pr=0.042						
Ethnicity							
Khmer	907	412	45.4	404	44.5	91	10.0
Cham	35	14	40.0	14	40.0	7	20.0
Indigenous	51	23	45.1	18	35.3	10	19.6
Others	7	4	57.1	1	14.3	2	28.6
Chi2/p*	Pearson chi2(6)=11.6531 Pr=0.070						
Age							
15-24	187	83	44.4	90	48.1	14	7.5
25-34	297	131	44.1	140	47.1	26	8.8
35-44	250	124	49.6	92	36.8	34	13.6
45-55	266	115	43.2	115	43.2	36	13.5
Chi2/p*	Pearson chi2(6)=12.3276 Pr=0.055						
Education							
No Schooling	136	77	56.6	36	26.5	23	16.9
Primary School	424	194	45.8	169	39.9	61	14.4
Secondary School	267	123	46.1	121	45.3	23	8.6
High School	119	49	41.2	68	57.1	2	1.7
University	54	10	18.5	43	79.6	1	1.9
Chi2/p*	Pearson chi2(8)=68.2273 Pr=0.000						
PPI index							
Lowest (0-24)	78	45	57.7	25	32.1	8	10.3
Low(25-49)	414	200	48.3	166	40.1	48	11.6
Medium (50-74)	425	175	41.2	202	47.5	48	11.3
High (75-100)	83	33	39.8	44	53.3	6	7.2
Chi2/p*	Pearson chi2(6)=13.6334 Pr=0.034						
Occupation							
Farmer	375	182	48.5	147	39.2	46	12.3
Business Person	179	90	50.3	68	38.0	21	11.7
Sales and services worker	56	25	44.6	28	50.0	3	5.4
Skilled manual worker	38	13	34.2	19	50.0	6	15.8
Housewife	65	34	52.3	22	33.8	9	13.8
Teacher	44	10	22.7	31	70.5	3	6.8
University student	15	1	6.7	14	93.3	0	0.0
Non-university student	42	19	45.2	21	50.0	2	4.8
Professional/technician/manager	32	14	43.8	12	37.5	6	18.8
Government official	37	12	32.4	23	62.2	2	5.4
Forestry workers and NTFP collector	45	14	31.1	28	62.2	3	6.7
Coastal fisher	40	19	47.5	15	37.5	6	15.0
Freshwater fisher	32	20	62.5	9	28.1	3	9.4
Chi2/p*	Pearson chi2(24)=60.8129 Pr=0.000						

Table A8: In your opinion, who has the most power to respond to climate variability?

(Part 1)

Base: All respondents

	Base	No one has the power		European Union		The United States		China		Japan	
		#	%	#	%	#	%	#	%	#	%
All Respondents	1000	20	2.0	23	2.3	162	16.2	62	6.2	31	3.1
Sex											
Male	505	9	1.8	20	4.0	104	20.6	43	8.5	25	5.0
Female	495	11	2.2	3	0.6	58	11.7	19	3.8	6	1.2
Chi2/p*		0.247	0.619	12.517	0.000	14.510	0.000	9.400	0.002	11.630	0.001
Resident											
Urban	361	7	1.9	11	3.1	65	18.0	26	7.2	13	3.6
Rural	639	13	2.0	12	1.9	97	15.2	36	5.6	18	2.8
Chi2/p*		0.011	0.918	1.403	0.236	1.357	0.244	0.976	0.323	0.472	0.492
Region											
Phnom Penh	80	2	2.5	2	2.5	21	26.3	8	10.0	2	2.5
Plain	280	7	2.5	8	2.9	48	17.1	18	6.4	12	4.3
Tonle Sap	250	4	1.6	7	2.8	49	19.6	18	7.2	10	4.0
Coastal	130	2	1.5	4	3.1	21	16.2	9	6.9	3	2.3
Mountain	260	5	1.9	2	0.8	23	8.9	9	3.5	4	1.5
Chi2/p*		0.812	0.937	3.740	0.442	18.622	0.001	5.911	0.206	4.463	0.347
Ethnicity											
Khmer	907	17	1.9	22	2.4	185	17.4	60	6.6	30	3.3
Cham	35	1	2.9	1	2.9	2	5.7	1	2.9	0	0.0
Indigenous	51	1	2.0	0	0.0	2	3.9	1	2.0	1	2.0
Others	7	1	14.3	0	0.0	0	0.0	0	0.0	0	0.0
Chi2/p*		5.595	0.133	1.477	0.687	10.846	0.013	2.980	0.395	1.694	0.638
Age											
15-24	187	5	2.7	4	2.1	30	16.0	10	5.4	5	2.7
25-34	297	4	1.4	6	2.0	46	15.5	14	4.7	9	3.0
35-44	250	6	2.4	5	2.0	34	13.6	12	4.8	5	2.0
45-55	266	5	1.9	8	3.0	52	19.6	26	9.8	12	4.5
Chi2/p*		1.303	0.728	0.818	0.845	3.557	0.313	8.048	0.045	2.889	0.409
Education											
No Schooling	136	4	2.9	1	0.7	12	8.8	4	2.9	2	1.5
Primary School	424	9	2.1	5	1.2	60	14.2	27	6.4	14	3.3
Secondary School	267	5	1.9	7	2.6	45	16.9	18	6.7	9	3.4
High School	119	1	0.8	4	3.4	26	21.9	9	7.6	5	4.2
University	54	1	1.9	6	11.1	19	35.2	4	7.4	1	1.9
Chi2/p*		1.492	0.828	23.228	0.000	23.981	0.000	3.154	0.532	2.086	0.720
PPI index											
Lowest (0-24)	78	2	2.6	0	0.0	6	7.7	3	3.9	3	3.9
Low(25-49)	414	6	1.5	5	1.2	59	14.3	22	5.3	13	3.1
Medium (50-74)	425	7	1.7	16	3.8	76	17.9	27	6.4	14	3.3
High (75-100)	83	5	6.0	2	2.4	21	25.3	10	12.1	1	1.2
Chi2/p*		7.895	0.048	8.096	0.044	11.567	0.010	6.200	0.102	1.193	1.755
Occupation											
Farmer	375	7	1.9	6	1.6	53	14.1	23	6.1	13	3.5
Business Person	179	8	4.5	1	0.6	22	12.3	11	6.2	6	3.4
Sales and services worker	56	1	1.8	2	3.6	12	21.4	3	5.4	2	3.6
Skilled manual worker	38	0	0.0	0	0.0	6	15.8	2	5.3	1	2.6
Housewife	65	1	1.5	2	3.1	9	13.9	3	4.6	0	0.0
Teacher	44	0	0.0	5	11.4	17	38.6	5	11.4	1	2.3
University student	15	0	0.0	1	6.7	6	40.0	0	0.0	0	0.0
Non-university student	42	1	2.4	1	2.4	9	21.4	3	7.1	2	4.8
Professional/technician/ manager	32	0	0.0	1	3.1	6	18.8	2	6.3	2	6.3
Government official	37	1	2.7	2	5.4	10	27.0	4	10.8	2	5.4
Forestry workers and NTFP collector	45	0	0.0	2	4.4	4	8.9	2	4.4	1	2.2
Coastal fisher	40	0	0.0	0	0.0	5	12.5	3	7.5	0	0.0
Freshwater fisher	32	1	3.1	0	0.0	3	9.4	1	3.1	1	3.1
Chi2/p*		10.385	0.582	26.365	0.010	34.634	0.001	5.711	0.930	6.427	0.893

Table A8: In your opinion, who has the most power to respond to climate variability?  
(Part 2)

Base: All respondents

	Base	Prime minister		Commune representatives		Village Chief and local leader		Government		NGOs	
		#	%	#	%	#	%	#	%	#	%
All Respondents	1000	172	17.2	43	4.3	51	5.1	243	24.3	106	10.6
Sex											
Male	505	85	16.8	29	5.7	23	4.6	135	26.7	56	11.1
Female	495	87	17.6	14	2.8	116	23.4	108	21.8	50	10.1
Chi2/p*		0.097	0.755	5.159	0.023	0.627	0.428	3.282	0.070	0.258	0.612
Resident											
Urban	361	56	15.5	13	3.6	15	4.2	94	26.0	31	8.6
Rural	639	116	18.2	30	4.7	36	5.6	149	23.3	75	11.7
Chi2/p*		1.130	0.288	0.671	0.413	1.042	0.307	0.929	0.335	2.415	0.120
Region											
Phnom Penh	80	9	11.3	1	1.3	1	1.3	20	25.0	5	6.3
Plain	280	28	10.0	11	3.9	11	3.9	56	20.0	25	8.9
Tonle Sap	250	52	20.8	14	5.6	23	9.2	56	22.4	25	10.0
Coastal	130	15	11.5	4	3.1	6	4.6	39	30.0	16	12.3
Mountain	260	68	26.2	13	5.0	10	3.9	72	27.7	35	13.5
Chi2/p*		32.01	0.000	3.711	0.446	12.83	0.012	7.249	0.123	5.165	0.271
		8		5							
Ethnicity											
Khmer	907	153	16.9	39	4.3	48	5.3	233	25.7	94	10.4
Cham	35	5	14.3	0	0.0	0	0.0	5	14.3	5	14.3
Indigenous	51	11	21.6	4	7.8	3	5.9	5	9.8	7	13.7
Others	7	3	42.9	0	0.0	0	0.0	0	0.0	0	0.0
Chi2/p*		4.198	0.241	3.443	0.328	2.391	0.495	10.93	0.012	1.911	0.591
								3			
Age											
15-24	187	33	17.7	11	5.9	12	6.4	42	22.5	16	8.6
25-34	297	49	16.5	17	5.7	19	6.4	75	25.3	38	12.8
35-44	250	40	16.0	11	4.4	15	6.0	60	24.0	24	9.6
45-55	266	50	18.8	4	1.5	5	1.9	66	24.8	28	10.5
Chi2/p*		0.858	0.836	7.661	0.054	7.661	0.054	0.514	0.910	2.599	0.458
Education											
No Schooling	136	30	22.1	7	5.2	9	6.6	21	15.4	13	9.6
Primary School	424	77	18.2	16	3.8	18	4.3	82	19.3	38	9.0
Secondary School	267	35	13.1	12	4.5	13	4.9	77	28.8	32	12.0
High School	119	21	17.7	4	3.4	6	5.0	41	34.5	16	13.5
University	54	9	16.7	4	7.4	5	9.3	22	40.7	7	13.0
Chi2/p*		5.695	0.223	2.069	0.723	3.248	0.517	29.06	0.000	3.231	0.520
								8			
PPI index											
Lowest (0-24)	78	11	14.1	4	5.1	5	6.4	11	14.1	4	5.1
Low(25-49)	414	78	18.8	22	5.3	25	6.0	90	21.7	46	11.1
Medium (50-74)	425	6.9	16.2	16	3.8	17	4.0	116	27.3	48	11.3
High (75-100)	83	15	16.9	1	1.2	4	4.8	26	31.3	8	9.6
Chi2/p*		1.592	0.661	3.393	0.335	2.106	0.551	10.18	0.017	2.876	0.411
								3			
Occupation											
Farmer	375	69	18.4	17	4.5	17	4.5	74	19.7	39	10.4
Business Person	179	28	15.6	8	4.5	10	5.6	39	21.8	11	6.2
Sales and services worker	56	3	5.4	4	7.1	4	7.1	17	30.4	10	17.9
Skilled manual worker	38	4	10.5	1	2.6	2	5.3	6	15.8	2	5.3
Housewife	65	8	12.3	1	1.5	3	4.6	19	29.2	6	9.2
Teacher	44	10	22.7	0	0.0	3	6.8	21	47.7	5	11.4
University student	15	4	26.7	1	6.7	1	6.7	6	40.0	1	6.7
Non-university student	42	7	16.7	1	2.4	0	0.0	8	19.1	8	19.1
Professional/technician/manager	32	7	21.9	1	3.1	1	3.1	11	34.4	5	15.6
Government official	37	9	24.3	1	2.7	2	5.4	22	59.5	6	16.2
Forestry workers and NTFP collector	45	13	28.9	3	6.7	3	6.7	7	15.6	6	13.3
Coastal fisher	40	7	17.5	2	5.0	2	5.0	9	22.5	7	17.5
Freshwater fisher	32	3	9.4	3	9.4	3	9.4	4	12.5	0	0.0
Chi2/p*		17.88	0.119	8.180	0.771	5.157	0.953	55.09	0.000	19.82	0.070
		1						9		5	



Table A8: In your opinion, who has the most power to respond to climate variability?  
(Part 3)

Base: All respondents

	Base	Myself		Cambodians		Ministry of Environment		Others		Do not know	
		#	%	#	%	#	%	#	%	#	%
All Respondents	1000	22	2.2	53	5.3	23	2.3	112	11.2	424	42.4
Sex											
Male	505	10	2.0	17	3.4	16	3.2	68	13.5	192	38.0
Female	495	12	2.4	36	7.3	7	1.4	44	8.9	232	46.9
Chi2/p*		0.229	0.632	7.600	0.006	3.423	0.064	5.264	0.022	8.015	0.005
Resident											
Urban	361	7	1.9	24	6.7	12	3.3	47	13.0	150	41.6
Rural	639	15	2.4	29	4.5	11	1.7	65	10.2	274	42.9
Chi2/p*		0.179	0.672	2.046	0.153	2.637	0.104	1.880	0.170	0.167	0.683
Region											
Phnom Penh	80	2	2.5	6	7.5	4	5.0	11	13.8	32	40.0
Plain	280	1	0.4	7	2.5	8	2.9	31	11.1	141	50.4
Tonle Sap	250	2	0.8	22	8.8	8	3.2	25	10.0	92	36.8
Coastal	130	0	0.0	7	5.4	0	0.0	21	16.2	52	40.0
Mountain	260	17	6.5	11	4.2	3	1.2	24	9.2	107	41.2
Chi2/p*		32.40	0.000	11.84	0.019	8.464	0.076	5.111	0.276	11.13	0.025
		0		1						0	
Ethnicity											
Khmer	907	15	1.7	49	5.4	22	2.4	104	11.5	375	41.4
Cham	35	0	0.0	3	8.6	1	2.9	4	11.4	20	57.1
Indigenous	51	6	11.8	1	2.0	0	0.0	4	7.8	26	51.0
Others	7	1	14.3	0	0.0	0	0.0	0	0.0	3	42.9
Chi2/p*		28.48	0.000	2.290	0.514	1.477	0.687	1.527	0.676	5.066	0.167
		2									
Age											
15-24	187	6	3.2	18	9.6	6	3.2	25	13.4	77	41.2
25-34	297	11	3.7	18	6.1	5	1.7	34	11.5	121	40.7
35-44	250	3	1.2	6	2.4	5	2.0	20	8.0	123	49.2
45-55	266	2	0.8	11	4.1	7	2.6	33	12.4	103	38.7
Chi2/p*		7.760	0.051	12.22	0.007	1.420	0.701	3.866	0.276	6.656	0.084
				2							
Education											
No Schooling	136	3	2.2	3	2.2	0	0.0	10	7.4	66	48.5
Primary School	424	11	2.6	12	2.8	3	0.7	36	8.5	204	48.1
Secondary School	267	3	1.1	15	5.6	5	1.9	31	11.6	111	41.6
High School	119	3	2.5	14	11.8	9	7.6	21	17.7	33	27.7
University	54	2	3.7	9	16.7	6	11.1	14	25.9	10	18.5
Chi2/p*		2.369	0.668	31.61	0.000	41.52	0.000	21.94	0.000	30.92	0.000
				0		9		6		9	
PPI index											
Lowest (0-24)	78	2	2.6	3	3.9	0	0.0	4	5.1	42	53.9
Low(25-49)	414	11	2.7	17	4.1	3	0.7	41	9.9	191	46.1
Medium (50-74)	425	8	1.9	30	7.1	15	3.5	51	12.0	168	39.5
High (75-100)	83	1	1.2	3	3.6	5	6.0	16	19.3	23	27.7
Chi2/p*		1.031	0.794	4.593	0.204	14.39	0.002	9.309	0.025	15.31	0.002
						0				6	
Occupation											
Farmer	375	7	1.9	10	2.7	4	1.1	31	8.3	174	46.4
Business Person	179	4	2.2	10	5.6	7	3.9	15	8.4	84	46.9
Sales and services worker	56	0	0.0	4	7.1	1	1.8	16	28.6	17	30.4
Skilled manual worker	38	1	2.6	2	5.3	0	0.0	5	13.2	21	55.3
Housewife	65	1	1.5	1	1.5	2	3.1	7	10.8	31	47.7
Teacher	44	1	2.3	7	15.9	3	6.8	12	27.3	7	15.9
University student	15	2	13.3	3	20.0	3	20.0	4	26.7	1	6.7
Non-university student	42	0	0.0	6	14.3	0	0.0	6	14.3	16	38.1
Professional/technician/manager	32	0	0.0	4	12.5	1	3.1	2	6.3	9	28.1
Government official	37	1	2.7	3	8.1	2	5.4	4	10.8	6	16.2
Forestry workers and NTFP collector	45	3	6.7	1	2.2	0	0.0	3	6.7	21	46.7
Coastal fisher	40	0	0.0	1	2.5	0	0.0	6	15.0	18	45.0
Freshwater fisher	32	2	6.3	1	3.1	0	0.0	1	3.1	19	59.4
Chi2/p*		19.82	0.078	36.16	0.000	36.07	0.000	41.66	0.000	48.68	0.000
		5		6		8		7		7	

Table A9: What can people do in respond to climate variability? (Part 1)

Base: All respondents

	Base	Building water Storage structures		Building irrigation canal		Building dykes		Building Water control structures		Building storm-resident house	
		#	%	#	%	#	%	#	%	#	%
All Respondents	1000	32	3.2	40	4.0	24	2.4	22	2.2	48	4.8
Sex											
Male	505	20	4.0	25	5.0	12	2.4	10	2.0	27	5.4
Female	495	12	2.4	15	3.0	12	2.4	12	2.4	21	4.2
Chi2/p*		1.904	0.168	2.400	0.121	0.002	0.960	0.229	0.632	0.667	0.414
Resident											
Urban	361	10	2.8	11	3.1	7	1.9	8	2.2	12	3.3
Rural	639	22	3.4	29	4.5	17	2.7	14	2.2	36	5.6
Chi2/p*		0.337	0.562	1.336	0.248	0.512	0.474	0.001	0.979	2.693	0.101
Region											
Phnom Penh	80	0	0.0	3	3.8	1	1.3	2	2.5	0	0.0
Plain	280	15	5.4	20	7.1	12	4.3	12	4.3	6	2.1
Tonle Sap	250	9	3.6	10	4.0	7	2.8	6	2.4	22	8.8
Coastal	130	0	0.0	0	0.0	0	0.0	0	0.0	2	1.5
Mountain	260	8	3.1	7	2.7	4	1.5	2	0.8	18	6.9
Chi2/p*		11.19	0.023	13.79	0.008	8.894	0.064	11.13	0.025	22.70	0.000
		0		0				9		4	
Ethnicity											
Khmer	907	32	3.5	38	4.2	23	2.5	22	2.4	40	4.4
Cham	35	0	0.0	1	2.9	0	0.0	0	0.0	2	5.7
Indigenous	51	0	0.0	1	2.0	1	2.0	0	0.0	6	11.8
Others	7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Chi2/p*		3.390	0.335	1.048	0.790	1.146	0.766	2.307	0.511	6.132	0.105
Age											
15-24	187	6	3.2	14	7.5	9	4.8	3	1.6	10	5.4
25-34	297	3	1.0	8	2.7	5	1.7	5	1.7	14	4.7
35-44	250	12	4.8	10	4.0	6	2.4	7	2.4	14	5.6
45-55	266	11	4.1	8	3.0	4	1.5	7	2.6	10	3.8
Chi2/p*		7.416	0.060	7.922	0.048	6.211	0.102	1.325	0.723	1.108	0.775
Education											
No Schooling	136	3	2.2	4	2.9	3	2.2	6	4.4	10	7.4
Primary School	424	13	3.1	13	3.1	9	2.1	6	1.4	23	5.4
Secondary School	267	6	2.3	8	3.0	5	1.9	4	1.5	8	3.0
High School	119	7	5.9	10	8.4	4	3.4	3	2.5	5	4.2
University	54	3	5.6	5	9.3	3	5.6	3	5.6	2	3.7
Chi2/p*		4.972	0.290	11.95	0.018	3.243	0.518	7.800	0.099	4.438	0.350
				9							
PPI index											
Lowest (0-24)	78	1	1.3	0	0.0	0	0.0	0	0.0	5	6.4
Low(25-49)	414	13	3.1	15	3.6	10	2.4	10	2.4	17	4.1
Medium (50-74)	425	15	3.5	20	4.7	12	2.8	11	2.6	24	5.7
High (75-100)	83	3	3.6	5	6.0	2	2.4	1	1.2	2	2.4
Chi2/p*		1.126	0.771	4.840	0.184	2.244	0.471	2.524	0.471	2.584	0.460
Occupation											
Farmer	375	17	4.5	15	4.0	8	2.1	12	3.2	19	5.1
Business Person	179	4	2.2	5	2.8	6	3.4	3	1.7	8	4.5
Sales and services worker	56	0	0.0	0	0.0	1	1.8	0	0.0	3	5.4
Skilled manual worker	38	0	0.0	1	2.6	1	2.6	0	0.0	1	2.6
Housewife	65	2	3.1	1	3.1	1	1.5	2	3.1	2	3.1
Teacher	44	0	0.0	3	6.8	2	4.6	0	0.0	2	4.6
University student	15	1	6.7	3	20.0	0	0.0	1	6.7	1	6.7
Non-university student	42	1	2.4	3	7.1	1	2.4	1	2.4	2	4.8
Professional/technician/manager	32	2	6.3	2	6.3	1	3.1	2	6.3	0	0.0
Government official	37	4	10.8	2	5.4	1	2.7	1	2.7	2	5.4
Forestry workers and NTFP collector	45	1	2.2	2	4.4	1	2.2	0	0.0	4	8.9
Coastal fisher	40	0	0.0	0	0.0	0	0.0	0	0.0	1	2.5
Freshwater fisher	32	0	0.0	2	6.3	1	3.1	0	0.0	3	9.4
Chi2/p*		18.32	0.106	18.05	0.114	3.493	0.991	11.82	0.460	6.292	0.901
		8		6				0			

Table A9: What can people do in respond to climate variability? (Part 2)

Base: All respondents

	Base	Using air conditioner/fan		Doing nothing		Relocating		Diversifying crops		Stocking up food for family	
		#	%	#	%	#	%	#	%	#	%
All Respondents	1000	73	7.3	224	22.4	32	3.2	52	2.2	37	3.7
Sex											
Male	505	36	7.1	118	23.4	17	3.4	30	5.9	16	3.2
Female	495	37	7.5	106	21.4	15	3.0	22	4.4	21	4.2
Chi2/p*		0.044	0.833	0.548	0.459	0.091	0.763	1.135	0.287	0.809	0.368
Resident											
Urban	361	38	10.5	70	19.4	11	3.1	14	3.9	15	4.2
Rural	639	35	5.5	154	24.1	21	3.3	38	6.0	22	3.4
Chi2/p*		8.690	0.003	3.943	0.086	0.043	0.836	2.003	0.157	0.328	0.567
Region											
Phnom Penh	80	10	12.5	17	21.3	0	0.0	0	0.0	4	5.0
Plain	280	38	13.6	51	18.2	6	2.1	17	6.1	10	3.6
Tonle Sap	250	11	4.4	67	26.8	16	6.4	19	7.6	14	5.6
Coastal	130	3	2.3	37	28.5	0	0.0	1	0.8	2	1.5
Mountain	260	11	4.2	52	20.0	10	3.9	15	5.8	7	2.7
Chi2/p*		30.98	0.000	9.277	0.055	16.56	0.002	13.08	0.011	5.371	0.251
		5				7		9			
Ethnicity											
Khmer	907	70	7.7	205	22.6	32	3.5	49	5.4	33	3.6
Cham	35	1	2.9	8	22.9	0	0.0	0	0.0	3	8.6
Indigenous	51	2	3.9	10	19.6	0	0.0	3	5.9	1	2.0
Others	7	0	0.0	1	14.3	0	0.0	0	0.0	0	0.0
Chi2/p*		2.666	0.446	0.519	0.915	3.390	0.335	2.427	0.489	3.043	0.385
Age											
15-24	187	13	7.0	30	16.0	6	3.2	6	3.2	8	4.3
25-34	297	13	4.4	74	24.9	6	2.0	15	5.1	13	4.4
35-44	250	22	8.8	60	24.0	10	4.0	13	5.2	7	2.8
45-55	266	25	9.4	60	22.6	10	3.8	18	6.8	9	3.4
Chi2/p*		6.345	0.096	5.801	0.122	2.120	0.548	2.843	0.417	1.201	0.753
Education											
No Schooling	136	8	5.9	36	26.5	6	4.4	8	5.9	6	4.4
Primary School	424	29	6.8	97	22.9	15	3.5	29	6.8	16	3.8
Secondary School	267	22	8.2	58	21.7	7	2.6	8	3.0	7	2.6
High School	119	8	6.7	23	19.3	3	2.5	4	3.4	4	3.4
University	54	6	11.1	10	18.5	1	1.9	3	5.6	4	7.4
Chi2/p*		2.103	0.717	2.537	0.638	1.583	0.812	5.901	0.207	3.192	0.526
PPI index											
Lowest (0-24)	78	3	3.9	17	21.8	0	0.0	3	3.9	1	1.3
Low(25-49)	414	22	5.3	105	25.4	14	3.4	22	5.3	13	3.1
Medium (50-74)	425	36	8.5	85	20.0	14	3.3	24	5.7	17	4.0
High (75-100)	83	12	14.5	17	20.5	4	4.8	3	3.6	6	7.2
Chi2/p*		10.93	0.012	3.690	0.297	3.337	0.342	0.897	0.826	4.652	0.199
		3									
Occupation											
Farmer	375	26	6.9	93	24.8	13	3.5	29	7.7	16	4.3
Business Person	179	15	8.4	38	21.2	7	3.9	4	2.2	7	3.9
Sales and services worker	56	4	7.1	10	17.9	0	0.0	2	3.6	1	1.8
Skilled manual worker	38	0	0.0	6	15.8	1	2.6	2	5.3	0	0.0
Housewife	65	7	10.8	14	21.5	3	4.6	2	3.1	4	6.2
Teacher	44	7	15.9	4	9.1	1	2.3	3	6.8	2	4.6
University student	15	2	13.3	1	6.7	1	6.7	0	0.0	2	13.3
Non-university student	42	2	4.8	8	19.1	1	2.4	0	0.0	2	4.8
Professional/technician/manager	32	3	9.4	7	21.9	0	0.0	1	3.1	1	3.1
Government official	37	2	5.4	9	24.3	1	2.7	3	8.1	1	2.7
Forestry workers and NTFP collector	45	0	0.0	11	24.4	2	4.4	4	8.9	0	0.0
Coastal fisher	40	2	5.0	13	32.5	0	0.0	0	0.0	0	0.0
Freshwater fisher	32	3	9.4	10	31.3	2	6.3	2	6.3	1	3.1
Chi2/p*		15.01	0.240	13.90	0.307	7.080	0.852	16.75	0.159	11.05	0.525
		9		5				3		1	



Table A9: What can people do in respond to climate variability? (Part 3)

Base: All respondents

	Total	Stocking up food for animal		Planting more vegetables		Planting more trees		Digging well		Others		Do not know	
		#	%	#	%	#	%	#	%	#	%	#	%
All Respondents	1000	20	2.0	31	3.1	153	15.3	17	1.7	53	5.3	370	37.0
Sex													
Male	505	11	2.2	12	2.4	85	16.8	10	2.0	29	5.7	163	32.3
Female	495	9	1.8	19	3.8	68	13.7	7	1.4	24	4.9	207	41.8
Chi2/p*		0.16 5	0.68 4	1.779 2	0.18	1.847 4	0.17	0.479 9	0.48	0.398 8	0.52	9.762 2	0.00
Residence													
Urban	361	7	1.9	8	2.2	63	17.5	1	0.3	25	6.9	143	39.6
Rural	639	13	2.0	23	3.6	90	14.1	16	2.5	28	4.4	227	35.5
Chi2/p*		0.01 1	0.91 8	1.469 5	0.22	2.018 5	0.15	6.846 9	0.00	2.973 5	0.08	1.654 8	0.19
Region													
Phnom Penh	80	4	5.0	0	0.0	10	12.5	1	1.3	7	8.8	31	38.8
Plain	280	9	3.2	18	6.4	55	19.6	9	3.2	21	7.5	120	42.9
Tonle Sap	250	4	1.6	6	2.4	38	15.2	2	0.8	10	4.0	70	28.0
Coastal	130	0	0.0	0	0.0	8	6.2	1	0.8	4	3.1	64	49.2
Mountain	260	3	1.2	7	2.7	42	16.2	4	1.5	11	4.2	85	32.7
Chi2/p*		9.58 7	0.04 8	17.59 7	0.00 1	13.09 9	0.01 1	5.865 9	0.20	7.311 0	0.12	23.32 6	0.00
Ethnicity													
Khmer	907	18	2.0	31	3.4	146	16.1	16	1.8	48	5.3	328	36.2
Cham	35	1	2.9	0	0.0	2	5.7	1	2.9	2	5.7	17	48.6
Indigenous	51	1	2.0	0	0.0	5	9.8	0	0.0	3	5.9	21	41.2
Others	7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	4	57.1
Chi2/p*		0.27 6	0.96 5	3.280 0	0.35	5.380 6	0.14	1.306 8	0.72	0.438 2	0.93	3.883 4	0.27
Age													
15-24	187	5	2.7	6	3.2	40	21.4	2	1.1	10	5.4	60	32.1
25-34	297	4	1.4	6	2.0	47	15.8	5	1.7	14	4.7	114	38.4
35-44	250	6	2.4	8	3.2	31	12.4	6	2.4	10	4.0	92	36.8
45-55	266	5	1.9	11	4.1	35	13.2	4	1.5	19	7.1	104	39.1
Chi2/p*		1.30 3	0.72 8	2.118 8	0.54	7.980 6	0.04	1.240 4	0.74	2.846 6	0.41	2.688 2	0.44
Education													
No Schooling	136	4	2.9	6	4.4	8	5.9	0	0.0	7	5.2	62	45.6
Primary School	424	6	1.4	19	4.5	51	12.0	10	2.4	15	3.5	164	38.7
Secondary School	267	8	3.0	3	1.1	40	15.0	5	1.9	20	7.5	98	36.7
High School	119	0	0.0	2	1.7	32	26.9	2	1.7	7	5.9	35	29.4
University	54	2	3.7	1	1.9	22	40.7	0	0.0	4	7.4	11	20.4
Chi2/p*		5.93 5	0.20 4	8.022 1	0.09	52.13 7	0.00	4.434 0	0.35	5.741 9	0.21	14.17 2	0.00
PPI index													
Lowest (0-24)	78	0	0.0	3	3.9	7	9.0	1	1.3	5	6.4	34	43.6
Low(25-49)	414	7	1.7	17	4.1	59	14.3	7	1.7	17	4.1	147	35.5
Medium (50-74)	425	11	2.6	10	2.4	75	17.7	9	2.1	25	5.9	164	38.6
High (75-100)	83	2	2.4	1	1.2	12	14.5	0	0.0	6	7.2	25	30.1
Chi2/p*		2.61 5	0.45 5	3.322 5	0.34	4.612 3	0.20	1.961 8	0.51	2.269 8	0.51	3.994 2	0.26
Occupation													
Farmer	375	8	2.1	21	5.6	49	13.1	12	3.2	15	4.0	128	34.1
Business Person	179	7	3.9	5	2.8	24	13.4	1	0.6	9	5.0	78	43.6
Sales and services worker	56	0	0.0	0	0.0	12	21.4	0	0.0	5	8.9	18	32.1
Skilled manual worker	38	0	0.0	0	0.0	5	13.2	1	2.6	2	5.3	23	60.5
Housewife	65	2	3.1	3	4.6	10	15.4	0	0.0	1	1.5	32	49.2
Teacher	44	0	0.0	0	0.0	12	27.3	0	0.0	4	9.1	15	34.1
University student	15	0	0.0	1	6.7	8	53.3	0	0.0	1	6.7	1	6.7
Non-university student	42	0	0.0	0	0.0	9	21.4	0	0.0	3	7.1	12	28.6
Professional/technician/manager	32	1	1.3	0	0.0	7	21.9	1	3.1	3	9.4	12	37.5
Government official	37	1	2.7	0	0.0	8	21.6	1	2.7	5	13.5	12	32.4
Forestry workers and NTFP collector	45	0	0.0	1	2.2	4	8.9	0	0.0	2	4.4	15	33.3
Coastal fisher	40	0	0.0	0	0.0	2	5.0	0	0.0	1	2.5	16	40.0
Freshwater fisher	32	1	3.1	0	0.0	3	9.4	1	3.1	2	6.3	8	25.0
Chi2/p*		9.97 3	0.61 8	19.37 5	0.08	34.30 1	0.00	12.95 1	0.37	12.97 0	0.37	28.48 9	0.00

**Table A10: What have you or someone in your family done in response to climate variability? What did you or they do? (Part 1)**

Base: Who have done something to respond to the changing weather

	Base	Rehabilitated water storage structures		Building irrigation cannels		Building dykes		Building Water control structures		Building storm-resident house	
		#	%	#	%	#	%	#	%	#	%
All Respondents	936	68	7.3	45	4.8	34	3.6	18	1.9	165	17.6
Sex											
Male	480	41	8.5	26	5.4	19	4.0	12	2.5	89	18.5
Female	456	27	5.9	19	4.2	15	3.3	6	1.3	76	16.7
Chi2/p*		2.384	0.123	0.798	0.372	0.299	0.585	1.739	0.187	0.566	0.452
Resident											
Urban	344	16	4.7	9	2.6	11	3.2	5	1.5	47	13.7
Rural	592	52	8.8	36	6.1	23	3.9	13	2.2	118	19.9
Chi2/p*		5.515	0.019	5.707	0.017	0.294	0.588	0.636	0.425	5.890	0.015
Region											
Phnom Penh	78	1	1.3	1	1.3	1	1.3	1	1.3	9	11.5
Plain	272	16	5.9	22	8.1	12	4.4	7	2.6	51	18.8
Tonle Sap	213	22	10.3	10	4.7	16	7.5	2	0.9	27	12.7
Coastal	125	11	8.8	4	3.2	1	0.8	3	2.4	40	32.0
Mountain	248	18	7.3	8	3.2	4	1.6	5	2.0	38	15.3
Chi2/p*		8.321	0.081	10.58	0.032	16.61	0.002	2.036	0.729	24.51	0.000
				3		4				4	
Ethnicity											
Khmer	844	65	7.7	41	4.9	32	3.8	15	1.8	153	18.1
Cham	35	1	2.9	0	0.0	0	0.0	2	5.7	6	17.1
Indigenous	50	1	2.0	4	8.0	2	4.0	1	2.0	6	12.0
Others	7	1	14.3	0	0.0	0	0.0	0	0.0	0	0.0
Chi2/p*		3.817	0.282	3.239	0.356	1.663	0.645	2.901	0.407	2.740	0.434
Age											
15-24	175	9	5.1	11	6.3	10	5.7	5	2.9	32	18.3
25-34	275	21	7.6	7	2.6	9	3.3	6	2.2	55	20.0
35-44	236	15	6.4	15	6.4	6	2.5	3	1.3	35	14.8
45-55	250	23	9.2	12	4.8	9	3.6	4	1.6	43	17.2
Chi2/p*		2.905	0.407	5.147	0.161	3.070	0.381	1.577	0.665	2.421	0.490
Education											
No Schooling	123	5	4.1	3	2.4	1	0.8	0	0.0	25	20.3
Primary School	394	24	6.1	28	7.1	16	4.1	6	1.5	67	17.0
Secondary School	255	25	9.8	9	3.5	9	3.5	3	1.2	40	15.7
High School	111	8	7.2	3	2.7	5	4.5	6	5.4	20	18.0
University	53	6	11.3	2	3.8	3	5.7	3	5.7	13	24.5
Chi2/p*		6.409	0.171	8.167	0.086	3.871	0.424	14.56	0.006	3.133	0.536
								2			
PPI index											
Lowest (0-24)	71	2	2.8	5	7.0	2	2.8	0	0.0	13	18.3
Low(25-49)	379	23	6.1	21	5.5	13	3.4	7	1.9	50	13.2
Medium (50-74)	403	37	9.2	18	4.5	16	4.0	10	2.5	89	22.1
High (75-100)	83	6	7.2	1	1.2	3	3.6	1	1.2	13	15.7
Chi2/p*		5.087	0.166	3.677	0.299	0.311	0.958	2.297	0.513	10.89	0.012
										0	
Occupation											
Farmer	355	35	9.9	24	6.8	17	4.8	6	1.7	60	16.9
Business Person	158	7	4.4	5	3.2	5	3.2	0	0.0	27	17.1
Sales and services worker	54	3	5.6	4	7.4	3	5.6	1	1.9	8	14.8
Skilled manual worker	35	1	2.9	0	0.0	0	0.0	0	0.0	6	17.1
Housewife	61	2	3.3	0	0.0	0	0.0	0	0.0	8	13.1
Teacher	43	6	14.0	3	7.0	3	7.0	3	7.0	7	16.3
University student	15	1	6.7	0	0.0	1	6.7	1	6.7	5	33.3
Non-university student	39	3	7.7	1	2.6	2	5.1	2	5.1	8	20.5
Professional/technician/manager	30	2	6.7	1	3.3	1	3.3	2	6.7	3	10.0
Government official	36	4	11.1	2	5.6	0	0.0	1	2.8	7	19.4
Forestry workers and NTFP collector	42	2	4.8	2	4.8	1	2.4	0	0.0	7	16.7
Coastal fisher	38	2	5.3	1	2.6	0	0.0	2	5.3	11	29.0
Freshwater fisher	30	0	0.0	2	6.7	1	3.3	0	0.0	8	26.7
Chi2/p*		14.76	0.255	11.97	0.448	10.65	0.559	22.19	0.035	10.49	0.573
		0		1		4		8		3	

**Table A10: What have you or someone in your family done in response to climate variability? What did you or they do? (Part 2)**

Base: Who have done something to respond to the changing weather

	Base	Used air Conditioner/ fan		Used energy in an economical		Did nothing		Relocated		Prepared boat	
		#	%	#	%	#	%	#	%	#	%
All Respondents	936	481	51.4	121	12.9	54	5.8	20	2.1	71	7.6
Sex											
Male	480	246	51.3	75	15.6	25	5.8	10	2.1	46	9.6
Female	456	235	51.5	46	10.1	26	5.7	10	2.2	25	5.5
Chi2/p*		0.008	0.93	6.37	0.01	0.007	0.931	0.01	0.90	5.610	0.01
Resident											
Urban	344	243	70.6	52	15.1	23	6.7	7	2.0	3	0.9
Rural	592	238	40.2	69	11.7	31	5.2	13	2.2	68	11.5
Chi2/p*		80.686	0.000	2.315	0.128	0.841	0.359	0.027	0.870	34.968	0.000
Region											
Phnom Penh	78	72	92.3	16	20.5	2	2.6	0	0.0	0	0.0
Plain	272	133	48.9	36	13.2	25	9.2	11	4.0	15	5.5
Tonle Sap	213	119	55.9	24	11.3	13	6.1	7	3.3	11	5.2
Coastal	125	63	50.4	16	12.8	7	5.6	1	0.8	32	25.6
Mountain	248	94	37.9	29	11.7	7	2.8	1	0.4	13	5.2
Chi2/p*		72.771	0.000	4.869	0.301	11.34	0.023	12.41	0.015	69.658	0.000
Ethnicity											
Khmer	844	457	54.2	115	13.6	48	5.7	19	2.3	63	7.5
Cham	35	21	60.0	6	17.1	4	11.4	1	2.9	5	14.3
Indigenous	50	2	4.0	0	0.0	2	4.0	0	0.0	1	2.0
Others	7	1	14.3	0	0.0	0	0.0	0	0.0	2	28.6
Chi2/p*		52.415	0.000	9.381	0.025	2.789	0.425	1.384	0.709	8.882	0.031
Age											
15-24	175	92	52.6	26	14.9	6	3.4	3	1.7	13	7.4
25-34	275	143	52.0	34	12.4	13	4.7	7	2.6	21	7.6
35-44	236	112	47.5	24	10.2	14	5.9	6	2.5	22	9.3
45-55	250	134	53.6	37	14.8	21	8.4	4	1.6	15	6.0
Chi2/p*		2.088	0.55	3.03	0.38	5.507	0.138	0.89	0.82	1.919	0.58
Education											
No Schooling	123	41	33.3	14	11.4	9	7.3	4	3.3	19	15.5
Primary School	394	162	41.1	40	10.2	26	6.6	12	3.1	39	9.9
Secondary School	255	156	61.2	38	14.9	14	5.5	4	1.6	11	4.3
High School	111	78	70.3	17	15.3	5	4.5	0	0.0	2	1.8
University	53	44	83.0	12	22.6	0	0.0	0	0.0	0	0.0
Chi2/p*		79.540	0.000	8.845	0.065	4.649	0.325	6.236	0.180	27.392	0.000
PPI index											
Lowest (0-24)	71	9	12.7	4	5.6	4	5.6	4	5.6	13	18.3
Low(25-49)	379	125	33.0	37	9.8	26	6.9	11	2.9	41	10.8
Medium (50-74)	403	276	68.5	64	15.9	20	5.0	5	1.2	17	4.2
High (75-100)	83	71	85.5	16	19.3	4	4.8	0	0.0	0	0.0
Chi2/p*		79.917	0.000	12.82	0.005	1.452	0.693	8.574	0.036	30.628	0.000
Occupation											
Farmer	355	134	37.8	39	11.0	18	5.1	7	2.0	19	5.4
Business Person	158	105	66.5	22	13.9	13	8.2	2	1.3	3	1.9
Sales and services worker	54	35	64.8	5	9.3	3	5.6	2	3.7	2	3.7
Skilled manual worker	35	22	62.9	5	14.3	3	8.6	0	0.0	0	0.0
Housewife	61	41	67.2	11	18.0	6	9.8	2	3.3	4	6.6
Teacher	43	33	76.7	6	14.0	0	0.0	0	0.0	0	0.0
University student	15	11	73.3	4	26.7	0	0.0	0	0.0	0	0.0
Non-university student	39	21	53.9	7	18.0	2	5.1	1	2.6	1	2.6
Professional/technician/ manager	30	22	73.3	5	16.7	2	6.7	0	0.0	0	0.0
Government official	36	25	69.4	8	22.1	1	2.8	0	0.0	3	8.3
Forestry workers and NTFP collector	42	6	14.3	2	4.8	0	0.0	0	0.0	0	0.0
Coastal fisher	38	15	39.5	4	10.5	1	2.6	0	0.0	24	63.2
Freshwater fisher	30	11	36.7	3	10.0	5	16.7	6	20.0	15	50.0
Chi2/p*		105.102	0.000	12.920	0.375	18.472	0.102	52.665	0.000	270.440	0.000



**Table A10: What have you or someone in your family done in response to climate variability? What did you or they do? (Part 3)**

Base: Who have done something to respond to the changing weather

	Base	Diversify crops		Paid more attention to weather forecast		Planted crops as usual		Arranged ritual ceremony	
		#	%	#	%	#	%	#	%
All Respondents	936	141	15.1	171	18.3	244	26.1	144	15.4
Sex									
Male	480	84	17.5	102	21.3	135	28.1	81	16.9
Female	456	57	12.5	69	15.1	109	23.9	63	13.8
Chi2/p*		4.569	0.033	5.863	0.015	2.162	0.141	1.681	0.195
Resident									
Urban	344	17	4.9	65	18.9	50	14.5	34	9.9
Rural	592	124	21.0	106	17.9	194	32.8	110	18.6
Chi2/p*		43.554	0.000	0.143	0.706	37.540	0.000	12.643	0.000
Region									
Phnom Penh	78	2	2.6	19	24.4	1	1.3	2	2.6
Plain	272	44	16.2	57	21.0	96	35.3	54	19.9
Tonle Sap	213	34	16.0	17	8.0	39	18.3	21	9.9
Coastal	125	14	11.2	32	25.6	18	14.4	16	12.8
Mountain	248	47	19.0	46	18.6	90	36.3	51	20.6
Chi2/p*		14.311	0.006	22.863	0.000	65.805	0.000	24.769	0.000
Ethnicity									
Khmer	844	134	15.9	159	18.8	209	24.8	118	14.0
Cham	35	1	2.9	3	8.6	6	17.1	9	25.7
Indigenous	50	6	12.0	8	16.0	27	54.0	17	34.0
Others	7	0	0.0	1	14.3	2	28.6	0	0.0
Chi2/p*		6.120	0.106	2.635	0.451	22.456	0.000	18.729	0.000
15-24	175	36	20.6	27	15.4	48	27.4	22	12.6
25-34	275	49	17.8	52	18.9	66	24.0	34	12.4
35-44	236	26	11.0	40	17.0	56	23.7	39	16.5
45-55	250	30	12.0	52	20.8	74	29.6	49	19.6
Chi2/p*		10.634	0.014	2.369	0.499	3.067	0.384	6.640	0.084
Education									
No Schooling	123	12	9.8	14	11.4	39	31.7	23	18.7
Primary School	394	58	14.7	60	15.2	114	28.9	80	20.3
Secondary School	255	48	18.8	56	22.0	62	24.3	22	8.6
High School	111	17	15.3	25	22.5	22	19.8	11	9.9
University	53	6	11.3	16	30.2	7	13.2	8	15.1
Chi2/p*		6.147	0.188	15.062	0.005	10.913	0.028	19.867	0.001
PPI index									
Lowest (0-24)	71	10	14.1	4	5.6	24	33.8	8	11.3
Low(25-49)	379	61	16.1	49	12.9	116	30.6	66	16.4
Medium (50-74)	403	63	15.6	99	24.6	95	23.6	66	16.4
High (75-100)	83	7	8.4	19	22.9	9	10.8	4	4.8
Chi2/p*		3.322	0.345	26.719	0.000	17.539	0.001	9.546	0.023
Occupation									
Farmer	355	75	21.1	57	16.1	153	43.1	76	21.4
Business Person	158	14	8.9	31	19.6	17	10.8	18	11.4
Sales and services worker	54	0	0.0	8	14.8	6	11.1	6	11.1
Skilled manual worker	35	9	25.7	7	20.0	4	11.4	9	25.7
Housewife	61	1	1.6	13	21.3	8	13.1	2	3.3
Teacher	43	5	11.6	7	16.3	8	18.6	6	14.0
University student	15	1	6.7	6	40.0	2	13.3	1	6.7
Non-university student	39	6	15.4	8	20.5	12	30.8	1	2.6
Professional/technician/manager	30	6	20.0	6	20.0	2	6.7	6	16.7
Government official	36	6	16.7	9	25.0	6	16.7	6	16.7
Forestry workers and NTFP collector	42	11	26.2	7	16.7	23	54.8	13	31.0
Coastal fisher	38	5	13.2	9	23.7	1	2.6	5	13.2
Freshwater fisher	30	2	6.7	3	10.0	2	6.7	1	3.3
Chi2/p*		43.918	0.000	10.571	0.566	133.20	0.000	45.002	0.000
						2			

Table A10: What have you or someone in your family done in response to climate variability? What did you or they do? (Part 4)

Base: Those who have done something to respond to the changing weather

	Base	Prayed		Kept community clean		Sought advice from friends and neighbors		Built elevated closure for animals		Stocked up on animals		Stocked on food for family	
		#	%	#	%	#	%	#	%	#	%	#	%
All Respondents	936	204	21.8	65	6.9	237	25.3	22	2.4	175	18.7	61	6.5
Sex													
Male	480	100	20.8	37	7.7	125	26.0	10	2.1	89	18.5	40	8.3
Female	456	104	22.8	28	6.1	112	24.6	12	2.6	86	18.9	21	4.6
Chi2/p*		0.534	0.465	0.890	0.346	0.271	0.603	0.306	0.580	0.016	0.901	5.335	0.021
Residence													
Urban	344	59	17.2	23	6.7	95	27.6	4	1.2	53	15.4	16	4.7
Rural	592	145	24.5	42	7.1	142	24.0	18	3.0	122	20.6	45	7.6
Chi2/p*		6.881	0.009	0.056	0.813	1.516	0.218	3.342	0.068	3.872	0.049	3.108	0.078
Region													
Phnom Penh	78	8	10.3	5	6.4	29	37.2	0	0.0	6	7.7	0	0.0
Plain	272	65	23.9	21	7.7	78	28.7	3	1.1	37	13.6	19	7.0
Tonle Sap	213	43	20.2	10	4.7	42	19.7	1	0.5	42	19.7	9	4.2
Coastal	125	27	21.6	13	10.4	19	15.2	0	0.0	22	17.6	7	5.6
Mountain	248	61	24.6	16	6.5	69	27.8	18	7.3	68	27.4	26	10.5
Chi2/p*		8.266	0.082	4.359	0.360	18.548	0.001	36.038	0.000	23.515	0.000	13.950	0.007
Ethnicity													
Khmer	844	185	21.9	62	7.4	211	25.0	15	1.8	156	18.5	52	6.2
Cham	35	9	25.7	3	8.6	8	22.9	0	0.0	5	14.3	3	8.6
Indigenous	50	8	16.0	0	0.0	15	30.0	5	10.0	11	22.0	5	10.0
Others	7	2	28.6	0	0.0	3	42.9	2	28.6	3	42.9	1	14.3
Chi2/p*		1.497	0.683	4.608	0.203	1.876	0.599	35.767	0.000	3.520	0.318	2.107	0.551
Age													
15-24	175	37	21.1	14	8.0	31	17.7	3	1.7	36	20.6	11	6.3
25-34	275	56	20.4	22	8.0	80	29.1	6	2.2	55	20.0	20	7.3
35-44	236	55	23.3	15	6.4	57	24.2	5	2.1	43	18.2	18	7.6
45-55	250	56	22.4	14	5.6	69	27.6	8	3.2	41	16.4	12	4.8
Chi2/p*		0.744	0.863	1.602	0.659	8.279	0.041	1.184	0.757	1.615	1.656	1.960	0.581
Education													
No Schooling	123	34	27.6	6	4.9	17	13.8	5	4.1	22	17.9	6	4.9
Primary School	394	93	23.6	22	5.6	98	24.9	12	3.1	78	19.8	31	7.9
Secondary School	255	47	18.4	14	5.5	69	27.1	2	0.8	51	20.0	17	6.7
High School	111	23	20.7	14	12.6	36	32.4	3	2.7	18	16.2	5	4.5
University	53	7	13.2	9	17.0	17	32.1	0	0.0	6	11.3	2	3.8
Chi2/p*		7.285	0.122	16.557	0.002	13.299	0.010	6.466	0.167	2.998	0.558	3.125	0.537
PPI index													
Lowest (0-24)	71	23	32.4	4	5.6	10	14.1	2	2.8	11	15.5	5	7.0
Low(25-49)	379	90	23.8	20	5.3	84	22.2	12	3.2	72	19.0	30	7.9
Medium (50-74)	403	82	20.4	36	8.9	115	28.5	8	2.0	80	19.9	23	5.7
High (75-100)	83	9	10.8	5	6.0	28	33.7	0	0.0	12	14.5	3	3.6
Chi2/p*		11.863	0.008	4.394	0.222	12.049	0.007	3.398	0.334	1.836	0.607	2.830	0.419
Occupation													
Farmer	355	98	27.6	21	5.9	90	25.4	12	3.4	63	17.8	30	8.5
Business Person	158	34	21.5	12	7.6	39	24.7	2	1.3	34	21.5	9	5.7
Sales and services worker	54	8	14.8	4	7.4	14	25.9	1	1.9	14	25.9	5	9.3
Skilled manual worker	35	7	20.0	3	8.6	10	28.6	0	0.0	4	11.4	0	0.0
Housewife	61	5	8.2	6	9.8	12	19.7	0	0.0	13	21.3	2	3.3
Teacher	43	11	25.6	5	11.6	17	39.5	1	2.3	6	14.0	0	0.0
University student	15	0	0.0	2	13.3	6	40.0	0	0.0	1	6.7	0	0.0
Non-university student	39	10	25.6	2	5.1	5	12.8	1	2.6	7	18.0	1	2.6
Professional/technician/manager	30	4	13.3	3	10.0	10	33.3	1	3.3	2	6.7	2	6.7
Government official	36	7	19.4	5	13.9	18	50.0	1	2.8	11	30.6	4	11.1
Forestry workers and NTFP collector	42	5	11.9	0	0.0	10	23.8	2	4.8	12	28.6	4	9.5
Coastal fisher	38	9	23.7	2	5.3	2	5.3	0	0.0	3	7.9	1	2.6
Freshwater fisher	30	6	20.0	0	0.0	4	13.3	1	3.3	5	16.7	3	10.0
Chi2/p*		24.071	0.020	12.901	0.376	33.825	0.001	7.448	0.827	18.344	0.106	14.964	0.243

**Table A 10: What have you or someone in your family done in response to climate variability? What did you or they do? (Part 5)**

Base: Those who have done something to respond to the changing weather

	Base	Reduced water consumption		Planted more vegetables		Planted more trees		Wore hat/dress, used umbrella		Dug wells		Others	
		#	%	#	%	#	%	#	%	#	%	#	%
All Respondents	936	50	5.3	70	7.5	257	27.5	27	2.9	25	2.7	42	4.5
Sex													
Male	480	31	6.5	47	9.8	146	30.4	10	2.1	8	1.7	17	3.5
Female	456	19	4.2	23	5.0	111	24.3	17	3.7	17	3.7	25	5.5
Chi2/p*		2.429	0.11	7.618	0.00	4.332	0.03	2.258	0.13	3.823	0.05	2.055	0.15
			9		6		7		3		1		2
Residence													
Urban	344	18	5.2	16	4.7	91	26.5	15	4.4	2	0.6	14	4.1
Rural	592	32	5.4	54	9.1	166	28.0	12	2.0	23	3.9	28	4.7
Chi2/p*		0.013	0.91	6.284	0.01	0.275	0.60	4.229	0.04	9.135	0.00	0.221	0.63
			0		2		0		0		3		8
Region													
Phnom Penh	78	2	2.6	0	0.0	12	15.4	3	3.9	0	0.0	3	3.9
Plain	272	15	5.5	39	14.3	90	33.1	5	1.8	15	5.5	11	4.0
Tonle Sap	213	3	1.4	15	7.0	72	33.8	14	6.6	6	2.8	24	11.3
Coastal	125	18	14.4	3	2.4	35	28.0	0	0.0	0	0.0	0	0.0
Mountain	248	12	4.8	13	5.2	48	19.4	5	2.0	4	1.6	4	1.6
Chi2/p*		28.13	0.00	31.31	0.00	22.53	0.00	16.04	0.00	15.11	0.00	33.70	0.00
			1		0		6		4		8		1
Ethnicity													
Khmer	844	48	5.7	67	7.9	249	29.5	25	3.0	25	3.0	42	5.0
Cham	35	1	2.9	1	2.9	2	5.7	1	2.9	0	0.0	0	0.0
Indigenous	50	1	2.0	2	4.0	5	10.0	1	2.0	0	0.0	0	0.0
Others	7	0	0.0	0	0.0	1	14.3	0	0.0	0	0.0	0	0.0
Chi2/p*		2.126	0.54	2.778	0.42	18.33	0.00	0.366	0.94	2.800	0.42	4.793	0.18
			7		7		9		7		4		8
Age													
15-24	175	6	3.4	13	7.4	61	34.9	7	4.0	4	2.3	5	2.9
25-34	275	19	6.9	18	6.6	70	25.5	8	2.9	8	2.9	14	5.1
35-44	236	14	5.9	18	7.6	63	26.7	6	2.5	6	2.5	11	4.7
45-55	250	11	4.4	21	8.4	63	25.2	6	2.4	7	2.8	12	4.8
Chi2/p*		3.204	0.36	0.661	0.88	6.073	0.10	1.086	0.78	0.191	0.97	1.393	0.70
			1		2		8		0		9		7
Education													
No Schooling	123	6	4.9	9	7.3	23	18.7	4	3.3	2	1.6	4	3.3
Primary School	394	19	4.8	29	7.4	97	24.6	9	2.3	13	3.3	15	3.8
Secondary School	255	16	6.3	18	7.1	64	25.1	11	4.3	6	2.4	16	6.3
High School	111	6	5.4	10	9.0	47	42.3	2	1.8	2	1.8	6	5.4
University	53	3	5.7	4	7.6	26	49.1	1	1.9	2	3.8	1	1.9
Chi2/p*		0.713	0.95	0.454	0.97	31.80	0.00	3.078	0.54	1.785	0.77	3.818	0.43
			0		8		4		5		5		1
PPI index													
Lowest (0-24)	71	1	1.4	2	2.8	7	9.9	3	4.2	0	0.0	0	0.0
Low(25-49)	379	14	3.7	28	7.4	100	26.4	7	1.9	13	3.4	18	4.8
Medium (50-74)	403	32	7.9	38	9.4	128	31.8	15	3.7	10	2.5	21	5.2
High (75-100)	83	3	3.6	2	2.4	22	26.5	2	2.4	2	2.4	3	3.6
Chi2/p*		10.07	0.01	7.533	0.05	15.04	0.00	2.988	0.39	2.866	0.41	4.036	0.25
			9		8		5		3		3		8
Occupation													
Farmer	355	19	5.4	40	11.3	92	25.9	6	1.7	17	4.8	18	5.1
Business Person	158	8	5.1	6	3.8	35	22.2	5	3.2	0	0.0	8	5.1
Sales and services worker	54	2	3.7	1	1.9	17	31.5	1	1.9	2	3.7	2	3.7
Skilled manual worker	35	3	8.6	3	8.6	15	42.9	1	2.9	1	2.9	0	0.0
Housewife	61	3	4.9	2	3.3	12	19.7	2	3.3	2	3.3	6	9.8
Teacher	43	1	2.3	3	7.0	23	53.5	4	9.3	2	4.7	4	9.3
University student	15	0	0.0	1	6.7	7	46.7	0	0.0	0	0.0	0	0.0
Non-university student	39	1	2.6	4	10.3	17	43.6	3	7.7	1	2.6	0	0.0
Professional/technician/manager	30	4	13.3	1	3.3	12	40.0	3	10.0	0	0.0	3	10.0
Government official	36	4	11.1	4	11.1	9	25.0	0	0.0	0	0.0	0	0.0
Forestry workers and NTFP collector	42	1	2.4	4	9.5	5	11.9	2	4.8	0	0.0	1	2.4
Coastal fisher	38	4	10.5	1	2.6	8	21.1	0	0.0	0	0.0	0	0.0
Freshwater fisher	30	0	0.0	0	0.0	5	16.7	0	0.0	0	0.0	0	0.0
Chi2/p*		13.87	0.30	20.41	0.06	41.73	0.00	21.11	0.04	16.66	0.16	18.50	0.10
			0		9		2		0		6		9



**Table A11: What have people in your community done in response to climate variability? What are they doing? (Part 1)**

Base: Those who have known someone in their communities that is responding to climate variability

	Base	Rehabilitating water storage structures		Building irrigation canals		Building dykes		Building water control structures		Building storm-resistant house	
		#	%	#	%	#	%	#	%	#	%
All Respondents	833	133	16.0	151	18.1	104	12.5	58	7.0	231	27.7
Sex											
Male	424	68	16.0	74	17.5	58	13.7	35	8.3	124	29.3
Female	409	65	15.9	77	18.8	46	11.3	23	5.6	107	26.2
Chi2/p*		0.003	0.95	0.26	0.60	1.12	0.28	2.22	0.13	0.98	0.320
			4	5	7	7	8	5	6	8	
Resident											
Urban	297	36	12.1	45	15.2	26	8.8	19	6.4	74	24.9
Rural	536	97	18.1	106	19.8	78	14.6	39	7.3	157	29.3
Chi2/p*		5.086	0.02	2.75	0.09	5.88	0.01	0.22	0.63	1.82	0.177
			4	4	7	0	5	8	3	5	
Region											
Phnom Penh	68	1	1.5	1	1.5	0	0.0	2	2.9	15	22.1
Plain	224	34	15.2	69	30.8	33	14.7	27	12.1	55	24.6
Tonle Sap	189	45	23.8	43	22.8	40	21.2	8	4.2	63	33.3
Coastal	118	14	11.9	10	8.5	7	5.9	7	5.9	52	44.1
Mountain	234	39	16.7	28	12.0	24	10.3	14	6.0	46	19.7
Chi2/p*		20.984	0.000	53.08	0.000	29.46	0.000	13.37	0.010	28.50	0.000
				2		7		4		4	
Ethnicity											
Khmer	745	126	16.9	139	18.7	101	13.6	57	7.7	221	29.7
Cham	33	3	9.1	8	24.2	2	6.1	1	3.0	7	21.2
Indigenous	49	3	6.1	4	8.2	1	2.0	0	0.0	3	6.1
Others	6	1	16.7	0	0.0	0	0.0	0	0.0	0	0.0
Chi2/p*		5.201	0.15	5.57	0.13	7.77	0.05	5.44	0.14	15.8	0.001
			8	9	4	8	1	9	2	08	
Age											
15-24	157	29	18.5	33	21.0	35	22.3	14	8.9	41	26.1
25-34	244	38	15.6	42	17.2	28	11.5	19	7.8	75	30.7
35-44	216	33	15.3	37	17.1	22	10.2	10	4.6	58	26.9
45-55	216	33	15.3	39	18.1	19	8.8	15	6.9	57	26.4
Chi2/p*		0.915	0.822	1.168	0.761	17.78	0.000	2.997	0.392	1.583	0.663
						6					
Education											
No Schooling	105	14	13.3	16	15.2	6	5.7	4	3.8	28	26.7
Primary School	347	52	15.0	63	18.2	38	11.0	17	4.9	99	28.5
Secondary School	229	42	18.3	40	17.5	37	16.2	22	9.6	63	27.5
High School	103	17	16.5	23	22.3	14	13.6	6	5.8	26	25.2
University	49	8	16.3	9	18.4	9	18.4	9	18.4	15	30.6
Chi2/p*		1.780	0.776	1.886	0.757	9.646	0.047	16.40	0.003	0.697	0.952
								8			
PPI index											
Lowest (0-24)	60	8	13.3	12	20.0	2	3.3	4	6.7	13	21.7
Low(25-49)	338	46	13.6	66	19.5	45	13.3	18	5.3	79	23.4
Medium (50-74)	363	71	19.6	66	18.2	47	13.0	33	9.1	117	32.2
High (75-100)	72	8	11.1	7	9.7	10	13.9	3	4.2	22	30.6
Chi2/p*		6.467	0.09	4.01	0.26	5.01	0.17	4.81	0.18	8.26	0.041
			1	6	0	3	1	4	6	0	
Occupation											
Farmer	309	56	18.1	62	20.1	36	11.7	18	5.8	82	26.5
Business Person	152	24	15.8	29	19.1	15	9.9	6	4.0	39	25.7
Sales and services worker	47	6	12.8	10	21.3	9	19.2	6	12.8	11	23.4
Skilled manual worker	28	8	28.6	5	17.9	5	17.9	4	14.3	12	42.9
Housewife	46	5	10.9	8	17.4	4	8.7	6	13.0	10	21.7
Teacher	43	9	20.9	10	23.3	9	20.9	4	9.3	11	25.6
University student	13	2	15.4	1	7.7	1	7.7	2	15.4	4	30.8
Non-university student	39	6	15.4	8	20.5	10	25.6	2	5.1	11	28.2
Professional/technician/manager	28	3	10.7	3	10.7	2	7.1	3	10.7	4	14.3
Government official	31	4	12.9	4	12.9	2	6.5	2	6.5	14	45.2
Forestry workers and NTFP collector	37	7	18.9	3	8.1	4	10.8	0	0.0	8	21.6
Coastal fisher	36	2	5.6	3	8.3	3	8.3	4	11.1	15	41.7
Freshwater fisher	24	1	4.2	5	20.8	4	16.7	1	4.2	10	41.7
Chi2/p*		12.874	0.378	9.626	0.649	16.47	0.171	16.76	0.159	18.89	0.091
						3		3		7	

**Table A11: What have people in your community done in response to climate variability? What are they doing? (Part 2)**

Base: Those who have known someone in their communities that is responding to climate variability

	Base	Using air conditioner/fan		Using energy in an economic way		Doing nothing		Relocating		Raising fish	
		#	%	#	%	#	%	#	%	#	%
All Respondents	833	406	48.7	84	10.1	38	4.6	39	4.7	54	6.5
Sex											
Male	424	216	50.9	51	12.0	23	5.4	24	5.7	23	5.4
Female	409	190	46.5	33	8.1	15	3.7	15	3.7	31	7.6
Chi2/p*		1.679	0.195	3.600	0.058	1.476	0.224	1.853	0.173	1.595	0.207
Resident											
Urban	297	189	63.6	41	13.8	13	4.4	12	4.0	10	3.4
Rural	536	217	40.5	43	8.0	25	4.7	27	5.0	44	8.2
Chi2/p*		40.998	0.000	7.047	0.008	0.036	0.849	0.426	0.514	7.391	0.007
Region											
Phnom Penh	68	59	86.8	14	20.6	0	0.0	0	0.0	0	0.0
Plain	224	107	47.8	20	8.9	25	11.2	8	3.6	18	8.0
Tonle Sap	189	82	43.4	16	8.5	7	3.7	22	11.6	17	9.0
Coastal	118	68	57.6	4	3.4	3	2.5	0	0.0	1	0.9
Mountain	234	90	38.5	30	12.8	3	1.3	9	3.9	18	7.7
Chi2/p*		55.231	0.000	16.91	0.002	32.86	0.000	30.62	0.000	14.31	0.006
				5		1		7		8	
Ethnicity											
Khmer	745	386	51.8	79	10.6	35	4.7	39	5.2	52	7.0
Cham	33	17	51.5	4	12.1	2	6.1	0	0.0	1	3.0
Indigenous	49	3	6.1	1	2.0	1	2.0	0	0.0	1	2.0
Others	6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Chi2/p*		44.242	0.000	4.542	0.209	1.204	0.752	4.833	0.184	2.963	0.397
Age											
15-24	157	74	47.1	17	10.8	1	0.6	7	4.5	10	6.4
25-34	244	121	49.6	26	10.7	13	5.3	11	4.5	16	6.6
35-44	216	99	45.8	20	9.3	10	4.6	13	6.0	13	6.0
45-55	216	112	51.9	21	9.7	14	6.5	8	3.7	15	6.9
Chi2/p*		1.800	0.615	0.377	0.945	7.715	0.052	1.362	0.714	0.158	0.984
Education											
No Schooling	105	40	38.1	10	9.5	5	4.8	4	3.8	7	6.7
Primary School	347	147	42.4	23	6.6	20	5.8	17	4.9	25	7.2
Secondary School	229	124	54.2	30	13.1	10	4.4	11	4.8	18	7.9
High School	103	60	58.3	13	12.6	3	2.9	6	5.8	4	3.9
University	49	35	71.4	8	16.3	0	0.0	1	2.0	0	0.0
Chi2/p*		26.917	0.000	9.742	0.045	4.167	0.384	1.291	0.863	5.566	0.234
PPI index											
Lowest (0-24)	60	15	25.0	3	5.0	2	3.3	3	5.0	3	5.0
Low(25-49)	338	132	39.1	24	7.1	18	5.3	18	5.3	25	7.4
Medium (50-74)	363	209	57.6	44	12.1	15	4.1	15	4.1	22	6.1
High (75-100)	72	50	69.4	13	18.1	3	4.2	3	4.2	4	5.6
Chi2/p*		49.926	0.000	11.73	0.008	0.840	0.840	0.616	0.893	0.892	0.827
				6							
Occupation											
Farmer	309	122	39.5	33	10.7	18	5.8	16	5.2	31	10.0
Business Person	152	80	52.6	17	11.2	11	7.2	6	4.0	11	7.2
Sales and services worker	47	24	51.1	3	6.4	1	2.1	3	6.4	0	0.0
Skilled manual worker	28	17	60.7	3	10.7	1	3.6	0	0.0	0	0.0
Housewife	46	26	56.5	7	15.2	1	2.2	1	2.2	2	4.4
Teacher	43	28	65.1	3	7.0	1	2.3	2	4.7	0	0.0
University student	13	10	76.9	2	15.4	0	0.0	0	0.0	0	0.0
Non-university student	39	20	51.3	2	5.1	0	0.0	2	5.1	1	2.6
Professional/technician/manager	28	19	67.9	4	14.3	2	7.1	1	3.6	1	3.6
Government official	31	20	64.5	7	22.6	0	0.0	3	9.7	2	6.5
Forestry workers and NTFP collector	37	7	18.9	2	5.4	0	0.0	1	2.7	4	10.8
Coastal fisher	36	19	52.8	0	0.0	1	2.8	0	0.0	0	0.0
Freshwater fisher	24	14	58.3	1	4.2	2	8.3	4	16.7	2	8.3
Chi2/p*		44.667	0.000	16.04	0.189	12.64	0.396	14.96	0.243	21.14	0.048
				2		2		7		6	

**Table A11: What have people in your community done in response to climate variability? What are they doing? (Part 3)**

Base: Those who have known someone in their communities that is responding to climate variability

	Base	Preparing boat		Diversifying crops		Paying more attention to weather forecast		Planting crops as usual		Preparing ritual ceremony		Praying	
		#	%	#	%	#	%	#	%	#	%	#	%
All Respondents	833	72	8.6	176	21.1	128	15.4	190	22.8	224	26.9	126	15.1
Sex													
Male	424	42	9.9	93	21.9	68	16.0	105	24.8	122	28.8	65	15.3
Female	409	30	7.3	83	20.3	60	14.7	85	20.8	102	24.9	61	14.9
Chi2/p*		1.742	0.187	0.336	0.562	0.299	0.584	1.875	0.171	1.557	0.212	0.028	0.867
Residence													
Urban	297	8	2.7	37	12.5	48	16.2	44	14.8	52	17.5	36	12.1
Rural	536	64	11.9	139	25.9	80	14.9	146	27.2	172	32.1	90	16.8
Chi2/p*		20.693	0.000	20.823	0.000	0.225	0.636	16.754	0.000	20.667	0.000	3.246	0.072
Region													
Phnom Penh	68	0	0.0	1	1.5	15	22.1	2	2.9	3	4.4	5	7.4
Plain	224	11	4.9	48	21.4	43	19.2	58	25.9	82	36.6	47	21.0
Tonle Sap	189	11	5.8	46	24.3	9	4.8	37	19.6	48	25.4	33	17.5
Coastal	118	34	28.8	15	12.7	31	26.3	14	11.9	29	24.6	14	11.9
Mountain	234	16	6.8	66	28.2	30	12.8	79	33.8	62	26.5	27	11.5
Chi2/p*		74.056	0.000	28.998	0.000	33.167	0.000	41.545	0.000	28.789	0.000	13.310	0.010
Ethnicity													
Khmer	745	65	8.7	165	22.2	119	16.0	165	22.2	195	26.2	116	15.6
Cham	33	4	12.1	1	3.0	5	15.2	4	12.1	11	33.3	7	21.2
Indigenous	49	1	2.0	10	20.4	4	8.2	19	38.8	18	36.7	2	4.1
Others	6	2	33.3	0	0.0	0	0.0	2	33.3	0	0.0	1	16.7
Chi2/p*		7.849	0.049	8.573	0.036	3.256	0.354	9.798	0.020	5.513	0.138	5.733	0.125
Age													
15-24	157	14	8.9	41	26.1	21	13.4	30	19.1	38	24.2	23	14.7
25-34	244	23	9.4	45	18.4	40	16.4	43	17.6	60	24.6	26	10.7
35-44	216	20	9.3	47	21.8	30	13.9	53	24.5	64	29.6	36	16.7
45-55	216	15	6.9	43	19.9	37	17.1	64	29.6	62	28.7	41	19.0
Chi2/p*		1.098	0.778	3.643	0.303	1.555	0.670	11.022	0.012	2.419	0.490	6.726	0.081
Education													
No Schooling	105	15	14.3	17	16.2	12	11.4	30	28.6	31	29.5	20	19.1
Primary School	347	37	10.7	79	22.8	42	12.1	91	26.2	124	35.7	55	15.9
Secondary School	229	12	5.2	55	24.0	52	22.7	47	20.5	42	18.3	35	15.3
High School	103	7	6.8	15	14.6	15	14.6	16	15.5	17	16.5	10	9.7
University	49	1	2.0	10	20.4	7	14.3	6	12.2	10	20.4	6	12.2
Chi2/p*		12.535	0.014	5.922	0.205	13.677	0.008	11.161	0.025	29.390	0.000	4.075	0.396
PPI index													
Lowest (0-24)	60	16	26.7	9	15.0	7	11.7	18	30.0	15	25.0	11	18.3
Low(25-49)	338	35	10.4	82	24.3	38	11.2	94	27.8	104	30.8	55	16.3
Medium (50-74)	363	19	5.2	75	20.7	74	20.4	70	19.3	97	26.7	51	14.1
High (75-100)	72	2	2.8	10	13.9	9	12.5	8	11.1	8	11.1	9	12.5
Chi2/p*		34.417	0.000	5.654	0.130	12.538	0.006	14.723	0.002	11.820	0.008	1.541	0.673
Occupation													
Farmer	309	22	7.1	93	30.1	40	12.9	104	33.7	114	36.9	54	17.5
Business Person	152	6	4.0	26	17.1	22	14.5	24	15.8	36	23.7	22	14.5
Sales and services worker	47	3	6.4	3	6.4	8	17.0	5	10.6	11	23.4	5	10.6
Skilled manual worker	28	0	0.0	5	17.9	7	25.0	4	14.3	6	21.4	2	7.1
Housewife	46	4	8.7	4	8.7	11	23.9	7	15.2	6	13.0	4	8.7
Teacher	43	4	9.3	12	27.9	1	2.3	8	18.6	11	25.6	7	16.3
University student	13	0	0.0	1	7.7	3	23.1	1	7.7	2	15.4	0	0.0
Non-university student	39	3	7.7	8	20.5	9	23.1	9	23.1	7	18.0	8	20.5
Professional/technician/manager	28	0	0.0	3	10.7	2	7.1	2	7.1	3	10.7	3	10.7
Government official	31	4	12.9	6	19.4	7	22.6	3	9.7	5	16.1	6	19.4
Forestry workers and NTFP collector	37	0	0.0	9	24.3	5	13.5	17	46.0	12	32.4	3	8.1
Coastal fisher	36	18	50.0	3	8.3	10	27.8	3	8.3	6	16.7	6	16.7
Freshwater fisher	24	8	33.3	3	12.5	3	12.5	3	12.5	5	20.8	6	25.0
Chi2/p*		112.772	0.000	36.290	0.000	21.377	0.045	57.565	0.000	32.715	0.001	12.396	0.414



**Table A11: What have people in your community done in response to climate variability? What are they doing? (Part 4)**

Base: Those who have known someone in their communities that is responding to climate variability

	Base	Keeping community clean		Seeking advice with friend/neighbor		Stocking up on food for family		Stocking up on food for animal		Reducing water consumption	
		#	%	#	%	#	%	#	%	#	%
All Respondents	833	70	8.4	159	19.1	118	14.2	56	6.7	36	4.3
Sex											
Male	424	40	9.4	82	19.3	59	13.9	30	7.1	22	5.2
Female	409	30	7.3	77	18.8	59	14.4	26	6.4	14	3.4
Chi2/p*		1.192	0.275	0.036	0.851	0.045	0.833	0.171	0.679	1.570	0.210
Resident											
Urban	297	26	8.8	65	21.9	39	13.1	19	6.4	16	5.4
Rural	536	44	8.2	94	17.5	79	14.7	37	6.9	20	3.7
Chi2/p*		0.074	0.786	2.340	0.126	0.406	0.524	0.078	0.780	1.267	0.260
Region											
Phnom Penh	68	7	10.3	20	29.4	4	5.9	1	1.5	1	1.5
Plain	224	22	9.8	36	16.1	19	8.5	15	6.7	9	4.0
Tonle Sap	189	13	6.9	31	16.4	33	17.5	15	7.9	0	0.0
Coastal	118	8	6.8	16	13.6	18	15.3	5	4.2	14	11.9
Mountain	234	20	8.6	56	23.9	44	18.8	20	8.6	12	5.1
Chi2/p*		1.883	0.757	12.78	0.012	15.73	0.003	5.840	0.211	26.52	0.000
				5		0				7	
Ethnicity											
Khmer	745	67	9.0	143	19.2	104	14.0	46	6.2	34	4.6
Cham	33	1	3.0	4	12.1	6	18.2	4	12.1	1	3.0
Indigenous	49	2	4.1	10	20.4	5	10.2	6	12.2	1	2.0
Others	6	0	0.0	2	33.3	3	50.0	0	0.0	0	0.0
Chi2/p*		3.314	0.346	1.886	0.596	7.433	0.059	4.706	0.195	1.126	0.771
Age											
15-24	157	16	10.2	19	12.1	30	19.1	7	4.5	5	3.2
25-34	244	23	9.4	52	21.3	33	13.5	19	7.8	12	4.9
35-44	216	18	8.3	44	20.4	30	13.9	15	6.9	12	5.6
45-55	216	13	6.0	44	20.4	25	11.6	15	6.9	7	3.2
Chi2/p*		2.581	0.461	6.202	0.102	4.444	0.217	1.758	0.624	2.106	0.551
Education											
No Schooling	105	5	4.8	14	13.3	15	14.3	12	11.4	4	3.8
Primary School	347	24	6.9	66	19.0	53	15.3	27	7.8	18	5.2
Secondary School	229	23	10.0	47	20.5	33	14.4	12	5.2	7	3.1
High School	103	9	8.7	21	20.4	13	12.6	2	1.9	3	2.9
University	49	9	18.4	11	22.5	4	8.2	3	6.1	4	8.2
Chi2/p*		9.941	0.041	3.029	0.553	2.017	0.733	8.913	0.063	3.825	0.430
PPI index											
Lowest (0-24)	60	4	6.7	8	13.3	9	15.0	5	8.3	1	1.7
Low(25-49)	338	24	7.1	50	14.8	50	14.8	24	7.1	12	3.6
Medium (50-74)	363	38	10.5	80	22.0	54	14.9	23	6.3	22	6.1
High (75-100)	72	4	5.6	21	29.2	5	6.9	4	5.6	1	1.4
Chi2/p*		3.750	0.290	12.10	0.007	3.382	0.336	0.568	0.904	5.662	0.129
				6							
Occupation											
Farmer	309	21	6.8	58	18.8	37	12.0	26	8.4	16	5.2
Business Person	152	15	9.9	32	21.1	23	15.1	7	4.6	6	4.0
Sales and services worker	47	5	10.6	11	23.4	10	21.3	6	12.8	2	4.3
Skilled manual worker	28	1	3.6	5	17.9	2	7.1	0	0.0	2	7.1
Housewife	46	6	13.0	11	23.9	11	23.9	4	8.7	2	4.4
Teacher	43	6	14.0	8	18.6	3	7.0	1	2.3	0	0.0
University student	13	2	15.4	3	23.1	2	15.4	1	7.7	0	0.0
Non-university student	39	2	5.1	3	7.7	5	12.8	2	5.1	0	0.0
Professional/technician/manager	28	4	14.3	3	10.7	2	7.1	1	3.6	1	3.6
Government official	31	4	12.9	14	45.2	8	25.8	3	9.7	3	9.7
Forestry workers and NTFP collector	37	2	5.4	7	18.9	8	21.6	3	8.1	1	2.7
Coastal fisher	36	1	2.8	1	2.8	4	11.1	1	2.8	3	8.3
Freshwater fisher	24	1	4.2	3	12.5	3	12.5	1	4.2	0	0.0
Chi2/p*		11.535	0.484	26.90	0.008	16.53	0.168	11.17	0.514	10.33	0.586
				0		7		3		8	

**Table A11: What have people in your community done in response to climate variability? What are they doing? (Part 5)**

Base: Those who have known someone in their communities that is responding to climate variability

	Base	Planting more vegetables		Planting trees		Digging wells		Others		Do not know	
		#	%	#	%	#	%	#	%	#	%
All Respondents	833	98	11.8	251	30.1	32	3.8	50	6.0	11	1.3
Sex											
Male	424	47	11.1	133	31.4	12	2.8	20	4.7	4	0.9
Female	409	51	12.5	118	28.9	20	4.9	30	7.3	7	1.7
Chi2/p*		0.384	0.535	0.627	0.429	2.391	0.122	2.529	0.112	0.943	0.332
Resident											
Urban	297	32	10.8	85	28.6	4	1.4	21	7.1	2	0.7
Rural	536	66	12.3	166	31.0	28	5.2	29	5.4	9	1.7
Chi2/p*		0.436	0.509	0.502	0.479	7.777	0.005	0.934	0.334	1.483	0.223
Region											
Phnom Penh	68	0	0.0	8	11.8	2	2.9	1	1.5	3	4.4
Plain	224	48	21.4	87	38.8	18	8.0	5	2.2	8	3.6
Tonle Sap	189	23	12.2	63	33.3	6	3.2	24	12.7	0	0.0
Coastal	118	8	6.8	41	34.8	2	1.7	1	0.9	0	0.0
Mountain	234	19	8.1	52	22.2	4	1.7	19	8.1	0	0.0
Chi2/p*		35.06	0.000	28.03	0.000	15.39	0.004	30.55	0.000	20.93	0.000
		9		1		6		5		6	
Ethnicity											
Khmer	745	96	12.9	240	32.2	32	4.3	43	5.8	10	1.3
Cham	33	0	0.0	7	21.2	0	0.0	1	3.0	1	3.0
Indigenous	49	2	4.1	4	8.2	0	0.0	5	10.2	0	0.0
Others	6	0	0.0	0	0.0	0	0.0	1	16.7	0	0.0
Chi2/p*		8.889	0.031	16.60	0.001	3.931	0.269	3.329	0.344	1.479	0.687
				3							
Age											
15-24	157	26	16.6	65	41.4	3	1.9	10	6.4	4	2.6
25-34	244	22	9.0	64	26.2	9	3.7	16	6.6	3	1.2
35-44	216	29	13.4	57	26.4	9	4.2	11	5.1	2	0.9
45-55	216	21	9.7	65	30.1	11	5.1	13	6.0	2	0.9
Chi2/p*		6.696	0.082	12.67	0.005	2.577	0.462	0.488	0.922	2.346	0.504
				4							
Education											
No Schooling	105	7	6.7	24	22.9	3	2.9	9	8.6	2	1.9
Primary School	347	46	13.3	98	28.2	16	4.6	19	5.5	5	1.4
Secondary School	229	29	12.7	68	29.7	8	3.5	14	6.1	2	0.9
High School	103	8	7.8	44	42.7	3	2.9	6	5.8	1	1.0
University	49	8	16.3	17	34.7	2	4.1	2	4.1	1	2.0
Chi2/p*		6.119	0.190	11.48	0.022	1.155	0.885	1.730	0.785	0.957	0.916
				4							
PPI index											
Lowest (0-24)	60	1	1.7	10	16.7	1	1.7	5	8.3	0	0.0
Low(25-49)	338	44	13.0	105	31.1	14	4.1	23	6.8	5	1.5
Medium (50-74)	363	47	13.0	116	32.0	15	4.1	19	5.2	5	1.4
High (75-100)	72	6	8.3	20	27.8	2	2.8	3	4.2	1	1.4
Chi2/p*		7.711	0.052	6.070	0.108	1.155	0.764	1.773	0.621	0.880	0.830
Occupation											
Farmer	309	44	14.2	90	29.1	20	6.5	17	5.5	5	1.6
Business Person	152	15	9.9	43	28.3	3	2.0	10	6.6	1	0.7
Sales and services worker	47	6	12.8	15	31.9	2	4.3	1	2.1	2	4.3
Skilled manual worker	28	3	10.7	9	32.1	3	10.7	2	7.1	0	0.0
Housewife	46	4	8.7	13	28.3	0	0.0	1	2.2	2	4.4
Teacher	43	7	16.3	18	41.9	2	4.7	5	11.6	0	0.0
University student	13	1	7.7	4	30.8	0	0.0	0	0.0	1	7.7
Non-university student	39	7	18.0	21	53.9	1	2.6	3	7.7	0	0.0
Professional/technician/manager	28	4	14.3	8	28.6	1	3.6	4	14.3	0	0.0
Government official	31	3	9.7	9	29.0	0	0.0	2	6.5	0	0.0
Forestry workers and NTFP collector	37	2	5.4	5	13.5	0	0.0	4	10.8	0	0.0
Coastal fisher	36	1	2.8	10	27.8	0	0.0	1	2.8	0	0.0
Freshwater fisher	24	1	4.2	6	25.0	0	0.0	0	0.0	0	0.0
Chi2/p*		1.209	0.511	19.12	0.086	18.55	0.100	13.30	0.347	14.67	0.260
				4		3		5		4	

Table A12: What extreme weather events do you experience in your area? (Part 1)

Base: All respondents

	Base	Drought		Storm		Coastal storm		Flooding		Heavy rainfall		High temperature	
		#	%	#	%	#	%	#	%	#	%	#	%
All Respondents	1000	514	51.4	476	47.6	88	8.8	460	46.0	676	67.6	735	73.5
Sex													
Male	505	274	54.3	243	48.1	52	10.3	244	48.3	336	66.5	378	74.9
Female	495	240	48.5	233	47.1	36	7.3	216	43.6	340	68.7	357	72.1
Chi2/p*		3.335	0.06	0.110	0.74	2.849	0.09	2.205	0.13	0.529	0.467	0.957	0.32
Residence													
Urban	361	141	39.1	133	36.8	20	5.5	153	42.4	238	65.9	271	75.1
Rural	639	373	58.4	343	53.7	68	10.6	307	48.0	438	68.5	464	72.6
Chi2/p*		34.44	0.00	26.21	0.00	7.480	0.00	2.977	0.08	0.721	0.39	0.714	0.39
Region													
Phnom Penh	80	24	30.0	18	22.5	0	0.0	16	20.0	55	68.8	65	81.3
Plain	280	169	60.4	125	44.6	0	0.0	120	42.9	172	61.4	206	73.6
Tonle Sap	250	114	45.6	123	49.2	1	0.4	159	63.6	166	66.4	175	70.0
Coastal	130	51	39.2	75	57.7	87	66.9	28	21.5	110	84.6	107	82.3
Mountain	260	156	60.0	135	51.9	0	0.0	137	52.7	173	66.5	182	70.0
Chi2/p*		42.43	0.00	28.70	0.00	629.02	0.00	90.06	0.00	22.40	0.00	10.85	0.02
Ethnicity													
Khmer	907	455	50.2	433	47.7	79	8.7	408	45.0	612	67.5	672	74.1
Cham	35	17	48.6	14	40.0	9	25.7	20	57.1	26	74.3	30	85.7
Indigenous	51	39	76.5	25	49.0	0	0.0	26	51.0	36	70.6	30	58.8
Others	7	3	42.9	4	57.1	0	0.0	6	85.7	2	28.6	3	42.9
Chi2/p*		13.70	0.00	1.114	0.77	18.082	0.00	7.081	0.06	5.797	0.12	11.85	0.00
Age													
15-24	187	79	42.3	86	46.0	8	4.3	93	49.7	134	71.7	144	77.0
25-34	297	143	48.2	147	49.5	22	7.4	143	48.2	206	69.4	228	76.8
35-44	250	142	56.8	120	48.0	31	12.4	103	41.2	162	64.8	178	71.2
45-55	266	150	56.4	123	46.2	27	10.2	121	45.5	174	65.4	185	69.6
Chi2/p*		13.10	0.00	0.835	0.84	10.124	0.01	3.947	0.26	3.301	0.34	5.619	0.13
Education													
No Schooling	136	78	57.4	74	54.4	21	15.4	72	52.9	93	68.4	87	64.0
Primary School	424	238	56.1	217	51.2	46	10.9	196	46.2	284	67.0	301	71.0
Secondary School	267	131	49.1	112	42.0	12	4.5	118	44.2	177	66.3	200	74.9
High School	119	53	44.5	52	43.7	7	5.9	54	45.4	84	70.6	100	84.0
University	54	14	25.9	21	38.9	2	3.7	20	37.0	38	70.4	47	87.0
Chi2/p*		22.58	0.00	10.49	0.03	18.869	0.00	4.762	0.31	0.995	0.91	19.84	0.00
PPI index													
Lowest (0-24)	78	46	59.0	53	68.0	12	15.4	51	65.4	61	78.2	60	76.9
Low(25-49)	414	245	59.2	208	50.2	33	8.0	214	51.7	264	63.8	291	70.3
Medium (50-74)	425	204	48.0	194	45.7	39	9.2	166	39.1	294	69.2	315	74.1
High (75-100)	83	19	22.9	21	25.3	4	4.8	29	34.9	57	68.7	69	83.1
Chi2/p*		40.79	0.00	31.30	0.00	6.282	0.09	29.52	0.00	7.307	0.06	6.697	0.08
Occupation													
Farmer	375	237	63.2	175	46.7	14	3.7	185	49.3	237	63.2	263	70.1
Business Person	179	79	44.1	82	45.8	13	7.3	78	43.6	123	68.7	121	67.6
Sales and services worker	56	19	33.9	21	37.5	3	5.4	26	46.4	36	64.3	49	87.5
Skilled manual worker	38	19	50.0	22	57.9	4	10.5	14	36.8	31	81.6	32	84.2
Housewife	65	19	29.2	25	38.5	7	10.8	21	32.3	47	72.3	54	83.1
Teacher	44	15	34.1	20	45.5	0	0.0	20	45.5	30	68.2	36	81.8
University student	15	3	20.0	5	33.3	0	0.0	8	53.3	8	53.3	14	93.3
Non-university student	42	21	50.0	22	52.4	3	7.1	26	61.9	29	69.1	34	81.0
Professional/technician/manager	32	13	40.6	10	31.3	1	3.1	13	40.6	21	65.6	27	84.4
Government official	37	20	54.1	19	51.4	4	10.8	10	27.0	29	78.4	25	67.6
Forestry workers and NTFP collector	45	32	71.1	28	62.2	0	0.0	25	55.6	32	71.1	30	66.7
Coastal fisher	40	19	47.5	25	62.5	39	97.5	7	17.5	33	82.5	31	77.5
Freshwater fisher	32	18	56.3	22	68.8	0	0.0	27	84.4	20	62.5	19	59.4
Chi2/p*		64.71	0.00	24.92	0.01	420.67	0.00	52.34	0.00	15.89	0.19	29.40	0.00



Table A 12: What extreme weather events do you experience in your area? (Part 2)

Base: All respondents

	Base	Forest fire		Mudslide		Extremely cold		Pest and weed		Never	
		#	%	#	%	#	%	#	%	#	%
All Respondents	1000	112	11.2	12	1.2	458	45.8	376	37.6	7	0.7
Sex											
Male	505	63	12.5	6	1.2	225	44.6	201	39.8	2	0.4
Female	495	49	9.9	6	1.2	233	47.1	175	35.4	5	1.0
Chi2/p*		1.668	0.197	0.001	0.972	0.638	0.425	2.108	0.146	1.356	0.244
Resident											
Urban	361	21	5.8	2	0.6	151	41.8	62	17.2	6	1.7
Rural	639	91	14.2	10	1.6	307	48.0	314	49.1	1	0.2
Chi2/p*		16.459	0.000	1.988	0.159	3.590	0.058	100.4	0.000	7.522	0.006
Region											
Phnom Penh	80	0	0.0	0	0.0	31	38.8	7	8.8	1	1.3
Plain	280	5	1.8	0	0.0	117	41.8	130	46.4	5	1.8
Tonle Sap	250	19	7.6	2	0.8	102	40.8	69	27.6	0	0.0
Coastal	130	4	3.1	2	1.5	90	69.2	42	32.3	0	0.0
Mountain	260	84	32.3	8	3.1	118	45.4	128	49.2	1	0.4
Chi2/p*		163.39	0.000	12.56	0.014	34.70	0.000	64.87	0.000	8.147	0.086
Ethnicity											
Khmer	907	86	9.5	9	1.0	419	46.2	332	36.6	7	0.8
Cham	35	2	5.7	0	0.0	18	51.4	9	25.7	0	0.0
Indigenous	51	23	45.1	3	5.9	20	39.2	34	66.7	0	0.0
Others	7	1	14.3	0	0.0	1	14.3	1	14.3	0	0.0
Chi2/p*		62.742	0.000	10.27	0.016	4.195	0.241	22.47	0.000	0.723	0.868
Age											
15-24	187	28	15.0	2	1.1	97	51.9	89	47.6	1	0.5
25-34	297	42	14.1	7	2.4	150	50.5	109	36.7	1	0.3
35-44	250	21	8.4	3	1.2	109	43.6	87	34.8	1	0.4
45-55	266	21	7.9	0	0.0	102	38.4	91	34.2	4	1.5
Chi2/p*		10.153	0.017	6.610	0.085	11.86	0.008	10.20	0.017	3.433	0.330
Education											
No Schooling	136	16	11.8	1	0.7	69	50.7	47	34.6	1	0.7
Primary School	424	58	13.7	9	2.1	192	45.3	169	39.9	1	0.2
Secondary School	267	22	8.2	2	0.8	121	45.3	103	38.6	4	1.5
High School	119	12	10.1	0	0.0	54	45.4	42	35.3	0	0.0
University	54	4	7.4	0	0.0	22	40.7	15	27.8	1	1.9
Chi2/p*		5.947	0.203	5.851	0.211	1.970	0.741	4.057	0.398	5.633	0.228
PPI index											
Lowest (0-24)	78	21	26.9	3	3.9	41	52.6	31	39.7	1	1.3
Low(25-49)	414	66	15.9	6	1.5	200	48.3	189	45.7	0	0.0
Medium (50-74)	425	23	5.4	3	0.7	188	44.2	143	33.7	6	1.4
High (75-100)	83	2	2.4	0	0.0	29	34.9	13	15.7	0	0.0
Chi2/p*		49.514	0.000	6.707	0.082	6.850	0.077	31.44	0.000	6.981	0.072
Occupation											
Farmer	375	54	14.4	4	1.1	175	46.7	210	56.0	2	0.5
Business Person	179	14	7.8	3	1.7	65	36.3	30	16.8	4	2.2
Sales and services worker	56	3	5.4	0	0.0	18	32.1	10	17.9	0	0.0
Skilled manual worker	38	1	2.6	0	0.0	26	68.4	14	36.8	0	0.0
Housewife	65	1	1.5	1	1.5	38	58.5	8	12.3	1	1.5
Teacher	44	3	6.8	0	0.0	14	31.8	16	36.4	0	0.0
University student	15	1	6.7	0	0.0	8	53.3	4	26.7	0	0.0
Non-university student	42	4	9.5	0	0.0	26	61.9	24	57.1	0	0.0
Professional/technician/manager	32	0	0.0	0	0.0	12	37.5	4	12.5	0	0.0
Government official	37	6	16.2	0	0.0	16	43.2	11	29.7	0	0.0
Forestry workers and NTFP collector	45	21	46.7	2	4.4	18	40.0	25	55.6	0	0.0
Coastal fisher	40	2	5.0	0	0.0	29	72.5	11	27.5	0	0.0
Freshwater fisher	32	2	6.3	2	6.3	13	40.6	9	28.1	0	0.0
Chi2/p*		82.243	0.000	15.03	0.240	44.46	0.000	140.6	0.000	9.558	0.655

**Table A13: Where do you get information about climate change from? (Part 1)**

Base: Those who have heard at least one of 'climate change' or 'global warming'

	Base	Neighbor/ villager		TV		Radio		Workshop/ conference		School	
		#	%	#	%	#	%	#	%	#	%
All Respondents	911	417	45.8	696	76.4	418	45.9	35	3.8	43	4.7
Sex											
Male	463	192	41.5	367	79.3	217	46.9	24	5.2	22	4.8
Female	448	225	50.2	329	73.4	201	44.9	11	2.5	21	4.7
Chi2/p*		7.03	0.00	4.28	0.03	0.36	0.54	4.58	0.03	0.00	0.96
Resident											
Urban	339	138	40.7	297	87.6	130	38.4	10	3.0	16	4.7
Rural	572	279	48.8	399	69.8	288	50.4	25	4.4	27	4.7
Chi2/p*		5.58	0.01	37.63	0.00	12.34	0.00	1.16	0.28	0.00	1.00
Region											
Phnom Penh	79	29	36.7	75	94.9	41	51.9	1	1.3	2	2.5
Plain	258	122	47.3	208	80.6	129	50.0	8	3.1	5	1.9
Tonle Sap	229	96	41.9	171	74.7	97	42.4	10	4.4	22	9.6
Coastal	110	63	57.3	83	75.5	41	37.3	4	3.6	5	4.6
Mountain	235	107	45.5	159	67.7	110	46.8	12	5.1	9	3.8
Chi2/p*		10.08	0.03	27.99	0.00	7.42	0.11	3.00	0.55	17.86	0.00
Ethnicity											
Khmer	839	378	45.1	652	77.7	380	45.3	32	3.8	41	4.9
Cham	26	12	46.2	19	73.1	15	57.7	1	3.9	0	0.0
Indigenous	40	22	55.0	21	52.5	22	55.0	2	5.0	2	5.0
Others	6	5	83.3	4	66.7	1	16.7	0	0.0	0	0.0
Chi2/p*		4.95	0.17	13.94	0.00	4.98	0.17	0.38	0.94	1.64	0.64
Age											
15-24	175	72	41.1	134	76.6	93	53.1	3	1.7	37	21.1
25-34	281	131	46.6	214	76.2	126	44.8	8	2.9	5	1.8
35-44	217	111	51.2	163	75.1	82	37.8	11	5.1	1	0.5
45-55	238	103	43.3	185	77.7	117	49.2	13	5.5	0	0.0
Chi2/p*		4.71	0.19	0.44	0.93	10.59	0.01	5.47	0.14	130.8	0.00
Education											
No Schooling	105	59	56.2	67	63.8	45	42.9	1	1.0	0	0.0
Primary School	380	197	51.8	264	69.5	170	44.7	6	1.6	1	0.3
Secondary School	255	106	41.6	213	83.5	123	48.2	13	5.1	14	5.5
High School	117	40	34.2	102	87.2	56	47.9	12	10.3	19	16.2
University	54	15	27.8	50	92.6	24	44.4	3	5.6	9	16.7
Chi2/p*		25.41	0.00	41.92	0.00	1.38	0.84	22.19	0.00	73.98	0.00
PPI index											
Lowest (0-24)	62	38	61.3	23	37.1	27	43.6	0	0.0	2	3.2
Low(25-49)	373	180	48.3	249	66.8	183	49.1	14	3.8	18	4.8
Medium (50-74)	396	169	42.7	348	87.9	177	44.7	19	4.8	17	4.3
High (75-100)	80	30	37.5	76	95.0	31	38.8	2	2.5	6	7.5
Chi2/p*		10.67	0.01	116.6	0.00	3.51	0.31	3.85	0.27	1.85	0.60
Occupation											
Farmer	332	169	50.9	227	68.4	170	51.2	15	4.5	3	0.9
Business Person	166	76	45.8	134	80.7	67	40.4	4	2.4	3	1.8
Sales and services worker	52	25	48.1	44	84.6	24	46.2	0	0.0	0	0.0
Skilled manual worker	34	11	32.4	31	91.2	12	35.3	0	0.0	1	2.9
Housewife	59	29	49.2	47	79.7	24	40.7	0	0.0	2	3.4
Teacher	44	14	31.8	41	93.2	23	52.3	5	11.4	4	9.1
University student	15	4	26.7	15	100.0	7	46.7	0	0.0	5	33.3
Non-university student	41	11	26.8	34	82.9	25	61.0	0	0.0	23	56.1
Professional/technician/manager	31	7	22.6	27	87.1	14	45.2	1	3.2	0	0.0
Government official	37	12	32.4	37	100.0	12	32.4	7	18.9	0	0.0
Forestry workers and NTFP collector	36	18	50.0	17	47.2	17	47.2	2	5.6	1	2.8
Coastal fisher	35	24	68.6	23	65.7	10	28.6	1	2.9	1	2.9
Freshwater fisher	29	17	58.6	19	65.5	13	44.8	0	0.0	0	0.0
Chi2/p*		36.84	0.00	66.98	0.00	19.46	0.07	40.43	0.00	292.1	0.00

**Table A 13: Where do you get information about climate change from? (Part 2)**

Base: Those who have heard at least one of 'climate change' or 'global warming'

	Base	Family		News/ magazine		Authorities		Others		Friend/ Colleague	
		#	%	#	%	#	%	#	%	#	%
All Respondents	911	145	15.9	55	6.0	31	3.4	6	0.7	126	13.8
Sex											
Male	463	63	13.6	40	8.6	17	3.7	4	0.9	80	17.3
Female	448	82	18.3	15	3.4	14	3.1	2	0.5	46	10.3
Chi2/p*		3.753	0.053	11.23	0.001	0.207	0.649	0.607	0.436	9.390	0.002
Resident				7							
Urban	339	52	15.3	35	10.3	3	0.9	1	0.3	44	13.0
Rural	572	93	16.3	20	3.5	28	4.9	5	0.9	82	14.3
Chi2/p*		0.134	0.714	17.49	0.000	10.41	0.001	1.091	0.296	0.329	0.567
Region				3		3					
Phnom Penh	79	9	11.4	14	17.7	0	0.0	0	0.0	9	11.4
Plain	258	50	19.4	10	3.9	15	5.8	4	1.6	44	17.1
Tonle Sap	229	30	13.1	15	6.6	4	1.8	1	0.4	27	11.8
Coastal	110	11	10.0	4	3.6	3	2.7	1	0.9	21	19.1
Mountain	235	45	19.2	12	5.1	9	3.8	0	0.0	25	10.6
Chi2/p*		9.589	0.048	22.71	0.000	9.540	0.049	5.496	0.240	8.007	0.091
Ethnicity				9							
Khmer	839	132	15.7	51	6.1	27	3.2	6	0.7	119	14.2
Cham	26	3	11.5	1	3.9	1	3.9	0	0.0	3	11.5
Indigenous	40	7	17.5	2	5.0	3	7.5	0	0.0	3	7.5
Others	6	3	50.0	1	16.7	0	0.0	0	0.0	1	16.7
Chi2/p*		5.677	0.128	1.493	0.684	2.357	0.502	0.518	0.915	1.588	0.662
Age											
15-24	175	30	17.1	16	9.1	5	2.9	1	0.6	36	20.6
25-34	281	43	15.3	20	7.1	9	3.2	0	0.0	33	11.7
35-44	217	32	14.8	13	6.0	9	4.2	2	0.9	34	15.7
45-55	238	40	16.8	6	2.5	8	3.4	3	1.3	23	9.7
Chi2/p*		0.639	0.888	8.741	0.033	0.560	0.906	3.431	0.330	11.78	0.008
Education				1						1	
No Schooling	105	24	22.9	2	1.9	3	2.9	0	0.0	13	12.4
Primary School	380	62	16.3	8	2.1	9	2.4	3	0.8	44	11.6
Secondary School	255	42	16.5	14	5.5	12	4.7	2	0.8	41	16.1
High School	117	13	11.1	14	12.0	6	5.1	0	0.0	19	16.2
University	54	4	7.4	17	31.5	1	1.9	1	1.9	9	16.7
Chi2/p*		8.823	0.066	82.52	0.000	4.104	0.392	2.808	0.590	3.817	0.431
PPI index				8							
Lowest (0-24)	62	14	22.6	1	1.6	1	1.6	1	1.6	14	22.6
Low(25-49)	373	59	15.8	18	4.8	14	3.8	1	0.3	54	14.5
Medium (50-74)	396	65	16.4	21	5.3	15	3.8	4	1.0	47	11.9
High (75-100)	80	7	8.8	15	18.8	1	1.3	0	0.0	11	13.8
Chi2/p*		5.203	0.157	26.27	0.000	2.050	0.562	3.010	0.390	5.393	0.145
Occupation				2							
Farmer	332	61	18.4	9	2.7	15	4.5	1	0.3	36	10.8
Business Person	166	29	17.5	9	5.4	3	1.8	0	0.0	19	11.5
Sales and services worker	52	7	13.5	8	15.4	0	0.0	1	1.9	10	19.2
Skilled manual worker	34	7	20.6	0	0.0	2	5.9	0	0.0	10	29.4
Housewife	59	10	17.0	2	3.4	1	1.7	0	0.0	6	10.2
Teacher	44	2	4.6	4	9.1	2	4.6	1	2.3	3	6.8
University student	15	1	6.7	8	53.3	0	0.0	0	0.0	3	20.0
Non-university student	41	7	17.1	4	9.8	2	4.9	0	0.0	6	14.6
Professional/technician/manager	31	4	12.9	5	16.1	1	3.2	0	0.0	5	16.1
Government official	37	5	13.5	3	8.1	2	5.4	1	2.7	10	27.0
Forestry workers and NTFP collector	36	5	13.9	2	5.6	3	8.3	0	0.0	1	2.8
Coastal fisher	35	2	5.7	1	2.9	0	0.0	1	2.9	9	25.7
Freshwater fisher	29	5	17.2	0	0.0	0	0.0	1	3.5	8	27.6
Chi2/p*		11.124	0.518	86.72	0.000	11.87	0.455	14.60	0.264	32.44	0.001
				7		9		1		2	



**Table A 14: What are the sources of disaster and warning information? (Part I)**

Base: Respondents who received information about the extremes

	Base	Friends		Neighbor/ villager		TV		Radio		Workshop/ conference/ meeting	
		#	%	#	%	#	%	#	%	#	%
All Respondents	651	58	8.9	228	35.0	512	78.7	304	46.7	14	2.2
Sex											
Male	344	30	8.7	118	34.3	273	79.4	164	47.7	9	2.6
Female	307	28	9.1	110	35.8	239	77.9	140	45.6	5	1.6
Chi2/p*		0.032	0.858	0.167	0.683	0.220	0.639	0.280	0.597	0.752	0.386
Resident											
Urban	239	21	8.8	72	30.1	213	89.1	87	36.4	4	1.7
Rural	412	37	9.0	156	37.9	299	72.6	217	52.7	10	2.4
Chi2/p*		0.007	0.933	3.980	0.046	24.66	0.000	16.08	0.000	0.408	0.523
						7		3			
Region											
Phnom Penh	59	8	13.6	8	13.6	55	93.2	32	54.2	0	0.0
Plain	188	14	7.5	76	40.4	151	80.3	91	48.4	5	2.7
Tonle Sap	135	8	5.9	41	30.4	104	77.0	56	41.5	0	0.0
Coastal	95	10	10.5	40	42.1	76	80.0	29	30.5	4	4.2
Mountain	174	18	10.3	63	36.2	126	72.4	96	55.2	5	2.9
Chi2/p*		4.296	0.367	17.84	0.001	12.11	0.017	18.04	0.001	6.843	0.144
				0		3		5			
Ethnicity											
Khmer	589	52	8.8	195	33.1	472	80.1	275	46.7	11	1.9
Cham	22	4	18.2	9	40.9	17	77.3	8	36.4	1	4.6
Indigenous	35	1	2.9	20	57.1	21	60.0	19	54.3	2	5.7
Others	5	1	20.0	4	80.0	2	40.0	2	40.0	0	0.0
Chi2/p*		4.673	0.197	13.25	0.004	12.49	0.006	1.844	0.605	3.046	0.385
				5		6					
Age											
15-24	128	16	12.5	37	28.9	99	77.3	70	54.7	2	1.6
25-34	194	17	8.8	66	34.0	159	82.0	84	43.3	4	2.1
35-44	154	12	7.8	61	39.6	119	77.3	64	41.6	4	2.6
45-55	175	13	7.4	64	36.6	135	77.1	86	49.1	4	2.3
Chi2/p*		2.748	0.432	3.799	0.284	1.805	0.614	6.238	0.101	0.379	0.945
Education											
No Schooling	78	7	9.0	31	39.7	50	64.1	34	43.6	1	1.3
Primary School	253	14	5.5	113	44.7	175	69.2	122	48.2	5	2.0
Secondary School	190	18	9.5	57	30.0	167	87.9	93	49.0	1	0.5
High School	82	13	15.9	22	26.8	77	93.9	37	45.1	5	6.1
University	48	6	12.5	5	10.4	43	89.6	18	37.5	2	4.2
Chi2/p*		9.263	0.055	28.39	0.000	47.81	0.000	2.638	0.620	9.696	0.046
				4		6					
PPI index											
Lowest (0-24)	35	7	20.0	19	54.3	13	37.1	16	45.7	1	2.9
Low(25-49)	259	17	6.6	104	40.2	181	69.9	140	54.1	5	1.9
Medium (50-74)	296	27	9.1	94	31.8	261	88.2	124	41.9	7	2.4
High (75-100)	61	7	11.5	11	18.0	57	93.4	24	39.3	1	1.6
Chi2/p*		7.572	0.056	17.82	0.000	71.70	0.000	9.716	0.021	0.283	0.963
				9		2					
Occupation											
Farmer	219	11	5.0	92	42.0	151	69.0	119	54.3	6	2.7
Business Person	111	7	6.3	39	35.1	95	85.6	45	40.5	0	0.0
Sales and services worker	35	2	5.7	9	25.7	32	91.4	19	54.3	1	2.9
Skilled manual worker	27	6	22.2	8	29.6	26	96.3	9	33.3	0	0.0
Housewife	37	3	8.1	7	18.9	36	97.3	14	37.8	0	0.0
Teacher	38	5	13.2	9	23.7	35	92.1	17	44.7	3	7.9
University student	15	2	13.3	0	0.0	12	80.0	5	33.3	1	6.7
Non-university student	35	5	14.3	7	20.0	28	80.0	23	65.7	0	0.0
Professional/technician/manager	23	2	8.7	6	26.1	21	91.3	9	39.1	0	0.0
Government official	31	6	19.4	8	25.8	30	96.8	12	38.7	1	3.2
Forestry workers and NTFP collector	28	0	0.0	15	53.6	14	50.0	14	50.0	1	3.6
Coastal fisher	30	5	16.7	14	46.7	21	70.0	8	26.7	1	3.3
Freshwater fisher	22	4	18.2	14	63.6	11	50.0	10	45.5	0	0.0
Chi2/p*		25.28	0.014	40.19	0.000	69.70	0.000	23.25	0.026	14.09	0.294
		5		4		7		7		9	

**Table A 14: What are the sources of disaster and warning information? (Part 2)**

Base: Respondents who received information about the extremes

	Base	Weather forecasts		Family		News/magazine		Authorities		Others	
		#	%	#	%	#	%	#	%	#	%
All Respondents	651	23	3.5	104	16.0	37	5.7	49	7.5	17	2.6
Sex											
Male	344	14	4.1	52	15.1	22	6.4	26	7.6	10	2.9
Female	307	9	2.9	52	16.9	15	4.9	23	7.5	7	2.3
Chi2/p*		0.617	0.432	0.401	0.527	0.689	0.406	0.001	0.974	0.251	0.617
Resident											
Urban	239	12	5.0	33	13.8	26	10.9	10	4.2	7	2.9
Rural	412	11	2.7	71	17.2	11	2.7	39	9.5	10	2.4
Chi2/p*		2.453	0.117	1.322	0.250	19.01	0.000	6.063	0.014	0.150	0.699
3											
Region											
Phnom Penh	59	6	10.2	5	8.5	8	13.6	1	1.7	2	3.4
Plain	188	12	6.4	35	18.6	10	5.3	17	9.0	3	1.6
Tonle Sap	135	0	0.0	18	13.3	6	4.4	14	10.4	3	2.2
Coastal	95	4	4.2	9	9.5	5	5.3	1	1.1	6	6.3
Mountain	174	1	0.6	37	21.3	8	4.6	16	9.2	3	1.7
Chi2/p*		21.64	0.000	10.77	0.029	7.674	0.104	11.48	0.022	6.648	0.156
5											
Ethnicity											
Khmer	589	21	3.6	87	14.8	36	6.1	44	7.5	16	2.7
Cham	22	2	9.1	4	18.2	1	4.6	1	4.6	1	4.6
Indigenous	35	0	0.0	9	25.7	0	0.0	3	8.6	0	0.0
Others	5	0	0.0	4	80.0	0	0.0	1	20.0	0	0.0
Chi2/p*		3.461	0.326	18.45	0.000	2.665	0.446	1.456	0.692	1.422	0.700
8											
Age											
15-24	128	6	4.7	20	15.6	14	10.9	4	3.1	8	6.3
25-34	194	6	3.1	29	15.0	13	6.7	16	8.3	3	1.6
35-44	154	2	1.3	27	17.5	7	4.6	19	12.3	2	1.3
45-55	175	9	5.1	28	16.0	3	1.7	10	5.7	4	2.3
Chi2/p*		4.197	0.241	0.442	0.931	12.48	0.006	9.655	0.022	8.645	0.034
2											
Education											
No Schooling	78	0	0.0	13	16.7	1	1.3	5	6.4	1	1.3
Primary School	253	4	1.6	53	21.0	3	1.2	18	7.1	4	1.6
Secondary School	190	8	4.2	25	13.2	8	4.2	19	10.0	4	2.1
High School	82	5	6.1	10	12.2	13	15.9	5	6.1	5	6.1
University	48	6	12.5	3	6.3	12	25.0	2	4.2	3	6.3
Chi2/p*		18.84	0.001	10.06	0.039	62.36	0.000	2.890	0.576	8.207	0.084
8											
PPI index											
Lowest (0-24)	35	0	0.0	9	25.7	1	2.9	4	11.4	1	2.9
Low(25-49)	259	5	1.9	49	18.9	8	3.1	20	7.7	4	1.5
Medium (50-74)	296	13	4.4	41	13.9	18	6.1	25	8.5	10	3.4
High (75-100)	61	5	8.2	5	8.2	10	16.4	0	0.0	2	3.3
Chi2/p*		7.767	0.051	7.889	0.048	16.91	0.001	6.104	0.107	1.959	0.581
4											
Occupation											
Farmer	219	4	1.8	48	21.9	3	1.4	24	11.0	2	0.9
Business Person	111	3	2.7	16	14.4	5	4.5	5	4.5	2	1.8
Sales and services worker	35	3	8.6	2	5.7	4	11.4	2	5.7	0	0.0
Skilled manual worker	27	0	0.0	5	18.5	2	7.4	1	3.7	0	0.0
Housewife	37	3	8.1	3	8.1	2	5.4	3	8.1	0	0.0
Teacher	38	2	5.3	2	5.3	3	7.9	2	5.3	2	5.3
University student	15	2	13.3	1	6.7	6	40.0	1	6.7	2	13.3
Non-university student											
Professional/technician/manager	35	1	2.9	7	20.0	3	8.6	2	5.7	5	14.3
Government official	23	1	4.4	0	0.0	3	13.0	1	4.4	0	0.0
Forestry workers and NTFP collector	31	3	9.7	4	12.9	5	16.1	2	6.5	1	3.2
Coastal fisher	28	0	0.0	7	25.0	0	0.0	5	17.9	0	0.0
Freshwater fisher	30	0	0.0	1	3.3	1	3.3	0	0.0	3	10.0
Chi2/p*	22	1	4.6	8	36.4	0	0.0	1	4.6	0	0.0



Table A15: Where do you get general information from? (Part1)

Base: All respondents

	Base	Friend/ neighbor/ villager		Television		Radio		Workshop/ meeting/ conference		NGOs	
		#	%	#	%	#	%	#	%	#	%
All Respondents	1000	812	81.2	829	82.9	75.5	108	10.8	121	12.1	1000
Sex											
Male	505	414	82.0	436	86.3	303	60.0	65	12.9	60	11.9
Female	495	398	80.4	393	79.4	272	55.0	43	8.7	61	12.3
Chi2/p*		0.407	0.5	8.5	0.0	2.609	0.1	4.543	0.0	0.046	0.8
Resident											
Urban	361	285	79.0	336	93.1	205	56.8	33	9.1	33	9.1
Rural	639	527	82.5	493	77.2	370	57.9	75	11.7	88	13.8
Chi2/p*		1.878	0.2	41.25 8	0.0	0.118	0.7	1.613	0.2	4.65	0.0
Region											
Phnom Penh	80	65	81.3	76	95.0	61	76.3	7	8.8	5	6.3
Plain	280	218	77.9	244	87.1	166	59.3	21	7.5	41	14.6
Tonle Sap	250	210	84.0	199	79.6	128	51.2	11	4.4	9	3.6
Coastal	130	109	83.9	111	85.4	62	47.7	28	21.5	30	23.1
Mountain	260	210	80.8	199	76.5	158	60.8	41	15.8	36	13.9
Chi2/p*		3.962	0.4	21.72 7	0.0	22.18 9	0.0	36.36 9	0.0	36.73 2	0.0
Ethnicity											
Khmer	907	733	80.8	760	83.8	521	57.4	94	10.4	104	11.5
Cham	35	30	85.7	33	94.3	19	54.3	3	8.6	5	14.3
Indigenous	51	43	84.3	31	60.8	32	62.8	61	21.6	12	23.5
Others	7	6	85.7	5	71.4	3	42.9	0	0.0	0	0.0
Chi2/p*		0.972	0.8	21.95 7	0.0	1.338	0.7	7.346	0.1	7.727	0.1
Age											
15-24	187	144	77.0	157	84.0	122	65.2	16	8.6	17	9.1
25-34	297	250	84.2	251	84.5	167	56.2	31	10.4	37	12.5
35-44	250	214	85.6	195	78.0	126	50.4	30	12.0	34	13.6
45-55	266	204	76.7	226	85.0	160	60.2	31	11.7	33	12.4
Chi2/p*		10.58 9	0.0	5.724	0.1	10.70 3	0.0	1.593	0.7	2.18	0.5
Education											
No Schooling	136	106	77.9	92	67.7	66	38.5	10	7.4	9	6.6
Primary School	424	348	82.1	333	78.5	225	53.1	37	8.7	51	12.0
Secondary School	267	215	80.5	244	91.4	169	63.3	27	10.1	30	11.2
High School	119	99	83.2	108	90.8	77	64.7	22	18.5	19	16.0
University	54	44	81.5	52	96.3	38	70.4	12	22.2	12	22.2
Chi2/p*		1.551	0.8	53.59 2	0.0	17.49	0.0	18.31 4	0.0	10.90 7	0.0
PPI index											
Lowest (0-24)	78	65	83.3	37	47.4	37	47.4	6	7.7	12	15.4
Low(25-49)	414	338	81.6	314	75.9	239	57.7	42	10.1	40	9.7
Medium (50-74)	425	343	80.7	398	93.7	251	59.1	55	12.9	63	14.8
High (75-100)	83	66	79.5	80	96.4	48	57.8	5	6.0	6	7.2
Chi2/p*		0.507	0.9	129.0 2	0.0	3.664	0.3	4.954	0.2	7.927	0.0
Occupation											
Farmer	375	301	80.3	283	75.5	219	58.4	30	8.0	44	11.7
Business Person	179	146	81.6	160	89.4	93	52.0	14	7.8	19	10.6
Sales and services worker	56	48	85.7	52	92.9	31	55.4	5	8.9	5	8.9
Skilled manual worker	38	27	71.1	34	89.5	23	60.5	4	10.5	1	2.6
Housewife	65	48	73.9	53	81.5	35	53.9	3	4.6	4	6.2
Teacher	44	39	88.6	43	97.7	34	77.3	16	36.4	11	25.0
University student	15	13	86.7	14	93.3	13	86.7	3	20.0	4	26.7
Non-university student											
Professional/technician/manager	42	33	78.6	49	92.9	31	73.8	3	7.1	2	4.8
Government official	32	26	81.3	31	96.9	18	56.3	3	9.4	5	15.6
Forestry workers and NTFP collector	37	30	81.1	37	100.0	26	70.3	12	32.4	10	27.0
Coastal fisher	45	42	93.3	28	62.2	22	38.9	9	20.0	6	13.3
Freshwater fisher	40	36	90.0	32	80.0	14	35.0	5	12.5	8	20.0
Chi2/p*	32	23	71.9	23	71.9	16	50.0	1	3.1	2	6.3

Table A15: Where do you get general information from? (Part2)

Base: All respondents

	Base	Family		News/ magazine		Authority		Others	
		#	%	#	%	#	%	#	%
All Respondents	1000	582	58.2	185	18.5	363	36.3	120	12.0
Sex									
Male	505	282	55.8	115	22.8	189	37.4	67	13.3
Female	495	300	60.6	70	14.1	174	35.2	53	10.7
Chi2/p*		2.333	0.1	12.35	0.0	0.559	0.5	1.552	0.2
Resident									
Urban	361	212	58.7	114	31.6	107	29.6	44	12.2
Rural	639	370	57.9	71	11.1	256	40.1	76	11.9
Chi2/p*		0.064	0.8	64.095	0.0	10.837	0.0	0.019	0.9
Region									
Phnom Penh	80	53	66.3	38	47.5	26	32.5	9	11.3
Plain	280	154	55.0	32	11.4	102	36.4	39	13.9
Tonle Sap	250	131	52.4	38	15.2	48	19.2	17	6.8
Coastal	130	84	64.6	21	16.2	75	57.7	19	14.6
Mountain	260	160	61.5	56	21.5	112	43.1	36	13.9
Chi2/p*		10.157	0.0	57.781	0.0	63.009	0.0	9.112	0.1
Ethnicity									
Khmer	907	537	59.2	172	19.0	324	35.7	109	12.0
Cham	35	20	57.1	7	20.0	14	40.0	5	14.3
Indigenous	51	21	41.2	6	11.8	24	47.1	5	9.8
Others	7	4	57.1	0	0.0	1	14.3	1	14.3
Chi2/p*		6.472	0.1	3.305	0.3	4.858	0.2	0.441	0.9
Age									
5-24	187	117	62.6	54	28.9	37	19.8	37	19.8
25-34	297	177	59.6	75	25.3	113	38.1	31	10.4
35-44	250	145	58.0	33	13.2	108	43.2	24	9.6
45-55	266	143	53.8	23	8.7	105	39.5	28	10.5
Chi2/p*		3.864	0.3	44.123	0.0	28.753	0.0	13.333	0.0
Education									
No Schooling	136	71	52.2	2	1.5	49	36.0	4	2.9
Primary School	424	248	58.5	39	9.2	157	37.0	35	8.3
Secondary School	267	155	58.1	46	17.2	104	39.0	32	12.0
High School	119	73	61.3	56	47.1	38	31.9	30	25.2
University	54	35	64.8	42	77.8	15	27.8	19	35.2
Chi2/p*		3.481	0.5	240.997	0.0	3.591	0.5	63.354	0.0
PI index									
Lowest (0-24)	78	47	47.4	2	2.6	30	38.5	5	6.4
Low (25-49)	414	230	55.6	40	9.7	143	34.5	41	9.9
Medium (50-74)	425	272	64.0	105	24.7	166	39.1	61	14.4
High (75-100)	83	43	51.8	38	45.8	24	28.9	13	15.7
Chi2/p*		12.176	0.0	86.419	0.0	4.068	0.3	7.314	0.1
Occupation									
Farmer	375	203	54.1	21	5.6	149	49.7	27	7.2
Business Person	179	108	60.3	39	21.8	59	33.0	15	8.4
Sales and services worker	56	30	53.6	19	33.9	19	33.9	7	12.5
Skilled manual worker	38	29	76.3	6	15.8	11	29.0	5	13.2
Housewife	65	41	63.1	12	18.5	20	30.8	3	4.6
Teacher	44	32	72.7	25	56.8	18	40.9	21	47.7
University student	15	8	53.3	14	93.3	6	40.0	10	66.7
Non-university student									
Professional/technician/manager	42	30	71.4	13	31.0	5	11.9	15	35.7
Government official	32	17	53.1	12	37.5	7	21.9	2	6.3
Forestry workers and NTFP collector	37	20	54.1	19	51.4	17	46.0	6	16.2
Coastal fisher	45	25	55.6	4	8.9	21	46.7	4	8.9
Freshwater fisher	40	22	55.0	0	0.0	23	57.5	2	5.0
Chi2/p*	32	17	53.1	1	3.1	8	25.0	3	9.4

**Table A16: Which kind of radio programmes did you listen to in the last month?**

Base: All respondents who have listen within the past month

	Sex				Residence				Age								Total			
	Male		Female		Urban		Rural		15-24		25-34		35-44		45-55		Pearson chi2		%	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	chi	p		
Green Music	1	0.41	0	0	0	0	1	0.33	0	0	1	0.75	0	0	0	0	2.55	0.466	1	0.21
Youth and Environment	8	3.27	2	0.87	4	2.33	6	1.98	3	3.06	4	2.99	1	1.01	2	1.39	1.873	0.559	10	2.11
Comedy	20	8.16	18	7.83	13	7.56	25	8.25	10	10.2	14	10.45	9	9.09	5	3.47	5.909	0.116	38	8
Song	128	52.24	144	62.61	92	53.49	180	59.41	67	68.37	84	62.69	50	50.51	71	49.31	12.122	0.007	272	57.26
Health	70	28.57	58	25.22	67	30.23	76	25.08	37	37.76	38	28.36	24	24.24	29	20.14	7.709	0.021	128	26.95
Song request	50	20.41	62	26.96	42	24.42	70	32.1	31	31.63	37	27.61	20	20.2	24	16.67	9.182	0.027	112	23.58
Education programmes	33	13.47	18	7.83	17	9.88	34	11.22	14	14.29	10	7.46	9	9.09	18	12.5	3.543	0.316	51	10.74
News(domestic/international)	225	91.84	200	86.96	159	92.44	266	87.79	84	85.71	119	88.81	90	90.91	132	91.67	2.486	0.478	425	89.47
Discussion on social and political issues (round table)	23	9.39	6	2.61	9	5.23	20	6.6	6	6.12	4	2.99	5	5.05	14	9.72	5.754	0.124	29	6.11
Phnom Penh-in programme	32	13.06	28	12.17	23	13.37	37	12.21	15	15.31	21	15.67	7	7.0	17	11.81	4.62	0.202	60	12.63
Buddhism programme	20	18.6	31	13.48	18	10.47	33	10.89	5	5.1	12	8.96	9	9.09	25	17.36	10.563	0.014	51	10.74
Advertisement	3	1.22	1	0.43	1	0.58	3	0.99	0	0	0	0	3	3.03	1	0.69	7.685	0.053	4	0.84
Astrology	1	0.41	2	0.87	2	1.16	1	0.33	1	1.02	1	0.75	0	0	1	0.69	0.902	0.825	3	0.63
Novel/ghost Story narration	0	0	1	0.43	0	0	1	0.33	1	1.02	0	0	0	0	0	0	3.855	0.278	1	0.21
English education	0	0	1	0.43	0	0	1	0.33	1	1.02	0	0	0	0	0	0	3.855	0.278	1	0.21
Animal raising 1	1	0.41	0	0	1	0.58	0	0	0	0	0	0	1	1.01	0	0	3.806	0.283	1	0.21
Neatly mean	1	0.41	0	0	0	0	1	0.33	1	1.02	0	0	0	0	0	0	3.855	0.278	1	0.21
Tamil	0	0	2	0.87	0	0	2	0.66	0	0	0	0	2	2.02	0	0	7.628	0.054	2	0.42
Don't	0	0	2	0.87	0	0	2	0.66	0	0	0	0	2	2.02	0	0	7.628	0.054	2	0.42
Cases	245		230		172		303		98		134		99		144				475	



**Table A17: When do you listen to radio? (Days of the week)**

Base: All respondent

	Sex		Residence				Age				Total										
	Female		Urban		Rural		15-24		25-34		35-44		45-55		Pearson chi2 (3)	p	#	%			
	#	%	#	%	#	%	#	%	#	%	#	%	#	%							
Monday	21	8.57	25	10.87	15	8.72	31	10.23	11	11.22	17	12.69	9	9.09	9	6.25	3,628	0.304	46	9.68	
Tuesday	10	4.08	24	10.43	13	7.56	21	6.93	10	10.2	9	6.72	8	8.08	7	4.86	2,678	0.444	34	7.16	
Wednesday	11	4.49	19	8.26	16	9.3	14	4.62	8	8.16	10	7.46	7	7.07	5	3.47	2,926	0.403	30	6.32	
Thursday	15	6.12	22	9.57	13	7.56	24	7.92	11	11.22	6	4.48	6	6.06	14	9.72	4,817	0.186	37	7.79	
Friday	19	7.76	29	12.61	18	10.47	30	9.9	11	11.22	9	6.72	16	16.16	12	8.33	6,324	0.097	48	10.11	
Saturday	32	13.6	39	16.96	14	8.72	44	14.52	21	21.43	16	11.94	18	18.18	16	11.11	6,673	0.083	71	14.95	
Sunday	32	13.06	45	19.57	26	15.12	51	16.83	20	20.41	20	14.93	21	21.21	16	11.11	6,014	0.111	77	16.21	
Everyday	151	61.63	126	54.78	102	59.3	175	57.76	52	53.06	71	52.99	54	54.55	100	69.44	10,595	0.014	277	58.32	
Do not know/not sure	37	15.1	32	13.91	24	13.95	45	14.85	8	8.16	30	22.39	14	14.14	17	11.81	10,737	0.013	69	14.53	
Cases	245		230		172		303		98		134		99		144						475

**Table A18: What time of day do you listen to the radio?**

Base: Radio listeners

	Sex		Residence				Age				Total										
	Female		Urban		Rural		15-24		25-34		35-44		45-55		Pearson chi2 (3)	p	#	%			
	#	%	#	%	#	%	#	%	#	%	#	%	#	%							
06:00AM08:00AM	97	39.59	107	46.52	72	41.86	132	43.56	32	32.65	61	45.52	43	43.43	68	47.22	204	42.95	5,685	0.128	
08:01AM10:00AM	27	11.02	31	13.48	19	11.05	39	12.87	13	13.27	17	12.69	12	12.12	9	6.25	58	12.21	8,936	0.03	
10:01AM12:00AM	41	16.73	43	18.7	28	16.28	56	18.48	30	30.61	26	19.4	11	11.11	17	11.81	84	17.68	17,881	0	
12:01PM02:00PM	45	18.37	50	21.74	32	18.6	63	20.79	32	32.65	26	19.4	15	15.15	22	15.28	95	20	13,297	0.004	
02:01PM04:00PM	25	10.2	27	11.74	22	12.79	30	9.9	11	11.22	20	14.93	8	8.08	13	9.03	52	10.95	3,562	0.313	
04:01PM06:00PM	23	9.39	24	10.43	27	15.7	20	6.6	9	9.18	15	11.19	10	10.1	13	9.03	47	9.89	0,435	0.933	
06:01PM08:00PM	101	41.22	70	30.43	51	29.65	120	39.6	29	29.59	38	28.36	31	31.31	73	50.69	171	36	18,582	0	
08:01PM10:00PM	87	35.51	64	27.83	57	33.14	94	31.02	24	24.49	42	31.34	29	29.29	56	38.89	151	31.79	6,052	0.109	
10:01PM00:00PM	15	6.12	12	5.22	14	8.14	13	4.29	5	5.1	4	2.99	8	8.08	10	6.94	27	5.68	3,37	0.338	
00:01AM06:00AM	22	8.98	21	9.13	10	5.81	33	10.89	4	4.08	10	7.46	8	8.08	21	14.58	43	9.05	8,816	0.032	
Do not remember	1	0.41	2	0.87	1	0.58	2	0.66	0	0	0	0	2	2.02	1	0.69	3	0.63	4,525	0.21	
Base	245		230		172		303		98		134		99		144						475

**Table A19: Which radio stations do you listen to?**

Base: Radio listeners

	Sex		Residence						Age						Total					
	Male		Female		Urban		Rural		15-24		25-34		35-44		45-55		Pearson chi2 (3)			
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	chi	p		
	Pearson chi2 (1)		chi		p		Pearson chi2 (1)		chi		p		Pearson chi2 (1)		chi		p			
Bayon Radio FM 95	50	20.41	38	16.52	28	16.28	60	19.8	18	18.37	24	17.91	18	18.18	28	19.44	0.124	0.989	88	18.53
Women Media Center FM 102	33	13.47	26	11.3	23	13.37	36	11.88	6	6.12	20	14.93	13	13.13	20	13.89	4.678	0.197	59	12.42
Municipal Radio FM 103	10	4.08	16	6.96	9	5.23	17	5.61	4	4.08	5	3.73	7	7.07	10	6.94	2.243	0.523	26	5.47
Sovanna Phum FM 104	1	0.41	6	2.61	3	1.74	4	1.32	3	3.06	3	2.24	0	0	1	0.69	4.324	0.229	7	1.47
Sambok Khnum FM 105	33	13.47	22	9.57	20	11.63	35	11.55	4	4.08	14	10.45	15	15.15	22	15.28	8.706	0.033	55	11.58
Radio Free Asia Voice	76	31.02	29	12.61	41	23.84	64	21.12	19	19.39	19	14.18	28	28.28	39	27.08	9.576	0.023	105	22.11
ABC Traffic Kampuchea FM	106	43.27	107	46.52	82	47.67	131	43.23	50	51.02	62	46.27	35	35.35	66	45.83	5.284	0.152	213	44.84
Hang Meas FM 104.5	10	4.08	3	1.3	6	3.49	7	2.31	6	6.16	5	3.73	0	0	2	1.39	8.486	0.037	13	2.74
VOA	14	5.71	2	0.87	4	2.33	12	3.96	0	0	2	1.49	4	4.04	10	6.94	10.66	0.014	16	3.37
Mohachun	12	4.9	5	2.17	2	1.16	15	4.95	3	3.06	5	3.73	2	2.02	7	4.86	1.468	0.69	17	3.58
Base	245		230		172		303		98		134		99		144				475	

**Table A20: What kinds of television programmes do you watch?**

Base: TV viewers

	Sex		Residence						Age						Total						
	Male		Female		Urban		Rural		15-24		25-34		35-44		45-55		Pearson chi2 (3)				
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	chi	p			
	Pearson chi2 (1)		chi		p		Pearson chi2 (1)		chi		p		Pearson chi2 (1)		chi		p				
Khmer Series	144	34.7	216	56.1	161	48.49	199	42.52	64	41.83	122	50.83	86	44.79	88	40.93	5.363	0.137	360	45	
International Movie Series	299	72.05	345	89.61	275	82.83	369	78.85	130	84.97	213	88.75	151	78.65	150	69.77	28.54	0	644	80.5	
You will Become Millionaire	10	2.41	14	3.64	6	1.81	18	3.85	5	2.61	9	3.75	6	3.13	5	2.33	0.888	0.828	24	3	
Sokhea Leana Big	8	1.93	14	3.64	13	3.92	9	1.92	5	3.27	10	4.17	1	0.52	6	2.79	5.523	0.137	22	2.75	
Sport Program	211	50.84	33	8.57	168	36	102	30.72	142	30.34	62	25.83	60	31.25	83	38.6	10.99	0.012	244	30.5	
Sammerch tam Phum	22	5.3	26	6.75	17	5.12	31	6.62	9	5.88	20	8.33	10	5.21	9	4.19	3.788	0.285	48	6	
Samleng	2	0.48	2	0.52	0	0.06	0.94	1	0.65	3	1.25	0	0	0	0	0	4.831	0.185	4	0.5	
Environmental	10	2.41	5	1.3	13	3.41	4	0.85	3	1.96	3	1.25	3	1.56	6	2.79	1.597	0.66	15	1.88	
Game	63	15.18	77	20	32.13	57	17.17	83	17.74	44	28.76	40	16.67	27	14.06	29	13.49	17.51	0.001	140	17.5
Concert	275	66.27	254	64.97	0.008	0.931	233	67.17	306	65.38	177	73.75	117	60.94	130	60.47	12.04	0.007	529	66.13	
Cartone	16	3.86	18	4.68	0.33	0.566	20	4.29	14	7.84	13	5.42	3	1.56	6	2.79	10.19	0.017	34	4.25	
Song	134	32.29	157	40.78	6.22	0.013	128	34.83	67	43.79	91	37.92	65	33.85	68	31.63	6.503	0.09	291	36.38	
Documentary	40	6.64	19	4.94	6.468	0.011	32	9.64	27	10.46	14	5.83	15	7.81	14	6.51	3.252	0.354	59	7.38	
Verious Educational	36	8.67	23	5.97	2.132	0.144	29	8.73	30	7.19	16	6.67	16	8.33	16	7.44	0.444	0.931	59	7.38	
Health Programme	51	12.29	53	13.77	0.385	0.535	45	13.55	59	12.61	29	12.08	19	9.9	28	13.02	5.615	0.132	104	13	
Woman Beauti Programme	3	0.72	23	5.97	17.514	0	14	4.22	12	2.56	9	3.75	1	0.52	6	2.79	10.13	0.017	26	3.25	
HouseWife Programme	10	2.41	30	7.79	12.182	0	20	6.02	20	7.19	11	4.58	8	4.17	10	4.65	1.958	0.579	40	5	
News (National-International)	381	91.81	330	85.71	2.499	0.006	306	82.17	405	84.97	216	90	169	88.02	196	91.16	3.95	0.267	711	88.88	
Debates	14	3.37	3	0.78	6.463	0.011	8	2.41	9	3.27	2	0.83	3	1.56	7	3.26	4.5	0.212	17	2.13	
Tourism Trip	10	2.41	6	1.56	0.738	0.39	9	1.92	3	1.96	2	0.83	6	3.13	5	2.33	3.024	0.368	16	2	
House Number 11	0	0	1	0.26	1.079	0.299	1	0	0	0	0	0	1	0.52	0	0	3.171	0.366	1	0.13	
Agriculture	2	0.38	0	0	1.86	0.173	1	0.21	0	0	0	0	1	0.52	1	0.47	1.949	0.583	2	0.25	
Discovery	1	0.24	0	0	0.929	0.335	1	0.3	0	0	0	0	1	0.52	0	0	33.17	0.366	1	0.13	
Sermon of Buddha Monk	0	0	3	0.78	3.246	0.072	2	0.6	1	0.21	0	0	0	0	3	1.4	8.194	0.042	3	0.38	
Advertisement	1	0.24	0	0	0.929	0.335	0	0	1	0.21	0	0	0	0	0	0	4.34	0.237	1	0.13	
Cases	415		385		332		468		153		240		192		215				180		



**Table A21: Which television channels do you watch?**

Base: TV viewers

	Sex		Residence				Age						Total			
	Male		Urban		Rural		15-24		25-34		35-44		45-55		#	%
	#	%	#	%	#	%	#	%	#	%	#	%	#	%		
Khmerak Phumin (TV5)	24	5.9	46	12.2	13	3.9	57	12.6	16	8.4	16	8.6	18	8.6	70	8.9
Municipality TV (TV3)	2	0.5	2	0.5	0	0	4	0.9	1	0.7	2	0.8	0	0	4	0.5
National Television of Kampuchea (TVK)	5	1.2	5	1.3	4	1.2	6	1.3	0	0	6	3.2	4	1.9	10	1.3
Khmer TV (CTV9)	0	0	3	0.8	0	0	3	0.7	1	0.7	2	0.8	0	0	3	0.4
Apsara TV (TV11)	14	3.4	8	2.1	9	2.7	13	2.9	4	2.6	5	2.1	6	3.2	22	2.8
Bayon TV (TV27)	26	6.4	8	2.1	10	3	24	5.3	5	3.3	8	3.4	9	4.8	34	4.3
Bayon News TV (BTV)	16	3.9	17	4.5	15	4.5	18	4	4	2.6	7	3	4	2.1	33	4.2
Bayon Entertainment TV (ETV)	2	0.5	4	1.1	3	0.9	3	0.7	1	0.7	1	0.4	3	1.6	6	0.8
CTN	61	14.9	72	19.1	59	17.8	74	16.3	23	15.1	42	17.7	28	15	40	133
My TV	21	5.1	43	11.4	26	7.9	38	8.4	21	13.8	21	8.9	14	7.5	8	3.8
CNC	16	3.9	11	2.9	9	2.7	18	4	4	2.6	10	4.2	3	1.6	10	4.8
South East Asia TV (SEATV)	9	2.2	8	2.1	7	2.1	10	2.2	3	2	4	1.7	4	2.1	6	2.9
Hang Meas TV (HM)	194	47.4	124	33	152	45.9	166	36.6	55	36.2	99	41.8	88	47.1	76	36.4
Vietnam TV (VTV)	0	0	1	0.3	0	0	1	0.2	0	0	0	0	1	0.5	0	0.1
Satellite TV	5	1.2	3	0.8	2	0.6	6	1.3	5	3.3	3	1.3	0	0	8	1
Cable TV	8	2	9	2.4	15	4.5	2	0.4	7	4.6	5	2.1	2	1.1	3	1.4
CNN	1	0.2	0	0	1	0.3	0	0	0	0	0	0	0	0	1	0.1
Thai TV Channels	0	0	1	0.3	0	0	1	0.2	1	0.7	0	0	0	0	1	0.1
8HDTV	5	1.2	11	2.9	6	1.8	10	2.2	1	0.7	8	3.4	3	1.6	4	1.9
Base	409		376		331		454		152	237	187	209	209		785	

Pearson Chi2 (18) =51.1548 Pr = 0.000 Pearson Chi2 (18) =47.7502 Pr = 0.000 Pearson Chi2 (54) =86.6048 Pr = 0.003

**Table A22: When do you watch television? (Day of Week)**

Base: TV viewers

	Sex						Residence						Age						Total							
	Male			Female			Urban			Rural			15-24			25-34			35-44			45-55			Pearson chi2 (3)	
	#	%	p	#	%	p	#	%	p	#	%	p	#	%	p	#	%	p	#	%	p	#	%	chi	p	
Monday	33	7.95	0.333	35	9.09	0.564	20	6.02	48	10.26	4.473	0.034	14	9.15	28	11.67	11	5.73	15	6.98	5.714	0.126	68	8.5		
Tuesday	23	5.54	0.32	25	6.49	0.571	16	4.82	32	6.84	1.403	0.236	8	5.23	21	8.75	9	4.69	10	4.65	4.659	0.199	41	6		
Wednesday	21	5.06	0.321	23	5.97	0.571	12	3.61	32	6.84	3.882	0.049	6	3.92	17	7.08	10	5.21	11	5.12	1.983	0.576	44	5.5		
Thursday	25	6.2	0.057	25	6.49	0.784	14	4.22	36	7.69	4.004	0.045	11	7.19	15	6.25	11	5.73	13	6.05	0.335	0.953	50	6.25		
Friday	33	7.95	0.003	31	8.05	0.958	15	4.52	49	10.47	9.349	0.002	14	9.15	23	9.58	10	5.21	17	7.91	3.128	0.372	64	8		
Saturday	82	19.76	0.002	48	12.47	0.005	39	11.75	91	19.44	8.456	0.004	34	22.22	32	13.33	26	13.54	38	17.64	6.865	0.076	130	16.25		
Sunday	88	21.2	0.000	44	11.43	0.000	40	12.05	92	19.66	8.164	0.004	31	20.26	31	12.92	28	14.58	42	19.53	5.757	0.124	132	16.5		
Everyday	281	67.71	0.000	284	73.77	0.000	272	81.93	293	62.61	34.947	0.000	93	60.78	174	72.5	148	77.8	150	99.77	11.485	0.009	565	70.63		
Do not know/not sure	21	5.06	0.064	18	4.68	0.801	8	2.31	31	6.62	7.438	0.006	10	6.55	11	4.58	6	3.13	12	5.58	2.454	0.484	39	4.88		
Cases	415			385			332		468		153		240		192		215		800							

**Table A23: At what time do you watch television?**

Base: TV viewers

	Sex						Residence						Age						Total							
	Male			Female			Urban			Rural			15-24			25-34			35-44			45-55			Pearson chi2 (3)	
	#	%	p	#	%	p	#	%	p	#	%	p	#	%	p	#	%	p	#	%	p	#	%	chi	p	
06:00AM08:00AM	143	34.46	0.001	91	23.64	0.001	116	34.94	118	25.21	8.78	0.003	42	27.45	83	34.58	60	31.25	49	22.79	8.244	0.041	234	29.25		
08:01AM10:00AM	78	18.8	0.16	58	15.06	0.16	62	18.67	74	15.81	1.128	0.288	19	12.42	53	22.08	31	16.15	33	15.35	7.186	0.066	133	17		
10:01AM12:00AM	57	13.73	0.036	74	19.22	0.036	67	20.18	64	13.68	6.006	0.014	31	20.28	48	20	22	11.46	30	13.95	8.301	0.004	131	16.38		
12:01PM02:00PM	50	12.05	0.004	75	19.48	0.004	61	18.37	64	13.68	3.252	0.071	36	23.53	32	13.33	30	15.63	27	12.56	9.741	0.021	125	15.63		
02:01PM04:00PM	48	11.57	0.003	22	5.71	0.003	27	8.13	43	9.19	0.271	0.603	18	11.76	18	7.5	9	4.69	25	11.63	8.41	0.038	70	8.75		
04:01PM06:00PM	41	9.88	0.000	14	3.64	0.000	26	7.83	29	6.2	0.811	0.368	10	6.54	18	7.5	12	6.25	15	6.98	0.295	0.961	55	6.88		
06:01PM08:00PM	260	62.65	0.007	276	71.69	0.007	225	67.77	311	66.45	0.153	0.696	96	62.75	161	67.08	125	65.1	154	71.63	3.648	0.302	536	67		
08:01PM10:00PM	173	41.69	0.006	186	48.31	0.006	162	48.8	197	42.09	3.526	0.006	81	52.94	115	47.92	94	48.96	69	32.09	20.41	0	359	44.88		
410:01PM00:00PM	9	2.17	0.008	8	2.08	0.008	10	3.01	7	1.5	2.147	0.143	4	2.61	3	1.25	5	2.6	5	2.33	1.313	0.726	17	2.13		
00:01AM06:00AM	5	1.2	0.049	4	1.04	0.824	4	1.2	5	1.07	0.033	0.857	1	1.65	0	0	3	1.56	5	2.33	6.153	0.104	9	1.13		
Cases	415			385			332		468		1153		240		192		215		800							

Table A24: Which mobile network do you use? (Part 1)

Base: Respondents who own phone

	Base	Diversify crops		Paid more attention to weather forecast		Planted crops as usual		Arranged ritual ceremony	
		#	%	#	%	#	%	#	%
All Respondents	760	217	28.55	213	28.03	9	1.18	525	69.08
Sex									
Male	422	128	30.33	130	30.81	2	0.47	306	72.51
Female	338	89	26.33	83	24.56	7	2.07	219	64.79
Chi2/p*		14.72	0.225	3.634	0.057	4.091	0.043	5.235	0.022
Resident									
Urban	303	126	41.58	115	37.95	1	0.33	170	56.11
Rural	457	91	19.91	98	21.44	8	1.75	355	77.68
Chi2/p*		41.947	0	24.619	0	3.142	0.076	39.705	0
Region									
Phnom Penh	72	48	66.67	38	52.78	1	1.39	17	23.61
Plain	204	66	32.35	39	19.12	6	2.94	145	71.08
Tonle Sap	190	58	30.53	68	35.79	0	0	116	61.05
Coastal	93	11	11.83	34	36.56	1	1.08	73	78.49
Mountain	201	34	16.92	34	16.92	1	0.5	174	86.57
Chi2/p*		79.173	0	51.228	0	8.504	0.075	108.437	0
Ethnicity									
Khmer	695	213	30.65	201	28.92	9	1.29	469	67.48
Cham	29	4	13.79	11	37.93	0	0	21	72.41
Indigenous	30	0	0	0	0	0	0	29	96.67
Others	6	0	0	1	16.67	0	0	6	100
Chi2/p*		18.979	0	13.752	0.003	0.852	0.837	14.356	0.002
Age									
15-24	149	19	12.75	80	53.69	3	2.01	88	59.06
25-34	239	66	27.62	64	26.78	5	2.09	175	73.22
35-44	178	63	35.39	32	17.98	0	0	135	75.84
45-55	194	69	35.57	37	19.07	1	0.52	127	65.46
Chi2/p*		27.101	0	65.461	0	5.433	0.143	13.921	0.003
Education									
No Schooling	70	6	8.57	12	17.14	0	0	59	84.29
Primary School	309	63	20.39	55	17.8	6	1.94	239	77.35
Secondary School	219	77	35.16	62	28.31	3	1.37	148	67.58
High School	108	37	34.26	49	45.37	0	0	60	55.56
University	54	34	62.96	35	64.81	0	0	19	35.19
Chi2/p*		61.549	0	72.478	0	4.36	0.359	55.986	0
PPI index									
Lowest (0-24)	46	1	2.17	7	15.22	0	0	41	89.13
Low(25-49)	279	45	16.13	59	21.15	5	1.79	222	79.57
Medium (50-74)	358	127	35.47	110	30.73	4	1.12	236	65.92
High (75-100)	77	44	57.14	37	48.05	0	0	26	33.77
Chi2/p*		76.061	0	26.889	0	2.369	0.449	69.658	0
Occupation									
Farmer	245	48	19.59	38	15.51	5	2.04	197	80.41
Business Person	148	50	33.78	50	33.78	1	0.68	96	64.86
Sales and services worker	53	18	33.96	23	43.4	1	1.89	31	58.49
Skilled manual worker	33	6	27.27	11	33.33	1	3.03	21	63.64
Housewife	47	16	34.04	16	34.04	0	0	26	55.32
Teacher	39	22	56.41	10	25.64	0	0	22	56.41
University student	15	6	40	15	100	0	0	4	26.67
Non-university student	27	4	14.81	16	59.26	0	0	13	48.15
Professional/technician/manager	30	17	56.67	11	36.67	0	0	14	46.67
Government official	37	22	59.46	9	34.32	0	0	26	70.27
Forestry workers and NTFP collector	36	0	0	6	16.67	0	0	32	88.89
Coastal fisher	29	1	3.45	7	24.14	0	0	26	89.66
Freshwater fisher	21	484.632	19.05	1	4.76	1	4.76	32	80.95
Chi2/p*			0	90.175	0	8.461	0.748	26	0

**Table A24: Which mobile network do you use? (Part 2)**

Base: Respondents who own phone

	Base	Excel		Thai Network		Cooltel	
		#	%	#	%	#	%
All Respondents	760	2	0.26	1	0.13	1	0.13
Sex							
Male	422	1	0.24	0	0	1	0.24
Female	338	1	0.3	1	0.3	0	0
Chi2/p*		0.025	0.875	1.25	0.264	0.802	0.37
Resident							
Urban	303	1	0.33	0	0	0	0
Rural	457	1	0.22	1	0.22	1	0.22
Chi2/p*		0.086	0.77	0.664	0.415	0.664	0.415
Region							
Phnom Penh	72	1	1.39	0	0	1	1.39
Plain	204	0	0	0	0	0	0
Tonle Sap	190	0	0	1	0.53	0	0
Coastal	93	0	0	0	0	0	0
Mountain	201	1	0.5	0	0	0	0
Chi2/p*		5.182	2.63	3.004	0.557	9.568	0.048
Ethnicity							
Khmer	695	1	0.14	1	0.14	1	0.14
Cham	29	0	0	0	0	0	0
Indigenous	30	1	3.33	0	0	0	0
Others	6	0	0	0	0	0	0
Chi2/p*		11.243	0.01	0.094	0.993	0.094	0.993
Age							
15-24	149	0	0	0	0	1	0.67
25-34	239	0	0	0	0	0	0
35-44	178	1	0.56	1	0.56	0	0
45-55	194	1	0.52	0	0	0	0
Chi2/p*		2.099	0.552	3.274	0.351	4.106	0.25
Education							
No Schooling	70	1	1.43	1	1.43	0	0
Primary School	309	1	0.32	0	0.32	0	0
Secondary School	219	0	0	0	0	0	0
High School	108	0	0	0	0	0	0
University	54	0	0	0	0	1	1.85
Chi2/p*		4.671	0.323	9.87	0.323	13.091	0.011
PPI index							
Lowest (0-24)	46	1	2.17	0	0	0	0
Low(25-49)	279	0	0	0	0.36	0	0
Medium (50-74)	358	1	0.28	1	0	1	0.28
High (75-100)	77	0	0	0	0	0	0
Chi2/p*		7.342	0.062	1.726	0.631	1.124	0.771
Occupation							
Farmer	245	0	0	1	0.41	0	0
Business Person	148	0	0	0	0	0	0
Sales and services worker	53	0	0	0	0	0	0
Skilled manual worker	33	0	0	0	0	0	0
Housewife	47	1	2.13	0	0	0	0
Teacher	39	0	0	0	0	0	0
University student	15	0	0	0	0	1	6.67
Non-university student	27	0	0	0	0	0	0
Professional/technician/manager	30	0	0	0	0	0	0
Government official	37	0	0	0	0	0	0
Forestry workers and NTFP collector	36	1	2.78	0	0	0	0
Coastal fisher	29	0	1	0	0	0	0
Freshwater fisher	21	0	1	0	0	0	0
Chi2/p*					16.685	0.162	2.105



Table A25: What do you use your mobile for? (Part1)

Base: Respondent who own phone

	Total	Makin and receiving calls		Sending/Receiving SMS		Installing Call tune		Using call tune		Surfing internet		Playing game		Recording voice	
		#	%	#	%	#	%	#	%	#	%	#	%	#	%
All Respondents	760	760	100	168	22.11	290	38.16	175	23.03	158	20.79	246	32.37	149	19.61
Sex															
Male	422	422	100	105	24.88	178	42.18	111	26.3	105	24.88	133	31.52	98	23.22
Female	338	338	100	63	18.64	112	33.14	64	18.93	53	15.68	113	33.43	51	15.09
Chi2/p*	Pearson chi2(206):203.7298 Pr = 0.532														
Residence															
Urban	303	303	100	87	28.71	135	44.55	80	26.4	101	33.33	118	38.94	69	22.77
Rural	457	457	100	81	17.72	155	33.92	95	20.79	57	12.47	128	28.01	80	17.51
Chi2/p*	Pearson chi2(206) = 276.0038 Pr = 0.001														
Region															
Phnom Penh	72	72	100	29	40.28	38	52.78	18	25	31	43.06	40	55.56	23	31.94
Plain	204	204	100	32	15.69	37	18.14	22	10.78	31	15.2	43	21.08	25	12.25
Tonle Sap	190	190	100	48	25.26	64	33.68	37	19.47	39	20.53	62	32.63	34	17.89
Coastal	93	93	100	13	13.98	33	35.48	11	11.83	19	20.43	26	27.96	20	21.51
Mountain	201	201	100	46	22.89	118	58.71	87	43.28	38	18.91	75	37.31	47	23.38
Chi2/p*	Pearson chi2(824)" 998.7917 Pr= 0.000														
Ethnicity															
Khmer	695	695	100	159	22.88	255	36.69	152	21.87	148	21.29	234	33.67	142	20.43
Cham	29	29	100	6	20.69	9	31.03	3	10.34	7	24.14	6	20.69	5	17.24
Indigenous	30	30	100	2	6.67	21	70	17	56.67	2	6.67	6	20	2	6.67
Others	6	6	100	1	16.67	5	83.33	3	50	1	16.67	0	0	0	0
Chi2/p*	Pearson chi2(618) = 526.2998 Pr=0.997														
Age															
15-24	149	149	100	88	59.06	84	56.38	50	33.56	59	39.6	89	59.73	48	32.21
25-34	239	239	100	55	23.01	111	46.44	65	27.2	63	26.36	107	44.77	64	26.78
35-44	178	178	100	20	11.24	56	31.46	35	19.66	28	15.73	41	23.03	26	14.61
45-55	194	194	100	5	2.58	39	20.1	25	12.89	8	4.12	9	4.64	11	5.67
Chi2/p*	Pearson chi2(618) = 812.9885 Pr=0.000														
Education															
No Schooling	70	70	100	2	2.86	25	35.71	12	17.14	1	1.43	8	11.43	9	12.86
Primary School	309	309	100	25	8.09	93	30.1	57	18.45	20	6.47	67	21.68	36	11.65
Secondary School	219	219	100	46	21	84	38.36	51	23.29	46	21	80	36.53	49	22.37
High School	108	108	100	53	49.07	54	50	34	31.48	49	45.37	56	51.85	33	30.56
University	54	54	100	42	77.78	34	62.96	21	38.89	42	77.78	35	64.81	22	40.74
Chi2/p*	Pearson chi2(824) = 1.2e+03 Pr=0.000														
PPI index															
Lowest (0-24)	46	46	100	4	8.7	17	36.96	7	15.22	2	4.35	10	21.74	12	26.09
Low(25-49)	279	279	100	44	15.77	97	34.77	64	22.94	26	9.32	69	24.73	39	13.98
Medium (50-74)	358	358	100	89	24.86	147	41.06	78	21.79	89	24.86	127	35.47	81	22.63
High (75-100)	77	77	100	31	40.26	29	37.66	26	33.77	41	53.25	40	51.95	17	22.08
Chi2/p*	Pearson chi2(618) = 688.0057 Pr=0.026														
Occupation															
Farmer	245	245	100	29	11.84	77	31.43	49	20	18	7.35	58	23.67	27	11.02
Business Person	148	148	100	21	14.19	46	31.08	33	22.3	27	18.24	39	26.35	19	12.84
Sales and services worker	53	53	100	14	26.42	20	37.74	11	20.75	19	35.85	18	33.96	15	28.3
Skilled manual worker	33	33	100	7	21.21	20	60.61	7	21.21	6	18.18	14	42.42	9	27.27
Housewife	47	47	100	12	25.53	17	36.17	7	14.89	11	23.4	20	42.55	10	21.28
Teacher	39	39	100	18	46.15	18	46.15	13	33.33	19	48.72	20	51.28	13	33.33
University student	15	15	100	13	86.67	12	80	6	40	13	86.67	11	73.33	7	46.67
Non-university student	27	27	100	21	77.78	14	51.85	13	48.15	12	44.44	20	74.07	12	44.44
Professional/technician/manager	30	30	100	9	30	14	46.67	6	20	9	30	15	50	9	30
Government official	37	37	100	14	37.84	21	56.76	14	37.84	17	45.95	13	35.14	12	32.43
Forestry workers and NTFP collector	36	36	100	6	16.67	18	50	12	33.33	2	5.56	8	22.22	7	19.44
Coastal fisher	29	29	100	1	3.45	9	31.03	3	10.34	3	10.34	7	24.14	6	20.69
Freshwater fisher	21	21	100	3	14.29	4	19.05	1	4.76	2	9.52	3	14.29	3	14.29
Chi2/p*	Pearson chi2(2472) = 3.2e+03 Pr= 0.000														



**Table A25: What do you use your mobile for? (Part2)**

Base: Respondent who own phone

	Total	Makin and receiving calls		Sending/Receiving SMS		Installing Call tune		Using call tune		Surfing internet		Playing game		Recording voice	
		#	%	#	%	#	%	#	%	#	%	#	%	#	%
All Respondents	760	61	8.16	374	49.11	143	18.82	274	36.05	284	37.37	1	0.13	1	0.13
Sex															
Male	422	44	10.43	118	51.66	98	23.22	174	41.23	174	41.47	1	0.24	1	0.24
Female	338	18	5.33	156	46.15	45	13.31	100	29.59	109	32.25	0	0	0	0
Chi2/p*	Pearson chi2(206) = 203.7298 Pr = 0.532														
Residence															
Urban	303	46	15.18	160	52.81	89	29.37	108	35.64	131	43.54	0	0	0	0
Rural	457	16	3.5	114	46.83	54	11.82	166	36.32	146	31.95	1	0.22	1	0.22
Chi2/p*	Pearson chi2(206) = 276.0038 Pr = 0.001														
Region															
Phnom Penh	72	15	10.83	41	56.94	28	38.89	36	50	40	55.56	0	0	0	0
Plain	204	16	7.84	67	32.84	30	14.71	62	30.39	42	20.59	1	0.49	1	0.49
Tonle Sap	190	18	9.47	100	52.63	36	18.95	57	30	74	38.95	0	0	0	0
Coastal	93	4	4.3	39	41.94	17	18.28	36	38.11	38	40.86	0	0	0	0
Mountain	201	9	4.48	127	63.18	32	15.91	83	41.29	90	44.78	0	0	0	0
Chi2/p*	Pearson chi2(824) = 998.7917 Pr = 0.000														
Ethnicity															
Khmer	695	56	8.06	342	49.21	134	19.28	159	37.27	166	38.27	1	0.14	1	0.14
Cham	29	5	17.14	9	31.03	7	14.14	7	24.14	8	27.59	0	0	0	0
Indigenous	30	0	0	19	63.33	1	3.33	8	26.67	9	30	0	0	0	0
Others	6	1	16.67	4	66.67	1	16.67	0	0	1	16.67	0	0	0	0
Chi2/p*	Pearson chi2(618) = 526.2998 Pr = 0.997														
Age															
15-24	149	24	16.11	101	67.79	53	35.57	85	57.05	88	59.06	1	0.67	1	0.67
25-34	239	23	9.61	157	65.69	58	14.27	96	40.17	111	50.63	0	0	0	0
35-44	178	13	7.3	74	41.57	15	14.04	54	30.34	51	28.65	0	0	0	0
45-55	194	2	1.03	42	21.65	7	3.61	39	20.1	24	12.37	0	0	0	0
Chi2/p*	Pearson (hi2(618) = 812.9885 Pr = 0.000														
Education															
No Schooling	70	0	0	32	45.71	1	1.43	17	24.29	14	20	0	0	0	0
Primary School	309	3	0.97	116	37.54	16	5.18	85	27.51	76	14.6	0	0	0	0
Secondary School	219	13	5.94	112	51.14	41	18.72	86	39.27	92	42.01	0	0	0	0
High School	108	13	12.04	67	62.04	43	39.81	57	52.78	59	54.63	1	0.93	1	0.93
University	54	33	61.11	47	87.04	41	77.78	19	53.7	43	79.63	0	0	0	0
Chi2/p*	Pearson chi2(824) = 1.2e+03 Pr = 0.000														
PPI index															
Lowest (0-24)	46	0	0	18	39.13	1	1.17	9	19.57	16	34.78	0	0	0	0
Low(25-49)	279	9	3.23	128	45.88	25	8.96	106	37.99	77	27.6	0	0	0	0
Medium (50-74)	358	31	8.66	179	50	80	11.35	133	37.15	146	40.78	1	0.28	1	0.28
High (75-100)	77	11	18.57	49	63.64	37	48.05	26	33.77	45	58.44	0	0	0	0
Chi2/p*	Pearson chi2(618) = 688.0057 Pr = 0.026														
Occupation															
Farmer	245	4	1.63	101	41.22	15	6.12	80	32.65	57	13.27	0	0	0	0
Business Person	148	10	6.76	63	41.57	13	15.54	44	19.73	51	34.46	0	0	0	0
Sales and services worker	53	7	13.21	26	49.06	18	33.96	19	35.85	21	39.62	0	0	0	0
Skilled manual worker	33	1	6.06	23	69.7	7	11.21	17	51.51	14	41.41	0	0	0	0
Housewife	47	0	0	20	42.55	10	21.28	13	27.66	20	42.55	0	0	0	0
Teacher	39	9	13.08	27	69.23	18	46.15	21	53.85	23	58.97	0	0	0	0
University student	15	12	80	15	100	14	93.33	11	73.33	13	86.67	0	0	0	0
Non-university student	17	1	3.7	10	74.07	9	33.33	15	55.56	19	70.37	1	3.7	1	3.7
Professional/technician/manager	30	6	20	17	56.67	7	23.33	9	30	18	60	0	0	0	0
Government official	37	10	17.03	22	59.46	17	45.95	17	45.95	10	54.05	0	0	0	0
Forestry workers and NTFP collector	36	0	0	22	61.11	2	5.56	10	27.78	12	33.33	0	0	0	0
Coastal fisher	19	1	3.45	12	41.38	1	6.9	11	41.38	11	37.93	0	0	0	0
Freshwater fisher	21	0	0	6	18.57	1	4.76	6	28.57	5	13.81	0	0	0	0
Chi2/p*	245														

**Table A26: what types of SMS do you send?**

Base: respondent who use SMS

	Sex				Residence				Age						Total					
	Male		Female		Urban		Rural		15-24		25-34		35-44		45-55		Pearson chi2 (3)	p		
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%				
SMS in Khmer	57	54.29	33	52.38	38	43.68	52	64.2	47	53.41	28	50.91	12	60	3	60	0.573	0.903	90	53.57
Voice SMS	6	5.71	5	7.94	5	5.75	6	7.41	10	11.36	1	1.82	0	0	0	0	7.098	0.069	11	6.55
Video SMS	2	1.9	2	3.17	2	2.3	2	2.47	4	4.55	0	0	0	0	0	0	3.725	0.293	4	2.38
SMS in English	76	72.38	44	69.84	77	88.51	43	53.09	60	68.18	45	81.82	12	60	3	60	4.964	0.174	120	71.43
Picture SMS	15	14.29	7	11.11	12	13.79	10	13.35	13	14.77	6	10.91	3	15	0	0	1.266	0.737	22	13.1
Base	105		63		87		81		88		88		20		5				168	

Table A27: Are you familiar with any outreach activities?

Base: All respondents

	Base	No		Yes		Do not know	
		#	%	#	%	#	%
All Respondents	1,000	425	42.5	550	55	25	2.5
Sex							
Male	505	217	42.97	279	55.25	9	1.78
Female	495	208	42.02	271	54.75	16	3.23
Chi2/p*	Pearson chi2(2) = 2.1672 Pr = 0.338						
Resident							
Urban	639	237	37.09	384	60.09	18	2.82
Rural	639	237	37.09	384	60.09	18	2.82
Chi2/p*	Pearson chi2(2) = 21.2554 Pr = 0.000						
Region							
Phnom Penh	80	30	37.5	44	55	6	7.5
Plain	280	128	45.71	143	51.07	9	2.21
Tonle Sap	250	127	50.8	117	46.8	6	2.4
Coastal	130	56	43.08	72	55.38	2	1.54
Mountain	260	84	32.31	174	66.92	2	0.77
Chi2/p*	Pearson chi2(8) = 34.3124 Pr = 0.000						
Ethnicity							
Khmer	907	399	43.99	486	53.58	22	2.43
Cham	35	15	42.86	18	51.43	2	5.71
Indigenous	51	7	13.73	43	84.31	1	1.96
Others	7	4	57.14	3	42.86	0	0
Chi2/p*	Pearson chi2(6) = 21.0331 Pr = 0.002						
Age							
15-24	187	85	45.45	95	50.8	7	3.74
25-34	297	117	39.39	173	58.25	7	2.36
35-44	250	116	46.4	129	51.6	5	2
45-55	266	107	40.23	153	57.52	6	2.26
Chi2/p*	Pearson chi2(6) = 5.7724 Pr = 0.449						
Education							
No Schooling	136	63	46.32	66	48.53	7	5.15
Primary School	424	188	44.34	228	53.77	8	1.89
Secondary School	267	105	39.33	159	59.55	3	1.12
High School	119	48	40.34	65	54.62	6	5.04
University	54	21	38.89	32	59.26	1	1.85
Chi2/p*	Pearson chi2(8) = 13.7123 Pr = 0.090						
PPI index							
Lowest (0-24)	78	31	39.74	42	53.85	5	6.41
Low(25-49)	414	178	43	224	54.11	12	2.9
Medium (50-74)	425	179	42.12	239	56.24	7	1.65
High (75-100)	83	37	44.58	45	54.22	1	1.2
Chi2/p*	Pearson chi2(6) = 7.2957 Pr = 0.294						
Occupation							
Farmer	375	157	41.87	211	56.27	7	1.87
Business Person	179	83	46.37	92	51.4	4	2.23
Sales and services worker	56	27	48.21	27	48.21	2	3.57
Skilled manual worker	38	19	50	19	50	0	0
Housewife	65	28	43.08	31	47.69	6	9.23
Teacher	44	11	25	33	75	0	0
University student	15	6	40	8	53.33	1	6.67
Non-university student	42	17	40.48	24	57.14	1	2.38
Professional/technician/manager	32	20	62.5	12	37.5	0	0
Government official	37	10	27.03	26	70.27	1	2.7
Forestry workers and NTFP collector	45	15	33.33	30	66.67	0	0
Coastal fisher	40	16	40	23	57.5	1	2.5
Freshwater fisher	32	16	50	14	43.75	2	6.25
Chi2/p*	Pearson chi2(24) = 41.1117 Pr = 0.016						

**Table A28: What are your preferred outreach activities?**

Base: Those who have joint outreach activities

	#	%
Group discussion	155	36.21
Direct education at home	84	19.63
Explanation session using pictures/illustrations	82	19.16
Educational play	60	14.02
Workshop	41	9.58
Do not like	6	1.4
Total	428	100

**Table A29: Have you participated in mobile screening program?**

Base: All respondents

	#	%
No	733	73.3
Yes	264	26.4
Do not know/not sure	3	0.3
Total	1,000	100

**Table A30: What types of mobile screening program have you participated in?**

Base: Those who have attended in mobile screening

	#	%
Health	199	75.38
Domestic violence	99	37.5
Rights and human trafficking	47	17.8
Drug	17	6.44
Freedom and democracy	14	5.3
Mine and UXO	13	4.92
Prevention of deforestation and wildlife hunting	12	4.55
Religious issues	9	3.41
Land dispute	8	3.03
Election process	8	3.03
Traffic issue	5	1.89
Migration	4	1.52
Environment	4	1.52
Decentralization and deconcentration	3	1.14
Agriculture	3	1.14
Climate change	3	1.14
Safty village commune/Sangkat	2	0.76
Law	2	0.76
Corruption	2	0.76
Do not remember	1	0.38
Child education	1	0.38
Total	456	172.73
Valid cases	264	

**Table A31: Did you use VCD/DVD player in the last month?**

Base: All respondents

	Base	VCD/DVD viewer	
		#	%
All Respondents	1,000	355	35.5
Sex			
Male	505	199	39.4
Female	495	156	31.5
Chi2/p*		Pearson chi2(4) = 14.0524 Pr = 0.007	
Resident			
Urban	361	101	28
Rural	639	254	39.7
Chi2/p*		Pearson chi2(4) = 23.4854 Pr = 0.000	
Region			
Phnom Penh	80	21	26.3
Plain	280	67	23.9
Tonle Sap	250	77	30.8
Coastal	130	50	38.5
Mountain	260	140	53.8
Chi2/p*		Pearson chi2(16) = 109.3273 Pr = 0.000	
Ethnicity			
Khmer	907	305	33.6
Cham	35	10	28.6
Indigenous	51	35	68.6
Others	7	5	71.4
Chi2/p*		Pearson chi2(12) = 54.7135 Pr = 0.000	
Age			
15-24	187	81	43.3
25-34	297	123	41.4
35-44	250	79	31.6
45-55	266	72	27.1
Chi2/p*		Pearson chi2(12) = 35.3950 Pr = 0.000	
Education			
No Schooling	136	55	40.4
Primary School	424	151	35.6
Secondary School	267	91	34.1
High School	119	44	37
University	54	14	25.9
Chi2/p*		Pearson chi2(16) = 24.7551 Pr = 0.074	
PPI index			
Lowest (0-24)	78	37	47.4
Low(25-49)	414	159	38.4
Medium (50-74)	425	136	32
High (75-100)	83	23	27.7
Chi2/p*		Pearson chi2(12) = 18.5810 Pr = 0.099	
Occupation			
Farmer	375	132	35.2
Business Person	179	47	26.3
Sales and services worker	56	17	30.4
Skilled manual worker	38	14	36.8
Housewife	65	20	30.8
Teacher	44	15	34.1
University student	15	3	20
Non-university student	42	19	45.2
Professional/technician/manager	32	8	25
Government official	37	12	32.4
Forestry workers and NTFP collector	45	31	68.9
Coastal fisher	40	21	52.5
Freshwater fisher	32	16	50
Chi2/p*		Pearson chi2(28) = 86.2689 Pr = 0.001	



Table A32: Did watch any VCD/DVDs in the last month? (Part 1)

Base: VCD/DVD viewers

	Base	Movie series		Comedy		Cartoon		Songs		Health	
		#	%	#	%	#	%	#	%	#	%
All Respondents	606	519	85.64	144	23.76	38	6.27	302	49.83	11	1.82
Sex											
Male	334	282	84.43	79	23.65	18	5.39	171	51.2	6	1.8
Female	272	237	87.13	65	23.9	20	7.35	131	48.16	5	1.84
Chi2/p*		0.89	0.346	0.005	0.944	0.984	0.321	0.553	0.457	0.001	0.969
Resident											
Urban	200	159	79.5	39	19.5	21	10.5	102	51	1	0.5
Rural	406	360	88.67	105	25.86	17	4.19	200	49.26	10	2.46
Chi2/p*		9.164	0.002	2.994	0.084	9.085	0.003	0.162	0.687	2.897	0.089
Region											
Phnom Penh	44	31	70.45	11	25	5	11.36	30	68.18	2	4.55
Plain	133	103	77.44	23	17.29	3	2.26	59	44.36	1	0.75
Tonle Sap	132	122	92.42	54	40.91	12	9.09	73	55.3	3	2.27
Coastal	85	73	85.88	7	8.24	1	1.18	35	41.18	2	2.35
Mountain	212	190	89.62	49	23.11	17	8.02	105	49.53	3	1.42
Chi2/p*		23.19	0	35.89	0	12.23	0.016	11.65	0.02	3.167	0.53
		9		4		1		4			
Ethnicity											
Khmer	538	460	85.5	133	24.72	36	6.69	271	50.37	11	2.04
Cham	18	11	61.11	3	16.67	0	0	10	55.56	0	0
Indigenous	44	42	95.45	6	13.64	1	2.27	16	36.36	0	0
Others	6	6	100	2	33.33	1	16.67	5	83.33	0	0
Chi2/p*		13.27	0.004	3.567	0.312	3.666	0.3	6.185	0.103	1.416	0.702
Age											
15-24	134	115	85.82	32	23.88	14	10.45	85	63.43	3	2.24
25-34	196	172	87.76	54	27.55	13	6.63	99	50.51	1	0.51
35-44	143	124	86.71	31	21.68	7	4.9	65	45.45	4	2.8
45-55	133	108	81.2	27	20.3	4	3.01	53	39.85	3	2.26
Chi2/p*		2.98	0.395	2.777	0.427	6.892	0.075	16.34	0.001	2.926	0.403
								9			
Education											
No Schooling	79	72	91.14	11	13.92	1	1.27	28	35.44	1	1.27
Primary School	258	225	87.21	67	25.97	12	4.65	124	48.06	3	1.16
Secondary School	159	132	83.02	37	23.27	12	7.55	85	53.46	4	2.52
High School	76	64	84.21	22	28.95	10	13.16	43	56.58	2	2.63
University	34	26	76.47	7	20.59	3	8.82	22	64.71	1	2.94
Chi2/p*		5.8	0.215	6.253	0.181	11.47	0.022	12.09	0.017	1.714	0.788
								5			
PPI index											
Lowest (0-24)	49	47	95.92	8	16.33	2	4.08	21	42.86	0	0
Low (25-49)	257	226	87.94	57	22.18	16	6.23	125	48.64	4	1.56
Medium (50-74)	251	211	84.06	69	27.49	15	5.98	128	51	7	2.79
High (75-100)	49	35	71.43	10	20.41	5	10.2	28	57.14	0	0
Chi2/p*		13.87	0.003	4.081	0.253	1.727	0.631	2.284	0.516	3.243	0.356
Occupation											
Farmer	224	198	88.39	53	23.66	7	3.13	101	45.09	6	2.68
Business Person	95	80	84.21	20	21.05	5	5.26	49	51.58	0	0
Sales and services worker	33	24	72.73	5	15.15	3	9.09	18	54.55	0	0
Skilled manual worker	26	21	80.77	5	19.23	0	0	10	38.46	0	0
Housewife	36	29	80.56	14	38.89	7	19.44	22	61.11	0	0
Teacher	28	23	82.14	7	25	4	14.29	16	57.14	1	3.57
University student	11	7	63.64	1	9.09	2	18.18	7	63.64	1	0.09
Non-university student	27	23	85.19	9	33.33	3	11.11	18	66.67	1	3.7
Professional/technician/manager	16	13	81.25	6	37.5	1	6.25	11	68.75	1	6.25
Government official	24	20	83.33	7	29.17	5	20.83	11	45.83	1	4.17
Forestry workers and NTFP collector	37	36	97.3	9	24.32	1	2.7	15	40.54	0	0
Coastal fisher	29	26	89.66	1	3.45	0	0	9	31.03	0	0
Freshwater fisher	20	19	95	7	35	0	0	15	75	0	0
Chi2/p*		18.13	0.112	19.33	0.081	36.28	0	22.98	0.028	12.84	0.381
		6		5		3		7		2	

Table A32: Did watch any VCD/DVDs in the last month? (Part 2)

Base: VCD/DVD viewers

	Base	Teaching methodologies		Animal documentary		Religion		Agriculture		Tourism	
		#	%	#	%	#	%	#	%	#	%
All Respondents	606	1	0.17	2	0.33	3	0.5	2	0.33	1	0.17
Sex											
Male	334	1	0.3	2	0.6	2	0.6	2	0.6	1	0.3
Female	272	0	0	0	0	1	0.37	0	0	0	0
Chi2/p*		0.816	0.366	1.634	0.201	0.163	0.687	1.634	0.201	0.816	0.366
Resident											
Urban	200	1	0.5	1	0.5	1	0.5	0	0	0	0
Rural	406	0	0	1	0.25	2	0.49	2	0.49	1	0.25
Chi2/p*		2.033	0.154	0.262	0.609	0	0.99	0.988	0.32	0.493	0.482
Region											
Phnom Penh	44	0	0	0	0	0	0	0	0	0	0
Plain	133	0	0	1	0.75	2	1.5	2	1.5	0	0
Tonle Sap	132	0	0	1	0.76	1	0.76	0	0	0	0
Coastal	85	0	0	0	0	0	0	0	0	1	1.18
Mountain	212	1	0.47	0	0	0	0	0	0	0	0
Chi2/p*		1.862	0.761	2.582	0.63	4.628	0.328	7.136	0.129	6.14	0.189
Ethnicity											
Khmer	538	1	0.19	2	0.37	3	0.56	2	0.37	1	0.19
Cham	18	0	0	0	0	0	0	0	0	0	0
Indigenous	44	0	0	0	0	0	0	0	0	0	0
Others	6	0	0	0	0	0	0	0	0	0	0
Chi2/p*		0.127	0.988	0.254	0.969	0.381	0.944	0.254	0.969	0.127	0.988
Age											
15-24	134	0	0	0	0	0	0	0	0	1	0.75
25-34	196	0	0	1	0.51	0	0	0	0	0	0
35-44	143	1	0.7	0	0	1	0.7	0	0	0	0
45-55	133	0	0	1	0.75	2	1.5	2	1.5	0	0
Chi2/p*		3.243	0.356	1.83	0.608	4.51	0.211	7.136	0.068	3.528	0.317
Education											
No Schooling	79	0	0	0	0	0	0	0	0	0	0
Primary School	258	0	0	0	0	1	0.39	1	0.39	0	0
Secondary School	159	0	0	2	1.26	2	1.26	1	0.63	0	0
High School	76	0	0	0	0	0	0	0	0	0	0
University	34	1	2.94	0	0	0	0	0	0	1	2.94
Chi2/p*		16.851	0.002	5.641	0.228	2.879	0.578	1.084	0.897	16.851	0.002
PPI index											
Lowest (0-24)	49	0	0	0	0	0	0	0	0	0	0
Low(25-49)	257	0	0	2	0.78	2	0.78	0	0	0	0
Medium (50-74)	251	1	0.4	0	0	0	0	2	0.8	1	0.4
High (75-100)	49	0	0	0	0	1	2.04	0	0	0	0
Chi2/p*		1.417	0.702	2.725	0.436	4.288	0.232	2.838	0.417	1.417	0.702
Occupation											
Farmer	224	0	0	0	0	3	1.34	1	0.45	0	0
Business Person	95	0	0	0	0	0	0	0	0	0	0
Sales and services worker	33	0	0	0	0	0	0	0	0	0	0
Skilled manual worker	26	0	0	0	0	0	0	0	0	0	0
Housewife	36	0	0	0	0	0	0	0	0	0	0
Teacher	28	1	3.57	0	0	0	0	0	0	0	0
University student	11	0	0	0	0	0	0	0	0	1	9.09
Non-university student	27	0	0	0	0	0	0	0	0	0	0
Professional/technician/manager	16	0	0	0	0	0	0	0	0	0	0
Government official	24	0	0	1	4.17	0	0	1	4.17	0	0
Forestry workers and NTFP collector	37	0	0	1	2.7	0	0	0	0	0	0
Coastal fisher	29	0	0	0	0	0	0	0	0	0	0
Freshwater fisher	20	0	0	0	0	0	0	0	0	0	0
Chi2/p*		20.677	0.055	18.876	0.092	5.142	0.953	12.017	0.444	54.18	0

Table A33: Do you use internet?

Base: All respondents

	Base	No		Yes		Do not know, not sure	
		#	%	#	%	#	%
All Respondents	1,000	787	78.7	177	17.7	36	3.6
Sex							
Male	505	372	73.7	118	23.4	15	3.0
Female	495	415	83.8	59	11.9	21	4.2
Chi2/p*	Pearson chi2(2)=22.9184 Pr=0.000						
Resident							
Urban	361	243	67.3	110	30.5	8	2.2
Rural	639	544	85.1	67	10.5	28	4.4
Chi2/p*	Pearson chi2(2)=64.3702 Pr=0.000						
Region							
Phnom Penh	80	45	56.3	33	31.3	2	2.5
Plain	280	238	85.0	31	11.1	11	3.9
Tonle Sap	250	196	78.4	48	19.2	6	2.4
Coastal	130	103	79.2	20	15.4	7	5.4
Mountain	260	205	78.9	45	17.3	10	3.9
Chi2/p*	Pearson chi2(2)=41.8419 Pr=0.000						
Ethnicity							
Khmer	907	709	78.2	167	18.4	31	3.4
Cham	35	27	77.1	7	20.0	1	2.9
Indigenous	51	49	90.2	2	3.9	3	5.9
Others	7	5	71.4	4	14.3	1	14.3
Chi2/p*	Pearson chi2(6)=9.9229 Pr=0.128						
Age							
15-24	187	109	58.3	73	39.0	5	2.7
25-34	297	222	74.8	67	22.6	8	2.7
35-44	250	213	85.2	28	11.2	9	3.6
45-55	266	243	91.4	9	3.4	14	5.3
Chi2/p*	Pearson chi2(6)=109.2421 Pr=0.000						
Education							
No Schooling	136	126	92.7	1	0.7	9	6.6
Primary School	424	377	88.9	25	5.9	22	5.2
Secondary School	267	211	79.0	52	19.5	4	1.5
High School	119	66	55.5	52	43.7	1	0.8
University	54	7	13.0	47	87.0	0	0.0
Chi2/p*	Pearson chi2(8)=309.0320 Pr=0.000						
PPI index							
Lowest (0-24)	78	69	88.5	3	3.9	6	7.7
Low(25-49)	414	365	88.2	32	7.7	17	4.1
Medium (50-74)	425	312	73.4	101	23.8	12	2.8
High (75-100)	83	41	49.4	41	49.4	1	1.2
Chi2/p*	Pearson chi2(6)=109.8361 Pr=0.000						
Occupation							
Farmer	375	329	87.7	23	6.1	23	6.1
Business Person	179	143	79.9	32	17.9	4	2.2
Sales and services worker	56	34	60.7	21	37.5	1	1.8
Skilled manual worker	38	29	76.3	7	18.4	2	5.3
Housewife	65	52	80.0	12	18.5	1	1.5
Teacher	44	25	56.8	19	43.2	0	0.0
University student	15	0	0.0	15	100.0	0	0.0
Non-university student	42	26	61.9	14	33.3	2	4.8
Professional/technician/manager	32	23	71.9	9	28.1	0	0.0
Government official	37	20	54.1	17	46.0	0	0.0
Forestry workers and NTFP collector	45	41	91.1	3	6.7	1	2.2
Coastal fisher	40	35	87.5	3	7.5	2	5.0
Freshwater fisher	32	30	93.8	2	6.3	0	0.0
Chi2/p*	Pearson chi2(24)=189.6329 Pr=0.00						



Table A34: What do you use the internet for? (Part 1)

Base: Internet users

	Total	Email		Chat		Searching for information		Searching for Song/music		Searching for comedy		Logging in facebook	
		#	%	#	%	#	%	#	%	#	%	#	%
All Respondents	177	62	35.03	73	41.24	118	66.67	129	72.88	131	74.01	157	88.7
Sex													
Male	118	45	38.14	47	39.83	83	70.34	86	72.88	90	76.27	102	86.44
Female	59	17	28.81	26	44.07	35	59.32	43	72.88	41	69.49	55	93.22
Chi2/p*		1.502	0.22	0.291	0.589	2.148	0.143	0	1	0.94	0.332	1.804	0.179
Residence													
Urban	110	43	39.09	49	44.55	76	69.09	85	77.27	84	76.36	102	92.73
Rural	67	19	28.36	24	35.82	42	62.69	44	65.67	47	70.15	55	82.09
Chi2/p*		2.108	0.147	1.308	0.253	0.769	0.381	2.835	0.092	0.836	0.361	4.701	0.03
Region													
Phnom Penh	33	16	48.48	16	48.48	24	72.73	24	72.73	26	78.79	31	93.94
Plain	31	13	41.94	10	32.26	25	80.65	24	77.42	22	70.97	28	90.32
Tonle Sap	48	19	39.58	27	56.25	33	68.75	38	79.17	42	87.5	43	89.58
Coastal	20	4	20	6	30	12	60	15	75	9	45	15	75
Mountain	45	10	22.22	14	31.11	24	53.33	28	62.22	32	71.11	40	88.89
Chi2/p*		8.941	0.063	9.157	0.057	7.365	0.118	3.915	0.418	14.029	0.007	4.77	0.312
Ethnicity													
Khmer	167	58	34.73	71	42.51	111	66.47	121	72.46	123	73.65	148	88.62
Cham	7	4	57.14	2	28.57	5	71.43	6	85.71	6	85.71	6	85.71
Indigenous	2	0	0	0	0	1	50	1	50	1	50	2	100
Others	1	0	0	0	0	1	100	1	100	1	100	1	100
Chi2/p*		3.128	0.372	2.681	0.443	0.824	0.844	1.501	0.682	1.46	0.691	0.445	0.931
Age													
15-24	73	24	32.88	40	54.79	49	67.12	57	78.08	56	76.71	67	91.78
25-34	67	23	34.33	24	35.82	42	62.69	49	73.13	52	77.61	58	86.57
35-44	28	12	42.86	8	28.57	22	78.57	18	64.29	19	67.86	25	89.29
45-55	9	3	33.33	1	11.11	5	55.56	5	55.56	4	44.44	7	77.78
Chi2/p*		0.928	0.819	11.572	0.009	2.77	0.428	3.415	0.332	5.37	0.147	2.076	0.557
Education													
No Schooling	1	0	0	0	0	0	0	1	100	1	100	1	100
Primary School	25	3	12	6	24	9	36	18	72	18	72	21	84
Secondary School	52	13	25	13	25	31	59.62	36	69.23	35	67.31	43	82.69
High School	52	16	30.77	25	48.08	36	69.23	37	71.15	39	75	47	90.38
University	47	30	63.83	29	61.7	42	89.36	37	78.72	38	80.85	45	95.74
Chi2/p*		26.208	0	18.551	0.001	24.791	0	1.623	0.805	2.788	0.594	5.025	0.285
PPI index													
Lowest (0-24)	3	0	0	1	33.33	0	0	2	66.67	1	33.33	2	66.67
Low(25-49)	32	12	37.5	12	37.5	20	62.5	24	75	21	65.63	29	90.63
Medium (50-74)	101	32	31.68	43	42.57	68	67.33	75	74.26	77	76.24	90	89.11
High (75-100)	41	18	43.9	17	41.46	30	73.17	28	68.29	32	78.05	36	87.8
Chi2/p*		3.619	0.306	0.337	0.953	7.05	0.07	0.665	0.881	4.359	0.225	1.621	0.655
Occupation													
Farmer	23	5	21.74	5	21.74	18	78.26	18	78.26	19	82.61	18	78.26
Business Person	32	10	31.25	11	34.38	18	56.25	22	68.75	23	71.88	29	90.63
Sales and services worker	21	6	28.57	8	38.1	13	61.9	14	66.67	14	66.67	20	95.24
Skilled manual worker	7	3	42.86	3	42.86	4	57.14	7	100	6	85.71	6	85.71
Housewife	12	2	16.67	4	33.33	5	41.67	8	66.67	8	66.67	11	91.67
Teacher	19	9	47.37	11	57.89	18	94.74	12	63.16	13	68.42	18	94.74
University student	15	11	73.33	11	73.33	15	100	12	80	12	80	15	100
Non-university student	14	2	14.29	6	42.86	7	50	11	78.57	10	71.43	12	85.71
Professional/technician/manager	9	4	44.44	4	44.44	7	77.78	9	100	9	100	8	88.89
Government official	17	9	52.94	9	52.94	12	70.59	11	64.71	13	76.47	13	76.47
Forestry workers and NTFP collector	3	0	0	0	0	0	0	1	33.33	1	33.33	3	100
Coastal fisher	3	1	33.33	1	33.33	1	33.33	3	100	2	66.67	2	66.67
Freshwater fisher	2	0	0	0	0	0	0	1	50	1	50	2	100
Chi2/p*		23.372	0.025	17.785	0.122	34.933	0	13.329	0.346	9.499	0.66	11.036	0.526

Table A34: What do you use the internet for? (Part 2)

Base: Internet users

	Base	Searching for job		Reading news		Access to movie, song, game		Creating Personal HP		Others	
		#	%	#	%	#	%	#	%	#	%
All Respondents	177	49	27.68	151	85.31	116	65.54	46	25.99	1	0.56
Sex											
Male	118	34	28.81	103	87.29	80	67.8	33	27.97	1	0.85
Female	59	15	25.42	48	81.36	36	61.02	13	22.03	0	0
Chi2/p*		0.226	0.635	1.105	0.293	0.8	0.31	0.72	0.396	0.503	0.478
Resident											
Urban	110	34	30.91	94	85.45	74	67.27	28	25.45	1	0.91
Rural	67	15	22.39	57	85.07	42	62.69	18	26.87	0	0
Chi2/p*		1.51	0.219	0.005	0.945	0.388	0.533	0.043	0.836	0.613	0.434
Region											
Phnom Penh	33	11	33.33	32	96.97	20	60.61	7	21.21	1	3.03
Plain	31	12	38.71	28	90.32	22	70.97	9	29.03	0	0
Tonle Sap	48	11	22.92	39	81.25	33	68.75	12	25	0	0
Coastal	20	4	20	18	90	13	65	6	30	0	0
Mountain	45	11	24.44	34	75.56	28	62.22	12	26.67	0	0
Chi2/p*		3.779	0.437	8.601	0.072	1.201	0.878	0.743	0.946	4.388	0.356
Ethnicity											
Khmer	167	48	28.74	142	85.03	110	65.87	44	26.35	1	0.6
Cham	7	1	14.29	6	85.71	4	57.14	2	28.57	0	0
Indigenous	2	0	0	2	100	1	50	0	0	0	0
Others	1	0	0	1	100	1	100	0	0	0	0
Chi2/p*		1.87	0.6	0.528	0.913	0.966	0.809	1.089	0.78	0.06	0.996
Age											
15-24	73	24	32.88	59	80.82	50	68.49	17	23.29	0	0
25-34	67	19	28.36	58	86.57	49	73.13	17	25.37	0	0
35-44	28	5	17.86	26	92.86	15	53.57	10	35.71	1	3.57
45-55	9	1	11.11	8	88.89	2	22.22	2	22.22	0	0
Chi2/p*		3.584	0.41	2.623	0.454	11.246	0.01	1.733	0.63	5.352	0.148
Education											
No Schooling	1	0	0	0	0	1	100	0	0	0	0
Primary School	25	3	12	17	68	14	56	3	12	0	0
Secondary School	52	6	11.54	43	82.69	33	63.46	14	26.92	0	0
High School	52	12	23.08	47	90.38	38	73.08	13	25	1	1.92
University	47	28	59.57	44	63.62	30	63.83	16	34.04	0	0
Chi2/p*		34.653	0	15.726	0.003	3.001	0.558	4.53	0.339	2.418	0.659
PPI index											
Lowest (0-24)	3	0	0	1	33.33	2	66.67	0	0	0	0
Low(25-49)	32	9	28.13	26	51.25	22	68.75	7	21.88	0	0
Medium (50-74)	101	31	30.69	86	85.15	69	68.32	26	25.74	0	0
High (75-100)	41	9	21.95	38	92.68	23	56.1	13	31.71	1	2.44
Chi2/p*		2.281	0.516	8.669	0.034	2.111	0.55	2.035	0.565	3.336	0.343
Occupation											
Farmer	23	5	21.74	19	82.61	14	60.87	8	34.78	0	0
Business Person	32	8	25	27	84.38	19	59.38	4	12.5	1	3.13
Sales and services worker	21	4	19.05	20	95.24	14	66.67	3	14.29	0	0
Skilled manual worker	7	3	42.86	6	85.71	5	71.43	3	42.86	0	0
Housewife	12	1	8.33	10	83.33	6	50	2	16.67	0	0
Teacher	19	7	36.84	18	94.74	14	73.68	7	36.84	0	0
University student	15	11	73.33	14	93.33	11	73.33	5	33.33	0	0
Non-university student	14	0	0	10	71.43	11	78.57	3	21.43	0	0
Professional/technician/manager	9	4	44.44	7	77.78	6	66.67	2	22.22	0	0
Government official	17	6	35.29	15	88.24	11	64.71	8	47.06	0	0
Forestry workers and NTFP collector	3	0	0	2	66.67	2	66.67	0	0	0	0
Coastal fisher	3	0	0	2	66.67	3	100	1	33.33	0	0
Freshwater fisher	2	0	0	1	50	0	0	0	0	0	0
Chi2/p*		30.039	0.002	10.295	0.59	9.57	0.654	14.59	0.265	4.557	0.971

Table A35: Where do you access the internet?

Base: Internet users

	#	%
Mobile internet	133	75.14
At home	74	41.81
At any shop that has WIFI	26	14.69
At office (workplace)	17	9.6
At internet shop	11	6.21
At school and University	4	2.26
Total	266	150.28
Valid cases:	177	



## Annex 5: Correlation results

Table A36: Feelings of self-efficacy and other variables

	PPI				Education level	
	Lowest	Low	Medium	High	No schooling or primary	Secondary or higher
Level of comprehension	High	High	High	High	High	High
Can't do something or don't know (#)	13	78	92	17	99	101
Row (%)	26.53	36.28	44.44	50	31.5	52.9
Col (%)	54.17	42.16	40.53	34	45.8	37.4
Can do something (#)	11	107	135	33	117	169
Row (%)	37.93	53.77	61.93	67.35	47.6	67.9
Col (%)	45.83	57.84	59.47	66	54.2	62.6
Total (#)	24	185	227	50	216	270
Row (%)	30.77	44.69	53.41	60.24	38.6	61.4
Col (%)	100	100	100	100	100	100

Table A37: Adoption of good practices, familiarity with climate change terms, and others

	Self-efficacy belief		Have discussed with others		Have access to TV/ radio	
	No	Yes	No	Yes	No	Yes
Familiarity with climate change term						
Not good practice (#)	7	34	7	104	21	197
Row (%)	17.07	82.93	6.31	93.69	9.63	90.37
Col (%)	33.33	16.11	30.43	18.87	41.18	24.17
Good practice (#)	14	177	16	447	30	618
Row (%)	7.33	92.67	3.46	96.54	4.63	95.37
Col (%)	66.67	83.89	69.57	81.13	58.82	75.83
Total (#)	21	211	23	551	51	815
Row (%)	9.05	90.95	4.01	95.99	5.89	94.11
Col (%)	100	100	100	100	100	100

Table A38: Adoption of good practices with level of comprehension, education, sex, and media access

	Education level		Sex		Access to TV/radio	
	No schooling or primary	Secondary or higher	Female	Male	No access	Access
Level of comprehension	High	High	High	High	High	High
Not good practice (#)	53	45	46	52	14	84
Row (%)	29.8	44.1	29.3	42.3	22.6	38.5
Col (%)	24.5	16.7	22.1	18.7	36.8	18.8
Good practice (#)	163	225	162	226	24	364
Row (%)	42.7	66.6	47.9	59.2	33.3	56.2
Col (%)	75.5	83.3	77.9	81.3	63.2	81.3
Total (#)	216	270	208	278	38	448
Row (%)	38.6	61.4	42.0	55.1	28.4	51.7
Col (%)	100	100	100	100	100	100

## Annex 6: List of ‘good’ climate change/variability practices recommended by the Joint Climate Change Initiative

Sector	Practices
Agriculture	<ul style="list-style-type: none"> <li>• Planting different crops and crop varieties</li> <li>• Water management and irrigation system improvements</li> <li>• Design site-specific planting schedules</li> <li>• Adoption of reduced tillage or no-tillage</li> <li>• Better watershed management and land-use planning</li> <li>• Development of drought tolerant crop varieties</li> <li>• Improved dry season cropping techniques</li> <li>• Developing village seed banks with seeds of traditional and improved drought-resistant crops/varieties</li> <li>• Promoting training on economic water use</li> <li>• Subsidising/facilitating supplies of seeds and irrigation equipment</li> <li>• Establishing farmer field schools and mobile libraries</li> <li>• Provision of more localised weather forecasts and cultivation advice</li> <li>• Improving soil moisture management and soil fertility through organic fertilisers and composting</li> <li>• Reducing run-off and increasing rain water infiltration by planting barriers such as vetiver, lemongrass and agave</li> <li>• Increasing soil fertility and water holding capacity through organic and green manures</li> <li>• Using land capability classifications for land use planning</li> <li>• Promoting mulching to conserve soil moisture at critical stages of crop growth</li> <li>• Agricultural crop extension programs to increase crop diversity and diffuse technical skills and timely weather information</li> <li>• Allocating funds to scientific agricultural research</li> <li>• Increasing availability of improved rice seed varieties</li> <li>• Development of commercial farm credit systems</li> <li>• Improving irrigation water use efficiency</li> <li>• Promoting agroforestry</li> </ul>
Water	<ul style="list-style-type: none"> <li>• Development of regulations and technologies for direct control of land and water use</li> <li>• Economic incentives to change users behaviour</li> <li>• Development of new and alternative sources of water supply</li> <li>• Improvements in water management and institutional arrangements</li> <li>• Watershed protection</li> <li>• Protection of waterside vegetation</li> <li>• Restoring river channels to their natural form and reducing water pollution</li> <li>• Conserving rain water through arrange of measures that may involve large-scale land use changes</li> <li>• Safeguarding natural storage areas and water recharge functions, for example, through reforestation</li> <li>• Maximising large public infrastructure to improve local water conservation and groundwater recharge</li> <li>• Implementing a wide range of water-harvesting measures</li> </ul>
Fisheries	<ul style="list-style-type: none"> <li>• Improved governance</li> <li>• Protecting dry season refuges to support the brood stock that will migrate to breed and spawn across the floodplain during the rainy season</li> <li>• Building small-scale habitats with concrete rings set in the lowest point in each field to increase survival rates during the dry season</li> <li>• Promoting rice field fisheries</li> <li>• Developing community fish ponds</li> </ul>

Health	<ul style="list-style-type: none"> <li>• Improved medical care services, especially for infectious diseases</li> <li>• Health surveillance and sanitation programs</li> <li>• Public education and awareness raising</li> <li>• Improved environmental management</li> <li>• Disaster preparedness</li> <li>• Improved water and pollution control</li> <li>• Professional development and research training</li> <li>• Protective technologies such as housing improvements, water purification and vaccination</li> </ul>
Coastal zone	<ul style="list-style-type: none"> <li>• Protection by sea walls and dykes</li> <li>• Wetlands creation</li> <li>• Adoption of new building codes –a set of rules that specify the minimum acceptable level of safety for constructed objects such as buildings and non-building structures. The main purpose of building codes are to protect public health, safety and general welfare as they relate to the construction and occupancy of buildings and structures.</li> <li>• Protection of threatened ecosystems</li> <li>• Regulations and plans for new coastal development</li> <li>• Improving design standards</li> <li>• Strengthening fisheries management</li> <li>• Integrated coastal zone management, which considers social, economic, legal, institutional and environmental measures, can offer a wide range of potential response options</li> </ul>
Forestry and ecology	<ul style="list-style-type: none"> <li>• Demarcation, classification and registration of forestland</li> <li>• Forest reserve management and conservation</li> <li>• Forest law enforcement and governance</li> <li>• Promotion of forest plantations of up to 2 million hectares, which may include current community forests and community protected areas</li> <li>• Sustainable financing</li> <li>• Creating natural migration corridors, and assisting particular species to migrate</li> <li>• Reforestation and integrated management of fires, pests and diseases</li> <li>• Proper selection of plant species for rangelands</li> <li>• Controls on animal stocking</li> <li>• New grazing strategies</li> <li>• Introduction of drought-tolerant species and better soil conservation practices</li> </ul>

Source: JCCI 2012

## Annex 7: Logistic regression results

Table A39: Results of logistic regression on factors affecting adoption of good practices

Good practice (logistic regression)	odds ratio
Knowledge of climate change (low)	
medium	1.667*
	(0.392)
high	2.581**
	(0.629)
Radio/television	1.996**
	(0.416)
Belief in ability to respond to climate change	1.363**
	(0.125)
Received natural disaster information	1.560**
Sex (female)	(0.240)
male	1.272
	(0.189)
Residence (rural)	
urban	0.638**
	(0.098)
Constant	0.365**
-	(0.104)

Note: standard errors are in parentheses;

\* and \*\* denote significance levels at 5% and 1%, respectively.









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